

August 6, 2010

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British Columbia Utilities Commission Sixth Floor 900 Howe Street Vancouver, B.C. V6Z 2N3

Attention: Ms. Erica M. Hamilton, Commission Secretary

Dear Ms. Hamilton:

Re: Terasen Gas Inc. ("Terasen Gas")

Application for Approval of Biomethane Service Offering and Supporting Business Model, for the Approval of the Salmon Arm Biomethane Project and for the Approval of the Catalyst Biomethane Project (the "Application")

Response to the British Columbia Utilities Commission ("BCUC" or the "Commission") Information Request ("IR") No. 1

On June 8, 2010, Terasen Gas filed the Application as referenced above. On July 16, 2010 the Commission issued a letter and BCUC IR No. 1. In accordance with Commission Order No. G-109-10 setting out the Regulatory Timetable for the review of the Application, Terasen Gas respectfully submits the attached response to BCUC IR No. 1.

If you have any questions or require further information related to this Application, please do not hesitate to contact the undersigned.

Yours very truly,

TERASEN GAS INC.

Original signed by: Paul Craig

For: Tom A. Loski

Attachment

cc (e-mail only): Registered Parties



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1.0 Reference: Introduction

Exhibit B-1, Section 1.1, page 1

1.1 Please explain why Terasen Gas Inc. (Terasen or TGI) has not proposed to offer the Green Gas program through a non-regulated entity?

Response:

The question is founded upon the incorrect premise that entities engaged in the Biomethane supply chain are not subject to regulation by the Commission. In fact, any entity that engages in the production (upgrading), distribution and sale of Biomethane to customers is engaged in a public utility service that is subject to regulation under the *Utilities Commission Act*. The end-to-end business model for the Green Gas offering entails numerous utility functions that are most efficiently and cost-effectively carried out by TGI (as opposed to another regulated business), in much the same way as the customer choice program.

The Commission's jurisdiction extends to "public utilities", as defined in the *Utilities Commission Act.* The term "public utility" is defined in section 1 as follows:

"public utility" means a person, or the person's lessee, trustee, receiver or liquidator, who owns or operates in British Columbia, equipment or facilities for

(a) the production, generation, storage, transmission, sale, delivery or provision of electricity, natural gas, steam or any other agent for the production of light, heat, cold or power to or for the public or a corporation for compensation... [Emphasis added.]

This definition covers both the upgrading of biogas to biomethane and the notional sale of biomethane gas to customers.

• Sale of Biomethane to the Public: Biomethane itself is an "agent" that is used for the "production of... heat", which in the context of the green gas offering, will be sold to the "public [i.e. TGI customers]... for compensation". If an entity other than TGI were to sell the biomethane to TGI for distribution to its customers, then the definition would still apply for the same reasons, except that the "agent for the production of ... heat" would be sold to "a corporation for compensation" (i.e. TGI). In other words, any entity that sells upgraded biomethane to either the public or to TGI, will be subject to the Act's provisions and the Commission's regulatory oversight. Thus, TGI's biomethane offering is a regulated service that requires Commission-approved rate schedules in order to be sold to customers.



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• **Biomethane upgrading equipment** is equipment that is used for the "production" of an "agent" (biomethane) that is used for the "production of... heat", which in the context of the green gas offering will be sold to the "public (i.e. TGI customers)... for compensation". If an entity other than TGI were to own the upgrading equipment so as to sell upgraded Biomethane to TGI, the definition of "public utility" would still apply for the same reasons, except that the "agent for the production of ... heat" would be sold to "a corporation for compensation" (i.e. TGI). In other words, any entity that owns or operates biomethane upgrading equipment, and who sells the upgraded biomethane to either the public or to TGI or directly to any other corporation, will be subject to the Act's provisions and the Commission's regulatory oversight.

The definition of "public utility" includes the following exceptions:

- (c) a municipality or regional district in respect of services provided by the municipality or regional district within its own boundaries,
- (d) a person not otherwise a public utility who provides the service or commodity only to the person or the person's employees or tenants, if the service or commodity is not resold to or used by others,
- (f) a person not otherwise a public utility who is engaged in the production of a geothermal resource, as defined in the Geothermal Resources Act, or
- (g) a person, other than the authority, who enters into or is created by, under or in furtherance of an agreement designated under section 12 (9) of the Hydro and Power Authority Act, in respect of anything done, owned or operated under or in relation to that agreement;

Since none of these exemptions capture any aspect of the Green Gas Offering, the upgrading of biogas to biomethane and the provision of biomethane to customers by TGI will be subject to Commission regulation regardless of the legal entity that provides these services. This is why TGI cannot consider offering the Green Gas offering through an NRB.

It makes sense that the Commission's jurisdiction extends to biomethane upgrading, whereas it does not extend to the wellhead production of natural gas. Natural gas is an energy source that is regulated from the wellhead to the customer's home by multiple regulatory bodies. The British Columbia Oil and Gas Commission and the National Energy Board regulate the extraction, production and transportation of natural gas through processing facilities and gas pipelines to a public utility's gas distribution main. From that point onward natural gas is regulated by the Commission. The regulation of this commodity engages environmental, safety, reliability, and economic concerns, and ensures that the public interest is protected in the delivery of this resource to ratepayers. If the Commission were to find that biogas upgrading



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facilities were not subject to the Act's provisions, the result would be a regulatory gap that would leave biogas upgrading facilities without an active regulator, which TGI submits would not be in the public interest. While there is legislation that governs certain aspects of the collection of gas from digesters and landfills, such as the *Gas Safety Act* and the *Landfill Gas Management Regulation*, there is no regulator, other than the Commission, with any jurisdiction to actively monitor and ensure the safe and also reliable operation of biogas upgrading facilities. Specifically, there are no provisions of the *Pipeline Act* or the *Petroleum and Natural Gas Act* that would provide the Oil and Gas Commission with jurisdiction to regulate these facilities. Had the legislature intended to exempt these facilities from the Commission's jurisdiction, it could have done so through an exemption in the definition of "public utility", as it has done in the case of persons engaged in the petroleum industry or in the wellhead production of oil, natural gas or other natural petroleum substances. There is no such exemption, and consequently, the Commission should find that it is required to regulate these facilities as it is in the public interest to do so.

The analytical approach described above has been implicitly accepted by the Commission in other applications. In the Dockside Green Energy LLP Decision and Reconsideration, the Commission accepted that DGE's construction and operation of a biomass facility to provide hot water heating to the Dockside Green development was subject to the provisions of the Act. For the purposes of the application of the Act, there is no meaningful distinction between the Dockside Green biomass facility as a facility for generating an agent for the production of heat and biogas upgrading facilities that accomplish the same outcome.

The fact that these activities are subject to Commission jurisdiction does not mean that the commission needs to actively regulate the upgrading entity in any way (just as the Commission currently does not actively regulate small entities such as strata corporations that meet the definition of "public utility"). For example, "passive regulation" may be warranted in the case of third parties engaged in upgrading because biomethane pricing is addressed by the review of TGI's purchase agreements. The ability to address reliability issues directly with a non-municipal third party upgrading entity if need be is nonetheless of value.

1.2 Would it be possible for Terasen to offer the Green Gas program through a nonregulated entity? If not, explain what factors would prevent such a structure?

Response:

No, it would not be possible because the activities contemplated are, by definition, regulated activities. See the response to BCUC IR 1.1.1.



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1.3 What would be the disadvantage of offering the Green Gas program through a non-regulated entity?

Response:

It would not be possible to offer the program through an NRB because the activities contemplated are, by definition, regulated activities. TGI can undertake these regulated activities in a manner that best serves customers, relative to another (regulated) entity. See the response to BCUC IR 1.1.1.

1.4 How does TGI propose to insulate general rate payers from any losses incurred if the BioGas Program is not successful?

Response:

Extensive market research conducted by TNS Canadian Facts and supplemented by secondary research performed by Terasen Gas has led to the conclusion that the proposed Green Gas program will be successful and that demand will exceed the amount of supply the Company is able to develop in the near term. The likelihood of an unsuccessful program resulting in costs to all customers is very low, but the Company is cognizant that this risk exists. Terasen Gas has outlined throughout the Application, but particularly in Section 11, the steps Terasen Gas has taken to mitigate the potential risk of stranded costs. In the unlikely event that facilities are stranded and cannot be redeployed, the prudently incurred stranded costs should be borne by customers as cost of service.

To expand on TGI's response, the steps undertaken to mitigate the risk of stranding assets are summarized below:

1. Extensive Market Research

As described on page 52 of the Application, the amount of initial supply being brought onto the Terasen Gas distribution system coincides with the industry average residential participation rate in green energy programs. Our market research, as illustrated in Figure 5-5 on page 46 of the Application, indicates that the British Columbia residential market could be up to eight times the industry average. In addition, the same illustration shows that there is significant commercial market potential as well as significant industrial market demand from customers such as Central



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Heat. Finally, there is evidence of an export market for Biomethane. Terasen Gas believes that the market for Biomethane far exceeds the amount of Biomethane we are proposing to develop in this Application, and we have committed to only develop additional supply projects as this demand becomes proven.

2. Supplier Evaluation

The Company has evaluated, and will carefully evaluate in the future, our suppliers and potential partners to ensure their technical and financial capability. This is discussed in more detail in Section 8.4.3 of the Application. We have also reduced the likelihood of supplier failure by providing our experience and expertise in the ownership and management of gas utility assets such as the Biogas upgrading equipment. This is discussed in greater detail in Section 8.3.2 of the Application.

3. Portability of Projects

TGI has, to the extent possible in each respective project, constructed our facilities in such a manner that they can be readily removed and either re-deployed or liquidated in the event a specific project fails. This is discussed in greater detail in Sections 9.2.7.3 and 9.3.6.3 of the Application.

With respect to cost recovery, the Company believes that, as a general principle supported by the *Utilities Commission Act*, prudently incurred costs should be recovered from existing customers. Assets may become stranded for reasons beyond the control of TGI, and the shareholder should only bear costs when the investment was imprudent in light of the circumstances known at the time, or TGI's improper management of the investment contributed to stranding. The decision to invest in biomethane makes sense (i.e. is prudent) in the circumstances. The proposed Green Gas program makes use of existing facilities and maintains throughput on the system that might have otherwise left for energy options perceived as being more "green". The leveraging of the existing system benefits all customers who contribute to the costs of the system because there are more customers over which to allocate the costs of the system. In this way, the proposed Green Gas program prevents potentially otherwise necessary delivery rate increases for all customers. Please see the response to BCUC IR 1.10.5 for further detail. The introduction of the Green Gas program is also in keeping with the Government's Energy Objectives under the *Clean Energy Act*, as described on pages 25 to 27 of the Application.

In closing, Terasen Gas expects that, based on all available evidence, the proposed program will be a success. The Company has nonetheless diligently worked to mitigate against the risk of assets becoming stranded.



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1.5 Would the shareholder be willing to accept risk for costs related to the Green Gas program during initial stages of the proposed program? If not, explain why TGI feels ratepayers should accept the full risk of the Green Gas program.

Response:

The Green Gas offering is intended to meet customer demand validated through scientific research. It is in the best interests of customers to pursue it at this time. TGI believes that the allocation of risk as between customer and shareholder throughout the program life should thus reflect the statutory requirements of rate setting and the regulatory compact.

As is the case with natural gas projects, the prudent costs incurred in providing biomethane to customers are legitimate costs of providing service to customers, regardless of whether they are incurred during the initial stages of the program or otherwise. Please see the discussion in BCUC IR 1.10.5 regarding the benefits conferred upon customers. TGI is legally entitled to recover from customers through rates the legitimate costs associated with the operation of the utility, as well as be afforded an opportunity to earn a fair return. Requiring the shareholder to incur costs legitimately required for the operation of the utility for the benefit of customers would be inconsistent with the Commission's legal obligations in setting rates for TGI. TGI will not be entitled to recover imprudently incurred costs, and TGI's shareholder bears the risk of such costs—not the ratepayer. Risks are thus shared between customers and the shareholder.



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2.0 Reference: Biogas and Biomethane

Exhibit B-1, Biogas and Biomethane, Section 2.2, pages 6-12

2.1 TGI states that: "It is important to note, however, that Terasen Gas is not proposing to invest in Biogas collection assets. As will be discussed further in Section 8, these assets make up the majority of the capital investment in a Biomethane project, but are currently outside the area of expertise of the Company and as such we are proposing that those assets will, in all cases, be owned and operated by a project partner.

"In the case of the Columbia Shuswap Regional District biomethane project, what was the approximate cost of the collection assets and the percentage cost of these assets in relation to the total project cost?"

Response:

The Columbia Shuswap Regional District project is an example of a project where the capital cost of Biogas collection assets makes up the largest portion of the investment in the overall Biogas project. The approximate cost of the collection assets (consisting of a landfill gas capture system, a collection system and flare station) for the Columbia Shuswap Regional District (CSRD) biomethane project is estimated at \$4,800,000 (Please refer to Section 9.2.1 (page 84) of the Application). The percentage cost of these assets in relation to the total project cost is 68%. This was calculated as follows:

- Estimated total investment = \$7,104,400
- Cost of collection assets = \$4,800,000
- Percentage cost of collection assets to total project cost = (\$4,800,000 / \$7,104,400) x 100% = 68%.

Note also that the costs associated with acquiring land and operating a landfill are not included in this estimate. The ongoing costs of staff, refuse collection, recycling and maintenance are over and above the cost of the collection system.

If TGI factors in the government funding received to offset capital costs, the total value of the project becomes \$6,588,800. In this case the percentage cost of assets becomes 73%. This was calculated as follows:

• Estimated total investment = \$6,588,800



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- Cost of collection assets = \$4,800,000
- Percentage cost of collection assets to total project cost = (\$4,800,000 / \$6,588,800) x
 100% = 73%.

As illustrated above, the capital cost of Biogas collection assets makes up the largest portion of the investment in an overall Biogas project.

2.2 What expertise does TGI have with respect to biogas upgrading processes and technology? Why is it important for TGI to control the upgrading of biogas when monitoring this activity as done with the Catalyst Project would be sufficient?

Response:

TGI believes that owning and operating biogas upgrading plants is the best way to ensure that biomethane is produced reliably. TGI has a strong background in equipment operation and maintenance similar to biogas upgrading so it is a natural extension of the utility. Each of the questions above will be addressed in turn below. TGI also discusses why it was appropriate in the case of the Catalyst project for Catalyst to retain ownership of the upgrading facilities.

Importance of TGI owning upgrading equipment

TGI has taken the approach of considering the needs of potential partners when discussing projects. In some circumstances, project partners have expressed a desire for TGI to own the upgrading equipment for their own business reasons. Two primary reasons for TGI involvement have surfaced over the past year.

The first reason is financial. Developers have indicated that it is typically easier to obtain financing when an experienced, reputable and reliable partner like TGI is involved in the upgrading. Further, partners may not have access to enough capital to put both a raw biogas generating facility (such as a digester) and an upgrading plant in place. In the case of a partner like a municipality, the need to ask for less capital from taxpayers is seen as attractive.

The second reason is related to expertise. Developers have indicated that a partner with experience in gas processing and gas technology is attractive.

As discussed in Section 8.2 of the Application, TGI believes that controlling the upgrading process will provide improved control over the quality of the biomethane produced and increase reliability of supply and therefore benefit customers and ensure the success of the biogas program.



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This is important for several reasons.

- TGI is the face of the biomethane program to the customer. By owning upgrading equipment, TGI has the ability to better respond to customer concerns and demand. The feedback path is more direct and therefore more effective in getting positive results more quickly.
- 2. TGI is motivated to provide the best quality gas possible. In some cases, an independent operator may choose to reduce operating costs associated with upgrading by sacrificing maintenance which could result in lower quality gas or reduced reliability. Or, an independent operator may choose to operate so as to meet only the minimum required gas specification. TGI can take advantage of existing resources by absorbing some of the additional work associated with a biogas plant without requiring additional staff. This approach to resource maximization tends to improve cost effectiveness of supply.
- 3. TGI service organization is in place. TGI customers will benefit from an existing business and service infrastructure that can respond quickly to customer concerns and issues in the field. A potentially quicker response time will improve the total amount of production time over the year and result in higher customer satisfaction.
- 4. TGI believes that two ownership models increases flexibility in developing projects which vary from site to site. Limiting consideration to only one model could restrict supply development and potentially expose TGI to the risk of increased supply costs and therefore a higher price for the customer.

In light of the importance of securing a reliable supply of quality biomethane, TGI believes that it is important for TGI to retain control over upgrading facilities unless it can be assured that another party is capable of delivering the reliable supply on a cost effective basis. TGI's consideration of the Catalyst project in this context is discussed later in this response.

TGI expertise and competence

TGI recognizes that at the time of filing there are no operating biogas upgrading plants in the province and therefore no experienced operators. In the absence of these operators, TGI can fill this role because it has expertise in many areas closely linked to biogas upgrading processes and technology. TGI also has experience in operating the Tilbury LNG plant which is a complex natural gas processing plant.

The biogas upgrading process is described in more detail in the Biomethane Application (Section 2.5), however, a brief, high level description is helpful to draw comparisons to the natural gas industry. Raw biogas is composed primarily of flammable methane, carbon dioxide and other contaminant gases. The upgrading process is a straightforward process. Raw biogas



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is flowed through a series of vessels at a moderate pressure (slightly higher than TGI distribution pressure) which are used to remove contaminants from raw biogas. Many of the components that make up an upgrading plant are the same as those TGI uses in its system every day. Specifically, Terasen Gas has a long history of expertise in the following areas:

- Flammable gas safety and management. Raw biogas and biomethane would be managed in the same way as natural gas. Terasen gas already has the expertise and equipment required to ensure safe operation and maintenance of biogas upgrade equipment.
- Gas composition and quality monitoring. Terasen gas regularly monitors gas composition at multiple supply points across the existing system to ensure accurate billing and measurement for customers.
- 3. <u>Leak management. Terasen Gas already has a service organization trained to respond to leak concerns from customers, to find leaks and to fix leaks when required.</u>
- 4. <u>Component Familiarity</u>. Pressure vessels and ancillary equipment operation such as compressors, valves, regulators, control systems and safety systems are the same as used for natural gas. Biogas upgrading equipment will be designed and built using essentially the same basic components that Terasen Gas uses across its system in regulating stations, pressure let down stations, compressor stations and even at homes and businesses. The equipment used on a biogas upgrading plant will be designed for the same life, safety, durability and performance as used on the Terasen Gas system.
- 5. <u>Gas processing</u>. TGI has proven to be a competent and safe operator of the Tilbury LNG plant. The plant includes components which remove contaminants and operate at process conditions well outside of typical distribution system conditions.

The operation and maintenance of an upgrading plant is therefore complementary to existing TGI assets. This is demonstrated in the design, operation and maintenance of existing facilities and assets across the province.

Reasons for Catalyst project ownership model

The Catalyst project represents an exception to TGI's view that TGI should own and operate the upgrading facilities, and the arrangement reached with Catalyst was largely a product of the circumstances.

Catalyst Power Inc. was able to successfully attain grant funding which significantly reduced the initial capital required for the purchase of a biogas upgrading plant. TGI involvement after the award of the grant would have complicated the funding arrangements. In addition, the project timeline would have required TGI to invest much earlier in the project, so it was decided that a Catalyst-owned upgrade plant was the best way to move the project forward according to a timeline that did not jeopardize the viability of the project. In creating the biogas program proposed in the Application (including supply projects), TGI hopes that a more efficient process



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for approval will be developed such that timelines for investment do not affect the viability of any future projects.

It is important to note that Catalyst Power Inc. is also interested in developing further projects and is openly discussing a business model that has TGI owning the upgrading equipment. Catalyst Power Inc. has stated that it is in a better position to attract partners and to secure financing for future projects when TGI has a larger stake in the project.

TGI believed that it was important to develop a project with Catalyst using a non-preferred model and begin to establish a supply and market for biomethane. This project is considered critical in providing the first biomethane to TGI customers. Further, Catalyst Power Inc. was able to demonstrate that it could be a reliable partner, and therefore limit the risk of supply by cooperating with TGI at all phases of the project development. This included keeping TGI informed of the success against major hurdles such as getting permit approvals, securing waste contracts, securing equipment orders and providing land for Terasen Gas assets.

TGI recognizes that reliability is best secured by TGI owning upgrading facilities, but TGI believes that there is value in providing a starting point for the biogas program and a means of providing biomethane as a product to TGI customers, provided that a reliable partner can be found.

2.3 TGI states that: "The Company is actively pursuing independent partners who might be entrusted with the task of acquiring Biogas and upgrading it to pipeline—quality Biomethane which Terasen Gas can then purchase, inspect, and inject into our distribution system provided they can meet safety and reliability standards required for our customers."

How is TGI attempting to attract independent partners?

Response:

In this context, TGI defines an independent partner as parties other than TGI interested in owning and operating biogas upgrading facilities and would, therefore, supply only a finished biomethane product to TGI. These parties may also own and operate biogas generation facilities.

TGI is allowing project developers to decide the best approach to business agreements within the context of the two ownership models. In any communication, it is clear that TGI has a preference for owning upgrading equipment, but is willing to negotiate alternative arrangements.



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This process started with a Request for Expressions of Interest in the fall of 2008, where TGI openly invited potential project partners to put forward proposals. The process was intentionally left flexible to allow for potential project developers to approach TGI with creative solutions with no preference indicated for the business arrangement.

Since that time, TGI has continued to make it clear that an independent partner approach is acceptable.

TGI has initiated discussions with known project developers who have experience in developing waste to energy projects in other regions (outside of British Columbia) to begin to explore possible partnership arrangements. This includes companies such as Waste Management, Linde North America, Blue Source, Yield Energy and Harvest Power Inc.

TGI has also met with major biogas upgrading equipment manufacturers (e.g., Xebec, Flotech, Air Liquide) and outlined the business model to them so that they could make any project developers that approach them aware of TGI's approach.

Further, TGI has publicly promoted both ownership models when presenting on the topic of biogas at conferences. TGI has also made it clear in other media such as the website that project developers are free to develop proposals that best suit their needs.

In the future, TGI may offer further public requests for expression of interest or develop a call for biomethane.

Today, however, TGI believes that an approach that favours independent producers may create upward pressure on biogas customer rates. TGI believes that the best way to encourage supply development while ensuring supply reliability and keeping biogas customer rates competitive is to remain open to independent partners while pursuing projects where TGI would own upgrading equipment.



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3.0 Reference: Government Policy and Energy Objectives

Exhibit B-1, Government's Energy Objectives, Section 3.5.1, page 26-27

3.1 TGI proposes to partner with municipalities and regional districts to reduce their greenhouse gas emissions through the upgrading of their waste methane. How many municipalities and regional districts has TGI identified for this purpose?

Response:

TGI believes that by partnering with municipalities and regional districts, the Company can play a key role in helping them meet the provincial government energy objectives related to reducing GHGs. As stated in the Application (Section 3), and restated here, many municipalities have signed the Climate Action Charter, voluntarily agreeing to GHG reduction targets. Further, as stated in the Application, TGI believes that it has a responsibility to support these initiatives based on the *Clean Energy Act*. Several municipalities and regional districts have recognized this and entered into discussion with TGI to evaluate projects related directly to waste methane.

In the context of projects that may reduce GHG emissions using waste methane, TGI has had preliminary discussions with six (6) regional districts and six (6) municipalities. These entities are listed below.

Regional Districts:

- Regional District Nanaimo
- Columbia Shuswap Regional District
- Regional District of North Okanagan
- Metro-Van (previously GVRD)
- Capital Regional District
- Regional District of Fraser-Fort George

Municipalities:

- City of Chilliwack
- City of Kelowna
- City of Surrey
- City of Abbotsford
- City of Vancouver
- District of Mission



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TGI believes that many municipalities and regional districts can benefit the public by partnering with TGI to cooperatively reduce GHG emissions, while at the same time meeting the demands of TGI customers for a renewable energy product offering.

3.2 TGI states that (page 27): "Our relationship with municipalities and regional districts have led us to believe that local governments would prefer to work with large, experienced organizations such as Terasen Gas. Local governments, as a result of the nature of their mandate, are highly risk-averse organizations which have shown a preference for partnership with stable, experienced, transparent, and safety-oriented organizations such as Terasen Gas."

Why does TGI consider it has experience in the upgrading of biogas to biomethane?

Response:

TGI believes that the upgrading of biomethane is a natural extension of existing competencies within the Company. Though TGI does not yet have experience in biogas to biomethane upgrading, the skills required to safely and reliably operate upgrading equipment do exist in the Company. TGI has outlined some of these skills it possesses in the response to BCUC IR 1.2.2 to support this statement. Local government partners (such as municipalities and regional districts) and other project partners value more than direct biomethane upgrading experience. Project partners value the experience TGI has in managing assets in general. When partnering with TGI, project partners can be assured that TGI has qualified personnel in their respective area of expertise and that TGI will be open and transparent with the financial aspects of any project. This has been seen as a favourable option over allowing independent partners (who may or may not have this expertise) to develop projects in cooperation with project partners. In some cases, project partners do not want to take the time and effort to establish a working relationship with a third party. They do not want to take on this added risk in dealing with a new third party but rather they look to TGI to fill this need.

3.3 Considering TGI's statement, how can a non-regulated business that has expertise in upgrading of biogas to biomethane compete for this business if the regulated utility has a significant advantage with a market presence established through the gas distribution business?



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Response:

The question is premised on the incorrect assumption that businesses engaged in upgrading biogas to biomethane are unregulated businesses. In fact, upgrading biogas to biomethane falls within the definition of a "public utility" service in the UCA and is subject to regulation by the Commission regardless of who undertakes the upgrading. Please see TGI's response to BCUC IR 1.1.1 for further discussion on the above point. Competition issues are addressed in BCUC IR 1.21.6.



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4.0 Reference: Types of Voluntary Green Pricing Programs Exhibit B-1, Section 4.2, page 28

Below is an excerpt from the Application:

- Energy-based Programs: The second and most successful are the energybased programs. This type of program allows customers to choose a selected amount of energy to be supplied from renewable sources for a premium.
- 4.1 Is it possible to fairly compare Energy-based Programs and carbon offset programs due to the "newness" of the later.

Response:

In developing the Green Gas offering, TGI endeavoured to review the different approaches and types of programs that currently exist in the North American energy market. The purpose of this comparison was to determine the prospects of success for the Green Gas offering. TGI's market research indicates that energy-based programs are more likely to succeed, at this time, than carbon offset programs (please refer to the response to BCUC IR 1.12.1). TGI agrees that the "newness" of the latter may well be a factor in explaining why this is so, but fails to see why this would render the comparison unfair. TGI wants its product offerings to be successful. Regardless of the reason why carbon offsets appear to be less accepted by customers at this time, the fact is that TGI is likely to have more success in launching an energy-based program. Thus, it makes sense to pursue this type of program.

Further, providing renewable energy solutions conforms to provincial government objectives as outline on page 23 of the Application which states:

"These objectives pending the passage of the Bill 17, the Clean Energy Act include:

- a) To encourage public utilities to reduce greenhouse gas emissions; and,
- e) To encourage public utilities to use innovative energy technologies
 - i. that support energy conservation or efficiency or the use of clean or renewable source of energy.

TGI is not, however, averse to creating an offset program in the future. If carbon offset programs gain greater acceptance and promise greater customer take-up, then TGI is open to considering adding this type of program to its offerings once the proposed Green Gas program is established.



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4.2 Can TGI compare the risks and implementation costs of an Energy based Program relative to a carbon offset program? How do upfront costs and contractual commitments of each program compare?

Response:

TGI can provide some general comments regarding the risks and costs involved in implementing a carbon offset program, but cannot provide detailed information. TGI performed secondary market research as to the different types of green pricing programs that utilities offer and reviewed how carbon offset programs are offered in other jurisdictions. The Company then performed primary research to identify whether it wanted to pursue a carbon offset program or an energy-based program. The results of this research guided TGI to select an energy-based program for its Green Gas offering as it was clearly better understood and preferred over a carbon offset program. Therefore, TGI did not study the implementation costs and risks for a carbon offset program in detail.

TGI expects that a greater capital investment is required to provide Biogas supply than would be the case with only offering offsets (i.e. assuming no TGI investment in Biogas projects), although the level of capital investment for an energy-based program is not significant relative to TGI's operations.

The level of sophistication required in ongoing operations of an offset program would be similar to an energy-based program.

- Similar to the proposed Green Gas program, a carbon offset program would have
 to be managed carefully and result in both costs to customers choosing to
 participate and as well as costs to all customers as a result of the program being
 made available. Terasen Gas would still need to track customers who elected
 into the program as well as their respective volumes.
- The Company would need to invest in changes to the CWLP software to allow the enrolment process, billing of the offsets, moves, changes, inquiries, reporting, etc.
- An offset program would not require the same degree of investment in labour to oversee equipment. However, there would be a cost not associated with an energy-based program associated with the administration of its participation in the carbon offset marketplace, its purchase of carbon offsets, and the matching of incremental revenues to recover the costs of these purchases. Variances



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between forecast and actual participation rates present financial risks and would have to be addressed by either purchasing or disposing of carbon offsets. The current absence of defined rules and regulations in the offset market in BC would complicate the implementation of an offset program. As with the energy-based offering, these risks and costs associated with a carbon offset program would be manageable.

• In the case of an offset program where some offsets come from the Company's renewable energy projects, the Company would need to pursue quantification, validation, verification and registration of offsets from the Company's projects which would add transactional costs to the program. Pacific Carbon Trust reports this can be between \$30,000 - \$100,000 per project. As well, there currently aren't approved offset protocols in BC for digester or landfill projects which would lead to delay in validating offsets from the Company's projects.

The determining factor in leading to TGI's decision to pursue an energy-based offering at this time is customer response. Offsets ultimately are a funding vehicle for investment in carbon reduction projects, in the case of renewable energy projects, renewable energy will make its way into the existing gas or electricity infrastructure and utilities need a business model to deal with this reality. TGI customers surveyed prefer energy-based programs by a wide margin likely because this approach is a more direct business model to deal with renewable energy. Customers indicate they are more likely to take up an energy based program. TGI has not ruled out looking at carbon offsets in the future, and this could be run in parallel to the Company's proposed energy-based program, but for the time being there is much greater value for customers in investing in an energy-based program that is easier to understand and that all of the available evidence suggests is more likely to succeed.



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5.0 Reference: Green Pricing

Exhibit B-1, Chapter 4.2, Three types of Voluntary Green Pricing Programs, page 28-29

5.1 Did TGI investigate "Contribution Programs" where customers can determine the amount of their monthly donation and where this contribution is tax deductible whereby utilities set up non-profit entities to administer the program? If not, why not? Since the customer would be receiving a monetary benefit, why would this not be more successful than an Energy-based Program where the benefit is notional?

Response:

Yes, TGI did investigate Contribution Programs being offered in other jurisdictions that provide a tax deduction associated with the contribution. TGI found that Contribution Programs were the earliest types of green pricing programs and the least popular; therefore, TGI did not pursue this type of program further. Of the green pricing programs throughout the US, less than 3% of them call themselves a Contribution program, whereas over 95% are energy-based programs and make up the majority of the top 10 performing programs.

Energy-based programs can be distinguished from charities on the basis of the specific amount of energy delivered to the grid. The Company feels that is why Energy-based programs are more popular than Contribution Programs, even where their contribution is tax deductible, as customers perceive a greater value in a green pricing program that offers a firm quantity of renewable energy at a firm price, rather than a donation that is not tied to a specific amount of energy. If customers wish to donate to a charity, Terasen Gas may not be the best vehicle to do so as the Company's business is to deliver energy and so the Energy-based business is more aligned with our service offerings. Contribution programs have also resulted in a low amount of renewable energy development when compared to Energy-based programs.

Due to these factors, TGI did not further investigate a Contribution type program for its Green Gas offering.

Source: US Department of Energy, The Green Power Network, http://apps3.eere.energy.gov/greenpower/markets/index.shtml



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5.2 What Canadian utilities offer a Contribution Program with the contribution being tax deductible?

Response:

TGI is not aware of any Canadian utilities that offer a Contribution Program with the contribution being tax deductible.

5.3 What are the advantages and disadvantage of a Contribution Program with the contribution being tax deductible?

Response:

As discussed in BCUC IR 1.5.1, TGI examined Contribution Programs, some of which were tax deductible. TGI found that Contribution Programs were the earliest types of green pricing programs and, even with tax deductibility, the least popular. Therefore, TGI did not pursue this type of program further.

When compared to an Energy-based program, Contribution Programs are likely to encounter scrutiny as to how the funds are being distributed as they are not tied to a specific amount of energy. The lack of popularity of these types of programs has contributed to limited renewable energy development in the areas where they are offered. In the case of setting up a non-profit to administer the funds in order to enable the contribution to be tax deductible, there would be additional administrative costs for the on-going administration and management of the assets. A potential advantage would be attractiveness to subscribers for having a tax benefit. In discussions with NW Natural staff that set up their carbon offset program, NW Natural indicated that they investigated setting up a non-profit to administer collection of funds for their program and it was more costly to do so than with a for-profit partner.

Energy-based programs are more popular than Contribution Programs, even where their contribution is tax deductible. TGI believes that customers perceive a greater value in a green pricing program that offers a firm quantity of renewable energy at a firm price, rather than a donation that is not tied to a specific amount of energy. It is for these reasons the Company did not pursue a Contribution Program further.

Source: US Department of Energy, The Green Power Network, http://apps3.eere.energy.gov/greenpower/markets/index.shtml



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6.0 Reference: Green Pricing Premiums

Exhibit B-1, Section 4.4, page 30

4.4 Green Price Premiums

Voluntary programs typically involve customers paying a green price premium. The average premium for renewable power in 2008 was 18% above conventional energy sources.

6.1 Would TGI define its Green Gas program as a non-conventional energy source?

Response:

TGI's reference to conventional energy sources in the passage cited was intended to refer to natural gas and hydroelectricity, which are the predominant energy sources used for heating in BC. Biomethane is not currently in use as a fuel source in BC, and would be non-conventional on this definition. Electricity generated from wind power, rather than hydroelectricity, would be another example.

6.2 How does TGI's proposed BioGas Program compare to that of the "average" renewable energy program. Include a level of energy volume replacement in your response.

Response:

TGI's proposed program in the Application is similar in philosophy to other energy-based programs in terms of a percentage of energy being replaced by a renewable energy source for a premium. The price per energy volume replacement compares favourably to the average and the volume of renewable energy replacement is within the range of other renewable energy-based programs.

Energy Volume Replacement:

TGI's proposed renewable energy-based program would replace 10% of the customer's energy with a renewable energy source. Other energy-based programs allow customers to purchase between 10-100% of their energy used from renewable energy sources.

Price:

As described on page 8 of Appendix C-1, "On average, consumers spend about \$5.40 per month above standard electricity rates for green power through utility programs". TGI was not



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able to locate a renewable energy-based program for natural gas that has been in service long enough for measured customer data to be available. TGI's 10% blend of Biomethane would see the typical customer spend approximately \$4.00 / month based on 100 GJ year and a \$0.49 GJ premium using July 1, 2010 rates. It should be noted that while the average premium for electricity priced programs is similar to TGI's proposed rate, the price of Biomethane on an energy basis is far lower than an equivalent quantity of renewable electricity. TGI has proposed that at this stage it will acquire Biomethane at less than the equivalent BC Hydro Tier 2 rate which is among the lowest electricity rates in North America. Although this premium could grow over time if additional Biomethane projects are brought on closer to the proposed cap of \$15.28 GJ (discussed in Section 8.4.2 of the Application) and conventional natural gas commodity prices remain low, the rate will still be comparable to the Tier 2 rate and likely lower than most other green electricity rates in North America.

The program TGI proposes in the Application, as a means of responding to the demands of our customers, is similar to that of the 'average' renewable energy-based program.

6.3 If the average premium paid for non-conventional energy sources was 18% in 2008, why does TGI believe a 10% premium will be sufficient to recover costs associated with the BioGas Program?

Response:

The cost paid by customers of utilities in other jurisdictions for other non-conventional energy sources is not connected to TGI's cost of service for Biomethane; therefore, one cannot use the premium percentages from other jurisdictions to draw any conclusions about the sufficiency of the premium proposed to cover TGI's costs of service. The program has been designed to recover the incremental cost of Biomethane. At this stage TGI believes that the resulting 10% premium is sufficient to recover the costs associated with the Green Gas program because it represents the current premium of the cost of service of Biomethane at a 10% and 90% conventional natural gas blend divided by the price of 100% conventional natural gas. If the cost of acquiring Biomethane rises or falls that price will be reflected in the blended rate charged to customers participating in the program. TGI has proposed in the Application that the rate be reset annually to reflect the costs.



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6.4 What would be the rate impact on future biogas consumer rates if actual biogas costs require a 14% premium to break even? Please provide financial models to support your analysis.

Response:

If a 14% premium was needed to break even this would reflect an average cost of Biomethane of \$11.942 / GJ. An increase in the blended rate of \$0.697 / GJ would be required to cover this cost in the 10% blend proposed. The details of the calculation are as follows:

July 1 Commodity Cost Recovery Clharge	\$ 4.976	90%	\$	4.478
Biomethane Rate	\$ 11.942	10%	\$	1.194
Premium at 14%			\$	5.673
July 1, 2010 Residential Commodity Cost F	Recovery Ch	arge	\$	4.976
x Premium				14%
= Blended Energe Charge Increase			\$	0.697
Blended Energy Charge			\$	5.673
Residential Commodity Cost Recovery Ch	arge	\$ 4.976		
x Blended Proportion		90%		
Blended Proportion of Commodity Cost			\$	4.478
Blended Proportion of Biomethane Rate			\$	1.194
/ Biomethane Blended Proportion				10%
= Biomethane Rate			\$:	11.942

No financial model was necessary to support this analysis.



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6.5 If actual biogas costs exceed TGI's cost estimate, at what level does the program become unsustainable?

Response:

The conditions required to make the program unsustainable are 'extreme' and extraordinary.

Besides the potential demand from residential and commercial customers of TGI there has also been an active interest for interruptible on-system and off-system sale of biogas which would support the cost recovery of the biomethane cost of service. These would further mitigate the risk that the program would be unsustainable.

In Section 8.4.2 of the Application, Terasen Gas set out a rationale for initially using the BC Hydro RIB Tier 2 rate as the basis for setting a maximum rate for Biomethane of \$15.28 / GJ (Table 8-1: Proposed Maximum Unit Cost, page 77). Using the current Residential Commodity Recovery Charge of \$4.976 / GJ and the maximum biomethane rate of \$15.28 / GJ results in a 40% premium over the current rate of \$4.976 (still using the 90% natural gas – 10% Biomethane blend). A 40% premium resulting in only a 10% blend of Biomethane was not explored using the Discrete Choice Model (DCM) in the Biogas Market Study. However, if one compares the customer preference for a 30% premium resulting in only a 10% blend, 68% of respondents prefer the proposed program at a 10% premium and 10% blend.

Extrapolating from the information provided in Figure 5-5: 'Market Size Projections Based For a User Pay Program' suggests at a 40% premium would result in approximately 5% of residential customers would be willing to purchase the Green Rate Service. For 2011, 5% of the average forecast number of residential who use approximately 90 GJ per year would result in a blended demand of 343 thousand GJ but the forecast available supply is only 134,500 GJ (39% of the blended demand). It is TGI's opinion however that this large gap between conventional natural gas prices and the price of Biomethane would not achieve a 5% market share penetration and would likely be well below the national average of 2.2% participation rate because this premium is well above the average % premium of other green pricing programs' and results in small GHG reductions for the amount paid.

For the 2010/2011 15-month period Biomethane rate of \$15.28 (holding the Biomethane volumes constant at 178,142 GJ) would require a cost of service of \$4.5 million, an increase \$2.7 million from the current forecast of \$1.76 million. Since the unit cost of Biomethane is already set by contracts the cost of gas would not change, the upgrader equipment is being purchased under a fixed price agreement which would make it unlikely that the costs for depreciation expense, earned return and income tax would change from what has been filed leaving only the operating and maintenance category of costs available to be increased due to the increased of cost of service. The O&M costs would have to increase from \$216 thousand to \$2.96 million.



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The two supply contracts significantly constrained the price variability for the Biomethane as the one contract sets a floor and ceiling for the duration of the contract and the other contract is a fixed price contract which only allows for general price inflation for contract term. Consequently, possible price variation would not cause the project to become unsustainable.

Alternatively, if the forecast biogas volumes for the 15 month period (2010/2011) were to decrease from 178.4 TJ to 29.2 TJ the forecast Biomethane rate would equal approximately \$15.28 / GJ. In summary, TGI would foresee that a 40% premium resulting in only a 10% blend would likely result in very little uptake. Although, until market demand is proven and price point premiums tested, this data cannot be validated. Given the scenarios above, the current cost allocation proposal and cost of natural gas, TGI feels this is an unlikely scenario.



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7.0 Reference: Green Pricing Premiums

Exhibit B-1, Section 4.4, page 31

Below is an excerpt from the Application:

Since 2000, the average premium has dropped at an average annual rate of 8%, leading to lower initial premiums for many new programs³². Terasen Gas' proposed price premium will also follow this trend as discussed in Section 5.3.3.2 and will be in the range of 8-12% premium on the natural gas commodity.

7.1 Please provide TGI's calculation of this estimated range of 8-12% based on the data in Table 4-2.

Response:

An estimate for an 8-10% premium was calculated using the information in the table below. TGI added 2% to this range to account for the trend in decreasing natural gas prices which would increase the gap between the commodity rate and the Green Gas rate. As referenced in Table 4-2, the average price premium in 2008 was 18% and there has been a downward trend in premiums since 2000 of an average of 8% per year. From 2007 to 2008, the average dropped 2%. Therefore, TGI is confident the price point premium will be within an appropriate range of other green pricing programs.

	Biogas Energ Charge (BEF		ity: April 1 st Rate Mainland \$ / GJ	/: July 1 st Rate ainland \$ / GJ
	\$	9.90	\$ 5.61	\$ 4.98
Combined price for a 10% blend (BERC x 0.10 + Commodity x 0.90)			\$ 6.04	\$ 5.47
Premium per GJ (Commodity - Combined price)			\$ 0.43	\$ 0.49
Premium % (Premium per GJ / Commodity)			8%	10%

As of July 19, 2010, the Sumas forward price for November 2010 – October 2011 was \$4.79 / GJ and would result in the average percentage premium for TGI's rate offering to be 11% over the natural gas commodity rate for the first year of the program.



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7.2 Isn't the change rate of "average % premium" demonstrated in Table 4-2 declining?

Response:

Yes.

Table 4.2 illustrates that the percentage premium has been declining since 2001. Since 2001, the average price premium has dropped at an average annual rate of 8%. The change in the decline rate per year has also been narrowing and in 2008 was down 2% from 2007. As indicated above in the response to BCUC IR 1.7.1, the Sumas forward price for November 2010 – October 2011 as of July 19, 2010 was \$4.79 / GJ and would result in the average percentage premium for TGI's rate offering to be close to 11% over the natural gas commodity price for the first year of the program. If the trend illustrated in Table 4.2 followed the pattern from 2007 to 2008 at a 2% annual decline for the average premium to be 14% in 2010 and a 1% annual decline in the median premium to be 13% in 2010, TGI's product offering would be within 3% of the average price premium and within 2% of the median premium in 2010. TGI's market research also supports that there is greater uptake potential at this price point and the Company feels confident that this price premium allows for maximum market penetration.

7.3 Assuming that the average annual decline rate of 2%, which occurred in 2008, applied on a going forward basis, would the premium range for 2010 be in the range of 14%.

Response:

Correct.

Please refer to the response to BCUC IR 1.7.2 for more details.



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7.4 Based on the data in Table 4-2, isn't TGI's proposed premium for Biomethane too low?

Response:

The Company included pricing from other jurisdictions in this Application as a reference point for what customers have been willing to pay for non-conventional energy in other jurisdictions. It serves as secondary research to the primary research conducted on our customers and described in Section 5 of the Application and supports the price premium proposed by TGI.

As discussed in the response to BCUC IR's 1.7.1 & 1.7.2, if the trend illustrated in Table 4.2 followed the pattern from 2007 to 2008 at a 2% annual decline for the average premium to be 14% in 2010 and a 1% annual decline in the median premium to be 13% in 2010, TGI's product offering based on today's commodity prices would be an 11% premium, within 3% of the average price premium and within 2% of the median premium in 2010. It is important to note that the resulting premium will vary over time depending on conventional natural gas prices and the cost of renewable energy. TGI's market research provided a range of premiums and resulting GHG reductions, the scientific research suggested that there is greater uptake potential at this price point and 10% Biomethane blend. The Company feels confident that this price premium and Biomethane blend allows for maximum market penetration.



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8.0 Reference: Green Pricing

Exhibit B-1, Section 4.51, page 31-32

8.1 Seattle City Light has several options for customer to select in order to increase the supply of renewable energy including a contribution program. Has TGI investigated adding a contribution program with a tax deduction to this application for an Energy –based Program in order to increase program options?

Response:

TGI's intention is to launch the Green Gas program in a simple and economical manner and has therefore proposed to lead with a single tariff option for residential customers, with a phased approached to other rate schedules over time. TGI foresees additional program options to come in the way of additional blend options for customers to sign up once supply has increased and is further established. TGI is of the opinion that customers relate better to a an amount of renewable energy being delivered to the network and associated GHG reductions based on the amount of energy they use rather than a monetary contribution that does not tie into specific quantities of energy.

TGI does not intend at this time to pursue a contribution type program where the donation is tax deductible as there does not appear to be supporting market research that this would increase program participation. Please see the response to BCUC IR 1.5.1 for more details.

8.2 Has TGI considered adopting a similar program to the Smart Energy Program developed by NW Natural and Climate Trust that invests in carbon offset projects that are compatible with NW Natural's natural gas distribution business? Would the fact that projects are within the utility's franchise area change the customer's choice between an offset program and Energy-based program?

Response:

TGI researched NW Natural's offset program and spoke to NW Natural staff that were involved in the research, design and regulatory process for their carbon offset program. TGI was keenly interested in their findings as it was one of the first natural gas-only utilities to offer a green pricing program. NW Natural advised that it did not survey its customer base to determine market preference, price point premium or target market for a green pricing program; instead, NW Natural used focus groups for feedback on the concept of an offset program and priced



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their product based on electric green pricing programs in their area. NW Natural staff indicated that they did not have any Biogas projects at the time of their application to their regulator, therefore an energy-based program was not an option.

TGI believes that for customers that have a strong understanding of the nature of offsets, it shouldn't matter where the offsets are acquired as the net GHG impact is the same on a global basis. Intuitively, however, the fact that projects generating offsets are within the utility's franchise area – in the customers' "own backyard" –might have greater appeal for some of the customers who are already aware of the nature of offsets, relative to a program where the offsets are acquired elsewhere. If TGI was going to offer an offset program, we would look first to invest in projects within our service area. The availability and costs of the offset could cause TGI to expand this scope. The problem with TGI offering any program related to offsets, regardless of where the offsets are acquired, is that a large number of customers do not appear to understand the nature of offsets. TGI's own market research showed only 50% of residential respondents were aware of carbon offsets. The Company feels that an energy-based program is better suited for this market at this time given its own customer feedback preferring this option and the opportunity TGI has to deliver a renewable energy product to its customer base from the Biogas/Biomethane projects outlined in this Application. A straightforward, easy to understand program is desirable at this time.



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9.0 Reference: Green Pricing

Exhibit B-1, Section 4.5, Voluntary Green Pricing Program Examples, page 31 - 33 and Section 4.6, Other Green Pricing and Green Gas Programs in North America, pages 32-33

9.1 TGI is proposing that all process and system enhancement costs, customer education and call center costs be borne by all customers. In the example utilities provided in the sections identified as Contribution Programs, Carbon Offset Programs, Renewable Energy Base Programs and the section entitled Other Green Pricing and Green Gas Programs in North America, do these utilities have any program costs borne by customers who have not committed to the programs as outlined?

Response:

Yes, some of these programs have costs borne by customers who have not participated in the programs as described in the Application. TGI was able to confirm that the following utilities have Green Gas Programs in which the program costs are borne by customers who have not committed to the program itself.

- Pacific Gas & Electric (PG&E) ClimateSmart All PG&E customers pay the costs of the \$16.4 million program through rates.
- Central Vermont Public Service "Cow Power" participants pay a portion of the cost of power produced by the Farm-Generators.



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10.0 Reference: Conclusion

Exhibit B-1, Section 4.7, page 33

TGI states that (page 33): "The heavy policy focus in BC on developing renewable electricity resources combined with the existing extensive hydro-based Heritage electricity resources create the public impression that BC electricity is the "green" and environmentally-preferred energy source. In these circumstances it is becoming more difficult for natural gas to compete on an environmental basis."

10.1 Does TGI's strategy intend to rebrand TGI, on a whole, as a "green" energy source?

Response:

With this Application, TGI is looking to provide a new product offering (Biomethane) to meet the changing demands of customers, not to "rebrand" itself. Over time, it is TGI's intention to educate and provide new products and services to customers that help customers achieve their goal of reducing their carbon footprint. TGI will continue to educate customers to the fact that there are alternative energy options available to electricity and natural gas alone, e.g. biomethane and geoexchange systems, that can be used in combination with natural gas to meet the demand for thermal energy in the province of BC. Biomethane, in combination with traditional natural gas helps to reduce the carbon footprint of customers and helps to "green" the total product offering to the benefit of all new and existing customers. However, TGI believes that more is involved in "rebranding" than providing customers with new products and services or educating customers as to the availability and benefits of a range of energy forms, as is contemplated by TGI.

BCUC IR 1.10.3 inquires about cost recovery in the context of TGI's new product initiatives. The costs of providing utility service to customers and educating customers are properly borne by customers. This is inherent in the cost of service ratemaking employed in British Columbia. Past examples where the costs of such services and education associated with significant initiatives by the Terasen Utilities were recovered in rates include the costs that were incurred to design build and implement the Commercial Unbundling Program in April, 2004 and the Customer Choice Program that was launched in May 2007. Another example would be the TGI and TGVI Energy Efficiency and Conservation programs and activities that are delivered to customers with the costs being directly recovered from the customers over time. The new product offering contemplated by TGI in this Application is a regulated offering and the costs of service must be accounted for in the utility's overall revenue requirement.

TGI "rebranded" itself in changing its name from BC Gas Inc. to Terasen Gas Inc. Terasen Inc. owns the legal rights to the intellectual property of TGI and the Terasen name, not the



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ratepayer. The costs to undertake such an activity were, in that case, borne by the Terasen Inc. shareholders.

In sum, this Application proposes the introduction of a new product offering to meet evolving customer needs and changing government policy; the costs in this case should be recovered from customers.

10.2 Does TGI believe its product is equally "green" as electricity in BC? Does it wish to convince customers of the comparability of "greenness" between electricity and gas in BC?

Response:

TGI assumes that "its product" in the question is a reference to natural gas and not Biomethane.

Natural gas is not as "green" as electricity in BC in the sense that natural gas is a fossil fuel that emits carbon when burned, whereas about 90% of the electricity consumed in BC is produced from hydroelectric generation sources which are essentially carbon neutral.

The prevalence of hydroelectricity in BC differentiates BC from other parts of western North America. Elsewhere in the West, the picture is different because a significant portion of the electricity consumed (and the marginal source of supply) is produced from natural gas or coal. Coal is a higher carbon fuel than natural gas, and the gas-fired electricity generation is less efficient than direct consumption in heating applications. In that regional context, as the Commission has recognized in previous decisions, the direct consumption of natural gas in BC by Terasen Gas customers may result in lower GHG emissions overall in the region.

With respect to TGI's intentions regarding the introduction of new products and customer education, please see the response to BCUC IR 1.10.1.

10.3 If a Public Utility was to rebrand itself, should the costs attributed with the rebranding exercise be borne by the ratepayer or the shareholder?

Response:

TGI does not believe that the introduction of a new product as is the case in this Application is a "rebranding" of the company. Rather, it is a response to customer needs and changing



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government policy much like other products and services introduced in the past such as the commodity unbundling program. Please see the response to BCUC IR 1.10.1 for more detailed discussion on cost attribution in the case of adding new products or services versus rebranding.

10.4 Who owns the intangible rights to the TGI brand, the ratepayer or the shareholder?

Response:

Terasen Inc. owns the legal rights to the intellectual property of TGI and the Terasen name, not the ratepayer. Please see the response to BCUC IR 1.10.1.

10.5 How does the ratepayer benefit from TGI's ability to better compete with electricity industry in BC?

Response:

All customers benefit directly through lower rates, all else equal, when TGI is able to attract and retain customers.

More and more, an energy company's competitive position is defined by more than just a cost benefit analysis. Today, some customers also consider the environmental implications of the energy source they are consuming. TGI believes that energy consumers in BC understand that a large portion of electricity consumed in the province is generated from renewable hydro generation sources. Electricity is thus perceived as a "green" option. For some, this might outweigh the attributes of natural gas (such as being a convenient, reliable and efficient fuel for thermal energy needs) and the operating cost advantage enjoyed by natural gas currently¹. TGI's proposed Biomethane product offering provides a means for customers to reduce greenhouse gas emissions while remaining natural gas customers of TGI.

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¹ While natural gas currently has an operating cost advantage based on comparing gas and electric rates and relative equipment efficiencies, the operating cost differential is not enough to recoup the incremental capital and maintenance costs of installing and running a gas system relative to electric baseboard heating. TGI has estimated that the operating cost differential needs to be in the order of \$10/GJ or more to recover the incremental capital and maintenance costs of a gas system.



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All TGI customers benefit when TGI is able to retain and attract customers (and their associated energy demand) who might otherwise have turned to electricity to meet their thermal energy demand given their concerns over the environment and reducing greenhouse gases. Energy volume that is transported across the TGI distribution system is an important determining factor in setting the delivery rates for customers. All else equal, delivery rates will be reduced (or maintained) as energy volume flowing on the TGI system increases (or is maintained).

Customers also benefit directly if the current trend towards increasing business risk can be slowed in the longer term through a comprehensive suite of new alternative energy product initiatives. Increased business risk drives higher required returns on debt and equity, and results in higher rates, all else equal. It remains to be seen whether the product services that TGI intends to pursue will have this effect, but TGI believes that customers would be ill-served in the long-run by TGI doing nothing to respond to increasing business risk.

TGI notes that its customers are also electricity customers of BC Hydro, FortisBC or other utilities in the province and would benefit through their electricity rates from TGI retaining thermal load. For example, BC Hydro's marginal cost of electricity is much higher than the average rate paid by BC Hydro customers for it, as is the cost of demand side management. Similar cost pressures exist for FortisBC and other electric utilities as well. As new electricity load is added to meet thermal load that could have been served by gas or another alternative energy form, or as electric utilities must expand DSM initiatives, this will result in electricity rates rising over time.

10.6 If TGI does not gain market awareness as a "green" energy supplier, is there a risk that the demand for gas in BC will significantly reduce or that TGI will be unable to supply gas to BC customers?

Response:

TGI anticipates that it will be able to supply gas to BC customers for years to come, given the significant natural gas development and findings in British Columbia in recent years (although TGI will need to continue to compete for that supply and ensure that infrastructure is in place to transport this supply to the TGI distribution network). However, as the table below shows, total normalized annual demand on the TGI system has been in decline for more than a decade. As consumers look to comply with the provincial greenhouse gas reduction targets it is possible that the throughput or demand on the natural gas system could continue its decline.



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TGI Annual Normalized Demand 1999-2008 (PJs)										
Years	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Residential	77.8	75.4	68.4	72.6	72.6	72	69.3	70	70.6	68.8
Commercial	51.5	47.3	43.9	44.3	45.3	45.2	43.9	44.1	45.5	45.9
Firm Sales	9.6	10.9	8.9	6.9	6.1	5.3	4.7	4.1	3.8	3.5
Industrial	61.2	58.9	55.6	59.4	60.1	58.3	58.6	54.2	56.3	51.8
Total	200.1	192.5	176.8	183.2	184.1	180.8	176.5	172.4	176.2	170

All else equal, if volume declines on the TGI system, the remaining customer base would pay more for TGI delivery service due to an increase in the unit charge per GJ delivered to customers. The introduction of products like the Biomethane offering provide customers with options that meet their energy needs, while at the same time helping to maintain the utilization of the TGI existing gas infrastructure to the benefit of all customers. Please see the response to BCUC IR 1.10.5 for further discussion on the benefits of retaining and attracting customers and the associated throughput.

10.7 Is TGI concerned that without a Green Gas program, its market share value will be reduced or suppressed now or in the near future?

Response:

TGI assumes that the question is referring to share value, and not market share.

The value of TGI shares (or the value of Fortis Inc. shares) now and into the future is related to the business risks that TGI faces over the long term. A key driver of business risk is the role of natural gas in meeting the thermal energy demand requirements of consumers in British Columbia, given the provincial greenhouse gas reduction targets, and the impact those targets can have on customer perceptions regarding what the solutions might be to achieve those targets.

TGI continues to take a proactive, multifaceted approach to address the business risk issues it faces, including the introduction of this Biomethane offering to customers, but reducing one obstacle or business risk does not necessary translate into reduced business risk for TGI overall. This overall business risk for TGI ultimately is one of the many factors that gets reflected in Fortis Inc. share value now and in the future.



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10.8 How does TGI's shareholder benefit from TGI's ability to better compete with electricity providers in BC?

Response:

Under the rate base rate of return regulatory model that is employed in BC, the shareholder only earns a return on the equity component of rate base (investments we have made on behalf of customers) over the life of the assets installed. The return is regulated, and is set by the Commission to account for business risks facing TGI.

The shareholder continues to earn its return on rate base for so long as the utility remains a going concern, and thus ultimately benefits from the utility remaining a going concern. Competition is a key factor that, in the long term, puts at risk the shareholder's return on, and return of, its invested equity. TGI's shareholder thus benefits from an improved competitive position against electricity as it improves the prospects of remaining a going concern and earning its allowed return on rate base.

TGI discusses the benefit to customers from enhanced throughput in the response to BCUC IR 1.10.5. The alignment of interests of shareholders and customers in a healthy utility is the essence of the regulatory compact.

10.9 Should ratepayers absorb costs that enhance or increase the share value of a public utility? Are rate payers entitled to some benefit from the enhanced share value?

Response:

The essence of the regulatory compact underlying the rate base rate of return regulatory model employed in BC is that ratepayers must pay the costs associated with providing utility products and services to customers, as well as a fair return on rate base. The rate of return on equity is set by the Commission.

The share value is not a consideration in the rate setting model employed in BC, nor should it be. The value of utility shares in the market is determined by a multitude of factors many of which arise from market influences beyond the control of the particular company in question. Examples of external non-controllable influences would be an economic downturn leading to increased demand for utility stock and higher stock prices since utilities are generally considered a safer investment or changing credit market conditions leading to higher interest rates in turn leading to changed investor perceptions of utility returns and profitability. Even if there was some way to measure the share price benefit arising from a specific utility program or



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service, ratepayers are not entitled to benefit from the enhanced share value. Ratepayers are receiving their value through the provision of utility service at fair rates. To this end, the Supreme Court of Canada stated in *ATCO Gas & Pipelines Ltd. v. Alberta (Energy & Utilities Board)*, 2006 SCC 4, as follows (para. 68):

Thus, can it be said, as alleged by the City, that the customers have a property interest in the utility? Absolutely not: that cannot be so, as it would mean that fundamental principles of corporate law would be distorted. Through the rates, the customers pay an amount for the regulated service that equals the cost of the service and the necessary resources. They do not by their payment implicitly purchase the asset from the utility's investors. The payment does not incorporate acquiring ownership or control of the utility's assets. The ratepayer covers the cost of using the service, not the holding cost of the assets themselves: "A utility's customers are not its owners, for they are not residual claimants": MacAvoy and Sidak, at p. 245 (see also p. 237). Ratepayers have made no investment. Shareholders have and they assume all risks as the residual claimants to the utility's profit. Customers have only "the risk of a price change resulting from any (authorized) change in the cost of service. This change is determined only periodically in a tariff review by the regulator" (MacAvoy and Sidak, at p. 245).

An order purporting to confer a portion of share value upon customers, either directly or indirectly, would be confiscatory and contrary to the *Utilities Commission Act*.

Further, developing new products and service offerings to meet changing customer demands is essential and part of a utility's responsibility to keep the utility viable for the ongoing benefit of customers and the shareholder. Adding a new product like biomethane is analogous to traditional utility activities such as attaching new customers or introducing new rate structures in order to achieve better utilization of the system. All customers benefit from these types of activities as economies of scale are achieved or as customer needs are met through an increased variety of products or services being offered.



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11.0 Reference: Demand in British Columbia

Exhibit B-1, Section 5.2, Study Methodology, page 35

- 11.1 The study included three different types of residential household:
 - 799 Terasen Gas customers who receive bills directly
 - 200 customers who are not billed directly
 - 50 customers that do not use gas

Total – 1049 interviews

11.2 Why were residential households sampled in the manner outlined above?

Response:

As a result of a typographical error in the Application, the above numbers for Residential households surveyed are incorrect. The table below shows the correct breakdown of Residential households included in the study. This information is also available in Appendix D-3, page 17 of the Application.

	Actual Interviews	Proportion of Total
	#	%
Residential Study		
Terasen Gas customers (receive gas bill directly from Terasen)	799	57%
Indirect customers (pay gas bill indirectly through rent or strata fees)	200	14%
Non-customers (does not use gas at home)	352	25%
Residents who don't know their energy source	50	4%
Total Residential Interviews	1,401	100%

The sample for the Biogas Study used TNS's Online Panel and included a cross-section of BC households. A quota was established for Terasen Gas customers to ensure an adequate sampling size for analysis of specific Terasen Gas customer responses as discussed in BCUC IR 1.11.5.

To determine the demand for a Biogas Program, Terasen Gas needs to understand the perspectives of both its customers and non-customers, as well as identify demand among individuals who pay their bills indirectly (e.g., renters, stratas). Non-gas customers were included in the sample because the implementation of a Biogas Program could provide an incentive for respondents to convert to natural gas, and so that Terasen Gas would get a full picture of the BC residential energy market. Individuals who pay their bills indirectly were



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included as they may be interested in participating in a Biogas Program, and may in fact still influence decisions regarding their bills.

The sample was designed to identify differences in attitude, preferences, and responses among three distinct groups, reflecting the views of Terasen Gas customers and the residential energy market in BC.

11.3 Since the size of the premium for the biogas rate is so important, why did the study design include 24% of the study population made up of interviews with customers that do not pay their bills directly?

Response:

Please refer to the response to BCUC IR 1.11.2 for a detailed breakdown of Residential households included in the study. As identified in the response to BCUC IR 1.11.2, 14% of survey respondents pay their bills indirectly, not 24% as indicated above.

The sample was designed to represent a cross-section of BC households in order to determine if there were differences in terms of attitudes, preferences and responses among customers, gas users, and non-customers. The study was comprehensive, and was not designed to look only at customers who paid their bill directly. Furthermore, individuals who are not billed directly may in fact still be customers of TGI as they influence decisions regarding their energy choice through strata councils or landlords.

The Biogas study was designed to identify the market demand for biogas programs among BC households. By recruiting a variety of individuals for the study, including those who are not billed directly, the researcher was better able to segment responses and provide information regarding potential targeted marketing opportunities.

11.4 The total number of residential customers sampled appears to be 1049 interviews. What is the margin of error in a sample this size?

Response:

As Terasen Gas explained in the response to BCUC IR 1.11.2, the total number of residential household interviews was 1401, including 799 residential customers. The margin of error is +/-



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2.6% at the 95% confidence level. This information is also stated in Section 5.2, page 36, of the Application.

11.5 If the sample size were reduced to interviews with customers that paid their bill directly (799 interviews), what would be the margin of error in this case?

Response:

For the 799 Terasen Gas customers who pay their bill directly, the margin of error is +/- 3.5% at the 95% confidence level versus the margin of error of +/- 2.6% at the 95% confidence level for the 1401 BC Household sample size as discussed in BCUC IR 1.11.2.

However, the Residential survey was designed to include a variety of respondents in order to identify demand for Biogas among BC households. Individuals who do not pay their bills directly, and individuals who are not current Terasen Gas customers, may be interested in participating in a Biogas program and may take steps to take advantage of such an offering either now, or in the future. Those who pay their bills indirectly may have input into the purchase decision (e.g. stratas or customers of Central Heat), and those who are not current customers may consider attaching to the natural gas system because of a Biomethane product offering, which helps to attract and retain customers to which all customers benefit.

The difference between the margin of error for Terasen Gas customers who pay their bills directly and the margin of error for the complete study is small, and TGI was able to drill down for specific results for TGI customers, with relative confidence as discussed in Section 5 of the Application for a TGI Biomethane initiative.



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12.0 Reference: Green Gas Programs

Exhibit B-1, Section 5, Figure 5-2, page 40

12.1 TGI notes that Carbon Offset Programs are the newest type of Green Pricing programs. Also, TGI's research further indicate that of both residential and commercial survey participants, more participants selected "don't know/decline" when asked if they would take part in carbon offset program vs. when the same question was asked of a BioGas Program.

In TGI's opinion, is the preference noted by TGI's research due to the lack of general knowledge of the relatively new concept of carbon-offset programs?

Response:

TGI's response to this question will also address the questions posed in BCUC IR 1.12.2 and 1.12.3.

Survey participants were provided with the following definitions for each program option (see Appendix D-2 of the Application for a copy of the Biogas Survey Questionnaire):

- Offset program customers are offered the option to offset their home natural gas use
 by purchasing carbon offsets through the utility. Most utility companies selling carbon
 offsets have criteria around which offsets will be purchased e.g. their own renewable
 energy projects or third party projects within their service territory.
- Renewable energy program customers pay a premium for a portion of their natural gas to be supplied only from utility invested renewable energy projects such as biogas.

The lack of understanding around carbon offsets is indicated by the fact that only 50% of residential respondents were aware of carbon offsets. TGI believes that this is possibly due to the fact that carbon offsets is relatively new.

However, the preference for a renewable energy program versus a carbon offset program may not necessarily be linked to the newness of carbon offset programs to the market.

Of the respondents that indicated an awareness of carbon offsets, a renewable energy program was still preferred for both residential and commercial customers.



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Residential Results - Among those aware of carbon offsets, they would prefer...

	Frequency	
	(# of respondents)	Percent
OFFSET PROGRAM	74	11
RENEWABLE ENERGY PROGRAM	335	48
NEITHER	130	19
DON'T KNOW	155	22
Total	694	100

Commercial Results - Among those aware of carbon offsets, they would prefer...

	Frequency	Percent
OFFSET PROGRAM	41	12
RENEWABLE ENERGY PROGRAM	167	51
NEITHER	36	11
DON'T KNOW	85	26
Total	329	100

Source: Biogas Market Study, analysis run by TNS Canadian Facts July 28, 2010

The combined results on likelihood to sign-up for an energy-based (Biogas) program (45%) and the likelihood to purchase a carbon offset (31%) would suggest that there would be a higher take-up rate among residents for a Biogas program. This is confirmed, when respondents were asked which of the two programs they would prefer to see Terasen Gas introduce. A renewable energy program is preferred over a carbon offset program by three-to-one (Note: TGI results on the likelihood to sign-up for an energy-based (Biogas) program were 56% and the likelihood to purchase a carbon offset were 35%, as indicated in Section 5 of the Application).

Even amongst Commercial respondents where there was a higher level of understanding around carbon offsets (66%), combined commercial results indicate 47% of commercial customers indicate they are likely to sign up for a Biogas program, in contrast to 24% for a



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carbon offset program. Market share projections are based on the % of customers who indicated a strong likelihood to sign up for an energy-based (Biogas) program.

While a large proportion did not know how to answer this question, the survey results favouring a renewable energy program versus a carbon offset program by three-to-one for both market segments, indicate to TGI that respondents placed a greater value on a certain amount of renewable energy being supplied from Biogas rather than just offsetting their GHGs for their natural gas use. This is confirmed through the further analysis that breaks down the responses for those that are aware of carbon offsets. TGI does agree with the statement provided in BCUC IR 1.12.2 that it is likely easier for consumers to understand how a Biogas program works versus a carbon offset program.

In summary, it is TGI's opinion that while a market for a carbon offset program may exist, there is higher uptake potential and a consumer preference for a renewable energy-based program. For this reason, TGI is proposing to focus its efforts on the energy-based program to maximize its prospects of successful product offering to our customers.

12.2 In TGI's opinion, is it easier for consumers to understand how a BioGas Program works vs how a carbon offset program works.

Response:

Yes, please refer to the response to BCUC IR 1.12.1.

12.3 Do the survey results indicate that sufficient demand exists to consider implementing a carbon credit program as well as a BioGas Program?

Response:

Yes, please refer to the response to BCUC IR 1.12.1.



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13.0 Reference: Demand in British Columbia

Exhibit B-1, Section 5.3.3, Determining Pricing Points for a BioGas Program, page 41

- 13.1 TGI states that one of the key finding is that: "There is strong Terasen Gas customer support for low percentage increases on the current commodity price across the board for all customers (between 0.5 3%), should the cost of a BioGas Program be borne by all customers."
 - On page 42, TGI states that "There was a very high level of support at a 0.5% 1% price increase for costs to be borne by all customers for a Terasen Gas BioGas Program."
- 13.2 If TGI considers that this statement is true, why would TGI not canvass all its customers through a bill stuffer to gauge their reaction to this hypothesis?

Response:

The statement referenced in the question was formulated by TNS Canadian Facts based on the scientific research they conducted at the request of Terasen Gas. The results of this survey showed that there is a very high level of support for the proposed program amongst Terasen Gas customers at a 0.5% - 1% price increase. The study engaged a statistically significant number of TGI customers in order to obtain a 95% confidence level (see the response to BCUC IR 1.11.5) and be able to analyse specific TGI customer responses and produce credible results. TGI considered it unnecessary to incur the cost to duplicate the work performed by TNS Canadian Facts.

13.3 Why would customers not support a program if they do not pay for it or the majority of the customers bear the full cost?

Response:

Intuitively, TGI would expect that customers would probably support a program if they did not have to pay anything in order to obtain the full benefits. However, TGI believes that customers who drive the cost should pay the costs of providing the service. To that end, TGI's proposal is that, in essence, all customers pay for the costs associated with making the choice to participate available to all customers, while the costs associated with actual participation in the program are borne by the participants.



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14.0 Reference: Guiding Principles

Exhibit B-1, Section 6.2, page 48

14.1 Below is an excerpt from the Application:

The Green Gas Guiding Principles are:

- A) The Green Gas offering should provide customers the opportunity to reduce their carbon footprint or carbon intensity.
- B) The Green Gas offering should be compatible with the Essential Services Model, which underlies the Customer Choice Program.
- 14.1.1 Does TGI foresee the need for Rules and Guidelines surrounding the Green Gas program similar to those of the Customer Choice Program?

Response:

The Green Gas program does not require Rules and Guidelines similar to those used for the Customer Choice program. The Rules and Guidelines used to manage Customer Choice participants were largely developed to help provide consumer protection. As such these rules play a key role in influencing the behaviour of gas marketers participating in the Customer Choice program. These Rules and Guidelines were proposed by Terasen Gas, Gas Marketers and other stakeholders through the Customer Choice regulatory process, and were augmented directly by the Commission in response to excessive dispute and complaint activity. The Green Gas offering represents an open tariff, not a fixed contract. Customers may choose to enrol or leave the Green Gas program on a monthly basis. As such, Terasen Gas does not foresee elevated dispute or complaint activity when the Green Gas program is introduced.

Terasen Gas also believes that dedicated Rules and Guidelines for the Green Gas program are not needed because as a regulated utility, the Company must meet well established customer service responsibilities that work well in the interest of customers. Our sales goals represent realistic market share potential, achievable through non-intrusive marketing activities (i.e., advertising). Customers will be able to enrol or leave the program on a monthly basis, or choose to switch to a fixed-rate contract from a gas marketer. As a regulated utility, the introduction of the proposed Green Gas program will not compromise our commitment to providing excellent customer service.



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14.1.2 How will TGI ensure that other "green" programs offered by non-TGI entities will be treated equally?

Response:

Please refer to the response to BCUC IR 1.14.1.4.

14.1.3 Does TGI see the need to separately operate BioGas Programs outside the public utility in the future?

Response:

No. Please see TGI's response to BCUC IR 1.1.1.

Competition issues are addressed in TGI's response to BCUC IR 1.21.6.

14.1.4 How does TGI intend to ensure that its proposed BioGas Programs are advertised in a way that is fair to other potential "green" gas providers?

Response:

Non-TGI entities with Biomethane product offerings will be treated equally. See the response to BCUC IR 1.16.1 and 1.16.2 for details on their potential participation in this market. Terasen Gas has successfully differentiated its variable rate from gas marketer fixed rates since 2004 when the commercial unbundling program was first introduced. TGI's Green Gas program is distinct from gas providers' current "green" gas products in two ways: TGI's gas commodity is at a variable rate (vs. marketers' fixed rates) and the program features a unique blend of Biomethane and natural gas. Communications will generate awareness for the benefits of Biomethane as a renewable energy source. The proposed Green gas offered by Terasen Gas represents an open tariff, not a fixed-rate contract. This regulated variable rate offering can easily be differentiated from the gas marketers fixed rate contracts, which like our variable rate, may or may not include a green component (e.g. carbon offset, or Biomethane offering).

TGI will develop Green Gas communications which are specific and focused on Biomethane as a renewable energy source and the details of the program itself. In the event that other providers develop Biomethane projects or offer other "green" gas products, there will be a



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greater level of public understanding than there is today. Additionally, they would benefit from TGI's Customer Education efforts which would reference green offerings available through gas marketers and other parties.

As discussed in the response to BCUC IR 1.60.9, similar to Customer Choice, in its print collateral pieces TGI will inform customers that they have a choice of other green programs offered by gas marketers. The treatment of this information will be similar to the manner in which gas marketer fixed rate offerings have been referenced in customer communications about TGI's variable commodity rate. Bill inserts and other brochures can provide the space needed to provide additional messaging that mass media does not.

- 14.2 Below is an excerpt from the Application:
 - F) Sufficient Biogas production infrastructure should be developed to ensure that a sufficient volume of Biomethane is available to meet customer demand.
 - 14.2.1 Please define "sufficient" for 2010 and 2011 including a quantification of what is the maximum and minimum amount of Biomethane TGI believes is necessary during phase 1.

Response:

This response includes information from the Confidential Appendix J-3 and is therefore provided to the Commission confidentially under a separate cover.

14.2.2 How much of this maximum and minimum supply of Biomethane has TGI contracted for at this time.

Response:

This is included in the response to BCUC IR 1.14.2.1, which is provided to the Commission confidentially under a separate cover.



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14.2.3 How much more biomethane is needed during 2010-2011, if any? Has the minimum been met?

Response:

This is included in the response to BCUC IR 1.14.2.1, which is provided to the Commission confidentially under a separate cover.

- 14.3 Below is an excerpt from the Application:
 - H) The structure of the program should ensure that appropriate costs associated with the development and acquisition of supply and ongoing O&M of the program are borne by Green Gas customers, while those costs incurred for the process and system enhancements, customer education and call center are borne by all customers.
 - 14.3.1 Under the current Customer Choice Program, do all TGI customers pay for costs incurred to develop a customer base and then maintain that customer base?

Response:

All TGI non-bypass customers pay for costs incurred to make Customer Choice available. This approach ensures that a sufficient number of customers are made aware of their options, which in turn helps to ensure the viability of the offering. This same cost allocation approach is recommended to introduce the TGI Green Gas product. The proposed treatment recognizes that product-launch related costs should be paid for by all customers in order to establish the product. Some ongoing advertising responsibility may also necessarily be funded by all TGI customers.

When TGI was directed to launch Customer Choice as per BCUC Order No. C-6-06, dated August 14, 2006, the advertising used to introduce the program to customers was neutral. It promoted neither variable nor fixed-rate terms, it was designed to drive consumer awareness of the fixed products availability, and sought to differentiate it from the regulated, variable rate that TGI has traditionally offered. As a mature product with a relatively stable customer base, TGI has not typically needed to promote its variable rate product. With respect to Customer Choice, TGI simply facilitated the delivery of the program on behalf of gas marketers. Gas marketers may choose to adjust margins and allocate funding for sales and promotion activity as they deem appropriate.



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TGI believes that the biomethane offering is analogous to a new rate, one that will require education and promotion to establish and maintain – as opposed to a program for the entire industry, such as Customer Choice. Based on market research conducted and submitted in our Biomethane Application, TGI expects that this new offering will appeal to a segment of customers. However, funding for targeted advertising aimed at communicating the offer and encouraging participation is essential in order to ensure the new rate is successfully introduced. Customer participation in the program is essential in order to demonstrate that demand for the product exists, which in turn is needed in order to justify new biogas supply projects.

Undertaking activities that ensure an adequate customer base is in place to support the products and services that Terasen Gas delivers is in the best interests of all customers. Valued rate options should not be allowed to disappear simply because their availability was inadequately communicated.

To summarize, all non-bypass customers pay for costs that are incurred to develop and sustain the Customer Choice program, and TGI's Biomethane proposal follows the same cost allocation principles.

- 14.4 Below is an excerpt from the Application:
 - I) For the benefit of the customers of Terasen Gas, the design of the Green Gas program should support the future attractiveness of natural gas as part of the solution of a low carbon energy future.
 - 14.4.1 Does the shareholder also benefit from this principle?

Response:

Please see the responses to BCUC IRs 1.10.7 and 1.14.4.3.

14.4.2 Should the shareholder bear some of the costs to accomplish this outcome?

Response:

Please see the response to BCUC IR 1.10.9.



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14.4.3 Is it possible that this program will positively impact the value of the TGI brand and ultimately, the common stock price?

Response:

Yes, it is possible that this program will positively impact the TGI brand and the value of the company's shares. However, it is impossible to make any definitive assessment of how much this impact would be. As suggested in the quoted excerpt in the question, TGI believes that it should be undertaking programs that add value to the Company and that provide tools to mitigate the threats to its future viability from changing government policy and legislation, and changing public perceptions of natural gas as a fossil fuel-based source of energy. TGI also notes that introducing a new product or service such as the Biomethane Service Offering in order to maintain or improve the viability of the utility is conceptually analogous to adding new customers in the existing suite of products and services offered by the utility. The growth associated with adding new customers brings with it the opportunity to share common costs among more customers and over greater throughput volumes and also has potential to positively impact share value. As indicated in the response to BCUC IR 1.10.5, TGI believes customers would be ill-served by TGI taking a do-nothing approach in response to the changing energy and policy landscape. Please see also the responses to BCUC IRs 1.10.1 and 1.10.9.

14.4.4 If it does, is TGI's shareholder willing to compensate the ratepayers for the increased value of TGI resulting from the Green Gas program?

Response:

No. Please see the response to BCUC IR 1.10.9.



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15.0 Reference: Demand in British Columbia

Exhibit B-1, Section 6.3, Key Elements of the Proposed Green Gas Business Model, page 49

15.1 TGI states that: "The proposed sales model is designed to leave the Customer Choice program and its customers unaffected."

If all Terasen Gas customers pay a portion of the costs of the BioGas Program will this not show up in the Midstream Cost Reconciliation Account and be passed on to all customers including customers in the Customer Choice Program?

Response:

None of the costs associated with making the Green Gas offering available to all customers will be charged to the Midstream Cost Reconciliation Account. No customers of the Customer Choice Program will be paying for costs specific to customers who are enrolled in the Green Gas offering. However, Customer Choice customers will be paying for program costs to make the program available to all customers through their delivery rates effective January 1, 2012. Similarly, Green Gas customers eligible for Customer Choice will continue to pay for costs associated with making the Customer Choice Program available through their midstream rates.

As discussed in the Application, Terasen Gas believes the costs associated with making the Green Gas offering available to all customers should be borne by all non-bypass customers. Terasen Gas is seeking approval to collect these costs in a deferral account for the remaining duration of the 2010-2011 revenue requirements. The costs deferred to December 31, 2011, and any forecast of future costs, will be included in Terasen Gas' 2012 revenue requirements for recovery from all non-bypass customers via delivery rates, effective January 1, 2012.

15.2 If customers in the Customer Choice Program chose to purchase a green rate from gas marketers would they not be paying into two different green programs?

Response:

Development of new products and services, like those delivered through the Biomethane and Customer Choice programs, requires the development of infrastructure that is needed to be able to deliver new services. This process involves incurring two general types of costs that need to be paid for by customers. The first set of costs is incurred to set up the program infrastructure



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and the second set of costs is incurred when services are delivered. Terasen Gas is of the view that program infrastructure costs should be paid for by all customers eligible to participate in the program because program infrastructure provides these customers with the option to participate either immediately or at some point in the future. Service delivery costs should only be paid for by customers who use the services offered by these programs. The separation of these costs is critical to the successful development of new products and services because burdening participating customers with the full recovery of all infrastructure and service costs would make most, if not all, new products and services prohibitively costly for the average customer. The lack of customer interest that would be the consequence of these high costs would result in almost certain program failure. Without such a sharing of costs, it would be difficult if not impossible to develop new products and services, something customers have indicated they value.

Considering the cost impact on customers that multiple product and services programs would have, means that some costs for each program will be borne by all customers. In the specific case of a "green rate" offered by Gas Marketers participating in the Customer Choice program and "green gas" offered by Terasen Gas via the Biomethane program, customers participating in the Customer Choice program would be paying for some of the costs to provide both the Customer Choice program as well as the Biomethane program. Equally, customers deciding to participate in the Biomethane program would also pay for some of the costs to provide the Customer Choice program. Although this means that some customers would be paying for a portion of the costs for two "green" programs, the two programs offer two substantially different products. Finally, this cost allocation approach exists today with respect to the existing service offerings that both Terasen Gas and Gas Marketers offer with their 'standard' fixed and variable offerings; should Terasen Gas' application be approved resulting in both groups offering a 'green' product the cost allocation principles approved and in existence today should not be affected.

15.3 In order for customers to compare the cost of green rate offerings between Terasen Gas and gas marketers, why shouldn't Terasen Gas sell a proposed Green rate gas offering that reflects all costs and provide it under the same Rules and Code of Conduct that applies to gas marketers?

Response:

Terasen Gas believes that the preferred method is to differentiate the utility and gas marketer offers based on term, specifically fixed or variable. This approach establishes a product that is easy to compare with that of gas marketers, manages costs in a fashion consistent with the approach used for Customer Choice, and limits the need for direct competition with marketers.



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Other obstacles to selling the proposed Green Gas rate under the same rules as Customer Choice relate to the Essential Services Model.

From a communications perspective Terasen Gas will continue to offer regulated, variable rates to customers under an open tariff. Gas marketers will offer fixed-rate contracts with varying lengths of contracts. Whether selecting a product from Terasen Gas or a gas marketer, customers may choose to purchase just the gas commodity or add a green component. This approach provides customers with access to green products for variable or fixed terms, rather than just fixed terms. Offering the Green Gas product to customers under the same rules and Code of Conduct that applies to gas marketers would result in direct competition with marketers for fixed-rate contracts with varying contract lengths. Gas marketers oppose the utility's entrance into fixed-rate products. With respect to the Code of Conduct, its rules were largely established to manage the operations of the non-regulated gas marketers. As a regulated utility, Terasen Gas must continue to adhere to existing performance levels. An increase in disputes and complaints is not anticipated. If customers enrol in the Terasen Gas Green Gas rate, they can readily opt out each month and return to the default, regulated variable-rate. Likewise, customers can choose to enrol in a gas marketer rate, even if they're currently enrolled in the Terasen Gas Green Gas rate.

Program set-up costs are managed in a fashion consistent with the existing Customer Choice program. Program setup costs are borne by all non-bypass customers, and energy costs are only paid by those individuals that purchase a particular product.² However, the Biomethane offering cannot follow the same business rules as Customer Choice because the supply is not 100 per cent load factor, and it cannot be replaced at source. Also, the Biomethane is injected directly into the TGI distribution system. Under the ESM, marketers can replace supply that is lost at the three receipt points: Huntingdon Pool, Compressor Station 2, and AECO NIT. If Biomethane supply is lost it cannot be replaced from the same supply source. TGI must actively manage this inherent difference in supply, and ensure the Biomethane infrastructure is appropriately attended so as to ensure customer safety and reliability of the resource.

In summary, the proposed Green Gas product delivers an offering that is differentiated from that of the marketers based on term. The approach will avoid direct competition with gas marketers for fixed rate contracts and although it manages costs in a manner consistent with that used to facilitate Customer Choice, it recognizes the inherent differences between the two programs.

 $^{^{2}}$ This is explored in more detail in BCUC IR 1.15.2.



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16.0 Reference: Customer Offering, Product Rollout and Proposed Tariffs

Exhibit B-1, Section 6.2, Guiding Principles for the Design of the Green Gas Business Model, page 49

16.1 If the market share for the Green Gas Program is only 2.2% indicating that only a very small number of customers are interested in participating, why should costs incurred for process and system enhancements, customer education (advertising) and the call centre be borne by all customers?

Response:

TGI notes that the market share forecast as a result of our customer research is significantly higher than 2.2%. In scientific research conducted by TNS Canadian Facts and described in Section 5 of the Application, 16% of residential customers indicated that they would participate in the proposed Green Gas program were it made available to them. Additionally, our commercial customers have indicated a participation rate of 10%. The 2.2% referenced in the question is the North American average participation rate for utility customers in unconventional energy programs. In the interests of mitigating risk through conservative forecasting, Terasen Gas has only begun development of sufficient Biomethane supply to serve slightly less than this 2.2% level of participation but has built the proposed program in a scalable manner so as to facilitate the expected 16% and 10% participation rates. Based on the research, it is reasonable to expect that the 2.2% North American average will be exceeded by TGI over time. The Company believes there is an opportunity for the number of participating customers to exceed the take up suggested by the TNS survey results as more customers become informed about the environmental benefits of biomethane.

In regards to the cost allocations for this Application, TGI used the principles and methodologies that were established in the development and implementation of the Customer Choice program. The Customer Choice program is a useful comparison because of a number of similarities, including participation rates. As of the end of 2009, of the 832,989 Rate Schedule 1, 2 and 3 customers eligible to participate in the Customer Choice program, 138,922 (or 16.68%) were currently enrolled with a marketer.

Costs of making the program available to customers and the cost of educating customers that are eligible to participate in the program are recovered from all non-bypass customers. Terasen Gas is not only responding to customer demand, but also government policy which is encouraging the adoption of green and innovative technologies. As Terasen Gas is committed to expanding the proposed program to all customer groups as rapidly as the market will allow, the Company believes it is appropriate to begin recovering the costs of offering the Green Gas program as well as the associated customer education costs from all non-bypass customers



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beginning in 2012 when the program will be expanded to commercial customers through Rate Schedules 2B and 3B. TGI believes that allocating costs on this principled basis produces a fair result for all customers and the shared costs of this program at this early stage are much smaller than the Customer Choice Program.

16.2 Should Gas Marketers be allowed to buy biomethane gas directly from a supplier or upgrade the gas themselves and inject it into the Terasen Gas system.

Response:

In providing a response to this question, Terasen Gas assumes that Gas Marketers referred to in this question are limited to those participating in the Customer Choice program. In terms of "allowing" Gas Marketers to inject biomethane into the Company's system, "allowing" involves two aspects, one of which is technical in nature and the other involves regulatory considerations.

From a technical perspective, TGI agrees that there are two general manners in which a Gas Marketer could attempt to provide biomethane into the Company's system. One involves buying biomethane gas directly from a supplier outside the Company's service territory and transporting it to the Terasen Gas system, providing this supply under the business rules of the Essential Services Model. The other involves Gas Marketers upgrading the gas themselves, or purchasing upgraded gas, and then injecting it into the Terasen Gas distribution system. In this second case, the Gas Marketers would only be injecting biomethane into the Company's system and would not be able to provide this gas to specific customers. In order to enable Gas Marketers to provide biomethane directly to customers would require a wheeling agreement with the Company to enable the transport of this gas first to either one or all of the receipt points. TGI may be willing to consider such arrangements in a future phase of the program when more supply is developed or available.

As TGI stated in its Application, biomethane project proponents who meet TGI's financial, safety, and technical standards will be allowed to interconnect their projects to TGI's system. In this respect, TGI sees no difference between a gas marketer wishing to enter into the biomethane production business, or any other business venture (such as Catalyst) that wishes to do the same. TGI will evaluate all project proponents on the same basis when determining whether to allow them to interconnect their project(s) to the Company's system.

The question of "allowing" also involves regulatory considerations. To the extent that these activities are public utility activities, the Commission ultimately has jurisdiction over these



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matters. Please see the response to BCUC IR 1.1.1 for further discussion of regulatory considerations.



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17.0 Reference: Customer Offering, Product Rollout and Proposed Tariffs Exhibit B-1, Section 6.4, Phased Product offering Strategy, pages 50 - 51

17.1 Terasen Gas states that the objective of phase 1 will be to "validate producer reliability and consumer interest". How will this be done?

Response:

It is TGI's intention to keep supply and demand in balance. To do this effectively, both the supply side (producer reliability) and demand side (customer interest) of the equation need to be managed proactively. TGI explains how it will do this in Section 6 of the Application.

On the supply side, TGI is most interested in the reliability of gas producers to ensure that customer demand is met. In order to ensure this, the gas volume and quality will be monitored closely over a period of time. Items such as frequency of outages, consistency of gas quality and real-time biomethane volumes will be tracked. From this data, TGI can develop a means of projecting future expected run time per year and expected gas volume that meets gas specifications for quality.

On the customer side, while the Company's primary research indicates that there is a potential market for 16% of residential customers to sign up for a renewable energy-based program, the Company is mindful that other green pricing programs on average do not experience this type of participation rate. For the purposes of developing the program rollout to customers, the Company analysed two scenarios in Section 6.5 of the Biomethane Application:

- Ramping up to the industry average participation rate of 2.2%; and
- Ramping up to the potential market share identified in the primary research Study of 16% for residential customers and 10% for commercial customers.

The phased sales approach will allow Terasen Gas to gauge consumer demand and bring forth the supply projects as needed to meet this demand. If Terasen Gas does not see the anticipated sign-up rates in the residential target market in the first 15 months of the program based on the low demand forecast, additional supply projects may need to be reconsidered. Alternatively, if residential market demand is well above the low demand forecast, then supply projects will need to be brought on more aggressively to match demand. Terasen Gas plans to start a waitlist for customers that wish to be notified when new Biomethane supply becomes available should the program be oversubscribed. Given, this phased approach to sales and supply development, TGI will keep the supply/demand balance within a reasonable range.



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18.0 Reference: Customer Offering, Product Rollout and Proposed Tariffs Exhibit B-1, Section 6.6, Customer Education Plan, page 56 - 57

18.1 If gas marketers cover the cost of education and promotion with revenue generated in their green gas offering, why should the Terasen Gas Biomethane rate option not cover the Customer Education Plan costs?

Response:

As discussed in BCUC IR 1.14.1.4 and BCUC IR 1.60.9, TGI will develop Green Gas communications which are specific and focused on Biomethane as a renewable energy source and the details of the program itself.

This approach benefits other providers of "green" products.

- In the event that other providers develop Biomethane projects or offer other "green" gas products, there will be a greater level of public understanding than there is today.
- Additionally, Gas Marketers would benefit from TGI's Customer Education efforts which would reference green offerings available through gas marketers and other parties. Similar to Customer Choice, in its print collateral pieces TGI will inform customers that they have a choice of other green programs offered by gas marketers. The treatment of this information will be similar to the manner in which gas marketer fixed rate offerings have been referenced in customer communications about TGI's variable commodity rate. Bill inserts and other brochures can provide the space needed to provide additional messaging that mass media does not.

The Company is of the opinion that customer education costs should be recovered from all non-bypass customers as the purpose of customer education is to ensure that all customers can make an informed decision about whether or not they wish to participate in a given program.

18.2 TGI states that: "Customer education will be an ongoing activity until the Green Gas program reaches a level of market maturity whereby customer groups who have access to the program are sufficiently aware of it and able to make an informed decision as to whether or not they wish to participate."

Isn't an education program more effective with generic advertising where the sponsor of the advertising is not promoting a product or service but a credible independent third party?



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Response:

Generic advertising, "advertising for a general product category, as opposed to advertising for a specific brand in that category", is effective in a well-established market for a homogeneous commodity where there are a large number of suppliers in the product category, customers are aware of how to get the product and there is little or no differentiation between supplier products. An example of generic advertising would be communications that promote drinking milk, such as the Dairy Farmers of Canada's website (www.dairygoodness.ca). These communications contain no mention of the category suppliers' brands. They promote the category without promoting any individual suppliers. Generic advertising is designed to increase the overall size of an existing market, not to create a new market.

The effectiveness of a customer education program for a new product category is determined by many factors, including the source of the information being communicated and the action that the audience is asked to take. As a leading energy provider in B.C., serving 96 per cent of the province's natural gas consumers, Terasen Gas is a well-respected, credible source of new energy information. Those most predisposed to participate in the program will be asked to contribute to the province's energy future by supporting the use of Biomethane through TGI's Green Gas program. As discussed in BCUC IR's 1.18.1 & 1.18.4, TGI's customer education plan consists of both generic advertising that will benefit all customers as well as gas marketers should they become involved in Biomethane or green products, as well as promotion of the TGI product.

TGI has suggested an educational /advertising budget to assist in the introduction of the program and for customers to take action by enrolling in the program. This budget, as outlined on page 1 of Appendix H of the Application, has been designed to meet four objectives:

- generate awareness and understanding of biomethane as a renewable energy and its availability today;
- generate awareness and understanding of the TGI Green Gas program;
- stimulate interest and participation in the program; and
- maintain participation and support for the program.

In summary, TGI feels the proposed customer education strategy is an appropriate means for ensuring education about Biomethane and other green offerings as well as promotion of the

 $^{^3 \, \}underline{\text{http://www.allbusiness.com/glossaries/generic-advertising/4961720-1.html} \\$



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proposed Green Gas program to ensure the Company's renewable energy projects are supported through customer enrolment.

18.3 The customer education program overlaps with TGI's own advertising as it will develop awareness for name recognition, goodwill and provide arguments to support the expansion of natural gas demand. Since many of the spill-over effects from "education" or advertising benefit TGI directly should all of these costs be absorbed in TGI's current budget for advertising and promotion?

Response:

No, costs for the Biomethane customer education campaign cannot be absorbed in TGI's current advertising and promotion budgets.

The current funding for TGI advertising and promotion budget that was approved as part of the TGI 2010-2011 Negotiated Settlement Agreement, dated November 5, 2010, did not include funding to undertake a customer education campaign in relation to Biomethane to support a successful product launch to customers. If TGI was to fund this offering from existing budgets, customer education programs such as safety and energy efficiency and conservation messaging would be compromised.

Currently, the dollars TGI spends on advertising and educational material is recovered from customers.

Renewable energy development and meeting customer demand for GHG reduction solutions will not be successful if consumers are not aware that TGI offers such a program. The customer education budget was proposed based on the incremental requirements to generate awareness of TGI's proposed Green Gas program.

18.4 Since many Gas Marketers offer a green rate option should not advertising and promotion be generic advertising similar to the branding created for the Customer Choice program?

Response:

Terasen Gas has proposed an educational / advertising plan to assist in the introduction of this new service offering and to encourage customers to enrol in the service. This budget is outlined



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on page 58 of the Application and details are provided in Appendix H of the Application. Terasen Gas believes the advertising supporting the Green Gas product should reflect the utility's graphic standards⁴ because this will best support the success of the program. The Company's belief in the requirement for this education plan is supported by three primary reasons that are discussed below. The customer education plan, which the Company believes best supports the introduction of the Biomethane program, has been designed to meet four objectives:

- generate awareness and understanding of biomethane as a renewable energy and its availability today;
- generate awareness and understanding of the Terasen Gas Green Gas program;
- · stimulate interest and participation in the program; and
- maintain participation and support for the program.

First, the Green Gas offering is a product exclusively offered by Terasen Gas and should thus be identified as such. Fixed price contracts provided through Customer Choice, although facilitated by Terasen Gas (e.g., providing billing services to customers, acting as supplier of last resort, providing customer awareness and education, and managing the enrolment process), is not a product offered by the utility. The commodity rate that Terasen Gas offers to customers is similar in nature pre and post Customer Choice.

Second, Terasen Gas believes using communications that follow its graphic standards act to legitimize the product and assist in efforts to achieve the four objectives stated above.

• Associating the product with Terasen Gas will improve consumer acceptance of the new Green Gas product, especially after the level of dispute activity that arose upon introduction of Customer Choice into the residential market in 2007/2008. Introducing a green product via the same generic approach currently used for Customer Choice exposes the product to unnecessary risk. Customer Choice contracts have failed to grow since the program rolled out, and Terasen Gas specific communications ended. Overall program participation has contracted by approximately 9 per cent since peak enrolment levels were achieved in 2009. Some of this market share erosion is attributable to depressed natural gas rates, but Terasen Gas believes many customers remain uncertain about the program because of the sales approach used and the cost of the rate offerings put forth by gas marketers participating in the program.

⁴ Technical information that specifies the visual identity of Terasen Gas marketing and customer communications. Graphic standards ensure TGI communications are designed consistently and uniformly.



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 Customer Choice communications are designed to help consumers make an informed purchase decision, but remain neutral with respect to choosing the Terasen Gas regulated variable rate, or a fixed rate contract offered by gas marketers. Green Gas advertising must also include messaging to encourage participation to ensure program success.

Third, utility communications denote the inherent difference between the gas marketers' green products. The biomethane product that Terasen Gas is proposing to bring to market will be a regulated, variable rate, while gas marketers continue to sell fixed rate contracts that may or may not include a green component.

Terasen Gas believes that its proposed communication efforts will ensure the program objectives are attained and then help distinguish the utility product from gas marketers' offerings. Appreciating the sensitivity of this role, Terasen Gas commits to relate the availability of gas marketer green products when the utility is distinguishing between its regulated, variable rate offerings and the fixed rate contracts of gas marketers. The Company will reference the price comparison page on 'Terasen Gas.com', for a listing of the competitive green product offers available through gas marketers; and our website will allow customers to hyperlink to any offer they are interested in.

Please also refer to the response to BCUC IR 1.18.1 and BCUC IR 1.18.2.



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19.0 Reference: Customer Education Budget Exhibit B-1, Table 6-2, page 57

19.1 To date, how much employee time and other costs have been incurred developing and preparing for the customer education plan?

Response:

Employee time spent on the customer education plan to date has been limited to approximately 24 hours. No other costs (e.g. consultants, products or services) have been incurred.

19.2 Does this budget include any estimates for allocations of TGI employee time engaged to develop the Green Gas program and then market it? If so, please quantify the hours, rate and persons job title and indicate which line item it is within.

Response:

No, the Customer Education budget does not include TGI employee time for the development and production of communications materials.

TGI does not intend to the track the labour hours of TGI staff engaged in the Biomethane program, as TGI labour costs are not included in the program funding requested. Staff costs to develop and administer programs like the Biomethane program are already provided for in the existing allowed TGI O&M budgets. As a result, the program budget includes only costs that are considered incremental to the Company.

The Biogas Program Manager position identified in the Application will have the most responsibility for the day to day activity of the Green Gas Program and will manage and engage support from communications for customer education (Refer to the response to BCUC IR 1.60.12 for more information on this Full Time Equivalent position).



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19.3 What tracking device is TGI using to account for hours spent working on the Green Gas program?

Response:

Please refer to the response to BCUC IR 1.19.2.

19.4 What contingency with respect to internal labour costs is built into this budget?

Response:

The Customer Education budget does not include TGI employee labour; therefore, no contingency is required with respect to internal labour costs. Please refer to the response to BCUC IR 1.19.2.

The following budget for Customer Education appears on page 57 of the Biomethane Application. None of the listed items include internal labour costs, as these costs are not being requested in the program funding.

Туре	Amount
Media	
Targeted print & online communications	\$ 220,000
Direct marketing	20,000
	240,000
Production	
Print communications (incl. bill insert)	40,000
Videos	20,000
Event materials (incl. signage)	5,000
Quarterly email newsletter	20,000
	85,000
Promotions	
Incentives	75,000
(for joining the program and/or referring others)	
Total	\$ 400,000



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19.5 If actual costs, including labour allocations for TGl's internal staff, appear to be exceeding this budget, is TGI willing to halt any further customer education spending and seek further commission approval for the change?

Response:

TGI is committed to only spending up to the amount of the approved BCUC customer education budget for a Green Gas program. As discussed in the response to BCUC IR 1.19.2, internal labour costs are not included in this budget. Should TGI be in a position that approved customer education dollars are nearing the maximum allowed and there was additional Biomethane available, TGI would look into selling the additional Biomethane through the identified risk mitigation measures in Section 11 of the Application for on-system or off-system sales that would require little or no marketing. TGI would halt further customer education spending and seek further commission approval if TGI felt it required an increase to this budget if the risk mitigation measures did not resolve an over-supply of Biomethane and additional customer education was required to increase program participation.

19.6 If actual Customer Education costs, including internally allocated labour costs, exceed this budget, what protection can TGI offer ratepayers?

Response:

TGI will not exceed the budget if approved and is confident that the modest Customer Education budget of \$400,000 over 2010-2011 is sufficient to achieve the number of program participants needed to match the initial supply of the Biomethane/natural gas blend in Phase one as discussed in Section 6 of the Application. TGI will endeavour to attain the greatest impact possible through Customer Education through a variety of tactics such as maximizing social networking and negotiating added value on its mass media buys. Costs incurred by TGI are always subject to Commission review in revenue requirements proceedings.



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20.0 Reference: Success Metrics

Exhibit B-1, Section 6.6.3, page 58

20.1 Will any TGI employee's bonus or incentive compensation be influenced by enrolment in the Green Gas program? If so, who are they and how much is the compensation?

Response:

Pay increases and incentive opportunities for all employees are linked to individual and Company performance. Company performance, for purposes of the Employee Incentive Plan, is measured by how well the Company meets our annual scorecard measures. One of the Company's 10 measures is the progress on new project development initiatives such as a biogas program. Therefore, the success of the Green Gas program in a small way, could influence all TGI employees' incentive pay.

20.2 Will any TGI employee's bonus or incentive compensation be influenced by performance of the Green Gas program or a part thereof? If so, who are they and how much is the compensation?

Response:

Please refer to the response to BCUC IR 1.20.1.

20.3 Will any TGI employee bonus costs resulting, in part, by performance of the Green Gas program be allocated to Green Gas customers only or will they be shared by all TGI customers?

Response:

Staff costs to develop programs like the Green Gas program are already provided for in the existing allowed O&M funding. Additionally, costs for the Biogas Program Manager (FTE) role identified in Section 10 of the Application are proposed to be shared by all TGI customers. As a result, any bonus costs resulting, in part, by the performance of the Green Gas program will be shared by all TGI customers.



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21.0 Reference: Biomass Supply

Exhibit B-1, Section 7.2, page 61

TGI states that: "Currently, there are more than twenty (20) potential projects of various sizes at various stages of evaluation by Terasen Gas in different locations around the province. At this time, Terasen Gas also continues to discuss potential future projects with possible partners."

21.1 Who are these potential partners, how far along are discussions and what is the potential volume of gas supply each supplier could provide.

Response:

TGI is confident that there is a strong interest in developing projects based on the level of interest and number of potential projects seen to date. The potential partners and the potential supply includes a combination of municipalities, regional districts and other supply developers. Other supply developers fall broadly into two categories:

- Businesses or individuals with existing businesses seeking to broaden their business and create another source of revenue. Typically, this would include farmers and agricultural businesses who have a base source of organic waste that can be used as a starting point for a digester.
- Entities formed for the sole purpose of developing a business around the concept of wasteto-energy. These entities may already have an existing direct tie to a source of organic waste. Many of these entities are currently relying on confidentiality with TGI of potential competitive situations.

For a list of current municipalities and regional districts that have engaged with TGI refer to the response to BCUC IR 1.3.1.

In most cases, only a preliminary feasibility has taken place. The preliminary feasibility evaluation is concerned primarily with the basic technical and economic test. The key variables include the following:

- 1. How much biomethane can be generated by the project?
- 2. Where is the potential project located? How much gas can the existing system accept at that location? Could the system be reasonably improved or extended to accept the biomethane?
- 3. What are the budgetary costs of the upgrading plant for the given volume?



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Using these variables, TGI can develop an initial determination of the project cost and by extension a preliminary range of the final cost of the biomethane. If the cost of biomethane falls below the proposed cap, the project is a candidate to move forward with further analysis and ultimately a formal agreement with the supplier. If the project cannot meet the initial cost target (on a cost per GJ basis) it will not be considered at this time. TGI will develop supply in a manner that best matches the demand from customers.

The potential amount of biomethane has been incorporated into the supply estimate in Section 7.3.2 of the Application. However, on a case-by-case basis, the amount of biomethane varies significantly. The projects range from approximately 20,000 GJ per year on the low end to over 150,000 GJ per year with most of the projects in the range of 40,000 GJ per year to 80,000 GJ per year.

Because of the interest to date, TGI is confident that further projects can be developed over time to supply a much larger number of customers.

21.2 What internal controls, procedures and contractual limitations has TGI designed, approved and enacted to ensure that TGI does not over-commit itself to acquire biogas which it cannot economically process and sell? Provide copies of these procedures and controls to support your response.

Response:

While TGI has extensive experience in the acquisition of gas supply and maintains tight internal controls, procedures and contractual limitations with respect to conventional supply, TGI believes greater initial process flexibility is needed in order to encourage the development of biogas production. This approach will allow the biogas supply acquisition strategy to develop as the Company learns from current projects. While TGI has intentionally left the process of biogas acquisition flexible to encourage a wide range of proposals from potential producers, it has developed a rigorous process to help protect customers from uneconomic commitments of biogas supply. This process includes the following measures.

1. In order to ensure TGI does not over-commit to supply, the Company will regularly review customer demand against available supply. TGI recognizes that the infancy of this program prevents matching demand exactly to supply. However, it is still important to continue to explore new supply because of the time required to develop projects. Therefore, TGI is taking a cautious approach to when discussing possible contractual obligations with producers by cautioning them that this is a new program, and as such, contractual commitments are subject to change as the program evolves. From an



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internal management perspective, the Company requires contract sign-off at the vice presidential level, thereby ensuring visibility of any contractual obligations to the senior management team. As a further control, contracts are conditional upon Commission acceptance.

- 2. In order to ensure the supply is economic, TGI has developed an initial framework that is used to evaluate potential new supply. The initial feasibility process (as described in BCUC IR 1.21.1) will be used to complete an initial economic evaluation. From this initial feasibility, TGI will refine cost estimates (including the price paid to potential suppliers) and supply estimates to improve confidence in the final price for customers before finalizing an agreement.
- 3. In order to manage circumstances that result in an inability by the Company to supply biomethane promised to customers or circumstances that result in an excess of biomethane supply, the Company has several mechanisms in place (see Sections 11.2.1 and 11.2.2 of the Application). In the case of undersupply for example, TGI retains the right to purchase carbon credits to ensure that an equivalent offset to biomethane is accounted for in the program. In the case of excess biomethane, TGI can sell gas to third parties of system among other options.

Terasen Gas believes that its process for evaluating biogas production proposals is appropriate given the infancy of the biogas industry at this time and provides customers with adequate protection from uneconomic purchase and supply obligations. This process will be reviewed as the biogas industry and market for biomethane develops in order to ensure it continues to serve the requirements of the program and customers.

21.3 Does TGI believe it would mitigate risk to ratepayers by delaying further contractual obligations and commitments for biogas supply until phase 1 has been implemented and customer demand is demonstrated by actual customer enrolments?

Response:

No. As outlined in the Application (Sections 5 and 6), TGI has outlined many strategies to protect customers from over supply. These strategies are:

1. Strong customer demand supported by research (Section 5). As described in the Application, TGI believes that it has used conservative estimates in determining



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customer demand. Specifically, the research done shows a 16% demand while TGI has chosen to use an industry average of 2.2%.

2. In the unlikely event that customer demand is lower than expected, TGI has the opportunity to sell biomethane via schedule 11 and schedule 30 to non-residential customers. Further, if there is a shortfall in demand due to the blend offering (10%), there are customers who will buy biomethane at 100% purity.

Given these facts, if new supply projects come forward, TGI intends to continue to pursue new supply development projects and will file the supply contracts with the BCUC.

Please see the response to BCUC IR 1.21.2 for more details.

21.4 Has any supplier approached TGI to discuss supplying consumer-ready biomethane to the TGI gas distribution system? If not, please explain why this might be.

Response:

TGI understands "supplying consumer-ready biomethane" to mean the supply of biomethane to TGI according to the second model proposed in the Application (where TGI has ownership and control over the interconnection facilities only).

Yes, several potential suppliers have approached TGI to develop consumer-ready biomethane projects. In the context of the Application, the Catalyst Power Inc. Project also fits this definition.

TGI is willing to accommodate this ownership model (please refer to Section 8.3 of the Application) provided that suppliers can demonstrate an ability to provide a consistent, reliable supply of biomethane. Please refer to the response to BCUC IR 1.22.3 for a description of the criteria which TGI intends to use when evaluating supplier reliability.

TGI has had discussions with potential suppliers, which has revealed that these suppliers are considering partnering with TGI in an arrangement where TGI would own upgrading equipment for their own business reasons. TGI believes that it is absolutely necessary to provide the flexibility of both ownership models in order to allow the market to develop.



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21.5 If a gas supplier wished to provide consumer-ready biomethane to the TGI gas distribution system, what commitments would TGI provide in terms of connecting the gas supply to the distribution network, educating the public about the product availability and supporting the customer to gain and maintain customers?

Response:

The question suggests that there are a number of roles that a biogas producer could play in order to sell its supply. It could be simply a producer of biogas, who also upgrades it to pipeline quality, and that sells this supply to TGI, who injects it into the system for use by customers. A biogas producer could also seek to play a broader role and not just produce biogas, but also sell biomethane to specific end-use customers. In terms of supporting these two broad roles, Phase I of the program only foresees entering into agreements with producers of biogas, or biomethane, that the Company injects into the system. The Company remains solely responsible for marketing this product to end-use customers. This limitation is important because the key objectives of Phase I of the program are to confirm producer reliability, customer demand, and that the processes needed to support the implementation of the program function properly. Any expansion of the scope of the program, to include such features as producer sales directly to end-use customers, is a consideration for future program phases.

In terms of entering into an agreement with a prospective biogas producer, TGI would enter into a negotiation process to reach an agreement in a similar manner to other suppliers. A gas supplier would be subject to the same guiding principles for supply (as described in Section 8.4 of the Application).

The most important aspects of any agreement would be the cost associated with biomethane and the safety and reliability of supply. Please refer to the response to BCUC IR 1.22.3 for a description of the criteria TGI would use in evaluating the reliability of a supplier.

Once a supplier can demonstrate reliability and come to agreement with TGI for cost effective supply, TGI will provide the necessary interconnection facilities required to connect to the existing distribution or transmission system.

Biomethane supplied directly to TGI would become a part of the TGI Biomethane supply offering and therefore it would be treated in the same manner as the rest of the supply pool.



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21.6 If TGI becomes an established and significant supplier of biomethane, will other potential suppliers be competitively disadvantaged or face barriers to entry in the biomethane supply market?

Response:

TGI has approached this response on the basis that "supplier of biomethane" refers to TGI's involvement in upgrading facilities, as TGI does not currently intend to be involved in the production of raw Biogas.

The Commission's interest in the competitive position of TGI relative to other companies engaged in the business of upgrading biogas must be founded in matters relevant to its statutory mandate. The regulation of competition *per se* falls beyond the Commission's jurisdiction. The Commission's interest in this context must be in ensuring that there is a reliable and safe supply of biomethane for customers at a reasonable price. In the long term, this objective is achieved by TGI having access to a multitude of biomethane supply options (i.e. competition among biogas and biomethane projects) that might be expected to act as a check on supply costs over time. TGI's participation in upgrading, as circumstances require or as proponents desire, furthers, not hinders, this objective of developing the supply market and providing a favourable influence on costs over time. Until there is a well established supply market for biomethane that requires biogas project proponents to compete against each other on price, the presence of competition for the provision of upgrading facilities is most relevant to the feasibility or profitability of biogas projects for the project proponent, not the cost effectiveness of the biomethane service for TGI customers. This is explained further below.

TGI believes that it has a reputation as a qualified provider of safe and reliable public utility service. This may well play a role in project proponents being interested in partnering with TGI in the upgrading of raw biogas, and TGI has anecdotal evidence from project proponents to suggest this has been the case already. If this can be considered a competitive advantage, it is a fair one. TGI draws a distinction between a fair competitive advantage, such as the advantage that a company obtains through developing a strong reputation, and expertise in its field, and an unfair competitive advantage, such as the kind of advantage that can be achieved through predatory pricing, price discrimination, abuse of dominance, or deceptive trade practices. TGI will certainly not engage in any of the latter anti-competitive practices.

Ultimately, the extent to which TGI or any other company establishes itself as a successful supplier of biogas upgrading facilities will determine the level of success that TGI or any other company has in this marketplace. To the extent that TGI establishes itself as an "established and significant" supplier of upgrading facilities, it will enjoy the reputation that is achieved by any business through hard work and effort, and the competitive advantages that flow from these attributes. As stated above, there is nothing improper or contrary to the public interest in TGI enjoying such advantages over its competitors.



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The only constraint that TGI is placing on third parties being involved in the upgrading process is that they are able to demonstrate they are capable of providing a reliable and safe source of biomethane. TGI, as the party selling biomethane service to customers, has a significant interest in ensuring that supply is not only safe, but consistent and reliable. These objectives are consistent with the Commission's mandate under the Utilities Commission Act. Apart from that requirement, which TGI believes is necessary to protect the interests of its customers, the owners of a biogas project are free to approach any other company in the business of upgrading biogas to investigate the opportunity for partnering in the venture in the hope of increasing the developer's profits beyond what it could make by selling raw biogas to TGI at a price acceptable to the Commission.

As the viability of the project contemplating the delivery of upgraded biomethane to TGI (as opposed to delivering raw biogas to TGI and having TGI upgrade it) will be a function of the proponent's cost of upgrading the biogas, the price for which a third party upgrader can provide upgrading service to the project proponent is going to be a significant factor in the proponent's selection of an upgrading partner. TGI's established reputation as a natural gas distribution company, or any future reputation as a supplier of biomethane, will not affect the cost at which it will provide upgrading facilities to the proponent. Assuming the project partner has decided it is prepared to own the upgrading assets, its decision as to a third party upgrader will come down to whether the cost and price structure of the third party upgrader can coexist within the financial parameters of the biogas project. This means that large, established manufacturers of biogas upgraders (of which there are several in existence) will potentially have an advantage over start ups. The savings on upgrading translates into additional profits for the project proponent.

The thought process described above that is undertaken by a project proponent to determine its most advantageous course of action will not be transparent to TGI or the Commission unless the Commission actively regulates the biogas project and upgrading (as these activities are themselves a public utility service). Rather, TGI negotiates the best arrangement it can in each case. The Commission adequately protects customers of TGI by setting the parameters for the cost of biomethane supply; contracts are approved by the Commission.

Over time, the development of a reliable supply of biomethane from a variety of sources (which TGI intends to pursue in a measured way based on demand for biomethane) means that TGI's market power vis-a-vis project proponents will increase. Savings in the upgrading costs that might otherwise have represented additional profits for the proponent can be translated into savings for TGI customers through TGI's negotiations with proponents. The Commission can influence this development by, for instance, regulating TGI's acquisition price parameters. At that point, those companies who can present the relevant expertise, financial stability, solid reputation as well as cost effective upgrading will emerge the most successful.



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TGI believes that the Commission should be indifferent as to which companies provide the upgrading so long as customers are receiving a cost effective, reliable and safe supply of biomethane, TGI believes that it can assist in meeting the need for safe, reliable and cost effective biomethane. Were the Commission to take steps to exclude strong market participants like TGI from competing in the development of upgrading facilities, and leave behind those players who by virtue of their cost structure are less able to compete on price, it would ultimately be doing a disservice to both customers and project proponents.



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22.0 Reference: Supply Side Business Model

Exhibit B-1, Section 8.2, Ownership Model, page 67

22.1 TGI states that: "The Company's ownership model contemplates the partner retaining ownership and control over the equipment which digests organic material to create raw Biogas, as well as those assets required to collect raw Biogas from proposed collections such as digesters, landfills or sewage treatment facilities. Those assets require the largest investment and currently fall outside Terasen Gas' core expertise."

Why is control of the upgrader process considered within Terasen Gas' expertise?

Response:

Please see TGI's response to BCUC IR 1.2.2.

22.2 Why is Terasen Gas Inc. assuming the risk of a stranded asset (upgrader) rather than offloading that risk to a non-regulated entity such as Terasen Energy Services?

Response:

TGI notes that there is minimal risk of stranding an upgrader as this question assumes, as these assets can be mounted onto skids and redeployed to another location, or sold, should the need arise.

The issue of whether an asset should be in a regulated entity is unrelated to the risk of stranding. It is an issue of whether the activity the asset is employed in can be properly classified as a regulated activity. For the reasons set out in TGI's response to BCUC IR 1.1.1., TES, or any other entity that provided upgrading services would be regulated.

Given that the activity is regulated and the benefits to gas customers of adding this product to the system (as outlined in the Application Section 1), the modest risk involved, and the administrative efficiencies of operating one utility instead of two for the same offering (e.g. avoiding issues like transfer pricing), TGI believes that its proposal to consolidate all of the regulated aspects of the offering in one entity is appropriate. Further discussion of the reasons



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why it is appropriate for TGI to operate the Green Gas program (instead of operating the program through a second regulated public utility) is found in TGI's response to BCUC IR 1.1.1.

22.3 TGI states that: "The exception will be where the partner can be appropriately relied upon to provide this consistent supply of properly upgraded Biomethane."

Since a partner can control the upgrader and associated facilities, how would the determination whether a partner should control this facility be made since it appears operational experience is necessary?

Response:

First and foremost, TGI needs to ensure that customer safety and asset protection are primary to any arrangement. In order to protect customers and assets, TGI would consider several elements to determine supplier competence before accepting biomethane from a partner-controlled upgrade plant.

- 1. Operations and Maintenance Experience: TGI would expect the same level of diligence in operating and maintaining upgrade equipment as it applies to all of the assets it controls. Practically, this means a potential partner would need to show that the upgrading equipment will be maintained and operated to the same standards TGI would apply. In the case where a partner may not have that expertise, it would be acceptable that the operation and maintenance was covered by a service and operating contract with a qualified contractor (most likely the equipment supplier). For example, in the case of the Catalyst Power Inc. Project, Catalyst Power has partnered with Flotech for maintenance and operational assistance of the biogas upgrade plant. Flotech, through its subsidiary, Greenlane Biogas, has delivered more than 20 biogas upgrading plants around the world in the last 20 years.
- Project Delivery: It is possible that potential partners may either have experience in other
 jurisdictions with similar facilities or they may have experience developing other similar
 projects (such as electricity generation from biogas for example). If a partner has
 demonstrated an ability to deliver biogas projects successfully, TGI would look upon this
 favourably.
- 3. Proven ability to manage unusual situations: Does the potential partner have a proven ability to manage issues such as leaks or unexpected process conditions. Does the partner have the ability to respond to issues in a timely fashion from both a safety perspective and a reliability of supply perspective. By contracting with Flotech, Catalyst



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will have proven operational experience to rely upon and a local office to respond to issues in the field quickly.

- 4. Financial Resources: It is possible that unforeseen events, such as equipment failures or system improvements, may require additional capital. Or, a situation may occur where an interruption in supply may result in a revenue shortfall for a period of time. Does the potential partner have the financial resources necessary to manage these situations?
- 5. Technical knowledge and resources: A potential partner may need to have a strong technical knowledge of gas and gas related equipment as well as a strong background in understanding the generation of biogas. This may require, for example, both knowledge of microbiology (in the case of a digester) and knowledge of mechanical engineering (pressure vessel requirements for biogas upgrading equipment). TGI would need to be satisfied that all of this expertise resides with or can be easily accessed by a potential partner. Again, in the case of Catalyst, PlanET (a well established digester company) has been contracted to develop appropriate design of equipment, consulting for digestion and construction expertise to ensure a successful project.

In the context of Biomethane supply (where TGI owns only interconnection facilities), TGI will consider all of these elements, and potentially others in the future, when making a determination about who may own the upgrading facilities.



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23.0 Reference: Supply Side Business Model

Ex. B-1, Section 8.3.2, Terasen Gas Ownership and Control Over Upgrading Facilities, page 72

23.1 TGI States that: "In summary, Terasen Gas must own and operate equipment to upgrade raw Biogas to Biomethane in order to ensure safe and reliable operation of Biomethane supply projects."

Why would TGI simply not shut-off the biomethane supply if its monitoring equipment indicated that this supply was not meeting its specifications? If this were the case, what risk does TGI actually encounter if it does not own and operate upgrader equipment?

Response:

TGI will always ensure that biomethane meets the specifications necessary to ensure customer and asset safety. If biomethane does not meet specification, TGI will immediately shut off the biomethane supply. However, as stated in BCUC IR 1.2.2, TGI is also responsible to ensure that there is a reliable supply of biomethane to meet the needs of its customers. TGI believes that there is an increased risk to the *reliability* of supply when it does not own upgrade equipment. Managing this risk is critical during the early stages of the roll-out of this program because it could otherwise undermine consumer confidence. The Company believes that securing supply reliability early is a factor critical to the overall success of the Biomethane program. To clarify, it is important to recognize that TGI has sold a product to customers in the form of Biomethane. TGI therefore has an obligation to deliver this product as required. By owning the upgrading equipment, TGI has more control on meeting the obligations to our Biomethane customers. TGI retains more control over balancing supply with system capacity, supply quality and responsiveness to any concerns or issues.

If a third party owner of the upgrade facilities fails to operate equipment correctly or reliably and the supply is less than demand or off specification, TGI may be required to purchase carbon offsets to meet its obligations to customers. However, from the customer point of view, this issue does not originate with the third party supplier, but rather with TGI. TGI is responsible to the customer, but has much less control over the potential solution to the problem.

Further, TGI believes that having a role as an active owner and operator of biogas upgrading equipment will benefit the development of the biomethane market. TGI involvement will provide confidence for both potential suppliers of biogas and to customers who participate in the biogas program.



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TGI's control of the upgrade equipment reduces the risk associated with the reliability of biomethane supply which will ultimately benefit customers. For this reason, it makes sense to limit third party ownership to circumstances where reliability concerns can be adequately addressed by potential partners.

23.2 Does Terasen Gas plan to have in place significant redundant upgrader equipment that other biogas/biomethane suppliers might not necessarily install in order to ensure reliability of supply?

Response:

In terms of technical reliability of the upgrading equipment owned by TGI, TGI plans to rely upon the expertise of equipment manufacturers to provide appropriate design redundancy to ensure reliability requirements set out in the individual contracts.

Technical redundancy of upgrade equipment alone will not ensure reliability of supply. Rather, a properly supported operating and maintenance plan and policies along with links to customer service will ultimately provide the best reliability of supply. TGI's discussion of reliability in the context of the ownership of upgrading also addresses the relative advantages of TGI owning and operating facilities as opposed to a partner. These concerns relate to the ability and willingness of the potential partner to operate the facilities in a manner that meets TGI's requirements so that TGI does not have to disrupt the flow of Biomethane on to the TGI system. The advantages of TGI owning upgrading equipment are discussed in BCUC IR 1.2.2 and the importance of TGIs obligation to biomethane customers is discussed in BCUC IR 1.23.1.



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24.0 Reference: Supply Side Business Model

Exhibit B-1, Section 8.4.3, Regulatory Review of New Supply Projects and Contracts, page 80

24.1 In the proposed streamlined process, TGI indicates that it will not file an Expenditure Schedule for approval pursuant to section 44.2. However would not the filing of the expenditure schedules provide the Commission with the necessary information to gauge the financial impact and planned expenditures for biomethane projects?

Response:

Terasen Gas is not expecting the individual projects to exceed the \$5 million capital cost amount that would trigger a separate CPCN review. The forecast costs of new biomethane supply sources would be included in the quarterly gas cost reviews. Terasen Gas believes the appropriate forum for reviewing the distribution system capital and related cost of service would be during the Company's revenue requirements applications and as outlined in the Application the 5 year review of the program based on the date of the Commission order if the program is approved.

24.2 In TGI's opinion, is this proposed approach to not file pursuant to section 44.2 compliant with the Utilities Commission Act and does the Commission have the ability or jurisdiction to grant TGI relief from filing under section 44.2 of that Act?

Response:

Yes, the proposed approach is consistent with the Act. Section 44.2 of the *Utilities Commission Act* uses the permissive word "may" in relation to the filing of an expenditure schedule:

44.2 (1) A public utility <u>may</u> file with the commission an expenditure schedule containing one or more of the following... [Emphasis added.]

Consequently, the filing of an expenditure schedule under the Act is not a mandatory requirement, but rather is something that a utility, in its discretion, may elect to file. For this reason, TGI's proposed approach is compliant with the Act. Furthermore, because this provision of the Act is permissive and not mandatory, the question of whether the Commission has the ability to "grant relief from filing under section 44.2" does not arise.



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24.3 How does TGI conclude that this proposed approach is in the public interest?

Response:

TGI believes that the proposed approach is in the public interest because it promotes regulatory efficiency, while retaining appropriate Commission oversight over supply acquisition as supply contracts will be filed with the Commission.

TGI has advanced the end to end business model in this Application to provide intervenors and the Commission with an opportunity for a comprehensive review of the model up front. This includes the principles that TGI proposes will govern the Company in pursuing Biomethane supply going forward. The criteria, which are set out in Section 8.4.3 of the Application, are:

- 1. The projected supply meets the proposed price ceiling discussed in the Application, with the maximum price for delivered Biomethane on the system recalculated from time to time based on updates to the BC Hydro RIB Step 2 Rate;
- 2. The supply contract is at least 10 years in length;
- 3. Terasen Gas has, by agreement, retained final control over injection location;
- 4. Terasen Gas is satisfied that the upgrade technology is sufficiently proven;
- 5. Terasen Gas has, by agreement, reserved the right to refuse gas if customer safety or asset integrity is at stake;
- 6. The partner is a municipality, regional district or other public authority, or is a private party with a track record in dealings with the Company or that posts security to reduce risk of stranding.

TGI believes that future supply contracts that meet these criteria will be in the public interest for the following reasons:

- The development of a cost-effective Biomethane offering is beneficial for customers as a whole because it assists TGI in retaining and attracting customers, which makes use of existing infrastructure which is to the benefit of existing customers;
- Provides an alternative for renewable energy supply development in BC. The
 conversion of biogas to biomethane as outlined in this Application (Section 2) is
 more efficient for this energy form to be injected into the natural gas network
 rather than creating electricity for injection into the electricity grid. Thus, to
 develop biomethane into electricity, a higher price may need to be paid to the



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supply developer to overcome this fact. Thus, the energy consumers in British Columbia may have paid too much to have this energy source developed;

- The contracts will be subjected to Commission approval, that ensures the costeffectiveness of the Biomethane supply;
- The contracts will ensure that TGI has the right to control the safety and reliability
 of the upgrading assets and the injection of the biomethane into its distribution
 system; and
- The contracts will address the risk of stranding through the posting of security.

The Commission will have an opportunity to comment on these criteria in this proceeding. Every supply contract will be submitted to the Commission, even under TGI's proposed streamlined process. The Commission will have the ability to assess the contracts against the approved principles and parameters outlined above to ensure the public interest is served. In reality, the main difference with the streamlined process from what would otherwise occur relates to regulatory efficiency.

- First, as the streamlined process uses pre-approved principles as the basis for review, it will avoid in most instances the need to re-debate the principles when a supply contract is filed. Terasen Gas wishes to avoid a scenario where the same evidentiary record and level of process that has been used in this proceeding is required in support of each individual supply contract filed hereafter.
- Second, TGI has the ability to enter negotiations with project proponents with advance knowledge of the Commission-endorsed parameters.

Of course, TGI recognizes that even if the Commission endorses the streamlined process and the above principles, the Commission always has the ability to make further inquiries about a particular supply contract submitted for acceptance. TGI would expect that contracts that fall outside of the pre-approved criteria would be reviewed by the Commission in the normal course. This process is similar to the Gas Supply Contracts that are currently being filed with the Commission. This streamlined regulatory process benefits all stakeholders.

The other typical aspect of public interest review relates to the project expenditures. TGI notes that Biomethane projects are expected to fall below the CPCN threshold in most instances, and (as TGI noted in the response to BCUC IR 1.24.2) the section 44.2 expenditure schedule approval is optional. Thus, even in the absence of a streamlined process, the capital expenditures might not be reviewed until TGI applies for rates in a revenue requirements proceeding. The streamlined process that contemplates only consideration of supply contracts is consistent with the existing regulatory framework, and is adequate to address public interest



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considerations. The projects, and the associated capital expenditures, will not proceed without a supply contract that has been accepted by the Commission.

The use of a streamlined process with the safeguards described above will achieve administrative efficiency and allow projects that are in the public interest to move forward expeditiously in accordance with the recently enacted British Columbia Energy Objectives.



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25.0 Reference: Supply Side Business Model

Exhibit B-1, Section 8.4.4, Post Implementation Review, page 81

25.1 Instead of a post implementation review after 5 years would it not be effective to have the review after the completion of phase 1 where producer reliability can be validated along with consumer interest?

Response:

Please refer to the response to BCUC IR 1.25.3.

25.2 Upon the completion of phase 1, would TGI be willing to debrief the commission and other interested parties about their findings with respect to consumer demand and other consumer findings related to biogas?

Response:

Please refer to the response to BCUC IR 1.25.3.

25.3 Would TGI be willing to delay the approval and implementation of phase 2 of the proposed BioGas Program until phase 1 has been implemented and is providing live data for review and analysis?

Response:

The Company will respect whatever decision the Commission may reach, but is of the opinion that the Green Gas program rollout schedule is the most appropriate way to ensure program success. Terasen Gas believes that the program rollout as proposed in the Application represents the best possible option for balancing the need to grow the program at a measured pace while ensuring the highest chances of program success. The Company is concerned that delaying the implementation of Rate Schedules 2B and 3B as proposed in the Application would unduly deny access to Biomethane for our commercial customers who have indicated that they want to purchase and consume it, as well as limit the effectiveness of the Company's plan to mitigate against the risk of stranded costs through customer diversification.



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TGI understands that the Commission will be interested in how the program is developing. TGI believes that this is best addressed through initial approval of all of the necessary rate schedules at this time, and then having an appropriate oversight mechanism in place. The Commission will approve proposed rate changes on an annual basis for the Biomethane portion of the rate schedules and on a quarterly basis for the Natural Gas portion. Further, the Commission will be approving supply contracts as they are negotiated, and will thus be aware of supply. Terasen Gas is also willing to report to the Commission annually on participation numbers and production and sales volumes. Cost of service and TGI's execution of the approved allocation methodology will necessarily be addressed in the context of periodic Revenue Requirement processes that occur in years leading up to the five year review, and thus there is no need for separate annual reporting on this. Terasen Gas expects that the five year review will be more in depth than the annual reporting. It will lead to a formal report on supply, demand, and business rules with a corresponding workshop with the Commission and interested parties on how to improve the program as a result of the learnings acquired during the five year window.

Terasen Gas believes that the in-depth post-implementation review should be held on the proposed timeline, i.e. within five years of the date of the Commission order related to this Application. As presented in the second paragraph of page 81 of the Application, the Company believes that five years will provide adequate time to validate our research into the residential and commercial markets. Also, five years will give Terasen Gas adequate time to develop additional supply projects to help this industry mature.

This combination of oversight mechanisms described above should provide the Commission and intervenors with the necessary comfort regarding the development of the Biomethane offering, such that the orders sought can be approved at this time.



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26.0 Reference: Biomethane Supply Projects Included in this Application Exhibit B-1, Section 9.2.1, Overview, page 84

26.1 TGI states that (page 84): "The CSRD indicated an interest in a beneficial use for landfill gas in response to the Terasen Gas Request for Expressions of Interest ("RFEOI") in 2009."

Did TGI investigate whether other private parties were willing to finance the collection facilities and digester where TGI does not have expertise? Did TGI investigate whether it could attract suitable partners to develop the upgrading facilities?

Response:

To clarify there is no digester involved in the CSRD project. Essentially the landfill acts as a digester in this type of project. CSRD provided a submission to TGI that indicated preliminary feasibility for a project at the landfill which included cost estimates for the landfill collection facilities and the upgrade equipment.

In early discussions, CSRD indicated a preference for working with TGI. TGI responded to the wishes of CSRD and indicated willingness to participate in the project by investing in assets. CSRD indicated a preference for working with TGI for several reasons:

- Financial: CSRD indicated a desire to reduce the capital required to develop a solution at the landfill that provided maximum environment and economic benefits. The avoided cost of the upgrading equipment was a direct savings to taxpayers in the region.
- 2. Trust: CSRD sees TGI as a trusted operator. CSRD indicated confidence that TGI would operate the system in a safe, reliable manner and invest appropriate resources in maintenance of the equipment.
- 3. Transparency: CSRD indicated a preference for working with a regulated utility that is subject to active oversight by the Commission.
- 4. Longevity: CSRD is making a significant investment in gas collection assets and therefore wanted a long term contract to maximize the use of the capital invested over a long period of time. CSRD indicated that because TGI is a stable entity with an assumed long-term health, there is reduced risk associated with benefitting from this project for many years in the future.



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- Access to customer: CSRD recognized that TGI could provide a link between the supply of biomethane and customers, which would ultimately increase the likelihood of ongoing revenue from the biogas at the landfill.
- 6. Simplicity: CSRD preferred to develop a single contract with competent partner over a three-way or indirect contract.

TGI developed a contract with the wishes of CSRD in mind, and therefore did not investigate using another private party to either invest in or operate the upgrade facilities.

In general, TGI is willing to invest in upgrading facilities when the partner does not want to undertake this investment themselves and/or does not have the capacity or experience to operate this type of equipment. Further it would be the suppliers' prerogative as the project owner to seek out a potential partner if the preference was to enter into a supply agreement with TGI for biomethane, as Catalyst did, and present a viable proposal to TGI. In addition, any commercial transaction is further complicated by introducing a third party into the transaction to invest into the upgrading facilities as TGI involvement is required to ultimately connect to the system.

TGI believes that either:

- 1. A supplier can approach TGI with a willingness to provide biomethane to TGI and TGI must ensure that the supplier can perform this function; or
- 2. TGI and a potential supplier can come to an agreement where TGI owns and operates upgrading equipment with the supplier providing raw biogas.

In preliminary discussions with suppliers, TGI will generally make them aware where there appears to be a lack of knowledge of the various options and possible financing routes for various aspects of the project. Ultimately, it is the supplier's decision to determine which approach to proceed with, assuming the project supplier can meet the requirements of TGI for them to own and operate the upgrading facilities, as the supplier is the project owner, not TGI.



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26.2 What is TGI's position, if the Commission required TGI in future projects to investigate whether partners were willing to invest in the collection network, digester and upgrading facilities in all future projects and TGI would only be involved in these projects if other partners could not be found.

Response:

As stated in the Application in Section 8.3.1, TGI would not consider owning the collection network or digester. The issue of ownership relates only to the upgrading facilities. There are some key reasons why the proposed approach, as it relates to the upgrading facilities, is undesirable.

First, from the standpoint of reliability of supply, TGI has stated several reasons that it is important to own and operate upgrade equipment (please refer to BCUC IR 1.2.2). TGI believes that it is in the best interests of customers to place the reliability concerns identified in other responses above an inflexible policy of having TGI avoid ownership unless absolutely necessary. The quality of the partner should be considered (factors TGI would consider are outlined in BCUC IR 1.22.3). If the proponent identifies a qualified partner to undertake the upgrading, TGI has already indicated it is open to that approach. The Catalyst project is an example of this.

Second, there is a practical business issue with the approach identified. Project proponents, and not TGI, will make the determination based on their own business considerations whether to develop projects. A Commission policy such as that identified in the question may thus impede the development of supply in two ways: (a) project proponents may not be in a position to proceed without TGI's involvement, due to financing issues etc. and (b) may be unwilling to go into business with an upgrading partner about whom they, or their financial backers, have reservations or who cannot accommodate their expectation of return on investment.

Third, TGI believes that this policy will have a perverse impact on the cost of supply in the long term. Customers will benefit in the long term from wider availability of supply, not by raising obstacles to the cost effective development of supply.

Fourth, the risk of stranding, which this hypothetical policy would seem to be directed at addressing, is small. Moreover, the risk relates almost entirely to the interconnection facilities, as the upgrading equipment can be moved and reused. The small stranding risk relating to the interconnection facilities will exist regardless of who owns the upgrading equipment.

TGI believes that the best approach to meet the needs of customers is an approach that allows TGI to own and operate upgrade equipment while also allowing biomethane suppliers to contract with TGI provided they can meet required criteria.



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27.0 Reference: Biomethane Supply Projects Included in this Application Exhibit B-1, Section 9.2.3, Description of Facilities Addition, page 87

- 27.1 TGI states that (page 87): "As the assurance ... this additional monitoring equipment might be able to be removed from the site and redeployed to another Biogas project once this flow rate is confirmed." TGI also states that: "As with the monitoring equipment, the gas control connection may be able to be removed and redeployed to another start-up Biogas project as confidence in the quality and consistency of Biogas from the CSRD project grows."
- 27.2 What measures has TGI taken to permit the redeployment of equipment to another biogas project?

Response:

TGI will respond to this question keeping in mind that in the case of CSRD, TGI is investing in both interconnecting facilities and an upgrading plant.

In the case of the interconnection facilities (which includes metering, monitoring, gas control equipment, odourant) TGI has intentionally designed equipment to maximize the potential for redeployment. Specifically this includes features such as:

- 1. Design piping and valve sizing covers a range of gas flows.
- 2. Equipment layout is similar to typical TGI facilities.
- 3. Equipment is mounted together on a single skid. This allows for the entire assembly to be moved without breaking a lot of connections.
- 4. More sensitive equipment such as the gas chromatograph and communications equipment is situated to avoid exposure to the weather and therefore increase life.

See below how the equipment (including building) is mounted together on a single skid at the Catalyst Power Inc. site.



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Catalyst interconnection equipment





In the case of the CSRD upgrade plant, TGI has contracted for a packaged upgrade plant that is mounted together on a single skid. The manufacturer will ensure that the entire upgrade plant is packaged to be reliably redeployed if required in a similar fashion to the TGI interconnection equipment on the Catalyst project. At this point in time, the plant is in a design phase and therefore no photo is available.

TGI is confident that the design and fabrication of both the above ground interconnection facilities and upgrade equipment can be redeployed if necessary.



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28.0 Reference: Biomethane Supply Projects Included in this Application Exhibit B-1, Section 9.2.5, Terasen Gas' Cost, page 89 - 91

28.1 The estimated capital cost for the CSRD project is \$2,304,400 with a contingency of 10%. Assuming construction has begun, is the project currently on budget and is it expected to be within budget?

Response:

The CSRD project is currently on budget and expected to remain on budget. Work on this project is in the early design stages and some work has begun on-site to ensure coordination of utilities (electrical, raw biogas connections) with CSRD. As stated in the Application (Section 9.2.5), TGI believes that this cost estimate is reasonable and therefore has confidence that the project will be on budget based on foreseeable circumstances. To develop the cost estimate TGI used a combination of a fixed price contract (on the upgrade equipment), an estimate for the interconnection facility and metering based on actual costs from the Catalyst Power project and a field estimate for the interconnection cost.

Terasen Gas has also been able to secure government funding from two sources to partially offset the capital costs of the upgrading equipment, reducing the amount of capital being spent on this project.

Funding for this project:

Innovative Clean Energy Fund (ICE)	\$315,600
BC Bioenergy Network Grant	\$200,000
Total	\$515,600

As stated in the Application in Section 9.2.5, and restated here, when funding for the project is included, the total projected costs are shown in the table below.

Item	2010 Estimate
Planned Costs	\$ 2,304,400
Less ICE funding	315,600
Less BCBN funding	200,000
Total	\$ 1,788,800

TGI is confident that the project will remain on budget based on current data and foreseeable circumstances.



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28.2 Please provide a completion report.

Response:

Please see the response to BCUC IR 1.28.1.



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29.0 Reference: Biomethane Supply Projects Included in this Application Exhibit B-1, Section 9.3.4, Terasen Gas' Cost, page 100

29.1 In the CSRD project TGI used a contingency of 10% but with the Catalyst Project a 20% contingency was applied. Why were two different contingency values applied?

Response:

The Catalyst project budget was developed ahead of detailed engineering primarily due to the timeline of the project partner. Therefore, TGI used a larger contingency to cover potential cost overruns.

In contrast, the budget for the CSRD project was developed based primarily on the actual project costs for the Catalyst project and a fixed price sub-contract and therefore TGI had more confidence in the estimate.

Please also refer to the response to BCUC IR 1.28.1.

29.2 Does this contingency provide for cost escalations of foreseen costs only or does it also provide for any unforeseen costs?

Response:

TGI has attempted to ensure that these project budgets are as accurate as possible. TGI is confident that the contingencies are reasonable for the size and scope of the projects.

TGI believes that the nature of the projects do not warrant contingencies for unforeseen project costs. This is due to three primary factors:

- 1. The major cost items are well-defined. TGI is confident in the cost estimates for major budget items and the potential risks for cost overrun are reasonably foreseeable.
- The project scopes are well-defined: TGI has worked with partners to ensure that the scope of each respective party was well-understood ahead of initiating significant expenditures.
- 3. There are no unusual project-related items that cannot be reasonably predicted.



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TGI, therefore, has not included unforeseen cost escalations in the contingencies. Please refer to BCUC IR 1.40.3 for additional comments on contingencies.



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30.0 Reference: Cost Recovery Principles for the Green Gas Program Exhibit B-1, Section 10.2, page 107

TGI States that: "Incremental CWLP charges related to processing customer enrolments in the Green Gas offerings and ongoing O&M such as customer drops, moves and changes will be fully recovered from only Green Gas customers via the Biomethane rate."

30.1 Please explain how TGI will monitor and quantify these incremental CWLP charges related to the Green Gas program.

Response:

The incremental costs incurred by CWLP related to the Green Gas Program will require an amendment to the current scope of services as defined in the Client Services Agreement. Individual transaction pricing will be established for services like processing enrolments, customer drops and the incremental activity associated with a customer move. Mechanisms to support the capture and reporting of these transactions are included in the negotiated price per transaction as supporting volume details will be required for invoice processing. These invoices will be charged directly to the program to ensure that the costs are captured and recovered from participating Green Gas customers.



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31.0 Reference: Cost Recovery Principles for the Green Gas Program Exhibit B-1, Section 10.2, page 107

TGI states that: "However, some costs are being incurred in order to give all customers the choice of participating in the Green Gas program, and all customers obtain environmental benefits from the Company offering Biomethane as an option. Consistent with the implementation of other programs, such as the Customer Choice program, Terasen Gas believes that costs incurred to provide this choice and deliver environmental benefits should be allocated to all customers of the utility. The costs to be allocated to all utility customers include the costs associated with the capital assets downstream of the receipt point of Biomethane on the Terasen Gas system and the costs to provide consumers with the option to purchase Biomethane."

31.1 Please explain how all customers benefit from having the choice to participate in the Green Gas program.

Response:

TGI has interpreted the question as inquiring about the benefits to individual customers of being able to choose to participate in the Biomethane program, rather than inquiring whether it would be more beneficial to mandate participation in the program for all TGI customers. TGI is proposing an optional program. Customers benefit from having the option to participate in the Green Gas program in several ways.

Firstly, there is the intangible benefit of increased choices. Modern liberal economic theory generally suggests that consumers benefit from having more rather than less choices in regards to the products and services that they have available to them.

Secondly, customers are increasingly considering environmental factors as well as price and other attributes in making energy choices. Customers benefit from having the ability to continue to use natural gas (and avail themselves of the attributes of natural gas), while still being able to choose to pay a premium to reduce their GHG emissions. Scientific research and consultation with customer groups suggests that there is a significant majority of customers that want to see this program being offered and a significant number of customers will participate in the program.

Ultimately, all new and existing customers benefit from the proposed program being made available to them because, relative to the status quo, it promotes the ongoing viability of the utility as an energy supplier. Any business that wants to remain viable must be responsive to the demands of its customers. Ignoring the demands of our customers and denying them the option to participate in the proposed Green Gas program may force some customers to look for other "green" solutions. Left unchecked this may burden existing customers with increased



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costs due to the loss of throughput on the TGI system (throughput being a key determinant of delivery rates). The Company believes that the introduction of the Green Gas program, in addition to being responsive to demands from some customers, helps mitigate the risk of lost throughput for all customers.

Therefore, the introduction of the Green Gas program, and providing customers with the choice to participate in it, is an investment in both the environmental but also the financial sustainability of the Terasen Gas system, to the benefit of all customers.

31.2 Has TGI asked its existing customers if they would be willing to pay costs to make the Green Gas program available to all customers and if so, what was the response?

Response:

Yes, Terasen Gas commissioned the scientific research detailed in Section 5 of the Application. This research inquired about our customers' interest in having the program made available to them at several price points. As detailed in Figure 5-3 on page 42 of the Application, 78% of our residential customers and 65% of our commercial customers surveyed indicated their support for the program when it would result in a price increase to them of \$0.04/GJ to \$0.07/GJ. As shown on Line 20, Schedule 10 of Appendix J-2 the proposed rate impact to all residential customers is \$0.006/GJ. This amount of rate impact is only 15% (\$0.04 x .15 = \$0.006) of the low end of the range of rate impacts that a large number of customers surveyed indicated they would be willing to pay in order to have the program made available.

31.3 If no customers ultimately chose to participate in the proposed Green Gas program, would TGI be required to make the program available?

Response:

Terasen Gas is unsure as to the intended question, but believes it to be correctly paraphrased as "If no customers chose to participate in the Green Gas program once it is offered, will Terasen Gas be required to continue making the program available to customers?"

In the unlikely event that no customers choose to participate in the proposed program, TGI does not believe it would be required to continue to make the program available. As with any tariff



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offering, periodic review of customer utilization and cost recovery is something TGI believes would be appropriate for the Green Gas tariffs. TGI considers this hypothetical scenario unlikely due to the following reasons:

1. Proactive participation from Transport customers:

As demonstrated in Appendix L-1, this scenario is very unlikely. Central Heat Inc. has agreed to purchase the first 10,000 GJs of Biomethane produced for the program, subject to Commission approval and pricing that does not dramatically exceed the pricing proposed in the Application. The proposed Rate Schedule 10B and amendments to Rate Schedule 30 would allow for sales of Biomethane to other transport customers as an additional risk mitigation tool.

2. High degree of interest from customers:

In regards to participation from proposed Rate Schedules 1B, 2B and 3B, as discussed in Section 5 of the Application, a large portion of customers surveyed have indicated their desire to participate in the proposed program; therefore, the Company believes that a scenario where no core customers participate to also be unlikely. The Company is initially making available less Biomethane than would be required to service the demand even if only if a small portion of these customers, representing the North American industry average of 2.2% chose to participate, while the scientific research conducted by TNS Canadian Facts indicates that 16% of our residential customers and 10% of our commercial customers will likely want to participate in the Green Gas program.

Terasen Gas is of the opinion that the research and participation of transport customers suggests that the constraints on the program will be on the ability to develop adequate supply to meet the demand for Biomethane, as opposed to demand being the constraint.



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32.0 Reference: Cost Recovery Principles for the Green Gas Program Exhibit B-1, Section 10.4, page 109

Below is an excerpt from the Application:

10.4 Costs to be Allocated to all Customers

As discussed above, the general principle employed in allocating costs is that costs incurred in order to give all customers the choice of participating in the Green Gas program, and to extend environmental benefits to all customers will be allocated to all customers.

32.1 Please explain what is meant by "and to extend environmental benefits to all customers will be allocated to all customers".

Response:

The quoted text contains a typographical error. The quoted text should have contained a comma and therefore read:

"and to extend environmental benefits to all customers, will be allocated to all customers."

Please refer to the response to BCUC IR 1.32.3 for further details.

Why should only TGI customers pay for the environmental benefits of Green Gas if non-customers will potentially benefit from carbon reductions as well?

Response:

The premise of the question is at odds with how the offering is structured and priced. The Biomethane offering will be priced based on recovering the cost of providing the utility service. As discussed in the Company's response to BCUC IR 1.31.2, a significant majority of our customers surveyed have indicated their willingness to pay a premium to reflect the costs of providing the service in order to have a Green Gas program be made available. TGI is not proposing to charge a premium over and above cost of Biomethane service to reflect the value of environmental benefits. Rather, those are simply an incidental benefit – but a real benefit that flows from the offering. It so happens that the incidental benefit will be enjoyed by more than just TGI customers, and this merely supports the public interest justification for the offering.



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As discussed in Section 3 of the Application, the Provincial Government has specific policies favouring the development of Biogas as a renewable energy source, and the involvement of public utilities in furthering these objectives. Table 3-1, Page 26, outlines how this Application conforms to the *Clean Energy Act (CEA)*. *CEA* s. 2(h) "encourages the switching from one kind of energy source or use to another that decreases greenhouse gas emissions in British Columbia", as well as *CEA* s. 2(j) specifically encourages the use of biogas to reduce waste.

Even if Terasen Gas believed that all residents of British Columbia that would enjoy the environmental benefits that will be caused by the Green Gas program should be required to pay for them, the Company does not have the ability or the right to recover costs from non-customers. Instead, Terasen Gas has the ability to recover the proposed costs from our customers and our customers have indicated that they are willing to pay those costs. Other reasons are discussed in the Company's response to BCUC IR 1.32.3, 1.32.4 and 1.32.5.

32.3 If a TGI customer selects a green gas program offered by a gas marketer or converts from natural gas to electricity to reduce carbon emissions, should all TGI customers absorb the costs of those activities as all customers will enjoy the environmental benefits?

Response:

Terasen Gas will address the conversion to electricity and adoption of a gas marketer's green gas program separately.

As a starting point, TGI observes that its rates are set based on a cost of service basis, and not based on an assessment of the value of benefits conferred. Thus, in this context, customers participating in the Green Gas offering will be paying a premium for Green Gas because there is an additional cost associated with their participation in the program, and not because there is an environmental benefit being conferred. Similarly, TGI is proposing that costs of education and making available the choice to participate In the program be borne by all customers because those costs are being incurred for the benefit of (i.e. being driven by) all customers. TGI's reference to the environmental benefits in the context of the above quoted paragraph should be rearticulated to more accurately reflect the cost of service regulatory regime in which TGI operates. GHG reductions are a benefit of the Green Gas program, and the benefit conferred on all customers is part of the justification for pursuing Biomethane supply and making service available. However, the real basis for TGI's proposed cost allocation is cost causality.



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This context is important in understanding why TGI believes that all TGI customers should not bear costs simply because there are environmental benefits conferred on them (and all British Columbians) by the choices made by individual customers.

Conversion to Electricity

Terasen Gas does not believe that a customer switching from direct consumption of natural gas to direct consumption of electricity necessarily results in a reduction of net carbon emissions, as the question implicitly presumes. First, the Commission has found in prior proceedings that the consumption of gas by TGI customers instead of electricity frees up electricity in BC for export to regions where it will offset coal and gas fired generation as the marginal source of electricity generation. Coal and gas fired generation are higher emitting uses for natural gas than consuming natural gas in domestic end uses by TGI customers. Exports will become increasingly common with BC Hydro's new mandate under the Clean Energy Act. Second, currently some of the incremental electricity consumed in British Columbia is imported from jurisdictions where electricity is made from burning natural gas and coal at lower efficiencies than when natural gas is used directly for space and hot water heating. This will continue beyond when self-sufficiency is achieved because self-sufficiency is determined on an annual basis, allowing imports and exports to occur in real time.

Thus, even if benefits and not costs were the basis of TGI's rates, the Company does not believe there should be any environmentally-minded incentive provided to customers who fuel switch away from natural gas to electricity in these cases.

Gas Marketer Green Gas Program

In the case of marketer programs, all eligible customers currently contribute to the costs of making marketer offerings an available choice, as well as the costs of educating eligible customers about that choice. Terasen Gas believes that this status quo cost allocation practice is appropriate both for the Customer Choice program and the Green Gas program.

The Customer Choice model and Green Gas model are also similar in terms of how commodity cost is addressed. If a customer elects to participate in a marketer's Green Gas program, that customer would presumably pay a premium to the marketer to cover the marketer's higher cost of supply relative to gas. This is akin to TGI's proposed Biomethane offering, which involves the customers who participate in the proposed Biomethane offering paying a premium that recovers the incremental cost of Biomethane commodity and cost of service associated with the customer's participation in the program.

Summary

TGI acknowledges that the principle as laid out in the Application identifies the GHG benefits in the cost allocation rationale; however, it is more accurate to say that the fundamental basis for



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cost allocation is cost causality, which supports the proposed allocation of costs among customers. The value that all customers will receive from reductions in GHG emissions is a consideration that adds to the public interest considerations in the case for development of Biomethane supply and offerings, but does not drive cost allocation.

32.4 If all TGI customers are forced to absorb costs these Green Gas costs, isn't TGI forcing all customers to participate in the Green Gas program to some extent?

Response:

TGI believes that the cost allocation methodology proposed is a matter of allocating costs based on the drivers of those costs, not as forcing all customers to participate in the Green Gas program. As discussed in the response to BCUC IR 1.32.5, Terasen Gas appropriately allocates the costs of making programs available to customers and the costs of educating customers that are eligible to participate in the program. As Terasen Gas is committed to expanding the proposed program to all customer groups as rapidly as the market will allow, the Company believes it is appropriate to begin recovering the costs of offering the Green Gas program as well as the associated customer education costs from all non-bypass customers beginning in 2012 when the program will be expanded to commercial customers through Rate Schedules 2B and 3B. This allocation is consistent with established cost of service regulation principles and past precedent. The Company believes it is fair and appropriate in this context as well.

32.5 Is TGI of the opinion that all customers should absorb costs of the Green Gas program because its deemed good for the environment?

Response:

No. As discussed in the Company's response to BCUC IR 1.32.3 and 1.32.4, the cost allocations are appropriate because they align with the drivers of the costs of service. The methodology chosen is consistent with the Company's current cost allocation methodologies and the precedent set for new program cost recovery in the Customer Choice program. The value that all customers will receive from reductions in GHG emissions is a consideration that adds to the public interest considerations in the case for development of Biomethane supply and offerings, but does not drive cost allocation.



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32.6 Do TGI's customers support the belief that everyone should pay to make Green Gas available to TGI's customers?

Would TGI be willing to quantify the Green Gas costs which it proposes to allocate amongst all customers and recover this amount from only Green Gas customers?

Response:

The costs are capable of quantification, and TGI is capable of allocating the costs to Biomethane customers. TGI believes that it would still make a Biomethane offering available were the Commission to require this alternative cost allocation. However, TGI believes that there are compelling reasons to adopt the allocation proposed by TGI in the Application. Please refer to the Company's response to BCUC IRs 1.31.2, 1.32.3, 1.32.4 and 1.32.5.



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33.0 Reference: Biomethane Annual Operating costs Exhibit B-1, Section 10.7.2, page 113

Below is an excerpt from the Application:

10.7.2 BIOMETHANE ANNUAL OPERATING COSTS

Other costs to operate the Green Gas program include administration expenditures to process customer enrolments and provide management reporting, and call centre related expenditures for the handling of customer inquiries. These costs will be charged to the BVA on a net-of-tax basis.

- 33.1 On page 110 of the same section, TGI proposes that additional customer inquiry calls related to the Green Gas program would be absorbed by all customers. The quotation above seems to indicate that call centre related expenditures of customer inquiries would be charged to the BVA for ultimate recovery from ONLY Green Gas customers.
- 33.2 Please confirm that the BVA would only be recoverable from Green Gas customers.

Response:

TGI confirms that the BVA would only be recovered from Green Gas customers.

33.3 Please explain these two inconsistencies.

Response:

The materials referred to in the question are not inconsistent but relate to two different types of inquiries.

The first type of operating costs related to general inquiries about the Green Gas service offering would be allocated to all customers. For 2010 and 2011 the costs for this activity would be recorded, net of tax in a deferral account to be recovered starting in 2012.

The second type of operating costs referred to in Section 10.7.2 relate to customers who contact TGI to enrol in the program, elect to be removed from the program, moves or billing



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adjustments. The costs associated with this activity would be charged to the BVA on a net of tax basis. The BVA is recoverable only from 'Green Gas' customers through the BERC.

33.4 Please indicate which financial schedule contains an estimate of these costs.

Response:

Appendix J-1, Terasen Gas Inc. Biogas O&M Details schedule contains the estimate of these costs.

Costs related to general inquiries would be included in "Inbound Calls" on Lines 8 and 11.

Costs related to enrolment, moves or billing adjustments would be included in "O&M Costs – Biogas Customers (Customer Related)" Line 32.



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34.0 Reference: Biomethane Acquisition Costs

Exhibit B-1, Section 10.7.3, page 114

Below is an excerpt from the Application:

Further, until the Biogas program expands substantially and the Biomethane volumes become a material component of the gas supply portfolio, no incremental resources are expected to be required by Terasen Gas to perform the Midstream functions. Thus, there will be no impact to the existing Terasen Gas Core Market Administration Expenses ("CMAE") budget.

34.1 If TGI does require incremental resources to perform the Midstream functions at a future point, how will these costs be treated and who will they be recovered from?

Response:

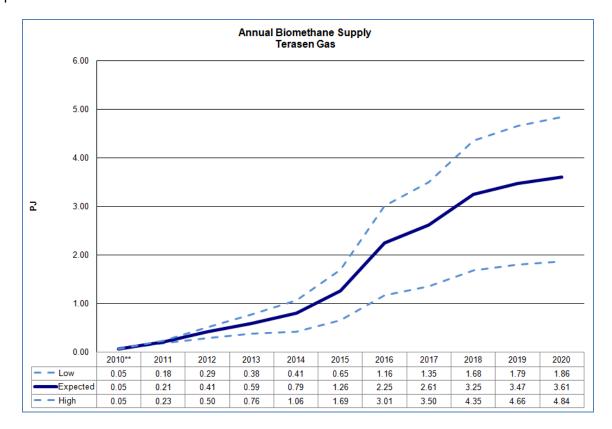
It should be noted that supply resources contained within the Midstream portfolio are distinct from, and treated differently, than CMAE costs. Supply resources within the Midstream portfolio include commodity, transportation and storage resources required to meet core customer load requirements during the winter period and are outlined in the Annual Contracting Plan ("ACP"). The ACP is submitted annually for Commission approval and outlines supply resources TGI intends to contract for to provide safe and reliable natural gas deliveries to all of its customers. Midstream costs also include a portion of CMAE costs appropriate for Gas Supply to manage Midstream functions on behalf of core customers. CMAE costs include, but are not limited to, employee salaries, market information subscriptions, training, travel, and legal expenses. The current CMAE budget was approved as a part of the Company's Revenue Requirement Application for 2010 and 2011.

TGI does not, at least in the near term, anticipate requiring incremental Midstream resources or CMAE funding in order to facilitate and accommodate Biomethane supply into its existing distribution system. Initial Biomethane volumes are expected to be small enough that no material changes will be required to existing Midstream functions. As referenced on page 116 of the Application, "Terasen Gas Midstream will still manage the overall balancing of all the gas in the system and will shed seasonal supply or increase off-system sales, as appropriate." This is referencing the scenario where supply from Biomethane projects is not significant enough to warrant incremental Midstream resources and TGI sheds seasonal supply or increases off-system sales to accommodate this incremental supply. The expected supply from Biomethane sources is presented on page 65 of the Application and is also shown below. It shows that supply from Biomethane projects is expected to be negligible for at least the first five years of the program, and then to gradually increase thereafter. The negligible volumes forecast during



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the initial phases of the Green Gas program will not materially alter or affect TGI Midstream operations and resources held within the Midstream.



However, should actual Biomethane supply volumes be significantly higher than what is presented in the Application or increase to the level forecast after the initial years of the program, TGI expects to file with the Commission an application to address these higher volumes from Biomethane sources at that time. This application would address the justification for any incremental Midstream resource costs required to manage the Biomethane volumes as well as the appropriate treatment and recovery of these costs. TGI believes it appropriate to address the treatment and recovery of these costs at that time, rather than in this Application, to better assess the volume impacts, given the large degree of uncertainty at this time and the available Midstream resources in the future.

Until the Biomethane volumes become significant enough to warrant incremental Midstream resources, TGI will manage Biomethane volumes with existing Midstream resources. TGI will monitor these volumes and recommend changes to the Midstream portfolio if appropriate and in the interests of its customers.



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35.0 Reference: Biomethane Acquisition Costs

Exhibit B-1, Section 10.7.3, page 114

TGI states that: "The percentage of the energy Green Gas customers receive as Biomethane gas (e.g. 10% of their billed consumption) will not have any CMAE component embedded in the recovery rate, however, it will include the administration costs related to the Green Gas program."

35.1 Please explain why Green Gas customers will not pay CMAE on the 10% biogas?

Response:

No incremental Core Market Administration Expenses ("CMAE") will be incurred as a result of the Green Gas Program therefore no CMAE will be allocated to the Biomethane Variance Account for recovery via the Biomethane Energy Recovery Charge. Green Gas customers will continue to pay for CMAE within the Commodity Cost Recovery Charge on 90% of their consumption volumes and within the Midstream Cost Recovery Charge on 100% of their consumption volumes.

The costs, including any administration costs, related to making the Green Gas Program available to customers will be recovered from all non-bypass customers via delivery rates, and the costs, including any administration costs, related to the supply of Biomethane gas will be recovered from those customers choosing to purchase gas under a Green Gas rate offering via the Biomethane Energy Recovery Charge.

35.2 Will proposed Green Gas costs charged to the entire TGI customer base be included in CMAE?

Response:

No. Green Gas Program costs to be recovered from all of TGI's non-bypass customers will be recovered via delivery rates.

Please refer to the response to BCUC IR 1.35.1.



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35.3 In the statement above what Green Gas program costs is TGI referring too?

Response:

The Green Gas Program administration costs to be recovered via the Biomethane Energy Recovery Charge include incremental costs related to processing customer enrolments in the Green Gas rate offerings and ongoing activities such as customer drops, moves and changes completed by the Company's customer care outsourcer.

Other administration costs related to making the Green Gas Program available to customers will be recovered from all non-bypass customers via delivery rates. Please refer to the response to BCUC IR 1.35.1.

35.4 Do Green Gas customers not benefit from items included in CMAE such as midstream, infrastructure and administrative functions?

Response:

Green Gas customers, as other Sales customers, will benefit from the gas supply functions included in CMAE, and Green Gas customers will continue to pay for CMAE within the Commodity Cost Recovery Charge on 90% of their consumption volumes and within the Midstream Cost Recovery Charge on 100% of their consumption volumes. Please refer to the response to BCUC IR 1.35.1.

35.5 In theory, could TGI offer the Green Gas program in isolation without incurring costs incurred in the CMAE?

Response:

The Green Gas Program has been designed, as outlined in the Application, so that Terasen Gas will not incur any incremental costs within the CMAE. Customers choosing to purchase gas under a Green Gas rate offering will pay the Biomethane Energy Recovery Charge on 10% of their consumption volumes. In theory, if customers were able to purchase a 100% Biomethane gas option under the Green Gas Program there would be no CMAE within that rate. However, all Sales customers, including those choosing a Green Gas rate offering, are required



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to pay for CMAE within the Midstream Cost Recovery Charge for 100% of their consumption volumes.

Please refer to the response to BCUC IR 1.35.1.

35.6 Please quantify the total costs and billing impacts of charging Green Gas customers 100% of CMAE's rather than the proposed 90%.

Response:

Customers choosing to purchase gas under a Green Gas rate offering will pay the Biomethane Energy Recovery Charge, which does not include any CMAE, for 10% of their consumption volumes. Further, these Green Gas rate customers will continue to pay for CMAE within the Commodity Cost Recovery Charge on 90% of their consumption volumes and within the Midstream Cost Recovery Charge on 100% of their consumption volumes. Please refer to the response to BCUC IR 1.35.1.

The CMAE recovery component of the Commodity Cost Recovery Rate of \$4.976 per gigajoule, approved effective July 1, 2010, is \$0.0114 per gigajoule. This is based on the forecast 12 month Commodity Cost Reconciliation Account ("CCRA") related CMAE costs of \$1,072.6 thousand being allocated on a volumetric basis for rate setting purposes over the forecast CCRA baseload sales volume of 94,167.2 terajoules (as per the Terasen Gas 2010 Second Quarter Gas Cost Report filed on June 3, 2010).



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36.0 Reference: Biomethane Supply Volume Tracking Exhibit B-1, Section 10.7.5, page 116

36.1 Below is an excerpt from the Application:

It is expected the volumetric imbalances will be managed in order to maintain a modest cushion of excess Biomethane supply but that under normal circumstances it would not be allowed to become excessive.

36.1.1 Please explain TGI's volumetric management system proposed for the next two years.

Response:

This response is meant to provide a more comprehensive description of the Biomethane Variance Account and the Biomethane Energy Recovery Charge rate setting mechanism to support responses to the series of questions under BCUC IR 1.36.1.

The Biomethane rate, called the Biomethane Energy Recovery Charge ("BERC"), in a manner consistent with setting other gas cost recovery rates, will be established based on the forecast costs to acquire the Biomethane gas and the forecast volumes available for sale. And, as the actual costs and volumes will differ from the forecast costs and volumes, a deferral account will be required to capture those variances.

The Biomethane Variance Account ("BVA") proposed in the Application will allow Terasen Gas to track and report both the Biomethane gas volumes (volumes supplied at the receipt point and volumes sold to customers) and the dollars (costs incurred to acquire the Biomethane supply and revenues collected from Biomethane sales).

The Biomethane costs and recoveries will be reviewed on a quarterly basis, as part of the Company's quarterly gas cost report to the Commission, but under normal circumstances the BERC would be adjusted on an annual basis using a January 1 effective date. As discussed within the Application, the BERC being requested effective October 1, 2010 has been determined based on the 15-month prospective period of October 1, 2010 to December 31, 2011. It should be noted that as part of the determination of the BERC, an annualized cost of service amount (earned return, depreciation and income taxes) is calculated on the Capital costs of those assets installed to facilitate the receipt and processing of Biogas into a marketable and consumable Biomethane product. The proposed annual resetting of the BERC, with a January 1 effective date, supports an efficient process and provides consistent timing with respect to annually running the Company's various Cost of Service models.



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An underlying concept of the proposed Green Gas Program model is the interchangeability of Biomethane gas with the conventional natural gas allows for notional delivery of the Biomethane gas to points throughout the distribution system. In other words, the Biomethane gas will be injected at the Biomethane receipt point for that particular Biomethane supply project and the molecules of Biomethane gas will be physically consumed downstream of that injection point, thereby displacing conventional natural gas that would have been required at that point on the system. Thereby allowing the green attributes associated with the Biomethane gas volumes to be accounted for separately and to be sold to customers at other locations within the Terasen Gas system, under a Green Gas rate offering. The notional delivery of the Biomethane gas is not dissimilar to the notional delivery of the various Gas Marketers' natural gas to customers under the Customer Choice Program. Terasen Gas Midstream will continue to manage all the gas in the system and there will be no change to the Midstream resources. Although the Biomethane supply will in effect be incremental to the conventional natural gas supply, Terasen Gas Midstream will ensure the overall balancing of all the gas in the system and will reduce seasonal supply or increase off-system sales, as appropriate.

Thus, the Biomethane gas supply received will be physically consumed by customers located downstream of the Biomethane injection points and, via the concept of notional delivery, the Company will in effect take the green attributes associated with the Biomethane volumes supplied, and then attach these green attributes to other gas volumes sold to those customers choosing a Green Gas rate offering. The Biomethane green attributes, both those received and those sold, are measured relative to gas volumes and will be tracked that way through the BVA.

Biomethane is a new source of supply for Terasen Gas and the quantity and reliability of the supply needs to be proven over time. The Company believes an appropriate approach to manage the Biomethane supply uncertainty with the demand, which will be directly tied to customer enrolments in the Green Gas rate offering, will be to conservatively restrict program subscription; thereby reducing the possibility of having to remove customers from the program at some later point. Carrying a small surplus balance of Biomethane green attributes in the BVA will allow Terasen Gas to more appropriately match Biomethane supply with demand, particularly until supply reliability can be more fully assessed. Biomethane green attribute excesses can easily be sold in future periods. Biomethane supply volumes greater than forecast and permanent in nature will facilitate additional customer enrolments, while supply increases temporary in nature would be better handled through additional on-system or off-system sales.

Furthermore, the Biomethane Energy Recovery Charge will be reviewed and reset based on the forecast costs for the prospective period, including any cost variances captured in the BVA, being allocated to the total forecast volumes available for sale during the prospective period. As all volumes available for sale, including any yet unsold volumes of Biomethane green attributes, will be used in the determination of rates, the fact that there may be a volumetric surplus of Biomethane green attributes in the BVA will not affect rates.



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36.1.2 Please quantify what TGI considers to be a "modest cushion"

Response:

TGI expects that the need for a supply cushion will vary over time as supply reliability is proven and production volumes are stabilized, further, the supply cushion will be adjusted as demand requirements become established. During the start-up phase of a new project initial volumes may be low and there may be some variability in the daily Biomethane supply volume. Over time we would expect each project to stabilize and the Biomethane volumes to flatten out to produce a fairly consistent daily volume.

In the initial months, TGI would limit enrolments to firm contracted supply until such time the Company feels comfortable the excess supply beyond the minimum contracted amount is achievable and could be counted as firm or permanent supply and be opened up to additional enrolments. In the case of the Catalyst project, the variability between the minimum and maximum contracted amounts are almost double, therefore, TGI would sell any excess supply that is built up in excess of the initial offering through its proposed off-system or on-system sales tariffs. TGI will monitor the supply vs. consumption variances and manage the volume of any excess supply accordingly depending on the amount of excess supply available.

Therefore, on an ongoing basis, TGI will manage a supply cushion based on the min – max forecast of production and the variability expected during the initial phases of a project against projected demand forecasts. TGI would expect the amount of cushion required at any time will depend upon the number and stage of Biomethane projects producing supply, the overall stability of the supply that the Company will validate this through experience, and the demand requirements from customers. Any costs associated with the supply cushion would be recovered from Green Gas customers.

36.1.3 Please explain how TGI will be able to assess the true "cost" of biomethane at a point in time during the year?

Response:

Please refer to the response to BCUC IR 1.36.1.1.



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Terasen Gas, as part of its quarterly reporting to the Commission, will report the recorded costs incurred and sales revenues received, and collected in the Biomethane Variance Account ("BVA"). An adjustment for the revenues associated with any purchased but yet unsold Biomethane volumes will then provide the current over or under recovery of costs. Also, as part of the quarterly reporting, Terasen Gas would provide a revised forecast of the costs and recoveries to the end of the current period the recovery rate was based on, plus forecasts for future periods.

The Biomethane recovery rate will be established, in a manner consistent with other gas cost recovery rates, on a basis of the forecast costs and the forecast sales volumes, and since the Biomethane costs include both fixed and variable costs, a true projection of costs and variances should be based on the forecast to the end of the current rate setting period. And ultimately, the true actual costs incurred and variances will not be known until that rate setting period is closed.

36.1.4 Will the assess cost of biomethane be considered when additional supplies of biomethane are sold to non-Green Gas customers.

Response:

The off-system or on-system sales of Biomethane to non-Green Gas rate offering customers by Terasen Gas, via Rate Schedule 30 or Rate Schedule 11B, will be at a commodity charge equivalent to the Biomethane Energy Recovery Charge effective at that time.

Further, third parties purchasing Biomethane under Rate Schedule 30 for off-system purposes will also be required to pay a delivery charge, equivalent to the Rate Schedule 27 rate effective at that time, to wheel the Biomethane gas across the Terasen Gas distribution system to the custody transfer point of Huntingdon. Biomethane purchased under Rate Schedule 11B for use on the Terasen Gas system would not be subject to this wheeling cost.

36.1.5 If Biomethane must be sold off below cost, how does TGI propose to account for the loss variance?

Response:

Please refer to the response to BCUC IR 1.36.1.1.



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Terasen Gas has proposed a new deferral account, the Biomethane Variance Account ("BVA"), be created. The BVA will capture the actual costs incurred and the sales revenues received. Terasen Gas, however, does not foresee a situation where it would sell Biomethane supply to non-Green Gas rate offering customers at a commodity charge below the Biomethane Energy Recovery Rate in effect at this time.

36.2 Below is an excerpt from the Application:

Ideally there will be a cushion of Biomethane supply built up in the BVA and this will ensure there is less chance of incurring a shortfall where Biomethane consumption exceeds Biomethane supply, which would necessitate the purchase of additional GHG credits.

36.2.1 Please explain why TGI wishes to avoid the necessity to purchase additional GHG credits?

Response:

Surveyed customers have expressed a strong preference for a Green Gas program that makes available a renewable energy program rather than one that uses carbon credits to reduce the net impact of the GHG emissions. This is discussed in Section 5.3.2 of the Application. Since the proposed Green Gas offering respects this expressed customer demand by offering a renewable energy program, Terasen Gas wishes to ensure that, to the extent possible, it is meeting customer expectation regarding the nature of the program that will be presented as an energy-based program. The Company has proposed allowing the purchase of carbon credits only as a last-resort risk mitigation option against the risk of selling more Biomethane than we have available to sell. The Company only proposes to use this mitigation option in the event that the other mitigation options that Terasen Gas has proposed are not sufficient.

Deliberately overselling the program with the intent of making up the shortfall with credits is really a different product from an energy based product, and thus TGI believes that it would have to be presented as such to customers. TGI has explained in the response to BCUC IR 1.8.2 and 1.4.2 why it is most advantageous to pursue a straightforward energy based program over offsets at this time.



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36.2.2 Please quantify what cost and risk is TGI willing to accept to avoid the purchase of GHG credits?

Response:

TGI understands the question to be whether TGI's desire to balance supply and demand balance without resorting to the use of offsets except in the last resort will require TGI to incur higher costs and take on higher risk associated with bringing new supply on line quickly. As described below, TGI will have mechanisms in place that address the demand side of the equation.

Terasen Gas proposes to set a limit on the amount of Biomethane that we will make available for sale to customers at any given time, and will use enrolment caps to limit the sales to customer As discussed in the Company's response to BCUC IR 1.36.1.2, the volume of Biomethane made available for sale to customers will be a conservative estimate of the forecast volume of supply that the Company is expecting to bring on to the system. The need for this active management of the Green Gas program in order to ensure the balancing of demand for and supply of Biomethane is part of the reasoning behind the need for the FTE position described in the Application. This internal process is required in order to ensure the success of the program and integrity in how Terasen Gas delivers on our promises to our customers.

Terasen Gas has also structured the proposed amendment to our General Terms and Conditions in such a way that a customer can be removed from the program in the event that the Company does not expect to have sufficient Biomethane available to meet those customer's demands. Terasen Gas believes that, because of these mitigation efforts, the risk of the Company having to purchase carbon credits for the Green Gas program is very low, and that in the event that the Company does need to purchase carbon credits, it will be for a very small portion of the gas sold under the Green Gas program.

With such demand side focussed mitigation measures in place, TGI will be in a position to bring supply on line in a measured and strategic way that keeps risk and cost within acceptable parameters. The Commission ultimately has oversight of all supply contracts that are proposed, and will be in a position to satisfy itself that risk and cost are being managed appropriately.



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37.0 Reference: Terasen Gas Biomethane Energy Recovery Charge Exhibit B-1, Section 10.7.6, page 117

Below is an excerpt from the Application:

As shown in the Schedule 11 in Appendix J-3 ((confidential) Terasen Gas has calculated the Biomethane Energy Recovery Charge at \$9.904/GJ and seeks approval that the Biomethane Energy Recovery Charge be set at this amount effective October 1, 2010.

37.1 Please provide the rate impact to non-biomethane customers based on the proposals included in the Application.

Response:

For Biogas costs, referred to in the Application on page 117, related to the Green Gas Rate Offering all of the costs will be charged to the Biomethane Variance Account and recovered through the Biomethane Energy Recovery Charge. There will be no rate impact to non-biomethane customers for these costs.

As discussed in Section 10.5 "Accounting and Rate Setting Treatment of Costs Related to All Customers", the 'Biogas Program Costs' for 2010 and 2011 will be charged to a deferral account, so there will not be any rate impact to customers for these two years. For years 2012 and following, the rate impact varies from \$0.004 to \$0.006 per GJ, with a levelized rate of \$0.004 per GJ. For years 2012 and following, the deferred costs as well as the ongoing operating costs, depreciation, taxes and earned return impact would be recovered in the Company's Revenue Requirements. The rate impact to all non-bypass customers (biomethane and non-biomethane customers) is on page 111 of the Application and in Appendix J-2, Schedule 11, Line 32 and the levelized rate impact on Line 41. In essence, the average Lower Mainland residential customer (consumption of 95 GJ per year) will pay an additional 57 cents (95 GJ X \$0.006) per year to have the choice of participating in the Biomethane offering. TGI believes that this is a very reasonable level of investment by customers for the benefits the offering can provide.



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37.2 Please explain how this rate would change if Green Gas program costs that TGI proposes to allocate to all customers were only applied to Green Gas customers

Response:

On the assumption provided that all program costs were to be borne by the Green Gas customers, the initial 15 month rate would increase from \$9.904 / GJ to \$15.279 / GJ. The levelized volumetric rate would increase from \$11.236 / GJ to \$15.835 / GJ. The avoided cost to a residential customer is 57 cents per year by having the all of the costs included in the Green Rate but the impact to the Green rate is to increase the cost by \$5.38 / GJ for the 2010/2011 period. This is also equal to the competitive alternative for clean energy, which is BC Hydro's residential Tier 2 rate of \$15.28 / GJ (see Section 8, Table 8-1, Page 77 of the Application). The increased levelized rate exceeds this competitive cap, and therefore, could impact the success of the proposed program.

TGI believes, however, that the costs incurred to make the service offering eventually available to all customers should be borne by all of the customers, as they are driving those costs. TGI's research suggests that adhering to the principles of cost causality in the manner proposed by TGI also enhances the potential for maximizing customer participation in the program.

37.3 Please explain how this rate would change if Green Gas customers were charged 100% of CMAE costs (as opposed to 90% as proposed in the Application).

Response:

Please refer to the response to BCUC IR 1.35.6.

37.4 Please explain how this rate would change if all internal labour costs incurred in relation to time spent on Green energy by TGI employees was allocated to Green Gas customers only.

Response:

TGI is addressing this question as it relates to operating costs once the program is up and running. TGI has absorbed the costs in developing this Application as part of the Company's existing marketing or business development budgets that are in place to provide new and



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existing services to our gas customers. Project development costs specific to the Biomethane Service Offering have not been tracked. Please see the responses to BCUC IR 1.19.2, 1.57.1, 1.59.1, and 1.63.2.

The incremental labour costs that Terasen Gas has applied to be allocated to all customers is \$100,000 (2011 and following years) for the Biogas Program Manager and \$6,000 for inquiry call handling (2012 and following years); i.e. \$106,000 of annual cost. In response to this question Terasen Gas has added these costs to the Green Gas Rate Offering model to provide a sensitivity as to how the rate would change for 2010/2011 for a \$100,000 change in operating expense and how it would impact the levelized rate. The impact on the biomethane volumetric rate for the 15 months, 2010/2011, increases from \$9.904 to \$10.605 / GJ; and the levelized rate for the 10 year period increases from \$11.236 to \$12.052 / GJ.

TGI believes, however, that the costs incurred to make the service offering eventually available to all customers should be borne by all of the customers, as they are driving those costs. TGI's research suggests that adhering to the principles of cost causality in the manner proposed by TGI also enhances the potential for maximizing customer participation in the program.

37.5 Please confirm that 100% of the Green Gas revenues and expenses are being accounted for in a separate accounts/ledger in the accounting records.

Response:

Terasen Gas confirms that all of the costs and revenues are and will be accounted for in separate accounts / ledgers in the Company's accounting records.

To reiterate from Section 10 of the Application the following revenues and costs will be credited or debited to the Biomethane Variance Account (BVA):

- a) Revenue from the sale of Biomethane through the Biomethane Energy Recovery Charge will be credited to the BVA.
- b) Costs for raw Biogas and for upgraded Biomethane will be charged to the BVA.
- c) The operating and maintenance costs of the upgrader equipment will be debited to the BVA.
- d) Costs for enrolling, removing customers, finalizations, moves, billing adjustments and adjustments for heat content.
- e) Depreciation provision for upgrader equipment.



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- f) Property taxes for general, school and other related to the upgrader equipment; and 1% in lieu of applicable from BERC revenues.
- g) Capital related cost of service for the upgrader equipment, e.g. income tax and earned return, will be charged to the BVA.

To the extent the above items are taxable or deductible for income tax purposes they will be booked on a net-of-tax basis.

Costs for the upgrader capital equipment will be booked to a new separate asset account: Purification Equipment. The offsetting Contribution will be booked to a separate sub-account related to the Biomethane program.

The following costs will be allocated to all customers and charged to the appropriate accounts of Terasen Gas:

- a) Capital costs for application development and configuration of the current customer billing system, and modifications to processes to support on-line enrolment requests, configure new Biomethane tariffs, and provide additional reporting.
- b) Customer inquiry calls requesting general information on the Green Rate offering (this is separate from customer calls for enrolling in the program).
- c) Costs for quarterly updates of the Terasen Gas Standard Rate Offering portion of the Biomethane tariff rate.
- d) Customer education costs, including costs associated with marketing the program.
- e) A new Full-Time Equivalent position of Program Manager created for the implementation, communications, tracking, accounting, reporting, and management of the Green Gas program.

For 2012 and following years these costs will be included in Customer Care, Marketing expenses. For the years 2010 and 2011 Terasen Gas proposes to charge these incremental costs to a non-rate base deferral account which would be amortized over three years beginning in January, 2012. This deferral account would also include a provision for capital related investments (Pipelines, Gas Analyzing Equipment, and Metering facilities) affecting the cost of service for depreciation provision, income taxes and earned return for 2010 ad 2011. While these capital costs will be charged to the Fixed Asset categories, through plant identifiers plant assets related to connecting to Biomethane supply sources can be segregated and tracked.



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37.6 Would TGI be adverse to capturing 100% of the revenues and expenses of the Green Gas program during phase 1 in a single deferral account?

Response:

TGI does not believe that it is appropriate to capture all revenues and expenses of the Green Gas program in a single deferral account. TGI recommends capturing the revenues and expenses in appropriate accounts, so that the costs can be appropriately accounted for to ensure for revenue requirement purposes and rate design purposes costs can be appropriately separated and tracked.

Therefore, TGI believes that the accounting treatment as discussed in the Application (Section 10) is appropriate for the purposes of the Green Gas program.

37.7 Would TGI be adverse to recording all Green Gas program activity in a confined subledger within TGI's accounting records and, similar to a non-regulated entity, allocate all intercompany charges using a transfer pricing mechanism?

Response:

Terasen Gas would be very averse to imposing such an unnecessary administrative burden on a relatively small and narrowly focused new gas product initiative that would be a part of the regulated utility's general operations and service offerings to its customers. As mentioned in response to BCUC IR 1.1.1 the Biomethane service being offered is a regulated service as defined under the Utilities Commission Act. The Transfer Pricing Policy approved by the Commission (Order No. L-64-97) deals with the TGI regulated operations where services are made to non-regulated affiliate entities to ensure appropriate cross charging for services are made. Since the Biomethane service is a rate regulated service from TGI the transfer pricing mechanism would not be applicable.

The proposed accounting treatment described in the Application is appropriate for the identification of costs for rate setting purposes. The costs related to the Green Gas rate offering (e.g. physical assets, deferred charges, operating costs, and program costs) are and will be tracked in the Company's accounting records. Likewise, program costs that are to be allocated to all customers can and will be identified in the Company's accounting records. See also response to BCUC IR 1.37.6.



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38.0 Reference: Carbon Credits

Exhibit B-1, Section 10.7.6, page 118

38.1 Please explain how the effects of carbon credits and the carbon reduction resulting from the Green Gas program will be accounted for at TGI. Also discuss how tariff rates of Green Gas customers and tariff rates for non-Green Gas customers will be impacted by the Green Gas program.

Response:

Carbon credits that TGI must purchase in the event that more Biogas is sold to customers than supplied would be charged to the BVA account and recovered through the BERC. Non-Green Gas customers will not be impacted.

Carbon credits generated as a result of carbon reductions are the property of the biogas suppliers and have no direct rate impact on TGI customers. There may be an implicit impact on what suppliers would negotiate for the sale of Biogas to TGI. See also the response to BCUC IR 1.62.2 regarding the attributes and impact of fuel switching of Biomethane in place of conventional natural gas.

See the response to BCUC IR 1.37.1 for discussion on tariff rates for Green Gas customers and for non-Green Gas customers. On pages 117 and 133 of the Application, TGI is requesting Biomethane Energy Recovery Charge of \$9.904 / GJ effective October 1, 2010.



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39.0 Reference: Over-Supply Risk

Exhibit B-1, Section 11.2.2, page 120-121

TGI states that: "In the interests of mitigating the risk of over-supply and ensuring that Biomethane reaches as many residents of British Columbia as possible as quickly as possible, the Company has agreed to sell the first 10,000 GJs of Biomethane produced in the Green Gas program to CHDL, which is a current natural gas transport customer under Rate Schedule 22 in the Lower Mainland. CHDL owns and operates a district energy system located in Vancouver serving downtown businesses and residents and relies on natural gas to generate thermal energy using natural gas boilers on its premises. CHDL has stepped forward to commit to purchase Biomethane in order to reduce its greenhouse gas footprint for its operations. CHDL's Letter of Intent to purchase this Biomethane can be found in Appendix L-1."

39.1 Please explain why TGI hasn't decided to roll out phase 1 to commercial customers instead of residential customers in the next two years if a secure market for Biomethane already exists.

Response:

TGI understands the reference to "a secure market for Biomethane" to be a reference to CHDL; however, CHDL is a transport customer not a commercial customer as the question seems to imply. That aside, as discussed in Section 6.4.1 of the Biomethane Application (page 50), Phase 1 is directed at validating market demand, while remaining cognizant of the operational constraints presented by the Company's existing customer billing system and supply limitations. With that in mind, key reasons TGI is pursuing the Biomethane program in the proposed phasing (residential then commercial), rather than visa versa are as follows:.

- First, the Company evaluated the residential market for the launch of the Green Gas program and found that the scientific research described in Section 5 of the Application shows that the highest uptake potential is in the residential market.
- Second, the smaller number of commercial customers consume large volumes, making them a less attractive launch market given the limited amounts of Biomethane supply which could be consumed by a small amount of customers which may not help validate customer demand. The Company wanted to ensure as many customers as possible had the opportunity to participate in the Green Gas program as soon as possible and validate consumer demand. Starting with a residential offering allows the finite amount of Biomethane available to reach as many Terasen Gas customers as possible and validate customer demand.



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Terasen Gas also determined that, since actual residential customer use rates have a
tighter range around an average than commercial customers (there is significant
variance in commercial consumption), launching the Green Gas program in the
residential market will help to forecast total consumption for residential customers who
enrol in the program more predictably keeping supply and demand in balance.

In regards to whether to launch additional blends, Terasen Gas believes that leading with a single product (a 10% blend) will allow for tighter control over the number of enrolments and will match the limited supply in the first year, facilitating the management of the supply- demand balance through Phase 1. Additionally, the Company found that each incremental blend offering carried an additional approximately \$50,000 in upgrades to the CWLP system, which the Company can avoid if the consideration of additional products awaits the introduction of the new CIS in 2012.

Terasen Gas believes that, for the reasons listed above, the product launch order proposed in the Application is the most appropriate of the options realistically available.



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40.0 Reference: Cost Risks

Exhibit B-1, Section 11.3.1, page 121

Below is an excerpt from the Application:

Biogas projects may only require relatively modest capital investments by Terasen Gas. However, cost risks associated with a supply project can be handled in several ways.

First, where possible Terasen Gas will validate project cost estimates by including field data. An example of this diligence includes dispatching Terasen Gas staff to project sites to record local conditions and improve the quality of cost estimates for terrain-sensitive items such as main extensions. Future projects will also benefit from re-using engineering costs for items such as interconnection stations with similar flows.

Secondly, when purchasing upgrading equipment Terasen Gas will seek fixed price contracts with performance guarantees where it is cost-effective to do so.

Thirdly, a contingency may be added to project costs.

The Company believes that these three practices will ensure that supply project cost risks are minimized.

40.1 Please explain how project costs included in this Application have been validated and what steps have been taken towards validating estimates? What field data has been used?

Response:

TGI will always seek to estimate project costs as accurately as possible and control project budgets. Where possible, TGI will enter into fixed price contracts with sub-contractors or suppliers to improve the accuracy of budgets and therefore reduce the risk of cost overruns. TGI will also seek accurate cost information for components and engineering based on actual data whenever possible.

In the context of the biogas projects currently underway, Terasen Gas has carefully tracked costs associated with the Catalyst project. The actual costs varied from the original budget on a line by line basis but the project is near completion at the time of this IR response and it is on-budget. This information was used directly to improve the cost estimate for the CSRD project.



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Field data is a term used to describe the actual site conditions which cannot necessarily be accounted from the office. In the case of the CSRD, an analysis was done by the planning group for the main connection costs. Costs were based on terrain, number of driveways etc and a budgetary estimate from a local main installation company. The analysis also resulted in a change to the original main connection plan which reduced the project budget.

In the future, TGI will develop project budgets taking into account actual costs seen in both the Catalyst Power project and the CSRD project, to improve the accuracy and reduce the risk of cost overruns.

Please also see the response to BCUC IR 1.29.1.

40.2 Please explain if any fixed price contracts have been used in this project. Explain where such contracts might be available.

Response:

Terasen Gas has used a fixed price contract for the CSRD project which covers the design and manufacture of the biogas upgrade plant. This was done to reduce the risk of a price change to the largest portion of the project budget. The table below based on the high-level project costs as filed in the Application (Section9.2.5) indicates the relative amount of each major component of the cost estimate.

Item	Fixed Price (Y/N)	2010 Estimate	Approximate % of Total Cost
Interconnection (valves, meter, regulator)	N	\$395,500	17.2%
Quality Monitoring	N	\$242,000	10.5%
Main Connection Costs	N	\$45,100	1.9%
Upgrading Plant (Installed)	Υ	\$1,621,800	70.4%
Total		\$ 2,304,400	100.0%

It is important to note that of the total estimated project capital, approximately 70.4% of the project costs are covered by a fixed price contract, thereby reducing cost risk significantly. In addition, approximately 27.2% of the estimate is based on the actual costs of the Catalyst Power project. TGI does not intend to contract either the main connection or the interconnection facility costs, but rather execute these items with internal resources.



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It is assumed that "Explain where such contracts might be available" means "Where does Terasen see opportunities to utilize fixed price contracts to reduce risk?"

Terasen Gas will employ the same standards of project management to biogas projects as to other projects of comparable capital value. This means that the same cost control measures will be used including fixed price contracts where it makes the most sense to avoid risk. In the case of biogas projects, it is anticipated that one of the largest items will be the upgrader plant and therefore, this equipment may be subject to fixed price contracts.

40.3 Do these contingencies include an estimate for any unforeseen situations? Explain what situations these contingencies contemplate?

Response:

The contingencies account for foreseen escalations in pricing which may include one or several of the situations indicated below:

- Weather dependant costs: additional labour costs associated with installing equipment during the winter in the north Okanagan – for example to remove snow from the work area.
- 2. Time between cost estimate and project execution: Escalations in labour or sub-contract costs between the time of the cost estimate and execution of the project.
- Equipment cost escalation: Terasen Gas will purchase components and assemble interconnection facilities. The actual cost is not known until the purchase orders are placed.
- 4. Coordination costs: coordinating with the project partner and/or assigned subcontractors may add time and require scope and/or minor design changes.

Terasen Gas believes that the contingencies are appropriate for the projects as proposed.



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41.0 Reference: Biomethane Supply Projects Included in this Application Exhibit B-1, Section 11.3.2, Operational and System Risk, page 123

41.1 When will Terasen Gas have refined its procedures and processes to ensure biogas related equipment is managed to the same level as all other existing assets?

Response:

Terasen Gas intends to have operational and maintenance plans in place within two weeks of receiving the manufacturer's manuals and a corresponding confirmation that Terasen Gas has accepted the responsibility to manage the asset.

Once the assets are in place and operation is started, Terasen Gas will work to ensure the appropriate personnel are trained to maintain and operate it. Terasen Gas intends to start the training process as early as is practical to minimize the time required for effective operation and maintenance.



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42.0 Reference: Heating Value Differences

Exhibit B-1, Section 11.4, page 124-125

42.1 Please confirm that total costs resulting from heating value differences caused by injecting biomethane are not expected to exceed \$40,000 in any year in the next two year period.

Response:

To clarify, the \$40,000 estimate is not a cost, it is a billing adjustment needed to reflect the fact that the energy content of the biogas is less than that of the natural gas normally delivered in the area. As gas meters measure volume rather than energy passing through them, an adjustment must be made to customer bills in proximity to the plant so as not to overcharge them. The only true cost associated with this is the overhead required to adjust the bills. It also should be noted that energy content differs in various parts of the system already and processes are in place to account for these differences today. The only difference in this case is that the effect is more localized due to the small size of the project's plants. It is TGI's understanding that a situation not identical but similar occurs in areas closer to supply such as Alberta and North East BC where the heat content by well and plant can vary significantly.

This \$40,000 value is an estimate at this time. The estimate was derived based on an assumed worst case difference in the heating value and the expected impact on customers. The calculation was an approximation and it was done as follows:

Expected worst case biomethane HV 36MJ/m³

Typical expected TGI HV 38MJ/m³

Percentage difference $[38-36]/38 \times 100 = 5.2\%$

Typical Consumption per household 95GJ/year

Commodity costs difference per home/year 95GJ x \$5/GJx5.2% = \$25/year

Expected biomethane production 136,500 (CSRD & Catalyst Project expected

production)

Anticipated max # homes impacted 136,500GJ ÷95GJ/home = 1435 homes

Cost impact 1435 homes x \$25/home = \$35,875

Contingency \$4,125



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The actual value may be higher or lower depending on two key factors:

- 1. The actual amount of biomethane injected into the distribution system and therefore indirectly the number of homes and or businesses affected.
- 2. The actual gas composition (which will affect the heating value).

TGI will monitor this issue closely to ensure that customers are billed fairly and at the same time minimize costs to the program.

42.2 If more biogas projects are added, will this estimate rise. If so, how much does TGI believe this increase might be?

Response:

As stated in the response to BCUC IR 1.42.1, to further clarify, the \$40,000 estimate is a billing adjustment. That said, the amount of adjustment will increase as additional biogas projects are added. The ongoing amount is expected to be directly proportional to the amount of biomethane injected into the system. Please refer to BCUC IR 1.42.1 for further details on how the increase in biomethane volume would impact Heating Value Difference costs.

The overhead costs associated with doing these adjustments will be captured and allocated appropriately. As discussed in Section 10.6 of the Application, these additional costs will be allocated to Green Gas customers only. In the long run, it is TGI's intent to automate the adjustment much like it is done elsewhere in the system which will reduce the actual adjustment costs.

42.3 In order to adjust customer bills to reflect heat content from a biomethane project, how will Terasen Gas determine the customers impacted by a biomethane project?

Response:

As discussed in Section 11.4 (Step 3) of the Application, TGI will determine affected customers primarily by modelling using established system models employed by the system planning department. TGI currently uses a proven system model to characterize the distribution system and plan for system expansion. The model provides confidence to the system designers that



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pipe sizes and gas flows are sufficient to meet customer requirements. Typically, gas flow is modelled from the highest pressure out to the end of the distribution system.

The model can be used in the same way for biomethane to determine the extent of impact based on the consumption of customers in the immediate vicinity of an injection point. Pressures and flows can be determined using the physical location of the plant, the predicted flow volume and the projected pressure.

In order to confirm the extent of the affected customers TGI will strategically sample gas in the immediate area adjacent to the biomethane injection point. Based on gas composition and physical location a map can be developed for impacted customers. This map will be compared to the model to improve confidence in future models at different locations.



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43.0 Reference: TNS Proposal for TGI Market Survey Exhibit B-1, Appendix D – 1, page 21

43.1 The following excerpt was taken from the TNS proposal to perform the market research for TGI:

4.5.1 TG And The BC Utilities Commission

We recognize that to move forward, TG will have to make its case to, and get approval from, the BC Utilities Commission (BCUC). We will work hand-in-hand with TG to ensure that approval is obtained. We are also prepared to make presentations to the BCUC if that is what the Commission requires.

We are familiar with that process as we went through the same procedure with BCTC.

43.1.1 Please provide TGI's request for proposal.

Response:

Please find TGI's Request for Proposal for the Biogas Market Research study in Attachment 43.1.1.

43.1.2 Was TNS hired to conduct an independent, objective market research to determine if or if not there was a demand for Green Gas?

Response:

This response also addresses BCUC IR's 1.43.1.3, 1.43.1.4, 1.43.1.5, and 1.43.1.6.

Yes, TNS was hired to conduct an independent, objective market research to determine the demand for Green Gas in BC. In TGI's 2010-2011 Revenue Requirement Application that was submitted June 15, 2009, TGI proposed the development of biogas supply as a pilot, and indicated that it would be pursuing the development of a Green Gas marketing plan in parallel with the supply development pilot. As explained in Part III: Section C – Tab 3: Page 253 of that RRA filing, the Company intended to further investigate numerous issues from the customer demand or sales perspective including the following:

- An assessment of market interest in a green gas offering;
- Determination of the nature of the initial offering:
 - A staged offering for particular rate classes or a broader offering;



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- Sell available green supply to interested customers on a first-come first-served basis until
- the supply is exhausted or develop natural gas / green gas blends to sell to a broader customer base;
- The development of terms and conditions of service of the offering; and
- Determination of rates for the offering, a rate adjustment methodology and frequency of rate changes.

TGI pursued a market research study to understand the potential market for biogas, its market drivers, and factors affecting price, and to determine the viability of a Biogas program. TNS was selected after a competitive Request for Proposal process September 28, 2009 and the first kick off meeting was held October 1, 2010 to review the objectives of the market research, addressing the customer demand issues that were identified in TGI's 2010-2011 Revenue Requirement Application that would assist with the development of a Green Gas offering. Specific research objectives for the Biogas study are as follows:

- 1. Determine market interest
- 2. Determine the potential target market and market size
- 3. Develop a clear and concise customer profile(s)
- 4. Determine market drivers
- 5. Determine price points and factors affecting price points
- 6. Understand customer perceptions on different product offerings offsets / biomethane

Respondents were selected differently for the two studies. On the residential side, respondents were randomly selected from TNS' online panel. This includes both gas users and non-users. On the commercial survey, respondents were restricted to Terasen Gas customers and drawn randomly from TGI's database. On both studies, respondents who work for a utility, gas marketer, the media, a research or advertising firm, were screened out of the study.

Once responses were collected, TNS conducted statistical and segmentation analyses to identify the potential target market for Green Gas based on demographics and levels of interest identified in the survey. TNS also analyzed the survey results to determine potential market drivers and outline customer perceptions regarding the different product offerings explored in the survey.

TGI instructed TNS to determine, through objective market research, the level of demand among BC households and commercial customers for Green Gas, and to explore price points and the factors that affect them, addressing consumer demand issues identified in TGI's 2010-2011 Revenue Requirement Application.



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43.1.3 Did TGI hire TNS before or after it decided to pursue a Green Gas strategy?

Response:

Please refer to the response to BCUC IR 1.43.1.2.

43.1.4 Was TNS's objective to find a market segment that was receptive to Green Gas?

Response:

Please refer to the response to BCUC IR 1.43.1.2.

43.1.5 Was TNS directed in any way to find a market segment receptive to Green Gas?

Response:

Please refer to the response to BCUC IR 1.43.1.2.



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43.1.6 What instructions did TGI provide to TNS with regards to survey question design and survey participant selection? Provide all written communication with TNS that occurred up to the finalization of question design and participant selection process.

Response:

Please refer to the response to BCUC IR 1.43.1.2.

The requested written communications with TNS that occurred up to the finalization of the question design and participant selection process can be found in Attachment 43.1.6, filed as a confidential attachment under a separate cover due to the fact that it contains personal information (such as email addresses and personal phone numbers). A non-confidential redacted copy of the documents (with personal information removed) will be filed with the Commission by August 18th.

43.1.7 Please explain what TNS means by "make its case" in the above statement. Take into account that the survey had not been conducted at this point?

Response:

In the above statement, TNS means that they recognize that Terasen Gas is a regulated utility and that evidence presented to the BCUC in support of any given application will come under scrutiny. TNS is demonstrating their awareness of the regulatory process and their willingness to be a strong research partner.

Please also refer to the response to BCUC IR 1.43.1.8.

43.1.8 Please explain what TNS means by "get approval from" in the above statement. Take into account that the survey had not been conducted at this point?

Response:

TNS has indicated that, in the above statement, it meant that they recognize that Terasen Gas is a regulated utility and that evidence presented to the BCUC in support of any given



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application will come under scrutiny. TNS is demonstrating their awareness of the regulatory process and their willingness to be a strong research partner and provide additional resources beyond the scope of work to clearly articulate the research findings to the BCUC.

Please also refer to the response to BCUC IR 1.43.1.7.

43.1.9 Does TGI believe that when conducting consumer surveys, survey questions can be designed to increase the likelihood of a desired outcome?

Response:

Yes, survey questions can be designed to affect the likelihood of specific outcomes, if the questions are leading or biased. Terasen Gas recognizes that questionnaire design is an important aspect of ensuring the validity and reliability of a market research study. As such, Terasen Gas works with reputable organizations like TNS and consultants who are experienced in the field and who can help Terasen Gas establish clear, concise and measurable objectives. We also endeavour to have questions that are appropriate and consistent with accepted market research principles.

Because Terasen Gas understands that business decisions can have a significant impact on a variety of stakeholders, including customers, the shareholder, and the organization itself, the Company commissions objective market research studies to provide insight into the viability of potential projects. Informed decision-making is key to the continued success of an organization, and market research can help determine the feasibility of a given project before large investments are made to bring products to market. In the case of this Application, Terasen Gas conducted a study to determine the potential residential and commercial markets for a Biogas program in BC, and the results demonstrated strong popular support for such a program.



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43.1.10 Please explain if TNS is assisting TGI in responding to BCUC commission informational requests.

Response:

TNS has reviewed the BCUC IR's related to market research, and has provided data as requested by the Commission. TNS provided input or documents for the following BCUC IR's:

•	1.11.1	•	1.45.2	•	1.50.1.5
•	1.43.1.6	•	1.45.3	•	1.51.1
•	1.43.1.7	•	1.45.4	•	1.51.2
•	1.43.1.8	•	1.47.1.1	•	1.54.13
•	1.43.2.2	•	1.50.1.1	•	1.54.14
•	1.45.1	•	1.50.1.2	•	1.54.16

- 43.2 The TNS survey final report became available in April, 2010.
 - 43.2.1 At what date did TGI determine that it would pursue a Energy based Program?

Response:

Please refer to the response to BCUC IR 1.43.2.4.

43.2.2 At what date was the survey results made available to TGI in a draft format?

Response:

Please refer to the response to BCUC IR 1.43.2.4.



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43.2.3 Please provide minutes of board meetings at which TGI's board approved pursuing a Energy based Program?

Response:

Please refer to the response to BCUC IR 1.43.2.4.

43.2.4 Was the TNS survey data utilized to decide if TGI should pursue a Energy based Program? If no, what data was used to determine the market demand for biogas when that decision was made?

Response:

This response also covers BCUC IRs 1.43.2.1, 1.43.2.2, and 1.43.2.3.

In TGI's 2010-2011 Revenue Requirement Application that was submitted June 15, 2009, TGI proposed the development of biogas supply as a pilot and indicated that it would be pursuing the development of a Green Gas marketing plan in parallel with the supply development proposal that was included in that Application. The intent of the Pilot Phase was to validate the technical feasibility of upgrading biogas from various sources of raw biogas including wastewater treatment plants, agriculture applications and landfills to pipeline grade biomethane (Part III: Section C – Tab 3: Page 252-261), further the Company indicated it intended during the two-year RRA period to develop a "green" commodity sales option using Biomethane to be marketed to specific customers at premium prices, including the investigation into using offsets as part of the green gas portfolio. While we intended to proceed as quickly as possible with the development of a targeted biomethane sales offering, the Company indicated that an offering of this nature could not be fully developed and brought forward before the end of 2009.

A key take-away from the Negioated Settlement Agreement that resolved the TGI 2010- 2011 Revenue Requirement was that TGI would prepare a single biogas application outlining a comprehensive business model including a customer offering. However, the details of what type of offering were to await information that was to come from the studies undertaken by TNS.

TNS was hired in September 2009 to help with market research related to validating the interest level of customer demand for biogas.



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Detailed draft Residential survey results became available January 5, 2010 which indicated a strong preference an Energy based Program. The TNS survey data was utilized to decide if TGI should pursue an Energy based Program versus a carbon offset program. The decision as to which type of model to pursue awaited the results of the survey as discussed further in the response to BCUC IR 1.65.1.1.

Detailed draft Commercial results became available in February 5, 2010 and confirmed similar results amongst the commercial customer base.

The Business Development group presented the findings of the surveys to the VP of Marketing & Business Development and recommendations for an Energy based Program targeted at residential customers in early February, 2010 after the Commercial results were obtained. The VP of Marketing & Business Development approved this approach; Board Approval was not required for this approach or for this Application. The Company committed to pursuing the end to end business model for an energy-based type of program at that time.

The final report provided by TNS Canadian Facts in April 2010 was a high level narrative report summarizing the detailed residential and commercial reports provided earlier in the year.

As discussed in Section 5 of the Application, the results on likelihood to sign-up for an energy-based (Biogas) program (56%) and the likelihood to purchase a carbon offset (35%) would suggest that there would be a higher take-up rate among residential customers for a Biogas program. This is confirmed, when residents are asked after being provided with a definition of the two program options, which of the two programs they would prefer to see Terasen Gas introduce. A renewable energy program is preferred over a carbon offset program by three-to-one.

47% of commercial customers also indicated that they were likely to sign up for a Biogas program, in contrast to 24% for a carbon offset program. Similar to the residential population, a Biogas program would appeal to a bigger potential market by a factor of three-to-one. Market share projections are based on the % of customers who indicated a strong likelihood to sign up for an energy-based (Biogas) program.

Further, the TNS survey and results were used to support and guide other parts of the business model development outlined in the Application including:

- 1. target market,
- 2. demographics to assist with customer education,
- 3. market share potential and
- 4. price point premium.



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44.0 Reference: TNS Proposal for TGI Market Survey Exhibit B-1, Appendix D – 1, page 22

44.1 The following excerpt was taken from page 22 the TNS proposal to perform the market research for TGI:

The senior professional client service team members will consult with Terasen Gas researchers to develop a full understanding of the research needs and objectives. This discussion will focus on communications issues and desired business outcomes *not* on research issues *per se*. The intention is to design a study firmly grounded to the business case. It is *Smart Research*.

44.1.1 Please provide us with the outcomes of these discussions.

Response:

The outcomes of the initial meeting held October 1, 2009 between TGI and TNS consultants outlined the goals of the study and identified important dates and timelines, as well as increased the scope of the study to incorporate commercial customers.

TGI communicated to TNS a desire for reliable, robust data that would allow TGI to make an informed decision about the viability of a Biogas program offering to customers in BC. This was the "desired business outcome" referred to in the above passage.

As indicated in the TGI Revenue Requirement Application, filed June 15, 2009, TGI intended to commission a study to evaluate market interest in a biogas program. The survey scope as found in Attachment 44.1.1 was generated in August 2009, in advance of the first meeting between TGI and TNS, as a starting point for survey development and was provided to TNS for the October 1, 2009 meeting. TNS was not presented with a business case related to any Biogas project. Rather, TNS received information regarding the scope of the study.

TGI has responded to BCUC IR's 1.44.1.2 and 1.44.1.3 in the above noted question.

44.1.2 Please identify what "desired business outcomes" were communicated to TNS.

Response:

Please refer to the response to BCUC IR 1.44.1.1.



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44.1.3 What "business case" was presented to TNS. Please provide a copy of any documents provided to TNS to assist in understanding this "business case".

Response:

Please refer to the response to BCUC IR 1.44.1.1.

44.2 The following excerpt was taken from page 22 the TNS proposal to perform the market research for TGI:

4.5.3 Team Accountability

Members of the project team for this project are all dedicated individuals who take their responsibilities to their clients very seriously. And, we are working in a corporate environment in which we are strongly encouraged to satisfy our clients and fulfill our obligations. Our business depends on this orientation, and we take pride in the service that we provide to our clients. We fully appreciate that future assignments are fully dependent on the good will that we engender with our current clientele.

44.3 How did TNS believe they could satisfy TGI?

Response:

TNS advises TGI that it believed they could satisfy TGI by delivering on our stated research objectives. Their analysis was to be completed on time and within budget. And lastly, the information provided was to be reliable and contain analyses of the data collected that would assist TGI's decision making.

44.4 Did TGI indicate to TNS a desire to identify at what pricing point consumer biogas support existed?

Response:

No. TGI did not know at what price point consumer demand existed for biogas. TGI indicated to TNS a desire to evaluate the demand for a Biogas program among residential and commercial markets in BC. TGI was also interested in understanding the market drivers for a Biogas program, and factors affecting price points. TGI requested that the study determine optimum



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pricing strategies by evaluating a variety of product alternatives (i.e. carbon offset program versus renewable energy program, price premium and percentage carbon reduction). The Discrete Choice Model ("DCM") was used because it is generally regarded as the most robust approach to defining market potential and price points. The model in this survey included three dimensions: price point premium, type of program (renewable energy or carbon offset) and % GHG reduction. By bundling different product options together into a concrete offering at different price points, the DCM can determine which products' features respondents preferred and which price points they prefer.

TGI provided a range of pricing options to explore for a user-pay program based on the price premiums of similar utility green pricing programs (10-30%). TGI explained to TNS that depending on natural gas commodity pricing a 10%-30% premium would result in anywhere between a 5-30 % blend of Biomethane and anywhere between a 10%-100% reduction in GHGs for a carbon offset program depending on the price of the offset; lower price points between 0.5% - 3% was decided would be explored through a direct line of questioning regarding a universal price increase.

44.5 Did TGI indicate to TNS a level at which biogas support was uneconomical?

Response:

Please refer to the response to BCUC IR 1.44.4.

44.6 At the planning stage, did TGI communicate to TNS its intent to use the biogas survey to support an application to the Commission for biogas development? If so, what details of that application were communicated to TNS?

Response:

Yes.

TNS was aware that Terasen Gas was pursuing the development of a Green Gas marketing plan, if the level of demand in the residential and commercial markets determined it was feasible, and that as a regulated utility, Terasen Gas would have to submit an application to the BCUC for approval of this program offering, whatever it might be. However, TNS was only provided information related to the scope of the survey (see the response to BCUC IR 1.44.1.1 for the Survey Scope document provided to TNS) and did not receive or review any part of the



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Application. The planning stages for the Biogas survey encompassed October and November 2009; the Application was not written until the Spring of 2010.



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45.0 Reference: Residential Survey Questionnaire

Exhibit B-1, Appendix D – 2

45.1 Please indicate how many people started the survey but did not complete it?

Response:

Respondents may "break off" from a study (that is, begin the study without completing it) for any number of reasons, such as being distracted from the questionnaire, experiencing time constraints, or having internet connection issues.

204 respondents started the Residential Biogas survey but did not complete it. While there is no specific or expected number of breakoffs in a study, TNS indicated that 204 is not an unusual number of breakoffs given the length of the Biogas questionnaire.

Only completed surveys were used to tabulate the results and count towards the 1,401 BC households sample composition outlined in BCUC IR 1.11.2.

45.2 Of the respondents that started the survey but did not complete it, do you have any preliminary data from these respondents? If so, please provide that data also.

Response:

Please find in Attachment 45.2 the Residential survey data for the 204 respondents who began the survey but did not complete it.

Typically, as was the case in this survey, research firms do not use data collected from respondents who begin a study without completing it, because there is too much missing data to conduct analyses. Furthermore, it would be impossible to identify why respondents did not complete the study, especially when the study is completed online, thus no conclusions can be drawn about which questions were or were not answered. Demographic information was not provided for any of the 204 respondents who began but did not complete the study, and 40% of those respondents did not answer the first question in the study.



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45.3 Does TGI believe that the sample of respondents is representative of TGI's customer base?

Response:

Yes. Respondents were randomly selected from within TNS' Online Panel, which "is comprised of more than 110,000 individuals who have been recruited to participate in on-line, Internet surveys." ⁵ Quotas were established to ensure adequate sampling of Terasen Gas customers.

We believe that the sample in the TNS residential study is representative of Terasen Gas' residential customer base. This is supported by the similarity of demographics in the Terasen Gas customers interviewed in the Biogas survey and the sample in Terasen Gas' 2010 Spring Residential Customer Satisfaction study (which is randomly drawn from the Terasen Gas' customer database and therefore representative of the customer base). We observe that the household characteristics of the two samples are very similar. The Table below shows a comparison of the demographic household variables that are captured in both surveys.

	Biogas Study	Residential Customer Satisfaction Study
	Diogae Grady	Otady
AREA OF RESIDENCE		
Lower Mainland & Whistler	58%	59%
Interior	30%	25%
Vancouver Island + Sunshine Coast	11%	15%
Decline	1%	0%
PEOPLE IN HOUSEHOLD		
One Person	9%	16%
Two People	43%	40%
Three to Five People	43%	40%
More than Five People	4%	4%
ANNUAL HOUSEHOLD INCOME		
Less than \$15,000	3%	3%
\$15,000 to less than \$35,000	17%	10%
\$35,000 to less than \$60,000	26%	N/A
\$35,000 to less than \$65,000	N/A	27%
\$60,000 to less than \$100,000	39%	N/A
\$65,000 to less than \$125,000	N/A	30%
\$100,000 or more	14%	N/A
\$125,000 or more	N/A	13%

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⁵ TNS Website: <u>http://www.tns-cf.com/services/panel.html#interactive</u>



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45.4 Does TGI believe that TGI's customer base contains equal support for green energy initiatives as the customer base of BC Hydro or the general BC population?

Response:

Results from the residential Biogas survey indicate that there is no difference in regards to taking steps to save energy around the home between households that report using natural gas as their main energy source and households that report using electricity as their main energy source. Also, the relationship between fuel source and taking steps to save energy around the home is not statistically significant, meaning that space heating energy source is not necessarily indicative of the household's willingness to take steps to save energy, and Terasen Gas believes that its customer base and that of BC Hydro are very similar. Please refer to the table below for detailed percentages. As the Biogas study included both Terasen Gas customers and non-customers, the study reflects the support for green initiatives in the general BC population as well.

	QG1. TAKEN STEPS TO SAVE ENERGY IN HOME			
	YES	NO	DK / DECLINE	Total
Base Size	1280	69	52	1401
NATURAL GAS	691	35	23	749
Row %	92%	5%	3%	100%
ELECTRICITY	408	25	12	445
Row %	92%	6%	3%	100%

45.5 Does TGI believe that in British Columbia, supporters of green initiatives are more likely to use electricity over natural gas for residential purposes? Please explain your response.

Response:

TGI does not have the research information required to respond to this question directly. There is a broad spectrum of environmental views held by the general public in BC. TGI believes that a high percentage of the general population would consider themselves as 'supporters of green initiatives'. TGI believes also that a large percentage of its own customers would count



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themselves 'supporters of green initiatives'. All (or virtually all) residential energy consumers in BC use electricity in residential uses such as lighting, appliances and electronics. Some residential energy consumers use electricity for space and water heating. A majority of residential energy consumers within TGI's service territory use natural gas for space and water heating although TGI's market share is larger in the single family dwelling segment than it is in multi-family or apartment / condominium segments. Gas use per residential account has been on a downwards trend for a number of years while electricity use per residential account has been on an increasing trend. However these use-per-account trends can be explained by factors other than the green tendencies or environmental preferences of the residential energy consumers in the province.

TGI believes that the public policy initiatives in BC such as legislated GHG emission reduction targets and the introduction of the carbon tax on natural gas and other fossil fuels are affecting the public perceptions of natural gas negatively. The effect of potential future carbon tax increases or other carbon cost increases and the combined impact of other initiatives in BC to reduce GHG emissions will continue to have a negative impact on natural gas. On the other hand since a high percentage of electricity in BC comes from clean and renewable sources the public perception of electricity from an environmental perspective is more positive. With this positive perception of BC electricity, the manner in which public policy is implemented has the potential to drive towards all electric solutions which will also have environmental consequences and lead to large cost impacts for electricity ratepayers. TGI believes that integrated approaches that make use of existing energy infrastructure in concert with new alternative energy initiatives are needed to achieve the public policy objectives, such as the GHG emission reduction targets, in an efficient manner. The development of biomethane as a new renewable resource is one of these integrated solutions.



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46.0 Reference: Residential Survey Questionnaire

Exhibit B-1, Appendix D - 2

46.1 Before conducting this survey, had TGI been approached by customers requesting biogas or other green products? If so, can you quantify such requests?

Response:

Anecdotally, we have had a number of commercial and industrial customers who, in conversations with them regarding their energy needs, expressed interest in biogas and other green products. TGI has not quantified these specific customer requests.

However, TGI did conduct surveys, both for this Application and for the TGI 2010 – 2011 Revenue Requirement Application,that indicated that both residential and commercial customers believed that TGI should provide green products and they were willing to pay a premium for that product.

46.2 Of those customers who requested biogas or other green products, did TGI inform customers of green offerings made by gas marketers?

Response:

The customer surveys discussed in 1.46.1 were targeted to gauge consumer demand for a product and whether Terasen Gas should provide green products and were they willing to pay a premium for that product. The customer surveys did not inform customers of other green offerings made by gas marketers.



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47.0 Reference: Residential Survey Questionnaire

Exhibit B-1, Appendix D - 2, page 10-11

- 47.1 Page 10-11, Display 5 of the customer survey appears to ask customers to make a number of choices between two options. However, the only data that makes reference to a cost increase of 10% is also included on this display screen within a list of effects on monthly gas bill.
 - 47.1.1 Can TGI please clarify how this question data would have been displayed by providing screen shots, in series of all questions in this series?

Response:

Please find in Attachment 47.1.1 screen shots for one set of the Discrete Choice Model ("DCM") questions. The Biogas study contained a total of 4 sets, and each version presented 16 choice scenarios with randomized parings of the combinations of the levels described below. Respondents were randomly assigned to answer one of the four sets during the survey.

LEVELS:

Energy Initiative

Renewable Energy Carbon Offset

Percent Reduction in Your Green House Gas Emissions

10%

20%

30%

50%

80%

100%

Effect on Monthly Gas Bill

The current commodity price + 10% (about extra \$6 / mo)

The current commodity price + 20% (about extra \$12 /mo)

The current commodity price + 30% (about extra \$18 / mo)

For the other three sets, please refer to DCM Matrix in Attachment 47.1.1.



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47.1.2 Was the 10% option the lowest choice that survey participants could choose from?

Response:

The DCM price options were 10%, 20%, and 30% premium, asked in conjunction with the choice between a renewable energy program and a carbon offset program as well as a % GHG reduction between 10%-100%. It would be inaccurate to say that "the 10% option [was] the lowest choice" because it was displayed with a variety of GHG emission reduction and program options. However, "the current commodity price + 10% (about extra \$6/month)" was the lowest price point in the DCM.

Survey participants responded to 16 questions related to price, energy initiative and emission reduction percentages. Each additional point establishes a larger and more complicated matrix. The price points selected were chosen based on secondary research that showed typical price premiums between 10%-30% in other jurisdictions (as discussed in Section 4.4, the national average was 18% in 2008 and declining), lower price points between 0.5% - 3% were explored by a direct line of questioning regarding a universal price increase.

47.1.3 Could survey participants select 0% or none in response to the question presented?

Response:

Respondents were not offered a 0% or 'none' response in the DCM series, as the objective of the DCM was to have respondents make a choice, and to understand the relationship between price points, energy initiative and emission reduction options. Only respondents who had previously indicated a willingness to pay for participating in a Biogas program were included in the DCM analysis, so to offer a 0% or 'none' option was redundant.



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47.1.4 Was this the only question in the entire survey that addressed survey participants' interest in a 10% user-pay BioGas Program?

Response:

No, the DCM was a series of 16 questions that addressed participants' preferences regarding price points, energy initiative and emission reduction options.



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48.0 Reference: TNS Biogas Market Summary Exhibit B-1, Appendix D – 3

48.1 Do any existing gas marketers already offer "green" programs such as carbon offset programs?

Response:

Terasen Gas is only aware of gas marketer green product offerings based on the information they provide the utility to populate the price comparison page on Terasen Gas.com. Currently, only Access Gas is advertising a Green Gas product on the utility's website. Just Energy in the past has offered a variety of carbon offset products. Terasen Gas Customer Choice IT infrastructure does not collect specific information about the gas marketer groups, other than price per GJ. Consistent with the rules of the Customer Choice program, Terasen Gas is not privy to the contract details that each customer signs. Therefore, TGI is unable to quantify the number of customers enrolled in marketer green rates, or comment on their relative success.

48.2 What is the customer participation in these "green" programs offered by gas marketers?

Response:

Please see the response to BCUC IR 1.48.1.

48.3 How does this participation rate compare to the estimated participation rate indicated in the TNS study? Please explain your response.

Response:

TGI does not have the information to compare the results. Please see the response to BCUC IR 1.48.1.



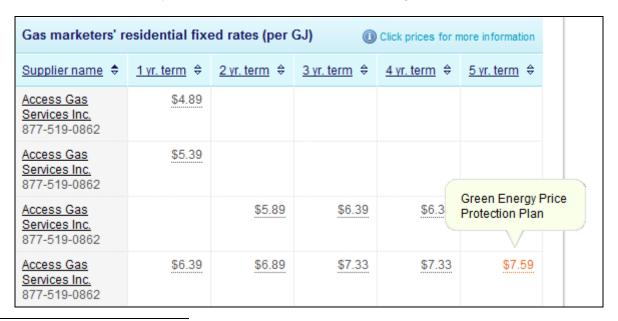
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48.4 What form of customer education has TGI carried out to inform customers of the existence of these "green" initiatives offered by other gas marketers? Please quantify the cost of any such activities provided by TGI to date.

Response:

The approved funding and commission objectives associated with Customer Choice education, as defined by Commission staff in Order G-181-01⁶, do not support a discussion of gas marketer green products. As such, educational efforts designed to inform customers of the existence of gas marketer green rates have been limited and do not involve additional expenditures. To date, information about these products is limited to the terasengas.com website, specifically the price comparison page. The labour and overhead invested to accommodate this information requirement is negligible.

Customers visiting terasengas.com/choice arrive at the Customer Choice price comparison page. This page provides information about the Terasen Gas variable rate, and the fixed rate offers that gas marketers have requested we post on our website. These rates can include green components like premiums for different carbon offset levels. The specifics of different rate plans are identified by a hover box. This is shown in the figure below:



⁶ BCUC Order No. G-181-01, dated December 12, 2008, page 3 states:

The objectives of the Customer Education Plan are to be modified to:

• Inform gas customers that there is a value distinction between a variable rate and a fixed rate for the gas commodity and provide them with information concerning the issues they could consider todetermine which rate plan represents best value in their circumstances.

• Identify the gas commodity marketplace as a competitive market and provide information on where and how the various product offerings may be compared.



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If the user selects a rate hyperlink, an additional modal window containing more information about the offer appears. This information is populated at the discretion of the gas marketer. An example of Access Gas's "Green Energy Price Protection Plan," follows:



To summarize, TGI has engaged in minimal efforts to communicate gas marketer green products. The costs incurred to support these efforts to date have been negligible.



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49.0 Reference: TNS Biogas Market Summary

Exhibit B-1, Appendix D - 3, page 8

49.1 The following excerpt was taken from the TNS biogas market summary:

3.1.2. Opinions On Carbon Offsets

Residents were also asked about their support for carbon offsetting programs. While approximately half of residents are aware of carbon offsets, just three-in-ten (31%) indicated likelihood of purchasing them to offset their personal natural gas use. When asked to choose which program they would prefer to see Terasen introduce, residents chose a biogas program over carbon offsets by a three-to-one margin.

49.1.1 Please explain what would be the cost to offer both a carbon offset program along with a BioGas Program?

Response:

Please see the Company's response to BCUC IR 1.4.2.

49.1.2 What infrastructure would be needed to offer a carbon offset program to customers?

Response:

Please see the Company's response to BCUC IR 1.4.2

49.1.3 What sorts of long-term commitments would TGI be required to take on in order to offer a carbon offset program?

Response:

Please see the Company's response to BCUC IR 1.4.2.



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49.1.4 How does the cost of a carbon offset program compare with a BioGas Program costs?

Response:

Please see the Company's response to BCUC IR 1.4.2.

49.1.5 Has TGI prepared a cost benefit analysis of a carbon offset program with a BioGas Program. If so, please provide this analysis.

Response:

Please see the Company's response to BCUC IR 1.4.2.

49.1.6 The excerpt above indicates a 31% likelihood of purchasing carbon offsets if offered to natural gas users. Isn't this a higher level than the expected uptake of the BioGas Program?

Response:

31% of all residential respondents and 35% of TGI residential customers indicated a likelihood to purchase carbon offsets. The results on likelihood to sign-up for an energy-based (Biogas) program (56%) and the likelihood to purchase a carbon offset (35%) would suggest that there would be a higher take-up rate among customers for an energy-based (Biogas) program (see Section 5 of the Application, pg 40-41). This is confirmed when respondents are asked after being provided with a definition of the two program options, which of the two programs they would prefer to see Terasen Gas introduce. An energy-based program is preferred over a carbon offset program by three-to-one. Market share projections showing a 16% uptake potential for an energy-based program at a 10% premium are based on the percentage of customers who indicated a strong likelihood to sign up for an energy-based (Biogas) program and is further described in the response to BCUC IR 1.51.1.



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50.0 Reference: TNS Biogas Market Summary

Exhibit B-1, Appendix D - 3, page 10

50.1 The following excerpt was taken from the TNS biogas market summary:

In the following simulation, we compare three different biogas programs that respondents can choose from (a program with a 10% GHG reduction and 10% price premium; a program with a 20% GHG reduction and a 20% price increase, or a program with a 30% GHG reduction and 30% price increase). The program with a 10% GHG reduction and 10% price increase is preferred by 46% of residential customers who said they would sign up for a biogas program. The two choices with the higher price increases were preferred by a smaller proportion of residential customers.

50.1.1 The excerpt above indicates that 46% of respondents preferred a 10% price increase with a 10% GHG reduction. Was a 10% price increase the lowest possible price increase option amongst all options respondents could choose?

Response:

Yes, a 10% price premium with a 10% GHG reduction was the lowest possible price option in the three Discreet Choice Model (DCM) scenarios analysed above. The Discrete Choice Model employed in the survey is able to model customer preferences for various options using different price premiums, type of program and resulting GHG reductions. Both residential and commercial respondents indicated in several parts of the survey a strong preference for an energy-based program, therefore, the results for the various pricing and GHG reductions associated with an energy-based program were analyzed. For example, a 20% premium for an energy-based program resulting in a 30% reduction in GHGs (ie. 30% Biomethane) and a 30% premium for an energy-based program resulting in a 60% reduction in GHGs was just as popular as a 10% premium resulting in a 10% reduction in GHGs. However, given the price of Biomethane, a 20% premium would not deliver 30% of a customers' gas usage as Biomethane to the network, nor would a 30% premium deliver 60%. When TGI compared what blend of Biomethane was achievable at each price premium (ie - a 10% premium for a 10% blend of Biomethane, 20% premium for a 20% blend of Biomethane and a 30% premium for a 30% blend of Biomethane) a 10% premium was the most popular. As discussed in Section 5.4 of the Application, the market share potential for a 30% premium and a 30% GHG reduction was 8%, a 20% premium and a 20% GHG reduction was 11% and a 10% premium and a 10% GHG reduction was 16% amongst residential customers. The Company felt these were quite positive results considering the average participation rate of other jurisdictions is 2.2%. These results



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guided TGI to select a 10% premium and a 10% Biomethane blend in order to maximize market penetration and uptake of the program.

50.1.2 Is it fair to say that 46% of respondents selected the <u>lowest pricing</u> option in this question?

Response:

Please refer to the response to BCUC IR 1.50.1.1.

50.1.3 Could respondents have chosen a 1% or 5% price increase options within this survey question?

Response:

Respondents did not have the choice of selecting a 1% or 5% price option for the premium payment option. The price points selected (10% - 30%) were reflective of the pricing of green energy options offered by other utilities. Lower price point premiums (0.5% - 3%) were explored through a direct line of questioning regarding universal price increases.

50.1.4 If a 5% price increase option was available in this survey, in TGI's opinion, what rate of survey participants would have selected that option?

Response:

The Discrete Choice Model scenarios included in the study offered respondents choices regarding price, GHG reductions and program type. The DCM allowed respondents to trade off the elements to model the optimum package for them e.g. a renewable energy program with a 10% price premium and a 10% reduction in GHG's. Analysis of the scenarios indicate that where price is in direct proportion to GHG reductions price is a strong factor, with respondents gravitating towards the lowest price option. While this would suggest that a lower price point would garner greater support than the other price points we have no way of determining if



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respondents would be willing to continue to sacrifice GHG reductions for ever lower prices. Given the low amount of GHG reduction available for a 5% user-pay premium, lower premiums were addressed through a direct line of questioning regarding universal price increases between 0.5% - 3%.

50.1.5 Was there an option for unsure, undecided or \$0, if respondents had changed their mind or did not want to commit to an amount while taking the survey?

Response:

No Under the Discrete Choice Model, respondents have to make decisions regarding trade-offs within the program. Allowing unsure, undecided or \$0 would make the DCM valueless. It should be noted that the DCM analysis was limited to those respondents who had indicated a likelihood to participate in a biogas program. By doing so, it is implied that they are willing to pay a premium. The DCM is designed to probe the amount they are willing to pay as well as the type of offering and the level of GHG reductions.

50.1.6 Who chose the pricing points utilized in this survey question?

Response:

The price points were selected by Terasen Gas based on the pricing of green energy offerings from other utilities. This information was derived from secondary research including publicly available material from other utility energy utilities and information supplied by subscription based research companies. As noted in Section 4.4 of the Application, the national average in 2008 was an 18% premium and declining.



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51.0 Reference: TNS Biogas Market Summary

Exhibit B-1, Appendix D - 3, page 11

TGI states that: "The chart on the following page uses the market projections to get an estimate of what proportion of residential households might potentially subscribe to a biogas program province-wide at different price points. Among Terasen residential customers, 56% indicated a willingness to sign up for a biogas program if there are no cost implications. As soon as the biogas initiative has cost implications on the residential gas bill, enrolment levels begin to drop off. It is estimated that 16% of those interested in signing up for a biogas program would support a user pay premium of 10% or \$6 per month – if it results in a 10% reduction in GHG levels."

51.1 Please explain how the estimate of 16% was made?

Response:

The 16% estimate was the product of a four step process:

- 1) Fifty-six percent of Terasen Gas customers indicated there is a high likelihood they would sign up for a biogas program if everything else remains the same (including their gas bill).
- 2) When universal price increases were introduced to these respondents, 77% of the customers who indicated that they were likely to sign up for a biogas program chose the highest universal price-point increase tested (3% or \$1.80 more per month). This is expressed as 34% of all Terasen Gas customers.
- 3) Premium prices were then tested using Discrete Choice Modelling. The model tested three realistic renewable energy options that could potentially be introduced in the market. Of the three choices, 46% of customers (who said they are interested in signing up for a biogas program) would prefer an option with a 10% price increase and a 10% GHG reduction.
- 4) Finally TNS overlaid the 46% (as discussed in point 3 above) who preferred the 10% price increase option with the 34% (as discussed in point 2 above) who said they were willing to sign up and pay more for biogas, to arrive at an estimate of 16% (46% x 34%).



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Is it estimated that the rate of 16% would be maintained once the program was implemented?

Response:

The 16% is the estimated **maximum** market potential for a biogas offering. While 16% of customers have indicated that they are willing to pay for biogas, there is commonly a discrepancy between those who express intent to do something and those who actually do. Some respondents will answer positively simply because they see the program as being beneficial to the environment, but may not follow through on that belief. This issue is addressed in Appendix D - 3, page 11 of the Application.

The ability to reach and maintain a 16% level of sign up will be dependent on a number of factors. These include the level of marketing support available to create awareness of the program and communicate its environmental benefits; how easy it is to participate in the program; the price of natural gas in itself and relative to other renewable fuel choices; government policy i.e. the level of the carbon tax.

The NREL report attached in Appendix C-1, page 11, indicates that retention rates are relatively high; utilities in 2008 reported than an average of 5.5% and a median of 2.5% of customers dropped out of green pricing programs. Therefore, the Company is confident that with effective customer education and product positioning there will be relatively low customer turnover.

51.3 What factors does TGI or TNS believe might change this 16% rate?

Response:

Please refer to the response to BCUC IR 1.51.2.



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52.0 Reference: TNS Biogas Market Summary

Exhibit B-1, Appendix D - 3, page 15

"It is <u>estimated</u> that 10% of those interested in signing up for a biogas program would support a user pay premium of 10% or \$0.65 more per GJ – if it results in a 10% reduction in GHG levels."

52.1 Please explain how the estimate of 10% was made?

Response:

The 10% estimate was the product of a four step process:

- 1) Forty-seven percent of Terasen Gas commercial customers indicated there is a high likelihood they would sign up for a biogas program if everything else remains the same (including their gas bill).
- 2) When universal price increases were introduced to these respondents, 45% of the customers who indicated that they were likely to sign up for a biogas program chose the highest universal price-point increase tested (3% or \$1.80 more per month). This is expressed as 21% of all Terasen Gas commercial customers.
- 3) Premium prices were then tested using Discrete Choice Modelling. The model tested three realistic renewable energy options that could potentially be introduced in the market. Of the three choices, 46% of customers (who said they are interested in signing up for a biogas program) would prefer an option with a 10% price increase and a 10% GHG reduction.
- 4) Finally TNS overlaid the 46% (discussed in point 3 above) who preferred the 10% price increase option with the 21% (discussed in point 2 above) who said they were willing to sign up and pay more for biogas, to arrive at an estimate of 10% (46% x 21%).
 - Is it estimated that the rate of 10% would be maintained once the program was implemented?

Response:

As with the identified residential market potential discussed in the response to BCUC IR 1.51.2, a 10% market potential for commercial customers is the estimated **maximum** market potential for a biogas amongst this customer group. While 10% of customers have indicated that they are



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willing to pay for biogas, there is commonly a discrepancy between those who express intent to do something and those who actually do. Some respondents will answer positively simply because they see the program as being beneficial to the environment, but may not follow through on that belief. This issue is addressed in Appendix D-3, page 11.

The ability to reach and maintain a 10% level of sign up will be dependent on a number of factors. These include the level of marketing support available to create awareness of the program and communicate its environmental benefits; how easy it is to participate in the program is; the price of natural gas in itself and relative to other renewable fuel choices; government policy i.e. the level of the carbon tax.

TGI notes, as discussed in Section 6.5 of the Application, consumption within the commercial rate classes have a wide range of variability, therefore, could very likely account for large percentage of the volume of a Biogas program.

52.3 What factors does TGI or TNS believe might change this 10% rate?

Response:

Please refer to the response to BCUC IR 1.52.2.



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53.0 Reference: TNS Biogas Market Summary

Exhibit B-1, Appendix D – 3

53.1 Did TGI foresee a 10% user pay premium system for the BioGas Program prior to completing the design of the TNS biogas survey?

Response:

Based on secondary research findings, TGI did conceive that a user pay premium between 10%-30 % was a likely price tolerance for consumers for a renewable energy or carbon offset program. TGI used its secondary research findings on other green pricing programs to help design the survey questions to find out customer preference for an energy-based program and a carbon offset program and associated premiums and resulting GHG reductions customers value. As discussed in Section 5 of the Application, the Discrete Choice Model employed in the TNS survey is able to model customer preferences for various options using different price premiums, type of program and resulting GHG reductions. Both residential and commercial respondents indicated in several parts of the survey a strong preference for an energy-based program. Once the results of that were obtained through the questionnaire various pricing and GHG reductions associated with an energy-based program were analyzed. For example, a 20% premium for an energy-based program resulting in a 30% reduction in GHGs (ie. 30% Biomethane) and a 30% premium for an energy-based program resulting in a 60% reduction in GHGs was just as popular as a 10% premium resulting in a 10% reduction in GHGs. However, given the price of Biomethane, a 20% premium would not deliver 30% of a customers' gas usage as Biomethane to the network, nor would a 30% premium deliver 60%. When TGI compared what blend of Biomethane was achievable at each price premium (ie - a 10% premium for a 10% blend of Biomethane, 20% premium for a 20% blend of Biomethane and a 30% premium for a 30% blend of Biomethane) a 10% premium was the most popular. These results guided TGI to select a 10% premium and a 10% Biomethane blend in order to maximize market penetration and uptake of the program. For additional information on the chronology of how the offering was developed, see the response to BCUC IR 1.43.2.4.



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53.2 Did TGI intend to offer a single user pay premium survey prior to the completion of the TNS survey?

Response:

No, TGI used the survey results to decide if TGI should pursue an energy-based program versus a carbon offset program, as well as the target market, demographics, market share potential and price point premium. The survey results guided TGI to design an energy-based program for a 10% premium product resulting in a 10% blend of Biomethane. The surveys also reflected a stronger uptake potential in the residential market. This fact and limits in supply and billing system costs influenced TGI's decision to develop a single user pay premium directed at residential customers in Phase 1 as discussed in Section 6 of the Biomethane Application. Please see TGI's response to BCUC IR 1.53.1 and 1.43.2.4 for additional information on how the development of the Biomethane offering unfolded.

53.3 Please provide, in confidence, minutes of board meetings at which the single user pay premium of 10% was approved by the board of directors.

Response:

As discussed in the response to BCUC IR 1.43.2.4, findings of the surveys and the proposal to lead with a single user pay premium of 10% targeted at residential customers was presented to and approved by the VP of Marketing & Business Development in early February 2010; Board Approval was not required.



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54.0 Reference: Terasen Gas Green Gas Survey

Exhibit B-1, Appendix D-2, Terasen Gas Primary Research Study

"The Terasen Green Gas Study: Final" is broken down into eight different sections that are titled Introduction, Energy Use/Green Products in the Home, Commitment, Terasen Gas, Price for biogas, Carbon Offsets, Natural Gas Choices and Demographics.

54.1 What is the logic behind the order of the eight identified components of the survey identified above?

Response:

The order of the sections in the report reflects the flow of the survey questionnaire. Questions were grouped together by common theme and presented in the sequence of general "green" questions first, moving on to more specific questions regarding attitudes towards biogas and carbon offsets, and willingness to pay for the type of energy initiatives (carbon offset or renewable energy program). Demographic questions are as a rule the final questions asked in surveys.

54.2 The introduction states that: "We are conducting a research study among British Columbia residents about their opinions on environmental issues. Please be assured that this is for research purposes only. It will take approximately 15 minutes of your time."

Response:

This is not a question and therefore no response from TGI is required.



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54.3 After item 3 the environmental issues relate directly to Terasen Gas but the respondents is not warned that this will be the case. Why is that approach to setting up the survey taken?

Response:

Terasen Gas was not identified in the preamble to the survey to ensure that the respondents answered the initial questions regarding attitudes towards environmental issues, and energy savings behaviours, without being influenced by the their opinion of Terasen Gas.

54.4 When the Terasen Gas name is inserted in questions beginning with item 4 doesn't name recognition and established goodwill of the utility in the marketplace taint the value of the survey from this point forward?

Response:

No, inserting Terasen Gas' name in questions does not taint the value of the survey. To establish if BC residents consider it important and appropriate that Terasen Gas undertake Biomethane projects, it was necessary to identify the Company. Additionally, attitudes towards Terasen Gas will also play a role in determining the market potential of the offering, therefore it was important to measure the potential uptake of a Biomethane product offered by Terasen Gas.

54.5 Why was the name Terasen Gas included in the survey when a term such as "utility companies" could have been used as developed in item 1?

Response:

The Terasen Gas name is introduced in the section asking respondents views of Terasen Gas as a Company and the appropriateness of Terasen Gas offering a Biomethane program. The use of a generic description i.e. a utility company, would not allow for these issues to be explored. Additionally, it is likely that respondents would have determined that Terasen Gas was the survey sponsor by the subject matter of the questions.



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54.6 In item#4 (Terasen Gas), Display2 it states that:

"Terasen Gas is investing in a number of projects to collect methane gas produced from landfills, waste water treatment plants, animal manure and organic waste with the intention of delivering pipeline-quality gas to consumers.

By capturing, cleaning and delivering methane to the market that would otherwise be released to atmosphere; significant greenhouse gas reductions are achieved. We refer to this renewable gas as biogas.

Terasen hopes that by offering a biogas program, where customers can sign up for a portion of their energy use to be supplied from biogas, biogas can become a viable, renewable, energy source for our region."

Doesn't the insertion of this description produce a "halo" effect for the reader that would tend to bias the survey in favour of Terasen Gas proposals from this point forward?

Response:

TGI worked closely with TNS to ensure that the questionnaire did not contain any intentional or unintentional bias. Numerous drafts were circulated in order to ensure clarity of language, particularly when it came to the description of program options. A comprehensive description of TGI's proposed projects was necessary to ensure that respondents had sufficient knowledge to provide informed answers to the questions being asked about TGI's investment in Biogas and a Biogas Program. The description was accurate, and TGI attributes the strong results in the survey to the nature of the program described, not the way in which it was described.

See also TGI's response to BCUC IR 1.43.1.2 and 1.43.1.6.



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54.7 In Item #5 (Price for biogas), it states that:

"The costs for the biogas program can be offered to consumers in one of two ways. Which way would you prefer to see Terasen offer this program, if it were to do so?"

However it appears from the questions that follow that the only change in the questions is to the amount of the premium attached to the commodity price. Why is that?

Response:

The above statement is not entirely correct. The section "Price for Biogas" (Item #5) provides 2 choices after asking:

"Which way would you prefer to see Terasen offer this program, if it were to do so?

- 1) Terasen Gas offers a biogas program for its customers to sign up for. Those who sign up would pay a premium for biogas.
- 2) The increase in cost for biogas supply would be borne by all Terasen Gas customers. "

However, this question was only asked of respondents that indicated that they would be likely to sign up for a program.

All respondents however were asked to respond to various levels of support for low percentage increases if the cost of a Biogas program was borne by all customers. Subsequent sections ("Carbon Offsets" and "Natural Gas Choices") explore pricing for a premium payment program as-well-as knowledge of, and attitudes towards carbon offsets.

54.8 If the question uses the following phrase "the cost of *biogas* is borne by all customers" does this not bias the response?

Response:

Terasen Gas believes that there is no bias that can be implied by the inclusion of the phrase "the cost of biogas is borne by all customers" in the context of any of the questions in the survey. The questionnaire was extensively reviewed by Terasen Gas and TNS staff to ensure that among other things the language was neutral and did not result in intentional or unintentional bias. The wording was chosen to ensure that respondents were fully aware that



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biogas was more expensive than conventional sources of natural gas and the consequences of this choice. The intent was to provide a concise, clear description to enable respondents to make an informed decision.

54.9 The following explanation is used; "Terasen offers a biogas program for its customers to sign up for. Those who sign up would pay a premium for biogas. The increase in cost for biogas supply would be borne by all Terasen Gas customers."

How was the survey tested to determine if respondents actually understood the above description of the pricing format? Is there ability for respondents to reject the proposal entirely? Why would the customers not assume that all customers are paying a premium on their gas rate and not just the customers that select the biogas rate?

Response:

The quote in BCUC IR 1.54.9 is of two of the three responses to the question "the costs for a biogas program can be offered to consumers in one of two ways. Which way would you prefer to see Terasen offer this program, if it were to do so? The respondent was offered three clear responses:

"Terasen offers a biogas program for its customers to sign up for. Those who sign up would pay a premium for biogas."

"The increase in cost for biogas supply would be borne by all Terasen Gas customers."

"Don't Know"

While it is a standard industry practice to pre-test telephone studies to determine survey length, clarity of wording and question flow, the standard level of pre-testing of online studies is confined to testing for functionality and questionnaire skip patterns. In line with this practice the online Green Gas survey was tested by both TNS and Terasen Gas staff prior to launch and a pre-test was sent to 200 Residential customers between November 20 and November 22, 2009 to ensure the workability of the questionnaire and to finalize question sequencing (see Appendix D-3, Technical Appendix page 17).

There was no option to directly reject both proposals; there was the option of selecting "Don't Know". It should also be noted that while all respondents were asked the question, only those



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who had indicated a willingness to sign up for a biogas program where included in the analysis. Of that group, 26% chose "Don't Know"

The wording of the premium option presented to the respondents makes it clear that only those who sign up for the program would have to pay a premium.

All questions and information panels were extensively reviewed by both Terasen Gas and TNS staff before the questionnaire was launched to ensure clarity. The process included the completion of the questionnaire by staff not involved in the design of the study to provide a fresh set of eyes.

54.10 In item #6 (Carbon Offsets) Display 4 defines Offset Program and Renewable Energy Programs should these definitions be provided ahead of item 5 (Price for biogas) to acquaint the respondent with these two significant options?

Response:

No, item #6 definitions were not required to be provided ahead of item 5. For ease of completion, questions are groups according to common themes. Information required to assist with the completion of questions are provided prior to completion of the questions. With online studies the information panels are placed on the same screen as the questions themselves to allow respondents to refer to the information while completing the questions. Item #5, Price for Biogas, was collecting data for biogas costs to be spread across all customers. Item #6 (Carbon Offsets) was used to collect data regarding program options. It was therefore logical to provide the definitions of the program options in front of the user-pay program options. Adding this information to a display panel containing information about another subject and then asking questions about that other subject would potentially lead to confusion.



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54.11 In item #6 (Carbon Offsets) no pricing arrangement was proposed. Why were the questions structured in that manner? In your view, would the customer's reaction to offsets change if the offsets were related to biogas or other renewable energy projects within the franchise area of the utility?

Response:

As with the questions about a Biogas program, it was important to explore opinions about a product before pricing was introduced.

Pricing for carbon offsets was explored in the subsequent section "Natural Gas Choices" as part of the Discrete Choice Model (DCM).

In the definition of an Offset Program, the following description was provided:

Offsets – customers are offered the option to offset their home natural gas use by purchasing carbon offsets through the utility. Most utility companies selling carbon offsets have criteria around which offsets will be purchased. Eg, their own renewable energy projects and / or third party biogas, wind pojrects or solar projects within their service territory.

Therefore, it is implied that when the respondent is asked which of the two programs they would be more inclined to see Terasen Gas introduce, a Carbon Offset program would include the TGI's own renewable energy projects as well as projects within this service territory, although it is not explicitly described.

Respondents were asked to choose between a series of program alternatives that trade-off on different features. A simulation model was built based on a trade-off analysis of different choice sets. This model took into consideration various elements associated with an energy initiative program.

The model included three dimensions.

- Energy Initiative (Renewable Energy Program/Carbon Offsets)
- Reduction in GHG's
- Effect on Monthly Gas Bill

Thirty-six possible pairings of choice sets were built into the questionnaire, based on different permutations of the three dimensions. Each respondent was presented with a random set of 16 pairings and asked to select the scenario they preferred in each pairing. The results of the DCM simulation show that Renewable Energy Programs were preferred over Carbon Offset Programs.



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Additionally, when asked directly if they preferred Renewable Energy Programs over Carbon Offset Programs, respondents strongly supported a Renewable Energy Program (41% vs. 13% for Carbon Offset Programs).

While it is possible that an offset project originating in BC would garner more support than offset projects outside the Company's service territory, it is more likely, as reflected by the survey results, that respondents would still favour a renewable energy program if the projects were also identified as originating in BC.

54.12 Why was TNS Canadian Facts selected to perform the market survey?

Response:

TNS was selected after a competitive tender. Their selection was based on a number of factors such as their reputation for thorough, insightful research; the quality of their previous work for Terasen Gas; the credentials of their research team, and the appropriateness of the proposed methodology.

54.13 Has TNS Canadian Facts worked for other gas utilities to survey customers for a response to a biomethane tariff? If so, what other utilities has TMS supplied consulting services to?

Response:

TNS has not worked for other gas utilities to survey customers for a response to a Biomethane offering or tariff.

54.14 Has TNS Canadian Facts consulted with utilities that offer a biomethane option in their rate structure? If so, which utilities supplied information to prepare the survey?

Response:

TNS did not consult with any other utilities that offer a Biomethane option in their rate structure.



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54.15 Is the survey the same as used by other utilities investigating the acceptance by customers of a biomethane tariff?

Response:

Terasen Gas and TNS are not aware of any surveys conducted by other utilities investigating the acceptance by customers of a biomethane tariff.

54.16 Please provide the resume of the TMS consultant who worked on this account.

Response:

Three TNS employees worked on this project:

Dr. Michael Antecol, Vice President, Managing Director - Canada West

Dr. Antecol is Vice President of TNS Canadian Facts and managing director for Western Canada – in those capacities, he oversees all activities in the Vancouver office. He is also the Study Director for TNS national Consumer Confidence Index study. He has over 11 years of direct market research experience in the US and Canada.

Prior to joining TNS, Dr. Antecol was Vice President at POLLARA (2004-2006) where he worked in a similar capacity to his role at TNS. From 2002 to 2004, Dr. Antecol was Director of Online Research at Frank N. Magid Associates, an international media research company. In combination with traditional telephone research, he applied online methodologies to help clients (such as Belo Corp., Cox Communication, Emmis Broadcasting, and Young Broadcasting) to more effectively produce local TV newscasts. Dr. Antecol 's studies from this period have been quoted in various media outlets including Broadcasting & Cable, Christian Science Monitor, MSNBC News, ChronWatch.com, Poynter Online, and the Toronto Star. Some of the research findings have also been presented in speeches to the Bureau of Broadcast Measurement ("BBM") Canada and the Television Bureau of Advertising ("TVB"), and a keynote speech to the predecessor of the Market Research Intelligence Association ("MRIA"). Finally, prior to these two appointments, Dr. Antecol held the position of Young Consumer Analyst at Forrester Research (2000-2002) where he investigated the use of technology in the formulation of marketing strategies directed at young consumers.

In terms of his academic career, Dr. Antecol completed a B.A. in Political Science at York University and a LL.B. from Osgoode Hall Law School. He then attended the Graduate School



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of Journalism at the University of Western Ontario where he completed an M.A. in Journalism. He followed this with a Ph.D. from the School of Journalism at the University of Missouri and a Post-Doctoral Fellowship at Stanford University. He has also taught graduate-level courses in media research methods at the University of Missouri's School of Journalism.

Dr. Antecol's academic research has been widely published in journals such as the Canadian Journal of Communication, Mass Communication & Society, Newspaper Research Journal and Political Communication. Abstracts can be found in various Proceedings of the American Academy of Advertising, as well as Psychophysiology. He has also presented numerous papers to the Association for Education in Journalism and Mass Communication ("AEJMC"), International Communication Association, the American Academy of Advertising, the Society for Psycho-physiological Research, and the Society for Research on Nicotine and Tobacco. His research has earned several awards including membership in the Kappa Tau Alpha Honor Society and a Top Three Research Paper in the Communication and Theory Division of AEJMC.

He is a member of the MRIA and a former board member of the Vancouver Chapter.

Raymond Gee, Research Director, Vancouver

Mr. Gee is a Research Director in the Vancouver office of TNS Canadian Facts. His responsibilities at TNS include research design, project management and analysis of research results. Mr. Gee currently oversees several large, complex research tracking programs. These programs involve several sample populations and multiple data collection methodologies.

Mr. Gee has worked at TNS for nine years, beginning as a marketing research interviewer.

Mr. Gee holds a Bachelor of Business Administration degree from Simon Fraser University with a major in Marketing and Management and Organization Studies.

Mr. Gee is a member of the MRIA and a former board member of the Vancouver Chapter. He has been a conference presenter on stakeholder management research and has been quoted a number of times in business publications such as *Business in Vancouver*.

Hal Gray, Research Associate, Vancouver

Mr. Gray has worked directly in market research developing project needs analysis and implementation, delivery, monitoring, reporting and evaluation of those projects for the last five years with TNS and POLLARA.



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He has either coordinated or assisted in several longitudinal studies for the Social Research Development Corporation (SRDC) and has directed long-term, quarterly, customer satisfaction studies for major corporations such as TELUS Communications Company and Terasen Gas Inc. As well, he has coordinated and reported on dozens of one-off studies and 40 plus focus groups.

Prior to his market research work, Mr. Gray worked in the fields of marketing, promotion and advertising, both in the public and private areas. For many years, Hal held an executive position in the non-profit sector and, as well, a coordinating and teaching position in the post-secondary field.

He has ten years' experience in stakeholder outreach and partnership building in the public and non-profit sectors. Mr. Gray has over twenty years experience as a freelance writer and editor in commercial print, audio, video and film and is an award-winning fiction and screenplay writer.

Mr. Gray is a member of the Market Research and Intelligence Association. He is a past board member of the Canadian Periodical Publishers Association.



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55.0 Reference: Biogas Market Study

Exhibit B-1, D-3, Terasen Gas Primary Research Study, pages 3 - 18

55.1 Do you consider the size of this sample (with the composition identified for Residential customers of 1,401 interviews and business 500 interviews) as sufficient size on which to make projections for the proportion of commercial and residential households that will potentially subscribe to the BioGas Program at different price points? If not, what sample size would you recommend?

Response:

Yes, TGI considers the sample size as being sufficient.

The sample size was chosen to ensure that the results would be robust even when the entire sample was not polled for certain questions. The overall sampling error for 1,401 total residential interviews at the 95% confidence level is approximately \pm 2.6%. For example, if 50% of all residents surveyed stated that they have heard of carbon offsets, then we can be sure, nine times out of ten, that if the entire population had been interviewed, the proportion would lie between 47.8% and 52.2%. The commercial survey results are subject to margins of error. At the 95% confidence level, the margin of error for the 500 commercial customer interviews is \pm 4.4%.

Please note that margins of error apply to randomly selected samples. Residential panel samples are self selected and therefore the margin of error figures are presented as a guide.

55.2 Based on a goal of a user pays whereby a customer who chooses to pay a premium on the commodity cost of gas covers the total full cost of the BioGas Program (both direct and indirect costs) and only customers choosing the biogas tariff pay any costs of the BioGas Program and all other customer do not, what is the combination of lowest tariff premium and highest market size projections that would have to be met for the commercial and residential customer classes to achieve that objective?

Response:

As discussed in the response to BCUC IR 1.37.2, on the assumption provided that all program costs were to be borne by the Green Gas customers, the initial 15 month rate would increase from \$9.904 / GJ to \$15.279 / GJ. Using the current Residential Commodity Recovery Charge



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of \$4.976 / GJ and the biomethane rate of \$15.28 / GJ would result in a 40% premium over the current rate of \$4.976 (still using the 90% natural gas – 10% Biomethane blend). As discussed in the response to BCUC IR 1.6.5, a 40% premium resulting in only a 10% blend of Biomethane was not explored using the Discrete Choice Model (DCM) in the Biogas Market Study. However, if one compares the customer preference for a 30% premium resulting in only a 10% blend, 68% of respondents prefer the proposed program at a 10% premium and 10% blend.

Extrapolating from the information provided in Figure 5-5, 'Market Size Projections Based For a User Pay Program' suggests at a 40% premium would result in approximately 5% of residential customers would be willing to purchase the Green Rate Service. For 2011, 5% of the average forecast number of residential who use approximately 90 GJ per year would result in a blended demand of 343 thousand GJ but the forecast available supply is only 134,500 GJ (39% of the blended demand). It is TGI's opinion however that this large gap between conventional natural gas prices and the price of Biomethane would not achieve a 5% market share penetration and would likely be well below the national average of 2.2% participation rate because this premium is well above the average % premium of other green pricing programs' and results in small GHG reductions for the amount paid.

TGI believes, however, that the costs incurred to make the service offering eventually available to all customers should be borne by all of the customers, as they are driving those costs. TGI's research suggests that adhering to the principles of cost causality in the manner proposed by TGI also enhances the potential for maximizing customer participation in the program.

It is stated (p. 5) that: "For a user-pay program, 16% of residential customers and 10% of commercial customers indicated they would enroll in a BioGas Program at a 10% increase in their current commodity price." However Section 4.3 states that: "The average customer participation rate in 2008 among all green pricing programs was 2.2% and the medium participation rate was 1.2%". (page 29).

What accounts for the large disparity in participation activity between the TMS study results and the National Renewable Energy Laboratory findings?

Response:

The 16% quoted above is the maximum potential participation rate. While 16% of customers have indicated that they are willing to pay for biogas, there is commonly a discrepancy between those who express intent to do something and those who actually do. Some respondents will answer positively simply because they see the program as being beneficial to the environment,



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but may not follow through on that belief. This issue is addressed in Appendix D - 3, page 11 of the Application.

Participation rates can be impacted by many factors including the level of marketing support available to create awareness of the program and communicate its environmental benefits; how easy it is to participate in the program; the price of the commodity itself and relative to other renewable fuel choices, and government policy.

In section 3.1.5, Estimating Market Potential it states that: "Using the survey data, it was possible to generate rough estimates of potential market share for a biogas program. The projected market estimates were calculated based solely on what respondents told us. Knowing this, we would caution that these figures should be considered best estimates. The reason for caution is two fold:

People do not always do what they say – we often fall short of our intended goals: and

Respondents sometimes have a tendency to provide answers in a manner consistent with how they perceive we want them to answer – in this case, to sign up for a biogas program because it has positive impacts on our environment."

Considering the disclaimer outlined above, what is the probability that 16% of residential customers would commit to the BioGas Program that would support a user pay premium of 10% or \$6 per month if it results in a 10% reduction in GHG levels?

Response:

The 16% represents the current <u>potential maximum</u> participation in the program; it is a snapshot in time of potential participation and should be treated as such rather than a definitive statement as to how many customers will participate in any Biomethane offering. The actual participation, and the size of the potential market, will be largely contingent on those factors laid out in the response to BCUC IR 1.51.2.

As discussed in Section 6 of the Application, TGI has proposed a Phased approach for the rollout of the Green Gas offering in order to validate consumer demand for the product. Residential customers at 10% blend of Biomethane would consume the supply from the 2 projects proposed in the Application if participation levels matched the national average of 2.2%.



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Given these factors it is probable that in the short term that participation will not reach the 16%.



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56.0 Reference: Program Business Rules

Exhibit B-1, Appendix E-1, Enrolment, page 2

56.1 Terasen Gas states that the program will be subject to an enrolment limit based on the amount of biomethane available. When will TGI decide on the amount of biomethane available and therefore on the enrolment limit?

Response:

Please refer to the Company's response to BCUC IR 1.36.1.2.



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57.0 Reference: Proposed Tariffs

Exhibit B-1, Appendix F, Terms and Conditions, page 28-1, Section 28, Biomethane Service, item 28.4, Price Determination

57.1 The definition of Price Determination is as follows:

"Customers registered for Biomethane Service will be billed for Gas pursuant to their applicable Rate Schedule. The cost of Biomethane will be based on the cost of acquiring Biomethane, including, but not limited to commodity, production, infrastructure, equipment and operating costs required to deliver pipeline quality Gas."

Why doesn't this definition include the overhead that TGI continues to accumulate to develop these projects?

Response:

The definition of Price Determination does not include overhead (Project Research costs) for TGI Biomethane Service because 'overhead' costs have already been included in the current Operations and Maintenance expense of the utility. As stated in the responses to BCUC IR 1.19.1, 1.19.2, 1.59.1 and 1.63.2 all of the costs to develop the Program have been expensed by Terasen Gas Inc. as part of its existing marketing and business development activities and budgets.



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58.0 Reference: Commercial Rate Schedules

Exhibit B-1, Appendix F-4/5

TGI seeks approvals to new rate schedules 2B and 3B effective upon the filing of the rate schedules with the Commission but in any event not before January 1, 2012.

On page R-2B.1 and R-2B.2, the rate schedules indicate that entry for commencing service under this rate schedule shall be on the first day of the month following October 1, 2010.

58.1 Please explain why this rate schedule should provide for entry following October 1, 2010 if the proposed roll out of biogas to commercial customers is not scheduled until January 1, 2012?

Response:

TGI inadvertently included an entry date for commencing service of October 1, 2010 for Rate Schedules 2B and 3B, rather than the correct entry date of January 1, 2012. Please refer to Attachment 58.1 for amended tariff pages R-2B.1 and R-2B.2, correcting the entry date to January 1, 2012.

58.2 Under the proposed rate schedules and terms and conditions, if a commercial customer approached TGI requesting biogas, would TGI be required to provide that customer biogas or purchase carbon offsets if the biogas was unavailable?

Response:

No, TGI would not be required to provide biogas or purchase carbon offsets to a commercial customer under the proposed rate schedules and terms and conditions until such time as the commercial rate schedules come into effect.

As discussed in the response to BCUC IR 1.58.1, TGI inadvertently included an effective date for commencing service of October 1, 2010 for Rate Schedules 2B and 3B, rather than the correct effective date of January 1, 2012.

Under the proposed rate schedules (1B, 2B & 3B) terms and conditions, customers would only be eligible to enrol in the Biomethane Rate Schedule if there was Biomethane available. TGI would only purchase carbon offsets in the event there is a shortfall of Biomethane for customers



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that are currently enrolled in the program. Customers would not be allowed to enrol in the program if Biomethane was not available.

Therefore, if a commercial customer approached TGI requesting biogas when the rate schedule was active and TGI did not have available supply, the customer would not be enrolled in the program and TGI would not be required to purchase carbon offsets if biogas was unavailable.

58.3 Please explain why TGI requires approval of rate schedules 2B and 3B, which support the second phase of the proposed BioGas Program, at this time?

Response:

TGI has requested approval for the schedules supporting both phases of the offering because the evidence that there is commercial demand is compelling, and it is in the interests of customers to address the evidence supporting the Biomethane program in one process. TGI has outlined in the Biomethane Application the end to end business model which outlines how the entire program will work including the rollout to commercial customers. TGI is requesting the approval of rate schedules 2B and 3B now so that we can provide a comprehensive solution that can be evaluated through this regulatory process.

The scientific research presented in Section 5 suggests that there is demand in the marketplace for participation in the Green Gas program from commercial customers. Our residential customers have expressed that they have the strongest demand of the two customer segments for the proposed program, but the demand from commercial customers is also very strong. Terasen Gas is proposing to launch the Green Gas program with our residential customers but is committed to making it available as soon as possible to meet demand from our commercial customers as well. The inclusion of the Rate Schedule 2B and 3B in this Application demonstrates TGI's commitment to making the program available to our commercial customers in 2012 as supply is developed.

The Commission has before it in this proceeding a significant body of evidence regarding customer demand and the rationale for structuring the particular offerings. The intervenor group representing commercial customers is an active participant in this proceeding. It is most efficient for the evidence to be addressed in one proceeding, as TGI would have to file in any future proceeding to address phase II the same basic evidence that is available here.

TGI observes that the approval of the rate schedules for Phase II is necessary, but not sufficient on its own, to permit TGI to provide Biomethane service to commercial customers; TGI also needs Biomethane supply. TGI has structured the offering so that the product will only be sold



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where supply is available as discussed in Section 6. The Commission has oversight of all supply contracts for projects brought on line to meet demand. TGI has also proposed reporting mechanisms (discussed further in the response to BCUC IR 1.25.3). Given these mechanisms, TGI believes that there is little to be gained for any party or the Commission requiring duplicative proceedings to address the terms and conditions of the commercial offering.

58.4 Could the rate schedules 2B and 3B be filed and approved as part of the TGI 2012 Revenue Requirements Application or at another later date?

Response:

Rate Schedules 2B and 3B could be filed and approved as part of the TGI 2012 Revenue Requirements Application, or at another date, however the Company does not believe this is in the best interest of our commercial customers. Further, it is important for TGI to lay out the comprehensive business model it envisions for this program offering to be part of this regulatory review process. The Company feels that, for the reasons described in the response to BCUC IR 1.58.3, this Application is the most appropriate venue in which to apply for approval of Rate Schedules 2B and 3B.



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59.0 Reference: Program Costs

Exhibit B-1, Appendix G, Program Cost Summary, page 1, Table G-1

59.1 Are all the overhead costs to develop the program up to this point absorbed by Terasen Gas Inc.? What would be the approximate total costs (including overhead) to develop the Biogas Program to this stage?

Response:

All of the costs to develop the Program have been expensed by Terasen Gas Inc. as part of its marketing activities and budgets. (See also responses to BCUC IRs 1.19.1, 1.19.2, 1.57.1 and 1.63.2). Staff costs to develop and administer programs like the Biogas program are already provided for in the existing allowed Operating and Maintenance funding covered during the former PBR and also the current Revenue Requirement Settlement Agreement. There has not been specific tracking of employee time for this application development and the supply projects contained within the Application. However, as an estimate, there have been approximately two people working part time, the equivalent of one full time person, in this project over the past couple of years. At the start of the process this was more dedicated to the supply model and then over the last year resources have been brought in to look at the market and prepare this Application. In addition there was some support from other departments who were consulted on the business model - approximately 7 days of effort. It is difficult to estimate the total cost including overhead but a very rough estimate would be \$250,000 up to the point of submitting the Application. On top of this, Terasen Gas participated in a study with other utilities in Canada that investigated the qualities of biogas in anticipation that biogas may enter its system either from our own projects or others, TGI's share of the cost of this study was \$75,000. Additional costs incurred to date include: market research costs of \$60,000 (TNS Biogas Study) and \$25,000 in consulting costs (Knowledge Tech -BCUC IR 1.65.4) that were accounted for in the existing approved O&M budgets. Therefore, the total approximate development cost over the last 2 years up to this stage is \$410,000.



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59.2 Why shouldn't program costs identified in Table G-1 be applied to those customers that select the biomethane program option as this program is not similar to the Customer Choice program (16% market share) as the average participation rate (average of about 2.0% reported by utilities) is decidedly smaller?

Response:

Please refer to the response to BCUC IR 1.16.1.



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60.0 Reference: Customer Education Plan

Exhibit B-1, Appendix H

60.1 If a third party was offering to supply biogas to TGI's customers (similar to a gas marketing arrangement), what components of the budgeted costs above would likely be incurred by that supplier? For example, costs to stimulate interest/participation in the program as well as maintaining participation and support for the program.

Response:

To achieve success, third parties offering to supply a Biogas product to TGI's customers would independently promote their program to stimulate and maintain participation for their product offerings, and as such would incur costs. TGI is unable to determine how much or what type of costs would be incurred as they would be dependent on each third party's individual marketing plan. However, they would benefit from TGI's Customer Education efforts which would reference green offerings available through gas marketers and other parties.

60.2 When the Customer Choice program was rolled out, did TGI incur customer education costs related to stimulating interest/participation in the program as well as maintaining participation and support for the program once it was implemented?

Response:

Terasen Gas Customer Choice education efforts were designed to inform customers of their options so that they could make an informed purchase decision. The advertising was not promotional in that it did not encourage customers to choose the variable rate instead of a fixed rate contract, or vice versa. Some risk adverse customers may have acted on the information provided and actively pursued fixed rate contracts. For most, however, highlights of the communication were merely studied and only recalled if needed (e.g., when interacting with a gas marketer sales representative.)

TGI believes that the communication activities necessary to stimulate interest and participation in the Customer Choice program resides with gas marketers. TGI has ongoing education dollars approved to maintain awareness of the program, help customers understand what their



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options are, and ensure they have the information that will permit an educated purchase decision.

60.3 Can TGI explain the difference between education and promotion of the proposed TGI BioGas Program?

Response:

The customer education plan Terasen Gas foresees being required to support the successful launch of the Biomethane program includes an educational and a promotional component.

As Biomethane has not previously been available as an energy source in B.C., customers must first be made aware of its introduction to the marketplace and its environmental benefits. TGI conducted an Alternative Energy Study in 2009 which found that "[B.C.] residents were far less confident in suggesting that their awareness extended to being knowledgeable about the alternative energy sources." As people are less likely to buy products or services that they don't understand, educational communication is necessary. Customers will be informed about Biogas and Biomethane as a real, practical and safe energy source that is available today, and the benefits of its use in B.C. Customer education supports both the establishment of a Biomethane market and TGI's Green Gas program.

Promotional communication is necessary to stimulate interest and participation in the Company's Green Gas program. With participation, in a timely manner, further supply can be developed and additional environmental benefits realized. It is not a matter of providing information that customers can act on at a time in the future when it may interest them. Rather program participation by those most predisposed to support a Biomethane initiative is needed within a reasonable time frame so that further initiatives can be developed and the long-term benefits realized.)

An example of customer communication which must combine educational and promotional messages for a new product introduction to be successful would be yogurt products with active probiotic culture. Customers were familiar with yogurt, but not with this new ingredient; just as they are familiar with natural gas but not with Biogas or Biomethane as an energy source for their home. One player in the yogurt market is Danone. Their website for their DanActive yogurt drink with active probiotic culture (www.danactive.ca/en/) includes educational and promotional messages. Educational messages explain how probiotic culture works in the human body and

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⁷ Alternative Energy in BC Study conducted for Terasen Gas by Angus Reid Strategies, Executive Summary pg 1.



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provide scientific evidence; while the promotional messages feature information on the product's flavours and encourage shoppers to buy the drink with a \$2.00 coupon.

As the supply of the Biomethane/natural gas blend warrants, and within the proposed communications budget, communications for the Biomethane program will continue to require educational and promotional elements after the program launch. New TGI customers and others paying attention to the communications for the first time will require education about the product, its use and its benefits. On-going communications would also contain promotional components to stimulate participation in the program into the future.

60.4 What portion of the customer education program related to the roll out of Customer Choice program was promotional?

Response:

Communications conducted by TGI for the roll out of the Customer Choice program (as well as subsequent communications) did not include promotional elements. The objectives of the Customer Education plan for Customer Choice were limited to:

- generating awareness of the program; and
- providing customers with the information they needed to make a decision about choosing

As the program facilitator, TGI provided independent information about Customer Choice. The Company did not promote any aspect of the program, or offerings. Gas Marketers were responsible for promoting their product offerings when the program was rolled out and continue to have this responsibility. Please refer to the response to BCUC IR 1.60.7 for a budget breakdown of the initial Customer Choice education plan.



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60.5 Is TGI's customer educational plan more promotional than that of the Customer Choice campaign as it will promote TGI's green gas program rather than the existence of a biomethane market?

Response:

Yes, TGI's customer educational plan is more promotional than that of the Customer Choice campaign (See the responses to BCUC IR's 1.60.2 and 1.60.7 for more detail). In addition to educating customers about this new energy source and providing information for customers to make an informed choice about the Biomethane program, communications will also encourage customers to participate. Their participation is critical to the success of the program, and the program is integral to the development of a Biomethane market in B.C. which supports the province's Climate Action Goals.

The Customer Choice communications objectives centred on education and increasing customer awareness, and directing customers on where to find additional program information. Importantly, this customer education plan did not explicitly promote a particular product offering. Promotional activities were left the responsibility of gas markers, who offered specific products for customers to consider. The Biomethane program in contrast, combines the need for customer education, with the need to promote the product offering in order to help ensure that interested customers enrol in the program. Customer participation by enrolling in the program is critical for the successful development of the Biomethane program because customer interest will drive the development of new biomethane production sources. The development of a robust biomethane market also provides an additional benefit to customers because it would help to optimize the TGI system and also be a significant contribution to helping reduce GHG emissions in British Columbia and help meet the province's Climate Action Goals.

60.6 Are costs included in Customer Education Tactics such as mass media, direct mailings, promotional offers consumer shows, community level events, street teams, videos and an employee communications campaign promotional in nature?

Response:

The items outlined under "Customer Education Tactics" combine both educational and promotional messages. Therefore it is not possible to distinguish educational costs from promotional costs in the manner suggested by this question. (See the response to BCUC IR 1.60.3 for more information.)



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60.7 Were any such items listed in the question above used to rollout the Customer Choice program? If yes, describe what comparable items were utilized and to what extent.

Response:

Yes, the roll out of the Customer Choice program included many of the same tactics that are planned for use in the customer education plan to support the introduction of the Green Gas program. Specifically, Customer Choice communication channels included, mass media (TV, radio and newspaper), bill inserts, news releases, home show events, the Terasen Gas website and a variety of employee communications. Expenditures however were much larger than what is proposed to support the roll out of the Green Gas program. The advertising strategy employed to support the Customer Choice program rollout is summarized in the budget table below:

2006 Budget		
Production	400,000	
Web enhancements	139,000	
Research	50,000	
2006 Total		589,000
2007 Budget		
Media		
Television	1,378,000	
Newspaper	1,564,000	
Radio	655,000	
Employee	21,000	
Sub-total		3,618,000
Production	306,000	
Incidentals	15,000	
Bill inserts	167,000	
Web enhancements	100,000	
Research	205,000	
2007 Total		793,000
Launch Total		5,000,000



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Customer Choice represented a far larger communication effort than what is planned for the Green Gas program. It was designed to try and reach as many Terasen Gas customers as possible in order to drive almost universal awareness of the new offer, what it meant, and to arm people with the information that TGI believed would allow customers to make an informed purchase decision. The program relied upon TV and radio to drive awareness of the offer, and was intended to generate interest in the more in-depth information available in newspaper ads, and our website and bill inserts. Home show activity, although originally part of our communications strategy as a separate expenditure, coincided with the utility's return to such venues after an absence of several years. No Customer Choice specific booth graphics were created, but TGI did and continues to respond to the many questions customers ask about the program.

The Green Gas program's communications objectives are different than those for Customer Choice. In addition to generating awareness and providing information, the Green Gas program communications will be charged with stimulating interest and participation in the program and then maintaining that interest and participation for the success of the program. The proposed communication plan for the Green Gas program, contained in Appendix H of the Application, describes a more targeted approach than was used for the launch of Customer Choice. As described in the Application, "Communications will be targeted to those with the greatest likelihood of participation, using tactics, messages and channels that will be meaningful and relevant to the target audience's interests."

Although Customer Choice used many of the same media channels that are proposed for the Green Gas product, the different objectives necessitate different Customer Education Plans, and different magnitudes of expenditure. Ultimately, Biomethane advertising efforts can help educate British Columbians about environmental protection and renewable energy, but planned expenditures are mindful of the smaller market size needed to support available Biomethane volumes. Creating market interest that exceeds our ability to supply would be counterproductive.

In summary, although Customer Choice and the Biomethane initiative share many of the same recommendations about the type of media to be used, differences ultimately reflect the different communication and sales objectives, and the audience that is targeted. The Customer Choice objectives were about education and customer awareness, and directing the customer on where to find more information. The Biomethane initiative in contrast, combines the need for customer education, with the need to promote the product offering in order to help ensure that interested customers enrol in the program.

 $^{^{8}}$ Terasen Gas Biomethane Application, June 23, 2010, Appendix H, page 1.



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60.8 By building awareness/understanding of biomethane as a renewable resource, is Terasen educating customers or just promoting a new product?

Response:

TGI is accomplishing both objectives, but ultimately customers benefit from this approach.

Biomethane is a viable renewable energy source in B.C. Educating TGI customers about this newly developed energy source and its environmental benefits will stimulate interest not only in TGI's Green Gas program specifically, but also in the development of future Biomethane projects by TGI and others. Customer awareness of and interest in Biomethane as an energy source for their homes and businesses, will help make the market attractive for more producers to enter.

Communications for TGI's Green Gas program will combine educational messages with promotional messages that will be designed to motivate customers predisposed to support renewable energy initiatives to enrol in the program in a timely manner. The successful development of TGI's Biomethane supply is dependent upon customer participation in its Green Gas program. Once the initial supply of Biomethane is fully subscribed, further sources of Biomethane can be developed and offered to additional customers. As indicated in the response to BCUC IR 1.10.5, customers ultimately benefit from the optimization of TGI's system, and Biomethane can assist in this goal.

60.9 In the TGI Customer Education Plan, does TGI intend to inform customers of other "green" programs offered by gas marketers who can also supply gas to TGI's customers? If yes, explain the specific programs and costs intended to promote green offerings of other gas suppliers.

Response:

Yes, similar to Customer Choice, in its print collateral pieces TGI will inform customers that fixed-rate, green programs (such as carbon offsets) are currently offered by gas marketers and direct them to the gas marketers for details. The treatment of this information will be similar to the manner in which gas marketer fixed rate offerings have been referenced in customer communications about TGI's variable commodity rate (see the responses to BCUC IR 1.14.1.4, 1.18.1, 1.18.2, 1.18.4, and 1.48.4). Bill inserts and other brochures can provide the space needed to provide additional messaging that mass media does not.



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60.10 Please quantify the estimated cost of the employee communications campaign including all internally allocated labour and overhead. Include a detailed budget for this campaign.

Response:

The estimated cost of the employee communications campaign is \$26,500 (the equivalent of \$19 per employee); not including internal labour and overhead. TGI does not intend to the track the labour hours of TGI staff engaged in employee communications for the Biomethane program as non-incremental labour costs are not included in the program funding requested. The labour costs to undertake the development of the program, including the employee communication campaign are part of the existing O&M budgets that is recovered from customers in TGI's existing distribution rate. For further explanation on labour hours see the response to BCUC IR 1.19.2.

The communications campaign estimate is based on the following detailed budget:

- Education kit for each employee \$15,000
 - o Letter
 - Informational infosheet/brochure (either adapted for internal purposes from external production pieces or created fresh)
 - Pocket card (for field employees)
 - Lunch'n'learn invite/giveaway ballot
 - Assembling of the kit
- Employee event posters 11" X 17" \$1,200 (for 100 posters)
 - Posted in Surrey/Burnaby operations buildings and offsite locations
- Surrey and Burnaby Lunch 'n' Learn events \$4,000
 - \$2,500 for Surrey and \$1,500 for Burnaby
 - Video shown possibly adapted from external production for internal purposes
 - Refreshments
- Other locations' educational events \$ 5,000
 - o @ \$500/office x 10 offices
 - Video shown and refreshments served
- Event prizes to encourage employee attendance \$6,000
 - o \$500 grand prize for province
 - o \$1,000 other prizes



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- Pipeline (company Intranet) and in FOCUS (field employees' newsletter) no incremental cost
 - 60.11 Please explain how ratepayers will benefit when all TGI's employees are knowledgeable of the benefits of biogas as a renewable energy source and understand details of the green gas program?

Response:

Communications directed to TGI employees contribute to customer education by ensuring employees have accurate and adequate information to answer questions about the program that customers will have. These questions will occur at any point of contact, whether at work, or outside of work. Customers benefit when correct information is communicated because they will be in a better position to make an informed decision about whether or not to participate in the program.

60.12 Will all employees be engaged in providing and supporting the biogas initiatives in their daily jobs? If not, please quantify the number of employees who will be engaged in TGI's biogas initiatives

Response:

No, not all employees will be engaged in providing and supporting the biogas initiatives in their daily jobs. However, the Company's employees need to be aware of the Biomethane program to be able to speak about it to customers when asked. Employees need to be able to provide key facts and direct customers to the Terasen Gas website for more information just like they need to be able to for all other programs offered by the Company.

The Biogas Program Manager position identified in the Application will have direct responsibility for the day to day activities of the Green Gas Program and will manage and engage support from various business units in the Company as required. TGI estimates that this level of effort is equal to a Full Time Equivalent position as discussed in Section 10 of the Application.



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60.13 Would TGI be willing to include in the deferral account and eventually recover from biogas subscribers only, all costs related to the Customer Education Plan including internally allocated labour and overhead?

Response:

No, the Company does not believe that a recovery of all customer education costs only from program subscribers is appropriate. As discussed in the Company's responses to BCUC IR 1.32.3, 1.32.4 and 1.32.5, the Company believes that the cost allocation methodology as proposed in the Application is consistent with current practice and past precedent and is the most appropriate methodology for recovering program costs from customers. The cost of the Customer Education Plan includes all incremental costs necessary for the implementation of the plan. It does not include an allocation of non-incremental labour or overhead. The costs are appropriately allocated to all customers because, in a nutshell, they are costs of making the program known to all customers, not just those customers who actually take up the program.

60.14 Is TGI intending to rebrand itself as a "green" gas supplier through this biogas educational campaign?

Response:

Please see the response to BCUC IR 1.10.1.



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63.0 Reference: Green Gas Programs

Exhibit B-1, Appendix J, Schedule 10

In the application, section 10.4, pages 109-110, TGI provides a listing of costs to be allocated to all customers. In that list, items such as configuring a new biomethane tariff, additional reporting, additional customer calls, quarterly updates to Terasen Gas Standard Rate potion of the Biomethane tariff rate, customer education including costs associated with marketing the program and a biogas manager are listed.

63.1 Please indicate on schedule 10 where these costs are located and confirm if any internal labour costs or other joint expenses have been allocated to this budget?

Response:

The details relating to CWLP biomethane configuring new tariff and quarterly updates, internal reporting, customer education and biogas manager can be found on Appendix J-1 – Terasen Gas Inc. Biogas O&M Details, Lines 2 - 14. For the years 2010 and 2011 the O&M costs will be deferred, net-of-tax (Schedule 7, Lines 1 - 8) and then amortized in 2012 through 2014.

Appendix J-1, Line 2, Labour Costs – one FTE, is the cost of the biogas program manager.

Line 13 – Application Support is the cost of configuring a new biomethane tariff.

Lines 8 and 11 – Inbound Calls are the cost of handling customer inquiry calls. In 2009 and 2010 these calls will handled under our agreement with CWLP and then in 2012 will be handled internally at Terasen Gas.

Line 4 Computer Costs – Additional Reporting and Line 7 Internal Reporting Changes are the costs for internal reporting.

The cost for quarterly rate changes is on Line 12 – Rate Changes and the cost for Customer education including marketing is on Line 6.

The cost values for 2012 on Lines 2, 4, 9 and 14 are on Schedule 10 of Appendix J-2. For the years 2013 and following it has been assumed the costs in 2012 will increase by an assumed inflation rate of 2% per year.



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Obes TGI intend to track the labour hours of TGI staff engaged in the BioGas Program to allocate costs proportionally?

Response:

As discussed in the response to BCUC IR 1.19.2, TGI does not intend to the track the labour hours of TGI staff engaged in the BioGas program, as TGI labour costs are not included in the program funding requested. Staff costs to develop and administer programs such as the BioGas program are already provided for in the existing allowed TGI O&M funding, which are recovered from natural gas customers. TGI views the biomethane end to end business model and work to support this offering to customers as costs that would be recovered from natural gas customers just like energy efficiency and conservation costs. As a result, the program budget includes only costs that are considered incremental to the Company existing budgets.

63.3 Over the next two years, does TGI intend to hire additional staff or to relocate business development staff to manage the requirements of the BioGas Program (other than the biogas manager)?

Response:

TGI has identified the costs to manage the Biogas Program end to end as identified in Section 10 of the Application as a full time equivalent position or that of a Biogas Program Manager. TGI does not expect to hire additional staff for Biogas program management through the rest of 2010 and 2011, other than the FTE request made in the Application based on its current market projections. Obviously if the customer response and commensurate supply is significantly greater than projected, this would have to be revisited. Business development staff may continue to assist as needed in the development of supply projects or new customer initiatives as is currently the case for other project related work.



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64.0 Reference: Financial Schedules

Exhibit B-1, Appendix J-1, Terasen Gas Inc. Biogas O&M Details, page 1-2

64.1 The majority of O&M costs for years 2010 to 2012 are 88.3%, 68.6% and 73.8% respectively are assigned to "All Customers". Why should customers who are not willing to pay the biomethane tariff rate be subjected to the majority of operating costs? Should not the customers that chose the biomethane tariff be responsible for all the costs?

Response:

Terasen Gas believes that the cost allocation proposals contained within the Application are appropriate, fair, consistent with current practice and in keeping with past precedent. The allocation of costs is driven by cost causality, and the costs to which the question refers are associated with making the program available to all customers. As discussed in the Company's response to BCUC IR 1.14.3.1, this cost allocation is consistent with the allocation of costs from the Customer Choice program as approved by the Commission in Order No. G-90-03 (commercial offering) and C-6-06 (residential offering).

Terasen Gas believes that comparing the O&M costs in the manner done in the question posed, i.e. as percentages, is not a meaningful comparison.

- First, it draws parallels between two very unrelated functions: producing Biomethane and managing a customer program. In regards to the stated percentages, the O&M costs of producing Biomethane are very low, with most of the costs being capital costs. By contrast, administering the proposed program and educating customers is less capital intensive and more O&M. When the very low O&M costs related to production are compared directly against less capital-intensive functions such as administering the proposed program and educating customers about it, and depreciation expense on capital costs are ignored, it produces a very large differential in percentage terms. The result is misleading because the majority of the costs to produce and acquire Biomethane service are still being incurred by those participating in the program, even in the years cited.
- Second, the actual impact on customers associated with bearing the costs of program administration and education are modest in absolute terms. The levelized rate impact is \$0.004/GJ, approximately 15% of what customers indicated was the low end of what they were willing to pay in order to have the program be offered. For the average lower



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mainland customer, this will result in an incremental bill impact of **38** cents annually as discussed in Section 10.5 of the Application.

Terasen Gas believes that allocating costs on the principled basis outlined in the Application is appropriate and should be adopted.

64.2 In the case of Salmon Arm, the Upgrader is estimated to cost \$1.6 million. Please provide a detailed estimate of the component costs including labour and the construction schedule.

Response:

TGI received a fixed price quotation for the upgrader (upgrade plant) from Xebec Inc. The upgrade plant will be delivered as a self-contained processing plant designed and manufactured by Xebec. Because the plant is being supplied as a single piece of equipment, the breakdown of costs is approximate. In addition, Xebec will be responsible for commissioning of the plant onsite.

A high-level breakdown of the plant costs provided by Xebec is provided below.

Item		
Plant Engineering	10%	\$ 135,000
Plant Equipment	55%	\$ 742,500
Plant Piping & Instrumentation	14%	\$ 189,000
Plant Integration & Controls	14%	\$ 189,000
Project Management	5%	\$ 67,500
Misc.	2%	\$ 27,000
Subtotal - Upgrade Plant		\$ 1,350,000
Commissinong		\$ 85,000
Contingency		\$ 186,810
Total		\$ 1,621,810
Less ICE contribution		\$ 315,600
Less BCBN Grant		\$ 200,000
Less ICE contribution transferred (Opening Balance)		\$ 50,400
Total		\$ 1,055,810



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As discussed previously in BCUC IR 1.28.1 and restated here, TGI has also secured government grants totalling \$515,600 which will go directly against the costs of the upgrade plant. In addition the Company has also already received \$50,400 contribution that was transferred from the Lions Gate project that did not go ahead. Once the government grant amounts are subtracted in, the total estimated cost of the upgrade plant is \$1,055,810. In the "J-2" financial schedules the plant asset costs and the contribution are shown separately.

Contingency costs are included to account for foreseen costs that may be associated with coordinating the upgrader design & installation with both TGI and CSRD. It includes, but is not necessarily limited to the following:

- 1. Interface engineering mechanical, electrical, drain lines
- Weather related challenges snow or cold weather costs such as snow removal from equipment,
- 3. Customization of plant controls to TGI programming or adjustment to control algorithms to better suit TGI requirements

The detailed schedule is currently being developed and as such, the timeline may change. However, at the time of filing, a high level preliminary schedule was developed specifically for the delivery of the upgrader plant. The milestones for the schedule at the time of filing are provided below.

Item	% Cost	Milestone
		Date
Placement of PO with Xebec	5%	31-Mar-10
Long Lead Equipment Order	25%	30-Jun-10
Process Design - Complete	25%	31-Jul-10
Final Design - Fabrication Drawings Complete	25%	30-Sep-10
Plant Fabrication	10%	15-Nov-10
Final Commissioning	10%	30-Dec-10

64.3 Prior to construction of the Salmon Arm Upgrader, did TGI attempt to solicit private interest groups that might be willing to construct the Upgrader? If so, how was this done? Why is Terasen Energy Services not building the Upgrader?

Response:

It is understood that "soliciting private interest groups willing to construct the upgrader" means actively seeking out third parties who would be interested in owning and operating the upgrading equipment for the Salmon Arm Project. For the reasons set out below, TGI did not



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actively seek out a third party partner to own and operate the upgrading facilities for the Salmon Arm Project.

As set out in the Application, TGI's ownership model contemplates TGI owing and operating the upgrading facilities for these projects, so that it can ensure that the process is undertaken in a manner that produces a consistent and reliable supply of biomethane. The exception will be where a partner can be appropriately relied upon to provide a consistent supply of upgrade biomethane.

Whether the exception to TGI's preferred ownership model for upgrading equipment will be considered for a given project will be driven by the supplier's preferences. Suppliers who wish to either own the upgrading equipment themselves, or partner with an entity other than TGI, can propose this model to TGI. If the proposed supplier or its partner meets TGI's financial and technical standards, then TGI will permit the supplier/partner to own and operate the upgrading facilities. In the case of suppliers who do not express a desire to own and operate upgrading equipment (or partner with a third party), TGI's preferred ownership model will be used. TGI does not plan to actively solicit third parties to own and operate upgrading equipment for any of these projects. Using this approach provides potential suppliers with flexibility in moving their projects forward and allows them to determine the business model that is best suited to their needs.

In the case of the Salmon Arm Project, a significant consideration was the wishes of CSRD. It was clear early in discussions that CSRD was not interested in owning and operating upgrading equipment. CSRD has few resources to apply to a project at the landfill. The current CSRD resources are dedicated to typical daily landfill operations and it was expressed that it was important to keep these resources focussed on the activities best suited for the staff. Therefore, CSRD directly approached TGI to own the upgrading equipment.

It was also clear that CSRD was interested in partnering with TGI as this was in alignment with CSRD's mandate to have transparent operations with the public.

Furthermore, it was believed by CSRD and TGI that a third party would have complicated operational arrangements specifically in regard to optimizing biogas production, which would be to the detriment of both parties. In an effort to increase the potential revenue for the CSRD, it was requested that the project move as quickly as possible to ensure as early a start date as possible. TGI believes that these concerns will arise with most suppliers and with respect to most projects.

For these reasons, TGI did not actively seek out a third party partner to own and operate the upgrarding facilities for the Salmon Arm Project. If TES were to build the upgrading facility for the Salmon Arm Project, it would be subject to regulation in the same way as TGI. TGI



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considered that it was most effective to operate biogas projects using one utility rather than two utilities. See also TGI's response to BCUC IR 1.1.1.



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65.0 Reference: Knowledge Tech Consulting Inc.

Exhibit B-1, Appendix K

65.1 On January 20, 2010 TGI engaged Knowledge Tech to perform services and below is an excerpt from the Application:

Statement of Work

Janice will work on the BioGas project, as part of the BCUC Application Team, in the role of System Impact Analyst.

She will be responsible for documenting the changes to business processes, system impacts and working with IT resources to determine cost estimates for any system impacts.

The timeframe for this work is from January 4, 2010 to March 31, 2010. The objective within this timeframe will be for her to finalize the cost estimates by the end of February. As such, it is likely that she will contribute more time in the January/February timeframe, with less time required in March for additional advice, clarification of costs and any revisions that may be necessary.

Was it decided by January 20, 2010 that TGI would make an application for biogas?

Response:

This response addresses BCUC IR's 1.65.1.2, 1.65.1.3, 1.65.1.4, 1.65.2, 1.65.3 & 1.65.7.

As discussed in the response to BCUC IR 1.43.2.4, in TGI's 2010-2011Revenue Requirement Application that was submitted June 15, 2009, TGI proposed the development of biogas supply as a pilot and indicated that it would be pursuing the development of a Green Gas marketing plan in parallel with the supply development proposal that was included in that Application. While we intended to proceed as quickly as possible with the development of a targeted Biomethane sales offering, the Company indicated that an offering of this nature could not be fully developed and brought forward before the end of 2009. TGI held an introductory meeting with Knowledge Tech Consulting in November 2009, i.e. during the course of the RRA proceeding in which TGI had proposed a Biomethane pilot project, with onsite personnel from Knowledge Tech to outline a possible business opportunity in regards to how a Green Gas rate could be offered for different types of program options. At this meeting the various platforms TGI could utilize to support a Green Gas offering from a system, process and IT perspective were discussed.

It was decided in late November 2009 with the approval of the Negotiated Settlement Agreement in the TGI 2010 -2011 Revenue Requirement and Delivery Rates Application by Commission Order No. G-141-09, that TGI would make a vertically integrated application for biogas to include the supply as well as the end to end business model and type of customer offering. Therefore, in December 2009, TGI requested a Knowledge Tech Analyst be assigned



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to evaluate current and past billing system platforms and solutions such as Stable Rate, Customer Choice and the Company's current Standard Rate to determine changes to business processes, system impacts and other IT items. The objective was to help determine the best billing solution for a Green Gas offering to customers, no matter what the offering was going to be. This work was necessary to allow TGI to include cost information in the planned Biogas application. Knowledge Tech did not provide specific analysis of alternative green energy programs such as carbon offsets. They provided insight into how past and current product offerings were done from an IT and process point of view.

A Project Scope meeting was held January 4, 2010 with the assigned Knowledge Tech Analyst to review project requirements. It was not yet determined at this time what type of product offering TGI would have, as it was slightly prior to the availability of the detailed residential and commercial TNS survey results (available January 5, 2010 & February 5, 2010) but TGI knew there was work to be done to pull together the end to end business model to support a Green Gas offering to customers no matter what product offering. Much of the analysis could begin in terms of system infrastructure review, billing platforms and tracking prior to having the exact type of product offering finalized. Then, based on the TNS research findings TGI put forth a product offering for which Knowledge Tech determined the solution from an IT and billing perspective.

TGI has used and continues to use Knowledge Tech Consulting for project work from time to time across various departments within the Company. They are familiar with the Company and our internal processes. For example, Knowledge Tech has done and continues to do work around the Company's Forecasting Information System. Therefore, the engagement process did not require a formal request for proposal. Rather, as a result of the project scope meeting, Knowledge Tech provided a Scope of Work (Appendix K). TGI accepted the Scope of Work and issued a Purchase Order to Knowledge Tech January 29, 2010 to cover the consulting services from January 4, 2010 to March 31, 2010.

From January 4, 2010 to March 25, 2010, Knowledge Tech researched the best solution to implement the product offering from an IT, process and billing point of view which then focused in on a renewable energy program after the residential research findings were made available January 5, 2010 and confirmed in the commercial findings February 5, 2010 favouring an energy-based program that offered a % blend of Biomethane. Knowledge Tech did not just do a specific analysis of a 10% user pay premium as the proposed business model supported multiple blends and the % premium is simply a result of the difference between the current commodity price of natural gas and Biomethane. As a 10% blend was the most popular option selected by respondents in the surveys, it was referenced as an example in much of Knowledge Tech's work. Further work however was required from TGI to determine the impact of offering the product offering to different rate classes and different rate blends (i.e. a 10% and 20% green offering) at the same time. This resulted in an estimated additional cost of \$50,000 per each additional blend from Customer Works Ltd Partnership. If the product offering were to be rolled



Terasen Gas Inc. ("TGI", "Terasen Gas" or the "Company") Application for Approval of Biomethane Service Offering and Supporting Business Model, for the Approval of the Salmon Arm Biomethane Project and for the Approval of the Catalyst Biomethane Project (the "Application")	Submission Date: August 6, 2010
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out to commercial and residential customers at the same time, TGI estimated that additional customer education funds of approximately \$80,000 would be required in addition to the \$50,000 in incremental CWLP charges for each additional blend.

As discussed in Section 10.3 of the Application, as a result of this work, Knowledge Tech provided a final Biogas Cost summary report March 5, 2010 as discussed in the response to BCUC IR 1.65.6 and finalized draft business impact documents and process maps for the Company to work off of for the implementation of a Green Gas program for the billing, tracking, reporting and management of a program by March 25, 2010.

65.1.2 Did Knowledge Tech evaluate the changes to business processes, system impacts and other IT items assuming that a 10% user pay premium program would be implemented?

Response:

Please refer to the response to BCUC IR 1.65.1.1.

65.1.3 Did Knowledge Tech provide analysis of alternative green energy programs such as carbon offsets? If yes, what percentage of time (relative to the entire project) was spent investigating such options?

Response:

Please refer to the response to BCUC IR 1.65.1.1.

65.1.4 Did Knowledge Tech conduct analysis of offering multiple user pay rates (such as 5%, 20% or 30%) during their engagement? If yes, what percentage of time (relative to the entire project) was spent investigating such options?

Response:

Please refer to the response to BCUC IR 1.65.1.1.



Terasen Gas Inc. ("TGI", "Terasen Gas" or the "Company") Application for Approval of Biomethane Service Offering and Supporting Business Model, for the Approval of the Salmon Arm Biomethane Project and for the Approval of the Catalyst Biomethane Project (the "Application")	Submission Date: August 6, 2010
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65.2 Please provide the request for proposal with regards to the engagement performed by Knowledge Tech.

Response:

Please refer to the response to BCUC IR 1.65.1.1.

65.3 Please provide details of instructions or communications that assisted Knowledge Tech in developing the scope of their engagement.

Response:

Please refer to the response to BCUC IR 1.65.1.1.

65.4 What was the total cost of the Knowledge Tech engagement?

Response:

The total cost of the Knowledge Tech engagement was \$25,093.75.

65.5 Has the Knowledge Tech engagement been completed? If so, on what date was it completed?

Response:

Yes, the Knowledge Tech engagement was completed March 26, 2010.



Terasen Gas Inc. ("TGI", "Terasen Gas" or the "Company") Application for Approval of Biomethane Service Offering and Supporting Business Model, for the Approval of the Salmon Arm Biomethane Project and for the Approval of the Catalyst Biomethane Project (the "Application")	Submission Date: August 6, 2010
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65.6 Please provide the final Knowledge Tech report or document provided to TGI.

Response:

Please refer to Attachment 65.6 for the final Knowledge Tech report that summarizes the estimated costs for providing the business systems and related processes necessary to support the offering of a Biogas product to Terasen Gas customers, within the proposed Green Gas Business Model and final costs have been fully accounted for in the financial schedules attached in Appendix J-3I. As discussed in the response to BCUC IR 1.65.1.1, Knowledge Tech did not just do a specific analysis of a 10% user pay premium as the proposed business model supported multiple blends and the percentage premium is just a result of the difference between the current commodity price of natural gas and Biomethane. As a 10% blend was the most popular option selected by respondents in the surveys, it was referenced as an example in Knowledge Tech's work.

Was the knowledge Tech work engagement commenced prior to the completion of the TNS customer survey?

Response:

Please see the response to BCUC IR 1.65.1.1.



Terasen Gas Inc. ("TGI", "Terasen Gas" or the "Company") Application for Approval of Biomethane Service Offering and Supporting Business Model, for the Approval of the Salmon Arm Biomethane Project and for the Approval of the Catalyst Biomethane Project (the "Application")	Submission Date: August 6, 2010
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66.0 Reference: Consultation

Exhibit B-1, Appendix M

66.1 Will biomethane be made available to gas marketers so it can be resold to their customers?

Response:

The Company is not currently proposing to sell Biomethane to marketers for delivery on the Terasen Gas distribution system, however through the proposed Rate Schedule 10B and the proposed amendments to Rate Schedule 30, the Company will have the capability to sell Biomethane to marketers both on and off of the Terasen Gas distribution system should there be excess supply.

The following is an excerpt on this topic from Section 12.3 on page 128 of the Application:

"Terasen Gas recognizes the possibility of making the supply of Biomethane available to marketers to integrate into their offerings once the product and market have matured sufficiently to make such an offering possible. Further, nothing proposed in this Application precludes Marketers from developing sources of raw Biogas supply. The Company has made every effort to ensure it has the capability to sell Biomethane to Gas Marketers as part of our risk mitigation planning."

Terasen Gas believes that, for the reasons listed in the response to BCUC IR 1.39.1, the product launch order proposed in the Application is the most appropriate of the options realistically available. The Company wanted to ensure as many customers as possible had the opportunity to participate in the Green Gas program as soon as possible and validate consumer demand. Starting with a residential offering allows the finite amount of Biomethane available to reach as many Terasen Gas customers as possible and validate customer demand. Terasen Gas believes that launching the Green Gas program in the residential market will help to predict total consumption for residential customers who enrol in the program more predictably keeping supply and demand in balance. Biomethane will be made available to Gas Marketers should there be excess supply and possibly as a primary sales channel in the future once supply builds.



Terasen Gas Inc. ("TGI", "Terasen Gas" or the "Company") Application for Approval of Biomethane Service Offering and Supporting Business Model, for the Approval of the Salmon Arm Biomethane Project and for the Approval of the Catalyst Biomethane Project (the "Application")	Submission Date: August 6, 2010
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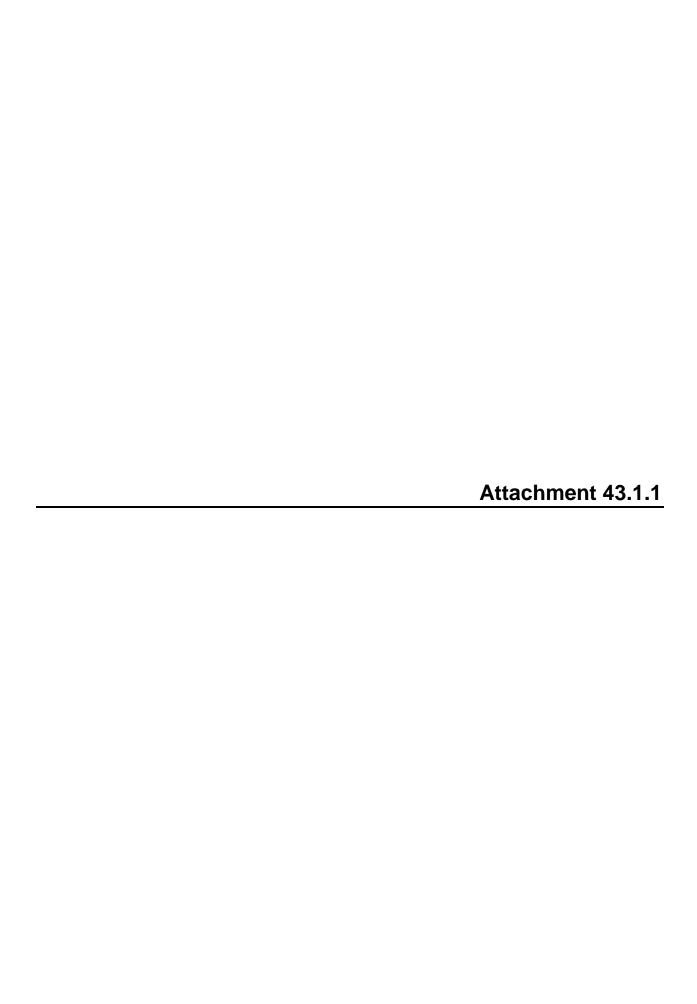
66.2 Is TGI not in direct competition with independent gas marketers who offer a similar "green" rate but one based on offsets? Under Rules for gas marketer, TGI cannot provide a fixed rate tariff for one to five year contracts similar to gas marketers therefore why should it be allowed to provide a green tariff in competition to gas marketers?

Response:

No, TGI regards this offering as a reflection of the choice customers have to acquire natural gas in the form of a fixed rate offering or a variable rate which is consistent with the principles of governing the Customer Choice program. The cornerstone of Customer Choice is that Gas Marketers provide a fixed price contract, and TGI provides a variable product. The Biomethane product is not offered on a fixed price basis, but rather a variable rate that may be set partially (for the Biomethane component) on an annual basis, and quarterly for the Natural Gas component but that could be altered at any time should circumstances be warranted.

TGI was very conscious of "Rules for Gas Marketers" in the design of the proposed program and has designed the program to keep Customer Choice rules intact, not do anything to prevent access of marketer programs, and leave the same market base eligible to participate in the Customer Choice program. The fact that both TGI and gas marketers may have a "green" product offering does not result in inconsistencies with the principles governing the Customer Choice program. Customers are able to move to or from the Biomethane Tariff at will and are only restricted from participating should they have a contract with a Gas Marketer. This means that such customers remain eligible to participate in the Customer Choice program as they desire.

Finally, should Gas Marketers wish to offer their own Biomethane product offering they may do so, subject to the conditions of the Customer Choice program. Please see the response to BCUC IR 1.66.1 and 1.16.2 where TGI discusses the steps it has taken to ensure that future sales of Biomethane to marketers are not foreclosed by the structure of the model. As well as BCUC IR 1.14.1.4 and 1.60.9 where TGI discusses how TGI intends to ensure that its proposed Biogas Program is advertised in a way that is fair to other potential "green" gas providers. Thus, TGI believes that its proposal to provide Biomethane service is consistent with both the Customer Choice rules, and the principles underlying them.



REQUEST FOR PROPOSAL

Green Gas Study

REFERENCE: P091794GRW



Table of Contents

Part 1	Quotation Instructions to Bidders
Part 2	Scope of Work
Part 3	Bidder's Quotation
Part 4	Terms and Conditions

Part 1

Quotation Instructions to Bidders

1. Invitation to Bid

Terasen Gas Inc. ("Terasen") invites bidders ("Bidders") to submit Proposals ("Proposals") for the Work described in Part 2 hereof in accordance with the following instructions.

2. Identification of Bidder

In your Proposal please include the Bidder's:

- Name and address
- Telephone number
- Facsimile number
- Signature of authorised signatory
- Name (printed) of authorised signatory
- Title of authorised signatory

3. Information/Clarification

Please address all requests for information or clarification in writing to Graham West at (604) 592-7820 (Fax) or email at graham.west@terasengas.com at least 3 business days prior to the Closing Time. All replies shall be confirmed in writing by Terasen, if not, then they are invalid. Any instructions or information given to Bidders other than by the Purchasing Department are invalid.

4. Knowledge of Work

Before submitting a Proposal, the Bidder shall obtain all necessary information, local or otherwise as to risks, contingencies and other circumstances which may influence or affect its Proposal.

5. Request for Proposal Schedule

RFP Closing date Friday September 18th 2009 12:01 noon Award to be made by September 25, 2009

6. Basic Proposals

- 6.1 Each Bidder is required to submit a basic Proposal conforming to the requirement of this Request for Proposal.
- 6.2 The Bidder may, in addition to the basic Proposal requested herein, submit alternatives to this Request for Proposal which meet or exceed the

requirements set out. Any alternatives must be at least as specific in detail as the basic Proposal.

7. Closing Time

7.1 Please submit Proposals <u>in duplicate</u> on the "Bidder's Proposal" form to:

Graham West
Purchasing Department
c/o Mailroom
Terasen Gas Inc.
16705 Fraser Highway
Surrey, B.C. V4N 0E8

Reference: P091794GRW

indicating Terasen's reference number and delivered not later than 12:01 p.m. Pacific time on Friday September 18, 2009(the "Closing Time").

- 7.2 Faxed Proposals will be accepted prior to closing time but must be followed by a written Proposal within five (5) working days. It is the sole responsibility of the Bidder to ensure that faxes have been received by the Terasen Purchasing Department.
- 7.3 Proposals which have not been faxed to Terasen prior to Closing Time and are delivered after the Closing Time will not be accepted.

8. Prices

- 8.1 All prices must be firm for duration of the resulting order of this Request for Proposal. Unless otherwise indicated on the face of this form or in a covering letter, any Federal sales taxes applying against the goods covered by this Proposal shall be separate line items and shall **not** be included in the base price. All British Columbia provincial sales tax applied against the goods shall be included in the basic price.
- 8.2 The prices quoted shall include all the consideration to be received by the Bidder from Terasen for the Work and shall cover all overhead profit, labour, vehicles, and all other costs and expenses incurred by the Bidder in the performance of the Work.

9. Addenda

Addenda may be issued prior to the Closing Time and the Bidder must include the numbers of all Addenda received in the space provided in the Proposal. It is the responsibility of the Bidder to ensure it has obtained and reviewed all Addenda prior to submission of its Proposal. All Addenda shall be incorporated into the Proposal and shall become part of the Contract Documents.

10. Contract Documents

The Contract Documents consist of the Purchase Order, Scope of Work, Terms and Conditions of Order and specifications issued or accepted by Terasen before or after the award of its Purchase Order.

11. Acceptance and Rejection of Proposals

- 11.1 Proposals will be opened privately at the offices of Terasen. Following submission of the Proposal and within forty-eight (48) hours of being requested, Bidders shall provide such additional information as called for herein and as may be required by Terasen.
- 11.2 Terasen reserves the right to reject any or all Proposals, including without limitation the lowest Proposal even if the lowest Proposal conforms in all respects with the Request For Proposal, and to award the Contract to whomever Terasen in its sole and absolute discretion deems appropriate, notwithstanding any custom of the trade to the contrary nor anything contained in the Request For Proposal or herein. Terasen shall not, under any circumstances owe a duty of care or duty of fairness to any Bidder or, be responsible for any costs incurred by any Bidder in the preparation of its Proposal or for any damages whatsoever arising out of or related to the rejection of any Proposal.
- 11.3 Should a Bidder fail to complete its Proposal in strict compliance with the requirements of the Instructions to Bidders, Terasen, in its sole and absolute discretion, may nonetheless waive such non-compliance, seek clarification from and enter into negotiations with that Bidder and award the Contract to that Bidder, even if such failure in compliance would at law render the Proposal null and void. Failure to comply with any provision of the Instructions to Bidders described in mandatory terms such as "must" or "shall" shall not result in a Proposal being disqualified or rendered void unless Terasen, in its sole and absolute discretion, elects not to consider the Proposal any further, otherwise Terasen in its sole and absolute discretion may waive such non-compliance and still consider the Proposal.
- 11.4 Without limiting the generality of the foregoing, Terasen reserves the right, in its sole and absolute discretion, to accept or reject any Proposal which in the view of Terasen, is incomplete, obscure, or irregular, which has erasures or corrections in the documents, which contains exceptions

and variations, which omits one or more prices or which contains prices Terasen considers unbalanced.

- 11.5 Criteria which may be used by Terasen in evaluating Proposals and awarding the Contract and the weight, if any, to be given to the criteria are in Terasen's sole and absolute discretion and, without limiting the generality of the foregoing, may include one or more of:
 - a) total cost to Terasen;
 - b) Bidder's reputation;
 - c) qualifications and experience of the Bidder and its personnel;
 - d) the ability of the Bidder to complete the Work on schedule;
 - e) acceptance of the legal terms and conditions as outlined in Part 4 hereof; and
 - f) quality and completeness of the Bidder's Proposal.
- 11.6 Should Terasen not receive any Proposals satisfactory to it, in its sole and absolute discretion, Terasen reserves the right to cancel the Request for Proposal, re-tender the Request for Proposal, or negotiate a contract for the whole or any part of the Work and with any one or more persons whatsoever, including but not limited to one or more of the Bidders.
- 11.7 The Proposal shall remain valid, irrevocable and open for acceptance by Terasen without qualification for a period of sixty (60) calendar days from the Closing Time for submission of Proposals, or such later date as may be agreed upon. Terasen reserves the right to enter into negotiations with any one or more Bidders on any or all aspects of their Proposal. The effect on schedules of any significant delay in award will be addressed in an Addendum prior to award of the Work.
- 11.8 If Terasen, in its sole and absolute discretion, considers it has received an acceptable Proposal from a Bidder, then after a Proposal review or negotiation meeting with that Bidder, if required, Terasen will prepare the Purchase Order for execution by the successful Bidder and Terasen. If changes are required to the Purchase Order for other reasons including any negotiations that may have taken place between Terasen and the successful Bidder, changes will be made to the Purchase Order prior to execution of the Agreement. A notice of award covering the award, decisions on alternatives, will be given as soon as possible following the closing of the Proposals, and, unless otherwise agreed to by the Bidder, within the period during which Proposals shall remain valid, irrevocable and open for acceptance by Terasen.
- 11.9 Notwithstanding any other provision of the Request For Proposal, it is a fundamental condition of this Request for Proposal and the receipt and consideration of Proposals by Terasen that Terasen and its employees,

contractors, consultants and agents will not and shall not under any circumstances whatsoever, including without limitation whether pursuant to contract, tort, statutory duty, law, equity or otherwise, and including but not limited to any actual or implied duty of fairness, be responsible or liable for any costs, expenses, claims, losses, damages or liabilities (collectively and individually "Claims") incurred or suffered by Bidders as a result of, arising out of, or related to any of the Request For Proposal, any Addenda, the preparation, negotiation, acceptance or rejection of any conforming or non-conforming Proposal, the rejection of any Bidder, the cancellation, suspension or termination of the tendering process, or the postponement, suspension or cancellation of the Work, and by submitting a Proposal each Bidder shall be conclusively deemed to waive and release Terasen and its employees, contractors, consultants and agents from and against any and all such Claims. Bidders shall indemnify and hold harmless Terasen and its employees, contractors, consultants and agents against any and all Claims brought by third parties against Terasen or any of its employees, contractors, consultants and agents which arise out of or are related to any one or more of the preparation, submission and negotiation of any Proposal by the Bidder. Without limiting the generality of the foregoing, Terasen shall not be under any obligation whatsoever to award the Work to the Bidder or anyone else and may cancel the Request for Proposal and reject any or all Proposals received at any time for whatsoever reasons Terasen in its sole, absolute and unfettered discretion considers to be its best interest.

12. Terms and Conditions

Terms and Conditions issued as part of this Request for Proposal are attached to the Purchase Order.

13. Bidders Qualifications

The Bidder must provide a Statement of Bidder's Qualifications (Appendix "A") with its Proposal.

Part 2

Scope of Work





September 10, 2009

Scope of Work for Proposal

Introduction

Terasen Gas is requesting proposals from qualified consultants to perform a market analysis of its "green" gas / biogas market offering.

The study will conduct a market analysis of different "green" gas product offerings. It will assess the potential market size and target market, develop a customer profile, determine market drivers and establish appropriate price points. Recommendations from the study will form the basis for a product launch.

Vendors are encouraged to present their views of the project and recommend appropriate avenues of research.

Terasen Gas Inc.

Terasen Gas delivers natural gas and piped propane to homes and businesses throughout BC. We're focused on connecting our customers safely, efficiently and reliably to the energy and services they need. With approximately 931,000 customers in 125 communities, Terasen provides service to 95 per cent of BC's natural gas customers and is one of the largest natural gas utilities in Canada.

Terasen operates in an energy market place that is evolving and becoming increasingly competitive. In order to compete effectively Terasen is repositioning itself as a diverse energy solutions provider in BC.

Terasen's Green Gas Concept

The current political and public climate has brought environmental issues to the forefront in the way we do business. Consumers are more educated and concerned about issues such as climate change, sustainability, and minimizing the environmental impact of our activities. As such, we must align our service offerings in order to fulfill our customer's desires to be part of the solution.

Terasen Gas is investing in a number of projects to clean up biogas produced from landfill, waste water treatment plants, cow manure and organic waste, to pipeline quality gas. Terasen would like to offer this renewable gas to its customers through a "green" gas program so that customers could sign up to offset their use, or a portion of their use of natural gas, in their home or business.

The near-term goal is to develop a pilot phase targeted market offering of "green" gas to customers at a price premium. In parallel, Terasen is working on biomethane supply, creating offset projects, and the development and structuring of a full scale green product offering.

This project ties in with Terasen's positioning as a diverse energy solutions provider.

Background

- Terasen has launched a couple of initiatives to learn more about the potential for renewable methane production and to stimulate project development interest which includes a "Request for Expressions of Interest" call to the market to identify potential biogas projects
- Terasen is now actively pursuing 9 biogas projects as a result of this RFEOI.
- Other gas utilities have well developed programs to expand the supply base of renewable methane and a substantial number of electric utilities already offer green pricing programs.
- The BC Government is supportive of the idea of developing biogas projects to supply renewable methane and have efforts underway to support agricultural bases projects.

Green Gas Concept Objectives

- Reduce GHG We believe that the integration of natural gas with renewable energy is an effective way to be energy efficient and to reduce emissions.
- Market Development Create opportunities for Terasen to invest in the infrastructure and project capital costs associated with the new renewable supply. Stimulate development of a green supply base.
- Customers Develop a product and service offering to meet the needs of environmentally conscious customers.

Research Project Description

Terasen would like to offer this renewable gas to its customers through a "green" gas program. Customers could sign up to offset their use or a portion of their use of natural gas in their home or business with a percentage of green gas. Terasen would like to better understand the potential market for green gas, its market drivers and factors affecting different price points.

Specifically, the objectives of the study are to:

- 1. Determine market interest
- 2. Determine the potential target market and market size
- 3. Develop a clear and concise customer profile(s)
- 4. Determine market drivers
- 5. Determine price points and factors affecting price points
- 6. Understand customer perceptions on different product offerings offsets / biomethane

Findings from the study will help the project team determine the appropriate product offerings by identifying the right customer segment(s), factors affecting their decision making and the right pricing.

The following is a preliminary guide for the study. The vendor will work with Terasen to develop the appropriate scope and best approach for the study or studies.

Market Interest

- Determine awareness and knowledge of biogas as an energy source.
- Understand perceptions of Terasen as a biogas energy provider.
- Determine best target market(s) and potential market size.

Target Market

 Develop a complete market characterization of the potential Terasen customer or customer segments. This will include an in-depth customer profile based on demographic, geographic, sociographic and psychographic characteristics, as appropriate.

Price Point & Market Drivers

- Determine pricing preferences and options by evaluating a variety of product options.
- Understand what drives customer decisions.
 - Understand customer motivation for participation in a biogas program. Identify
 motives so that the product message is tailored to meet the needs of
 customers: For example, promoting new technology, providing for future
 generations, preserving nature, human health, doing the right thing, financial
 rewards? Non economic factors (being on the cutting edge), compliance etc
- Understand market preferences for different products.

Offsets

- Determine market awareness and knowledge of carbon offsets.
- Determine market willingness to participate in a carbon offset program.
- Understand market factors that would affect this program.

Methodology

The overall study may require more than study approach. The vendor should recommend the best study approach and clearly support why the recommended approach is appropriate. The vendor should also provide a study plan indicating project timelines and deliverables.

The vendor should recommend the appropriate sample size.

Cost and Time

The proposal should identify the principal and secondary consultants and their roles in the study. The budget is approximately \$20,000.

Proposals should be submitted by September 18, 2009. A vendor will be selected by September 25, 2009. The study period is expected to be between October 5 and November 20, 2009.

The study should be completed and a draft report delivered by December 18, 2009. The final report and presentation should be completed no later than January 31, 2010.

Deliverables

Research deliverables should include:

- 1. Research study plan.
- 2. Final report in MS Word and MS PowerPoint that summarizes study results and includes the following information:
 - An executive summary
 - Detailed review and analysis of findings
 - Clear and actionable recommendations
- 3. For qualitative studies the interview guide and recordings; for quantitative studies cross tabulation tables in Excel, SPSS or PDF.
- 4. Presentation of findings to Terasen Gas.

Terasen Gas Contact

Please submit your proposal via email or Fax with quotation by 12:01 (noon) p.m. PST, <u>Friday September 18</u>, 2009 to:

To:

graham.west@terasengas.com
Graham West
Procurement Specialist
Terasen Gas Inc.
16705 Fraser Highway
Surrey, BC V3S 2X7
Fax 778.571.3209

Part 3 Bidder's Quotation

FORM OF PROPOSAL

1.	REFERENCE:	P091794GRW									
	PROJECT:	Green Gas Study									
	CLOSING TIME:	Friday September 18th, 2009 12:01 P.M. (Pacific Time) Proposals are irrevocable and open for acceptance by Terasen for a period of sixty (60) calendar days from the Closing Time.									
NAME OF BIDDER:											
ADDRESS:											
	PHONE:	FAX									
	GST NUMBER:	BCSST NUMBER: *									
2.	PRICING REQUIDED	REMENTS GST and BCSST (if applicable) included in prices									
	Proposal Pricing to inc	lude									
	Cost to perform study	within the timelines.									
	re proposed then provide pricing for each scenario. Outline any contractors										
Α.	BIDDER'S QUALIF										
	The Bidder shall su limited partnership, joint-venture or limit	bmit the following information. If the Bidder is a joint-venture or all information required shall be submitted for each participant in the ted partnership.									
	1. Name	<u> </u>									

In accordance with the British Columbia Social Service Tax ("BCSST") Act, Bidders are required to pay BCSST on materials incorporated into the Work whether the materials are purchased within or outside British Columbia. The Bidder shall remit the BCSST to the British Columbia Minister of Finance. Terasen will not, under any circumstance be responsible for any BCSST not remitted, nor for any interest or penalties imposed on unremitted taxes.

2.	Incorporated, Partnership, or Sole Owner	
3.	Date of Incorporation or Partnership	
4.	Registered Address	
	•	
5.	Subsidiary Of:	
6.	If bid bond requested by Terasen name and address of bonding company if a certified cheque and not a bid bond is submitted with the Proposal.	
	•	
7.	The Bidder's Workers' Compensation Board	("WCB") information is as follows:
7.1	WCB Experience Ranking System (ERA	
	Previous 3 Years	N/A
7.2	WCB Inspection Report Summary	
	Previous 3 Years	N/A
	•	
SUBO	CONTRACTOR'S INFORMATION	
		Adder proposes to sub-contract Names of
key p	eribe the portions of the Work which the repersonnel, duties and a brief statement of public provided.	Sidder proposes to sub-contract. Names of orevious experience for each subcontractor

В.

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C. BIDDER'S REFERENCES

The Bidder shall list three (3) references from Work of similar nature to this Project which it has recently completed or is now conducting.

Reference	Work Description	Phone Number						

Workers' Compensation Act of the Province of British Columbia; the Bidde Workers' Compensation Board Registration number is In the event that Terasen issues any addenda please acknowledge receipt below Addendum # Date Received This section MUST be completed for the Bidder's Proposal to be considered. 5.1 We confirm that we accept in their entirety the terms and conditions of Contract attached hereto as Part 4 and agree to be bound by them. 5.2 The Bidder must check one of the boxes below as appropriate: We accept the Scope of Work described in Part 2. We accept the Scope of Work described in Part 2 with the follow specific exceptions: IF THE BIDDER IS A COMPANY OR CORPORATION, PLEASE FILL OUT TO SECTION:	In the event that Terasen issues any addenda please acknowledge receipt below Addendum # Date Received This section MUST be completed for the Bidder's Proposal to be considered. 5.1 We confirm that we accept in their entirety the terms and conditions of the Contract attached hereto as Part 4 and agree to be bound by them. 5.2 The Bidder must check one of the boxes below as appropriate: We accept the Scope of Work described in Part 2. We accept the Scope of Work described in Part 2 with the following specific exceptions: If THE BIDDER IS A COMPANY OR CORPORATION, PLEASE FILL OUT THE SECTION: In Witness Whereof the Bidder has executed this Proposal theday of												
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Part 3 Bidder's Proposal

Print name	Print name
Title	Title
OR	
IF THE BIDDER IS A PARTNERSHIP THIS SECTION:	OR SOLE PROPRIETORSHIP, PLEASE FILL OUT
In Witness Whereof the Bidder I day of, 2009.	has executed this Proposal on the
Signature	Witness
Print name	Print Name

Part 4

Terms and Conditions

1. Purchase Order

- 1.1. Terasen Gas Inc. ("Terasen") has accepted a quotation ("Quotation") from the Contractor (described as the Vendor in the Purchase Order) to provide services, the details of which are outlined in the Scope of Work attached to the Purchase Order.
- 1.2. The Terms and Conditions, the Quotation and the Scope of Work are all attached to the Purchase Order and collectively form the Contract Documents.

2. Scope of Work

Generally the services to be performed by the Contractor are set out in the Scope of Work attached to the Purchase Order (the "Work"). Specific services may be assigned by Terasen throughout the term.

3. Representatives

- 3.1. Following the award of the Work to the Contractor, each party shall notify the other of its named representative. The Contractor's representative shall be available on the site where the Work is being performed.
- 3.2. Terasen's representative shall be identified on the Purchase Order.
- 3.3. Any written notices required to be given to a party under the Purchase Order shall be delivered to the party's representative.
- 3.4. The parties' respective representatives shall have the authority to transmit information and instructions to one another and to act on behalf of and bind their respective parties.

4. Term of Purchase Order

This Purchase Order shall commence on the date set out on the Purchase Order (the "Commencement Date") and shall be deemed terminated and the Contractor discharged from any further obligation to perform services on the earlier of the date when the Work has been performed, accepted and approved by Terasen (the "Termination Date") and the termination date identified on the Purchase Order (the "Scheduled Completion Date").

5. Progress of Work

5.1. The Contractor shall provide all services, labour, supervision and equipment necessary to perform the Work in accordance with the terms of the Purchase Order and the Scope of Work. The Contractor shall perform the Work in accordance with any drawings and instructions issued by Terasen.

5.2. At the request of the Terasen representative, the Contractor shall provide details about its plans and methods of performing the Work. If the Terasen representative determines that the Contractor cannot supply personnel and equipment to meet the requirements of the Work as assigned on the schedule identified, the Contractor shall, if requested by Terasen, expedite the progress of the Work at no additional cost to Terasen.

6. Delay

- 6.1. If the Work as assigned is delayed beyond the specific Work assignments scheduled completion date(s), (the "Completion Date(s)") as a result of an event or circumstance which the Contractor could not have anticipated or avoided and which makes it impossible to perform the Work on time, the parties' representatives shall agree on, and failing such agreement, the Terasen representative shall establish, an equitable adjustment of the time within which the Work is to be performed.
- 6.2. If the Work as assigned is delayed beyond the scheduled Completion Date(s) as a result of any act or failure to act by the Contractor, its agents, employees or subcontractors, the Terasen representative shall either:
 - (a) establish an equitable adjustment of the amount to be paid for the Work or the time within which the Work is to be performed; or
 - (b) terminate the Purchase Order without incurring damages or penalties in accordance with Sections 12.1 and 12.2.
- 6.3. Any party anticipating a delay shall notify the other party as soon as possible with full particulars. Both parties shall make every reasonable effort to mitigate or overcome the effects of any anticipated delay.

7. Extra Work

- 7.1. The Terasen representative may require the Contractor to perform work that is in addition to the Scope of Work and results in an increase to the cost of the Work ("Extra Work").
- 7.2. Prior to the commencement of any Extra Work, the details of the Extra Work shall be discussed and mutually agreed upon in writing by the parties. Failing agreement, the Terasen representative may direct the Contractor, in writing, to proceed with such Extra Work which is within the general scope of the type of Work required by the Contractor or required to properly complete the Work, in which case the Contractor shall perform such Extra Work. Any dispute as to the Extra Work shall be resolved in accordance with Section 18 below.

- 7.3. Extra Work shall be paid at the hourly rate outlined in the Purchase Order, or if none has been set out, then at a rate to be mutually agreed upon prior to commencing the Extra Work. Failing agreement as to cost the parties will resolve the matter in accordance with Section 18.
- 7.4. Terasen shall not accept any claim made by the Contractor for Extra Work unless the Contractor has complied with Sections 7.2 and 7.3 above.

8. Work Changes

- 8.1. The Terasen representative may require the Contractor to perform any additions to or revisions of the Work which are within the scope of the Purchase Order and/or to make any deletions to the Work ("Work Changes").
- 8.2. If the Terasen representative requires such Work changes, the parties' representatives shall agree on, and, failing such agreement, either representative may escalate the disagreement within its organization and failing resolution may elect to have the matter resolved in accordance with Section 18. The parties will continue to fulfill their respective obligations pursuant to this Purchase Order during any resolution of any dispute.

9. Terms of Payment

- 9.1. Subject to any equitable adjustment or Section 18, Terasen shall pay the Contractor an amount approved by the Terasen representative as set out in the Purchase Order for performance of the Work in accordance with these Terms and Conditions.
- 9.2. The Contractor shall submit an itemized invoice, on the last day of each Month during the term of this Purchase Order unless otherwise specified in the Purchase Order, to the Terasen representative, which at a minimum shall include:
 - (a) unit prices or lump sum prices, where appropriate, as set out in the Purchase Order, supported by the Contractor's time sheets;
 - (b) any Extra Work at the hourly rates as set out in the Contractor's Quotation or as mutually agreed upon between the parties; and
 - (c) applicable British Columbia Social Services Tax ("BCSST") and Federal Goods and Services Tax ("GST").
- 9.3. The Terasen representative shall verify the invoice and approve it for payment. Payment of the approved invoices shall be made by Terasen to the Contractor within 30 days of receipt by Terasen unless otherwise specified in the Purchase Order.

- 9.4. The Contractor shall remit the BCSST to the British Columbia Minister of Finance in accordance with the British Columbia Social Service Tax Act.
- 9.5. Terasen will not, under any circumstance, be responsible for any tax monies not remitted in accordance with Clause 9.4 above, nor for any interest or penalties imposed on unremitted taxes.
- 9.6. Terasen shall pay to the Contractor the applicable GST provided that the invoices that the Contractor provides to Terasen include the following:
 - (a) sufficient information to identify the Contractor's name or trade name;
 - (b) the Contractor's GST registration number;
 - (c) sufficient information to identify the reporting period when the GST, in respect of the goods and services being provided by the Contractor, was paid or become payable and the amount of GST paid or payable;
 - (d) sufficient information to identify the name of Terasen; and
 - (e) sufficient information to specifically identify the nature of the goods and services being provided and invoiced.
- 9.7. Terasen shall not be responsible for any GST other than as specified above. The Contractor agrees to hold Terasen harmless from and against any order, penalty, interest or tax that may be exercised or levied against Terasen as a result of the failure or delay of the Contractor to file any return or information required by any law, ordinance or regulation. Without limiting the generality of the foregoing, Terasen shall have no liability or responsibility for the payment of any penalty or interest assessed or levied against the Contractor as a result of the failure of the Contractor to charge, collect or remit the GST as required under the Excise Tax Act of Canada.

10. Equipment & Materials of Terasen

All maps, drawing, photographs, equipment and materials provided by Terasen to the Contractor shall remain the property of Terasen and the Contractor shall be responsible for the safe care, handling, custody and proper maintenance of them. The Contractor shall return any Terasen property to Terasen within ten (10) days of the termination of the Purchase Order.

11. Maintenance of Records

The Contractor shall keep full and detailed records respecting the Work performed for at least one year after completion of the Work and the Contractor shall permit Terasen to inspect and audit these records at all reasonable times.

12. Termination

- 12.1. If the Contractor breaches a material term of the Terms and Conditions of this Purchase Order or is in substantial breach of the Terms and Conditions of this Purchase Order, becomes insolvent, commits an act of bankruptcy, has a receiver or liquidator appointed for its assets or otherwise files for protection from claims of its creditors, such that any of the above causes the Contractor to be unable to fulfil its obligations under this Purchase Order, assigns or abandons the Work, or fails to meet the Completion Dates, Terasen may, without prejudice to any other rights or remedies it has, terminate this Purchase Order by giving the Contractor seven (7) calendar days written notice.
- 12.2. Notwithstanding the forgoing, in its sole discretion Terasen reserves the right to cancel this Purchase Order without damages or penalty whatsoever by giving the Contractor fourteen (14) calendar days written notice.
- 12.3. Should Terasen terminate this Purchase Order in accordance with Section 12.1 or 12.2, it shall only be required to pay the Contractor for Work completed to Terasen's satisfaction up to the date of Termination and those costs incurred solely for the purpose of completing that Work.
- 12.4. If Terasen terminates the Purchase Order, it may take possession of the Contractor's work product and materials and complete the Work. The Work, including, without limitation, finished drawings, materials, correspondence, calculations and other work in progress completed up the date of termination shall become the property of Terasen.
- 12.5. If Terasen fails to make payment to the Contractor when due under the Purchase Order, other than in cases where Terasen disputes the amount of entitlements of the Contractor to some or all of a payment, breaches a fundamental term of the Purchase Order or is in substantial breach of the terms hereof, the Contractor may, without prejudice to any other rights or remedies it has, terminate this Purchase Order by giving Terasen seven (7) calendar days written notice.

13. Insurance

- 13.1. Within five (5) days of award of the Work, the Contractor shall obtain at its own expense, the following insurance and with the exception of (a) below, name Terasen as an additional insured and provide Terasen with proof of the insurance coverage including:
 - (a) Automobile liability on all vehicles used by the Contractor in connection with this Purchase Order in the minimum amount of \$2 million per occurrence in respect of bodily injury, death and property damage.
 - (b) General Commercial liability for bodily injury, death and property damage with minimum amount of \$2 million per occurrence with respect to the Work. The policy shall also contain a cross liability provision.
- 13.2. During the term of this Purchase Order, Terasen's representative may, by written notice, require the Contractor to obtain additional insurance or to alter or amend the insurance policies required under this Section at Terasen's expense. The Contractor shall be responsible for the full amount of all deductible of all insurance policies required under this Section. All insurance policies required herein shall provide that the insurance shall not be cancelled or changed in any way without the insurer giving at least ten (10) calendar days written notice to Terasen and shall be purchased from insurers registered in and licensed to underwrite insurance in British Columbia. Where the Contractor fails to comply with the requirements of this Section, Terasen may take all necessary steps to affect and maintain the required insurance coverage at the Contractor's expense.
- 13.3. If an insurer fails or refuses to pay any claims under an insurance policy covering activities relating to or arising out of the Work, the Contractor will not be released from any responsibility and liability arising under these Terms and Conditions.

14. Worker's Compensation Insurance

- 14.1. Within five (5) days of award, the Contractor shall provide Terasen with written proof of Workers' Compensation insurance coverage in accordance with the statutory requirements in British Columbia for all its employees engaged in performing the Work herein.
- 14.2. The Contractor shall comply with the British Columbia Workers' Compensation Act and regulations thereto and shall pay all assessments, compensation and all other amounts required to be paid thereunder.

- 14.3. If the Contractor fails to pay any such assessment, compensation or other amounts when due, Terasen may make such payment on behalf of the Contractor but will not be obliged to do so.
- 14.4. The Contractor shall reimburse Terasen the amount of such payment upon demand, or Terasen may deduct the amount from any payment then or thereafter due to the Contractor under the Purchase Order.

15. Indemnification

- 15.1. The Contractor shall indemnify and hold Terasen, its directors, officers, agents and employees harmless from and against any actions, claims, damages, costs and expenses including without limitation all applicable solicitors' fees and disbursements, investigation expenses, adjusters' fees and disbursements whatsoever which may be brought against or suffered by Terasen, or its directors, officers, agents and employees or which they may incur, sustain or pay arising out of or in connection with:
 - (a) any injury to or the death of any and all persons;
 - (b) damages, destruction or loss to or of any and all property whether real or personal; and
 - (c) any act, omission, default or representation, negligent or otherwise, of the Contractor, its employees, agents and subcontractors,

in any way incidental to the Work or this Purchase Order.

- 15.2. The Contractor shall defend any such claims or suits provided that Terasen shall have the right at its option to participate in the defence of such claims or suits and in such events the Contractor shall pay Terasen's cost for defending such claims or suits.
- 15.3. This indemnity shall survive the termination of this Purchase Order.

16. Safety & Security

The Contractor shall be responsible for the protection and security of the Work and the protection and safety of all persons performing the Work on the site. The Contractor shall comply with all safety procedures required by Terasen.

17. Representations and Warranties

- 17.1. The Contractor hereby covenants, represents and warrants to Terasen, and shall be deemed to have covenanted, represented and warranted to Terasen on and as of the Commencement Date, as follows:
 - (a) the personnel the Contractor assigns to perform the Work herein possess the necessary qualifications, knowledge, skills, expertise

- and experience to perform the Work to the highest professional standards;
- (b) the Contractor shall, at all times during the term of the Purchase Order, act in the best interest of Terasen and shall perform the Work in a competent, workmanlike and professional manner and using due care and diligence;
- (c) in performing the Work, the Contractor shall comply with all applicable laws, orders, regulations, ordinances standard, codes and other rules, licences and permits of all lawful authorities;
- (d) the Contractor shall be responsible at no cost to Terasen, to provide such additional services as may be necessary to remedy any deficiencies in the Work caused by the negligent act or omission of the Contractor or its employees, agents or subcontractors or by the failure of such party(ies) to perform the Work in accordance with the provisions of this Purchase Order; and
- (e) where applicable, the Contractor shall take all measures in the performance of the Work to minimize disturbance or damage to the environment.
- 17.2. These representations and warranties shall survive the termination of the Purchase Order.

18. Disputes

- 18.1. Where any dispute arises out of or in connection with this Purchase Order, including failure of the parties to reach agreement hereunder, the parties agree to try to resolve the dispute by participating in a structured mediation conference with a mediator under the National Arbitration Rules of the ADR Institute of Canada Inc. for Dispute Resolution.
- 18.2. If the parties fail to resolve the dispute through mediation, the unresolved dispute shall be referred to, and finally resolved or determined by arbitration under the National Arbitration Rules of the ADR Institute of Canada Inc. for Dispute Resolution. Unless the parties agree otherwise the arbitration will be conducted by a single arbitrator.
- 18.3. The arbitrator shall issue a written award that sets forth the essential findings and conclusions on which the award is based. The arbitrator will allow discovery as required by law in arbitration proceedings.
- 18.4. If the arbitrator fails to render a decision within thirty (30) days following the final hearing of the arbitration, any party to the arbitration may terminate the appointment of the arbitrator and a new arbitrator shall be appointed in accordance with these provisions. If the parties are unable to

agree on an arbitrator or if the appointment of an arbitrator is terminated in the manner provided for above, then any party to this Purchase Order shall be entitled to apply to a judge of the British Columbia Supreme Court to appoint an arbitrator and the arbitrator so appointed shall proceed to determine the matter mutatis mutandis in accordance with the provisions of this Section.

- 18.5. The arbitrator shall have the authority to award:
 - (a) money damages;
 - (b) interest on unpaid amounts from the date due;
 - (c) specific performance; and
 - (d) permanent relief.
- 18.6. The costs and expenses of the arbitration, but not those incurred by the parties, shall be shared equally, unless the arbitrator determines that a specific party prevailed. In such a case, the non-prevailing party shall pay all costs and expenses of the arbitration, but not those of the prevailing party.
- 18.7. The parties will continue to fulfill their respective obligations pursuant to this Purchase Order during the resolution of any dispute in accordance with this Section 18.

19. Subcontracting

- 19.1. No subcontracting of any of the Work shall be permitted without the prior written consent of Terasen which consent may be arbitrarily withheld.
- 19.2. Notwithstanding Terasen's consent to the subcontracting of any of the Work, no subcontracting of any Work shall relieve the Contractor from its obligations and responsibilities to Terasen pursuant to this Purchase Order. Nothing contained in these Terms and Conditions shall be construed as creating any contractual relationship between Terasen and a subcontractor.

20. Relationship

In performing the Work, the Contractor shall be an independent contractor and as such shall not have authority to bind or commit Terasen and shall have responsibility for the control over the details and means of performing the Work. The Work shall be performed by the Contractor under its own superintendence and at its own risk. Nothing herein shall be deemed or construed to create a joint venture, partnership, employment or agency relationship between the parties for any purpose.

21. Assignment

The Contractor shall not assign its rights or obligations under this Purchase Order without the prior written consent of Terasen, which consent may be arbitrarily withheld. Terasen may assign this Purchase Order without the consent of the Contractor.

22. Confidentiality

- 22.1. All information or documentation received by a party (the "Receiving Party") pertaining to or arising from the Work or the business affairs or trade secrets of the other party (the "Disclosing Party") shall be deemed to be confidential and proprietary to the Disclosing Party. Except as otherwise provided herein, the Receiving Party shall not directly or indirectly disclose any such confidential information or documentation to any third party without the prior written consent of the Disclosing Party. Such consent is not required where the third party is another contractor or consultant retained by the Disclosing Party for the purposes of the Work and to the extent that such disclosure is necessary for the proper performance of this Purchase Order.
- 22.2. Notwithstanding the foregoing, the Receiving Party may use such confidential information or documentation pertaining to or arising from the Work in the preparation for and conduct of submissions to regulatory agencies.
- 22.3. The obligation of confidentiality set out above shall not apply to material, data or information which is known to either party prior to its receipt thereof, which is generally available to the public or which has been obtained from a third party which has the right to disclose the same. The confidentiality covenants of the parties herein shall survive the termination of this Purchase Order.
- 22.4. The Contractor further acknowledges and agrees that Terasen has, and shall have title to all information and documentation arising from the performance of the Work including, without limitation, reports, finished drawings, rough drawings, correspondence, notes, calculations computer programs, operating manuals, functional specifications, and related documentation and other work in progress and the Contractor shall surrender any of such material which may be in its possession to Terasen at any time upon the request of Terasen or at the expiry or earlier termination of the Purchase Order. In addition to the foregoing, upon completion of the Work, the Contractor agrees to waive all moral rights in any copyrighted works associated with the Work.

23. Personal Information and Protection of Privacy

- 23.1. The Contractor recognizes that during the course of this Purchase Order Terasen may provide the Contractor with "personal information" and or "employee personal information" as those terms are defined in the British Columbia *Personal Information Protection Act* (collectively "Personal Information"), and that disclosure by Terasen to the Contractor of this Personal Information places certain obligations on the Contractor relating to the retention, use and disclosure of that Personal Information by the Contractor.
- 23.2. The Contractor shall only retain, use or disclose Personal Information for the limited purpose for which Terasen disclosed the Personal Information to the Contractor so as to allow the Contractor to perform the Scope of Work under the Contract Documents. Any further use or disclosure is strictly prohibited without Terasen's express consent.
- 23.3. In the event that the Contractor proposes to disclose the Personal Information to third parties or subcontractors ("Third Parties") in connection with the performance of the Scope of Work under the Contract Documents, the Contractor will seek the consent of Terasen prior to such disclosure and will not proceed with such disclosure until the consent has been obtained. In such cases, the Contractor will also ensure that the Third Parties deal with and treat the Personal Information in the same manner as the Contractor is required to do under these Terms and Conditions.
- 23.4. In dealing with Personal Information provided to the Contractor by Terasen or its agents, the Contractor shall ensure that the Personal Information is handled in a manner that complies with Terasen's Privacy Policy.
- 23.5. If Terasen receives a complaint that the Contractor has not dealt with Personal Information in a manner permitted under these Terms and Conditions or if Terasen has reasonable grounds to believe that the Contractor has used or disclosed Personal Information in a manner not permitted under these Terms and Conditions, then Terasen may at reasonable times inspect the Contractor's records as set out in Clause 11 to assess the validity of the complaint, or to ensure compliance with the privacy requirements of this Contract.
- 23.6. Terasen may, in its sole and absolute discretion, require the Contractor to return all records, in any medium, that contain Personal Information disclosed to the Contractor by Terasen. Where the return of such records is impractical, Terasen may require the Contractor to destroy and/or delete from its records any Personal Information disclosed from Terasen

to the Contractor. The Contractor shall have thirty (30) days from receipt of a written request from Terasen to return or delete/destroy the records, to either return the records or to delete and/or destroy the Personal Information from them. Terasen shall only make a request under this clause in circumstances where it is reasonable to do so, or where Terasen is required to do so under the British Columbia *Personal Information Protection Act*.

23.7. Notwithstanding Section 23.6 above, the Contractor shall delete and/or destroy all Personal Information provided to it by Terasen from the Contractor's records within one year following the completion of the Work. The requirement to expunge Personal Information within one year following the completion of the Work does not diminish in any other respect from the record keeping requirements set out in Clause 11 of this Contract or as required by law.

24. Agency

Where Terasen requests the Contractor to carry out Work on Vancouver Island, Terasen is acting as agent for Terasen Gas (Vancouver Island) Inc. and all references in the Purchase Order to Terasen shall be deemed to be references to Terasen Gas (Vancouver Island) Inc. Where Terasen requests the Contractor to carry out Work in Whistler, Terasen is acting as agent for Terasen Gas (Whistler) Inc. and all references in the Purchase Order to Terasen shall be deemed to be references to Terasen Gas (Whistler) Inc.

25. Law

This Purchase Order shall be governed by and construed in accordance with the laws of the Province of British Columbia.

26. Time

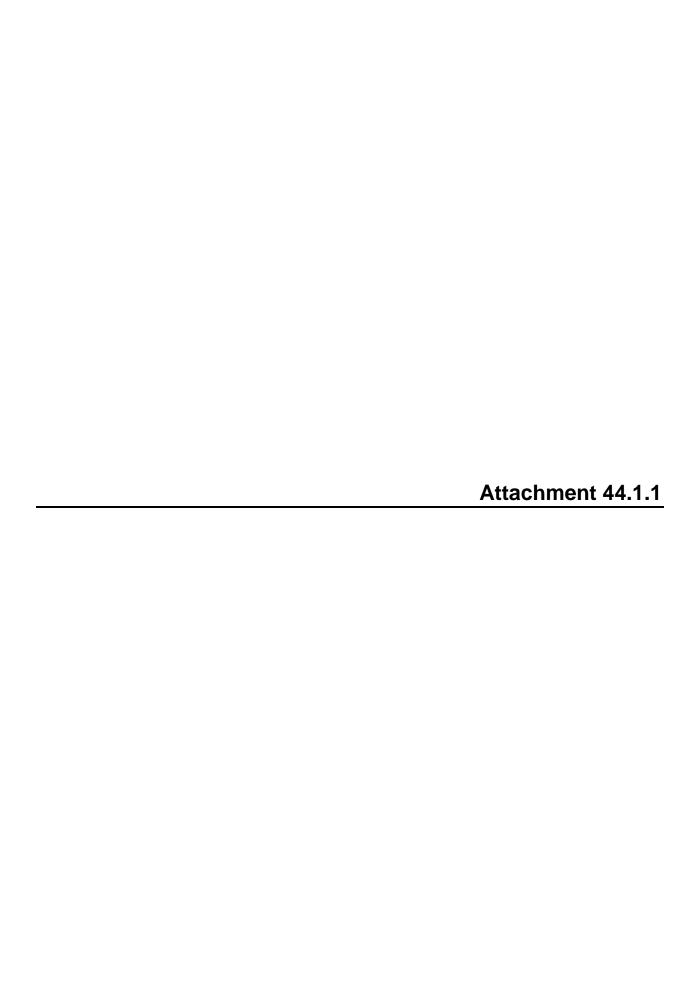
Time is of the essence in this Purchase Order.

27. Enurement

This Purchase Order shall be for the benefit of and be binding upon Terasen and the Contractor and their respective successors and permitted assigns.

28. Amendments

Subject to any equitable adjustment made, the parties are not bound by any amendment, variation or waiver of any provision of this Purchase Order unless it is in writing and signed by their representatives.



Green Gas Market Offering Survey Scope

Aug 26, 2009

Program Scope (to be explained to customer):

Terasen Gas is investing in a number of projects to clean up biogas produced from landfill, waste water treatment plants, cow manure and organic waste, to pipeline quality gas (called biomethane). By capturing and cleaning up the gas, conventional natural gas is displaced with a renewable gas resulting in a direct reduction in greenhouse gases. While conventional sources of natural gas are among the cleanest and lowest carbon intensity energy sources today, Terasen would like to offer this renewable gas to its customers through a "green" gas program so that customers could sign up to offset their use or a portion of their use of natural gas in their home or business.

Survey Scope:

- 1. Determine target market
- 2. Determine market interest
- 3. Determine price point
- 4. Determine market driver
- 5. Determine type of product offering offsets / biomethane

Target Market

- 1. Complete market characterization of Terasen customer
 - a. break down information by market sector
 - i. residential single family
 - ii. residential multifamily
 - iii. residential low-income
 - iv. small commercial (type of business)
 - v. large commercial (type of business)
 - vi. region (i.e. Fraser Valley, Metro Van, Okanagan) and municipality

Sample Questions:

Market Interest

- 1. Do you think Terasen Gas cares about the environment?
- 2. Do you trust Terasen Gas to develop and offer this program?
- 3. Do you think Terasen Gas should offer such a program? Why or why not?
- 4. If Terasen Gas were to launch such program, would it change your opinion of the company?
- 5. Would you participate?
- 6. What would your motive for participation?
 - ID motives so that the product message is tailored to meet the needs of customers: Promoting new technology, providing for future generations, preserving nature, human health, do the right thing, financial rewards? Noneconomic factors (being on the cutting edge), compliance etc

Price Point

- 1. Provide possible pricing options. ie, charge customers by their actual energy use (price per GJ) or a flat fee per month based on the average home / business energy use or for a "block" of energy. Ask which they prefer. (pricing questions to be defined w/ Vendor)
- 2. What is the highest amount you would be willing to pay to participate? le Need to identify a price point for various blends of green gas (10%, 20%, 30%, 50% and 100% green gas supply).
- 3. Do you think Terasen should subsidize part of this program? (for DSM model)
- 4. Do you think this should be a voluntary program or cost borne by all customers?

Market Driver

- 1. Do you believe that global warming results from increased greenhouse gas emissions caused by humans?
- 2. How concerned are you about climate change?
- 3. Do you understand the link between home energy use and greenhouse gas emissions?
- 4. Have you taken any steps to save energy in your home of business? If yes, what did you do? If no, why not?
- 5. Are you willing to pay a premium for green products? If yes, what green products do you purchase and how much of premium, on average, do you pay for them??

Offsets

- 1. Do you know what a carbon offset is?
- 2. Do you understand what is meant by the term carbon footprint?
- 3. Would you be interested in a program where funds supported not only biomethane projects funded by Terasen, but other renewable energy sources by the purchase of offsets within BC?
- 4. Would you participate in this program if the biomethane or renewable projects were developed outside of the province?
- 5. For commercial customers: would you prefer offsetting your natural gas use through this program or buying carbon offsets on the open market?
- 6. If Terasen Gas would be offsetting some of its own natural gas use through this program, how would that affect your opinion of the company?
- 7. Do you think Terasen should partner with a third party to purchase offsets for this program or coordinate this in-house?



Notes:

Be ready to explain why Terasen wants to offer this, and why it wants to charge a premium to customers to cover the costs—ie, why doesn't Terasen just fund the program itself?

Will the customer want to know up front what percentage of their contributions will be spent on developing the "green" gas and how much will be spent on program administration and marketing.??

Offset questions may need clarification

Intro needs to be clear to customer

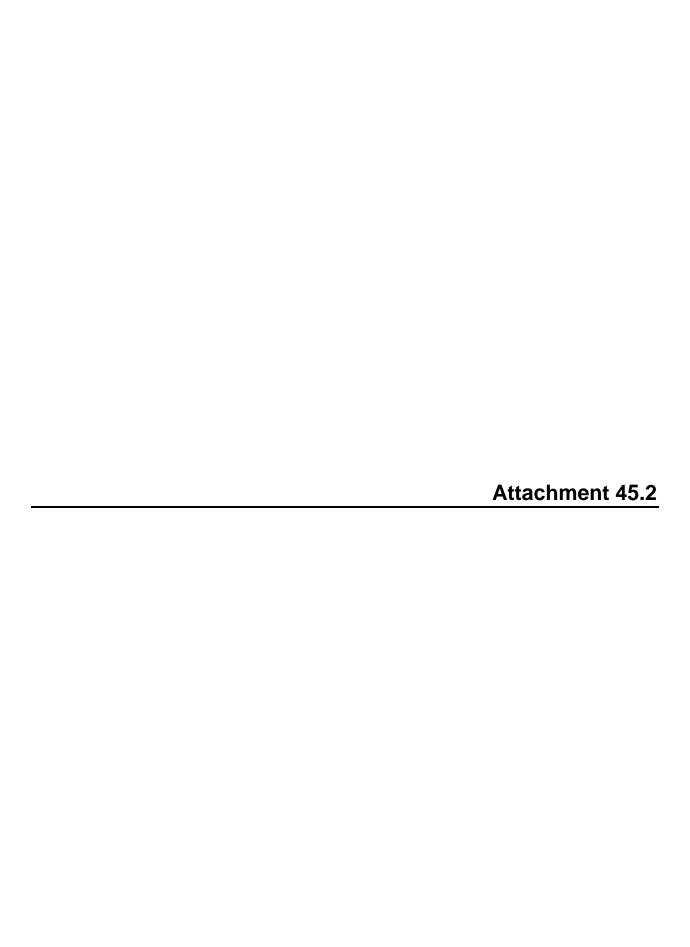


Table 1 OM1A-G HOW CONCERNED ARE YOU ABOUT THE FOLLOWING ENVIRONMENTAL ISSUES BASE ALL RESPONDENTS

		SEX	AGE LIVE IN HOUSEHOLD							HOLD	CHILDREN IN HOUSEHOLD						
	TOTAL (A)	MALE 	FE- 1 MALE 2 	L8- 25 24 34 (D)	5 35 4 44 (E)	5 45 54 (F)	64	65 (H)	5+ 1 (I)	2 (J)	3 (K)	MC TH - 5 5 (L)		DE- CLINE YE (N)	S NO (O)		INE (Q)
BASE FOR PERCENTAGES	204 100.0	0* 0*	* 0**	0**	0**	0**	0** 0**	0**	0**	0**	0**	0** 0**	0** 0**	0**	0** 0**	0**	0** 0**
CURRENT STATE OF THE ENVIRONMENT																	
NOT AT ALL CONCERNEDx1	2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	$\overset{7}{3.4}$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	45 22.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	67 32.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VERY CONCERNEDx10	28 13.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	83 40.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	7.43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	2.26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0.21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Proportions/Means: Columns Tested (5%, 10% risk level) - B/C - D/E/F/G/H/I - J/K/L/M/N - O/P/Q ** very small base (under 30) ineligible for sig testing

Table 1 $_{\mbox{\scriptsize QMLA-G}}$ How concerned are you about the following environmental issues Base all respondents

	S	EX	AG	E					LI	VE IN	HOUSE	HOLD			ILDREN USEHOL		
	TOTAL M	FE IALE MA	- 18 LE 24	- 25 34	35 44	45 54	55 64	65	+ 1	2	3	MO: TH. - 5 5	AN DE	- INE YE:	s no	DE CL	INE
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(0)	(P)	(Q)
BASE FOR PERCENTAGES	204 100.0	0** 0**	0** 0**	0** 0**	0** 0**	0**	0**	0**	0**	0** 0**	0** 0**	0** 0**	0** 0**	0**	0**	0** 0**	0** 0**
FUTURE STATE OF THE ENVIRONMENT																	
NOT AT ALL CONCERNEDx1	2.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	$\frac{7}{3.4}$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	20.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	73 35.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VERY CONCERNEDx10	16.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	40.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	7.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	2.38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0.22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 1 $_{\mbox{\scriptsize QMLA-G}}$ How concerned are you about the following environmental issues Base all respondents

		SEX	AG	E					LI	VE IN	HOUSEH	HOLD		CHI HOT	ILDREN USEHOL	IN D	
	TOTAL (A)		- 18 LE 24 (C)		44	45 54 (F)	55 64 (G)		+ 1 	2 (J)	3 (K)	MO: TH. - 5 5 (L)	AN DE CL	INE YES	S NO (0)		INE (Q)
BASE FOR PERCENTAGES	204 100.0	0** 0**	0**	0** 0**	0** 0**	0**	0** 0**	0**	0**	0**	0**	0** 0**	0**	0**	0** 0**	0**	0**
EFFECTS OF GLOBAL WARMING/ CLIMATE CHANGE																	
NOT AT ALL CONCERNEDx1	7 3.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	11 5.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	43 21.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	67 32.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VERY CONCERNEDx10	27 13.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	82 40.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	7.31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	2.52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0.23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Proportions/Means: Columns Tested (5%, 10% risk level) - B/C - D/E/F/G/H/I - J/K/L/M/N - O/P/Q ** very small base (under 30) ineligible for sig testing

Table 1 $_{\mbox{\scriptsize QMLA-G}}$ How concerned are you about the following environmental issues Base all respondents

	S	EX	AG	E					LI	VE IN	HOUSE	HOLD			ILDREN USEHOL		
	TOTAL M	FE ALE MA	- 18 LE 24	- 25 34	35 44	45 54	55 64	65	+ 1	2	3	MO: TH - 5 5	AN DE	- INE YE:	s no	DE CL	- INE
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(0)	(P)	(Q)
BASE FOR PERCENTAGES	204 100.0	0** 0**	0**	0**	0**	0** 0**	0** 0**	0** 0**	0** 0**	0**	0**	0**	0**	0**	0**	0** 0**	0**
GREEN HOUSE GAS EMISSIONS																	
NOT AT ALL CONCERNEDx1	2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	3.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	48 23.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	65 31.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VERY CONCERNEDx10	11.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	82 40.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	7.22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	2.29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0.21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 1 $_{\mbox{\scriptsize QMLA-G}}$ How concerned are you about the following environmental issues Base all respondents

	SI	EX	AG	E					LI	VE IN	HOUSEH	OLD		CH HO	ILDREN JSEHOL	D	
	TOTAL MA				35 44 (E)	45 54 (F)	55 64 (G)	65 (H)	+ 1 (I)	2 (J)	(K) 3	MO: TH. - 5 5 (L)	AN DE- CL:	INE YE	S NO (O)		INE (Q)
BASE FOR PERCENTAGES	204 100.0	0** 0**	0** 0**	0**	0** 0**	0**	0** 0**	0**	0**	0**	0**	0**	0**	0** 0**	0** 0**	0**	0** 0**
LOSS OF OXYGEN PRODUCING FORESTS	3																
NOT AT ALL CONCERNEDx1	5 2.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	9 4.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	39 19.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	73 35.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VERY CONCERNEDx10	32 15.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	82 40.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	7.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	2.39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0.22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 1 $_{\mbox{\scriptsize QMLA-G}}$ How concerned are you about the following environmental issues Base all respondents

	S	SEX	AG	E					LI	VE IN	HOUSEH	IOLD			ILDREN USEHOL		
	TOTAL M	FE MALE MA	- 18 LE 24	- 25 34	35 44	45 54	55 64	65	+ 1	2	3	MO TH - 5 5	AN DE	INE YE	s no	DE CL	INE
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)
BASE FOR PERCENTAGES	204 100.0	0** 0**	0**	0**	0**	0**	0**	0**	0**	0** 0**	0**	0**	0** 0**	0**	0** 0**	0**	0**
LEVEL OF GOVERNMENT OR INDUSTRY LEADERSHIP ON ENVIRONMENTAL ISSUES																	
NOT AT ALL CONCERNEDx1	2.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	8 3.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	48 23.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	64 31.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VERY CONCERNEDx10	27 13.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	82 40.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	7.23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	2.43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0.22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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0

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0

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0

0

0

0

STANDARD ERROR

SEX----- AGE------ CHILDREN IN HOUSEHOLD------ CHILDREN IN HOUSEHOLD------DE-CLINE YES NO DE-CLINE TOTAL MALE (A) (B) (C) (F) (H) (I) (K) (N) (D) (E) (G) (J) (L) (M) 0** 0** BASE FOR PERCENTAGES 204 0** 0** 0** 0** 0** 0** 0** 0** 0** 100.0 0** 0** ACCESS TO ALTERNATIVE ENERGY SOLUTIONS NOT AT ALL CONCERNED....x1 0 2.0 0 0 0 0 0 0 0 0 0 0 0 0 0 2.5 1-3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 4-7 45 22.1 0 0 0 0 0 0 0 0 0 0 ŏ ŏ 8-10 0 33.8 ŏ ŏ Õ Õ Õ VERY CONCERNED.....x10 0 ŏ ŏ ŏ 11.3 Õ Õ Õ Õ Õ DECLINE 1.5 82 NOT STATED 40.2 Õ Õ Õ Õ Õ Õ 0 0 0 0 0 0 0 AVERAGE * 7.46 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 STANDARD DEVIATION 2.16 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

0

0

0

0

Proportions/Means: Columns Tested (5%, 10% risk level) - B/C - D/E/F/G/H/I - J/K/L/M/N - O/P/Q ** very small base (under 30) ineligible for sig testing

0

0

0

0.20

Table 2 $_{\rm OM1A-G}$ How concerned are you about the following environmental issues base all respondents

		EDUCATI	ON					HC	USEHOL	D INCC	ME			ST	ATUS	
	TOTAL	ELEM- D.	ECON ARY/ 'SCH TE	ECH. CO	LL. UN	PO:	ST OTI AD ER	H- UN \$1	IDER \$1 .5K \$3	.5K- \$3 4K \$5	5K- \$6 9K \$9	\$: 50K- OI 99K M			ME RE NER ER	NT-
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(0)	(P)
BASE FOR PERCENTAGES	204 100.0	0**	0** 0**	0** 0**	0**	0** 0**	0**	0 * *	0**	0**	0** 0**	0**	0**	0**	0** 0**	0** 0**
CURRENT STATE OF THE ENVIRONMENT																
NOT AT ALL CONCERNEDx1	2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	3.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	45 22.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	67 32.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VERY CONCERNEDx10	28 13.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	83 40.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	7.43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	2.26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0.21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

EDUCATION----- STATUS---- STATUS----

		LDOCATIO	,T.4					110	JOBBITOE	D IIVCO	LILL .			D	IMIOD	
	TOTAL	PUB- LIC / SE ELEM- DA ENTRY H'	CON RY/ SCH TE	ECH. CO	LL. UN	POS IV. GRA	ST OTH	H- UI	NDER \$1 15K \$3	5K- \$3 4K \$5	5K- \$6 9K \$9	50K- ÓI	100K R D ORE C	DE- H CLINE O	OME RI WNER E	ENT- R
	(A)	(B)	(C)	(D)	(E)	(F)	(G) ((H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)
BASE FOR PERCENTAGES	204 100.0	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**		0**	0** 0**
FUTURE STATE OF THE ENVIRONMENT																
NOT AT ALL CONCERNEDx1	2.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	3.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	$\begin{smallmatrix} 41\\20.1\end{smallmatrix}$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	73 35.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VERY CONCERNEDx10	34 16.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	82 40.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	7.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	2.38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0.22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 2 $_{\rm OM1A-G}$ How concerned are you about the following environmental issues base all respondents

	El	DUCATION	1					HO	USEHOL	D INCO	ME			ST	ATUS	
	L:	JB- IC / SEG LEM- DAI NTRY H'S	RY/	CH. CO	LL. UN	POS IV. GR	ST OTF AD ER	H- UN \$1	DER \$1 5K \$3	5K- \$3! 4K \$5!	5K- \$6 9K \$9	OK-ÓR	00K DE RE CL		ME REI NER ER	NT-
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(0)	(P)
BASE FOR PERCENTAGES	204 100.0	0**	0**	0**	0**	0**	0**	0**	0** 0**	0**	0**	0**	0**	0**	0**	0** 0**
EFFECTS OF GLOBAL WARMING/ CLIMATE CHANGE																
NOT AT ALL CONCERNEDx1	$\overset{7}{3.4}$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	11 5.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	43 21.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	67 32.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VERY CONCERNEDx10	27 13.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	82 40.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	7.31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	2.52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0.23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Proportions/Means: Columns Tested (5%, 10% risk level) - B/C/D/E/F/G/H - I/J/K/L/M/N - O/P ** very small base (under 30) ineligible for sig testing

Table 2 $_{\rm OM1A-G}$ How concerned are you about the following environmental issues base all respondents

	EI	DUCATIO	M					HO	USEHOL	D INCO	ME			ST	ATUS	
	L:	LEM'- DAI	CON RY/ SCH TE	CH. CO	LL. UN	POS IV. GR	ST OTF	H- UN \$1	DER \$1 5K \$3	5K- \$3 4K \$5	5K- \$6 9K \$9	\$10 0K- ÖR 9K MO	OOK DE RE CL	- HOI INE OW	ME RE NER ER	NT-
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(0)	(P)
BASE FOR PERCENTAGES	204 100.0	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0** 0**	0**	0**	0**	0**
GREEN HOUSE GAS EMISSIONS																
NOT AT ALL CONCERNEDx1	2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	$\frac{7}{3.4}$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	48 23.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	65 31.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VERY CONCERNEDx10	11.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	82 40.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	7.22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	2.29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0.21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 2 $_{\rm OM1A-G}$ How concerned are you about the following environmental issues base all respondents

		EDUCATIO)N					HO	USEHOL	D INCO	ME			ST	ATUS	
	TOTAL		ECON ARY/ SCH TE	CH. CO	LL. UN	PO: IV. GR	ST OTH	H- UNI \$1!	DER \$1. 5K \$3.	5K- \$3 4K \$5	5K- \$6 9K \$9	\$1 0K- OR 9K MO	00K DE RE CL		ME RE	NT- -
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)
BASE FOR PERCENTAGES	204 100.0	0**	0** 0**	0**	0**	0**	0**	0**	0**	0** 0**	0**	0**	0**	0**	0**	0**
LOSS OF OXYGEN PRODUCING FORESTS	;															
NOT AT ALL CONCERNEDx1	2.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	9 4.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	39 19.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	73 35.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VERY CONCERNEDx10	32 15.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	82 40.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	7.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	2.39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0.22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 2 $_{\rm OM1A-G}$ How concerned are you about the following environmental issues base all respondents

		EDUCATIO	N					НО	USEHOL	D INCO	ME			SI	ATUS	
		PUB- LIC / SE ELEM- DA ENTRY H'		CH. CO	LL. UN	POS IV. GR	ST OTI AD ER	H- UN \$1	DER \$1 5K \$3	5K- \$3 4K \$5	5K- \$6 9K \$9	OK- ÓR	.00K L DE DRE CL		ME RE NER ER	NT-
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(0)	(P)
BASE FOR PERCENTAGES	204 100.0	0**	0** 0**	0** 0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0** 0**	0**	0** 0**
LEVEL OF GOVERNMENT OR INDUSTRY LEADERSHIP ON ENVIRONMENTAL ISSUES																
NOT AT ALL CONCERNEDx1	2.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	3.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	48 23.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	64 31.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VERY CONCERNEDx10	27 13.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	82 40.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	7.23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	2.43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0.22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

		EDUCATIO	N					НО	USEHOL	D INCO	ME			ST	ATUS	
	TOTAL	ELEM- DA ENTRY H'	SCH TE	CH. CO		PO: IV. GR	AD ER		DER \$1 5K \$3			\$1 0K- OR 9K MO	RE CL	INE OW	NER ER	
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)
BASE FOR PERCENTAGES	204 100.0	0** 0**	0**	0** 0**	0** 0**	0** 0**	0**	0** 0**	0** 0**	0** 0**	0** 0**	0** 0**	0** 0**	0**	0**	0**
ACCESS TO ALTERNATIVE ENERGY SO	DLUTIONS															
NOT AT ALL CONCERNEDx1	2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	2.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	45 22.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	69 33.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VERY CONCERNEDx10	23 11.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	1.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	82 40.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	7.46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	2.16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 3 QGI. HAVE YOU TAKEN STEPS TO SAVE ENERGY IN YOUR HOME BASE ALL RESPONDENTS

	SE	X	AGE]					LI	VE IN	HOUSEH	IOLD		CH HO	ILDREN USEHOL	D	
	TOTAL MA (A)	FE- LE MALE		34	35 44 (E)	45 54 (F)				2 (J)	3 (K)	MC TH - 5 5 	ORE IAN DE CI (M)	LINE YE	S NC (O)		- INE (Q)
BASE FOR PERCENTAGES	204 100.0	0** 0**	0** 0**	0**	0** 0**	0**	0** 0**	0**	0**	0** 0**	0**	0** 0**	0**	0**	0** 0**	0**	0**
HAVE YOU TAKEN STEPS	102 50.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NO	2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DON'T KNOW	8 3.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	5 2.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 4 $_{\rm QGI.}$ HAVE YOU TAKEN STEPS TO SAVE ENERGY IN YOUR HOME BASE ALL RESPONDENTS

		EDUCATIO	DN					H	OUSEHO	LD INC	COME				STATU	S	
	TOTAL	PUB- LIC / SE ELEM- DA ENTRY H'	ECON ARY/ 'SCH TE	CH. CO	LL. UI	PO NIV. GR	ST OT AD ER	TH- UI	NDER \$1	15K- \$	35K- 559K	\$60K- \$99K	\$100K OR MORE	DE- CLINE	HOME OWNER	RENT- ER	
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(0)	(P)	
BASE FOR PERCENTAGES	204 100.0	0** 0**	0** 0**	0** 0**	0** 0**	0** 0**	0**	0** 0**	0**	0**	* 0*	* 0 * 0		** C		** 0**	:
HAVE YOU TAKEN STEPS																	
YES	102 50.0	0	0	0	0	0	0	0	0	0	0	0	C	0	0	0	
NO	2.0	0	0	0	0	0	0	0	0	0	0	0	C	0	0	0	
DON'T KNOW	3.9	0	0	0	0	0	0	0	0	0	0	0	C	0	0	0	
DECLINE	2.5	0	0	0	0	0	0	0	0	0	0	0	C	0	0	0	
NOT STATED	85 41.7	0	0	0	0	0	0	0	0	0	0	0	C	0	0	0	

Table 5 QG2. WHAT STEPS HAVE YOU TAKEN TO SAVE ENERGY IN YOUR HOME? BASE RESPONDENTS WHO HAVE TAKEN STEPS TO SAVE ENERGY AT HOME

		SEX	A0	GE					LI	VE IN	HOUSEH	IOLD		CH HO	ILDREN USEHOL		
	TOTAL (A)	MALE MALE (B)	E- 18 ALE 24 	8- 25 4 34 	35 4 44 (E)	5 45 4 54 (F)	55 64 (G)	65 (H)	+ 1 (I)	2 (J)	3 (K)	MO TH - 5 5	AN DE	INE YE	S NO (O)		I- INE (Q)
BASE FOR PERCENTAGES STEPS TAKEN	102 100.0	0**	0**	0**	0**	0**	0**	0** 0**	0**	0** 0**	0**	0**	0**	0**	0**	0**	0**
ENERGY EFFICIENT LIGHTING	86 84.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RE-USING / REDUCING / RECYCLING MATERIALS	86 84.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
REDUCED WATER USE (E.G. LOW FLOW SHOWERHEADS)	62 60.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WEATHER STRIPPING / CAULKING	57 55.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INSULATING WINDOWS / DOORS / SPACES	50 49.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INSTALLED A PROGRAMMABLE THERMOSTAT	33 32.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
REPLACED EXISTING FURNACE WITH A HIGH-EFFICIENCY FURNACE	21 20.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INSTALLED TIMERS FOR LIGHTING	16 15.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ALTERNATIVE ENERGY SOURCES (E.G. HEAT PUMPS, SOLAR PANELS)	7 6.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	2.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 6 QG2. WHAT STEPS HAVE YOU TAKEN TO SAVE ENERGY IN YOUR HOME? BASE RESPONDENTS WHO HAVE TAKEN STEPS TO SAVE ENERGY AT HOME

		EDUCATIO	V					НО	USEHOLI	D INCC	ME			ST	ATUS	
		ELEM- DAI						\$1 	5K \$3	4K \$5	5K- \$6 9K \$9	0K- ÖR 9K MO	RE CL	INE OW	NER ER	
BASE FOR PERCENTAGES STEPS TAKEN	(A) 102 100.0	(B) 0** 0**	(C) 0** 0**	(D) 0** 0**	(E) 0**	(F) 0** 0**	(G) 0** 0**	(H) 0** 0**	(I) 0** 0**	(J) 0** 0**	(K) 0**	(L) 0**	(M) 0**	(N) 0**	(O) 0** 0**	(P) 0** 0**
ENERGY EFFICIENT LIGHTING	86 84.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RE-USING / REDUCING / RECYCLING MATERIALS	86 84.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
REDUCED WATER USE (E.G. LOW FLOW SHOWERHEADS)	62 60.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WEATHER STRIPPING / CAULKING	57 55.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INSULATING WINDOWS / DOORS / SPACES	50 49.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INSTALLED A PROGRAMMABLE THERMOSTAT	33 32.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
REPLACED EXISTING FURNACE WITH A HIGH-EFFICIENCY FURNACE	21 20.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INSTALLED TIMERS FOR LIGHTING	16 15.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ALTERNATIVE ENERGY SOURCES (E.G. HEAT PUMPS, SOLAR PANELS)	7 6.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	3 2.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 7 $_{\rm QG3}$ WHY HAVE YOU NOT TAKEN STEPS TO SAVE ENERGY IN THE HOME? BASE RESPONDENTS WHO HAVE NOT TAKEN STEPS TO SAVE ENERGY AT HOME

	5	SEX	AC	E					L	IVE IN	HOUSE	HOLD		(]	CHILDRE HOUSEHO		
	TOTAL N	FI MALE MA	E- 18 ALE 24	3- 25 1 34		1 54 			5+ 1	2				DE- CLINE	/ES N		E- LINE
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)
BASE FOR PERCENTAGES	4* 100.0*	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**			* 0**	0**	
REASONS		-	-			-	-	-				-		-	-		
ALREADY ENERGY EFFICIENT HOUSE/ LOW ENERGY USE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CANT AFFORD THE EXTRA COSTS/DON' HAVE THE MONEY	T 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RENTING/NOT MY HOME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DO NOT USE ENOUGH/LOW ENERGY USE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HAVEN'T REALLY THOUGHT ABOUT IT/ NOT AN ISSUE I AM CONCERNED ABOU		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TAKES TOO MUCH TIME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ALL OTHER MENTIONS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOTHING	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DON'T KNOW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	75.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	25.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Proportions/Means: Columns Tested (5%, 10% risk level) - B/C - D/E/F/G/H/I - J/K/L/M/N - O/P/Q * small base; ** very small base (under 30) ineligible for sig testing

Table 8 QG3 WHY HAVE YOU NOT TAKEN STEPS TO SAVE ENERGY IN THE HOME? BASE RESPONDENTS WHO HAVE NOT TAKEN STEPS TO SAVE ENERGY AT HOME

]	EDUCATI	ON					HC	USEHOL	D INCC	ME			ST	TATUS-	
]	PUB- LIC / S ELEM- D ENTRY H		ECH. CC	DLL. UN	PC IV. GR	ST OT AD ER	H- UN \$1	DER \$1 .5K \$3	5K- \$3 4K \$5	5K- \$6 9K \$9	\$: 50K- OI 99K M	100K R D ORE C	E- HO		ENT- R
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)
BASE FOR PERCENTAGES REASONS	100.0*	0**		0**	0**	0**	0**	0** 0**	0** 0**	0** 0**	0** 0**	0** 0**	0** 0**	0** 0**	0** 0**	0** 0**
ALREADY ENERGY EFFICIENT HOUSE/LOW ENERGY USE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CANT AFFORD THE EXTRA COSTS/DON HAVE THE MONEY	T 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RENTING/NOT MY HOME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DO NOT USE ENOUGH/LOW ENERGY USI	E 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HAVEN'T REALLY THOUGHT ABOUT IT, NOT AN ISSUE I AM CONCERNED ABOU		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TAKES TOO MUCH TIME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ALL OTHER MENTIONS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOTHING	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DON'T KNOW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	75.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	25.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Proportions/Means: Columns Tested (5%, 10% risk level) - B/C/D/E/F/G/H - I/J/K/L/M/N - O/P * small base; ** very small base (under 30) ineligible for sig testing

Table 9 OCM1A-C TYPE OF ENVIRONMENTAL LIFESTYLE PREFERRED BASE ALL RESPONDENTS

	SEX AGE LIVE IN HOUSEHOLD CHILDREN IN HOUSEHOLD																
	TOTAL	FE MALE MA	E- 18 ALE 24	- 25 34	35 44	45 54	55 64	65	+ 1	2	3	MO: TH. - 5 5	AN DE	- INE YE:	s no	DE CL	- INE
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(0)	(P)	(Q)
BASE FOR PERCENTAGES	204 100.0	0**	0**	0**	0**	0**	0** 0**	0**	0**	0**	0**	0** 0**	0** 0**	0**	0**	0**	0** 0**
A LIFESTYLE IN WHICH YOU CONSID THE ENVIRONMENTAL IMPACT OF ALM EVERYTHING YOU DO	ER OST																
EXTREMELY NEGATIVEx1	2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	2.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	52 25.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	50 24.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXTREMELY POSITIVEx10	17 8.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	97 47.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	7.05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	2.19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0.21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 9 OCM1A-C TYPE OF ENVIRONMENTAL LIFESTYLE PREFERRED BASE ALL RESPONDENTS

	SI	EX	AG	E					LI	VE IN	HOUSEH	IOLD			ILDREN JSEHOL		
	TOTAL M	FE ALE MAI	- 18 LE 24	- 25 34	35 44	45 54	55 64	65	+ 1	2	3	MOI THA	AN DE-	INE YES	s no	DE CL	I- INE
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)
BASE FOR PERCENTAGES	204 100.0	0**	0**	0**	0**	0**	0**	0**	0**	0** 0**	0**	0**	0**	0**	0**	0**	0**
A LIFESTYLE IN WHICH YOU CONSID THE ENVIRONMENTAL IMPACT WHEN I IS REASONABLE OR PRACTICAL TO D	T																
EXTREMELY NEGATIVEx1	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	50 24.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	55 27.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXTREMELY POSITIVEx10	$\substack{15\\7.4}$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	97 47.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	7.35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	1.85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0.18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 9 OCM1A-C TYPE OF ENVIRONMENTAL LIFESTYLE PREFERRED BASE ALL RESPONDENTS

		SEX	AG	E					LI	VE IN	HOUSE	HOLD				IN D	
	TOTAL	F: MALE M	E- 18 ALE 24	- 25 34	35 44	45 54	55 64	65	+ 1	2	3	MO: TH. - 5 5	AN DE	- INE YES	s no	DE CL	- INE
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(0)	(P)	(Q)
BASE FOR PERCENTAGES	204 100.0	0**	0** 0**	0**	0**	0** 0**	0**	0** 0**	0** 0**	0**	0**	0**	0**	0**	0**	0** 0**	0** 0**
A LIFESTYLE WHERE YOU DO NOT CON THE ENVIRONMENTAL IMPACT IN ANY YOU DO	NSIDER THING																
EXTREMELY NEGATIVEx1	40 19.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	66 32.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	28 13.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	13 6.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXTREMELY POSITIVEx10	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	97 47.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	3.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	2.67	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0.26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 10 OCM1A-C TYPE OF ENVIRONMENTAL LIFESTYLE PREFERRED BASE ALL RESPONDENTS

	E	EDUCATION	N					НО	USEHOL	D INCO	ME			ST	ATUS	
	I E	PUB- LIC / SEG ELEM- DAI ENTRY H'S	RY/	CH. CO	LL. UN	POS IV. GRZ	ST OTH AD ER	H- UN \$1	DER \$1 5K \$3	5K- \$3 4K \$5	5K- \$6 9K \$9	OK- ÓR			ME RE NER ER	NT-
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(0)	(P)
BASE FOR PERCENTAGES	204 100.0	0**	0** 0**	0** 0**	0**	0**	0**	0** 0**	0**	0**	0**	0**	0**	0**	0**	0** 0**
A LIFESTYLE IN WHICH YOU CONSID THE ENVIRONMENTAL IMPACT OF ALM EVERYTHING YOU DO	ER OST															
EXTREMELY NEGATIVEx1	2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	5 2.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	52 25.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	50 24.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXTREMELY POSITIVEx10	17 8.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	97 47.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	7.05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	2.19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0.21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 10			
OCM1A-C TYPE OF	ENVIRONMENTAL.	LIFESTYLE	DREFERRED
BASE ALL RESPON		DII DOIIDD	TIGHT LIGHT
DASE ALL RESPON	DEMIS		

		EDUCATIO	N					HO	USEHOL	D INCO	ME			ST	ATUS	
		ELÉM- DA ENTRY H'	SCH TE		DLL. UN			<u>-</u> -	5K \$3	4K \$5	5K- \$6 9K \$9	OK- ÓF OK MC	DRE CL	INE OW	NER ER	
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)
BASE FOR PERCENTAGES	204 100.0	0** 0**	0** 0**	0**	0** 0**	0** 0**	0** 0**	0** 0**	0**	0** 0**	0** 0**	0** 0**	0** 0**	0** 0**	0** 0**	0** 0**
A LIFESTYLE IN WHICH YOU CONSID THE ENVIRONMENTAL IMPACT WHEN I' IS REASONABLE OR PRACTICAL TO D	Г															
EXTREMELY NEGATIVEx1	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	50 24.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	55 27.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXTREMELY POSITIVEx10	15 7.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	97 47.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	7.35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	1.85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0.18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 10 OCM1A-C TYPE OF ENVIRONMENTAL LIFESTYLE PREFERRED BASE ALL RESPONDENTS

		EDUCATIO	N					HC	USEHOL	D INCO)ME			5	STATUS	
		ELEM- DA ENTRY H'	SCH TE			POS IV. GRZ			IDER \$1 .5K \$3			50K- Ó 99K M 	ORE C	LINE (OWNER I	RENT- ER (P)
BASE FOR PERCENTAGES	(A) 204	0**	(C) 0**	0**	0**	0**	0**	(H)	(I)	(J) 0**	(K)	(L)	(M)	0*4 (N)		* 0**
	100.0	0**	0**	0**	0**	0**	0**	0**	Ö**	0**	0**	0**	0**	0**	* 0*	* 0**
A LIFESTYLE WHERE YOU DO NOT CO THE ENVIRONMENTAL IMPACT IN ANY YOU DO	NSIDER THING															
EXTREMELY NEGATIVEx1	40 19.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	66 32.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	28 13.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	13 6.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXTREMELY POSITIVEx10	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	97 47.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	3.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	2.67	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0.26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 11 QCM2 NOW THINKING ABOUT YOUR OWN DAY-TO-DAY LIFESTYLE, WHICH OF THE FOLLOWING BEST DESCRIBES YOUR CURRENT LIFESTYLE. BASE ALL RESPONDENTS

		SEX	A	GE					LI	VE IN	HOUSE	HOLD			HILDREN DUSEHOI		
	TOTAL		E- 1 ALE 2	8- 25 4 34	35	5 4! 1 54	5 55 4 64	5 l 65	+ 1	2	3	MC TH - 5 5	ORE HAN DI CI	E- LINE YI	es no	DE O CI	E- LINE
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(0)	(P)	(Q)
BASE FOR PERCENTAGES	204 100.0				0**	0** 0**	0**	0**	0** 0**	0**	0**	0**	0** 0**	0**	0**	0**	
WHICH BEST DESCRIBES YOUR CURRENT LIFESTYLE																	
A LIFESTYLE IN WHICH YOU CONSID THE ENVIRONMENTAL IMPACT IN ALMOST EVERYTHING YOU DO.	ER 17 8.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A LIFESTYLE IN WHICH YOU CONSID THE ENVIRONMENT IMPACT WHEN IT REASONABLE OR PRACTICAL TO DO S	IS 37.3		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A LIFESTYLE WHERE YOU DO NOT CONSIDER THE ENVIRONMENTAL IMPA IN ANYTHING YOU DO.	.CT 2.9	0 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	105 51.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 12 QCM2 NOW THINKING ABOUT YOUR OWN DAY-TO-DAY LIFESTYLE, WHICH OF THE FOLLOWING BEST DESCRIBES YOUR CURRENT LIFESTYLE. BASE ALL RESPONDENTS

		EDUCATIO	N					HO	USEHOLI	O INCO	ME			ST	ATUS	
	TOTAL (A)	PUB- LIC / SE ELEM- DA ENTRY H' (B)	CON RY/ SCH TE (C)	ECH. CC (D)	LL. UN (E)		ST OT AD ER (G)	R \$1	DER \$1! 5K \$34 (I)	4K \$5	9K \$9	0K- ÓR 9K MOI		INE OW	NER ER	
BASE FOR PERCENTAGES	204 100.0		0 * *	0**	0**	0**	0**	0** 0**	0**	0**	0**	0**	0**	0**	0**	0**
WHICH BEST DESCRIBES YOUR CURRENT LIFESTYLE																
A LIFESTYLE IN WHICH YOU CONSIDE THE ENVIRONMENTAL IMPACT IN ALMOST EVERYTHING YOU DO.	R 17 8.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A LIFESTYLE IN WHICH YOU CONSIDE THE ENVIRONMENT IMPACT WHEN IT I REASONABLE OR PRACTICAL TO DO SO	S 37.3		0	0	0	0	0	0	0	0	0	0	0	0	0	0
A LIFESTYLE WHERE YOU DO NOT CONSIDER THE ENVIRONMENTAL IMPAC IN ANYTHING YOU DO.	T 2.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	105 51.5		0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 13 QCM3 HOW IMPORTANT IS THIS [ENVIRONMENTAL LIFE-STYLE] DECISION IN YOUR LIFE? BASE ALL RESPONDENTS

	SE	EX	AGE]					LI	VE IN	HOUSEH	OLD			ILDREN USEHOL		
	TOTAL MA	FE- LE MALI	18- E 24	25 34	35 44	45 54	55 64	65-	+ 1	2	3	MOI THA - 5 5	AN DE-	INE YES	s no	DE CL	- INE
	(A)	(B) (C	2) ((D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(0)	(P)	(Q)
BASE FOR PERCENTAGES	204 100.0	0** 0**	0**	0**	0**	0**	0**	0**	0**	0**	0** 0**	0** 0**	0**	0** 0**	0**	0**	0**
LEVEL OF IMPORTANCE																	
EXTREMELY IMPORTANTX5	10 4.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VERY IMPORTANT 4	38 18.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MODERATELY IMPORTANT 3	44 21.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SLIGHTLY IMPORTANT 2	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT AT ALL IMPORTANTX1	1.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	108 52.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOP 2 BOX	48 23.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	3.53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	0.82	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0.08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 14 QCM3 HOW IMPORTANT IS THIS [ENVIRONMENTAL LIFE-STYLE] DECISION IN YOUR LIFE? BASE ALL RESPONDENTS

	E	EDUCATION	1					HO	JSEHOLI	D INCO	ME			ST	ATUS	
	I E	PUB- LIC / SEG ELEM- DAI ENTRY H'S	RY/	CH. CO	LL. UN	POS IV. GRA	ST OTF	H- UNI \$1!	DER \$1	5K- \$3 4K \$5	5K- \$6 9K \$9	\$10 0K- OR 9K MOE	OOK DE- RE CLI	- HOI	ME REI NER ER	NT-
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)
BASE FOR PERCENTAGES	204 100.0	0**	0**	0**	0**	0**	0**	0** 0**	0**	0**	0**	0**	0**	0** 0**	0**	0** 0**
LEVEL OF IMPORTANCE																
EXTREMELY IMPORTANTX5	10 4.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VERY IMPORTANT 4	38 18.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MODERATELY IMPORTANT 3	44 21.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SLIGHTLY IMPORTANT 2	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT AT ALL IMPORTANTX1	1.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	108 52.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOP 2 BOX	48 23.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	3.53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	0.82	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0.08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 15 QCM4 THINKING NOW ABOUT YOUR CURRENT LIFESTYLE, TO WHAT EXTENT CAN YOU THINK OF REASONS TO CONTINUE WITH THIS LIFESTYLE? BASE ALL RESPONDENTS

		SEX	AG	E					LI	VE IN	HOUSEH	HOLD			ILDREN USEHOL		
	TOTAL		E- 18 ALE 24	- 25 34	35 44	45 54	55 64	65	+ 1	2	3	MC TH - 5 5	RE AN DE CI	E- LINE YE	s no	DE CL	I- INE
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)
BASE FOR PERCENTAGES	204 100.0	0**	0**	0**	0**	0** 0**	0**	0** 0**	0**	0**	0**	0**	0** 0**	0**	0**	0**	0** 0**
REASONS																	
THERE ARE MANY GOOD REASONS TO CONTINUE WITH YOUR CURRENT LIFESTYLE IN RELATION TO ENVIRONMENTAL CHOICES AND NO REASON TO CHANGE.	26 12.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
THERE ARE MANY GOOD REASONS TO CONTINUE WITH YOUR CURRENT LIFESTYLE IN RELATION TO ENVIRONMENTAL CHOICES, BUT ALSO MANY GOOD REASONS TO CHANGE.	59 28.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
THERE ARE FEW GOOD REASONS TO CONTINUE WITH YOUR CURRENT LIFESTYLE IN RELATION TO ENVIRONMENTAL CHOICES AND MANY REASONS TO CHANGE.	3.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	112 54.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 16 QCM4 THINKING NOW ABOUT YOUR CURRENT LIFESTYLE, TO WHAT EXTENT CAN YOU THINK OF REASONS TO CONTINUE WITH THIS LIFESTYLE? BASE ALL RESPONDENTS

		EDUCATION	ON					HC	USEHOL	D INCC	ME			SI	ATUS	
	TOTAL	ELEM- D	ECON ARY/ 'SCH TE	ECH. CO	LL. UN	PO IV. GR	ST OT AD ER		DER \$1 .5K \$3			\$1 50K- OR 99K MO	00K DE RE CL		ME REN	
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(0)	(P)
BASE FOR PERCENTAGES	204 100.0	0**	0**	0** 0**	0**	0**	0**	0**	0** 0**	0**	0** 0**	0**	0**	0**	0**	0** 0**
REASONS																
THERE ARE MANY GOOD REASONS TO CONTINUE WITH YOUR CURRENT LIFESTYLE IN RELATION TO ENVIRONMENTAL CHOICES AND NO REASON TO CHANGE.	26 12.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
THERE ARE MANY GOOD REASONS TO CONTINUE WITH YOUR CURRENT LIFESTYLE IN RELATION TO ENVIRONMENTAL CHOICES, BUT ALSO MANY GOOD REASONS TO CHANGE.	59 28.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
THERE ARE FEW GOOD REASONS TO CONTINUE WITH YOUR CURRENT LIFESTYLE IN RELATION TO ENVIRONMENTAL CHOICES AND MANY REASONS TO CHANGE.	3.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	112 54.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 17 OT1A-E HOW WOULD YOU RATE TERASEN GAS IN TERMS OF BEING A COMPANY THAT CARES ABOUT ? BASE ALL RESPONDENTS $\,$

	S	EX	AC	GE					L]	VE IN	HOUSEH	IOLD		CH HO	ILDREN USEHOI	D	
	TOTAL M (A)	FE ALE MA (B)	E- 18 ALE 24 (C)	3- 25 4 34 (D)	35 44 (E)	5 45 54 (F)	5 55 1 64 (G)	65 65 (H)	5+ 1 (I)	2 (J)	3 (K)	MO TH - 5 5 (L)	AN DE	INE YE	S NO (O)	DE CI (P)	E- LINE (Q)
BASE FOR PERCENTAGES	204 100.0	0** 0**	0**	0**	0** 0**	0**	0**	0**	0**	0**	0**	0** 0**	0** 0**	0**	0**	0**	0** 0**
ITS EMPLOYEES																	
10 EXCELLENT	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	12 5.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	44 21.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1 POOR	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT RELEVANT TO ME	18 8.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	3.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	118 57.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	5.85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	1.89	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0.24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Proportions/Means: Columns Tested (5%, 10% risk level) - B/C - D/E/F/G/H/I - J/K/L/M/N - O/P/Q ** very small base (under 30) ineligible for sig testing

Table 17 OT1A-E HOW WOULD YOU RATE TERASEN GAS IN TERMS OF BEING A COMPANY THAT CARES ABOUT ? BASE ALL RESPONDENTS $\,$

	S	EX	AC	GE					LI	IVE IN	HOUSE	HOLD		CH HO	ILDREN USEHOI	N IN LD	
	TOTAL M (A)	FE ALE MA (B)	E- 18 LE 24 (C)	3- 25 4 34 	5 35 4 44 (E)	5 45 54 (F)	5 55 1 64 (G)	5 L 65 	5+ 1 (I)	2 (J)	3 (K)	MC TH - 5 5 (L)	AN DE	- INE YE (N)	S NO (O)	DI O CI 	E- LINE (Q)
BASE FOR PERCENTAGES	204 100.0	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**
ITS ROLE IN THE COMMUNITY																	
10 EXCELLENT	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	10 4.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	49 24.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	9 4.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1 POOR	2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT RELEVANT TO ME	12 5.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	2.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	118 57.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	5.51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	2.03	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 17 OT1A-E HOW WOULD YOU RATE TERASEN GAS IN TERMS OF BEING A COMPANY THAT CARES ABOUT ? BASE ALL RESPONDENTS $\,$

	SE	X	AG	E					LI	VE IN	HOUSE	HOLD			ILDREN USEHOI		
	TOTAL MA		- 18 LE 24 (C)	3- 25 34 (D)	35 44 (E)	45 54 (F)	55 64 (G)	65 (H)	5+ 1 (I)	2 (J)	3 (K)	TI 5 5 -	ORE HAN DE CI (M)	INE YE	S NO (O)	DI CI (P)	E- LINE (Q)
BASE FOR PERCENTAGES	204 100.0	0** 0**	0** 0**	0** 0**	0** 0**	0** 0**	0** 0**	0** 0**	0** (T)	0** 0**	0** 0**	0** (T)	0** 0**	0** 0**	0** 0**	0** 0**	(Q) 0**
THE ENVIRONMENT																	
10 EXCELLENT	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	13 6.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	51 25.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1 POOR	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT RELEVANT TO ME	$\begin{smallmatrix} 11\\ 5.4\end{smallmatrix}$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	7 3.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	118 57.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	5.97	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	1.83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0.22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Proportions/Means: Columns Tested (5%, 10% risk level) - B/C - D/E/F/G/H/I - J/K/L/M/N - O/P/Q ** very small base (under 30) ineligible for sig testing

Table 17 OT1A-E HOW WOULD YOU RATE TERASEN GAS IN TERMS OF BEING A COMPANY THAT CARES ABOUT ? BASE ALL RESPONDENTS $\,$

	S	EX	AC	GE					L	IVE IN	HOUSE	HOLD		CH HO	ILDREN USEHOI	D	
	TOTAL M (A)		- 18 LE 24 (C)	3- 25 1 34 (D)	35 44 (E)	45 54 (F)	5 55 4 64 (G)	5 4 65 (H)	5+ 1 (I)	2 (J)	3 (K)	MC TH - 5 5 (L)	AN DE	INE YE	S NO (O)	DE CI (P)	E- LINE (Q)
BASE FOR PERCENTAGES	204 100.0	0**	0**	0**	0**	0**	0**	0**	0** 0**	0**	0**	0** 0**	0**	0**	0**	0**	0**
MAKING A PROFIT																	
10 EXCELLENT	18 8.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	41 20.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	23 11.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1 POOR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT RELEVANT TO ME	14 6.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	2.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	118 57.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	7.74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	2.09	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0.26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 17 OT1A-E HOW WOULD YOU RATE TERASEN GAS IN TERMS OF BEING A COMPANY THAT CARES ABOUT ? BASE ALL RESPONDENTS $\,$

	S	EX	A	GE					L	IVE IN	HOUSE	HOLD		CI HO	HILDREI OUSEHOI		
	TOTAL M	FE IALE MA	E- 18 ALE 24	8- 25 4 34	5 35 4 44	5 45 4 54	5 55 4 64	65	5+ 1	2	3	M(T) - 5 5	ORE HAN D: C:	E- LINE YI	ES NO	DE O CI	E- LINE
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)
BASE FOR PERCENTAGES	204 100.0	0**	0** 0**	0**	0**	0**	0**	0** 0**	0** 0**	0**	0**	0** 0**	0**	0** 0**	0**	0**	0**
RE-INVESTING IN NEW ENVIRONMENTALLY-FRIENDLY TECHNOLOGIES																	
10 EXCELLENT	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	13 6.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	48 23.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	3.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1 POOR	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT RELEVANT TO ME	12 5.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	2.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	118 57.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	5.81	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	1.86	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0.23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 18 OT1A-E HOW WOULD YOU RATE TERASEN GAS IN TERMS OF BEING A COMPANY THAT CARES ABOUT ? BASE ALL RESPONDENTS $\,$

	E	EDUCATIO	M					HC	USEHOL	D INCO	ME			5	STATUS-	
	I	ELÉM- DAI ENTRY H'	CON RY/ SCH TE (C)	CH. CO (D)		PO: IV. GR. (F)	AD ER	H- UN \$1 	DER \$1 .5K \$3 (I)	5K- \$3 4K \$5 (J)	5K- \$6 9K \$9 (K)	\$1 0K- OF 9K MC	LOOK R DI DRE CI (M)		HOME R OWNER E	RENT- ER (P)
BASE FOR PERCENTAGES	204 100.0	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	* 0**	0**
ITS EMPLOYEES																
10 EXCELLENT	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	12 5.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	44 21.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	$\overset{4}{2.0}$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1 POOR	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT RELEVANT TO ME	18 8.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	3.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	118 57.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	5.85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	1.89	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0.24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 18 OT1A-E HOW WOULD YOU RATE TERASEN GAS IN TERMS OF BEING A COMPANY THAT CARES ABOUT ? BASE ALL RESPONDENTS $\,$

	E	DUCATION	M					НО	USEHOL	D INCO	ME			ST	ATUS	
	L:		RY/	CH. CO (D)		PO: IV. GR. 		H- UN \$1 (H)	DER \$1 5K \$3 (I)			0K- ÓR 9K MO			ME RE NER ER (O)	ENT- ? (P)
BASE FOR PERCENTAGES	204 100.0	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**
ITS ROLE IN THE COMMUNITY																
10 EXCELLENT	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	10 4.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	49 24.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	9 4.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1 POOR	2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT RELEVANT TO ME	12 5.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	2.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	118 57.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	5.51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	2.03	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 18 OT1A-E HOW WOULD YOU RATE TERASEN GAS IN TERMS OF BEING A COMPANY THAT CARES ABOUT ? BASE ALL RESPONDENTS $\,$

	E	EDUCATION	1					HC	USEHOL	D INCO	ME			S	TATUS-	
	I E	PUB- LIC / SEC ELEM- DAF ENTRY H'S (B)	RY/ SCH TE			POS IV. GRA (F)		H- UN \$1 (H)	DER \$1 5K \$3 (I)	5K- \$3 4K \$5 (J)	5K- \$6 9K \$9 (K)	\$1 0K- OF 9K MC (L)	LOOK R DI DRE CI (M)		OME R WNER E 	ENT- R (P)
BASE FOR PERCENTAGES	204 100.0	0** 0**	0** 0**	0** 0**	0** 0**	0** 0**	0** 0**	0** 0**	0**	0** 0**	0**	0** 0**	0** 0**	0**	0**	0**
THE ENVIRONMENT																
10 EXCELLENT	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	13 6.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	51 25.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1 POOR	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT RELEVANT TO ME	11 5.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	$\frac{7}{3.4}$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	118 57.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	5.97	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	1.83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0.22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 18 OT1A-E HOW WOULD YOU RATE TERASEN GAS IN TERMS OF BEING A COMPANY THAT CARES ABOUT ? BASE ALL RESPONDENTS $\,$

	E	DUCATIO	M					HC	USEHOL	D INCO	ME			· S	STATUS-	
	I E	LEM- DAI	CON RY/ SCH TE (C)	CH. CO (D)		POS IV. GRZ (F)	AD ER	H- UN \$1 	DER \$1 .5K \$3 (I)	5K- \$3 4K \$5 (J)	5K- \$6 9K \$9 	\$1 0K- OR 9K MC (L)	.00K L DE DRE CI		IOME R WNER E 	ENT- R (P)
BASE FOR PERCENTAGES	204 100.0	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**		0**
MAKING A PROFIT																
10 EXCELLENT	18 8.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	41 20.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	23 11.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1 POOR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT RELEVANT TO ME	14 6.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	2.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	118 57.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	7.74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	2.09	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0.26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Proportions/Means: Columns Tested (5%, 10% risk level) - B/C/D/E/F/G/H - I/J/K/L/M/N - O/P ** very small base (under 30) ineligible for sig testing

Table 18 OT1A-E HOW WOULD YOU RATE TERASEN GAS IN TERMS OF BEING A COMPANY THAT CARES ABOUT ? BASE ALL RESPONDENTS $\,$

	E	DUCATIO	N					НО	USEHOL	D INCO	ME			SI	ATUS	
	L E	UB- JC / SE LEM- DA NTRY H' (B)	CON RY/ SCH TE (C)	CH. CO		PO IV. GR (F)	AD ER	H- UN \$1 (H)	DER \$1 5K \$3 (I)	5K- \$3 4K \$5 (J)		OK- ÓI			ME REINER ER	ENT- { · (P)
BASE FOR PERCENTAGES	204 100.0	0** 0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0** 0**	0**	0**	0**
RE-INVESTING IN NEW ENVIRONMENTALLY-FRIENDLY TECHNOLOGIES																
10 EXCELLENT	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	13 6.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	48 23.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	$\overset{7}{3.4}$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1 POOR	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT RELEVANT TO ME	12 5.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	6 2.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	118 57.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	5.81	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	1.86	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0.23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 19 OT2 DO YOU THINK TERASEN GAS SHOULD BE INVESTING IN BIOGAS PROJECTS? BASE ALL RESPONDENTS

	S	EX	AG	E					LI	VE IN	HOUSE	HOLD		CH HO	ILDREN USEHOL	D	
	TOTAL M	FE ALE MA	- 18 LE 24	- 25 34	35 44	45 54	55 64	65	+ 1	2	3	MO TH - 5 5	AN DE	- INE YE	s no	DE CL	I- INE
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(0)	(P)	(Q)
BASE FOR PERCENTAGES	204 100.0	0** 0**	0** 0**	0**	0** 0**	0**	0** 0**	0** 0**	0** 0**	0** 0**	0**	0**	0**	0**	0**	0**	0** 0**
SHOULD BE INVESTING																	
DEFINITELY NOTX1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	29 14.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	46 22.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEFINITELYX10	26 12.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	125 61.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	7.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	2.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0.23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 20 QT2 DO YOU THINK TERASEN GAS SHOULD BE INVESTING IN BIOGAS PROJECTS? BASE ALL RESPONDENTS

		EDUCATIO	ON					HO	USEHOL	D INCO	ME			ST	ATUS	
		PUB- LIC / SI ELEM- DA ENTRY H		ECH. CO	LL. UN	PO IV. GR	ST OTI AD ER	H- UN \$1	DER \$1 5K \$3	.5K- \$3 4K \$5	5K- \$6 9K \$9	\$1 0K- OR 9K MC			ME RE NER ER	NT-
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(0)	(P)
BASE FOR PERCENTAGES	204 100.0	0** 0**	0** 0**	0** 0**	0** 0**	0**	0**	0**	0**	0** 0**	0**	0**	0**	0** 0**	0** 0**	0**
SHOULD BE INVESTING																
DEFINITELY NOTX1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	29 14.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	46 22.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEFINITELYX10	26 12.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	125 61.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	7.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	2.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0.23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 21 QT3 DO YOU THINK TERASEN GAS SHOULD INVEST IN OFFERING A BIOGAS PROGRAM TO ITS RESIDENTIAL CUSTOMERS? BASE ALL RESPONDENTS

	S	EX	AG	E					LI	VE IN	HOUSEH	HOLD			ILDREN USEHOL		
	TOTAL M	FE ALE MA	- 18 LE 24	- 25 34	35 44	45 54	55 64	65	+ 1	2	3	MO: TH - 5 5	AN DE	- INE YE	s no	DE CL	E- LINE
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(0)	(P)	(Q)
BASE FOR PERCENTAGES	204 100.0	0** 0**	0** 0**	0**	0**	0**	0** 0**	0** 0**	0**	0** 0**	0**	0**	0**	0**	0**	0**	0**
SHOULD INVEST																	
DEFINITELY NOTX1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	26 12.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	45 22.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEFINITELYX10	24 11.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	127 62.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	7.85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	2.07	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0.24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 22 OT3 DO YOU THINK TERASEN GAS SHOULD INVEST IN OFFERING A BIOGAS PROGRAM TO ITS RESIDENTIAL CUSTOMERS? BASE ALL RESPONDENTS

	I	EDUCATIO	M					НО	USEHOL	D INCC	ME			ST	ATUS	
	I E	PUB- LIC / SE ELEM- DAI ENTRY H':	CON RY/ SCH TE	CH. CO	LL. UN	PO: IV. GR	ST OT	H- UN \$1	IDER \$1 .5K \$3	5K- \$3 4K \$5	5K- \$6 59K \$9	\$1 50K- OR 98K MC	.00K R DE DRE CL	- HO INE OW	ME RE NER ER	INT-
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(0)	(P)
BASE FOR PERCENTAGES	204 100.0	0** 0**	0**	0** 0**	0** 0**	0** 0**	0**	0**	0** 0**	0**	0**	0**	0** 0**	0**	0**	0**
SHOULD INVEST																
DEFINITELY NOTX1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	26 12.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	45 22.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEFINITELYX10	24 11.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	127 62.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	7.85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	2.07	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0.24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 23 OT4 ALL THINGS BEING EQUAL, IF TERASEN GAS OFFERED A BIOGAS PROGRAM, HOW LIKELY WOULD YOU BE TO SIGN UP? BASE ALL RESPONDENTS

	S	EX	AGI	Ξ					LI	VE IN	HOUSEH	IOLD			ILDREN USEHOL		
	TOTAL M	FE ALE MA	- 18- LE 24	- 25 34	35 44	45 54	55 64	65	+ 1	2	3	MO TH - 5 5	AN DE	- INE YE:	s no	DE CL	- INE
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(0)	(P)	(Q)
BASE FOR PERCENTAGES	204 100.0	0** 0**	0**	0**	0**	0**	0**	0** 0**	0**	0**	0**	0**	0**	0**	0**	0**	0**
LIKELIHOOD																	
NOT AT ALL LIKELYX1	9 4.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	14 6.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	26 12.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	$\begin{smallmatrix} 34\\16.7\end{smallmatrix}$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VERY LIKELYX10	$\overset{13}{6.4}$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	1.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	127 62.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	6.57	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	2.86	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0.33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 24 OT4 ALL THINGS BEING EQUAL, IF TERASEN GAS OFFERED A BIOGAS PROGRAM, HOW LIKELY WOULD YOU BE TO SIGN UP? BASE ALL RESPONDENTS

	E	EDUCATIO	7					HOT	JSEHOL	D INCO	ME			ST	ATUS	
	I E	PUB- IC / SE ELEM- DAI ENTRY H'	RY/	CH. COI	LL. UN	POS IV. GR	ST OTH AD ER	H- UNI \$15	DER \$1 5K \$3	5K- \$3 4K \$5	5K- \$6 9K \$9	OK- ÓR	00K DE RE CL		ME REI NER ER	NT-
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(0)	(P)
BASE FOR PERCENTAGES	204 100.0	0**	0**	0**	0**	0**	0**	0**	0**	0** 0**	0**	0**	0**	0**	0**	0**
LIKELIHOOD																
NOT AT ALL LIKELYX1	9 4.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	14 6.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	26 12.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	34 16.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VERY LIKELYX10	13 6.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	1.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	127 62.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	6.57	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	2.86	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0.33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 25 OTS WHAT, IF ANY, WOULD BE YOUR MOTIVATION FOR SIGNING UP FOR SUCH A PROGRAM? BASE RESPONDENTS THAT ARE VERY LIKELY TO SIGN UP FOR A BIOGAS PROGRAM

	SE	EX	AGE	Ξ					LI	VE IN	HOUSEH	IOLD		CH	ILDREN USEHOL	IN D	
	TOTAL MA	FE- ALE MAI	- 18- LE 24	- 25 34	35 44	45 54	55 64	65	+ 1	2	3	MO TH - 5 5	AN DE	- INE YE	s no	DE CL	- INE
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(0)	(P)	(Q)
BASE FOR PERCENTAGES MOTIVATION	45* 100.0*	0**	0**	0**	0**	0**	0** 0**	0** 0**	0**	0** 0**	0** 0**	0** 0**	0**	0**	0** 0**	0** 0**	0** 0**
PRESERVING NATURE	30 66.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PROVIDING FOR FUTURE GENERATIONS	3 29 64.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HUMAN HEALTH	23 51.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOING THE RIGHT THING	21 46.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUPPORTING LOCAL FARMERS BY PROVIDING INCOME FOR THEIR WASTESTREAMS	21 46.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PROMOTING NEW TECHNOLOGIES	16 35.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUPPORTING LOCAL DEVELOPMENTS	16 35.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BEING ON THE CUTTING EDGE	5 11.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DON'T KNOW/NOT STATED	5 11.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Proportions/Means: Columns Tested (5%, 10% risk level) - B/C - D/E/F/G/H/I - J/K/L/M/N - O/P/Q * small base; ** very small base (under 30) ineligible for sig testing

Table 26 OTS WHAT, IF ANY, WOULD BE YOUR MOTIVATION FOR SIGNING UP FOR SUCH A PROGRAM? BASE RESPONDENTS THAT ARE VERY LIKELY TO SIGN UP FOR A BIOGAS PROGRAM

	E	DUCATIO	N					НО	USEHOLI	O INCO	ME			ST	ATUS	
	I	CLEM- DAI	CON RY/ SCH TE	CH. CO	LL. UN	POS IV. GRA		I- UNI \$1!	DER \$1! 5K \$34	5K- \$3 4K \$5	5K- \$6 9K \$9	OK- ÓR	00K DE- RE CL	- HOI INE OWI	ME REI NER ER	NT-
	(A)	(B)	(C)	(D)	(E)	(F)	(G) ((H)	(I)	(J)	(K)	(L)	(M)	(N)	(0)	(P)
BASE FOR PERCENTAGES MOTIVATION	45* 100.0*	0**	0**	0** 0**	0** 0**	0** 0**	0**	0**	0** 0**	0** 0**	0**	0**	0** 0**	0** 0**	0**	0**
PRESERVING NATURE	30 66.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PROVIDING FOR FUTURE GENERATIONS	29 64.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HUMAN HEALTH	23 51.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOING THE RIGHT THING	21 46.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUPPORTING LOCAL FARMERS BY PROVIDING INCOME FOR THEIR WASTE STREAMS	21 46.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PROMOTING NEW TECHNOLOGIES	16 35.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUPPORTING LOCAL DEVELOPMENTS	16 35.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BEING ON THE CUTTING EDGE	11.1 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DON'T KNOW/NOT STATED	5 11.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 27 QT6 AND WHAT WOULD BE YOUR MOST IMPORTANT MOTIVATION FOR SIGNING UP FOR SUCH A PROGRAM? BASE RESPONDENTS THAT ARE VERY LIKELY TO SIGN UP FOR A BIOGAS PROGRAM

	S	EX	AG	E					L]	OLD		CH HO	ILDREN JSEHOL	IN D			
	TOTAL M		LE 24	34		45 54 (F)	5 55 4 64 (G)	65 (H)	+ 1 (I)	2 (J)		MC TH - 5 5 	AN DE CL	INE YES			:- INE (Q)
BASE FOR PERCENTAGES MOST IMPORTANT MOTIVATION	45* 100.0*	0** (b)	0** 0**	0** 0**	0** 0**	(r) 0**	0** 0**	0** 0**	0** 0**	0** 0**	(K) 0** 0**	0** (L)	0** 0**	0** 0**	0** 0**	0** 0**	0** 0**
PRESERVING NATURE	$\begin{smallmatrix} 11\\24.4\end{smallmatrix}$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PROVIDING FOR FUTURE GENERATIONS	10 22.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOING THE RIGHT THING	7 15.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HUMAN HEALTH	8.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PROMOTING NEW TECHNOLOGIES	4.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUPPORTING LOCAL DEVELOPMENTS	$\overset{2}{4.4}$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHER	$\overset{2}{4.4}$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUPPORTING LOCAL FARMERS BY PROVIDING INCOME FOR THEIR WASTE STREAM	2.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BEING ON THE CUTTING EDGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STATUS IN YOUR PEER GROUP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DON'T KNOW	6.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	6.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Proportions/Means: Columns Tested (5%, 10% risk level) - B/C - D/E/F/G/H/I - J/K/L/M/N - O/P/Q * small base; ** very small base (under 30) ineligible for sig testing

Table 28 QT6 AND WHAT WOULD BE YOUR MOST IMPORTANT MOTIVATION FOR SIGNING UP FOR SUCH A PROGRAM? BASE RESPONDENTS THAT ARE VERY LIKELY TO SIGN UP FOR A BIOGAS PROGRAM

		EDUCATIO	N					НО	USEHOL	D INCC	ME			ST	ATUS	
		PUB- LIC / SE ELEM- DA ENTRY H'	RY/	CH. CO	LL. UN	PO IV. GR	ST OT. AD ER	H- UN \$1	DER \$1 5K \$3	5K- \$3 4K \$5	5K- \$6 9K \$9	\$1 0K- OF 9K MO	LOOK R DE DRE CL	- HO INE OW	ME RE NER ER	NT-
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)
BASE FOR PERCENTAGES	45* 100.0*		0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**
MOST IMPORTANT MOTIVATION	200.0	Ü	Ü	Ü	Ü	ŭ	Ü	ŭ	ŭ	Ü	Ü	Ü	Ü	ŭ	ŭ	ŭ
PRESERVING NATURE	11 24.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PROVIDING FOR FUTURE GENERATIONS	10 22.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOING THE RIGHT THING	7 15.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HUMAN HEALTH	8.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PROMOTING NEW TECHNOLOGIES	4.4^{2}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUPPORTING LOCAL DEVELOPMENTS	4.4^{2}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHER	4.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUPPORTING LOCAL FARMERS BY PROVIDING INCOME FOR THEIR WASTE STREAM	2.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BEING ON THE CUTTING EDGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STATUS IN YOUR PEER GROUP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DON'T KNOW	6.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	6.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Proportions/Means: Columns Tested (5%, 10% risk level) - B/C/D/E/F/G/H - I/J/K/L/M/N - O/P * small base; ** very small base (under 30) ineligible for sig testing

Table 29
OP1. THE COSTS FOR A BIOGAS PROGRAM CAN BE OFFERED TO CONSUMERS IN ONE OF TWO WAYS. WHICH WAY WOULD YOU PREFER TO SEE TERASEN OFFER THIS PROGRAM, IF IT WERE TO DO SO?
(SELECT ONE ONLY)
BASE ALL RESPONDENTS

		SEX	AG	E					LI	VE IN	HOUSEH	OLD			IILDREN OUSEHOL		
	TOTAL		LE 24	34	44	54 	64	65		2		TH - 5 5		LINE YE			INE
BASE FOR PERCENTAGES	(A) 204	(B) 0**	(C) 0**	(D)	(E)	(F) 0**	(G) 0**	0**	(I)	(J)	0**	(L)	(M)	0** (N)	(O)	(P)	(Q)
DADE FOR FERCENTAGES	100.0		0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**
PREFERENCE																	
TERASEN OFFERS A BIOGAS PROGRAM THAT ITS CUSTOMERS CAN SIGN UP FOR. THOSE WHO SIGN UP WOULD PAY A PREMIUM FOR BIOGAS.	2.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
THE INCREASE IN COST FOR BIOGAS SUPPLY WOULD BE BORNE BY ALL TERASEN GAS CUSTOMERS.	23 11.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DON'T KNOW	11 5.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	164 80.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Proportions/Means: Columns Tested (5%, 10% risk level) - B/C - D/E/F/G/H/I - J/K/L/M/N - O/P/Q ** very small base (under 30) ineligible for sig testing

Table 30
OP1. THE COSTS FOR A BIOGAS PROGRAM CAN BE OFFERED TO CONSUMERS IN ONE OF TWO WAYS. WHICH WAY WOULD YOU PREFER TO SEE TERASEN OFFER THIS PROGRAM, IF IT WERE TO DO SO?
(SELECT ONE ONLY)
BASE ALL RESPONDENTS

		EDUCATIO)N					НО	USEHOL	D INCO	ME			ST	ATUS	
		PUB- LIC / SE ELEM- DA ENTRY H' 	ECON ARY/ SCH TE	CH. CO (D)	LL. UN (E)	PO IV. GR (F)	ST OT AD ER (G)	H- UN \$1 	DER \$1 5K \$3 (I)	5K- \$3 4K \$5 (J)	5K- \$6 9K \$9 (K)	0K- ÓR 9K MO	00K DE RE CL	INE OW	NER ER	NT- (P)
BASE FOR PERCENTAGES	204	0**	0**	(D)	(E)	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**
	100.0	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**
PREFERENCE																
TERASEN OFFERS A BIOGAS PROGRAM THAT ITS CUSTOMERS CAN SIGN UP FOR. THOSE WHO SIGN UP WOULD PAY A PREMIUM FOR BIOGAS.	2.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
THE INCREASE IN COST FOR BIOGAS SUPPLY WOULD BE BORNE BY ALL TERASEN GAS CUSTOMERS.	23 11.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DON'T KNOW	11 5.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	164 80.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Proportions/Means: Columns Tested (5%, 10% risk level) - B/C/D/E/F/G/H - I/J/K/L/M/N - O/P ** very small base (under 30) ineligible for sig testing

Table 31 OP1A. IF THE COST OF BIOGAS IS BORNE BY ALL CUSTOMERS AND YOU HAD TO PAY 3% MORE THAN THE CURRENT COMMODITY PRICE OF NATURAL GAS-ABOUT \$1.80 MORE THAN CURRENT MONTHLY CHARGE- WOULD YOU SUPPORT SUCH A BIOGAS PROGRAM? BASE TOTAL RESPONDENT WHO WERE ASKED QUESTION QP1A

	S	EX	AC	E					LI	VE IN	HOUSE	HOLD			HILDREN OUSEHOI		
	TOTAL M	FE ALE MA	- 18 LE 24	3- 25 1 34	35	5 45 1 54	5 55 4 64	5 1 65	+ 1	2	3			E- LINE Y	ES NO		E- LINE
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)
BASE FOR PERCENTAGES	24* 100.0*	0**	0** 0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0** 0**		0** 0**	0** 0**	
SUPPORT																	
YES, WOULD SUPPORT PROGRAM	13 54.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NO, WOULD NOT SUPPORT PROGRAM	16.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DON'T KNOW	7 29.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 32 OP1A. IF THE COST OF BIOGAS IS BORNE BY ALL CUSTOMERS AND YOU HAD TO PAY 3% MORE THAN THE CURRENT COMMODITY PRICE OF NATURAL GAS-ABOUT \$1.80 MORE THAN CURRENT MONTHLY CHARGE- WOULD YOU SUPPORT SUCH A BIOGAS PROGRAM? BASE TOTAL RESPONDENT WHO WERE ASKED QUESTION QP1A

	Е	DUCATIO)N					HC	USEHOLI	O INCO	/IE			ST	ATUS	
	L E	LEM-DA	ECON ARY/ SCH TE	CH. CO	LL. UN	PO IV. GR	ST OT AD ER	H- UN	IDER \$1: .5K \$3	5K- \$3! 4K \$5!	5K- \$6 9K \$9	\$1 0K- ÖR 9K MO	00K DE RE CL	- HO INE OW	ME REI NER ER	NT-
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)
BASE FOR PERCENTAGES	24* 100.0*	0** 0**	0** 0**	0** 0**	0**	0** 0**	0**	0** 0**	0** 0**	0**	0**	0** 0**	0**	0**	0**	0**
SUPPORT																
YES, WOULD SUPPORT PROGRAM	13 54.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NO, WOULD NOT SUPPORT PROGRAM	$16.\overset{4}{7}$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DON'T KNOW	7 29.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Proportions/Means: Columns Tested (5%, 10% risk level) - B/C/D/E/F/G/H - 1/J/K/L/M/N - O/P * small base; ** very small base (under 30) ineligible for sig testing

Table 33
OPIB. IF THE COST OF BIOGAS IS BORNE BY ALL CUSTOMERS AND YOU HAD TO PAY 2% MORE THAN THE CURRENT COMMODITY
OF NATURAL GAS-ABOUT \$1.20 MORE THAN THE CURRENT MONTHLY CHARGE-WOULD YOU SUPPORT SUCH A BIOGAS PROGRAM?
BASE (FROM SAMPLE A) RESPONDENTS WHO WOULD NOT SUPPORT A 3% BIO GAS CHARGE

	SE	EX	AG	E					LI	VE IN	HOUSE	HOLD			ILDREN JSEHOL		
	TOTAL MA	FE- ALE MAI	. 18 E 24	- 25 34	35 44	45 54	5 55	5 1 65	+ 1	2	3		ORE IAN DE CL	:- INE YE	S NO	DE CI	E- LINE
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)
BASE FOR PERCENTAGES	11* 100.0*	0**	0** 0**	0**	0**	0**	0**	0** 0**	0**	0**	0**	0**	0**	0** 0**	0**	0**	0**
SUPPORT																	
YES, WOULD SUPPORT PROGRAM	18.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NO, WOULD NOT SUPPORT PROGRAM	18.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DON'T KNOW	7 63.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Proportions/Means: Columns Tested (5%, 10% risk level) - B/C - D/E/F/G/H/I - J/K/L/M/N - O/P/Q * small base; ** very small base (under 30) ineligible for sig testing

Table 34
OPIB. IF THE COST OF BIOGAS IS BORNE BY ALL CUSTOMERS AND YOU HAD TO PAY 2% MORE THAN THE CURRENT COMMODITY
OF NATURAL GAS-ABOUT \$1.20 MORE THAN THE CURRENT MONTHLY CHARGE-WOULD YOU SUPPORT SUCH A BIOGAS PROGRAM?
BASE (FROM SAMPLE A) RESPONDENTS WHO WOULD NOT SUPPORT A 3% BIO GAS CHARGE

	E	DUCATIO)N					HC	USEHOLI	O INCOM	Œ			ST	'ATUS	
	L E	UB- IC / SE LEM- DA NTRY H'	CON RY/ SCH TE	CH. CO	LL. UN	PO IV. GR	ST OT	H- UN \$1	IDER \$15	5K- \$35 1K \$59	5K- \$6 9K \$9	\$10 0K- OR 9K MO	00K DE RE CL	- HO INE OW	ME REI	NT-
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)
BASE FOR PERCENTAGES	11* 100.0*	0** 0**	0**	0**	0**	0** 0**	0**	0**	0**	0**	0**	0** 0**	0** 0**	0** 0**	0** 0**	0**
SUPPORT																
YES, WOULD SUPPORT PROGRAM	18.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NO, WOULD NOT SUPPORT PROGRAM	18.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DON'T KNOW	7 63.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Proportions/Means: Columns Tested (5%, 10% risk level) - B/C/D/E/F/G/H - 1/J/K/L/M/N - O/P * small base; ** very small base (under 30) ineligible for sig testing

Table 35 OP2A. IF THE COST OF BIOGAS IS BORNE BY ALL CUSTOMERS AND YOU HAD TO PAY 2% MORE THAN THE CURRENT COMMODITY OF NATURAL GAS-ABOUT \$1.20 MORE THAN THE CURRENT MONTHLY CHARGE-WOULD YOU SUPPORT SUCH A BIOGAS PROGRAM? BASE TOTAL RESPONDENT WHO WERE ASKED QUESTION QP2A

	SI	EX	AC	E					LI	VE IN	HOUSE	HOLD			ILDREN USEHOL		
	TOTAL MA	FE ALE MA		3- 25 1 34	35	5 45 54	55	5 4 65	+ 1	2	3		ORE IAN DE CL	I- INE YE	S NO		E- LINE
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)
BASE FOR PERCENTAGES	21* 100.0*	0**	0**	0**	0**	0**	0**	0** 0**	0**	0** 0**	0**	0**	0**	0** 0**	0**	0**	0** 0**
SUPPORT																	
YES, WOULD SUPPORT PROGRAM	8 38.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NO, WOULD NOT SUPPORT PROGRAM	19.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DON'T KNOW	9 42.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 36
OP2A. IF THE COST OF BIOGAS IS BORNE BY ALL CUSTOMERS AND YOU HAD TO PAY 2% MORE THAN THE CURRENT COMMODITY
OF NATURAL GAS-ABOUT \$1.20 MORE THAN THE CURRENT MONTHLY CHARGE-WOULD YOU SUPPORT SUCH A BIOGAS PROGRAM?
BASE TOTAL RESPONDENT WHO WERE ASKED QUESTION QP2A

	ED	DUCATION	1					HO	USEHOL	D INCO	ME			ST	'ATUS -	
	LI EL	JB- C / SEC JEM- DAF JTRY H'S	XX/	CH. CO	LL. UN	POS IV. GR	ST OTI AD ER	H- UN \$1	DER \$1 5K \$3	5K- \$3 4K \$5	5K- \$60 9K \$99	\$1(OK- OR OK MOE	OOK DE RE CL	- HC INE OW	ME RI NER EI	ENT- R
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(0)	(P)
BASE FOR PERCENTAGES	21* 100.0*	0** 0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0** 0**	0**	0**	0**
SUPPORT																
YES, WOULD SUPPORT PROGRAM	8 38.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NO, WOULD NOT SUPPORT PROGRAM	19.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DON'T KNOW	9 42.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Proportions/Means: Columns Tested (5%, 10% risk level) - B/C/D/E/F/G/H - 1/J/K/L/M/N - O/P * small base; ** very small base (under 30) ineligible for sig testing

Table 37
OP18/OP2A. IF THE COST OF BIOGAS IS BORNE BY ALL CUSTOMERS AND YOU HAD TO PAY 2% MORE THAN THE CURRENT COMMODITY
OF NATURAL GAS-ABOUT \$1.20 MORE THAN THE CURRENT MONTHLY CHARGE-WOULD YOU SUPPORT SUCH A BIOGAS PROGRAM - NET
BASE RESPONDENT WHO IS VERY OR SOMEHWAT LIKELY TO THINK TERASEN SHOULD OFFER A BIOGAS PROGRAM TO RESIDENTIAL CUSTOMERS

	S	EX	AC	GE					LI	VE IN	HOUSE	HOLD			HILDREI OUSEHOI		
	TOTAL M	FE ALE MA	L- 18 LE 24	3- 25 1 34	35	5 45 4 54	5 55	65	5+ 1	2	3	M T: - 5 5	ORE HAN D	E- LINE Y	ES NO	DE O CI	E- LINE
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)
BASE FOR PERCENTAGES	32* 100.0*	0**	0**	0**	0**	0**	0**	0**	0**	0** 0**	0** 0**	0** 0**			0** 0**	0**	
SUPPORT																	
YES, WOULD SUPPORT PROGRAM	10 31.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NO, WOULD NOT SUPPORT PROGRAM	18.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DON'T KNOW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	16 50.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Proportions/Means: Columns Tested (5%, 10% risk level) - B/C - D/E/F/G/H/I - J/K/L/M/N - O/P/Q * small base; ** very small base (under 30) ineligible for sig testing

Table 38
OP1B/OP2A. IF THE COST OF BIOGAS IS BORNE BY ALL CUSTOMERS AND YOU HAD TO PAY 2% MORE THAN THE CURRENT COMMODITY
OF NATURAL GAS-ABOUT \$1.20 MORE THAN THE CURRENT MONTHLY CHARGE-WOULD YOU SUPPORT SUCH A BIOGAS PROGRAM - NET
BASE RESPONDENT WHO IS VERY OR SOMEHWAT LIKELY TO THINK TERASEN SHOULD OFFER A BIOGAS PROGRAM TO RESIDENTIAL CUSTOMERS

	E	DUCATIO	ON					HC	USEHOL	D INC	ME			S	ratus	
	L	LEM- DA	ECON ARY/ 'SCH TI	ECH. CC	DLL. UI	PO NIV. GR	ST OT AD ER	H- UN	IDER \$1 .5K \$3	5K- \$3 4K \$5	35K- \$ 59K \$	60K- Ó	100K R D ORE C	E- HO LINE O	OME RE	ENT-
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(0)	(P)
BASE FOR PERCENTAGES	32* 100.0*	0** 0**	0** 0**	0** 0**	0**	0**	0**	0**	0**	0**	0** 0**				0**	0** 0**
SUPPORT																
YES, WOULD SUPPORT PROGRAM	10 31.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NO, WOULD NOT SUPPORT PROGRAM	18.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DON'T KNOW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	16 50.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Proportions/Means: Columns Tested (5%, 10% risk level) - B/C/D/E/F/G/H - I/J/K/L/M/N - O/P * small base; ** very small base (under 30) ineligible for sig testing

Table 39
OP2B. IF THE COST OF BIOGAS IS BORNE BY ALL CUSTOMERS AND YOU HAD TO PAY 1% MORE THAN THE CURRENT COMMODITY
OF NATURAL GAS-ABOUT \$0.60 MORE THAN THE CURRENT MONTHLY CHARGE-WOULD YOU SUPPORT SUCH A BIOGAS PROGRAM?
BASE (FROM SAMPLE B) RESPONDENTS WHO WOULD NOT SUPPORT A 2% BIO GAS CHARGE

	SE	EX	AG	E					LI	VE IN	HOUSE	HOLD			ILDREN USEHOI		
	TOTAL MA	FE- ALE MAI	- 18 LE 24	3- 25 34	35 44	5 45	5 55	5 L 65	+ 1	2	3	M(TH - 5 5	ORE HAN DI CI	E- LINE YE	s no	D) C.	E- LINE
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)
BASE FOR PERCENTAGES	13* 100.0*	0** 0**	0**	0** 0**	0**	0** 0**	0**	0** 0**	0** 0**	0**	0**	0**	0** 0**	0** 0**	0**	0** 0**	
SUPPORT																	
YES, WOULD SUPPORT PROGRAM	30.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NO, WOULD NOT SUPPORT PROGRAM	23.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DON'T KNOW	6 46.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Proportions/Means: Columns Tested (5%, 10% risk level) - B/C - D/E/F/G/H/I - J/K/L/M/N - O/P/Q * small base; ** very small base (under 30) ineligible for sig testing

Table 40
OP2B. IF THE COST OF BIOGAS IS BORNE BY ALL CUSTOMERS AND YOU HAD TO PAY 1% MORE THAN THE CURRENT COMMODITY
OF NATURAL GAS-ABOUT \$0.60 MORE THAN THE CURRENT MONTHLY CHARGE-WOULD YOU SUPPORT SUCH A BIOGAS PROGRAM?
BASE (FROM SAMPLE B) RESPONDENTS WHO WOULD NOT SUPPORT A 2% BIO GAS CHARGE

	E	DUCATION	1					HO	USEHOL	D INCO	ME			SI	ATUS	
	L E	UB- IC / SEG LEM- DAI NTRY H'S	RY/	CH. CC	DLL. UN	PO IV. GR	ST OT AD ER	H- UN \$1	DER \$1 5K \$3	5K- \$3 4K \$5	5K- \$6 9K \$9	OK- ÓR	00K DE RE CL	- HO INE OW	ME RE NER ER	INT-
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(0)	(P)
BASE FOR PERCENTAGES	13* 100.0*	0** 0**	0**	0**	0** 0**	0** 0**	0**	0** 0**	0** 0**	0**	0** 0**	0** 0**	0** 0**	0**	0**	0**
SUPPORT																
YES, WOULD SUPPORT PROGRAM	30.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NO, WOULD NOT SUPPORT PROGRAM	23.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DON'T KNOW	6 46.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Proportions/Means: Columns Tested (5%, 10% risk level) - B/C/D/E/F/G/H - 1/J/K/L/M/N - O/P * small base; ** very small base (under 30) ineligible for sig testing

Table 41 OP3A. IF THE COST OF BIOGAS IS BORNE BY ALL CUSTOMERS AND YOU HAD TO PAY 1% MORE THAN THE CURRENT COMMODITY OF NATURAL GAS-ABOUT \$0.60 MORE THAN THE CURRENT MONTHLY CHARGE-WOULD YOU SUPPORT SUCH A BIOGAS PROGRAM? BASE TOTAL RESPONDENT WHO WERE ASKED QUESTION QP3A

	SE	EX	AG	E					LI	VE IN	HOUSEF	HOLD			LDREN SEHOL		
	TOTAL MA	FE-			35 44	5 45 1 54	5 55 4 64	5 65	+ 1	2	3	MO TH - 5 5		NE YES	NO	DE CL	E- LINE
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M) (N) (0)	(P)	(Q)
BASE FOR PERCENTAGES	21* 100.0*	0**	0**	0** 0**	0** 0**	0**	0**	0** 0**	0**	0**	0** 0**	0** 0**	0**	0**	0** 0**	0** 0**	0**
SUPPORT YES, WOULD SUPPORT PROGRAM	12 57.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NO, WOULD NOT SUPPORT PROGRAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DON'T KNOW	9 42.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Proportions/Means: Columns Tested (5%, 10% risk level) - B/C - D/E/F/G/H/I - J/K/L/M/N - O/P/Q * small base; ** very small base (under 30) ineligible for sig testing

Table 42
OP3A. IF THE COST OF BIOGAS IS BORNE BY ALL CUSTOMERS AND YOU HAD TO PAY 1% MORE THAN THE CURRENT COMMODITY
OF NATURAL GAS-ABOUT \$0.60 MORE THAN THE CURRENT MONTHLY CHARGE-WOULD YOU SUPPORT SUCH A BIOGAS PROGRAM?
BASE TOTAL RESPONDENT WHO WERE ASKED QUESTION QP3A

	ED	UCATION	[HO	JSEHOLI) INCOM	1E			ST	ATUS	
	PU LI EL TOTAL EN	C / SEC EM- DAR	Υ/	CH. CO	LL. UNI	PO: IV. GR	ST OT	H- UNI \$1!	DER \$15 5K \$34	5K- \$35 IK \$59	K- \$6 K \$9	OK- ÓR	OOK DE- RE CL:	- HOI	ME REN NER ER	T-
	(A)	(B) (C) ((D)	(E)	(F)	(G)	(H)	(I)	(J)	K)	(L)	(M)	(N)	(O)	(P)
BASE FOR PERCENTAGES	21* 100.0*	0** 0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0** 0**
SUPPORT																
YES, WOULD SUPPORT PROGRAM	12 57.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NO, WOULD NOT SUPPORT PROGRAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DON'T KNOW	9 42.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Proportions/Means: Columns Tested (5%, 10% risk level) - B/C/D/E/F/G/H - 1/J/K/L/M/N - O/P * small base; ** very small base (under 30) ineligible for sig testing

SEX----- AGE------ CHILDREN IN

Table 43

QP2B/QP3A. IF THE COST OF BIOGAS IS BORNE BY ALL CUSTOMERS AND YOU HAD TO PAY 2% MORE THAN THE CURRENT COMMODITY

OF NATURAL GAS-ABOUT \$0.60 MORE THAN THE CURRENT MONTHLY CHARGE-WOULD YOU SUPPORT SUCH A BIOGAS PROGRAM - NET

BASE RESPONDENT WHO IS VERY OR SOMEHWAT LIKELY TO THINK TERASEN SHOULD OFFER A BIOGAS PROGRAM TO RESIDENTIAL CUSTOMERS

	51		110								поовы	ЮШБ		H	OUSEHOI	D	
	TOTAL MA	FE ALE MA	E- 18 ALE 24	3- 25 1 34	5 35 4 44	5 45 1 54	5 55 1 64	65	5+ 1	2	3	M(T) - 5 5		E- LINE Y	ES NO		E- LINE
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(0)	(P)	(Q)
BASE FOR PERCENTAGES	22* 100.0*	0**	0**	0**	0** 0**	0**	0**	0**	0**	0**	0** 0**	0**	0**	0**	0** 0**	0** 0**	0**
SUPPORT YES, WOULD SUPPORT PROGRAM	18.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NO, WOULD NOT SUPPORT PROGRAM	3 13.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DON'T KNOW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	15 68.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Proportions/Means: Columns Tested (5%, 10% risk level) - B/C - D/E/F/G/H/I - J/K/L/M/N - O/P/Q * small base; ** very small base (under 30) ineligible for sig testing

Table 44
OP2B/OP3A. IF THE COST OF BIOGAS IS BORNE BY ALL CUSTOMERS AND YOU HAD TO PAY 2% MORE THAN THE CURRENT COMMODITY
OF NATURAL GAS-ABOUT \$0.60 MORE THAN THE CURRENT MONTHLY CHARGE-WOULD YOU SUPPORT SUCH A BIOGAS PROGRAM - NET
BASE RESPONDENT WHO IS VERY OR SOMEHWAT LIKELY TO THINK TERASEN SHOULD OFFER A BIOGAS PROGRAM TO RESIDENTIAL CUSTOMERS

	E	EDUCATIO	DN					HC	USEHOL	D INCC	ME			S'	TATUS	
	I	ELEM- DA	ECON ARY/ 'SCH TI	ECH. CC	OLL. UN	PO NIV. GR	ST OT AD ER	H- UN	IDER \$1 .5K \$3	5K- \$3	35K- \$	\$ 60K- O 99K M	100K R D ORE C	E- H	OME RE WNER EF	ENT-
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(上)	(M)	(N)	(0)	(P)
BASE FOR PERCENTAGES	22* 100.0*	0** 0**	0** 0**	0** 0**	0**	0** 0**	0**	0**	0** 0**	0** 0**	0** 0**	0** 0**	0**		0** 0**	0**
SUPPORT																
YES, WOULD SUPPORT PROGRAM	18.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NO, WOULD NOT SUPPORT PROGRAM	13.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DON'T KNOW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	15 68.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Proportions/Means: Columns Tested (5%, 10% risk level) - B/C/D/E/F/G/H - I/J/K/L/M/N - O/P * small base; ** very small base (under 30) ineligible for sig testing

Table 45

QP3B. IF THE COST OF BIOGAS IS BORNE BY ALL CUSTOMERS AND YOU HAD TO PAY 0.5% MORE THAN THE CURRENT COMMODITY

OF NATURAL GAS-ABOUT \$0.30 MORE THAN THE CURRENT MONTHLY CHARGE-WOULD YOU SUPPORT SUCH A BIOGAS PROGRAM?

BASE (FROM SAMPLE C) RESPONDENTS WHO WOULD NOT SUPPORT A 1% BIO GAS CHARGE

	SE	X	AC	E					LI	VE IN	HOUSEF	HOLD			ILDREN USEHOI		
	TOTAL MA	FE: LE MAI	- 18 LE 24	3- 25 1 34	35 44	5 45 54	55	5 4 65	+ 1	2	3		ORE IAN DE CL]- INE YE	S NO	DE O CI	E- LINE
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)
BASE FOR PERCENTAGES	9* 100.0*	0**	0 **	0**	0**	0**	0**	0**	0** 0**	0**	0** 0**	0**	0** 0**	0** 0**	0**	0**	0** 0**
SUPPORT																	
YES, WOULD SUPPORT PROGRAM	11.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NO, WOULD NOT SUPPORT PROGRAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DON'T KNOW	8 88.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 46
0P3B. IF THE COST OF BIOGAS IS BORNE BY ALL CUSTOMERS AND YOU HAD TO PAY 0.5% MORE THAN THE CURRENT COMMODITY
0F NATURAL GAS-ABOUT \$0.30 MORE THAN THE CURRENT MONTHLY CHARGE-WOULD YOU SUPPORT SUCH A BIOGAS PROGRAM?
BASE (FROM SAMPLE C) RESPONDENTS WHO WOULD NOT SUPPORT A 1% BIO GAS CHARGE

	E	DUCATIO	N					HO	USEHO	LD IN	COME				STATUS	
	L E	LEM-DA		ECH. CO	LL. UNI	PO IV. GR	ST OTI AD ER	H- UN \$1	DER \$ 5K \$	15K- 34K	\$35K- \$59K	\$60K- \$99K	\$100K OR MORE	DE- CLINE	HOME OWNER	RENT- ER
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(0)	(P)
BASE FOR PERCENTAGES	9* 100.0*	0** 0**	0**	0** 0**	0**	0 **	0**	0**	0**	0*	* 0°	** 0	** 07	** 0*	* 0*	
SUPPORT																
YES, WOULD SUPPORT PROGRAM	11.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NO, WOULD NOT SUPPORT PROGRAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DON'T KNOW	8 88.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Proportions/Means: Columns Tested (5%, 10% risk level) - B/C/D/E/F/G/H - I/J/K/L/M/N - O/P * small base; ** very small base (under 30) ineligible for sig testing

Table 47 OC1. HAVE YOU HEARD OF THE TERM 'CARBON OFFSET'? BASE ALL RESPONDENTS

SEX----- AGE----- CHILDREN IN HOUSEHOLD------ CHILDREN IN HOUSEHOLD------DE-CLINE YES NO DE-CLINE (A) (B) (C) (D) (E) (F) (G) (H) (I) (J) (K) (L) (M) (N) 204 100.0 0** 0** 0** 0** 0** 0** 0** 0** 0** 0** 0** 0** BASE FOR PERCENTAGES HAVE HEARD YES 29 14.2 0 0 0 0 0 0 0 0 20 9.8 0 0 0 0 0 0 0 0 0 0 0 NO 0 0 0 0 0 21 10.3 NOT SURE 0 0 0 0 0 0 0 0 NOT STATED 134 65.7 0 0 0 0 0 0 0 0 0 0 0

EDUCATION----- STATUS----PUB-LIC / SECON ELEM- DARY/ TOTAL ENTRY H'SCH TECH. COLL. UNIV. GRAD UNDER \$15K- \$35K- \$60K- OR DE- HOME RENT-\$15K \$34K \$59K \$99K MORE CLINE OWNER ER (A) (B) (C) (D) (E) (F) (G) (H) (I) (J) (K) (L) (M) (N) 204 100.0 0** 0** 0** 0** 0** 0** 0** 0** 0** 0** 0** BASE FOR PERCENTAGES HAVE HEARD YES 29 14.2 0 0 0 0 0 0 0 0 0 0 0 20 9.8 0 0 0 0 0 0 0 0 0 NO 0 0 0 0 0 0 NOT SURE 21 10.3 0 0 0 0 0 0 0 0 0 0 NOT STATED 134 65.7 0 0 0 0 0 0 0 0 0 0 0 0 0

Table 49 QC2. KNOWING THIS INFORMATION, HOW LIKELY WOULD YOU BE TO PURCHASE A CARBON OFFSET FOR YOUR PERSONAL NATURAL GAS USE IN ORDER TO REDUCE YOUR INDIVIDUAL ENVIRONMENTAL FOOTPRINT? BASE ALL RESPONDENTS

	5	SEX	AG	E					L	IVE IN	HOUSE	HOLD		C	HILDRE OUSEHO	N IN LD	
	TOTAL N	FE MALE MA	- 18 LE 24	- 25 34	35	45	55 64	65	5+ 1	2	3		ORE HAN D C	E- LINE Y	ES N		E- LINE
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)
BASE FOR PERCENTAGES	204 100.0	0** 0**	0** 0**	0** 0**	0** 0**	0** 0**	0** 0**	0**	0**	0** 0**	0** 0**	0** 0**	0** 0**	0** 0**	0** 0**	0** 0**	0** 0**
LIKELIHOOD																	
ALREADY PURCHASING ONE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT AT ALL LIKELYX1	8 3.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	$\begin{smallmatrix} 11\\ 5.4\end{smallmatrix}$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	19 9.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	21 10.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXTREMELY LIKELYX10	2.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NEED MORE INFORMATION	13 6.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	140 68.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	6.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	2.94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0.41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 50 QC2. KNOWING THIS INFORMATION, HOW LIKELY WOULD YOU BE TO PURCHASE A CARBON OFFSET FOR YOUR PERSONAL NATURAL GAS USE IN ORDER TO REDUCE YOUR INDIVIDUAL ENVIRONMENTAL FOOTPRINT? BASE ALL RESPONDENTS

	I	EDUCATIO	N					HO	USEHOL	D INCC	ME			S'	TATUS-	
]	PUB- LIC / SE ELEM- DA ENTRY H'		ECH. CO	LL. UN	PO IV. GR	ST OT	H- UN \$1	DER \$1 5K \$3	5K- \$3 4K \$5	85K- \$6 59K \$9	50K- Ó	100K R DI ORE CI		OME R WNER E	ENT- R
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)
BASE FOR PERCENTAGES	204 100.0	0**	0** 0**	0**	0** 0**	0** 0**	0**	0** 0**	0**	0** 0**	0**	0** 0**	0**	0** 0**	0** 0**	
LIKELIHOOD																
ALREADY PURCHASING ONE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT AT ALL LIKELYX1	8 3.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	11 5.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	19 9.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	21 10.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXTREMELY LIKELYX10	2.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NEED MORE INFORMATION	13 6.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	140 68.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	6.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	2.94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0.41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 51 QC3. CARBON OFFSETS ARE SOLD THROUGH A NUMBER OF SOURCES. WOULD YOU PREFER TO PURCHASE AN OFFSET THROUGH...? BASE RESPONDENTS WHO ARE EXTREMELY LIKELY TO PURCHASE A CARBON OFFSET IN ORDER TO REDUCE THEIR ENVIRONMENTAL FOOTPRINT

	5	SEX	AC	GE					LI	VE IN	HOUSE	HOLD			HILDREN OUSEHOL		
	TOTAL M		E- 18 ALE 24	3- 25 4 34	5 35 1 44	5 45 1 54	5 55 4 64	5 1 65	+ 1	2	3			E- LINE Y	ES NO	DE CI	E- LINE
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(0)	(P)	(Q)
BASE FOR PERCENTAGES	21* 100.0*	0** 0**	0** 0**	0**	0**	0** 0**	0**	0** 0**	0** 0**	0 **	0** 0**	0** 0**				0**	0**
PREFERENCE																	
YOUR LOCAL UTILITY PROVIDER	10 47.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A 3RD PARTY PROVIDER THAT SUPPORTS PROJECTS IN BC	14.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A 3RD PARTY PROVIDER THAT SUPPORTS PROJECTS OUTSIDE BC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NEED MORE INFORMATION / DON'T KNOW	8 38.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 52
QC3. CARBON OFFSETS ARE SOLD THROUGH A NUMBER OF SOURCES. WOULD YOU PREFER TO PURCHASE AN OFFSET THROUGH...?
BASE RESPONDENTS WHO ARE EXTREMELY LIKELY TO PURCHASE A CARBON OFFSET IN ORDER TO REDUCE THEIR ENVIRONMENTAL FOOTPRINT

EDUCATION----- STATUS----PUB-LIC / SECON ELEM- DARY/ POST OTH-TOTAL ENTRY H'SCH TECH. COLL. UNIV. GRAD ER UNDER \$15K- \$35K- \$60K- OR DE- HOME RENT-\$15K \$34K \$59K \$99K MORE CLINE OWNER ER (A) (E) (F) (H) (I) (K) (L) (N) (D) (G) (J) 0** 0** 0** 0** 0** BASE FOR PERCENTAGES 100.0* 0** 0** 0** 0** 0** 0** 0** PREFERENCE YOUR LOCAL UTILITY PROVIDER 10 47.6 0 0 0 0 0 0 0 0 0 0 0 0 A 3RD PARTY PROVIDER THAT SUPPORTS PROJECTS IN BC 3 14.3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 A 3RD PARTY PROVIDER THAT SUPPORTS PROJECTS OUTSIDE BC 0 0 0 0 0 0 NEED MORE INFORMATION / DON'T KNOW 0 0 0 0 0 0 0 0 0 0 0 38.1

Table 53 QC4. WHICH OF THESE TWO PROGRAMS WOULD YOU BE MORE INCLINED TO SEE TERASEN GAS INTRODUCE, IF IT WERE TO DO SO? BASE ALL RESPONDENTS

	SI	EX	AG	E					LI	VE IN	HOUSE	IOLD			ILDREN USEHOL		
	TOTAL MA	FE- ALE MAI	- 18 LE 24	- 25 34	35 44	45 54	55 64	65-	+ 1	2	3	MC TH - 5 5	ORE IAN DE CI	E- LINE YE	S NO	DE CL	- INE
	(A)	(B) ((C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)
BASE FOR PERCENTAGES	204 100.0	0**	0**	0**	0** 0**	0** 0**	0** 0**	0**	0**	0**	0** 0**	0**	0**	0** 0**	0** 0**	0** 0**	0** 0**
PROGRAMS																	
OFFSET PROGRAM	6 2.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RENEWABLE ENERGY PROGRAM	29 14.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NEITHER	2.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DON'T KNOW	23 11.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	141 69.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 54 QC4. WHICH OF THESE TWO PROGRAMS WOULD YOU BE MORE INCLINED TO SEE TERASEN GAS INTRODUCE, IF IT WERE TO DO SO? BASE ALL RESPONDENTS

		EDUCATIO	N					HOT	JSEHOL	D INCO	ME			ST	ATUS		
	TOTAL	PUB- LIC / SE ELEM- DA ENTRY H'	CON RY/ SCH TE	CH. CO	LL. UN	PO: IV. GR.	ST OT	H- UNI . \$1!	DER \$1.5K \$3.	5K- \$3 4K \$5	5K- \$6 9K \$9	\$1 0K- ÖR 9K MO	00K DE RE CL	- HO INE OW	ME REI NER ER	NT- 	
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	
BASE FOR PERCENTAGES	204 100.0	0**	0**	0**	0** 0**	0** 0**	0**	0** 0**	0**	0**	0** 0**	0**	0** 0**	0**	0**	0**	
PROGRAMS																	
OFFSET PROGRAM	2.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
RENEWABLE ENERGY PROGRAM	29 14.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
NEITHER	2.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
DON'T KNOW	23 11.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
NOT STATED	141 69.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Table 55 QC5. WHAT TYPES OF OFFSET PROJECTS WOULD YOU WANT TO SEE TERASEN GAS INVEST IN OUTSIDE OF ITS OWN RENEWABLE ENERGY PROJECTS? BASE ALL RESPONDENTS

		SEX	AG	E					L	IVE IN	HOUSE	HOLD				N IN LD	
	TOTAL	FE MALE MA	- 18 LE 24	- 25 34	35 44	45 54	5 5! L 64	5 4 6!	5+ 1	2	3		ORE HAN DI	E- LINE YE	es no	DE O CI	E- LINE
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(上)	(M)	(N)	(O)	(P)	(Q)
BASE FOR PERCENTAGES	204 100.0	0**	0**	0**	0**	0**	0**	0**	0**	0**	0** 0**	0**	0**	0**	0**	0**	0**
PROJECTS			-	-	-	-	-	-	-	-	-	-	_	-	-	-	-
WIND POWER - USE WIND TO CREATE ELECTRICITY.	44 21.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOLAR POWER - GENERATE ENERGY FROM SUNLIGHT.	$\substack{43\\21.1}$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FORESTATION - PLANT TREES WHICH ABSORB CARBON DIOXIDE.	34 16.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FUEL EFFICIENCY - BURN A PARTICULAR FUEL MORE EFFICIENTLY	. 13.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ENVIRONMENTAL BUILDINGS - MAKE BUILDINGS MORE ENERGY EFFICIENT.	28 13.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GEOTHERMAL POWER - ENERGY EXTRACTED FROM THE GROUND FOR HEATING.	27 13.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FUEL SUBSTITUTION - SWITCH TO A FUEL THAT EMITS LESS CARBON SUCH AS DIESEL TRUCKS TO NATURAL GAS TRUCKS.	25 12.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PUBLIC TRANSPORTATION - SUBSIDIZ OR ENCOURAGE THE USE OF PUBLIC TRANSPORT.	E 24 11.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EFFICIENT LIGHTING- REPLACE LIGH BULBS WITH FLUORESCENT LAMPS.	T 22 10.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HEAT-ELECTRICITY COGENERATION - CREATE ELECTRICITY AND HEAT TOGETHER.	20 9.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3RD PARTY BIOGAS PROJECTS - WITHIN BC	17 8.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ENERGY FROM BIOMASS - BURN WOOD WASTE TO GENERATE ELECTRICITY.	13 6.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3RD PARTY BIOGAS PROJECTS - OUTSIDE BC	2.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NO PREFERENCE	12 5.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Proportions/Means: Columns Tested (5%, 10% risk level) - B/C - D/E/F/G/H/I - J/K/L/M/N - O/P/Q ** very small base (under 30) ineligible for sig testing

Table 55 QC5. WHAT TYPES OF OFFSET PROJECTS WOULD YOU WANT TO SEE TERASEN GAS INVEST IN OUTSIDE OF ITS OWN RENEWABLE ENERGY PROJECTS? BASE ALL RESPONDENTS

	S	EX	- AGE					LI	VE IN	HOUSEH	OLD			ILDREN JSEHOLI		
	TOTAL M	FE- IALE MALE	18- 2 24 3	5 35 4 44	45 54	55 64	65-	+ 1	2	3	MOF THA - 5 5	M DE-	- INE YES	s no	DE CL	E- LINE
	(A)	(B) (C) (D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(0)	(P)	(Q)
BASE FOR PERCENTAGES	204 100.0	0**	0** 0**	0** 0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0** 0**
PROJECTS	100.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NONE OF THE ABOVE	0.5	0	0 0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	141 69.1	0	0 0 0 0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 56 QC5. WHAT TYPES OF OFFSET PROJECTS WOULD YOU WANT TO SEE TERASEN GAS INVEST IN OUTSIDE OF ITS OWN RENEWABLE ENERGY PROJECTS? BASE ALL RESPONDENTS

		EDUCATIO)N					НО	USEHOLI	O INCO	ME			ST	ATUS	
	TOTAL	PUB- LIC / SI ELEM- DA ENTRY H	ARY/	CH. CO	LL. UN		ST OTI AD ER	H- UN \$1	DER \$15	5K- \$3 4K \$5	5K- \$6 9K \$9	\$1 0K- OF 9K MO	LOOK R DE DRE CL		ME RE	NT-
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)
BASE FOR PERCENTAGES PROJECTS	204 100.0		0** 0**	0**	0**	0** 0**	0**	0**	0**	0**	0** 0**	0**	0** 0**	0** 0**	0** 0**	0**
WIND POWER - USE WIND TO CREATE ELECTRICITY.	44 21.6		0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOLAR POWER - GENERATE ENERGY FROM SUNLIGHT.	43 21.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FORESTATION - PLANT TREES WHICH ABSORB CARBON DIOXIDE.	34 16.7		0	0	0	0	0	0	0	0	0	0	0	0	0	0
FUEL EFFICIENCY - BURN A PARTICULAR FUEL MORE EFFICIENTLY.	28 . 13.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ENVIRONMENTAL BUILDINGS - MAKE BUILDINGS MORE ENERGY EFFICIENT.	28 13.7		0	0	0	0	0	0	0	0	0	0	0	0	0	0
GEOTHERMAL POWER - ENERGY EXTRACTED FROM THE GROUND FOR HEATING.	27 13.2		0	0	0	0	0	0	0	0	0	0	0	0	0	0
FUEL SUBSTITUTION - SWITCH TO A FUEL THAT EMITS LESS CARBON SUCH AS DIESEL TRUCKS TO NATURAL GAS TRUCKS.	25 12.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PUBLIC TRANSPORTATION - SUBSIDIZE OR ENCOURAGE THE USE OF PUBLIC TRANSPORT.	E 24 11.8		0	0	0	0	0	0	0	0	0	0	0	0	0	0
EFFICIENT LIGHTING- REPLACE LIGHT BULBS WITH FLUORESCENT LAMPS.	7 22 10.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HEAT-ELECTRICITY COGENERATION - CREATE ELECTRICITY AND HEAT TOGETHER.	20 9.8		0	0	0	0	0	0	0	0	0	0	0	0	0	0
3RD PARTY BIOGAS PROJECTS - WITHIN BC	17 8.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ENERGY FROM BIOMASS - BURN WOOD WASTE TO GENERATE ELECTRICITY.	13 6.4		0	0	0	0	0	0	0	0	0	0	0	0	0	0
3RD PARTY BIOGAS PROJECTS - OUTSIDE BC	2.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NO PREFERENCE	12 5.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Proportions/Means: Columns Tested (5%, 10% risk level) - B/C/D/E/F/G/H - I/J/K/L/M/N - O/P ** very small base (under 30) ineligible for sig testing

EDUCATION----- STATUS----PUB-LIC / SECON ELEM- DARY/ POST OTH-TOTAL ENTRY H'SCH TECH. COLL. UNIV. GRAD ER UNDER \$15K- \$35K- \$60K- OR DE- HOME RENT-\$15K \$34K \$59K \$99K MORE CLINE OWNER ER (A) (E) (F) (G) (H) (I) (J) (K) (L) 204 100.0 0** 0** 0** 0** 0** 0** BASE FOR PERCENTAGES 0** PROJECTS NONE OF THE ABOVE 0 0.5 NOT STATED 141 69.1 0

Table 57
ON3 ASSUMING TERASEN GAS COULD DEVELOP AND OFFER A RENEWABLE BIOGAS PROGRAM LIKE THE ONE WE'VE
ASKING YOU ABOUT, HOW WOULD YOU THEN RATE TERASEN GAS IN TERMS OF BEING A COMPANY THAT CARES ABOUT...?
BASE ALL RESPONDENTS

	SI	EX	AGI	E					L	IVE IN	HOUSE	HOLD		CF HC	HILDREN OUSEHOL	IN D	
	TOTAL M	FE ALE MAI	- 18 LE 24	- 25 34	35	45 54	55 64	65	+ 1	2	3	M(TI - 5 5	ORE HAN D	E- LINE YE	ES NC	DE CI	E- LINE
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)
BASE FOR PERCENTAGES	204 100.0	0**	0** 0**	0** 0**	0** 0**	0** 0**	0** 0**	0** 0**	0**	0** 0**	0** 0**	0**	0**	0**	0** 0**	0** 0**	0** 0**
ITS EMPLOYEES																	
10 EXCELLENT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1 POOR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT RELEVANT TO ME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	204 100.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 57
ON3 ASSUMING TERASEN GAS COULD DEVELOP AND OFFER A RENEWABLE BIOGAS PROGRAM LIKE THE ONE WE'VE
ASKING YOU ABOUT, HOW WOULD YOU THEN RATE TERASEN GAS IN TERMS OF BEING A COMPANY THAT CARES ABOUT...?
BASE ALL RESPONDENTS

	SI	EX	AG	E					L	IVE IN	HOUSE	HOLD		CF HC	HILDREN DUSEHOL	D	
	TOTAL MALE MALE 24 (A) (B) (C) (I		- 25 34	35	45 54	55 64	65	5+ 1	2	3	M(TI - 5 5		E- LINE YE	ES NO		E- LINE	
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)
BASE FOR PERCENTAGES	204 100.0	0** 0**	0** 0**	0**	0** 0**	0**	0**	0** 0**									
ITS ROLE IN THE COMMUNITY 10 EXCELLENT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1 POOR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT RELEVANT TO ME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	204 100.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 57
ON3 ASSUMING TERASEN GAS COULD DEVELOP AND OFFER A RENEWABLE BIOGAS PROGRAM LIKE THE ONE WE'VE
ASKING YOU ABOUT, HOW WOULD YOU THEN RATE TERASEN GAS IN TERMS OF BEING A COMPANY THAT CARES ABOUT...?
BASE ALL RESPONDENTS

	S	EX	AG	E					L	IVE IN	HOUSE	HOLD		(F	CHILDRE HOUSEHO	N IN LD	
	TOTAL M	TOTAL MALE FE- 18- 25 3 4 4 (A) (B) (C) (D) (E)					5 55 4 64	65	5+ 1	2	3	MC TH - 5 5	ORE HAN	DE- CLINE Y	ES N		E- LINE
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)
BASE FOR PERCENTAGES	204 100.0	0** 0**	0** 0**	0** 0**	0**	0** 0**	0** 0**	0**	0**	0** 0**	0** 0**	0** 0**	0* 0	* 0**	0**	0**	0**
THE ENVIRONMENT 10 EXCELLENT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1 POOR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT RELEVANT TO ME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	204 100.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 57
ON3 ASSUMING TERASEN GAS COULD DEVELOP AND OFFER A RENEWABLE BIOGAS PROGRAM LIKE THE ONE WE'VE
ASKING YOU ABOUT, HOW WOULD YOU THEN RATE TERASEN GAS IN TERMS OF BEING A COMPANY THAT CARES ABOUT...?
BASE ALL RESPONDENTS

	S	EX	AG	E					L	IVE IN	HOUSE	HOLD		CH HC	IILDRE USEHO	N IN LD	
	TOTAL M	FE ALE MA	I- 18	3- 25 4 34	35	5 45 4 54	5 55 64	65	5+ 1	2	3	M(TI - 5 5	ORE HAN D	E- LINE YE	S N		E- LINE
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)
BASE FOR PERCENTAGES	204 100.0	0** 0**	0** 0**	0**	0**	0**	0**	0**	0** 0**	0** 0**	0** 0**	0**	0** 0**	0** 0**	0** 0**	0** 0**	0** 0**
MAKING A PROFIT 10 EXCELLENT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1 POOR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT RELEVANT TO ME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	$\begin{smallmatrix}204\\100.0\end{smallmatrix}$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 57
ON3 ASSUMING TERASEN GAS COULD DEVELOP AND OFFER A RENEWABLE BIOGAS PROGRAM LIKE THE ONE WE'VE
ASKING YOU ABOUT, HOW WOULD YOU THEN RATE TERASEN GAS IN TERMS OF BEING A COMPANY THAT CARES ABOUT...?
BASE ALL RESPONDENTS

	S	EX	AG	E					LI	VE IN	HOUSE	HOLD		(CHILDRE HOUSEHO	N IN LD	
	TOTAL M	FE IALE MA	- 18 LE 24	- 25	35 44	45 54	55 64	65	+ 1	2	3	MC TH - 5 5		DE- CLINE	YES N		E- LINE
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)
BASE FOR PERCENTAGES	204 100.0	0** 0**	0** 0**	0** 0**	0** 0**	0** 0**	0** 0**	0** 0**	0**	0** 0**	0** 0**	0** 0**	0* 0*		* 0**	0**	
RE-INVESTING IN NEW ENVIRONMENTALLY-FRIENDLY TECHNOLOGIES																	
10 EXCELLENT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1 POOR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT RELEVANT TO ME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	204 100.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 58
QN3 ASSUMING TERASEN GAS COULD DEVELOP AND OFFER A RENEWABLE BIOGAS PROGRAM LIKE THE ONE WE'VE
ASKING YOU ABOUT, HOW WOULD YOU THEN RATE TERASEN GAS IN TERMS OF BEING A COMPANY THAT CARES ABOUT...?
BASE ALL RESPONDENTS

		EDUCATIO	V					HO	USEHOL	D INCO	ME			ST	ATUS	
	TOTAL	ELEM- DAI	SCH TE		LL. UN			\$1 	5K \$3	4K \$5 	5K- \$6 9K \$9	OK- ÓR	RE CL	INE OW	NER ER	
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(上)	(M)	(N)	(O)	(P)
BASE FOR PERCENTAGES	204 100.0	0** 0**	0** 0**	0**	0** 0**	0**	0** 0**	0** 0**	0**	0** 0**	0** 0**	0** 0**	0** 0**	0** 0**	0** 0**	0** 0**
ITS EMPLOYEES																
10 EXCELLENT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1 POOR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT RELEVANT TO ME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	204 100.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 58
ON3 ASSUMING TERASEN GAS COULD DEVELOP AND OFFER A RENEWABLE BIOGAS PROGRAM LIKE THE ONE WE'VE
ASKING YOU ABOUT, HOW WOULD YOU THEN RATE TERASEN GAS IN TERMS OF BEING A COMPANY THAT CARES ABOUT...?
BASE ALL RESPONDENTS

	E	EDUCATIO	N					HO	USEHOL	D INCO	ME			S7	TATUS	
	I E	PUB- LIC / SE ELEM- DA ENTRY H'	CON RY/ SCH TE	ECH. CO	LL. UN	PO IV. GR	ST OT	H- UN \$1	DER \$1 5K \$3	5K- \$3 4K \$5	5K- \$6 9K \$9	OK- ÓF	LOOK R DE DRE CI	E- HC LINE OW		ENT- R
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)
BASE FOR PERCENTAGES	204 100.0	0**	0** 0**	0** 0**	0** 0**	0** 0**	0**	0** 0**	0**	0** 0**	0** 0**	0**	0**	0**	0**	0** 0**
ITS ROLE IN THE COMMUNITY																
10 EXCELLENT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1 POOR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT RELEVANT TO ME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	204 100.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 58
QN3 ASSUMING TERASEN GAS COULD DEVELOP AND OFFER A RENEWABLE BIOGAS PROGRAM LIKE THE ONE WE'VE
ASKING YOU ABOUT, HOW WOULD YOU THEN RATE TERASEN GAS IN TERMS OF BEING A COMPANY THAT CARES ABOUT...?
BASE ALL RESPONDENTS

	Ī	EDUCATIO	NC					USEHOL	D INCC	ME			S7	TATUS		
	j	PUB- LIC / SI ELEM- DA ENTRY H	ECON ARY/ 'SCH TI	ECH. CO	OLL. UN		ST OT AD ER	H- UN \$1	DER \$1 5K \$3	5K- \$3 4K \$5	5K- \$6 9K \$9	OK- ÓF		E- HC LINE OW		INT-
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)
BASE FOR PERCENTAGES	204 100.0	0**	0** 0**	0**	0**	0**	0** 0**	0**	0**	0**	0**	0**	0**	0**	0**	0**
THE ENVIRONMENT																
10 EXCELLENT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1 POOR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT RELEVANT TO ME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	204 100.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 58
ON3 ASSUMING TERASEN GAS COULD DEVELOP AND OFFER A RENEWABLE BIOGAS PROGRAM LIKE THE ONE WE'VE
ASKING YOU ABOUT, HOW WOULD YOU THEN RATE TERASEN GAS IN TERMS OF BEING A COMPANY THAT CARES ABOUT...?
BASE ALL RESPONDENTS

	I	EDUCATIO	ON					HO	USEHOL	D INCO	ME			SI	ATUS	
]	PUB- LIC / SE ELEM- DA ENTRY H'	ECON ARY/ SCH TE	ECH. CC	DLL. UN	PO IV. GR	ST OT	H- UN \$1	DER \$1 5K \$3	5K- \$3 4K \$5	5K- \$6 9K \$9	OK- ÓF	LOOK R DE DRE CI	E- HC LINE OW		NT-
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)
BASE FOR PERCENTAGES	204 100.0	0**	0**	0**	0**	0** 0**	0**	0**	0**	0**	0** 0**	0**	0**	0**	0**	0**
MAKING A PROFIT																
10 EXCELLENT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1 POOR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT RELEVANT TO ME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	204 100.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 58
ON3 ASSUMING TERASEN GAS COULD DEVELOP AND OFFER A RENEWABLE BIOGAS PROGRAM LIKE THE ONE WE'VE
ASKING YOU ABOUT, HOW WOULD YOU THEN RATE TERASEN GAS IN TERMS OF BEING A COMPANY THAT CARES ABOUT...?
BASE ALL RESPONDENTS

		EDUCATI	ON					НС	USEHOI	D INC	OME			S'	TATUS-	
			ECON ARY/ 'SCH T	ECH. C	OLL. UN		ST OT AD ER	TH- UN R \$1	IDER \$1 .5K \$3	.5K- \$:		50K- Ó		E- HOLINE O		ENT- R
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(0)	(P)
BASE FOR PERCENTAGES	204 100.0	0**	0**	0**	0**	0** 0**	0**	0**	0**	0** 0**	0**	0** 0**	0**		0** 0**	0**
RE-INVESTING IN NEW ENVIRONMENTALLY-FRIENDLY TECHNOLOGIES																
10 EXCELLENT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1 POOR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT RELEVANT TO ME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	204 100.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE *	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD DEVIATION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDARD ERROR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 59 OD1. DO YOU RECEIVE YOUR GAS BILL DIRECTLY FROM TERASEN GAS OR DO YOU PAY BASE ALL RESPONDENTS

		SEX	AG	E					LI	VE IN	HOUSE	HOLD			HILDREN OUSEHOL		
	TOTAL	FE MALE MA	- 18 LE 24	- 25 34	35 44	45 54	5 55 64	65	+ 1	2	3	MC TH - 5 5		E- LINE Y	ES NO	DE CL	E- LINE
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(0)	(P)	(Q)
BASE FOR PERCENTAGES	204 100.0	0**	0** 0**	0**	0**	0** 0**	0**	0**	0**	0**	0**	0**	0**	0** 0**	0** 0**	0** 0**	0**
GAS BILL RECEIVED FROM RECEIVE BILL DIRECTLY FROM TERASEN GAS	62 30.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PAY GAS BILL INDIRECTLY	10 4.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOES NOT USE GAS	3.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DON'T KNOW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	124 60.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 60 $\,$ QD1. DO YOU RECEIVE YOUR GAS BILL DIRECTLY FROM TERASEN GAS OR DO YOU PAY BASE ALL RESPONDENTS

		EDUCATIO	ON					H	OUSEHO:	LD INC	COME				STATU	JS	
	TOTAL	PUB- LIC / SI ELEM- DA ENTRY H	ECON ARY/ 'SCH TE	CH. CO	LL. UI	PC NIV. GR	OST OT	TH- U	NDER \$:		35K- 559K	\$60K- \$99K	\$100K OR MORE	DE- CLINE	HOME OWNER	RENT R ER	Γ-
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(0)) (E	?)
BASE FOR PERCENTAGES	204 100.0	0**	0** 0**	0** 0**	0**	0**	0**	0**	0** 0**	0**)**)**	0**
GAS BILL RECEIVED FROM																	
RECEIVE BILL DIRECTLY FROM TERASEN GAS	62 30.4	0	0	0	0	0	0	0	0	0	0	0	0) ()	0
PAY GAS BILL INDIRECTLY	10 4.9	0	0	0	0	0	0	0	0	0	0	0	0) ()	0
DOES NOT USE GAS	8 3.9	0	0	0	0	0	0	0	0	0	0	0	0) ()	0
DON'T KNOW	0	0	0	0	0	0	0	0	0	0	0	0	0) ()	0
NOT STATED	124	0	0	0	0	0	0	0	0	0	0	0	0			<u></u>	0

Table 61 $\,$ QD2 WHICH OF THE FOLLOWING NATURAL GAS APPLIANCES, IF ANY, DO YOU HAVE IN YOUR HOME? BASE ALL RESPONDENTS

		SEX	AG	E					L	IVE IN	HOUSE	HOLD			CHILDRE		
	TOTAL	FE MALE MA	- 18 LE 24	- 25 34	35 44	45 54	55 64	6	5+ 1	2	3			DE- CLINE Y	res n	NO C	E- LINE
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(0)	(P)	(Q)
BASE FOR PERCENTAGES NATURAL GAS APPLIANCES	204 100.0	0**	0** 0**	0** 0**	0** 0**	0**	0** 0**	0** 0**	0**	0** 0**	0**	0** 0**	k 0*;	* 0**	* 0**	* 0**	0**
NOT STATED	204 100.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 62 $\,$ QD2 WHICH OF THE FOLLOWING NATURAL GAS APPLIANCES, IF ANY, DO YOU HAVE IN YOUR HOME? BASE ALL RESPONDENTS

		EDUCAT:	ION						- HOUS	EHOLD	INC	COME				STATU	S	
	TOTAL	ELEM- 1	IC / SECON								K- \$	35K- 559K	\$60K- \$99K	\$100K OR MORE	DE- CLINE	HOME OWNER	REN'	T-
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H) (I) (J)	(K)	(L)	(M)	(N)	(0)	(1	P)
BASE FOR PERCENTAGES	204 100.0	0*:				* 0*	* 0	* * * *	0** 0**	0** 0**	0**	k 0;	** 0	** 0	** 0 ** 0	** 0	**	0**
NATURAL GAS APPLIANCES	100.0	0.	- 0-	^	. 0.	. 0.	^ 0	• •	J ^ ^	0 ^ ^	0 * *	. 0.	0	^^ 0	0	^^ 0		0^^
NOT STATED	204 100.0	0	0	0	0	0	0		0	0	0	0	0	0	0	0		0

Table 64 $\,$ QD3. WHAT IS THE MAIN SPACE HEATING FUEL TYPE IN YOUR HOME BASE ALL RESPONDENTS

		EDUCATIO)N					H	OUSEHO	OLD IN	ICOME -				STATU	JS	
		PUB- LIC / SE ELEM- DA ENTRY H'	CON ARY/ SCH TE	CH. CO	LL. UN	PC IIV. GR	ST OT AD EF	TH- U	NDER \$	15K- 34K	\$35K- \$59K	\$60K- \$99K	\$100K OR MORE	DE- CLINE	HOME OWNER	REN R ER	IT-
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(上)	(M)	(N)	(0)) ((P)
BASE FOR PERCENTAGES	204 100.0	0**	0**	0**	0**	0**	0**	0** 0**	0**	· 0*	* 0:	** 0	** 0 ** 0	** 0		0** 0**	0**
MAIN SPACE HEATING FUEL	100.0	0^^	0^^	0^^	0 * *	0^^	0^^	0^^	0 * 7	` 0^	• 0	- 0	^^ 0	^^ 0	,, (,,,	0^^
NOT STATED	204 100.0	0	0	0	0	0	0	0	0	0	0	0	0	0	() 0	0

SEX----- AGE----- CHILDREN IN HOUSEHOLD------ CHILDREN IN HOUSEHOLD------DE-CLINE YES NO DE-CLINE (A) (C) (D) (E) (F) (G) (H) (I) (J) (K) (L) (M) (N) 204 100.0 0** 0** 0** 0** 0** 0** 0** 0** 0** BASE FOR PERCENTAGES HOMEOWNER OR RENTER HOMEOWNER 0 0 0 0 0 0 0 RENTER 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 DECLINE 0 0 0 0 0 0 0 0 NOT STATED 204 100.0 0 0 0 0 0 0 0 0 0 0 0

	EI	DUCATION	1					НО	USEHOL	D INCO	ME			SI	ATUS	
	LI EI	JB- IC / SEC LEM- DAF VTRY H'S	RY/	H. COI	L. UN	POS IV. GRA	ST OTH	H- UN \$1	DER \$1 5K \$3	5K- \$3 4K \$5	5K- \$6 9K \$9	\$1 0K- OR 9K MO	00K DE RE CL	- HC INE OW	ME RE	ENT- }
	(A)	(B)	(C) (D) ((E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)
BASE FOR PERCENTAGES	204 100.0	0**	0** 0**	0**	0**	0**	0**	0** 0**	0**	0**	0** 0**	0**	0**	0**	0**	0**
HOMEOWNER OR RENTER																
HOMEOWNER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RENTER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	204 100.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Table 67 QD6. WHAT TYPE OF DWELLING DO YOU LIVE IN? (SELECT ONE ONLY) BASE ALL RESPONDENTS $\,$

	S	EX	AG	E					LI	VE IN	HOUSEH	OLD		CHI HOT	ILDREN USEHOLI	IN D	
	TOTAL M	FE ALE MA		- 25 34	35 44	45 54	55 64	65	+ 1	2	3	MOI THZ - 5 5	AN DE-	- INE YES	s no	DE: CL:	- INE
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(0)	(P)	(Q)
BASE FOR PERCENTAGES	204 100.0	0**	0**	0**	0**	0**	0**	0** 0**	0** 0**	0**	0**	0**	0**	0**	0**	0** 0**	0**
TYPE OF DWELLING	100.0	0	0 " "	0	0	0	0	0	0	0 " "	0	0	0	0	0	0	0
SINGLE-DETACHED HOUSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APARTMENT BUILDING / CONDO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ROW HOUSE / TOWNHOUSE / CONDO DEVELOPMENT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DUPLEX / TRIPLEX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUITE CONTAINED WITHIN A HOUSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MOBILE OR MANUFACTURED HOME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DON'T KNOW / DECLINE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	204 100.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Table 68 QD6. WHAT TYPE OF DWELLING DO YOU LIVE IN? (SELECT ONE ONLY) BASE ALL RESPONDENTS $\,$

	E	EDUCATION HOUSEHOLD INCOME													ATUS	
	I	ELEM- DAI ENTRY H'S	SCH TE	CH. CO (D)	LL. UN (E)					5K- \$3 4K \$5 (J)	5K- \$6 9K \$9 (K)	0K- ÓR 9K MOI			NER ER	NT- (P)
BASE FOR PERCENTAGES	204	0** 0**	0** 0**	0**	0**	0** 0**	0**	0**	0** 0**	0** 0**	0** 0**	0** 0**	0** 0**	0** 0**	0** 0**	0**
TYPE OF DWELLING	100.0	0^^	0^^	0^^	0^^	0^^	0^^	0^^	0 ^ ^	0^^	0^^	0^^	0^^	0^^	0^^	0^^
SINGLE-DETACHED HOUSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APARTMENT BUILDING / CONDO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ROW HOUSE / TOWNHOUSE / CONDO DEVELOPMENT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DUPLEX / TRIPLEX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUITE CONTAINED WITHIN A HOUSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MOBILE OR MANUFACTURED HOME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DON'T KNOW / DECLINE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	204 100.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	SEX AGE LIVE IN HOUSEHOLD												CH	CHILDREN IN HOUSEHOLD			
	TOTAL M		LE 24	34		45 54 (F)		65- (H)		2 (J)		MC TH - 5 5 	RE AN DE CL (M)	:- INE YE (N)		DI CI (P)	E- LINE (Q)
BASE FOR PERCENTAGES	204 100.0	0** 0**	0** 0**	0** 0**	0**	0**	0**	0**	0**	0** 0**	0**	0**	0**	0**	0**	0**	0**
AREA LIVE IN																	
LOWER MAINLAND	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WHISTLER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INTERIOR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VANCOUVER ISLAND	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUNSHINE COAST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	204 100.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	EI	DUCATIO	N					HC	USEHOL	D INCC	ME			SI	ATUS		
	L:	LEM-DA	CON RY/ SCH TE	CH. CO	LL. UN	PO: IV. GR	ST OTI AD ER	H- UN \$1	IDER \$1 .5K \$3	.5K- \$3 4K \$5	35K- \$6 59K \$9	\$10 0K- OR 9K MO	00K DE RE CL	- HC INE OW	HOME RENT-		
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(0)	(P)	
BASE FOR PERCENTAGES	204 100.0	0**	0**	0**	0**	0** 0**	0**	0**	0**	0**	0**	0** 0**	0**	0** 0**	0** 0**	0**	
AREA LIVE IN																	
LOWER MAINLAND	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
WHISTLER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
INTERIOR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
VANCOUVER ISLAND	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
SUNSHINE COAST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
DECLINE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
NOT STATED	204 100.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Table 71 AGE BASE ALL RESPONDENTS

	SEX AGE LIVE IN HOUSEHOLD-											OLD	CHILDREN IN HOUSEHOLD					
	TOTAL M	FE ALE MA	- 18 LE 24	- 25 34	35 44	45 54	5 55 64	65	+ 1	2	3	MO: TH. - 5 5	AN DE-	- INE YE	s no	DE CL	INE	
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(0)	(P)	(Q)	
BASE FOR PERCENTAGES	204 100.0	0** 0**	0**	0**	0**	0**	0**	0**	0** 0**	0**	0**	0** 0**	0**	0**	0**	0** 0**	0**	
AGE																		
18 TO 24 YEARS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
25 TO 34 YEARS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
35 TO 44 YEARS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
45 TO 54 YEARS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
55 TO 64 YEARS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
65 YEARS OR MORE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
DECLINE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
NOT STATED	204 100.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Table 72 AGE BASE ALL RESPONDENTS

	EI	EDUCATION STATUS HOUSEHOLD INCOME STATUS														
	L:	UB- IC / SEG LEM- DAI NTRY H'S	RY/	CH. COI	LL. UN	POS IV. GRA	ST OTI	H- UNI \$1!	DER \$15	5K- \$35	5K- \$6 9K \$9	\$10 0K- OR 9K MOE	OOK DE RE CL	- HO	ME REI NER ER	NT-
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(上)	(M)	(N)	(O)	(P)
BASE FOR PERCENTAGES	204 100.0	0**	0**	0**	0**	0**	0**	0**	0**	0**	0** 0**	0**	0**	0** 0**	0**	0** 0**
AGE																
18 TO 24 YEARS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 TO 34 YEARS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35 TO 44 YEARS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45 TO 54 YEARS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55 TO 64 YEARS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65 YEARS OR MORE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	204 100.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	SEX AGE										HOUSEH	OLD			ILDREN USEHOL		
	TOTAL M (A)		LE 24	34	44 	45 54 (F)	55 64 (G)	65 (H)	+ 1 	2 (J)	3 (K)	MO: TH. - 5 5 (L)	AN DE	INE YE	S NO (0)		- INE (Q)
BASE FOR PERCENTAGES	204 100.0	0** 0**	0** 0**	0** 0**	0**	0**	0** 0**	0**	0**	0** 0**	0**	0**	0**	0**	0** 0**	0**	0** 0**
PEOPLE IN HOUSEHOLD																	
ONE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TWO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
THREE TO FIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN FIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	204 100.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

]	EDUCATIO	N					HC	USEHOI	D INC	OME			S'	TATUS-		
]	PUB- LIC / SE ELEM- DA ENTRY H'	CON RY/ SCH TEC	H. COI	LL. UN	PO IIV. GR	ST OT AD ER	H- UN \$1	IDER \$1 .5K \$3	L5K- \$3 84K \$5	35K- \$ 59K \$	\$1 60K- OI 99K M	LOOK R DI DRE CI	E- H	HOME RENT- E OWNER ER		
	(A)	(B)	(C) (D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(上)	(M)	(N)	(0)	(P)	
BASE FOR PERCENTAGES	204 100.0	0**	0**	0**	0**	0**	0**	0** 0**	0**	0**	0**	0**	0** 0**	0**	0** 0**	0** 0**	
PEOPLE IN HOUSEHOLD ONE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TWO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
THREE TO FIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
MORE THAN FIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
DECLINE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
NOT STATED	204 100.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Proportions/Means: Columns Tested (5%, 10% risk level) - B/C/D/E/F/G/H - I/J/K/L/M/N - O/P ** very small base (under 30) ineligible for sig testing

	:	L	IVE IN	HOUSE	HOLD		CI	HILDREN OUSEHOI	D								
	TOTAL I	FE MALE MA	E- 18	3- 25 1 34	3 3 5 4 4 4	5 45 1 54	5 55 4 64	65	5+ 1	2	3	M T: - 5 5	ORE HAN D	E- LINE Y	ES NO	DI CI	E- LINE
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(0)	(P)	(Q)
BASE FOR PERCENTAGES	204 100.0	0**	0**	0**	0**	0** 0**	0**	0**	0** 0**	0**	0** 0**	0**			0** 0**	0**	
CHILDREN IN HOUSEHOLD YES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	204 100.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	I	EDUCATION						HC	USEHOI	D INCO	ME			ST	ratus	
]	PUB- LIC / SE ELEM- DA ENTRY H'	ECON ARY/ SCH TI	ECH. CC	OLL. UI	PO NIV. GR	ST OT AD ER	H- UN \$ \$1	DER \$1 5K \$3	L5K- \$3 84K \$5	35K- \$ 59K \$	60K- Ó	100K R DI ORE CI	E- HO LINE OV	OME RE VINER ER	ENT –
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(0)	(P)
BASE FOR PERCENTAGES	204 100.0	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0** 0**	0**	0**
CHILDREN IN HOUSEHOLD																
YES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DECLINE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	204 100.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 77 EDUCATION BASE ALL RESPONDENTS

	S	EX	AG	E					LI	VE IN	HOUSEH	IOLD		CHI HOT	ILDREN USEHOL	IN D	
	TOTAL M	FE- ALE MAI	- 18 LE 24	- 25 34	35 44	45 54	55 64	65	+ 1	2	3	MOI THZ - 5 5	RE AN DE- CL:	INE YES	s no	DE CL	- INE
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(0)	(P)	(Q)
BASE FOR PERCENTAGES	204 100.0	0**	0**	0** 0**	0** 0**	0**	0** 0**	0**	0**	0**	0**	0**	0**	0**	0** 0**	0**	0**
EDUCATION																	
PUBLIC OR ELEMENTARY SCHOOL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SECONDARY OR HIGH SCHOOL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TECHNICAL OR CEGEP COLLEGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
COMMUNITY COLLEGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNIVERSITY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
POST GRADUATE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	204 100.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	E	EDUCATION							USEHOL	D INCC	ME			ST	ATUS	
	L E	UB- IC / SE LEM- DA NTRY H'	CON RY/ SCH TE	CH. CO	LL. UN	PO: IV. GR	ST OTI AD ER	H- UN \$1	DER \$1 5K \$3	.5K- \$3 4K \$5	35K- \$6 59K \$9	\$1 0K- OR 9K MO	00K DE RE CL	- HC INE OW	ME RE INER ER	NT-
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(0)	(P)
BASE FOR PERCENTAGES	204 100.0	0**	0**	0** 0**	0** 0**	0**	0**	0**	0** 0**	0** 0**	0** 0**	0** 0**	0**	0**	0** 0**	0**
EDUCATION																
PUBLIC OR ELEMENTARY SCHOOL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SECONDARY OR HIGH SCHOOL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TECHNICAL OR CEGEP COLLEGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
COMMUNITY COLLEGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNIVERSITY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
POST GRADUATE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	204 100.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	S	SEX	AG	E					LI	Æ IN	HOUSEH	IOLD		CH HC	IILDREN OUSEHOL	IN D	
	TOTAL M	FE MALE MA	- 18 LE 24	- 25 34	35 44	45 54	55 64	65-	+ 1	2	3	MC TH - 5 5	ORE IAN DI CI	E- LINE YE	S NO	DE CL	E- LINE
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(0)	(P)	(Q)
BASE FOR PERCENTAGES	204 100.0	0**	0** 0**	0** 0**	0** 0**	0**	0**	0**	0**	0**	0**	0**	0**	0**	0** 0**	0** 0**	0** 0**
INCOME																	
LESS THAN \$15,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
\$15,000 TO LESS THAN \$35,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
\$35,000 TO LESS THAN \$60,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
\$60,000 TO LESS THAN \$100,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
\$100,000 OR MORE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DON'T KNOW / DECLINE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	204 100.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	E	EDUCATION							USEHOL	D INCC	ME			SI	TATUS	
	I	CLEM- DA	ECON ARY/ SCH TE	CH. CO	LL. UN	PO IV. GR	ST OT AD ER	H- UN \$1	IDER \$1 .5K \$3	.5K- \$3 4K \$5	85K- \$6 59K \$9	\$1 0K- OR 9K MO	00K DE RE CL	- HC INE OW	ME RE NER ER	ENT-
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(0)	(P)
BASE FOR PERCENTAGES	204 100.0	0** 0**	0** 0**	0**	0**	0**	0** 0**	0** 0**	0**	0**	0** 0**	0**	0**	0** 0**	0**	0**
INCOME																
LESS THAN \$15,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
\$15,000 TO LESS THAN \$35,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
\$35,000 TO LESS THAN \$60,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
\$60,000 TO LESS THAN \$100,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
\$100,000 OR MORE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DON'T KNOW / DECLINE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	204 100.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 81 GENDER BASE ALL RESPONDENTS

		SEX		AGE						L	IVE IN	HOUSE	HOLD			CHILDR HOUSEH		
	TOTAL	MALE	FE- MALE	18- 24	25 34	35 44	45 54	5 55	5 1 65	5+ 1	2	3		IORE 'HAN	DE- CLINE	YES		DE- CLINE
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)
BASE FOR PERCENTAGES	204 100.0	0* 0*)**)**	0** 0**	0** 0**	0**	0**	0**	0**	0** 0**	0** 0**			** 0*		
GENDER																		
MALE	0	0	0	())	0	0	0	0	0	0	0	0	0	0	0	0	0
FEMALE	0	0	0	())	0	0	0	0	0	0	0	0	0	0	0	0	0
NOT STATED	204 100.0	0	0	())	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 82 GENDER BASE ALL RESPONDENTS

EDUCATION----- STATUS----PUB-LIC / SECON ELEM- DARY/ TOTAL ENTRY H'SCH TECH. COLL. UNIV. GRAD UNDER \$15K- \$35K- \$60K- OR DE- HOME RENT-\$15K \$34K \$59K \$99K MORE CLINE OWNER ER (A) (B) (C) (D) (E) (F) (G) (H) (I) (J) (K) (L) (M) (N) (O) 204 100.0 0** 0** 0** 0** 0** 0** 0** 0** 0** 0** 0** BASE FOR PERCENTAGES **GENDER** MALE 0 0 0 0 0 0 0 0 0 FEMALE 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 204 100.0 0 NOT STATED

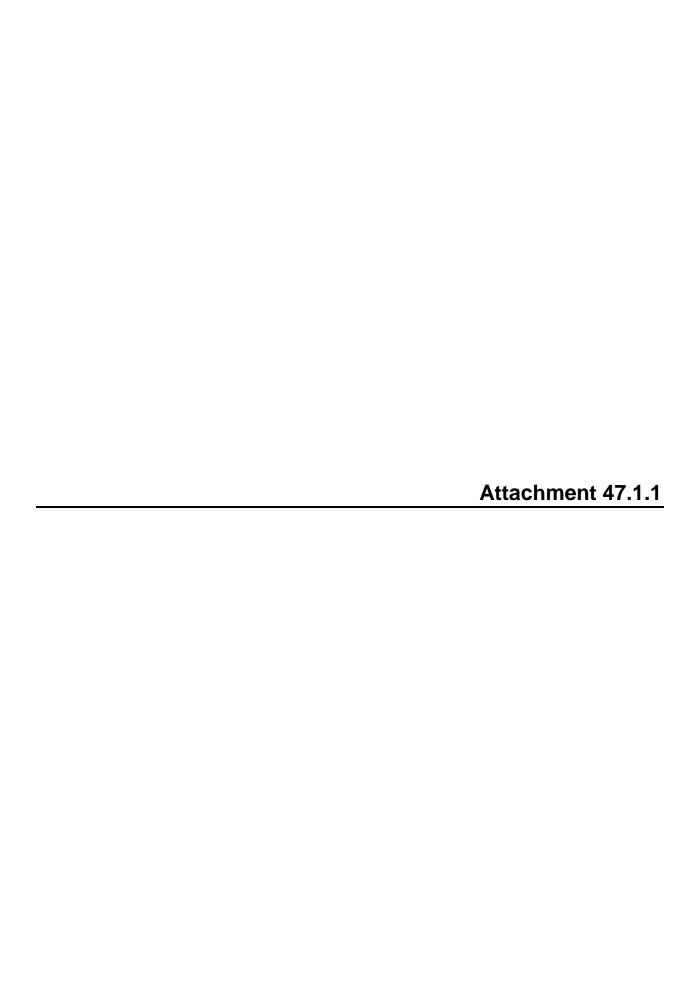
Page 117

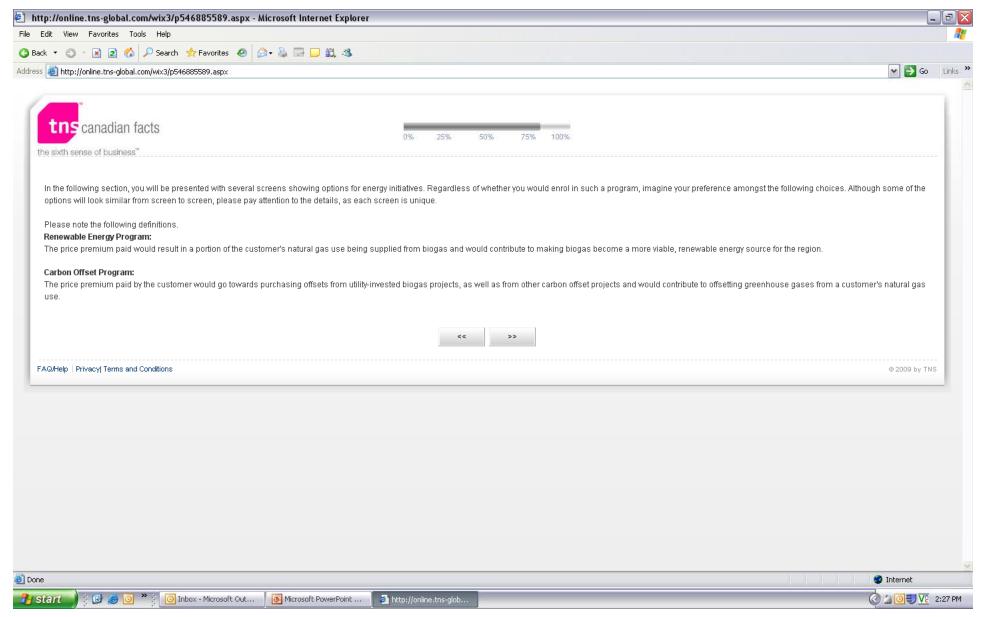
26 Jul 2010

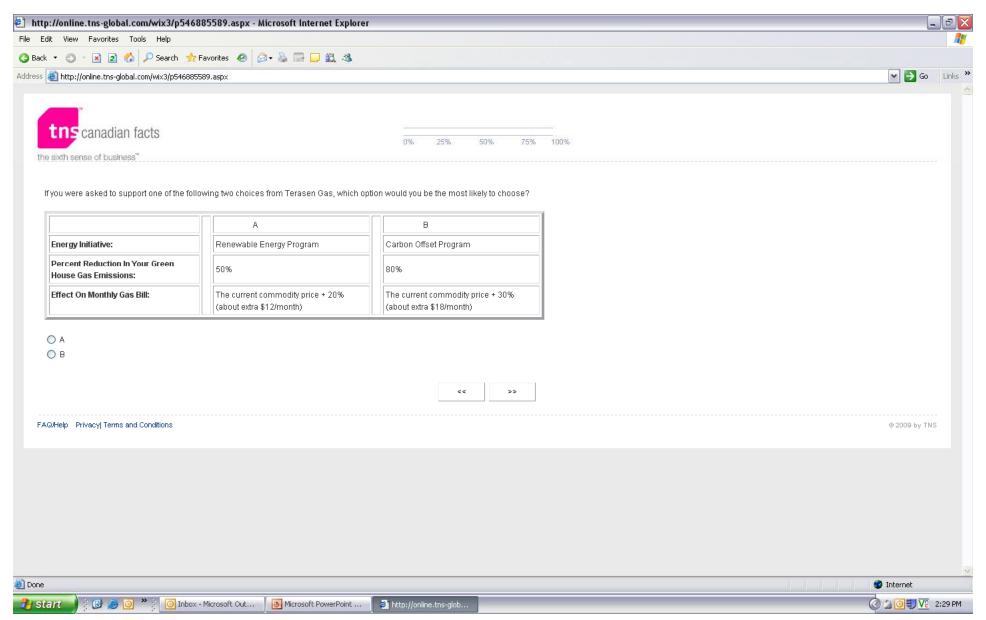
COMMITMENT SEGMENTS-----

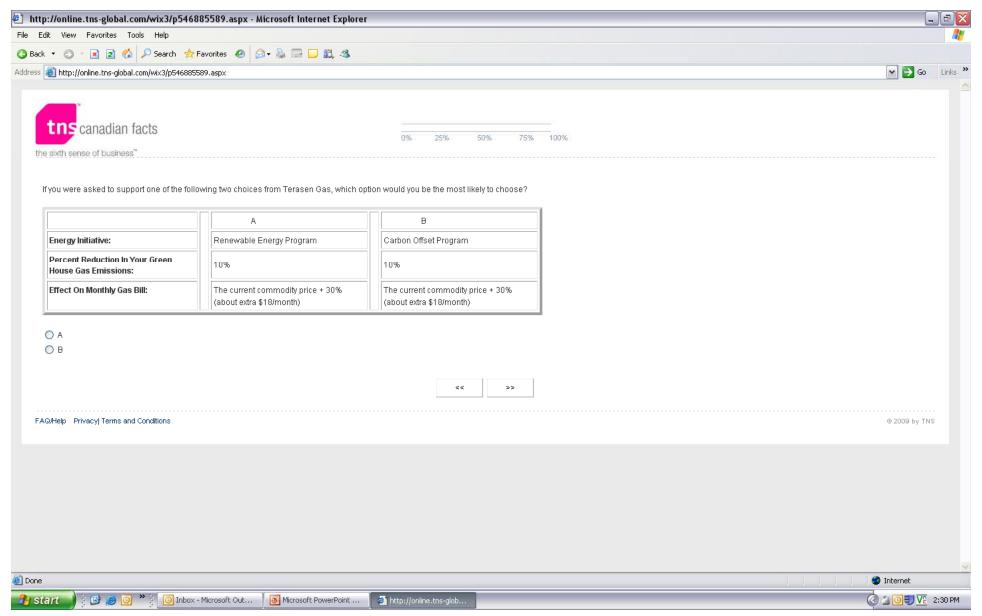
	TOTAL	CO- MITTED	UNCO- MITTED	OPEN	UNAVAIL -ABLE
	(A)	(B)	(C)	(D)	(E)
BASE FOR PERCENTAGES	204 100.0	0.	** 0:	** 0;	** 0**
CONVERSION MODEL					
1 ENTRENCHED	0	0	0	0	0
2 AVERAGE	0	0	0	0	0
3 SHALLOW	0	0	0	0	0
4 CONVERTIBLE	0	0	0	0	0
5 AVAILABLE	0	0	0	0	0
6 AMBIVALENT	0	0	0	0	0
7 WEAKLY UNAVAILABLE	0	0	0	0	0
8 STRONGLY UNAVAILABLE	0	0	0	0	0
9 CATEGORY IN TROUBLE	0	0	0	0	0

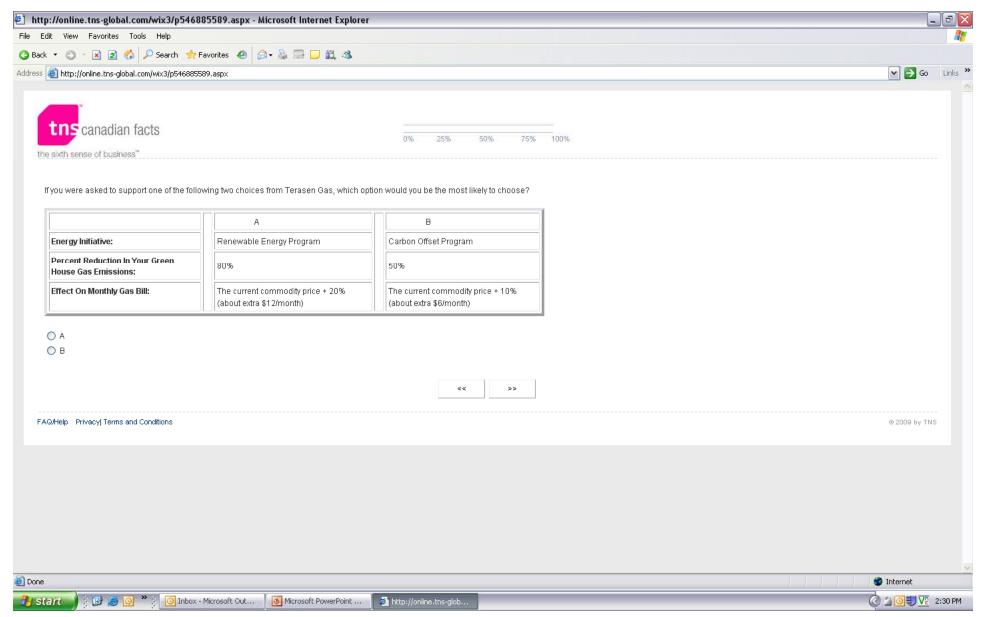
Proportions/Means: All Columns Tested (5%, 10% risk level) ** very small base (under 30) ineligible for sig testing

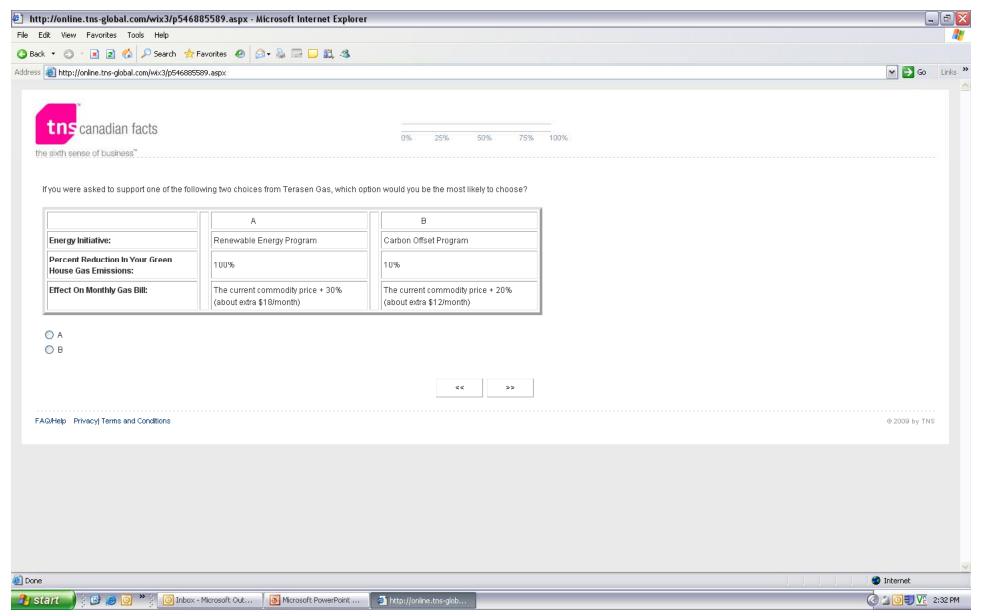


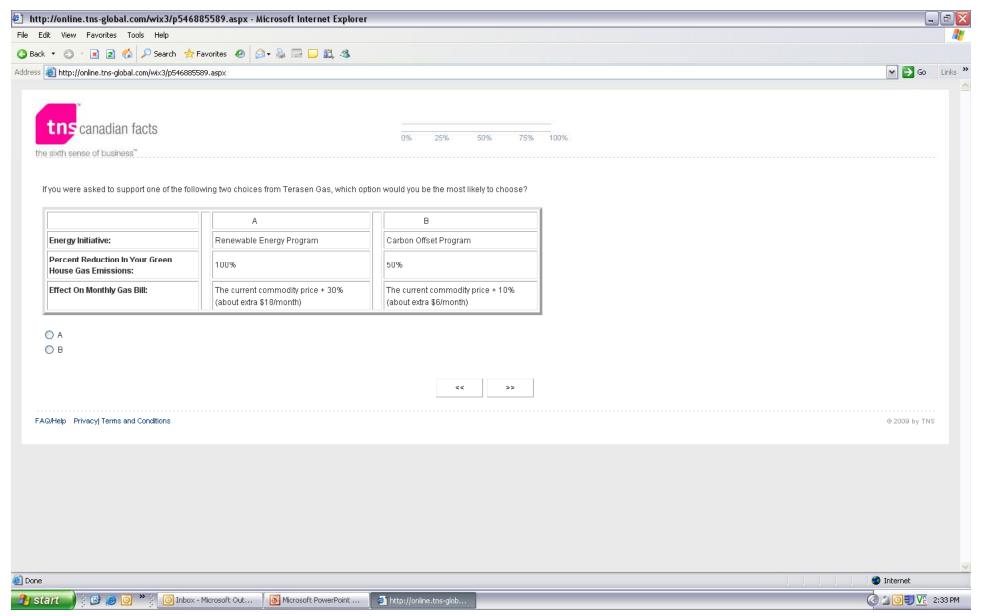


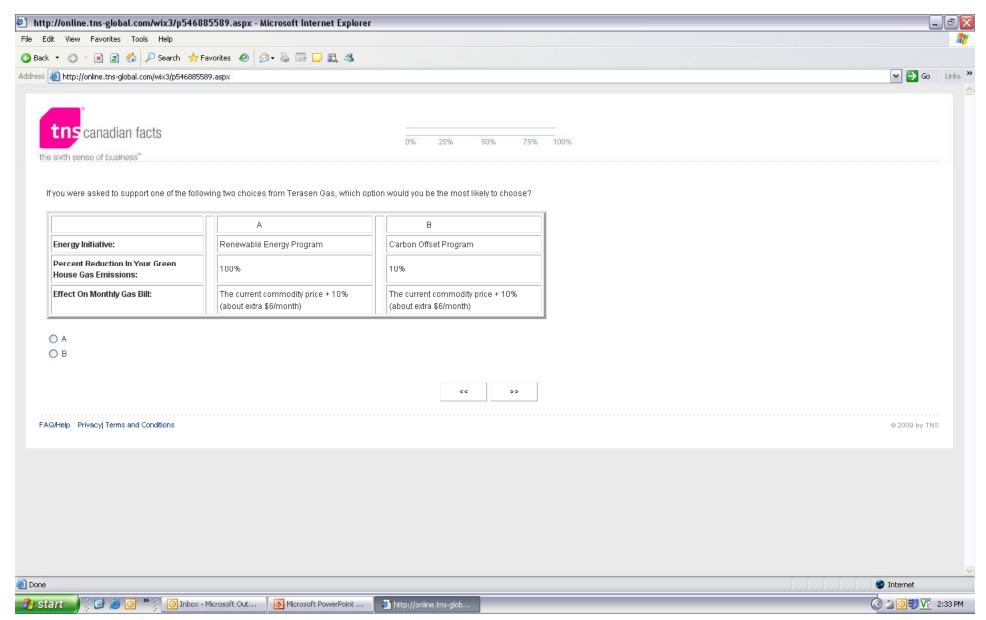


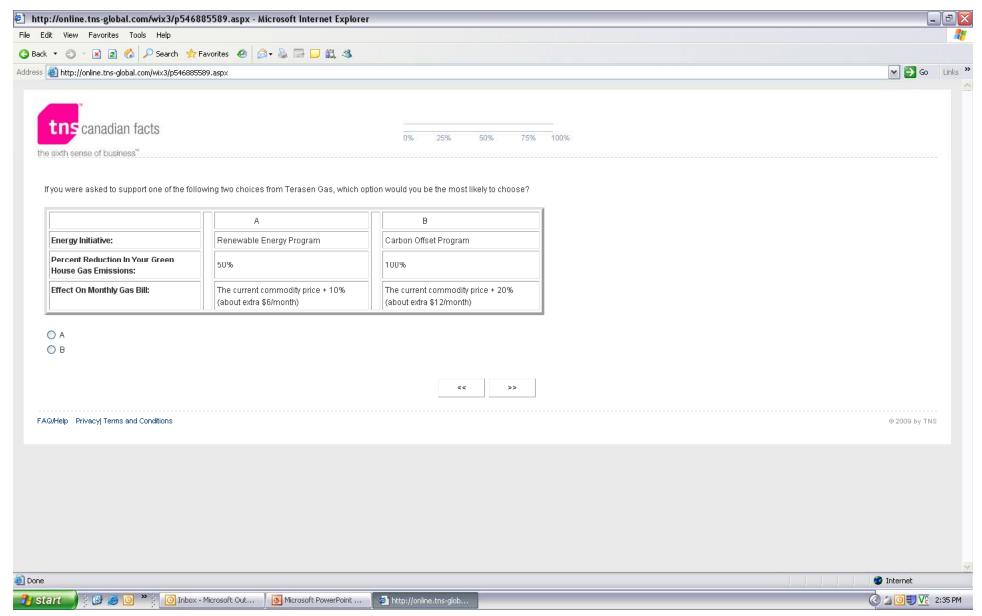


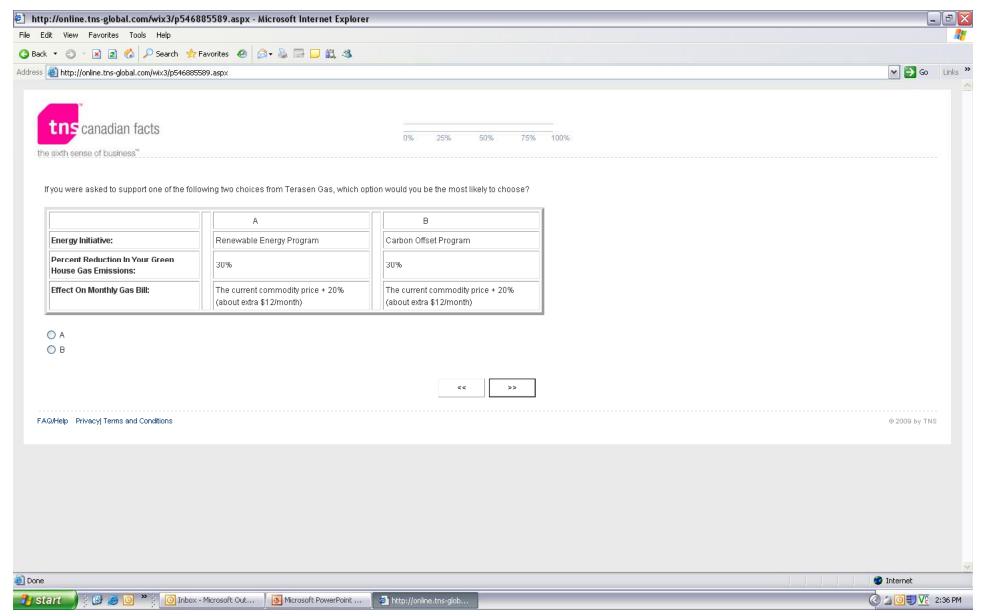


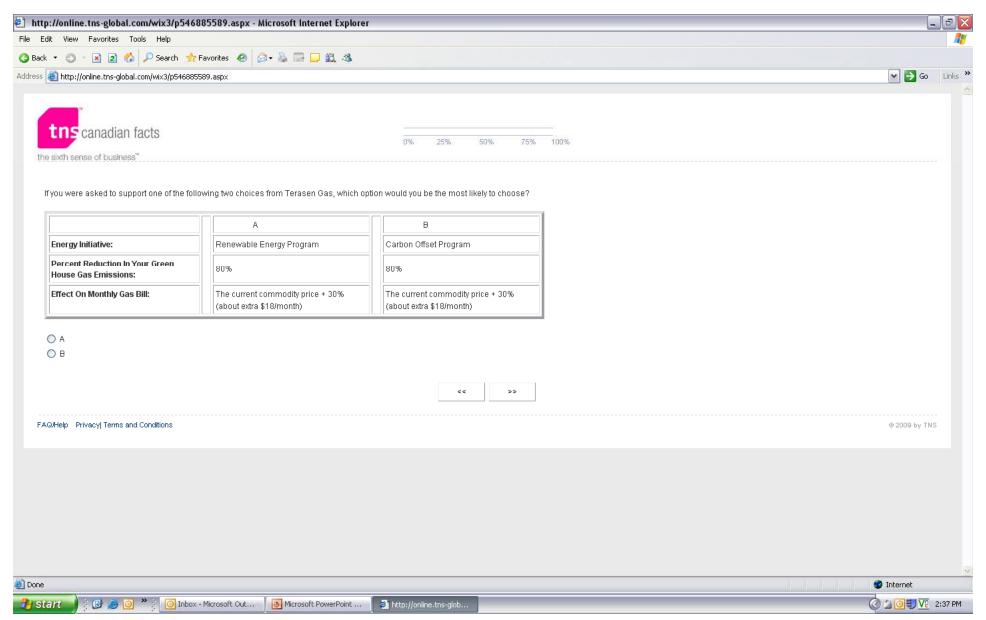


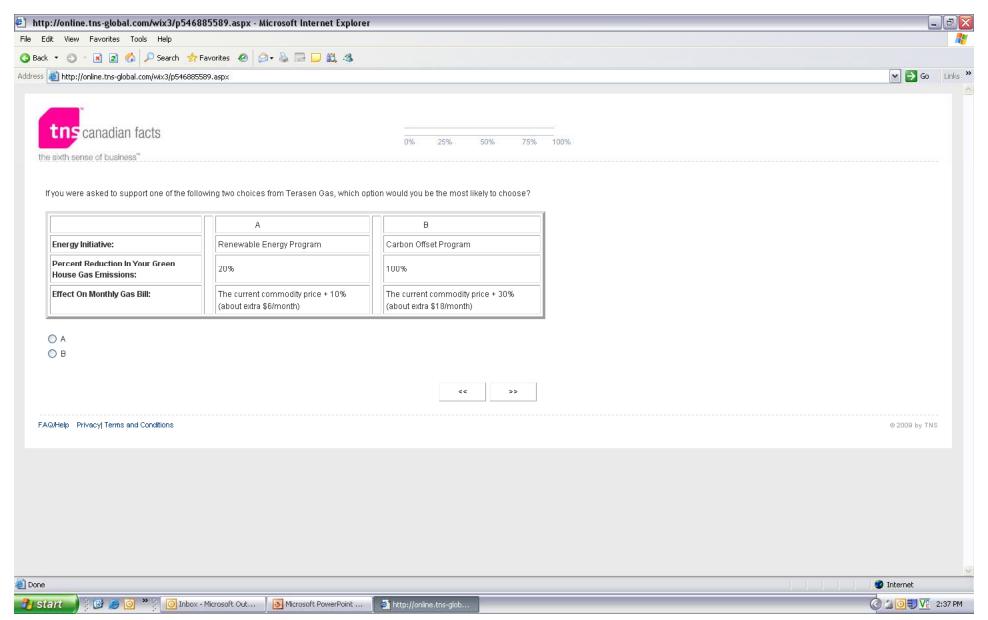


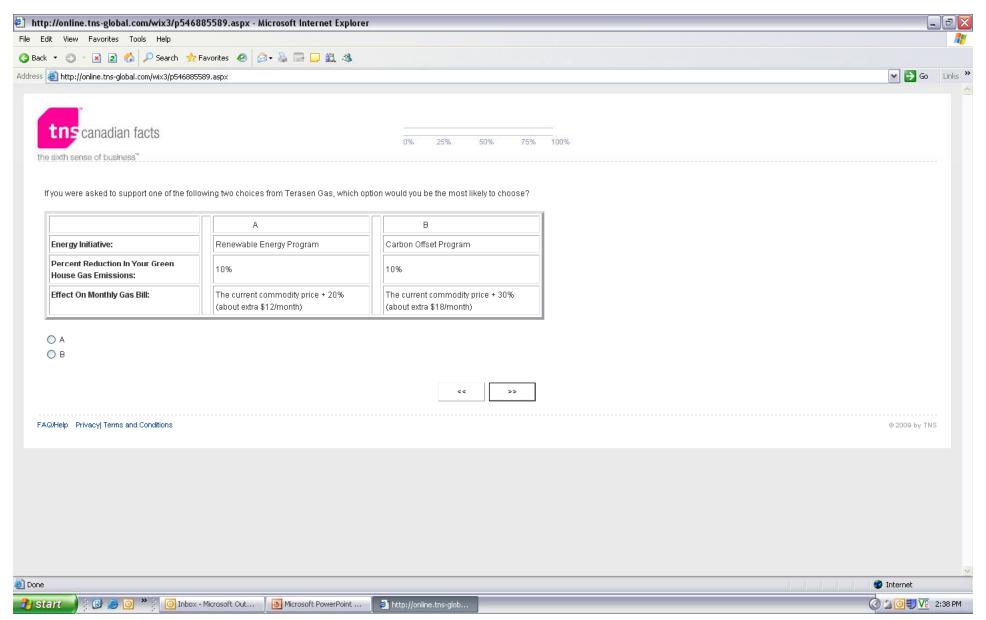


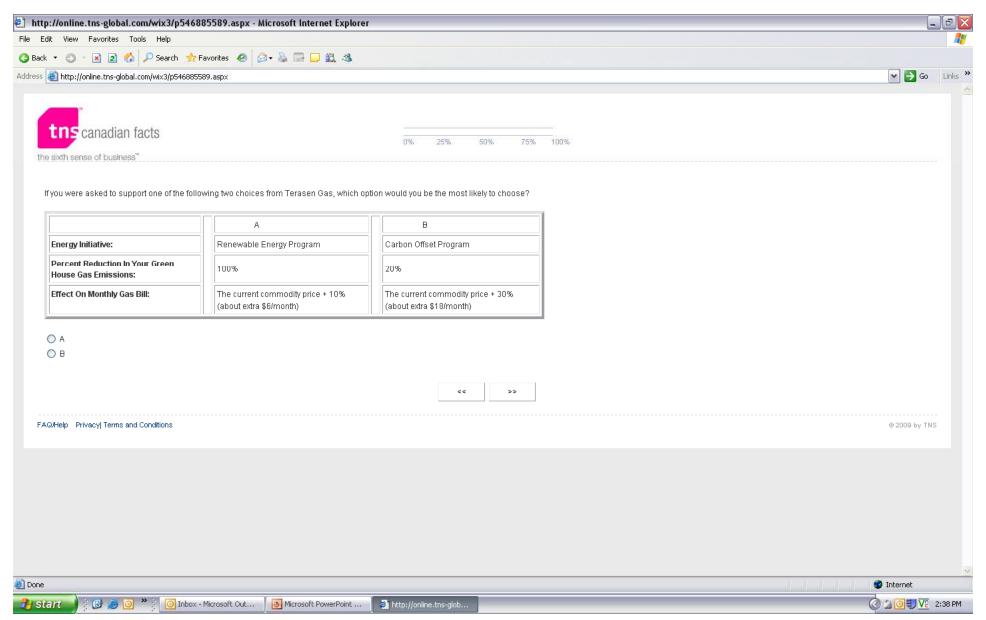


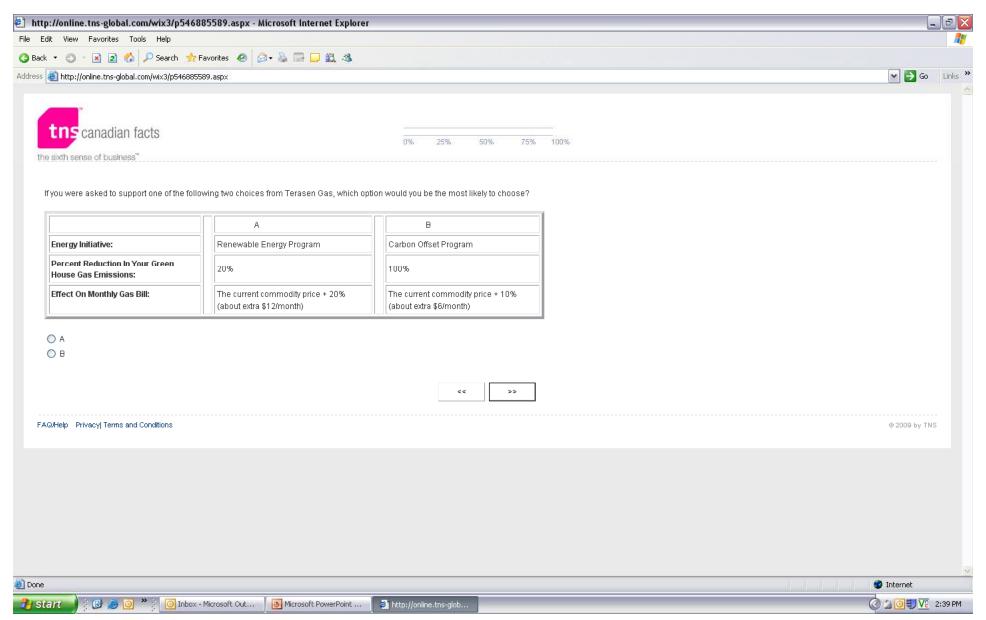


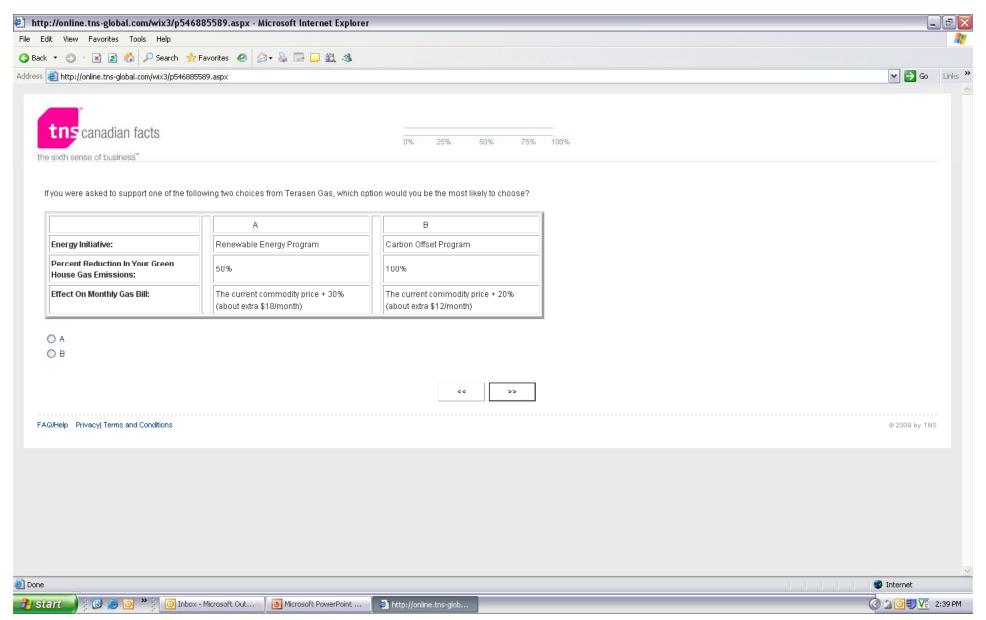


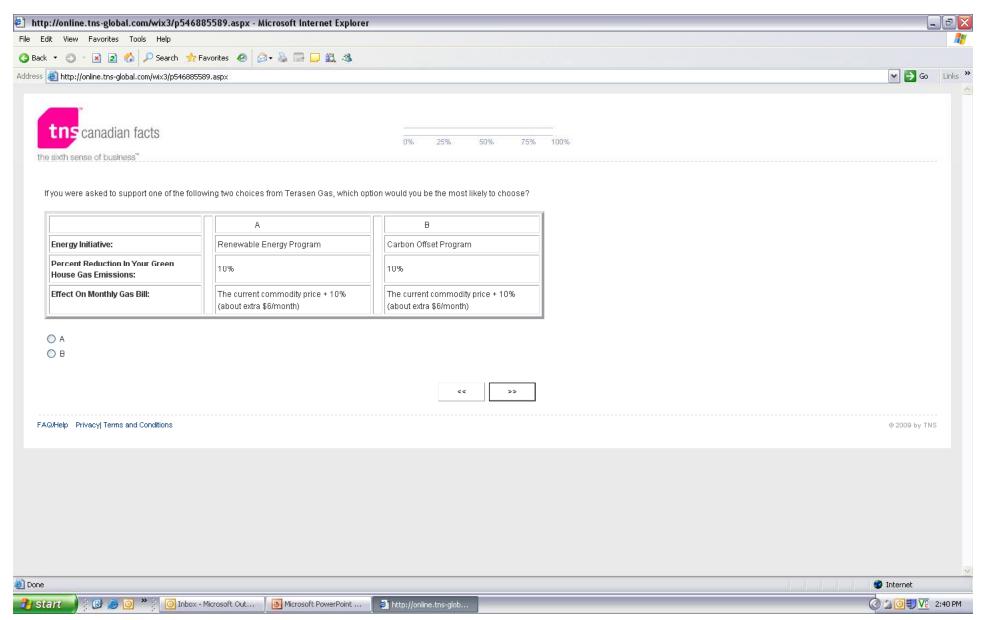


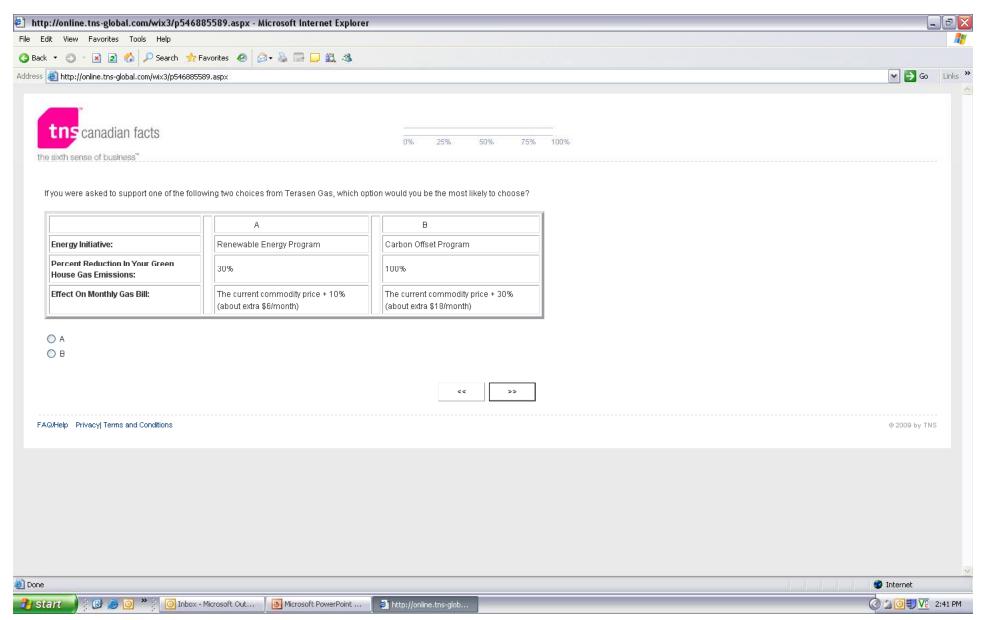












					Α	В
VERSION 1 Choice Sets	Choice Set	1	Energy Initiative		Renewable Energy Program	Carbon Offset Program
1 to 16			Percent Reduction In Your Green House Gas Emissions		100%	20%
			Effect On Monthly Gas Bill		The current commodity price + 20% (about extra \$12/month)	The current commodity price + 10% (about extra \$6/month)
				1		
VERSION 1 Choice Sets	Choice Set	2	Energy Initiative		Renewable Energy Program	Carbon Offset Program
1 to 16			Percent Reduction In Your Green House Gas Emissions		10%	80%
			Effect On Monthly Gas Bill		The current commodity price + 10% (about extra \$6/month)	The current commodity price + 30% (about extra \$18/month)
				_		
VERSION 1 Choice Sets	Choice Set	3	Energy Initiative		Renewable Energy Program	Carbon Offset Program
1 to 16			Percent Reduction In Your Green House Gas Emissions		20%	30%
			Effect On Monthly Gas Bill		The current commodity price + 30% (about extra \$18/month)	The current commodity price + 30% (about extra \$18/month)
VERSION 1 Choice Sets	Choice Set	4	Energy Initiative		Renewable Energy Program	Carbon Offset Program
1 to 16		Percent Reduction In Your Green House Gas Emissions		20%	50%	
			Effect On Monthly Gas Bill		The current commodity price + 30% (about extra \$18/month)	The current commodity price + 20% (about extra \$12/month)

Choice Sets 1 to 16 Choice Sets 1 to 16 Carbon Offset Program The current commodity price + 30% (about extra S18/month)						^	ь
Percent Reduction in Your Green House So% 10%		Choice Set	5	Energy Initiative		Renewable Energy Program	Carbon Offset Program
VERSION 1 Choice Set 5 1 to 16 VERSION 1 Choice Set 6 Energy Initiative Percent Reduction In Your Green House Gas Emissions Effect On Monthly Gas Bill VERSION 1 Choice Set 7 Energy Initiative Percent Reduction In Your Green House Gas Emissions The current commodity price + 30% (about extra \$18/month) The current commodity price + 30% (about extra \$18/month) VERSION 1 Choice Set 7 Energy Initiative Percent Reduction In Your Green House Gas Emissions Effect On Monthly Gas Bill The current commodity price + 30% (about extra \$18/month) The current commodity price + 30% (about extra \$18/month) The current commodity price + 30% (about extra \$18/month) The current commodity price + 10% (about extra \$18/month) The current commodity price + 10% (about extra \$18/month) The current commodity price + 10% (about extra \$18/month) The current commodity price + 10% (about extra \$18/month) The current commodity price + 10% (about extra \$18/month) The current commodity price + 10% (about extra \$18/month) The current commodity price + 10% (about extra \$18/month) The current commodity price + 10% (about extra \$18/month) The current commodity price + 10% (about extra \$18/month) The current commodity price + 10% (about extra \$18/month) The current commodity price + 10% (about extra \$18/month)	1 to 16					50%	10%
Choice Sets 1 to 16 Percent Reduction In Your Green House Gas Emissions Effect On Monthly Gas Bill Choice Set 7 Energy Initiative Percent Reduction In Your Green House Gas Emissions The current commodity price + 30% (about extra \$18/month) The current commodity price + 30% (about extra \$18/month) The current commodity price + 30% (about extra \$18/month) The current commodity price + 30% (about extra \$18/month) The current commodity price + 30% (about extra \$18/month) The current commodity price + 30% (about extra \$18/month) The current commodity price + 10% (about extra \$18/month) The current commodity price + 10% (about extra \$18/month) The current commodity price + 10% (about extra \$1 to 16 The current commodity price + 10% (about extra \$1 to 16 The current commodity price + 10% (about extra \$1 to 16 The current commodity price + 10% (about extra \$1 to 16 The current commodity price + 10% (about extra \$1 to 16 The current commodity price + 10% (about extra \$1 to 16 The current commodity price + 10% (about extra \$1 to 16 The current commodity price + 10% (about extra \$1 to 16 The current commodity price + 10% (about extra \$1 to 16 The current commodity price + 10% (about extra \$1 to 16 The current commodity price + 10% (about extra \$1 to 16 The current commodity price + 10% (about extra \$1 to 16 The current commodity price + 10% (about extra \$1 to 16 The current commodity price + 10% (about extra \$1 to 16 The current commodity price + 10% (about extra \$1 to 16 The current commodity price + 10% (about extra \$1 to 16 The current commodity price + 10% (about extra \$1 to 16				Effect On Monthly Gas Bill			
Choice Sets 1 to 16 Percent Reduction In Your Green House Gas Emissions Effect On Monthly Gas Bill Choice Set 7 Energy Initiative Percent Reduction In Your Green House Gas Emissions The current commodity price + 30% (about extra \$18/month) The current commodity price + 30% (about extra \$18/month) The current commodity price + 30% (about extra \$18/month) The current commodity price + 30% (about extra \$18/month) The current commodity price + 30% (about extra \$18/month) The current commodity price + 30% (about extra \$18/month) The current commodity price + 10% (about extra \$18/month) The current commodity price + 10% (about extra \$18/month) The current commodity price + 10% (about extra \$1 to 16 The current commodity price + 10% (about extra \$1 to 16 The current commodity price + 10% (about extra \$1 to 16 The current commodity price + 10% (about extra \$1 to 16 The current commodity price + 10% (about extra \$1 to 16 The current commodity price + 10% (about extra \$1 to 16 The current commodity price + 10% (about extra \$1 to 16 The current commodity price + 10% (about extra \$1 to 16 The current commodity price + 10% (about extra \$1 to 16 The current commodity price + 10% (about extra \$1 to 16 The current commodity price + 10% (about extra \$1 to 16 The current commodity price + 10% (about extra \$1 to 16 The current commodity price + 10% (about extra \$1 to 16 The current commodity price + 10% (about extra \$1 to 16 The current commodity price + 10% (about extra \$1 to 16 The current commodity price + 10% (about extra \$1 to 16 The current commodity price + 10% (about extra \$1 to 16					_		
Percent Reduction in Your Green House Gas Emissions Effect On Monthly Gas Bill The current commodity price + 30% (about extra \$18/month) The current commodity price + 30% (about extra \$18/month) The current commodity price + 30% (about extra \$18/month) The current commodity price + 30% (about extra \$18/month) The current commodity price + 30% (about extra \$18/month) The current commodity price + 30% (about extra \$18/month) The current commodity price + 30% (about extra \$18/month) The current commodity price + 10% (about extra \$18/month) The current commodity price + 10% (about extra \$18/month) The current commodity price + 10% (about extra \$18/month) The current commodity price + 10% (about extra \$18/month) The current commodity price + 10% (about extra \$18/month) The current commodity price + 10% (about extra \$18/month) The current commodity price + 10% (about extra \$18/month) The current commodity price + 10% (about extra \$18/month)		Choice Set	6	Energy Initiative		Renewable Energy Program	Carbon Offset Program
VERSION 1 Choice Sets 1 to 16 Choice Sets 2 T Energy Initiative Percent Reduction In Your Green House Gas Emissions Effect On Monthly Gas Bill VERSION 1 Choice Set 8 Energy Initiative Renewable Energy Program Carbon Offset Program The current commodity price + 30% (about extra \$18/month) The current commodity price + 30% (about extra \$6/month) VERSION 1 Choice Set 8 Energy Initiative Percent Reduction In Your Green House Gas Emissions The current commodity price + 10% (about extra \$50% The current commodity price + 10% (about extra \$50% The current commodity price + 10% (about extra \$50% The current commodity price + 10% (about extra \$50% The current commodity price + 10% (about extra \$50%) The current commodity price + 10% (about extra \$50%) The current commodity price + 10% (about extra \$50%) The current commodity price + 10% (about extra \$50%) The current commodity price + 10% (about extra \$50%) The current commodity price + 10% (about extra \$50%) The current commodity price + 10% (about extra \$50%) The current commodity price + 10% (about extra \$50%)	1 to 16					100%	100%
Choice Sets 1 to 16 Percent Reduction In Your Green House Gas Emissions Effect On Monthly Gas Bill Choice Sets 1 to 16 Percent Reduction In Your Green House Gas Emissions Energy Initiative Renewable Energy Program 10% 20% The current commodity price + 30% (about extra \$18/month) The current commodity price + 10% (about extra \$18/month) Choice Set 8 Energy Initiative Renewable Energy Program Carbon Offset Program The current commodity price + 10% (about extra \$18/month) The current commodity price + 10% (about extra \$18/month) The current commodity price + 10% (about extra \$18/month) The current commodity price + 10% (about extra \$18/month) The current commodity price + 10% (about extra \$18/month) The current commodity price + 10% (about extra \$18/month) The current commodity price + 10% (about extra \$18/month)				Effect On Monthly Gas Bill		The current commodity price + 30% (about extra \$18/month)	
Choice Sets 1 to 16 Percent Reduction In Your Green House Gas Emissions Effect On Monthly Gas Bill Choice Sets 1 to 16 Percent Reduction In Your Green House Gas Emissions Energy Initiative Renewable Energy Program 10% 20% The current commodity price + 30% (about extra \$18/month) The current commodity price + 10% (about extra \$18/month) Choice Set 8 Energy Initiative Renewable Energy Program Carbon Offset Program The current commodity price + 10% (about extra \$18/month) The current commodity price + 10% (about extra \$18/month) The current commodity price + 10% (about extra \$18/month) The current commodity price + 10% (about extra \$18/month) The current commodity price + 10% (about extra \$18/month) The current commodity price + 10% (about extra \$18/month) The current commodity price + 10% (about extra \$18/month)							
Percent Reduction In Your Green House Gas Emissions Effect On Monthly Gas Bill VERSION 1 Choice Sets 1 to 16 Choice Sets 2 to 16 Percent Reduction In Your Green House Gas Emissions The current commodity price + 30% (about extra \$18/month) The current commodity price + 10% (about extra \$6/month) Choice Sets 5 to 16 Percent Reduction In Your Green House Gas Emissions The current commodity price + 10% (about extra The current commodity pr		Choice Set	7	Energy Initiative		Renewable Energy Program	Carbon Offset Program
VERSION 1 Choice Set 8 Energy Initiative Percent Reduction In Your Green House Gas Emissions Effect On Monthly Gas Bill \$18/month) Renewable Energy Program Carbon Offset Program 50% The current commodity price + 10% (about extra) The current commodity price + 10% (about extra)	1 to 16					10%	20%
Choice Sets 1 to 16 Percent Reduction In Your Green House Gas Emissions The current commodity price + 10% (about extra The current commodity price + 10% (about extra				Effect On Monthly Gas Bill			
Choice Sets 1 to 16 Percent Reduction In Your Green House Gas Emissions The current commodity price + 10% (about extra The current commodity price + 10% (about extra					_		
Percent Reduction In Your Green House Gas Emissions 50% The current commodity price + 10% (about extra The current commodity price + 10% (about extra	Choice Sets	Choice Set	8	Energy Initiative		Renewable Energy Program	Carbon Offset Program
	1 to 16					50%	50%
				Effect On Monthly Gas Bill			

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VERSION 1 Choice Sets	Choice Set	9	Energy Initiative		Renewable Energy Program	Carbon Offset Program
1 to 16			Percent Reduction In Your Green House Gas Emissions		10%	100%
			Effect On Monthly Gas Bill		The current commodity price + 30% (about extra \$18/month)	The current commodity price + 30% (about extra \$18/month)
				1		
VERSION 1 Choice Sets	Choice Set	10	Energy Initiative		Renewable Energy Program	Carbon Offset Program
1 to 16			Percent Reduction In Your Green House Gas Emissions		100%	30%
			Effect On Monthly Gas Bill		The current commodity price + 30% (about extra \$18/month)	The current commodity price + 20% (about extra \$12/month)
				-		
VERSION 1 Choice Sets	Choice Set	11	Energy Initiative		Renewable Energy Program	Carbon Offset Program
1 to 16			Percent Reduction In Your Green House Gas Emissions		10%	80%
			Effect On Monthly Gas Bill		The current commodity price + 30% (about extra \$18/month)	The current commodity price + 10% (about extra \$6/month)
				_		
VERSION 1 Choice Sets	Choice Set	12	Energy Initiative		Renewable Energy Program	Carbon Offset Program
1 to 16	1 to 16		Percent Reduction In Your Green House Gas Emissions		10%	20%
			Effect On Monthly Gas Bill		The current commodity price + 10% (about extra \$6/month)	The current commodity price + 20% (about extra \$12/month)

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VERSION 1 Choice Sets	Choice Set	13	Energy Initiative		Renewable Energy Program	Carbon Offset Program
1 to 16			Percent Reduction In Your Green House Gas Emissions		80%	10%
			Effect On Monthly Gas Bill		The current commodity price + 30% (about extra \$18/month)	The current commodity price + 20% (about extra \$12/month)
				7		
VERSION 1 Choice Sets	Choice Set	14	Energy Initiative		Renewable Energy Program	Carbon Offset Program
1 to 16			Percent Reduction In Your Green House Gas Emissions		100%	30%
			Effect On Monthly Gas Bill		The current commodity price + 10% (about extra \$6/month)	The current commodity price + 30% (about extra \$18/month)
				-		
VERSION 1 Choice Sets	Choice Set	15	Energy Initiative		Renewable Energy Program	Carbon Offset Program
1 to 16			Percent Reduction In Your Green House Gas Emissions		10%	100%
			Effect On Monthly Gas Bill		The current commodity price + 30% (about extra \$18/month)	The current commodity price + 20% (about extra \$12/month)
				_		
VERSION 1 Choice Sets	Choice Set	16	Energy Initiative		Renewable Energy Program	Carbon Offset Program
1 to 16	0.16		Percent Reduction In Your Green House Gas Emissions		20%	10%
			Effect On Monthly Gas Bill		The current commodity price + 10% (about extra \$6/month)	The current commodity price + 30% (about extra \$18/month)

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VERSION 2 Choice Sets	Choice Set	17	Energy Initiative		Renewable Energy Program	Carbon Offset Program
17 to 32			Percent Reduction In Your Green House Gas Emissions		20%	80%
			Effect On Monthly Gas Bill		The current commodity price + 10% (about extra \$6/month)	The current commodity price + 10% (about extra \$6/month)
				_		
VERSION 2 Choice Sets	Choice Set	18	Energy Initiative		Renewable Energy Program	Carbon Offset Program
17 to 32			Percent Reduction In Your Green House Gas Emissions		80%	10%
			Effect On Monthly Gas Bill		The current commodity price + 10% (about extra \$6/month)	The current commodity price + 20% (about extra \$12/month)
				_		
VERSION 2 Choice Sets	Choice Set	19	Energy Initiative		Renewable Energy Program	Carbon Offset Program
17 to 32			Percent Reduction In Your Green House Gas Emissions		30%	10%
			Effect On Monthly Gas Bill		The current commodity price + 20% (about extra \$12/month)	The current commodity price + 30% (about extra \$18/month)
				_		
VERSION 2 Choice Sets	Choice Set	20	Energy Initiative		Renewable Energy Program	Carbon Offset Program
17 to 32			Percent Reduction In Your Green House Gas Emissions		20%	10%
			Effect On Monthly Gas Bill		The current commodity price + 30% (about extra \$18/month)	The current commodity price + 10% (about extra \$6/month)

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VERSION 2 Choice Sets	Choice Set	21	Energy Initiative		Renewable Energy Program	Carbon Offset Program
17 to 32			Percent Reduction In Your Green House Gas Emissions		80%	100%
			Effect On Monthly Gas Bill		The current commodity price + 10% (about extra \$6/month)	The current commodity price + 30% (about extra \$18/month)
				-		
VERSION 2 Choice Sets	Choice Set	22	Energy Initiative		Renewable Energy Program	Carbon Offset Program
17 to 32			Percent Reduction In Your Green House Gas Emissions		100%	80%
			Effect On Monthly Gas Bill		The current commodity price + 30% (about extra \$18/month)	The current commodity price + 10% (about extra \$6/month)
				_		
VERSION 2 Choice Sets	Choice Set	23	Energy Initiative		Renewable Energy Program	Carbon Offset Program
17 to 32			Percent Reduction In Your Green House Gas Emissions		100%	50%
			Effect On Monthly Gas Bill		The current commodity price + 10% (about extra \$6/month)	The current commodity price + 30% (about extra \$18/month)
				_		
VERSION 2 Choice Sets	Choice Set	24	Energy Initiative		Renewable Energy Program	Carbon Offset Program
17 to 32			Percent Reduction In Your Green House Gas Emissions		50%	10%
			Effect On Monthly Gas Bill		The current commodity price + 20% (about extra \$12/month)	The current commodity price + 30% (about extra \$18/month)

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VERSION 2 Choice Sets	Choice Set	25	Energy Initiative		Renewable Energy Program	Carbon Offset Program
17 to 32			Percent Reduction In Your Green House Gas Emissions		10%	50%
			Effect On Monthly Gas Bill		The current commodity price + 10% (about extra \$6/month)	The current commodity price + 30% (about extra \$18/month)
				1		
VERSION 2 Choice Sets	Choice Set	26	Energy Initiative		Renewable Energy Program	Carbon Offset Program
17 to 32			Percent Reduction In Your Green House Gas Emissions		30%	10%
			Effect On Monthly Gas Bill		The current commodity price + 30% (about extra \$18/month)	The current commodity price + 10% (about extra \$6/month)
				_		
VERSION 2 Choice Sets	Choice Set	27	Energy Initiative		Renewable Energy Program	Carbon Offset Program
17 to 32			Percent Reduction In Your Green House Gas Emissions		10%	30%
			Effect On Monthly Gas Bill		The current commodity price + 30% (about extra \$18/month)	The current commodity price + 10% (about extra \$6/month)
				_		
VERSION 2 Choice Sets	Choice Set	28	Energy Initiative		Renewable Energy Program	Carbon Offset Program
17 to 32			Percent Reduction In Your Green House Gas Emissions		10%	100%
			Effect On Monthly Gas Bill		The current commodity price + 10% (about extra \$6/month)	The current commodity price + 20% (about extra \$12/month)

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VERSION 2 Choice Sets	Choice Set	29	Energy Initiative		Renewable Energy Program	Carbon Offset Program
17 to 32			Percent Reduction In Your Green House Gas Emissions		100%	80%
			Effect On Monthly Gas Bill		The current commodity price + 20% (about extra \$12/month)	The current commodity price + 20% (about extra \$12/month)
				1		
VERSION 2 Choice Sets	Choice Set	30	Energy Initiative		Renewable Energy Program	Carbon Offset Program
17 to 32			Percent Reduction In Your Green House Gas Emissions		80%	20%
			Effect On Monthly Gas Bill		The current commodity price + 30% (about extra \$18/month)	The current commodity price + 30% (about extra \$18/month)
				-		
VERSION 2 Choice Sets	Choice Set	31	Energy Initiative		Renewable Energy Program	Carbon Offset Program
17 to 32			Percent Reduction In Your Green House Gas Emissions		10%	100%
			Effect On Monthly Gas Bill		The current commodity price + 20% (about extra \$12/month)	The current commodity price + 10% (about extra \$6/month)
VERSION 2 Choice Sets	Choice Set	32	Energy Initiative		Renewable Energy Program	Carbon Offset Program
17 to 32			Percent Reduction In Your Green House Gas Emissions		100%	100%
			Effect On Monthly Gas Bill		The current commodity price + 30% (about extra \$18/month)	The current commodity price + 30% (about extra \$18/month)

					Α	В
VERSION 3 Choice Sets	Choice Set	33	Energy Initiative		Renewable Energy Program	Carbon Offset Program
33 to 48			Percent Reduction In Your Green House Gas Emissions		80%	50%
			Effect On Monthly Gas Bill		The current commodity price + 20% (about extra \$12/month)	The current commodity price + 10% (about extra \$6/month)
				7		
VERSION 3 Choice Sets	Choice Set	34	Energy Initiative		Renewable Energy Program	Carbon Offset Program
33 to 48			Percent Reduction In Your Green House Gas Emissions		30%	30%
			Effect On Monthly Gas Bill		The current commodity price + 20% (about extra \$12/month)	The current commodity price + 20% (about extra \$12/month)
				_		
VERSION 3 Choice Sets	Choice Set	35	Energy Initiative		Renewable Energy Program	Carbon Offset Program
33 to 48			Percent Reduction In Your Green House Gas Emissions		100%	50%
			Effect On Monthly Gas Bill		The current commodity price + 30% (about extra \$18/month)	The current commodity price + 10% (about extra \$6/month)
				•		
VERSION 3 Choice Sets	Choice Set	36	Energy Initiative		Renewable Energy Program	Carbon Offset Program
33 to 48			Percent Reduction In Your Green House Gas Emissions		100%	10%
			Effect On Monthly Gas Bill		The current commodity price + 10% (about extra \$6/month)	The current commodity price + 10% (about extra \$6/month)

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VERSION 3 Choice Sets	Choice Set	37	Energy Initiative		Renewable Energy Program	Carbon Offset Program
33 to 48			Percent Reduction In Your Green House Gas Emissions		100%	20%
			Effect On Monthly Gas Bill		The current commodity price + 10% (about extra \$6/month)	The current commodity price + 30% (about extra \$18/month)
				1		
VERSION 3 Choice Sets	Choice Set	38	Energy Initiative		Renewable Energy Program	Carbon Offset Program
33 to 48			Percent Reduction In Your Green House Gas Emissions		10%	10%
			Effect On Monthly Gas Bill		The current commodity price + 10% (about extra \$6/month)	The current commodity price + 10% (about extra \$6/month)
				_		
VERSION 3 Choice Sets	Choice Set	39	Energy Initiative		Renewable Energy Program	Carbon Offset Program
33 to 48			Percent Reduction In Your Green House Gas Emissions		20%	100%
			Effect On Monthly Gas Bill		The current commodity price + 20% (about extra \$12/month)	The current commodity price + 10% (about extra \$6/month)
VERSION 3 Choice Sets	Choice Set	40	Energy Initiative		Renewable Energy Program	Carbon Offset Program
33 to 48			Percent Reduction In Your Green House Gas Emissions		20%	100%
			Effect On Monthly Gas Bill		The current commodity price + 10% (about extra \$6/month)	The current commodity price + 30% (about extra \$18/month)

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VERSION 3 Choice Sets	Choice Set	41	Energy Initiative	•	Renewable Energy Program	Carbon Offset Program
33 to 48			50%	100%		
			Effect On Monthly Gas Bill		The current commodity price + 10% (about extra \$6/month)	The current commodity price + 20% (about extra \$12/month)
				7		
VERSION 3 Choice Sets	Choice Set	42	Energy Initiative		Renewable Energy Program	Carbon Offset Program
33 to 48			Percent Reduction In Your Green House Gas Emissions		30%	100%
			Effect On Monthly Gas Bill		The current commodity price + 10% (about extra \$6/month)	The current commodity price + 30% (about extra \$18/month)
VERSION 3 Choice Sets	Choice Set	43	Energy Initiative		Renewable Energy Program	Carbon Offset Program
33 to 48			Percent Reduction In Your Green House Gas Emissions		80%	80%
			Effect On Monthly Gas Bill		The current commodity price + 30% (about extra \$18/month)	The current commodity price + 30% (about extra \$18/month)
				-		
VERSION 3 Choice Sets	Choice Set	44	Energy Initiative		Renewable Energy Program	Carbon Offset Program
33 to 48			Percent Reduction In Your Green House Gas Emissions		100%	10%
			Effect On Monthly Gas Bill		The current commodity price + 30% (about extra \$18/month)	The current commodity price + 20% (about extra \$12/month)

					Α	В
VERSION 3 Choice Sets	Choice Set	45	Energy Initiative		Renewable Energy Program	Carbon Offset Program
33 to 48	Percent Reduction In Your Green House Gas Emissions			50%	80%	
			Effect On Monthly Gas Bill		The current commodity price + 20% (about extra \$12/month)	The current commodity price + 30% (about extra \$18/month)
				7		
VERSION 3 Choice Sets	Choice Set	46	Energy Initiative		Renewable Energy Program	Carbon Offset Program
33 to 48			Percent Reduction In Your Green House Gas Emissions		10%	10%
			Effect On Monthly Gas Bill		The current commodity price + 30% (about extra \$18/month)	The current commodity price + 30% (about extra \$18/month)
				-		
VERSION 3 Choice Sets	Choice Set	47	Energy Initiative		Renewable Energy Program	Carbon Offset Program
33 to 48			Percent Reduction In Your Green House Gas Emissions		50%	100%
			Effect On Monthly Gas Bill		The current commodity price + 30% (about extra \$18/month)	The current commodity price + 20% (about extra \$12/month)
				_		
VERSION 3 Choice Sets	Choice Set	48	Energy Initiative		Renewable Energy Program	Carbon Offset Program
33 to 48			Percent Reduction In Your Green House Gas Emissions		10%	10%
			Effect On Monthly Gas Bill		The current commodity price + 20% (about extra \$12/month)	The current commodity price + 30% (about extra \$18/month)

R1549 Choice Sets

Choice Set	49	Energy Initiative	Renewable Energy Program	Carbon Offset Program	
		Percent Reduction In Your Green House Gas Emissions	30%	80%	
		Effect On Monthly Gas Bill	The current commodity price + 10% (about extra \$6/month)	The current commodity price + 20% (about extra \$12/month)	
Choice Set	50	Energy Initiative	Renewable Energy Program	Carbon Offset Program	
		Percent Reduction In Your Green House Gas Emissions	50%	20%	
		Effect On Monthly Gas Bill	The current commodity price + 30% (about extra \$18/month)	The current commodity price + 30% (about extra \$18/month)	
Choice Set	51	Energy Initiative	Renewable Energy Program	Carbon Offset Program	
			Percent Reduction In Your Green House Gas Emissions	20%	20%
		Effect On Monthly Gas Bill	The current commodity price + 20% (about extra \$12/month)	The current commodity price + 20% (about extra \$12/month)	
Choice Set	52	Energy Initiative	Renewable Energy Program	Carbon Offset Program	
		Percent Reduction In Your Green House Gas Emissions	10%	30%	
		Effect On Monthly Gas Bill	The current commodity price + 20% (about extra \$12/month)	The current commodity price + 30% (about extra \$18/month)	
	Choice Set	Choice Set 50 Choice Set 51 Choice Set 52	Energy Initiative Percent Reduction In Your Green House Gas Emissions Effect On Monthly Gas Bill Choice Set 50 Energy Initiative Percent Reduction In Your Green House Gas Emissions Effect On Monthly Gas Bill Choice Set 51 Energy Initiative Percent Reduction In Your Green House Gas Emissions Effect On Monthly Gas Bill Choice Set 52 Energy Initiative Percent Reduction In Your Green House Gas Emissions	Energy Initiative	

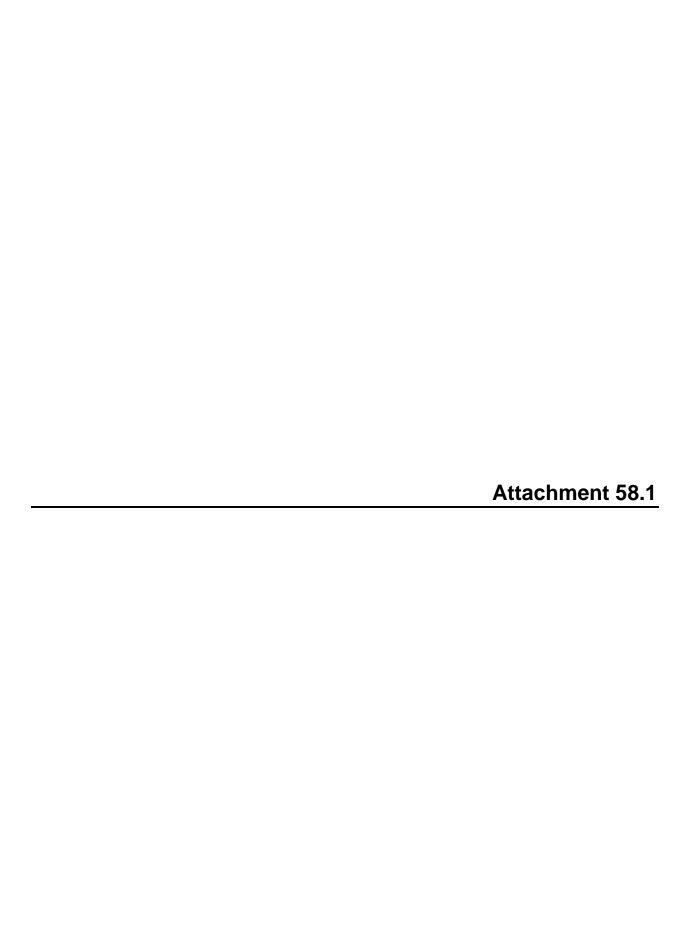
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VERSION 4 Choice Sets	Choice Set	53	Energy Initiative		Renewable Energy Program	Carbon Offset Program
49 to 64			Percent Reduction In Your Green House Gas Emissions		100%	100%
			Effect On Monthly Gas Bill		The current commodity price + 20% (about extra \$12/month)	The current commodity price + 10% (about extra \$6/month)
				-		
VERSION 4 Choice Sets	Choice Set	54	Energy Initiative		Renewable Energy Program	Carbon Offset Program
49 to 64			Percent Reduction In Your Green House Gas Emissions		80%	30%
			Effect On Monthly Gas Bill		The current commodity price + 10% (about extra \$6/month)	The current commodity price + 10% (about extra \$6/month)
				_		
VERSION 4 Choice Sets	Choice Set	55	Energy Initiative		Renewable Energy Program	Carbon Offset Program
49 to 64			Percent Reduction In Your Green House Gas Emissions		30%	50%
			Effect On Monthly Gas Bill		The current commodity price + 30% (about extra \$18/month)	The current commodity price + 30% (about extra \$18/month)
				_		
VERSION 4 Choice Sets	Choice Set	56	Energy Initiative		Renewable Energy Program	Carbon Offset Program
49 to 64			Percent Reduction In Your Green House Gas Emissions		100%	10%
			Effect On Monthly Gas Bill		The current commodity price + 20% (about extra \$12/month)	The current commodity price + 30% (about extra \$18/month)

					Α	В
VERSION 4 Choice Sets	Choice Set	57	Energy Initiative		Renewable Energy Program	Carbon Offset Program
49 to 64			Percent Reduction In Your Green House Gas Emissions		30%	100%
			Effect On Monthly Gas Bill		The current commodity price + 30% (about extra \$18/month)	The current commodity price + 10% (about extra \$6/month)
VERSION 4 Choice Sets	Choice Set	58	Energy Initiative		Renewable Energy Program	Carbon Offset Program
49 to 64			Percent Reduction In Your Green House Gas Emissions		30%	20%
			Effect On Monthly Gas Bill		The current commodity price + 10% (about extra \$6/month)	The current commodity price + 10% (about extra \$6/month)
				_		
VERSION 4 Choice Sets	Choice Set	59	Energy Initiative		Renewable Energy Program	Carbon Offset Program
49 to 64			Percent Reduction In Your Green House Gas Emissions		50%	30%
			Effect On Monthly Gas Bill		The current commodity price + 10% (about extra \$6/month)	The current commodity price + 10% (about extra \$6/month)
VERSION 4 Choice Sets	Choice Set	60	Energy Initiative		Renewable Energy Program	Carbon Offset Program
49 to 64			Percent Reduction In Your Green House Gas Emissions		100%	10%
			Effect On Monthly Gas Bill		The current commodity price + 10% (about extra \$6/month)	The current commodity price + 20% (about extra \$12/month)

					Α	В
VERSION 4 Choice Sets	Choice Set	61	Energy Initiative		Renewable Energy Program	Carbon Offset Program
49 to 64			Percent Reduction In Your Green House Gas Emissions		80%	100%
			Effect On Monthly Gas Bill		The current commodity price + 20% (about extra \$12/month)	The current commodity price + 10% (about extra \$6/month)
				1		
VERSION 4 Choice Sets	Choice Set	62	Energy Initiative		Renewable Energy Program	Carbon Offset Program
49 to 64			Percent Reduction In Your Green House Gas Emissions		10%	50%
			Effect On Monthly Gas Bill		The current commodity price + 20% (about extra \$12/month)	The current commodity price + 20% (about extra \$12/month)
				_		
VERSION 4 Choice Sets	Choice Set	63	Energy Initiative		Renewable Energy Program	Carbon Offset Program
49 to 64			Percent Reduction In Your Green House Gas Emissions		100%	100%
			Effect On Monthly Gas Bill		The current commodity price + 10% (about extra \$6/month)	The current commodity price + 10% (about extra \$6/month)
				•		
VERSION 4 Choice Sets	Choice Set	64	Energy Initiative		Renewable Energy Program	Carbon Offset Program
49 to 64			Percent Reduction In Your Green House Gas Emissions		10%	10%
			Effect On Monthly Gas Bill		The current commodity price + 10% (about extra \$6/month)	The current commodity price + 10% (about extra \$6/month)



Rate Schedule 2B: Small Commercial Biomethane Service

Available

This Rate Schedule is available in all territory served by Terasen Gas, with the exception of the Municipality of Revelstoke, provided adequate capacity exists in Terasen Gas' system. Entry dates for commencing service under this Rate Schedule shall be the first day of each month following January 1, 2012. The number of Customers that may enrol in Biomethane Service for a given entry date may be limited. In the event that there is a limit to the total number of Customers that may be enrolled in Biomethane Service under this Rate Schedule for a particular entry date, enrolments will be processed on a "first come, first served" basis.

Applicable

This Rate Schedule is applicable to Customers with a normalized annual consumption at one Premises of less than 2,000 Gigajoules of firm Gas, for use in approved appliances in commercial, institutional or small industrial operations. Customers who are currently disconnected are not eligible to enrol. Customers who are currently enrolled in Commodity Unbundling Service under Rate Schedule 2U are ineligible to enrol until their existing contract term with their gas marketer expires.

Order No.:	Issued By: Tom Loski, Chief Regulatory Officer
Effective Date:	
BCUC Secretary:	Original Page R-2B.1

Rate Schedule 3B: Large Commercial Biomethane Service

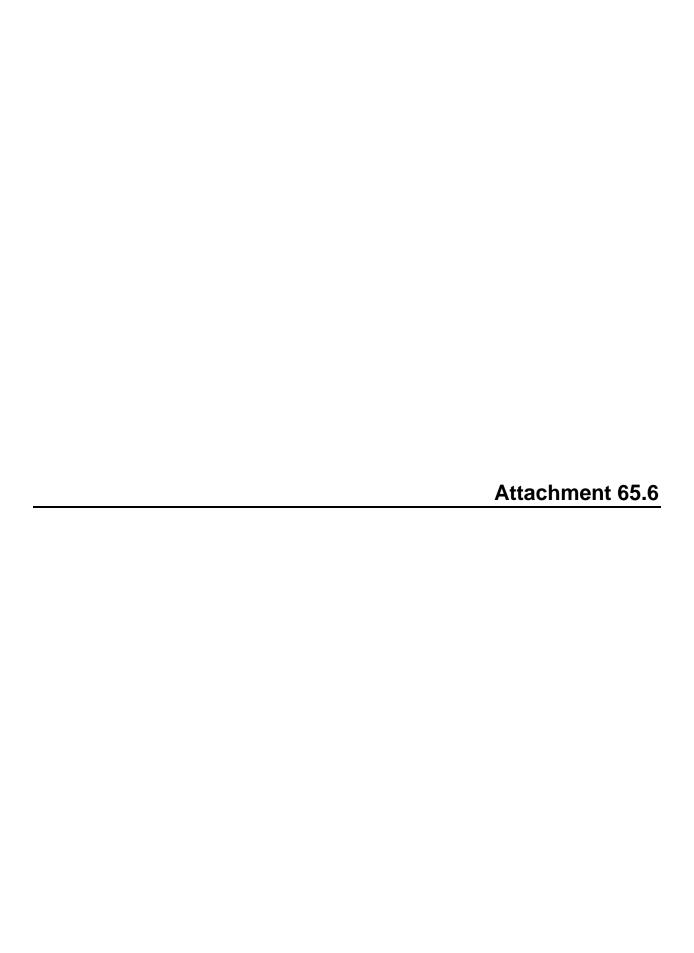
Available

This Rate Schedule is available in all territory served by Terasen Gas, with the exception of the Municipality of Revelstoke, provided adequate capacity exists in Terasen Gas' system. Entry dates for commencing service under this Rate Schedule shall be the first day of each month following January 1, 2012. The number of Customers that may enrol in Biomethane Service for a given entry date may be limited. In the event that there is a limit to the total number of Customers that may be enrolled in Biomethane Service under this Rate Schedule for a particular entry date, enrolments will be processed on a "first come, first served" basis.

Applicable

This Rate Schedule is applicable to Customers with a normalized annual consumption at one Premises of greater than 2,000 Gigajoules of firm Gas, for use in approved appliances in commercial, institutional or small industrial operations. Customers who are currently disconnected are not eligible to enrol. Customers who are currently enrolled in Commodity Unbundling Service under Rate Schedule 3U are ineligible to enrol until their existing contract term with their gas marketer expires.

Order No.:	Issued By: Tom Loski, Chief Regulatory Officer
Effective Date:	
BCUC Secretary:	Original Page R-3B.1





Biogas Cost Estimates - Business Systems and Processes:

This document summarizes the estimated costs for providing the business systems and related processes necessary to support the offering of a Biogas product to Terasen gas customers, within the proposed Green Gas Business Model.

In addition to supporting the business requirements, the system impact analysis has also taken into consideration the existing initiative to replace the current customer billing system and move the Customer Care services in-house. The new customer billing system (CIS) is expected to be implemented Jan 1, 2012. Assuming the biogas option is available to customers for the Nov 1 heating season of this year, there would be approximately 15 months supported by the current system before moving to the new system. As such, software changes to the existing core system have been considered out of scope in order to minimize costs; the only development proposed is for new processes and reports required to support biogas enrollment. The transition of Customer Care from an outsourced to in-house model will mean different on-going support costs pre and post 2012 and therefore these have been shown separately.

Costs have been categorized according to whether the costs would apply to all customers or only those customers that have chosen the Biogas option.

Costs which apply to all Customers:

Costs which will apply to all customers include costs to support making the biogas offering available to all customers. This includes:

- Capital costs for application development and configuration of the current customer billing system and modifications to supporting processes to:
 - o support accepting on-line enrollment requests
 - o configure new biogas tariff
 - o provide additional reporting
- On-going operating costs to support:
 - Additional customer inquiry calls requesting general information about the biogas program
 - o Quarterly updates to the biogas tariff (blended) rate
- No additional capital costs have been estimated for changes to the new CIS system as the following requirements for biogas are expected to be supported by CIS at initial implementation:
 - O Ability to allocate a customer's billed consumption to two or more tariffs (e.g., 10% to biogas tariff; 90% to standard tariff)
 - O Ability to have an effective date on a premises' participation in a heat zone.



The costs to be applied to all customers are summarized in the table below. O&M costs have been shown as annual costs.

Year	Item	Capital	O&M (annually)
2010	Energy/Peace customer billing system -	176,067	
	Application Development &		
	Configuration		
2010	RUF – Customer deliveries report	2,400	
2010/2011	Customer Care – customer inquiries		86,184
2010/2011	Rate Changes to blended biogas rate		4,000
	Total	178,467	90,184

Introduction of an additional biogas tariff (e.g., 20% blend) or expansion to another rate class (e.g., Rate 2) prior to moving to in-house Customer Care will be investigated by TGI.

Costs which apply to Biogas Customers:

Costs which will apply to customers enrolled in the biogas program include costs to support the enrollment of the customer in the program and all subsequent management of that enrollment (e.g., drops, finalizations, moves, billing adjustments). System costs incurred by bringing biogas into the pipeline system have also been included. This includes:

- Adjustments to customer's bills for premises which are in proximity to a biogas supply point and may be affected by receiving biogas at a different heat content than that of the premises' billing heat zone. In order to minimize impact to the existing system, these will be done manually as required prior to the new CIS implementation.
- Capital costs for development of an interface/process for automatically updating
 the premise heat zone in the new CIS system for premises within proximity of a
 biogas supply point, as determined by Systems Planning. This is required when
 bringing on a new biogas supply point and may also need to be adjusted
 seasonally.
- On-going operating costs to support:
 - o Biogas customer enrollments, drops, finalizations, moves
 - o Reporting & admin of biogas specific processes
 - o Application support for biogas specific items (current billing system).



The costs to be applied to biogas customers are summarized in the table below. O&M costs have been shown as annual costs.

Year	Item	Capital	O&M
			(annually)
2010/2011	Customer Care – enrollments, drops,		32,292
	finalizations, moves		
	Customer Care – reporting& admin		4,963
	Energy/Peace application support		18,624
	Adjustments for premises in biogas heat		48,000
	zone		
	Total - pre-2012		103,879
2012 on	Interface to new CIS for updating	20,000	
	premise heat zone near biogas supply		
	point		
2012 on	Customer Care – on-going support of		
	enrollments, drops, waitlist		
	Total – 2012 on	20,000	

Cost Assumptions:

Assumptions made in providing the above cost estimates are as follows:

- Transactional costs are based on a customer uptake of 3% of eligible customers enrolling in the initial biogas offering of a 10% blend to Rate 1 customers.
- General inquiries will be approximately 20% of the actual number of customer enrollments
- Manual adjustments for premises in biogas heat zone will be done quarterly and are only required until the new CIS system is available (2012). Assume each biogas supply point may affect an average of 150 customers, with 2 supply points in 2010 growing to 4 supply points in 2011.