

November 7, 2011

Regulatory Affairs Correspondence  
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British Columbia Public Interest Advocacy Centre  
Suite 209 – 1090 West Pender Street  
Vancouver, BC  
V6E 2N7

Attention: Ms. Leigha Worth, Acting Executive Director

Dear Ms. Worth:

**Re: FortisBC Energy Utilities<sup>1</sup> (“FEU”) 2012 and 2013 Revenue Requirements and Natural Gas Rates Application**

**Response to the British Columbia Public Interest Advocacy Centre on behalf of the British Columbia Old Age Pensioners Organization et al (“BCOAPO”) Information Request (“IR”) No. 3**

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On May 4, 2011, the FEU filed the Application as referenced above. In accordance with the Regulatory Timetable, the FEU respectfully submit the attached response to BCOAPO IR No. 3.

If there are any questions regarding the attached, please contact the undersigned.

Yours very truly,

**on behalf of the FORTISBC ENERGY UTILITIES**

***Original signed:***

Diane Roy

Attachment

cc (e-mail only): Alanna Gillis, Acting Commission Secretary  
Registered Parties

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<sup>1</sup> Comprised of FortisBC Energy Inc. (“FEI”), FortisBC Energy Inc. Fort Nelson Service Area (“Fort Nelson”), FortisBC Energy (Whistler) Inc. (“FEW”), and FortisBC Energy (Vancouver Island) Inc. (“FEVI”)

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## 1.0 Reference: Energy Efficiency and Conservation

### Exhibit B-25, Rebuttal Evidence page 2 and Appendix 1

Preamble: On page 2 of the rebuttal evidence, it states: "In further response to Mr. Plunkett's comments, attached as Appendix 1 to this Rebuttal Evidence is a detailed plan for the Companies EEC expenditures for 2012 and 2013 in previously accepted Program Areas (the "2012-2013 EEC Plan"). The Companies developed the 2012-2013 EEC Plan with the assistance of ICF-Marbek, the consulting company that prepared the FEU's Conservation Potential Review. "

The cover of the report filed as Appendix 1 to Exhibit B-25 is entitled "FortisBC EEC Plan 2012/2013: Program Description and Cost-Effectiveness Results: Final Report."

- 1.1 Does ICF-Marbek or any other consultant routinely prepare such reports for FEU? If so, please provide a copy of any other such reports commissioned by FEU in respect to its EEC programs that (i) have not been filed publicly with the BCUC and (ii) relate to EEC program effectiveness over the last three years.

### **Response:**

Generally speaking, the EEC Plan for the upcoming year is developed by the FEU's EEC team, and filed in the EEC Annual Report. The EEC Annual Reports for 2009 and 2010, which provide cost-effectiveness results for the Companies' EEC programs for the previous year and projections for the upcoming year, were submitted in March 2010 and March 2011, and have been filed in this proceeding as Appendices K-3 and K-4 to Exhibit B-1. The Companies made the decision to commission ICF-Marbek to assist with the 2012-2013 report as the FEU's EEC staff were heavily engaged in both the RRA proceeding, and Alternative Energy Services Inquiry proceeding and required additional assistance to pull together the 2012-2013 EEC Plan due to the time commitments of these proceedings.

- 1.2 Please provide (i) the date on which FEU first decided to commission a report such as is contained at Appendix 1, (ii) the date on which FEU engaged or retained ICF-Marbek to undertake such a report, and (iii) the Terms of Reference under which FEU engaged ICF-Marbek to prepare this report.

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**Response:**

The FEU decided to commission and present the 2012-2013 ECC Plan in order to respond to the BCSEA's Evidence, and in response to BCUC IR 2.95.1, during the week of August 22 – 26 2011. The FEU engaged ICF-Marbek to undertake the work on the 2012-2013 EEC Plan on August 30, 2011. The Companies did not establish a formal Terms of Reference for ICF-Marbek for the Plan; given the tight timeframes for completing the work, the Companies instead requested from ICF-Marbek a proposal for completing the Plan, which was received on September 1, 2011. The proposal from ICF-Marbek is attached herein as Attachment 1.2.

- 1.3 Please provide copies of all correspondence e.g., letters, e-mails, notes, etc., between the FEU and ICF-Marbek that refer or relate to this report.

**Response:**

Please see Attachment 1.3.

- 1.4 When did FEU first engage ICF-Marbek in connection with its EEC programs?

**Response:**

Marbek Resource Consultants (as ICF-Marbek was previously known) conducted the Companies' Conservation Potential Review that was completed in the summer of 2006. ICF-Marbek also completed the Conservation Potential Review that was completed in the spring of 2011 and filed as Attachment 196.1 to BCUC IR 1.196.1 in this proceeding. Please see also the response to BCAOPO IR 3.1.2.

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- 1.5 Can FEU confirm that this report was commissioned solely for the purpose of rebuttal evidence in this case?

**Response:**

Please see the response to BCAOPO IR 3.1.2. The 2012-2013 EEC Plan was commissioned in order to respond to the BCSEA's evidence and in response to BCUC IR 2.95.1. However, the Companies were planning to develop an EEC Plan for 2012 to present to the EEC Stakeholder Group at the meeting currently scheduled for November 22 and to include in the 2011 EEC Annual Report due to be filed on March 31, 2012. Given the degree to which the FEU's EEC staff are engaged in both this proceeding and in the Alternative Energy Services Inquiry proceeding, finding the resources internally to develop the 2012 EEC Plan would have been extremely challenging, so the Companies would quite likely have needed to engage external resources to undertake the work for the 2012 Plan. So while the 2012-2013 EEC was commissioned in order to respond to the BCSEA's evidence and BCUC IR 2.95.1, the Companies needed and were planning to develop an EEC Plan for 2012 in any case.

- 1.6 The report is subtitled "Final Report." Were there any draft or interim reports that preceded the final report?

**Response:**

Please see the response to BCOAPO IR 3.1.7.

- 1.7 If the answer to the previous question is "Yes" (or otherwise affirmative), were there any material changes made to any report or draft report that preceded the final report? If so, please provide a comprehensive list of any such changes made along with identifying the party advocating the change (FEU or ICF-Marbek) along with the reasons for the change made.

**Response:**

As stated on page 1 of the report, ICF-Marbek worked closely with the FEU's EEC program managers to compile the information presented in this report. As stated on page 2 of Exhibit B-



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25, "...the FEU are proposing to continue many existing programs..." so much of the Plan is based upon activity that is currently underway and described in Appendices K-3 and K-4 to Exhibit B-1. ICF-Marbek did provide the FEU with a version of the report for review at one stage in the process but no substantially material changes were suggested by the FEU. Only minor edits concerning budget allotment, program area introductions and program profiles were completed. Please see the response to BCOAPO IR 3.1.3 for a full inventory of correspondence between the FEU and ICF-Marbek concerning this report.

- 1.8 Are the costs of preparing the ICF-Marbek report being recovered from ratepayers? If so, please identify the costs to be recovered and the mechanism by which they will be recovered; if not, please explain how FEU is compensating ICF-Marbek for this report.

**Response:**

Yes, the costs will be recovered from ratepayers, as is the case with all EEC costs.

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**2.0 Reference: Energy Efficiency and Conservation**  
**Exhibit B-25, Rebuttal Evidence page 6,**  
**Exclusion of Fuel-Switching Programs**

- 2.1 Does the FEU agree that fuel-switching programs undertaken by natural gas distributors tend, ceteris paribus, to increase natural gas consumption?

**Response:**

The FEU takes "ceteris paribus" to mean "assuming all else is held constant". The High Carbon Fuel Switching program in the reference above is intended to encourage British Columbians to replace older, oil and propane-fuelled heating equipment with more efficient natural gas-fuelled heating equipment. While doing so does increase natural gas consumption, efficiency is increased as the oil and propane-fuelled heating equipment is old and as such, would be standard or mid-efficiency equipment. Please see the response to BCUC IR 1.202.1 in this proceeding: the average replaced furnace age in the Companies' Switch and Shrink program was 36 years. The old oil and propane-fuelled heating equipment in this program would be replaced with natural gas equipment that is a minimum of 90% efficient as this is the current minimum standard for efficiency for this equipment as regulated by the Province. Further, the Companies' High-Carbon Fuel Switching program reduces GHG emissions. In the response to BCUC IR 1.194.2, the Companies stated that the "apples to apples" GHG emission reductions from heating oil conversions are 30%, and the GHG emissions from propane conversions are 14%. In practice, however, GHG emission reductions would be even higher as the equipment being replaced would be standard or mid-efficiency and the new natural gas equipment would be a minimum of 90% efficient. So while the High-Carbon Fuel Switching program in the information request above does result in an increase in natural gas consumption, there is an improvement in efficiency from the program, as well as a reduction in GHG emissions.

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### 3.0 Reference: Energy Efficiency and Conservation

#### Exhibit B-25, Rebuttal Evidence page 4,

#### Principles Guiding FEU's EEC Activity

- 3.1 The third principle caps incentive payments at 50% of the EEC expenditure in a given year. Please explain how this cap was determined initially and explain why the FEU continues to believe that a 50% cap overall is still reasonable versus, for example a lower overall cap, or a maximum cap that is program specific.

#### Response:

The Companies established the overall portfolio-level cap of 50% on non-incentive expenditures using their best professional judgement, and continue to believe that this is an appropriate amount. The principles guiding the Companies' EEC activity generally were developed in order to provide some guidance to the Companies' EEC staff in implementing and executing a significant increase in EEC activity. The principles were submitted with the original EEC Application in 2008. At the time this Application was submitted, it was the view of the Companies that working within these publicly stated principles would provide some comfort to both internal and external stakeholders that EEC activity was being undertaken in an ordered and thoughtful manner. The original EEC decision was received in 2009, so the Companies have only been undertaking the EEC activity envisioned in the 2008 EEC Application, and for which all of the guiding principles including the guideline of a portfolio-level maximum of 50% for non-incentive expenditures, for a relatively short period of time. It is the view of the Companies that given this relatively short time period for expanded EEC activity, all the original guiding principles are still valid.

The Companies do not believe that a lower overall cap is appropriate. In 2009, the ratio of non-incentive expenditures was 47%<sup>1</sup>. In 2010, the ratio of non-incentive expenditures for non-NGV related EEC activity was 53%<sup>2</sup>, however this amount included significant portfolio-level costs. Some of these costs were the cost of the Conservation Potential Review (\$314,000), and costs associated with implementing the DSMS (\$645,000). Excluding these two amounts, the ratio of non-incentive expenditure in 2010 was 45%. It should be generally expected that at the start-up phase of significantly expanded EEC activity, non-incentive expenditures would be higher than they would be in a long-running, well-established EEC initiative. It may be that over the years, as the Companies' EEC initiative matures, a lower portfolio-level guideline for non-incentive expenditures becomes appropriate. The Companies will review all the guiding principles for EEC activity periodically to ensure that the principles remain appropriate.

<sup>1</sup> Appendix K-3 to Exhibit B-1, Table 4-1.

<sup>2</sup> Appendix K-4 to Exhibit B-1, Table 2-3.

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The amount of non-incentive expenditures at a program level varies by program, so a maximum program-level cap is not appropriate. Residential programs tend to have higher non-incentive expenditure levels than commercial programs, because of a need to inform large numbers of residential customers about the existence of a program. This is not always the case though, and programs aimed at small commercial customers could be expected to have higher non-incentive costs than programs aimed at commercial and institutional customers for the same reason. Programs aimed at low-income customers tend to have higher non-incentive expenditures than programs aimed at commercial customers, as can be seen in Exhibit 2 to Appendix 1 to Exhibit B-25. The projection for non-incentive expenditure for low-income programs for 2012 is 38%, while the projection for non-incentive expenditure for commercial programs for 2012 is 13%. This approximately three-fold differential in non-incentive expenditure for low-income programs over commercial programs does not mean that these low-income programs do not have merit; it just means that the program mechanisms are different. Arriving at the program-level cap for non-incentive expenditures would be extremely challenging as non-incentive expenditures can vary significantly program by program, thus it is the Companies' view that the portfolio-level guideline for non-incentive expenditures is the appropriate approach.

- 3.2 The fourth principle states that program results will be analyzed on a portfolio-wide basis. Does FEU advocate that this portfolio-wide evaluation be considered an appropriate evaluation forever, i.e., after market transformation has been achieved? Please explain.

**Response:**

No. As noted in the response to BCAOPO IR 3.3.1., the Companies will review all guiding principles periodically to ensure that they remain appropriate.

In the case specifically of market transformation, please see also the responses to BCUC IRs 1.217.4.1 and 1.217.4.2. Markets transform at different rates depending on which particular piece of equipment, system or building design is under consideration. Thus the status of market transformation will vary depending on which piece of equipment, system or building design is under consideration. Rooftop units for commercial buildings, for example, may be at a different stage along the market transformation curve that can be seen in the response to BCUC IR 1.217.4.2. In most cases once a market has been transformed, and a minimum efficiency standard for a particular piece of equipment, system or building has been implemented, a utility ceases to have expenditures on a program to support that piece of equipment, system or

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building, thus those expenditures are no longer part of the EEC expenditure portfolio and are no longer subject to analysis. Because a portfolio of EEC activity consists of a number of programs to support different pieces of equipment, systems and building designs, all at different stages of market transformation, it is the Companies' view that the portfolio-level approach to cost-benefit analysis is the appropriate approach for the foreseeable future.

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#### 4.0 Reference: Energy Efficiency and Conservation

##### Exhibit B-25, Appendix 1, page 5 Table entitled "Exhibit 2"

- 4.1 Please explain the communications and public education efforts that the FEU has undertaken and plans to undertake to lower the participant benefit/cost ratios closer to 1.0, i.e., to encourage participants to embrace applicable EEC programs when it is in the participants' self-interest to do so.

##### **Response:**

The Companies note that the Participant benefit/cost ratio for the 2012-2013 EEC Plan is 2.48. The factors in the Participant benefit/cost test are the net or after-incentive incremental cost of undertaking the activity being analyzed (the cost) and the reduction in energy and other costs (the benefit). The Companies have not undertaken any communication and public education efforts with the specific purpose of lowering the Participant benefit/cost ratio to closer to one; rather the Companies design and implement communications plans that are specific to each program and intended to obtain the maximum number of participants and therefore generate the maximum savings. These communication plans vary by program; communication, education and outreach for a low-income program, for example, will look very different from the communications plan for a program aimed at industrial customers.

It should be noted, however, that a significant increase in communications and public education efforts that had the specific purpose of lowering the Participant benefit/cost ratios would result in a significant increase in non-incentive expenditure, which, all other things being equal, would then lower the total resource cost ratio, which is currently at 1.28.

- 4.2 Are there any connections between the participant benefit/cost ratios provided in the referenced table and the results of any willingness-to-pay studies or hedonic pricing studies? If so, please explain; if not, why not?

##### **Response:**

The Companies have not conducted any willingness-to-pay studies or hedonic pricing studies related to any of the 2012-2013 programs that are included in the Program Area results presented in Exhibit 2 and are therefore unable to comment on any potential connections.

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## 5.0 Reference: Energy Efficiency and Conservation

### Exhibit B-25, Appendix 1, page 2

5.1 Please explain the rationale behind the 3.0% discount rate used in the analysis.

#### **Response:**

The Companies cannot find any reference to a 3% discount rate on page 2 of Appendix 1 to Exhibit B-25. On page 3, however, the Companies state that "...a societal discount rate of 3%...was employed" for the Societal Cost results only. This is the same discount rate that the Companies put forward for use in the Societal Cost test in this proceeding, so that is why it was used in the analysis of the 2012-2013 EEC Plan. Please see also Section 5.2.2.1 of Appendix K-1 to Exhibit B-1, and the response to BCUC IR 1.207.1.

5.2 Please show the calculations supporting the replacement of the carbon tax input with a 30% TRC adder.

#### **Response:**

The 30% TRC adder is calculated based on 30% of the cumulative program and/or measure benefits, including the net avoided supply benefits for gas, electricity, and other fuels, and the net carbon savings. The Benefit/Cost (B/C) ratio for the Total Resource Cost (TRC) is typically calculated as the ratio of the Net Present Value (NPV) of the benefits and the NPV of the costs. As such, a 30% TRC adder would have the following effect on the calculation of the TRC B/C ratio:

$$\text{TRC B/C Ratio} = \text{NPV (Benefits)} \times 1.3 / \text{NPV (Costs)}$$

As shown in the above calculation, the 30% adder increases the TRC B/C ratio by about 30%.

To illustrate, Table 1 below presents the TRC results for the EnerChoice Fireplace Program in the FEI service territory. Column A in Table 1 shows the TRC results as submitted in the 2012-2013 EEC Plan.; as illustrated, it incorporated a carbon tax of \$1.25/GJ in 2012 and \$1.50/GJ thereafter.

Column B presents the same analysis with the addition of a 30% TRC adder. As illustrated, the B/C ratio in Column B is 30% higher than in Column A. Finally, Column C shows that a carbon tax of \$4.40-\$4.65/GJ results in approximately the same B/C ratio as the 30% TRC adder

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shown in Column B. In other words, a 30% TRC adder is roughly equivalent to a carbon tax addition of about \$3.15/GJ (i.e. the B/C results in Columns B and C are virtually identical).

It should be noted that the magnitude of the impact of the 30% TRC adder and the value of the equivalent carbon tax addition would vary slightly for measures that result in savings in other fuels.

**Table 1: A comparison of TRC results for the EnerChoice Fireplace Program in the FEI service region, assuming a utility discount rate of 7.38%<sup>3</sup>**

NPV Value (\$1000s)	Total Resource Cost Test (TRC)		
	As submitted	With 30% TRC Adder	With \$3.15/GJ added to carbon tax
	A	B	C
<b>INPUTS</b>			
<b>TRC Adder:</b>	0%	<b>30%</b>	0%
<b>Carbon Tax:</b>	\$1.25-\$1.50	\$1.25-\$1.50	<b>\$4.40-\$4.65</b>
<b>RESULTS</b>			
<b>Benefits:</b>	\$2,607.349	\$3,391.304	\$3,389.554
<b>Costs:</b>	\$1,100.403	\$1,100.403	\$1,100.403
<b>Net Benefits:</b>	\$1,506.946	\$2,290.901	\$2,289.150
<b>B/C Ratio:</b>	2.37	3.08	3.08
<b>\$/GJ Saved (Levelized):</b>	\$4.42	\$4.42	\$4.42

- 5.3 The 30% TRC adder has not been applied to the low-income programs "since they already benefited from a 30% low income program adder ..." Does this not defeat the purpose of the low income program adder with respect to non-low income programs insofar as the adder applied to low income programs relative to other programs is now lower?

<sup>3</sup> Other assumptions are outlined in the detailed program profile for this program. They include a per unit measure cost of \$150, a measure lifetime of 15 years, annual gas savings of 7.75 GJ, an incentive of \$300/unit, and a free ridership rate of 24%.





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**Response:**

The Companies believe the reference for this information request should be page 3 of Appendix 1 to Exhibit B-25. The "30% low income income adder" discussed on page 3 refers to the 30% low income adder in section 3(a) of the DSM Regulation of November 2008. While the DSM Regulation does not explain the purpose of the low income adder, it would be reasonable to assume that the purpose of the low-income adder is to recognize the potential relatively high cost of low-income programs due to the need for such programs to cover the full cost of measures, including direct installation, rather than just the incremental cost. This purpose for the low-income adder is still being met as it is still included for the low income programs in the analysis.

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**6.0 Reference: Energy Efficiency and Conservation**  
**Rebuttal Evidence, Appendix 1, General**  
**Free Ridership Rates**

- 6.1 Please provide FEU's views with respect to the proper methodological approach to setting free ridership rates at the program level.

**Response:**

Please see Section 5.2.3 of Appendix K-1 to Exhibit B-1, the response to BCUC IR 1.210 series, and the responses to BCUC IRs 1.212.1.1 and 1.212.1.2. It is the Companies' view generally that rather than just focusing on free ridership rates, a more appropriate approach to evaluating program effects is to employ a net-to-gross ratio, which incorporates not only free riders but also spillover effects. It is also the Companies' view that both free ridership and spillover are extremely subjective and difficult to "measure" with any accuracy.

- 6.2 Please provide ICF-Marbek's views with respect to the proper methodological approach to setting free ridership rates at the program level.

**Response:**

Marbek's comments are included below:

*"The approach should start with good program design. Good program design typically seeks to minimize free ridership rates through mechanisms such as choice of incentive levels, eligibility criteria, choice of target markets, etc. The best resources for applicable rates are past evaluation results from the utility or other jurisdictions having implemented similar programs. Spillover is also an important factor to consider, since it can partially or wholly offset the effects of free ridership. In practice, accurate and directly applicable data, particularly on spillover effects, are often difficult to obtain. Ultimately, the choice of appropriate rates comes down to judgment on the part of the program design professionals, based on their knowledge of the local market.*

*The results provided in the FortisBC DSM plan are based on measure-level estimates of free ridership. Data were provided by FortisBC program managers based on best available data at their disposal. As data were not available for spillover effects, only free ridership estimates are included in the current TRC results. Hence, they are likely to be somewhat conservative."*

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**7.0 Reference: Energy Efficiency and Conservation**

**Rebuttal Evidence, Appendix 1, page 23, Exhibit 5**

- 7.1 Can the FEU confirm that modified TRC (DSM Reg 08) was used in preparing the referenced exhibit? If not, please redo this table to reflect modified TRC.

**Response:**

In preparing the referenced exhibit, the Companies used the assumptions that can be found in the response to BCUC IR 1.189.1.1. The Companies are unclear as to what is meant by the reference in the information request to "modified TRC". If by "modified TRC", the information request refers to the 30% deemed adder for low income programs that is enshrined in the DSM Regulation of November 2008, the Companies can confirm that this adder was included in the TRC results.

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## **8.0 Reference: Energy Efficiency and Conservation**

### **Rebuttal Evidence,**

### **SCT Proposal**

- 8.1 Does the SCT proposal include cumulative adders for low-income programs, i.e., the 30% adder per DSM Reg 08?

### **Response:**

In their proposal to utilize the Societal Cost Test, the Companies are not proposing to include the 30% deemed adder for low-income programs over and above the proposed 30% deemed adder for non-energy benefits, as outlined by the Companies in Section 5.2.2.3 of Appendix K-1 to Exhibit B-1 in this proceeding. Under the Companies Societal Cost Test proposal, the adder for low-income programs would remain at 30%.

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Response to British Columbia Public Interest Advocacy Centre on behalf of the British Columbia Old Age Pensioners Organization et al ("BCOAPO") Information Request ("IR") No. 3	Page 16

## 9.0 Reference: Energy Efficiency and Conservation

### Rebuttal Evidence, Appendix 2, California Standard Practice Manual LIEEPS

- 9.1 Please confirm that the California Standard Practice Manual excludes LIEEPS. If unable to so confirm, please explain fully.

#### **Response:**

The California Standard Practice Manual (CSPM) excludes Low Income Energy Efficiency Programs (LIEEPS). More specifically, to quote the CSPM:

*"low income programs are evaluated using a broader set of non-energy benefits that have not been provided in detail in this manual. Implementing agencies traditionally have had the discretion to use or to not use these inputs and/or benefits on a project- or program-specific basis. The policy rules that specify the contexts in which it is appropriate to use the externalities, their components, and tests mentioned in this manual are an integral part of any cost-effectiveness evaluation. These policy rules are not a part of this manual."*

- 9.2 How are LIEEPS treated in California with respect to economic tests?

#### **Response:**

With respect to economic tests, the treatment of LIEEPS in California is as per the 2008 California Public Utility Commission Decision 08-11-031 which established cost-effectiveness criteria for determining which measures should/would be included in the LIEEPS. This decision states the following:

*"...the IOUs shall focus on providing cost-effective measures, by focusing in their LIEE programs on measures that meet the 0.25 threshold we describe below. We allow measures in the program that do not meet the 0.25 threshold – heating, water heating, and cooling measures in hot climates – but add reporting requirements so we can track how these measures are affecting the overall energy savings and cost of the LIEE program."*

FortisBC Energy Utilities (comprised of FortisBC Energy Inc., FortisBC Energy (Vancouver Island) Inc.) (FEVI), FortisBC Energy (Whistler) Inc. (FEW), and FortisBC Energy Inc. Fort Nelson Service Area (Fort Nelson) 2012-2013 Revenue Requirements and Natural Gas Rates Application	Submission Date: November 7, 2011
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*The cost effectiveness of LIEE measures is measured using the Utility Cost Test (UCT) and Modified Participant Cost (PCm) test. Where a measure has a cost effectiveness figure above 0.25, IOUs [Investor Owned Utilities] may offer it in their LIEE programs, and we will consider the measures to be consistent with our goal of increasing the energy savings of the program."*

It should also be noted that economic tests for LIEEPS is an ongoing area of research and the Low Income Oversight Board (an advisory board to the California Public Utility Commission) is currently convening workshops to discuss improved methodology.

- 9.3 Please provide a comprehensive list with respect to the suite of rate mitigation programs used in California.

**Response:**

The Table below is the FEU's best effort at providing a comprehensive list of the rate mitigation programs used in California.



<p>FortisBC Energy Utilities (comprised of FortisBC Energy Inc., FortisBC Energy (Vancouver Island) Inc.) (FEVI), FortisBC Energy (Whistler) Inc. (FEW), and FortisBC Energy Inc. Fort Nelson Service Area (Fort Nelson)</p> <p>2012-2013 Revenue Requirements and Natural Gas Rates Application</p>	<p>Submission Date: November 7, 2011</p>
<p>Response to British Columbia Public Interest Advocacy Centre on behalf of the British Columbia Old Age Pensioners Organization et al ("BCOAPO")</p> <p>Information Request ("IR") No. 3</p>	<p>Page 18</p>

Utility	Program Name	Link	Electric	Gas	Water	For Seniors	For Low-Income	Discount
City of Long Beach	Low -Income Discount	<a href="http://www.longbeach.gov/commercial/content/utility_assistance.asp">http://www.longbeach.gov/commercial/content/utility_assistance.asp</a>		X			X	5 percent off gas bills
City of Long Beach	Low Income Senior or Disabled Program	<a href="http://www.longbeach.gov/commercial/content/utility_assistance.asp">http://www.longbeach.gov/commercial/content/utility_assistance.asp</a>	X	X	X	X		(See link for details)
Pacific Power	CARE	<a href="http://www.pacificpower.net/content/dam/pacific_power/doc/About_Us/Rates_Regulation/California/Approved_Tariffs/Rate_Schedules/Residential_Service_California_Alternative_Rates_for_Energy_CARE_Optional_for_Qualifying_Customers.pdf">http://www.pacificpower.net/content/dam/pacific_power/doc/About_Us/Rates_Regulation/California/Approved_Tariffs/Rate_Schedules/Residential_Service_California_Alternative_Rates_for_Energy_CARE_Optional_for_Qualifying_Customers.pdf</a>					X	(See link for details)
Sacramento Municipal Utility District	Energy Assistance Program Rate	<a href="https://www.smud.org/en/residential/customer-service/rate-information/low-income-assistance.htm">https://www.smud.org/en/residential/customer-service/rate-information/low-income-assistance.htm</a>	X				X	A fixed discount of the \$3.50 monthly service charge, and 35 percent off Tier 1 usage 30 percent off Tier 2 usage
San Diego Gas & Electric	CARE (and FERA for households of 3 or more)	<a href="http://www.sdge.com/residential/assistance/assistServCare.shtml">http://www.sdge.com/residential/assistance/assistServCare.shtml</a>	X	X			X	20 to 35 percent discount off energy bill each month
Southern California Edison	CARE (and FERA for households of 3 or more)	<a href="http://www.sce.com/residential/income-qualified/CAREFERA/care-fera-rate-programs.htm">http://www.sce.com/residential/income-qualified/CAREFERA/care-fera-rate-programs.htm</a>	X				X	20 percent or more discount off electric bill each month
PG&E	CARE (and FERA for households of 3 or more)	<a href="http://www.pge.com/care/">http://www.pge.com/care/</a>	X				X	20 percent or more discount off electric bill each month



FortisBC Energy Utilities (comprised of FortisBC Energy Inc., FortisBC Energy (Vancouver Island) Inc.) (FEVI), FortisBC Energy (Whistler) Inc. (FEW), and FortisBC Energy Inc. Fort Nelson Service Area (Fort Nelson) 2012-2013 Revenue Requirements and Natural Gas Rates Application	Submission Date: November 7, 2011
Response to British Columbia Public Interest Advocacy Centre on behalf of the British Columbia Old Age Pensioners Organization et al ("BCOAPO") Information Request ("IR") No. 3	Page 19



## **Attachment 1.2**

---



## Proposal:

# FortisBC DSM Plan 2012-2013

*Provision of Technical and Economic Support*

Submitted to:

Colin Norman

Submitted by:

ICF Marbek

300-222 Somerset Street West

Ottawa, Ontario K2P 2G3

Tel: +1 613 523-0784

Fax: +1 613 523-0717

[info@marbek.ca](mailto:info@marbek.ca)

[www.marbek.ca](http://www.marbek.ca)

Date: September 1, 2011

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# 1 Background & Objectives

In response to Intervenor evidence and Commission Information Requests expressing concern about the lack of detail provided by FortisBC to support the Companies' EEC funding request for the 2012 – 2013 period, FortisBC's EEC Department requires an EEC Plan covering the time period 2012 – 2013.

The EEC Plan will cover the funding request in the Companies' 2012 – 2013 Revenue Requirements Application for previously approved Program Areas: Residential (including the Program Area previously known as "Joint Initiatives"), High-Carbon Fuel Switching, Low Income, Commercial, Conservation Education and Outreach, Industrial and Innovative Technologies.

## 1.1 Objectives

In response to the above requirement, FortisBC requires that:

- ICF Marbek work closely with FortBC's EEC Program managers to develop the required EEC Plan within the allotted time frame.
- ICF Marbek provide additional support during the regulatory review process, as required by Fortis BC.

## 2 Approach

The proposed approach involves a collaborative working effort between FortisBC EEC program personnel and ICF Marbek staff. Completion of the work will involve the following tasks:

- **Task 1:** ICF Marbek staff will work with FortisBC program managers to identify and provide a description of the individual programs included within each respective portfolio, including eligible measures, target markets and potential delivery partners.
- **Task 2:** ICF Marbek staff will develop Program profiles in collaboration with FortisBC staff. Inputs to the Program profiles will draw on a combination of previous FortisBC EEC market experience, relevant technology and market studies<sup>1</sup> and, in some cases, professional estimates. These individual Profiles will be included in the body of the EEC Plan.
- **Task 3:** ICF Marbek staff will work from the Program Profiles developed in Task 2 and will populate the Cost-Effectiveness model. Initial results will be generated at the level of total EEC Program Portfolio, Program Area (e.g., residential, commercial etc) and individual program.

---

<sup>1</sup> This included the recently completed 2010 Conservation Potential Review, which was completed by ICF Marbek for FortisBC.

- **Task 4:** The initial results will be reviewed collaboratively with FortisBC staff and revisions will be made, as applicable.
- **Task 5:** The final results will be compiled into an EEC Plan.
- **Task 6:** ICF Marbek staff will provide follow up assistance to the regulatory review process, as requested by FortisBC.

### 3 Project Team

The ICF Marbek project team will consist of:

- Paul Robillard will serve as overall project manager.
- John Dikeos will serve as lead modeller using FortisBC's in-house Cost Effectiveness model and will co-ordinate with FortisBC's residential, low income, CEO and high carbon fuel switch program managers.
- Bryan Flannigan will co-ordinate with FortisBC's industrial and innovative technologies program managers and will provide modelling assistance.
- Paula Claudino will co-ordinate with FortisBC's commercial program manager and will provide modelling assistance.
- Peter Narbaitz will work closely with each of the program area teams, providing research assistance and report preparation.

### 4 Budget

The upset budget limit for this project is estimated to be \$75,000 and includes provision for additional support during the next round of FortisBC's submission to BCUC.

ICF Marbek will invoice FortisBC for actual time spent up to the upset limit of \$75,000. The daily rates (7.5 hours) for the team members assigned to this project are listed below.

- Paul Robillard - \$1,800
- Bryan Flannigan - \$1,600
- Paula Claudino & John Dikeos - \$850
- Peter Narbaitz - \$750

#### 4.1 Method of Payment

Monthly payments based on time and expenses accrued are proposed.

## **Attachment 1.3**

---

(Provided in electronic format only due to document size and in order to conserve paper)

**From:** Chia, Jenny  
**To:** ["paulr@marbek.ca"](mailto:paulr@marbek.ca)  
**Cc:** [Norman, Colin](#)  
**Subject:** CEO 2012 and 2012 reductions  
**Date:** Monday, September 19, 2011 10:23:00 AM

---

Hi Paul,

I'm just reviewing Colin's notes regarding the CEO plan for 2012 and 2013. I believe I was about \$800k over in 2012 and \$200 in 2013

I'm looking at the CEO tab of the "Fortis Exhibits , Current" spreadsheet and I wasn't sure how you wanted me to send back the edits b/c I think the spreadsheet is linked to another sheet.

I'll list my edits below; however, if you wanted me to make changes on a different sheet, please advise.

For that spreadsheet, please edit the following cells:

2012:

I21 should be 600

I22 should be 98

I49 should be 225

2013

J21 should be 600

J22 should be 98

J49 should be 200

Please let me know if you have any questions. I'm here all week.

Jenny

**Jenny Chia**

Conservation Education and Outreach Manager

**FortisBC**

Direct: 604-592-7645

Visit us in your community: [fortisbc.com/events](http://fortisbc.com/events)

**From:** Chia, Jenny  
**To:** [paulr@marbek.ca](mailto:paulr@marbek.ca); [dikeos@marbek.ca](mailto:dikeos@marbek.ca)  
**Subject:** FW: CEO 2012 and 2012 reductions  
**Date:** Monday, September 19, 2011 3:10:00 PM

---

Hi,

I'm just resending the info that I had emailed Paul this morning with.

Jenny

---

**From:** Chia, Jenny  
**Sent:** Monday, September 19, 2011 10:23 AM  
**To:** 'paulr@marbek.ca'  
**Cc:** Norman, Colin  
**Subject:** CEO 2012 and 2012 reductions

Hi Paul,

I'm just reviewing Colin's notes regarding the CEO plan for 2012 and 2013. I believe I was about \$800k over in 2012 and \$200 in 2013

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Jenny

**Jenny Chia**  
Conservation Education and Outreach Manager  
**FortisBC**



Direct: 604-592-7645

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**From:** Chia, Jenny  
**To:** ["Dikeos, John"; Robillard, Paul](#)  
**Subject:** RE: CEO 2012 and 2012 reductions  
**Date:** Monday, September 19, 2011 3:53:00 PM

---

No worries, that's what I thought, I just couldn't figure out where the numbers were being pulled from.

---

**From:** Dikeos, John [mailto:dikeos@marbek.ca]  
**Sent:** Monday, September 19, 2011 3:50 PM  
**To:** Chia, Jenny; Robillard, Paul  
**Subject:** RE: CEO 2012 and 2012 reductions

Hi Jenny,

We actually discovered that there had been a couple input errors for the CEO programs. Everything adds up to the \$5M ask now, so I'm assuming we should leave things as they were laid out originally. Sorry for any inconvenience with having to re-gig the numbers.

John

**John Dikeos, P.Eng., M.A.Sc.** | Senior Associate | +1 613-523-0784  
x330 | [dikeos@marbek.ca](mailto:dikeos@marbek.ca) | [marbek.ca](http://marbek.ca) | [icfi.com](http://icfi.com)

---

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---

**From:** Chia, Jenny [mailto:Jenny.Chia@fortisbc.com]  
**Sent:** September 19, 2011 6:11 PM  
**To:** Robillard, Paul; Dikeos, John  
**Subject:** FW: CEO 2012 and 2012 reductions

Hi,  
I'm just resending the info that I had emailed Paul this morning with.

Jenny

---

**From:** Chia, Jenny  
**Sent:** Monday, September 19, 2011 10:23 AM  
**To:** 'paulr@marbek.ca'  
**Cc:** Norman, Colin  
**Subject:** CEO 2012 and 2012 reductions

Hi Paul,

I'm just reviewing Colin's notes regarding the CEO plan for 2012 and 2013. I believe I was about \$800k over in 2012 and \$200 in 2013

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**Jenny Chia**

Conservation Education and Outreach Manager

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---

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**From:** [Chia, Jenny](#)  
**To:** [Smith, Sarah](#); [Norman, Colin](#)  
**Cc:** ["paulr@marbek.ca"](mailto:paulr@marbek.ca)  
**Subject:** Re: Requested changes not made  
**Date:** Thursday, September 22, 2011 8:36:14 PM

---

Sarah I changed it to Energy Champion Program as that's consistent with the 2010 annual report

---

**From:** Smith, Sarah  
**Sent:** Thursday, September 22, 2011 08:24 PM  
**To:** Norman, Colin  
**Cc:** 'Paul Robillard (paulr@marbek.ca)' <paulr@marbek.ca>; Chia, Jenny  
**Subject:** RE: Requested changes not made

I have reviewed and have one change that must be made. In CEO, "Sports Partnerships" needs to be rolled into the K-12 category. It should not be a separate "program" in and of itself. Shouldn't make any difference to any calcs though. More of a formatting thing.

Otherwise all looks reasonable.

Sarah

---

**From:** Norman, Colin  
**Sent:** September 22, 2011 7:32 PM  
**To:** Smith, Sarah  
**Subject:** FW: Requested changes not made  
**Importance:** High

Hi Sarah,

Please see attached an Excel file with each of the final exhibits for the report (see each tab for each exhibit). Per my earlier note to you, please review these numbers and let myself and Paul know if you approve of these as being our final numbers for the report. Note that the SCT values will be calculated and inserted in the report after you provide your approval of these exhibits.

Sorry for the late notice but if you could possibly review this and get back to us tonight that would then enable Marbek to hit the ground running first thing tomorrow morning.

Thanks,

Colin

---

**From:** Robillard, Paul [paulr@marbek.ca]  
**Sent:** September 22, 2011 7:07 PM  
**To:** Norman, Colin  
**Subject:** RE: Requested changes not made

Hi Colin

Attached is the current version of the exhibits. John got focussed on trying to figure out what why the Societal adder did not seem to be working in the C/B model and must have forgot to send this.

I am pretty sure that this version has all of the changes incorporated but will need John to confirm first thing tomorrow am.

If you can comment on this version, I will confirm first thing tomorrow am that all changes are included.

Paul

---

**PAUL ROBILLARD** | Principal | +1 613.523.0784 x315 | [paulr@marbek.ca](mailto:paulr@marbek.ca) | [marbek.ca](http://marbek.ca) | [icfi.com](http://icfi.com)  
**ICF MARBEK** | 222 Somerset Street West, Suite 300, Ottawa, ON K2P 2G3 | +1 613.523.0717 (f)

---

---

**From:** Norman, Colin [mailto:Colin.Norman@fortisbc.com]  
**Sent:** September 22, 2011 9:19 PM  
**To:** Robillard, Paul  
**Subject:** Re: Requested changes not made

Hi Paul,

Are you guys still okay to provide us with the revised exhibits tonight? I know it's getting pretty late over there.

We're okay with not implementing the Education and Outreach changes you've outlined below so hopefully you weren't waiting for a response from us on that.

Let me know if things have changed with your timeline.

Thanks,

Colin

---

**From:** Robillard, Paul [mailto:paulr@marbek.ca]  
**Sent:** Thursday, September 22, 2011 02:56 PM  
**To:** Norman, Colin  
**Subject:** Requested changes not made

Colin

Below are the unchanged items as discussed. Every change requires re-calibration of results, re-doing of program profiles etc..... As we discussed... at this 23<sup>rd</sup> hour we can continue to make the changes or we can meet the schedule of COB Friday - - but not both.

Also, as per the earlier email that you were copied on... John is currently working with Cadmus as the 30% adder feature does not appear to be working in the C/B model. ( Murphy's Law at work)  
Will keep you posted.

Paul

## **Requested changes that were not made**

### **Conservation Education & Outreach**

1. The following two programs could not be removed due the last minute nature of the request:

- Residential Outreach Education Tools
- Commercial Multi Family

The budgets for these programs have not been changed. Also, no changes were made to the budgets of the 4 programs that would have received the additional money if the 2 programs had been cancelled.

2. No changes were made to the budgets of the following programs:

- Home Efficiency Measures (Formerly: Municipal Partnerships – Low Flow Kits)
- Municipal Partnerships – Other
- Behaviour Change – Online Community Site

The original information provided had slightly different budget values for 2012 and 2013. It was too late to make the changes in the model; as previously advised managers can move budgets among approved programs.

---

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**From:** [Cook, Ramsay](#)  
**To:** [Paul Robillard](#); [claudino@marbek.ca](mailto:claudino@marbek.ca)  
**Cc:** [Norman, Colin](#)  
**Subject:** Commercial DSM plan.  
**Date:** Friday, September 09, 2011 3:45:06 PM  
**Attachments:** [EEC Program Plan - 2012 and 2013.xlsx](#)

---

Latest version of the commercial plan attached.

Problematic programs are highlighted in red. These are either so early in development that I haven't a clue as to the nature of the costs or savings, or too complex or flexible to represent as a simple prescriptive program. We'll need to talk about these over the phone on Monday morning. Also not that the NPV GJ savings needs to be worked out, and a 1% allocation of costs/participation/savings needs to be attributed to the whistler utility in all cases.

Best Regards,

**RAMSAY A. COOK, MBA, P.Eng**

EEC Program Manager - Commercial Buildings

FortisBC Energy

t: 604.592.8262

c: 604.916.5319

f: 604.592.7618

[www.fortisbc.com/businesssoffers](http://www.fortisbc.com/businesssoffers)

*Terasen Gas is known as FortisBC effective March 1, 2011. My e-mail address has changed to [ramsay.cook@fortisbc.com](mailto:ramsay.cook@fortisbc.com). Please update your records accordingly. For more information on FortisBC, please visit [fortisbc.com](http://fortisbc.com).*

Reduce your impact. Think before you print.

---

**From:** Norman, Colin  
**Sent:** September 9, 2011 2:04 PM  
**To:** Cook, Ramsay  
**Subject:** Marbek Contacts

Hi Ramsay,

Per our conversation, once you've completed your Commercial Program Area 2012/13 DSM Plan (or done all you can do) please send it directly to Marbek and cc me if you don't mind. Please send it to Paul and Paula from Marbek. Their email addresses are listed below:

Paul Robillard: [Paulr@marbek.ca](mailto:Paulr@marbek.ca)

Paula Claudino: [claudino@marbek.ca](mailto:claudino@marbek.ca)

Thanks very much!

**Colin Norman**

Program Manager, Portfolio Projects  
Energy Efficiency & Conservation

**FortisBC**

ph: (604) 592-7513

cell: (604) 868-3724

*Please note that our name has changed effective March 1, 2011. We're now FortisBC.*



## Bevacqua, Ilva

---

**From:** Cook, Ramsay  
**Sent:** September 12, 2011 9:24 AM  
**To:** 'Claudino, Paula'  
**Subject:** Accepted: Discussion on FortisBC Commercial Programs

**From:** [Claudino, Paula](#)  
**To:** [Cook, Ramsay](#)  
**Cc:** [Norman, Colin](#)  
**Subject:** RE: Commercial DSM plan.  
**Date:** Tuesday, September 13, 2011 6:58:25 AM  
**Attachments:** [Missing Commercial Info.xlsx](#)

---

Hi Ramsay,

Following our call yesterday, I think you now have a better idea of how to estimate the missing costs and savings. Can you please take a look at the attached file and fill in the missing information, highlighted in red? The cells highlighted in yellow are those that I would like you to double check to make sure they are correct. We can discuss these, if you like.

Cheers,  
Paula

---

**PAULA CLAUDINO** | Senior Associate | +1 613.523.0784 x.229 | [claudino@marbek.ca](mailto:claudino@marbek.ca) | [marbek.ca](http://marbek.ca) | [icfi.com](http://icfi.com)

**ICF MARBEK** | 222 Somerset Street West, Suite 300, Ottawa, ON K2P 2G3 | +1 613.523.0717 (f)

---

**From:** Cook, Ramsay [<mailto:Ramsay.Cook@fortisbc.com>]  
**Sent:** September 9, 2011 6:45 PM  
**To:** Robillard, Paul; Claudino, Paula  
**Cc:** Norman, Colin  
**Subject:** Commercial DSM plan.

Latest version of the commercial plan attached.

Problematic programs are highlighted in red. These are either so early in development that I haven't a clue as to the nature of the costs or savings, or too complex or flexible to represent as a simple prescriptive program. We'll need to talk about these over the phone on Monday morning. Also not that the NPV GJ savings needs to be worked out, and a 1% allocation of costs/participation/savings needs to be attributed to the whistler utility in all cases.

Best Regards,

**RAMSAY A. COOK, MBA, P.Eng**

EEC Program Manager - Commercial Buildings

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Reduce your impact. Think before you print.

---

**From:** Norman, Colin  
**Sent:** September 9, 2011 2:04 PM  
**To:** Cook, Ramsay  
**Subject:** Marbek Contacts

Hi Ramsay,

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Paul Robillard: Paulr@marbek.ca

Paula Claudino: claudino@marbek.ca

Thanks very much!

**Colin Norman**

Program Manager, Portfolio Projects

Energy Efficiency & Conservation

**FortisBC**

ph: (604) 592-7513

cell: (604) 868-3724

*Please note that our name has changed effective March 1, 2011. We're now FortisBC.*

---

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**From:** [Cook, Ramsay](#)  
**To:** [Cook, Ramsay](#); [Claudino, Paula](#)  
**Cc:** [Norman, Colin](#)  
**Subject:** RE: Commercial DSM plan.  
**Date:** Tuesday, September 13, 2011 2:58:38 PM  
**Attachments:** [Missing Commercial Info.xlsx](#)

---

This time with spreadsheet.

**RAMSAY A. COOK, MBA, P.Eng**

EEC Program Manager - Commercial Buildings

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---

**From:** Cook, Ramsay  
**Sent:** September 13, 2011 2:55 PM  
**To:** 'Claudino, Paula'  
**Cc:** Norman, Colin  
**Subject:** RE: Commercial DSM plan.

Hi Paula,

Please see the attached spreadsheet. I've added in some additional info under the utility incentive column as well.

On the other hand, I'm still waiting to hear back from Hydro about the C.Op program financial model and some data for Custom Design, new construction.

For process heat I haven't yet hazarded a guess for these inputs. I really have nothing to go on. As it's only 500 K I'd be just as happy to say that the budget amount is an allotment, to be fleshed out later. Thoughts?

**RAMSAY A. COOK, MBA, P.Eng**

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---

**From:** Claudino, Paula [mailto:[claudino@marbek.ca](mailto:claudino@marbek.ca)]  
**Sent:** September 13, 2011 6:58 AM  
**To:** Cook, Ramsay  
**Cc:** Norman, Colin  
**Subject:** RE: Commercial DSM plan.

Hi Ramsay,

Following our call yesterday, I think you now have a better idea of how to estimate the missing costs and savings. Can you please take a look at the attached file and fill in the missing information, highlighted in red? The cells highlighted in yellow are those that I would like you to double check to make sure they are correct. We can discuss these, if you like.

Cheers,  
Paula

---

**PAULA CLAUDINO** | Senior Associate | +1 613.523.0784 x.229 | [claudino@marbek.ca](mailto:claudino@marbek.ca) | [marbek.ca](http://marbek.ca) | [icfi.com](http://icfi.com)

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---

**From:** Cook, Ramsay [mailto:[Ramsay.Cook@fortisbc.com](mailto:Ramsay.Cook@fortisbc.com)]  
**Sent:** September 9, 2011 6:45 PM  
**To:** Robillard, Paul; Claudino, Paula  
**Cc:** Norman, Colin  
**Subject:** Commercial DSM plan.

Latest version of the commercial plan attached.

Problematic programs are highlighted in red. These are either so early in development that I haven't a clue as to the nature of the costs or savings, or too complex or flexible to represent as a simple prescriptive program. We'll need to talk about these over the phone on Monday morning. Also not that the NPV GJ savings needs to be worked out, and a 1% allocation of costs/participation/savings needs to be attributed to the whistler utility in all cases.

Best Regards,

**RAMSAY A. COOK, MBA, P.Eng**

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**From:** Norman, Colin  
**Sent:** September 9, 2011 2:04 PM  
**To:** Cook, Ramsay  
**Subject:** Marbek Contacts

Hi Ramsay,

Per our conversation, once you've completed you Commercial Program Area 2012/13 DSM Plan (or done all you can do) please send it directly to Marbek and cc me if you don't mind. Please send it to Paul and Paula from Marbek. Their email addresses are listed below:

Paul Robillard: Paulr@marbek.ca

Paula Claudino: claudino@marbek.ca

Thanks very much!

**Colin Norman**

Program Manager, Portfolio Projects

Energy Efficiency & Conservation

**FortisBC**

ph: (604) 592-7513

cell: (604) 868-3724

*Please note that our name has changed effective March 1, 2011. We're now FortisBC.*

---

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**From:** [Cook, Ramsay](#)  
**To:** [Claudio, Paula](#)  
**Cc:** [Norman, Colin](#)  
**Subject:** FW: C.Op financial model  
**Date:** Tuesday, September 13, 2011 3:56:43 PM  
**Attachments:** [Book2.xlsx](#)

---

Hi Paula,

Just got approval from Hydro to send this through. I've had to scub it of all Hydro specific data. Let's talk over the phone once you guys have had a chance to look at it.

Cheers,

**RAMSAY A. COOK, MBA, P.Eng**

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**From:** [Cook, Ramsay](#)  
**To:** [claudino@marbek.ca](mailto:claudino@marbek.ca); [Norman, Colin](#); [paulr@marbek.ca](mailto:paulr@marbek.ca)  
**Subject:** FW: Commercial DSM plan.  
**Date:** Sunday, September 18, 2011 11:49:47 PM  
**Attachments:** [EEC Program Plan - 2012 and 2013.xlsx](#)

---

Hi Colin, Paula and Paul,

Attached please find my updated commercial program area spread sheet. I have made several changes, all of which have cells highlighted in yellow, except the the adjustment to the FEI and FEWI numbers. Those are all changed, though this does not affect the model, as I simply moved some participants and cash flows from FEI to FEWI. **NOTE that I have not however made any of the updates as Paula and I had discussed Friday or Saturday mornings, as these were done over the phone, and I did not have the ability to take proper notes.** These include updated numbers for the commercial custom design, continuous optimization and process heat programs. Also note that I have significantly reduced the commercial kitchens overall program expenditure, while increasing the custom design program expenditure by 500,000 in each of 2012/2013.

I note that in exhibit xx (the summary table) for the commercial area that the expenditure for the commercial custom design program do no appear to match what I had sent through on my spread sheet. Note that I am forecasting a total program expenditure of 6 million per year in each of 2012 and 2013 for this program. Please double check. Total commercial area expenditure for 2012 should add up to approximately \$12,955,000 and for 2013 approximately \$14,560,000. if this is not the case there is a transcription error somewhere.

The caveats below have been added to the spreadsheet, with the exception of the general commercial caveat. I believe that this should come just after the commercial area introduction.

My flight arrives in Denver tomorrow around 11:00 am, local time, so I should be available throughout the afternoon to address and comments or issues.

Cheers,  
RAC - Off to bed... up to catch the plane in 3 hours!

#### GENERAL COMMERCIAL AREA CAVEAT:

Every attempt has been made to provide an accurate representation of the portfolio of commercial area programs for the planning period. Certain limitations must be acknowledged and understood however. In particular the Commercial Custom Design program, and the Continuous Optimization program are not depicted entirely accurately within the format, which is generally more suitable for prescriptive programs. These programs, being more complex and non prescriptive in nature, have variable measure savings, costs, incentives and/or cash flows. Refer to the program descriptions for additional details.

#### COMMERCIAL CUSTOM DESIGN CAVEAT

The numbers presented here are based on values observed for the first 5 participants in the Beta test stage of the commercial custom design program. While these values represent the best available information to date vis-a-vis average savings, costs, incentives and measure lives, they may not be representative of program results over the longer term as the former are, by definition, specific to each participant. It should be understood however that under the program rules no incentives will be provided for measures having a TRC less than one, thus the companies are confident that the program will be cost effective.

#### CONTINUOUS OPTIMIZATION CAVEAT

The two year planning window presented below is ill suited to the presentation of the continuous optimization program. The nature of the program is such that participants will



receive an incentive from the FEU for 24 to 60 months before the majority of the energy savings begin to accrue to the program. It is therefore expected the program TRC to remain well below 1.0 for the first several years of the programs operation, as new participants are added and pass through the mandatory baseline collection and recommissioning phases. Over the longer term however the FEU fully expect the program to generate a positive life cycle TRC as significant energy savings come on stream after the 2013 planning horizon shown below.

#### PROCESS HEAT CAVEAT

The process heat program remains in initial concept stage while the Companies focus on rolling out other program to market. The values below primarily represent the companies estimation based primarily on boiler upgrades for process heating. Additional details are to be worked out during more detailed program design.

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**From:** Claudino, Paula [mailto:[claudino@marbek.ca](mailto:claudino@marbek.ca)]

**Sent:** September 13, 2011 6:58 AM

**To:** Cook, Ramsay

**Cc:** Norman, Colin

**Subject:** RE: Commercial DSM plan.

Hi Ramsay,

Following our call yesterday, I think you now have a better idea of how to estimate the missing costs and savings. Can you please take a look at the attached file and fill in the missing information, highlighted in red? The cells highlighted in yellow are those that I would like you to double check to make sure they are correct. We can discuss these, if you like.

Cheers,  
Paula

---

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---

**From:** Cook, Ramsay [mailto:Ramsay.Cook@fortisbc.com]  
**Sent:** September 9, 2011 6:45 PM  
**To:** Robillard, Paul; Claudino, Paula  
**Cc:** Norman, Colin  
**Subject:** Commercial DSM plan.

Latest version of the commercial plan attached.

Problematic programs are highlighted in red. These are either so early in development that I haven't a clue as to the nature of the costs or savings, or too complex or flexible to represent as a simple prescriptive program. We'll need to talk about these over the phone on Monday morning. Also not that the NPV GJ savings needs to be worked out, and a 1% allocation of costs/participation/savings needs to be attributed to the whistler utility in all cases.

Best Regards,

**RAMSAY A. COOK, MBA, P.Eng**

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**From:** Norman, Colin  
**Sent:** September 9, 2011 2:04 PM  
**To:** Cook, Ramsay  
**Subject:** Marbek Contacts

Hi Ramsay,

Per our conversation, once you've completed your Commercial Program Area 2012/13 DSM Plan (or done all you can do) please send it directly to Marbek and cc me if you don't mind. Please send it to Paul and Paula from Marbek. Their email addresses are listed below:

Paul Robillard: Paulr@marbek.ca

Paula Claudino: claudino@marbek.ca

Thanks very much!

**Colin Norman**

Program Manager, Portfolio Projects  
Energy Efficiency & Conservation  
**FortisBC**  
ph: (604) 592-7513  
cell: (604) 868-3724

*Please note that our name has changed effective March 1, 2011. We're now FortisBC.*

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**From:** [Cook, Ramsay](#)  
**To:** [Norman, Colin](#); [Claudino, Paula](#)  
**Cc:** [Smith, Sarah](#)  
**Subject:** RE: EEC Plan - next version  
**Date:** Wednesday, September 21, 2011 9:25:53 AM

---

Hi All,

I've looked through the commercial section and in general it's good, but I do have several comments below, and I hope the changes can be accommodated:

Commercial Custom Design Program:

1. I notice in the report that the incremental measure cost for retrofit projects is listed as \$83,598, while the incentive is \$171,700. Please note that the \$83K is the participant cost, not the incremental measure cost. The incremental measure cost should be \$171,700 (incentive) + \$83,598 (participant cost) = \$255,298 (Incremental measure cost). I hope that this is only in the report and that you don't have to go back into the model.

Continuous Optimization Program

1. Paula and I adjusted the GJ savings per participant to suit the expected values in each of the forecast years. I would like to confirm that the cash flows are also representative of the expected amounts in 2012/2013. If you have inputted the total incentive amount of \$1.8 M for 2012, and \$2.5 M for 2013, then the model is correct. If on the other hand the average total incentive amount per participant of roughly \$23 K has been used the model is likely not correct, as the \$23K includes incentive amounts which are paid after 2012/2013. Please let me know. If revisions must be made I can assist with the changes should you have any difficulties... I had to model the whole program in the new TRC tool; it was not easy to do under time pressure constraints, but once you figure it out it's not that hard!

MURB Program

1. Under the program description could we please add "NOTE: In the first two years of operation ESMs are currently expected to be limited to the installation of low flow aerators and shower heads. Additional measure will be included as additional business cases are developed."
2. I've looked at the TRC, and it is too high. This one is my fault... I slipped a decimal in the per suite savings. It should be 4 GJ/yr per suite, or 450 GJ per building, as opposed to 40 and 4500. Not sure how I managed that, as I usually figure a MURB residence uses no more than 60 to 70 GJ /year total! Lowering these savings will have a significant impact on the TRC, but I think it should still remain positive. I was however super conservative with the measure costs, and taking some more time to look into all the details I'm very confident that we can use ½ the cost I included in my original spreadsheets. Making this change necessarily means that the number of participants needs to double in order to maintain the same budgeted total incentive expenditure. My sincere apologies for this, but this one should be updated.

Process Heat Program:

1. Free rider rate – can we please indicate “Assumed”

Fire Place Timers Pilot Program

1. Can we please add “Note: There are no participants in 2012, as pilot is closed and the results are being evaluated. 2013 number based on an assumed full program roll out.”

I’m off to a session on engaging commercial property managers now, but this is top priority so I will be monitoring my phone. If you would like to speak with me please send me a quick message and I will duck out of the session to take a call.

Cheers,

**RAMSAY A. COOK, MBA, P.Eng**

EEC Program Manager - Commercial Buildings

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f: 604.592.7618

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**From:** Norman, Colin  
**Sent:** September 20, 2011 4:08 PM  
**To:** Cook, Ramsay  
**Subject:** FW: EEC Plan - next version  
**Importance:** High

Hi Ramsay,

FYI. I suggest you review this most recent version of the DSM Plan report and Paul’s notes in his email below rather than responding directly to the emails you were cc’d on earlier today.

If you have an feedback that requires a decision, please just send that to Sarah for her to make the call and cc me. However, if you spot any obvious errors that require fixing please send that feedback to Marbek and us.

Thanks,

Colin

---

**From:** Dikeos, John [<mailto:dikeos@marbek.ca>]  
**Sent:** Tuesday, September 20, 2011 3:59 PM

**To:** Sarah Smith - Terasen; Norman, Colin  
**Cc:** Robillard, Paul  
**Subject:** RE: EEC Plan - next version

Hi Sarah and Colin,

As promised, the revised report is attached. We look forward to your feedback.

John

**John Dikeos, P.Eng., M.A.Sc.** | Senior Associate | +1 613-523-0784  
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---

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---

**From:** Robillard, Paul  
**Sent:** September 20, 2011 6:07 PM  
**To:** Sarah Smith - Terasen; Colin Norman  
**Cc:** Dikeos, John; Claudino, Paula; Narbaitz, Peter; Flannigan, Bryan  
**Subject:** EEC Plan - next version

Hi Sarah and Colin

John and Peter are in the final stages of consolidating all of the changes from the last couple of days. John will email a copy of the revised report to both of you in about an hour.

Below are some highlights:

1. The budget numbers now line up quite well with the Ask.
2. We spent quite a bit of time trying to get the commercial numbers to work. There were a couple of things going on:
  - a. Colin provided an Energy Specialist Program for the commercial sector but Ramsay did not include this program in his budget. Hence, when combined with Ramsay's budget numbers, the total commercial budget was too large.
  - b. Ramsay's calculations of costs used fractional participants (e.g., 0.0268 ) which doesn't work in the C/B model - whole numbers are needed.
  - c. Some of the cost calculations in Ramsay's commercial spreadsheet weren't working properly.
3. We did the following:
  - a. We reduced the budget for the Energy Specialist Program from the ~ \$2m in Colin's earlier email to ~ \$1m range
  - b. We tweaked the commercial numbers so that the total, inclusive of the Energy Specialist Program, falls within the 14.5 m Ask. In doing so, we did our best to stick to Ramsay's relative budget allocation among programs.
  - c. We did our best to capture all of the above changes in the individual Program Profiles.

- d. The revised report still needs a careful proof reading and a final formatting through our front office. However, we have not had time to do either just yet. We will do this at the end of the process, once we are finished making changes.
- e. Once we get your final comments on today's version, and are okay with the results, we will add the Societal Cost results.

At this point in the process, we need to limit any further changes to an absolute minimum if we are to meet the schedule.

I am unfortunately tied up for most of Wed until about 5pm but will be able to step out and chat and/or exchange emails.

Look fwd to hearing from you and hope that the conference is going well.

Paul

---

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**From:** [Smith, Sarah](#)  
**To:** ["Paul Robillard \(paulr@marbek.ca\)"; "johnd@marbek.ca"](#)  
**Cc:** [Norman, Colin](#); [Cook, Ramsay](#)  
**Subject:** Commercial Section edits  
**Date:** Wednesday, September 21, 2011 12:29:58 PM

---

Last sentence in intro needs to mention FEW as well.

First sentence under bullets please add "the following" before "new programs"



**From:** Cook, Ramsay  
**To:** ["Dikeos, John"](#)  
**Subject:** RE: EEC Plan - next version (Fortis)  
**Date:** Wednesday, September 21, 2011 2:26:00 PM  
**Attachments:** [FortisProgramDatabase - Commercial.xlsx](#)

---

Sorry John, this is taking a while... the TRC tool is not working for me. Attached find the programs database with C.Op modeled. The FEI and FEVI GAS ONLY programs show how I had to set up multiple measures. Unfortunately I can't tell if this is the most up to date version, and I'm concerned about the measure lives used. Will be able to confirm once I get a working TRC tool.

One other thing... the GAS only programs do not capture electricity benefits or costs. I'll have to add those in...

**RAMSAY A. COOK, MBA, P.Eng**

EEC Program Manager - Commercial Buildings

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**From:** Dikeos, John [<mailto:dikeos@marbek.ca>]  
**Sent:** September 21, 2011 12:28 PM  
**To:** Cook, Ramsay  
**Cc:** Robillard, Paul; Smith, Sarah; Norman, Colin  
**Subject:** RE: EEC Plan - next version (Fortis)

Hi Ramsay,

We're incorporating the text changes, as these are quite easy to make. I've also started making some changes to the program inputs in the model, as per your comments. Please see below for some comments. It may be a good idea for us to chat over the phone. Let me know when you're available and I'll give you a call.

John

**John Dikeos, P.Eng., M.A.Sc.** | Senior Associate | +1 613-523-0784  
x330 | [dikeos@marbek.ca](mailto:dikeos@marbek.ca) | [marbek.ca](http://marbek.ca) | [icfi.com](http://icfi.com)

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---

**From:** Cook, Ramsay [<mailto:Ramsay.Cook@fortisbc.com>]  
**Sent:** September 21, 2011 12:26 PM

**To:** Norman, Colin; Claudino, Paula  
**Cc:** Smith, Sarah  
**Subject:** RE: EEC Plan - next version

Hi All,

I've looked through the commercial section and in general it's good, but I do have several comments below, and I hope the changes can be accommodated:

Commercial Custom Design Program:

1. I notice in the report that the incremental measure cost for retrofit projects is listed as \$83,598, while the incentive is \$171,700. Please note that the \$83K is the participant cost, not the incremental measure cost. The incremental measure cost should be \$171,700 (incentive) + \$83,598 (participant cost) = \$255,298 (Incremental measure cost). I hope that this is only in the report and that you don't have to go back into the model.

**[JD]** Ok, I've adjusted in the incremental measure cost to \$255,298. Can you confirm that all of the incremental costs that you've given us represent the measure cost rather than the participant cost? An updated version of the inputs is attached. You'll notice that cell J20 shows an incremental cost for the Light Commercial Boiler Program that is lower than the incentive amount.

Continuous Optimization Program

1. Paula and I adjusted the GJ savings per participant to suit the expected values in each of the forecast years. I would like to confirm that the cash flows are also representative of the expected amounts in 2012/2013. If you have inputted the total incentive amount of \$1.8 M for 2012, and \$2.5 M for 2013, then the model is correct. If on the other hand the average total incentive amount per participant of roughly \$23 K has been used the model is likely not correct, as the \$23K includes incentive amounts which are paid after 2012/2013. Please let me know. If revisions must be made I can assist with the changes should you have any difficulties... I had to model the whole program in the new TRC tool; it was not easy to do under time pressure constraints, but once you figure it out it's not that hard!

**[JD]** I think we'll need to discuss this one over the phone. We are using the \$23K incentive amount, with numbers of participants that roughly add up to the \$1.8M and \$2.5M targets.

MURB Program

1. Under the program description could we please add "NOTE: In the first two years of operation ESMs are currently expected to be limited to the installation of low flow aerators and shower heads. Additional measure will be included as additional business cases are developed."
2. I've looked at the TRC, and it is too high. This one is my fault... I slipped a decimal in the per suite savings. It should be 4 GJ/yr per suite, or 450 GJ per building, as opposed to 40 and 4500. Not sure how I managed that, as I usually figure a MURB residence uses no more than 60 to 70 GJ /year total! Lowering these savings will have a significant impact on the TRC, but I think it should still remain positive. I was however super conservative with the

measure costs, and taking some more time to look into all the details I'm very confident that we can use ½ the cost I included in my original spreadsheets. Making this change necessarily means that the number of participants needs to double in order to maintain the same budgeted total incentive expenditure. My sincere apologies for this, but this one should be updated.

[JD] Ok, I've adjusted the per unit savings, as well as the measure cost, incentive amount, and participant numbers. The budget for this program has remained roughly at the same amount.

Process Heat Program:

1. Free rider rate – can we please indicate “Assumed”

Fire Place Timers Pilot Program

1. Can we please add “Note: There are no participants in 2012, as pilot is closed and the results are being evaluated. 2013 number based on an assumed full program roll out.”

I'm off to a session on engaging commercial property managers now, but this is top priority so I will be monitoring my phone. If you would like to speak with me please send me a quick message and I will duck out of the session to take a call.

Cheers,

**RAMSAY A. COOK, MBA, P.Eng**

EEC Program Manager - Commercial Buildings

FortisBC Energy

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f: 604.592.7618

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*Terasen Gas is known as FortisBC effective March 1, 2011. My e-mail address has changed to [ramsay.cook@fortisbc.com](mailto:ramsay.cook@fortisbc.com). Please update your records accordingly. For more information on FortisBC, please visit [fortisbc.com](http://fortisbc.com).*

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---

**From:** Norman, Colin  
**Sent:** September 20, 2011 4:08 PM  
**To:** Cook, Ramsay  
**Subject:** FW: EEC Plan - next version  
**Importance:** High

Hi Ramsay,

FYI. I suggest you review this most recent version of the DSM Plan report and Paul's notes in his email below rather than responding directly to the emails you were cc'd on earlier today.

If you have an feedback that requires a decision, please just send that to Sarah for her to make the call and cc me. However, if you spot any obvious errors that require fixing please send that feedback to Marbek and us.

Thanks,

Colin

---

**From:** Dikeos, John [mailto:dikeos@marbek.ca]  
**Sent:** Tuesday, September 20, 2011 3:59 PM  
**To:** Sarah Smith - Terasen; Norman, Colin  
**Cc:** Robillard, Paul  
**Subject:** RE: EEC Plan - next version

Hi Sarah and Colin,

As promised, the revised report is attached. We look forward to your feedback.

John

**John Dikeos, P.Eng., M.A.Sc.** | Senior Associate | +1 613-523-0784  
x330 | [dikeos@marbek.ca](mailto:dikeos@marbek.ca) | [marbek.ca](http://marbek.ca) | [icfi.com](http://icfi.com)

---

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---

**From:** Robillard, Paul  
**Sent:** September 20, 2011 6:07 PM  
**To:** Sarah Smith - Terasen; Colin Norman  
**Cc:** Dikeos, John; Claudino, Paula; Narbaitz, Peter; Flannigan, Bryan  
**Subject:** EEC Plan - next version

Hi Sarah and Colin

John and Peter are in the final stages of consolidating all of the changes from the last couple of days. John will email a copy of the revised report to both of you in about an hour.

Below are some highlights:

1. The budget numbers now line up quite well with the Ask.
2. We spent quite a bit of time trying to get the commercial numbers to work. There were a couple of things going on:
  - a. Colin provided an Energy Specialist Program for the commercial sector but Ramsay did not include this program in his budget. Hence, when combined with Ramsay's budget numbers, the total commercial budget was too large.
  - b. Ramsay's calculations of costs used fractional participants (e.g., 0.0268 ) which doesn't work in the C/B model - whole numbers are needed.
  - c. Some of the cost calculations in Ramsay's commercial spreadsheet weren't working properly.

3. We did the following:
- a. We reduced the budget for the Energy Specialist Program from the ~ \$2m in Colin's earlier email to ~ \$1m range
  - b. We tweaked the commercial numbers so that the total, inclusive of the Energy Specialist Program, falls within the 14.5 m Ask. In doing so, we did our best to stick to Ramsay's relative budget allocation among programs.
  - c. We did our best to capture all of the above changes in the individual Program Profiles.
  - d. The revised report still needs a careful proof reading and a final formatting through our front office. However, we have not had time to do either just yet. We will do this at the end of the process, once we are finished making changes.
  - e. Once we get your final comments on today's version, and are okay with the results, we will add the Societal Cost results.

At this point in the process, we need to limit any further changes to an absolute minimum if we are to meet the schedule.

I am unfortunately tied up for most of Wed until about 5pm but will be able to step out and chat and/or exchange emails.

Look fwd to hearing from you and hope that the conference is going well.

Paul

**PAUL ROBILLARD** | Principal | +1 613.523.0784 x315 | [paulr@marbek.ca](mailto:paulr@marbek.ca) | [marbek.ca](http://marbek.ca) | [icfi.com](http://icfi.com)

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**From:** [Dikeos, John](#)  
**To:** [Cook, Ramsay](#)  
**Cc:** [Smith, Sarah](#); [Norman, Colin](#); [Robillard, Paul](#)  
**Subject:** RE: EEC Plan - next version (Fortis)  
**Date:** Wednesday, September 21, 2011 5:31:20 PM  
**Attachments:** [Fortis Exhibits, Current.xlsm](#)

---

Hi Ramsay,

Thanks for all of your help, especially with the Continuous Optimization program. This was a tough nut to crack but I think that the inputs are defensible and the results are reasonable as well. The updated detailed results for all of the portfolios are attached. As discussed, we'll await your updated caveat for the Continuous Optimization program. In addition, let us know if you have any other comments or suggestions for changes.

Thanks!  
John

**John Dikeos, P.Eng., M.A.Sc.** | Senior Associate | +1 613-523-0784  
x330 | [dikeos@marbek.ca](mailto:dikeos@marbek.ca) | [marbek.ca](http://marbek.ca) | [icfi.com](http://icfi.com)

---

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---

**From:** Cook, Ramsay [<mailto:Ramsay.Cook@fortisbc.com>]  
**Sent:** September 21, 2011 5:26 PM  
**To:** Dikeos, John  
**Subject:** RE: EEC Plan - next version (Fortis)

Sorry John, this is taking a while... the TRC tool is not working for me. Attached find the programs database with C.Op modeled. The FEI and FEVI GAS ONLY programs show how I had to set up multiple measures. Unfortunately I can't tell if this is the most up to date version, and I'm concerned about the measure lives used. Will be able to confirm once I get a working TRC tool.

One other thing... the GAS only programs do not capture electricity benefits or costs. I'll have to add those in...

**RAMSAY A. COOK, MBA, P.Eng**

EEC Program Manager - Commercial Buildings

FortisBC Energy

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---

**From:** Dikeos, John [mailto:dikeos@marbek.ca]  
**Sent:** September 21, 2011 12:28 PM  
**To:** Cook, Ramsay  
**Cc:** Robillard, Paul; Smith, Sarah; Norman, Colin  
**Subject:** RE: EEC Plan - next version (Fortis)

Hi Ramsay,

We're incorporating the text changes, as these are quite easy to make. I've also started making some changes to the program inputs in the model, as per your comments. Please see below for some comments. It may be a good idea for us to chat over the phone. Let me know when you're available and I'll give you a call.

John

**John Dikeos, P.Eng., M.A.Sc.** | Senior Associate | +1 613-523-0784  
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---

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---

**From:** Cook, Ramsay [mailto:Ramsay.Cook@fortisbc.com]  
**Sent:** September 21, 2011 12:26 PM  
**To:** Norman, Colin; Claudino, Paula  
**Cc:** Smith, Sarah  
**Subject:** RE: EEC Plan - next version

Hi All,

I've looked through the commercial section and in general it's good, but I do have several comments below, and I hope the changes can be accommodated:

Commercial Custom Design Program:

1. I notice in the report that the incremental measure cost for retrofit projects is listed as \$83,598, while the incentive is \$171,700. Please note that the \$83K is the participant cost, not the incremental measure cost. The incremental measure cost should be \$171,700 (incentive) + \$83,598 (participant cost) = \$255,298 (Incremental measure cost). I hope that this is only in the report and that you don't have to go back into the model.

**[JD]** Ok, I've adjusted in the incremental measure cost to \$255,298. Can you confirm that all of the incremental costs that you've given us represent the measure cost rather than the participant cost? An updated version of the inputs is attached. You'll notice that cell J20 shows an incremental cost for the Light Commercial Boiler Program that is lower than the incentive amount.

Continuous Optimization Program

1. Paula and I adjusted the GJ savings per participant to suit the expected values in each of the forecast years. I would like to confirm that the cash flows are also representative of the expected amounts in 2012/2013. If you have inputted the total incentive amount of \$1.8 M for 2012, and \$2.5 M for 2013, then the model is correct. If on the other hand the average total incentive amount per participant of roughly \$23 K has been used the model is

likely not correct, as the \$23K includes incentive amounts which are paid after 2012/2013. Please let me know. If revisions must be made I can assist with the changes should you have any difficulties... I had to model the whole program in the new TRC tool; it was not easy to do under time pressure constraints, but once you figure it out it's not that hard!

**[JD]** I think we'll need to discuss this one over the phone. We are using the \$23K incentive amount, with numbers of participants that roughly add up to the \$1.8M and \$2.5M targets.

#### MURB Program

1. Under the program description could we please add "NOTE: In the first two years of operation ESMs are currently expected to be limited to the installation of low flow aerators and shower heads. Additional measure will be included as additional business cases are developed."
2. I've looked at the TRC, and it is too high. This one is my fault... I slipped a decimal in the per suite savings. It should be 4 GJ/yr per suite, or 450 GJ per building, as opposed to 40 and 4500. Not sure how I managed that, as I usually figure a MURB residence uses no more than 60 to 70 GJ /year total! Lowering these savings will have a significant impact on the TRC, but I think it should still remain positive. I was however super conservative with the measure costs, and taking some more time to look into all the details I'm very confident that we can use ½ the cost I included in my original spreadsheets. Making this change necessarily means that the number of participants needs to double in order to maintain the same budgeted total incentive expenditure. My sincere apologies for this, but this one should be updated.

**[JD]** Ok, I've adjusted the per unit savings, as well as the measure cost, incentive amount, and participant numbers. The budget for this program has remained roughly at the same amount.

#### Process Heat Program:

1. Free rider rate – can we please indicate "Assumed"

#### Fire Place Timers Pilot Program

1. Can we please add "Note: There are no participants in 2012, as pilot is closed and the results are being evaluated. 2013 number based on an assumed full program roll out."

I'm off to a session on engaging commercial property managers now, but this is top priority so I will be monitoring my phone. If you would like to speak with me please send me a quick message and I will duck out of the session to take a call.

Cheers,

**RAMSAY A. COOK, MBA, P.Eng**

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**Sent:** September 20, 2011 4:08 PM  
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**Subject:** FW: EEC Plan - next version  
**Importance:** High

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Thanks,

Colin

---

**From:** Dikeos, John [<mailto:dikeos@marbek.ca>]  
**Sent:** Tuesday, September 20, 2011 3:59 PM  
**To:** Sarah Smith - Terasen; Norman, Colin  
**Cc:** Robillard, Paul  
**Subject:** RE: EEC Plan - next version

Hi Sarah and Colin,

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John

**John Dikeos, P.Eng., M.A.Sc.** | Senior Associate | +1 613-523-0784  
x330 | [dikeos@marbek.ca](mailto:dikeos@marbek.ca) | [marbek.ca](http://marbek.ca) | [icfi.com](http://icfi.com)

---

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---

**From:** Robillard, Paul  
**Sent:** September 20, 2011 6:07 PM  
**To:** Sarah Smith - Terasen; Colin Norman  
**Cc:** Dikeos, John; Claudino, Paula; Narbaitz, Peter; Flannigan, Bryan  
**Subject:** EEC Plan - next version

Hi Sarah and Colin

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Below are some highlights:

1. The budget numbers now line up quite well with the Ask.
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Paul

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**From:** [Flannigan, Bryan](#)  
**To:** [Norman, Colin](#)  
**Cc:** [Robillard, Paul](#)  
**Subject:** FW: 2012/13 DSM Plan  
**Date:** Wednesday, August 31, 2011 1:45:48 PM  
**Attachments:** [4345C988-8EEF-4A0F-9CE8-ACC239A186E8f51.png](#)

---

Hi Colin,

I am working on this request on your behalf right now. I have asked for permission from two other utilities to share copies of their internal program planning documents. I hope to be able to release them to you a little bit later today or first thing tomorrow morning (my time).

If I cannot secure permission to release the documents, I will work to develop a high-level generic template for you to use, but you would not have it in your hands until you came into the office tomorrow morning.

Feel free to contact me with any questions. Paul and I are meeting on Thursday to discuss the second half of your request.

Sincerely,

Bryan

BRYAN FLANNIGAN CMVP, P. Eng. | Principal | 613.523.0784 x318 | [Flannigan@marbek.ca](mailto:Flannigan@marbek.ca) | [marbek.ca](http://marbek.ca) | [icfi.com](http://icfi.com)

---

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**From:** "Robillard, Paul" <[paulr@marbek.ca](mailto:paulr@marbek.ca)>  
**Date:** Tue, 30 Aug 2011 21:24:25 -0400  
**To:** Bryan Flannigan <[flannigan@marbek.ca](mailto:flannigan@marbek.ca)>  
**Cc:** Greg Mcguire <[mcguire@marbek.ca](mailto:mcguire@marbek.ca)>, Martin Adelaar <[adelaar@marbek.ca](mailto:adelaar@marbek.ca)>  
**Subject:** Fwd: 2012/13 DSM Plan

Bryan. Pls see email below.

Thx  
Paul

Paul Robillard  
613-406-3304

Sent from Samsung mobile

"Norman, Colin" <[Colin.Norman@fortisbc.com](mailto:Colin.Norman@fortisbc.com)> wrote:

Hi Paul,

I just talked to Sarah and before we send you any background info on our proposed 2012/13 DSM spend, could you send us a suggested template for listing our proposed 2012/13 programs? We're hoping that you have something that you've worked off of before with other utility funding requests or, if not, we were hoping that you could make something up quickly for us. We would like to use that as a starting point to then provide to our program managers and ask them to fill it out. We would then have you (ICF Marbek) consolidate it all and provide input on additional programs.

It would be great if you (or someone from your office) could provide this to me tomorrow (Wednesday). Otherwise, we may struggle to meet our timeline given the input required from our program managers.

Also, please confirm that you can take this project on and provide a ballpark cost if you could.

Thanks,

**Colin Norman**

Program Manager, Portfolio Projects

Energy Efficiency & Conservation

**FortisBC**

ph: (604) 592-7513

cell: (604) 868-3724

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**From:** [Smith, Sarah](#)  
**To:** [Alionis, Chris](#); [Carey, Leanne](#); [Chia, Jenny](#); [Collins, Samantha](#); [Cook, Ramsay](#); [Georgy, Ned](#); [Hameluck, Jenelle](#); [John, Benjamin](#); [Kobialko, Jim](#); [Kok, Hakan](#); [Lego, Gina](#); [Lengle, Gary](#); [Lunde, Allison](#); [Norman, Colin](#); [Peng, Jady](#); [Ramakrishnan, Arvind](#); [Ringdahl, Beth](#); [Sewak, Monika](#); [Thomson, Shelley](#)  
**Cc:** ["paulr@marbek.ca"](mailto:paulr@marbek.ca); [Jack Habart](#); [Bennett, David A](#); [Ross, Ken](#); [Hill, Shawn](#); [Bystrom, Chris](#)  
**Subject:** 2012/2013 DSM Plan  
**Date:** Tuesday, August 30, 2011 4:42:48 PM

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As discussed, we have asked ICF Marbek to develop a DSM plan for us for 2012/2013 to support the RRA funding ask. In the next day or so, you will receive a template into which you will be asked to load any known program information for the 2012/2013 time frame, by program. I know that all of you have existing programs that will be rolling over, and I am guessing that many of you have ideas as to additional programs that you'd like to run. I'd like for you all to start thinking please about what your program plans and budgets might look like for 2012/2013, and you'll receive a template from which to work to provide information to Marbek tomorrow. Marbek will be consolidating all that they receive, and providing input on additional programs between now and September 16<sup>th</sup>, which is when we have asked that they have their work completed.

Mr. Colin Norman, Esq., will be leading this work on our end, so if he asks you for a piece of information related to the 2012/2013 DSM plan, please make this a priority.

I thank you all for your hard work on this in advance.

*Sarah Smith*

*Manager, Energy Efficiency and Conservation*

*604-592-7528*

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*For great tips on saving both natural gas and electricity, go to our website at [fortisbc.com](http://fortisbc.com).*

**From:** [Robillard, Paul](#)  
**To:** [Norman, Colin](#)  
**Subject:** Re: 2012/13 DSM Plan  
**Date:** Tuesday, August 30, 2011 6:26:21 PM

---

Colin

ICF Marbek will definitely take this on.

Re template.....I am in meetings all day Wed and am in travel mode all day Thur.

I will try to connect with my office but realistically will be unlikely before I return.

Paul

Paul Robillard  
613-406-3304  
Sent from Samsung mobile

"Norman, Colin" <Colin.Norman@fortisbc.com> wrote:

Hi Paul,

I just talked to Sarah and before we send you any background info on our proposed 2012/13 DSM spend, could you send us a suggested template for listing our proposed 2012/13 programs? We're hoping that you have something that you've worked off of before with other utility funding requests or, if not, we were hoping that you could make something up quickly for us. We would like to use that as a starting point to then provide to our program managers and ask them to fill it out. We would then have you (ICF Marbek) consolidate it all and provide input on additional programs.

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Thanks,

**Colin Norman**

Program Manager, Portfolio Projects

Energy Efficiency & Conservation

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**From:** [Flannigan, Bryan](#)  
**To:** [Norman, Colin](#)  
**Cc:** [Robillard, Paul](#)  
**Subject:** RE: 2012/13 DSM Plan  
**Date:** Thursday, September 01, 2011 7:57:37 AM  
**Attachments:** [image001.png](#)  
[Program Business Case.docx](#)  
[FinalDesignv3.0\\_Mar142011.doc](#)

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Hi Colin,

I've attached two Program Business Planning Templates, one from the OPA, and one from SaskPower. Both are detailed program design templates, which are probably a bit of overkill for what you are trying to do based on your last e-mail. In any case, you may want to look at the areas described in the template to supplement your summary-level spreadsheet with some of the additional considerations.

On first glance, your summary sheet looks good to provide a high-level picture of the portfolio. You may consider adding Market Characteristics (3 sentences summarizing key market barriers and structure), program type (Resource Acquisition, Market Transformation, Capability Development), Key Channel Partners, EM&V methodology and Data sources etc. among possible others.

Anyway, have a look at the templates and we can discuss further. I hope to meet with Paul Robillard later today to debrief with him on some of your needs as well.

Sincerely,

**BRYAN FLANNIGAN CMVP, P. Eng.** | Principal | 613.523.0784  
x318 | [Flannigan@marbek.ca](mailto:Flannigan@marbek.ca) | [marbek.ca](http://marbek.ca) | [icfi.com](http://icfi.com)

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---

**From:** Norman, Colin [<mailto:Colin.Norman@fortisbc.com>]  
**Sent:** Wednesday, August 31, 2011 5:16 PM  
**To:** Flannigan, Bryan  
**Cc:** Robillard, Paul  
**Subject:** RE: 2012/13 DSM Plan

Hi Bryan,

Thanks for email. I decided to take a shot at putting together my own template. See attached and let me know what you think. As a first step, we were thinking of getting our program managers to fill out this template and then run it by you (Marbek) to help supplement and/or edit the

information where appropriate.

It would be great though to see your high-level generic template and any other utility examples you are able to share. I think we'll need to work together to determine the best approach to take given the information available on our 2012/13 DSM programs.

Regards,

**Colin Norman**

Program Manager, Portfolio Projects

Energy Efficiency & Conservation

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ph: (604) 592-7513

cell: (604) 868-3724

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**From:** Flannigan, Bryan [mailto:flannigan@marbek.ca]

**Sent:** Wednesday, August 31, 2011 1:46 PM

**To:** Norman, Colin

**Cc:** Robillard, Paul

**Subject:** FW: 2012/13 DSM Plan

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**From:** "Robillard, Paul" <[paulr@marbek.ca](mailto:paulr@marbek.ca)>  
**Date:** Tue, 30 Aug 2011 21:24:25 -0400  
**To:** Bryan Flannigan <[flannigan@marbek.ca](mailto:flannigan@marbek.ca)>  
**Cc:** Greg Mcguire <[mcguire@marbek.ca](mailto:mcguire@marbek.ca)>, Martin Adelaar <[adelaar@marbek.ca](mailto:adelaar@marbek.ca)>  
**Subject:** Fwd: 2012/13 DSM Plan

Bryan. Pls see email below.

Thx  
Paul

Paul Robillard  
613-406-3304  
Sent from Samsung mobile

"Norman, Colin" <[Colin.Norman@fortisbc.com](mailto:Colin.Norman@fortisbc.com)> wrote:

Hi Paul,

I just talked to Sarah and before we send you any background info on our proposed 2012/13 DSM spend, could you send us a suggested template for listing our proposed 2012/13 programs? We're hoping that you have something that you've worked off of before with other utility funding requests or, if not, we were hoping that you could make something up quickly for us. We would like to use that as a starting point to then provide to our program managers and ask them to fill it out. We would then have you (ICF Marbek) consolidate it all and provide input on additional programs.

It would be great if you (or someone from your office) could provide this to me tomorrow (Wednesday). Otherwise, we may struggle to meet our timeline given the input required from our program managers.

Also, please confirm that you can take this project on and provide a ballpark cost if you could.

Thanks,

**Colin Norman**

Program Manager, Portfolio Projects

Energy Efficiency & Conservation

**FortisBC**

ph: (604) 592-7513

cell: (604) 868-3724

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**From:** [Flannigan, Bryan](#)  
**To:** [Norman, Colin](#)  
**Cc:** [Robillard, Paul](#)  
**Subject:** RE: 2012/13 DSM Plan  
**Date:** Thursday, September 01, 2011 11:02:16 AM  
**Attachments:** [image001.png](#)

---

Okay Colin,

That sounds like a reasonable approach. Once you are ready to send the template over, perhaps we can have a conference call and coordinate our approach. I have good availability next Wednesday and Friday, and some time on Thursday.

Sincerely,

Bryan

**BRYAN FLANNIGAN CMVP, P. Eng.** | Principal | 613.523.0784  
x318 | [Flannigan@marbek.ca](mailto:Flannigan@marbek.ca) | [marbek.ca](http://marbek.ca) | [icfi.com](http://icfi.com)

**ICF MARBEK** | 222 Somerset Street West, Suite 300, Ottawa, ON K2P 2G3 | 613.298.2634 mobile & SMS

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**From:** Norman, Colin [<mailto:Colin.Norman@fortisbc.com>]  
**Sent:** Thursday, September 01, 2011 12:25 PM  
**To:** Flannigan, Bryan  
**Cc:** Robillard, Paul  
**Subject:** RE: 2012/13 DSM Plan

Hi Bryan,

Thanks for sending this. I agree that these program planning templates are too detailed for what we need and, given our short timeline, capable of producing. These are good references though.

I sent the template I produced to our program managers yesterday. I asked them to fill it out to the best of their abilities and return it to me no later than next Wednesday (Sept. 7). I will then consolidate all of their programs into one file and send it to you. Our hope is that you could then help fill in the gaps for the programs listed that are not yet fully developed and provide any edits that you think would be appropriate.

Let me know if that plan sounds good to you or if you would recommend a different approach.

Thanks,

**Colin Norman**

Program Manager, Portfolio Projects  
Energy Efficiency & Conservation

**FortisBC**

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cell: (604) 868-3724

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**From:** Flannigan, Bryan [mailto:flannigan@marbek.ca]

**Sent:** Thursday, September 1, 2011 7:55 AM

**To:** Norman, Colin

**Cc:** Robillard, Paul

**Subject:** RE: 2012/13 DSM Plan

Hi Colin,

I've attached two Program Business Planning Templates, one from the OPA, and one from SaskPower. Both are detailed program design templates, which are probably a bit of overkill for what you are trying to do based on your last e-mail. In any case, you may want to look at the areas described in the template to supplement your summary-level spreadsheet with some of the additional considerations.

On first glance, your summary sheet looks good to provide a high-level picture of the portfolio. You may consider adding Market Characteristics (3 sentences summarizing key market barriers and structure), program type (Resource Acquisition, Market Transformation, Capability Development), Key Channel Partners, EM&V methodology and Data sources etc. among possible others.

Anyway, have a look at the templates and we can discuss further. I hope to meet with Paul Robillard later today to debrief with him on some of your needs as well.

Sincerely,

**BRYAN FLANNIGAN CMVP, P. Eng.** | Principal | 613.523.0784  
x318 | [Flannigan@marbek.ca](mailto:Flannigan@marbek.ca) | [marbek.ca](http://marbek.ca) | [icfi.com](http://icfi.com)

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**From:** Norman, Colin [mailto:Colin.Norman@fortisbc.com]

**Sent:** Wednesday, August 31, 2011 5:16 PM

**To:** Flannigan, Bryan  
**Cc:** Robillard, Paul  
**Subject:** RE: 2012/13 DSM Plan

Hi Bryan,

Thanks for email. I decided to take a shot at putting together my own template. See attached and let me know what you think. As a first step, we were thinking of getting our program managers to fill out this template and then run it by you (Marbek) to help supplement and/or edit the information where appropriate.

It would be great though to see your high-level generic template and any other utility examples you are able to share. I think we'll need to work together to determine the best approach to take given the information available on our 2012/13 DSM programs.

Regards,

**Colin Norman**

Program Manager, Portfolio Projects  
Energy Efficiency & Conservation

**FortisBC**

ph: (604) 592-7513

cell: (604) 868-3724

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---

**From:** Flannigan, Bryan [mailto:flannigan@marbek.ca]  
**Sent:** Wednesday, August 31, 2011 1:46 PM  
**To:** Norman, Colin  
**Cc:** Robillard, Paul  
**Subject:** FW: 2012/13 DSM Plan

Hi Colin,

I am working on this request on your behalf right now. I have asked for permission from two other utilities to share copies of their internal program planning documents. I hope to be able to release them to you a little bit later today or first thing tomorrow morning (my time).

If I cannot secure permission to release the documents, I will work to develop a high-level generic template for you to use, but you would not have it in your hands until you came into the office tomorrow morning.

Feel free to contact me with any questions. Paul and I are meeting on Thursday to discuss the second half of your request.

Sincerely,

Bryan

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**From:** "Robillard, Paul" <[paulr@marbek.ca](mailto:paulr@marbek.ca)>

**Date:** Tue, 30 Aug 2011 21:24:25 -0400

**To:** Bryan Flannigan <[flannigan@marbek.ca](mailto:flannigan@marbek.ca)>

**Cc:** Greg Mcguire <[mcguire@marbek.ca](mailto:mcguire@marbek.ca)>, Martin Adelaar <[adelaar@marbek.ca](mailto:adelaar@marbek.ca)>

**Subject:** Fwd: 2012/13 DSM Plan

Bryan. Pls see email below.

Thx  
Paul

Paul Robillard  
613-406-3304  
Sent from Samsung mobile

"Norman, Colin" <[Colin.Norman@fortisbc.com](mailto:Colin.Norman@fortisbc.com)> wrote:

Hi Paul,

I just talked to Sarah and before we send you any background info on our proposed 2012/13 DSM spend, could you send us a suggested template for listing our proposed 2012/13 programs? We're hoping that you have something that you've worked off of before with other utility funding requests or, if not, we were hoping that you could make something up quickly for us. We would like to use that as a starting point to then provide to our program managers and ask them to fill it out. We would then have you (ICF Marbek) consolidate it all and provide input on additional programs.

It would be great if you (or someone from your office) could provide this to me tomorrow (Wednesday). Otherwise, we may struggle to meet our timeline given the input required from our program managers.

Also, please confirm that you can take this project on and provide a ballpark cost if you could.

Thanks,

**Colin Norman**



Program Manager, Portfolio Projects  
Energy Efficiency & Conservation  
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**From:** [Dikeos, John](#)  
**To:** [Norman, Colin](#)  
**Cc:** [Robillard, Paul](#); [Flannigan, Bryan](#)  
**Subject:** RE: Cost effectiveness tool for Marbek  
**Date:** Tuesday, September 06, 2011 2:27:25 PM  
**Attachments:** [image001.png](#)

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Hi Colin,

Thanks, Bryan pointed out that the login information was included further down in the email as well. I'm able to look at the spreadsheet now – however, I'm not sure if the other file that you attached with it was to be used with as an "Active Program Database". I wasn't able to select it as a program database when I tried.

John

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x330 | [dikeos@marbek.ca](mailto:dikeos@marbek.ca) | [marbek.ca](http://marbek.ca) | [icfi.com](http://icfi.com)

---

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---

**From:** Norman, Colin [<mailto:Colin.Norman@fortisbc.com>]  
**Sent:** September 6, 2011 4:19 PM  
**To:** Robillard, Paul; Flannigan, Bryan  
**Cc:** Dikeos, John  
**Subject:** RE: Cost effectiveness tool for Marbek

Hi John,

Did the login info provided in the original email below not work or are you referring to something else? Please clarify if you could. Thanks.

**Colin Norman**

Program Manager, Portfolio Projects

Energy Efficiency & Conservation

**FortisBC**

ph: (604) 592-7513

cell: (604) 868-3724

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**From:** Robillard, Paul [<mailto:paulr@marbek.ca>]  
**Sent:** Tuesday, September 6, 2011 12:23 PM  
**To:** Norman, Colin; Flannigan, Bryan  
**Cc:** Dikeos, John  
**Subject:** FW: Cost effectiveness tool for Marbek

Colin

Pls see below... We need login info for the model. Can you pls send to John.

Thx  
Paul

---

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**From:** Dikeos, John  
**Sent:** September 6, 2011 3:07 PM  
**To:** Flannigan, Bryan  
**Cc:** Robillard, Paul; Dufresne, Vincent  
**Subject:** RE: Cost effectiveness tool for Marbek

Hi Bryan,

Seems like we need login info to open the "Cost Effectiveness Tool" spreadsheet. Can you please ask Colin for this?

John

---

**John Dikeos, P.Eng., M.A.Sc.** | Senior Associate | +1 613-523-0784  
x330 | [dikeos@marbek.ca](mailto:dikeos@marbek.ca) | [marbek.ca](http://marbek.ca) | [icfi.com](http://icfi.com)  
**ICF MARBEK** | 222 Somerset Street West, Suite 300, Ottawa, ON K2P 2G3 | +1 613-523-0717 (f)

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**From:** Flannigan, Bryan  
**Sent:** September 6, 2011 12:56 PM  
**To:** Dikeos, John  
**Cc:** Robillard, Paul; Dufresne, Vincent  
**Subject:** FW: Cost effectiveness tool for Marbek

John – you may want to begin getting familiar with these....

---

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**From:** Norman, Colin [<mailto:Colin.Norman@fortisbc.com>]

**Sent:** Tuesday, September 06, 2011 12:54 PM  
**To:** Flannigan, Bryan  
**Subject:** FW: Cost effectiveness tool for Marbek

Hi Bryan,

In addition to helping us fill in the gaps where required in our programs, we are going to need you to produce a TRC for each of our programs in our 2012/13 DSM program plan. Cadmus has revised our benefit/cost model for us (see attached) so you will need to use this model as opposed to the one used for the CPR. See the email below for user name and password instructions.

If you have any questions regarding this model please let me know and I can put you in contact with our internal owner of the model.

Thanks,

**Colin Norman**

Program Manager, Portfolio Projects  
Energy Efficiency & Conservation

**FortisBC**

ph: (604) 592-7513

cell: (604) 868-3724

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**From:** Wong, Dana  
**Sent:** Friday, September 2, 2011 2:14 PM  
**To:** Norman, Colin  
**Subject:** Cost effectiveness tool for Marbek

Hi Colin,

Arvind asked me to send you the Cost Effectiveness tool for Marbek. Here's the tool and training database. The user name is Marbek and password is Marbek as well. Any issues or concerns can be addressed to Arvind as I'll be out of the office next week.

Cheers,  
Dana

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**From:** [Norman, Colin](#)  
**To:** [Robillard, Paul](#)  
**Cc:** [Flannigan, Bryan](#); [Dikeos, John](#)  
**Subject:** Draft FortisBC 2012/13 DSM Plans  
**Date:** Wednesday, September 07, 2011 4:40:00 PM  
**Attachments:** [Commercial EEC Program Plan - 2012 and 2013.xlsx](#)  
[Contractor Program Plan - 2012 and 2013.xls](#)  
[Education and Outreach EEC Program Plan - 2012 and 2013.xls](#)  
[Industrial EEC Program Plan - 2012 and 2013.xls](#)  
[Residential EEC Program Plan - 2012 and 2013.xls](#)

---

Hi Paul,

Please see attached the 2012/13 program area plans that I have been able to gather from our program managers so far. A few things to note:

- Our Low Income Program Area manager is away this week so we probably won't receive his plan until early next week. He should only have three or four programs so hopefully it won't be much effort to tack those on to the plan early next week.
- The details for the Commercial programs are still a work in progress but Ramsay has included all of his planned programs here. He just needs another day or two to specify the expenditure breakdowns. You will see that his expenditure breakdowns are listed to the far right as a work in progress.
- Beth's Residential program list is also still a work in progress. 2012 is pretty close to being finalized but she hasn't filled out anything for 2013 yet. 2013 should be fairly similar to 2012 though. Beth should have this updated within the next day or so. Note too that Beth mistakenly listed the actual expenditures down to the dollar instead of down to the \$1,000. I'm not an Excel whiz so if someone on your end knows a quick fix for that please make that correction if you could.
- The Innovative Technologies area is not included here. I'll let you work that out separately with Jim.
- We are going to add the Energy Specialist Program Plan to the list of Commercial programs and the Contractor Program Plan to the list of Residential programs but for now I've attached them separately since the Commercial and Residential lists are still a work in progress.

Let me know if you need anything else before our conference call tomorrow.

Thanks,

**Colin Norman**

Program Manager, Portfolio Projects

Energy Efficiency & Conservation

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cell: (604) 868-3724

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**From:** [Paul Robillard](#)  
**To:** [Norman, Colin](#); [Sarah Smith - FortisBC](#); [Bryan Flannigan](#); [John Dikeos](#)  
**Cc:** [Paul R - office](#)  
**Subject:** Today's Meeting re: DSM Plan  
**Date:** Thursday, September 08, 2011 8:50:22 AM  
**Attachments:** [FortisBC DSM Plan\\_report outline.doc](#)  
[FortisBC Agenda\\_Sept 8.doc](#)

---

Hi All

Draft agenda and preliminary report outline attached for today's discussion.

Paul

**From:** [Dikeos, John](#)  
**To:** [Norman, Colin](#)  
**Cc:** [Flannigan, Bryan](#); [Robillard, Paul](#)  
**Subject:** RE: Today's Meeting re: DSM Plan  
**Date:** Thursday, September 08, 2011 2:23:58 PM  
**Attachments:** [Residential EEC Program Plan - 2012 and 2013, Marbek Update.xlsm](#)

---

Hi Colin,

Thanks for chatting with us just now. As we discussed, I've added a few columns into your program information template, which highlight some of the gaps in the information we received. I've highlighted the columns that have been added and a column of the column headers that have been modified slightly. In addition, I'd like to point out that the first program description does a good job of breaking down the measures which are included in the program and the cost, savings, and lifetime for each measure. Let me know if you have any questions.

Thanks!

John

**John Dikeos, P.Eng., M.A.Sc.** | Senior Associate | +1 613-523-0784  
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---

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---

**From:** Paul Robillard [mailto:paulrob@on.aibn.com]  
**Sent:** September 8, 2011 11:50 AM  
**To:** Colin.Norman; Sarah Smith - FortisBC; Flannigan, Bryan; Dikeos, John  
**Cc:** Robillard, Paul  
**Subject:** Today's Meeting re: DSM Plan

Hi All

Draft agenda and preliminary report outline attached for today's discussion.

Paul



**From:** [Robillard, Paul](#)  
**To:** [Norman, Colin](#); [Flannigan, Bryan](#); [Dikeos, John](#); [Claudino, Paula](#)  
**Cc:** [Sarah Smith - Terasen](#)  
**Subject:** Notes from Today's meeting - AGAIN  
**Date:** Thursday, September 08, 2011 3:19:48 PM  
**Attachments:** [FortisBC\\_Agenda\\_Sept 8\\_with decisions.doc](#)

---

With attachment

Hi All

Notes from today's meeting attached.

---

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**From:** [Robillard, Paul](#)  
**To:** [Norman, Colin](#)  
**Cc:** [Flannigan, Bryan](#); [Dikeos, John](#); [Claudino, Paula](#); [Sarah Smith - Terasen](#)  
**Subject:** DSM Plan meeting follow up  
**Date:** Thursday, September 08, 2011 3:25:47 PM

---

Hi Colin

I think that we are finally getting our ducks in a row. Couple of thoughts flowing from our meeting today as well as a couple of requests:

1. To give ourselves a fighting chance at making the deadlines, we will match individual resources at this end with the individual FortisBC program managers. The proposed matches are:
  - a. John Dikeos with Beth - Residential
  - b. Paula Claudino with Ramsay - Commercial
  - c. Bryan with Hakan - Industry
  - d. Paul with Jim – Innovators

For a, b and c above, we will build sets of inputs within sector specific versions of the Cost-Effectiveness model. This will allow each Program area to develop in parallel, which will save lapsed time, and will hopefully facilitate exchanges/review by Fortis managers. I will work with Jim but this will not fit within the B/C model context. We will merge the 3 separate models into one consolidated version at the end and will use for the roll ups.

2. Requests
  - a. Can you pls send a copy of the IRs from the Sustainable Energy Assoc that Sarah mentioned in today's call.
  - b. Can you pls send a copy of the Fortis report/filing that we discussed yesterday i.e. the one that shows the typical level and organization of data reporting that would serve as a model for this project. I know that it is among the web links that you already sent... but..searching for the correct one will take time. If you can short circuit by resending the link or directions or the actual report, that would be much appreciated. Thanks!

I will send a proposed outline of proposed tasks, responsibilities and timeline for your review tomorrow.

Paul



**From:** [Norman, Colin](#)  
**To:** [Robillard, Paul](#)  
**Cc:** [Flannigan, Bryan](#); [Dikeos, John](#); [Claudino, Paula](#)  
**Subject:** RE: DSM Plan meeting follow up  
**Date:** Thursday, September 08, 2011 5:19:00 PM

---

Hi Paul,

Here are the links to the BCSEA evidence that I believe Sarah was referring to in our conference call:

[http://www.bcuc.com/Documents/Proceedings/2011/DOC\\_28411\\_C4-4\\_BCSEA-evidence.pdf](http://www.bcuc.com/Documents/Proceedings/2011/DOC_28411_C4-4_BCSEA-evidence.pdf)

[http://www.bcuc.com/Documents/Proceedings/2011/DOC\\_28463\\_A-11\\_2012-13RR-IR-No1-BCSEA.pdf](http://www.bcuc.com/Documents/Proceedings/2011/DOC_28463_A-11_2012-13RR-IR-No1-BCSEA.pdf)

You can find all proceedings related to our Revenue Requirement Application filing here:

<http://www.bcuc.com/ApplicationView.aspx?ApplicationId=313>

The EEC Annual Report only exists as part of the larger RRA filing that I sent you the link for before. It does not exist on its own online and it is far too large to email. However, I have saved it to the CPR ftp site. Let me know if you have trouble accessing it there.

Sarah also wanted me to send you all of the Commission's IRs about how they are to judge prudence of what we are requesting absent any kind of a DSM plan. I'll have to get this to you tomorrow as it's going to take me awhile to sort through all of the IRs to pick these out (as a company we've responded to well over 1,000 IRs with several hundred of those attributed to EEC).

Regards,

**Colin Norman**

Program Manager, Portfolio Projects

Energy Efficiency & Conservation

**FortisBC**

ph: (604) 592-7513

cell: (604) 868-3724

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**From:** Robillard, Paul [mailto:[paulr@marbek.ca](mailto:paulr@marbek.ca)]  
**Sent:** Thursday, September 8, 2011 3:26 PM  
**To:** Norman, Colin  
**Cc:** Flannigan, Bryan; Dikeos, John; Claudino, Paula; Sarah Smith - Terasen  
**Subject:** DSM Plan meeting follow up

Hi Colin

I think that we are finally getting our ducks in a row. Couple of thoughts flowing from our meeting today as well as a couple of requests:

1. To give ourselves a fighting chance at making the deadlines, we will match individual resources at this end with the individual FortisBC program managers. The proposed matches are:
  - a. John Dikeos with Beth - Residential
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  - c. Bryan with Hakan - Industry
  - d. Paul with Jim – Innovators

For a, b and c above, we will build sets of inputs within sector specific versions of the Cost-Effectiveness model. This will allow each Program area to develop in parallel, which will save lapsed time, and will hopefully facilitate exchanges/review by Fortis managers. I will work with Jim but this will not fit within the B/C model context. We will merge the 3 separate models into one consolidated version at the end and will use for the roll ups.

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  - a. Can you pls send a copy of the IRs from the Sustainable Energy Assoc that Sarah mentioned in today's call.
  - b. Can you pls send a copy of the Fortis report/filing that we discussed yesterday i.e. the one that shows the typical level and organization of data reporting that would serve as a model for this project. I know that it is among the web links that you already sent... but..searching for the correct one will take time. If you can short circuit by resending the link or directions or the actual report, that would be much appreciated. Thanks!

I will send a proposed outline of proposed tasks, responsibilities and timeline for your review tomorrow.

Paul

**From:** [Dikeos, John](#)  
**To:** [Norman, Colin](#); [Ramakrishnan, Arvind](#)  
**Cc:** [Flannigan, Bryan](#); [Robillard, Paul](#); [Claudino, Paula](#)  
**Subject:** Issues with Cost Effectiveness Tool  
**Date:** Friday, September 09, 2011 2:26:43 PM  
**Attachments:** [image001.png](#)  
[Fortis Cost Effectiveness Tool, Marbek, 2011.09.09.xlsm](#)  
[Fortis Database, Marbek, 2011.09.09.xlsx](#)

---

Hi Colin and Arvind,

We've encountered a couple major issues with the Cost Effectiveness Tool:

1. **Portfolio Builder:** I get the following error every time I try to build a Portfolio:

*An error has occurred. Most likely you are trying to add a program to this portfolio that existed at some point in the Programs Database but has been deleted. Please check that program exists and try again. You may need to go to the Programs Database and manually delete this program's measures from the portfolio, or delete the portfolio and try again.*

2. **Saving Results:** I also get the following error when I press the "Save Results to Program Database" button in the Results tab of the Cost Effectiveness tool:

*This program does not exist in the program database. Select the program name in the box in the Dashboard and click view outputs, then try again.*

I've done some troubleshooting based on what these messages say and I've tried adding different combinations of programs to a portfolio, or just one program at a time. However, I haven't been able to resolve these issues on my own. Also, it seems like the same issues exist within the original "Training" version of the tool that you sent us.

Can you please get in touch with Cadmus regarding these issues, as they're both critical to us completing this work? I've attached copies of the Cost Effectiveness tool and the associated database so that they can help us troubleshoot.

Thanks!

John

**John Dikeos, P.Eng., M.A.Sc.** | Senior Associate | +1 613-523-0784  
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---

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[home.jpg](#)



**From:** [Robillard, Paul](#)  
**To:** [Norman, Colin](#)  
**Subject:** EEC Plan  
**Date:** Monday, September 12, 2011 10:15:08 AM  
**Attachments:** [Fortis EEC Plan report Sept 12.docx](#)  
[Task schedule Sept 12.doc](#)

---

Hi Colin

Preliminary report outline plus schedule

Pls take a look through. I will call in 10 minutes to discuss.

Cheers,  
Paul

---

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**From:** [Robillard, Paul](#)  
**To:** [Norman, Colin](#)  
**Cc:** [Flannigan, Bryan](#); [Dikeos, John](#); [Claudino, Paula](#); [Narbaitz, Peter](#)  
**Subject:** Fortis Report Outline - Revised  
**Date:** Monday, September 12, 2011 1:38:00 PM  
**Attachments:** [Fortis EEC Plan report Sept 12 v2.docx](#)

---

Hi Colin and Team

Have run out of time but attached is my best shot at capturing the comments from my conversation with Colin. Net effect of Colin's comments is to simply.

Peter is starting the process of doing the individual Program write up from Colin's template and will be around to see you as needed. He is starting with residential, then to commercial.

Talk to on Wed

Paul

---

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**From:** [Norman, Colin](#)  
**To:** [Robillard, Paul](#)  
**Cc:** [Flannigan, Bryan](#); [Dikeos, John](#); [Claudino, Paula](#); [Narbaitz, Peter](#)  
**Subject:** RE: Fortis Report Outline - Revised  
**Date:** Monday, September 12, 2011 3:13:00 PM

---

Hi Paul and Marbek Team,

Thanks for pulling this together so quickly. I think you've captured the changes we discussed quite well. I just noticed a few other minor edits that should be made:

- For section 2.2, please break out the program expenditures into "Incentive" and "Non-Incentive" in addition to listing the total expenditures
- The title for section 2.3 should be "Overview of EEC Portfolio Results, by Program Area"
- Remove "Enabling Activities" from the tables in section 2.3
  - Our Contractor Program should be listed under the Residential Programs and our Energy Specialist Program should be listed under the Commercial Programs
- Reorder the program areas in the section 2.3 tables per the order listed in section 2.1
- For the program example table in section 4.3.1, the Whistler service region should be listed as "FEW"

I've asked our program managers to send me a one paragraph introduction for each of their program area sections. I should have that to you by end of day Wednesday.

If you need anything else from me, please let me know.

Thanks,

**Colin Norman**

Program Manager, Portfolio Projects  
Energy Efficiency & Conservation

**FortisBC**

ph: (604) 592-7513

cell: (604) 868-3724

*Please note that our name has changed effective March 1, 2011. We're now FortisBC.*

---

**From:** Robillard, Paul [mailto:[paulr@marbek.ca](mailto:paulr@marbek.ca)]  
**Sent:** Monday, September 12, 2011 1:37 PM  
**To:** Norman, Colin  
**Cc:** Flannigan, Bryan; Dikeos, John; Claudino, Paula; Narbaitz, Peter  
**Subject:** Fortis Report Outline - Revised

Hi Colin and Team

Have run out of time but attached is my best shot at capturing the comments from my conversation with Colin. Net effect of Colin's comments is to simply.

Peter is starting the process of doing the individual Program write up from Colin's template and will be around to see you as needed. He is starting with residential, then to commercial.

Talk to on Wed  
Paul

---

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**From:** [Norman, Colin](#)  
**To:** [Robillard, Paul](#); [Flannigan, Bryan](#)  
**Subject:** RE: Fortis Industrial Programs - Urgent Input Required  
**Date:** Wednesday, September 14, 2011 8:26:00 AM

---

Hi Paul,

I agree. Let's just reference the CPR in the intro section then. However, please include language in that intro referencing something to the effect that the CPR uncovered significant opportunities for DSM programs. I think we need to make the connection that our funding ask is defensible based on the findings from the CPR.

Thanks,

**Colin Norman**

Program Manager, Portfolio Projects

Energy Efficiency & Conservation

**FortisBC**

ph: (604) 592-7513

cell: (604) 868-3724

*Please note that our name has changed effective March 1, 2011. We're now FortisBC.*

---

**From:** Robillard, Paul [mailto:[paulr@marbek.ca](mailto:paulr@marbek.ca)]  
**Sent:** Wednesday, September 14, 2011 7:34 AM  
**To:** Norman, Colin; Flannigan, Bryan  
**Subject:** RE: Fortis Industrial Programs - Urgent Input Required

Colin

Given our more streamlined approach to the report I don't think that the chap on the CPR results is needed. We can reference it in the Intro. What do you think?

Am in a meeting now but if you agree then I will apply in the next version.

Paul

Paul Robillard  
613-406-3304  
Sent from Samsung mobile

"Norman, Colin" <[Colin.Norman@fortisbc.com](mailto:Colin.Norman@fortisbc.com)> wrote:

Hi Bryan,

This structure looks good to me. Please proceed. Thanks.

**Colin Norman**

Program Manager, Portfolio Projects

Energy Efficiency & Conservation

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cell: (604) 868-3724

*Please note that our name has changed effective March 1, 2011. We're now FortisBC.*

---

**From:** Flannigan, Bryan [mailto:flannigan@marbek.ca]  
**Sent:** Tuesday, September 13, 2011 2:09 PM  
**To:** Norman, Colin  
**Cc:** Robillard, Paul  
**Subject:** Fortis Industrial Programs - Urgent Input Required  
**Importance:** High

Hi Colin,

Just checking in.

See the attached spreadsheet. Notably, I have collapsed the 6 programs into two (Retrofit and Study), and I have also added 10% admin costs, 4% evaluation cost, and approx 1-2% communications costs. These amounts are in line with best practice, and have been subtracted from the incentive amounts available.

After the kids go to bed tonight, I'll proceed to better flush out the measure performance, and add some savings in year two attributable to the study program, as well as proceed with some of the write-up elements based on the rate filing, the annual report and my condensed version of the programs.

Let me know as soon as you can whether or not this structure is acceptable, and I will proceed.

Bryan

---

**From:** "Norman, Colin" <[Colin.Norman@fortisbc.com](mailto:Colin.Norman@fortisbc.com)>  
**Date:** Mon, 12 Sep 2011 22:13:07 +0000  
**To:** "Robillard, Paul" <[paulr@marbek.ca](mailto:paulr@marbek.ca)>  
**Cc:** Bryan Flannigan <[flannigan@marbek.ca](mailto:flannigan@marbek.ca)>, John Dikeos <[dikeos@marbek.ca](mailto:dikeos@marbek.ca)>, Paula Claudino <[claudino@marbek.ca](mailto:claudino@marbek.ca)>, "Narbaitz, Peter" <[narbaitz@marbek.ca](mailto:narbaitz@marbek.ca)>  
**Subject:** RE: Fortis Report Outline - Revised

Hi Paul and Marbek Team,

Thanks for pulling this together so quickly. I think you've captured the changes we discussed quite well. I just noticed a few other minor edits that should be made:

- For section 2.2, please break out the program expenditures into "Incentive" and "Non-Incentive" in addition to listing the total expenditures
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  - Our Contractor Program should be listed under the Residential Programs and our Energy Specialist Program should be listed under the Commercial Programs
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- For the program example table in section 4.3.1, the Whistler service region should be listed as “FEW”

I’ve asked our program managers to send me a one paragraph introduction for each of their program area sections. I should have that to you by end of day Wednesday.

If you need anything else from me, please let me know.

Thanks,

**Colin Norman**

Program Manager, Portfolio Projects

Energy Efficiency & Conservation

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cell: (604) 868-3724

*Please note that our name has changed effective March 1, 2011. We're now FortisBC.*

---

**From:** Robillard, Paul [<mailto:paulr@marbek.ca>]

**Sent:** Monday, September 12, 2011 1:37 PM

**To:** Norman, Colin

**Cc:** Flannigan, Bryan; Dikeos, John; Claudino, Paula; Narbaitz, Peter

**Subject:** Fortis Report Outline - Revised

Hi Colin and Team

Have run out of time but attached is my best shot at capturing the comments from my conversation with Colin. Net effect of Colin’s comments is to simply.

Peter is starting the process of doing the individual Program write up from Colin’s template and will be around to see you as needed. He is starting with residential, then to commercial.

Talk to on Wed

Paul

---

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**From:** [Flannigan, Bryan](#)  
**To:** [Norman, Colin](#); [Smith, Sarah](#)  
**Cc:** [Robillard, Paul](#)  
**Subject:** ICF Marbek - Something to Consider for Our Call at 11:30 PST.  
**Date:** Wednesday, September 14, 2011 11:18:50 AM  
**Attachments:** [image001.png](#)  
[Day 1 Applied Program Dev Cycle.pdf](#)

---

Hi Sarah, Colin,

The attached may be useful to reference for our upcoming call.

Talk to you in a few minutes.

**BRYAN FLANNIGAN CMVP, P. Eng.** | Principal | 613.523.0784  
x318 | [Flannigan@marbek.ca](mailto:Flannigan@marbek.ca) | [marbek.ca](http://marbek.ca) | [icfi.com](http://icfi.com)

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[home.jpg](#)



**From:** [Dikeos, John](#)  
**To:** [Ramakrishnan, Arvind](#)  
**Cc:** [Norman, Colin](#); [Robillard, Paul](#)  
**Subject:** RE: modelling  
**Date:** Thursday, September 15, 2011 6:02:21 PM

---

Hi Arvind,

Thanks for checking in. We are very close to finishing our first pass through the set up and entry of all of the programs and portfolios. We'll actually be discussing the status and preliminary results with Colin and others tomorrow at 1 PM PST. Thanks for all of your help so far!

John

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---

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---

**From:** Ramakrishnan, Arvind [mailto:Arvind.Ramakrishnan@fortisbc.com]  
**Sent:** September 15, 2011 3:20 PM  
**To:** Dikeos, John  
**Subject:** modelling

John,

Let me know when you guys are done with your round 1 iteration of all the program data? Also keep in mind while loading portfolio level costs, you should add that as a program with no savings/measure life details.

Arvind

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**From:** [Claudino, Paula](#)  
**To:** [Norman, Colin](#)  
**Cc:** [Dikeos, John](#); [Robillard, Paul](#); [Flannigan, Bryan](#)  
**Subject:** Results of Program Modelling  
**Date:** Friday, September 16, 2011 8:08:36 AM  
**Attachments:** [FortisBC Tool.zip](#)

---

Hello Colin,

Attached are the consolidated results so far, in a zip file. The only things that are missing are the Affordable Housing programs and the Commercial Process Heat Program, which we are still working with the program managers on completing.

Best regards,  
Paula

---

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**From:** [Robillard, Paul](#)  
**To:** [Norman, Colin](#)  
**Subject:** RE: Results of Program Modelling  
**Date:** Friday, September 16, 2011 9:54:08 AM  
**Attachments:** [Fortis EEC Plan report Sept 16 pr.docx](#)

---

Colin

Pls see attached. I will call you in a couple of minutes.

Paul

---

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---

---

**From:** Norman, Colin [mailto:Colin.Norman@fortisbc.com]  
**Sent:** September 16, 2011 11:17 AM  
**To:** Claudino, Paula  
**Cc:** Robillard, Paul; Dikeos, John; Flannigan, Bryan  
**Subject:** RE: Results of Program Modelling

Hi Paula,

Yes, I received it.

Paul, would you mind giving me a call to walk me through how to review these results?

Thanks,

**Colin Norman**

Program Manager, Portfolio Projects

Energy Efficiency & Conservation

**FortisBC**

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cell: (604) 868-3724

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---

**From:** Claudino, Paula [mailto:claudino@marbek.ca]  
**Sent:** Friday, September 16, 2011 8:07 AM  
**To:** Norman, Colin  
**Cc:** Robillard, Paul; Dikeos, John; Flannigan, Bryan  
**Subject:** Results of Program Modelling

Hello Colin,

I just sent you the consolidated results so far, in a zip file. Please confirm when you receive this email so that we know it made it through your spam filters.

Cheers,  
Paula

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**From:** [Dikeos, John](#)  
**To:** [Aaron Jenniges](#)  
**Cc:** [Ramakrishnan, Arvind](#); [Claudino, Paula](#); [Flannigan, Bryan](#); [Robillard, Paul](#)  
**Subject:** RE: Issues with Cost Effectiveness Tool  
**Date:** Friday, September 16, 2011 11:17:17 AM

---

Hi Aaron,

Thanks for the quick feedback. See below for a few comments (in red).

John

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---

**From:** Aaron Jenniges [mailto:[Aaron.Jenniges@cadmusgroup.com](mailto:Aaron.Jenniges@cadmusgroup.com)]  
**Sent:** September 16, 2011 12:52 PM  
**To:** Dikeos, John  
**Cc:** Ramakrishnan, Arvind; Claudino, Paula; Flannigan, Bryan; Robillard, Paul  
**Subject:** RE: Issues with Cost Effectiveness Tool

- **Changes to a measure:** You do not have to remove the measures from programs if changes are made to them. First, you can update the measure database sheet to reflect the changes so that any measures you add to a new or existing program reflect the changes. Second, through the CE Tool interface, you can edit a program, click the measures tab on the form, select the measure in the box on the right, and click Measure Details button. Then edit the measure details as necessary and click Save. This will save the changes you made to the measure to the program database. (Remember, any changes you make to measure details from this interface are not updated in the Measure Database, only in the measure details saved with the program details in the program database). In doing this, you don't have to reenter installations, costs, rebates, etc.

[JD] Ok, this approach makes sense as well. However, I get the following error when I try to modify many of the values in the measure table wizard: "Please enter a numeric value". As such, I am forced to remove and re-add measures, as I described. I haven't tested this on any other computers to verify whether this is an issue with just my computer or not.

- **Changes to a measure or program within a portfolio:** Regardless of what changes you make to a program already included in a portfolio (basic info, costs, or measure details), you do not have to rebuild the portfolio after making the changes. All you have to do is edit the portfolio through the user interface, click save (THIS IS IMPORTANT. IF YOU DON'T SAVE, THE CHANGES WON'T BE INCORPORATED), and view outputs.

[JD] Ok, I'll have to try this.

You can always navigate over to the program database file and see what's being saved to confirm changes are there. The program database is simply a copy of the Data\_Input sheet from the CE Tool. So when you edit a program, it copies the corresponding program sheet from the program database to the Data\_Input sheet in the model. Then when you save the program from the CE\_Tool, it takes the Data\_Input sheet and copies back over to the appropriate program sheet in the program database.

When you create a new portfolio, adding programs and then saving, the model goes to the program database and grabs the measures for the programs you've included. They are copied into the

Data\_Input sheet, so when you save the portfolio the measures are all saved with the portfolio in the program database. When you edit measure details for a program that's in this portfolio, they are not automatically updated for the portfolio. When you edit the portfolio, the model reloads into the Data\_Input sheet the old measure details not reflecting the changes you made. However, when you save the portfolio, the model goes back to the program database and updates the measure details with the most recent information saved for each program.

**[JD]** Yes, thanks, this helps. I wasn't sure that portfolios updated in this way (i.e. as long as you re-save them).

I hope this helps.

Aaron

---

**From:** Dikeos, John [mailto:dikeos@marbek.ca]  
**Sent:** Friday, September 16, 2011 8:58 AM  
**To:** Aaron Jenniges  
**Cc:** Ramakrishnan, Arvind; Claudino, Paula; Flannigan, Bryan; Robillard, Paul  
**Subject:** RE: Issues with Cost Effectiveness Tool

Hi Aaron,

Thanks for the feedback. I understand the way that the tool works but I had assumed that there may be some mechanism whereby updates would be carried through. I can see how this would be a challenge to implement though. Please confirm that my understanding of the following is correct:

- **Changes to a measure:** If there are any changes to a particular measure, it has to be removed and added back in to relevant programs (i.e. the number of participants and any incentives would have to be added again once the updated version of the measure is added back in)?
- **Changes to a measure or program within a portfolio:** If any changes are made to any of the measures or programs within a particular portfolio, that portfolio would have to be "rebuilt"?

Thanks!  
John

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---

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-----Original Message-----

**From:** Aaron Jenniges [mailto:Aaron.Jenniges@cadmusgroup.com]  
**Sent:** September 13, 2011 8:19 PM  
**To:** Dikeos, John  
**Cc:** Ramakrishnan, Arvind; Claudino, Paula; Flannigan, Bryan  
**Subject:** RE: Issues with Cost Effectiveness Tool

John,

This is intentional for quality control purposes. The Measure Databases sheet is exactly that; a database of measures that serve as a starting point for building programs so that you don't have to recreate them over and over. However, we don't want changes made to the measures in this sheet to affect programs. Otherwise, a user could accidentally change a measure life, cost, savings, etc and have it impact program results without realizing it. We certainly don't want this to happen.

When setting up a program, in the measures form you click "Add New Measure." After clicking Save the measure details you entered are saved with the measure in the Measure Database sheet. Now if

you go back to that program and edit the measure details of the program, any changes you make to the measure are not updated in the measure database. They are only saved with the program.

Let me know if this isn't clear and we can chat tomorrow about it in more detail.

Aaron

---

From: Dikeos, John [dikeos@marbek.ca]  
Sent: Tuesday, September 13, 2011 10:23 AM  
To: Aaron Jenniges  
Cc: Ramakrishnan, Arvind; Claudino, Paula; Flannigan, Bryan  
Subject: RE: Issues with Cost Effectiveness Tool

Hi Aaron,

Just wanted to let you know about another kink that I've run into with the Cost Effectiveness Tool. It seems that changes to the measure assumptions (e.g. cost or lifetime) in the "MeasureDatabase" tab aren't carrying through to the programs. Even if I reload the program and re-calculate the results, changes aren't reflected. I believe you suggested yesterday that these changes should carry through – thus, I'm wondering if I'm doing something wrong. In addition, I just mentioned this issue to Arvind and he was under the impression that changes to the measure assumptions should be carried through as well.

John

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From: Dikeos, John  
Sent: September 12, 2011 1:33 PM  
To: 'Aaron Jenniges'  
Cc: Robillard, Paul; Norman, Colin; Ramakrishnan, Arvind  
Subject: RE: Issues with Cost Effectiveness Tool

Hi Aaron,

Thanks again for chatting with me just now and fixing the errors I was running into using the webinar. I'll let you know if I have any more problems.

John

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icfi.com<http://www.icfi.com/>  
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From: Aaron Jenniges [mailto:Aaron.Jenniges@cadmusgroup.com]  
Sent: September 12, 2011 12:52 PM  
To: Dikeos, John  
Cc: Robillard, Paul; Norman, Colin; Ramakrishnan, Arvind  
Subject: RE: Issues with Cost Effectiveness Tool

John,

I'm sorry you are still having issues. Hopefully we can figure out what is happening on your end soon. I'm available all day today until 3:30 PST.

Thanks,  
Aaron

From: Dikeos, John [mailto:dikeos@marbek.ca]  
Sent: Monday, September 12, 2011 9:45 AM  
To: Aaron Jenniges  
Cc: Robillard, Paul; Norman, Colin; Ramakrishnan, Arvind  
Subject: RE: Issues with Cost Effectiveness Tool

Hi Aaron,

I hope that you had a great weekend!

I tried your version of database with the modified program names but I'm still getting the same errors. Arvind also sent me the updated version of the Cost Effectiveness Tool with the separate distribution adders and, unfortunately, I'm getting a "Run-time error" right after I enter the log-in info (i.e. prior to the program database dialog box opening).

Yes, please let me know when you're available for a webinar so that we can take a quick look at these issues. In the meantime, I'll try running the new version of the tool on another machine.

Thanks!  
John

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From: Aaron Jenniges [mailto:Aaron.Jenniges@cadmusgroup.com]  
Sent: September 9, 2011 7:16 PM  
To: Dikeos, John; Ramakrishnan, Arvind  
Cc: Robillard, Paul; Norman, Colin  
Subject: RE: Issues with Cost Effectiveness Tool

John,  
No, no one else has had these issues. You are unique.

I am running Excel 2007 as well. I suggested changing the program names because it seems the errors you are receiving are related to them. Perhaps for some reason your computer isn't liking comma's in sheet names (in the database).

We could do a webinar so I can see your screen and step through the code to see what values are being recorded when you perform these functions. Let me know.

Aaron

From: Dikeos, John [mailto:dikeos@marbek.ca]  
Sent: Friday, September 09, 2011 3:58 PM  
To: Aaron Jenniges; Ramakrishnan, Arvind  
Cc: Robillard, Paul; Norman, Colin  
Subject: RE: Issues with Cost Effectiveness Tool

Hi Aaron,

Thanks for the quick response. I don't believe that the program names are the problem, since Arvind

was able to perform the tasks I'm describing below without any problems. After speaking with Arvind, I thought that the issue may be related to compatibility between Excel 2007 and 2010 (i.e. he is running the latter while I am running 2007) but I was also able to run the tool properly on another computer in the office which has Excel 2007. I've tried repairing MS Office and rebooting but it's still not working from me. I'm guessing that nobody has ever reported these errors with the Cost Effectiveness Tool?

John

John Dikeos, P.Eng., M.A.Sc. | Senior Associate | +1 613-523-0784 x330 |  
dikeos@marbek.ca<mailto:dikeos@marbek.ca> | marbek.ca<http://marbek.ca/> |  
icfi.com<http://www.icfi.com/>  
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From: Aaron Jenniges [mailto:Aaron.Jenniges@cadmusgroup.com]  
Sent: September 9, 2011 6:05 PM  
To: Ramakrishnan, Arvind  
Cc: Dikeos, John; Robillard, Paul; Norman, Colin  
Subject: RE: Issues with Cost Effectiveness Tool

Arvind,  
I cannot replicate the errors either.

I'm not sure what is causing error, but have them try renaming the programs. All the program names currently contain a comma; have them change the comma to a hyphen. Or just use the attached database where I've done this for you.

If this doesn't work we may need to do a quick webinar so I can see what values are being passed into the code on his computer.

Aaron

From: Ramakrishnan, Arvind [mailto:Arvind.Ramakrishnan@fortisbc.com]  
Sent: Friday, September 09, 2011 3:02 PM  
To: Aaron Jenniges  
Cc: dikeos@marbek.ca; Robillard, Paul; Norman, Colin  
Subject: RE: Issues with Cost Effectiveness Tool

Aaaron,

The excel seems to work fine at my end along with the results. This seems to be an issue with John's computer, so if you can please help Marbek out as they begin to piece this for us, that would be much appreciated.

Arvind

From: Ramakrishnan, Arvind  
Sent: Friday, September 9, 2011 2:30 PM  
To: Aaron Jenniges (Aaron.Jenniges@cadmusgroup.com)  
Subject: FW: Issues with Cost Effectiveness Tool

Aaron can you look into this ASAP? Why is this happening?

From: Dikeos, John [mailto:dikeos@marbek.ca]  
Sent: Friday, September 9, 2011 2:26 PM  
To: Norman, Colin; Ramakrishnan, Arvind  
Cc: Flannigan, Bryan; Robillard, Paul; Claudino, Paula  
Subject: Issues with Cost Effectiveness Tool



Hi Colin and Arvind,

We've encountered a couple major issues with the Cost Effectiveness Tool:

1. Portfolio Builder: I get the following error every time I try to build a Portfolio:

An error has occurred. Most likely you are trying to add a program to this portfolio that existed at some point in the Programs Database but has been deleted. Please check that program exists and try again. You may need to go to the Programs Database and manually delete this program's measures from the portfolio, or delete the portfolio and try again.

2. Saving Results: I also get the following error when I press the "Save Results to Program Database" button in the Results tab of the Cost Effectiveness tool:

This program does not exist in the program database. Select the program name in the box in the Dashboard and click view outputs, then try again.

I've done some troubleshooting based on what these messages say and I've tried adding different combinations of programs to a portfolio, or just one program at a time. However, I haven't been able to resolve these issues on my own. Also, it seems like the same issues exist within the original "Training" version of the tool that you sent us.

Can you please get in touch with Cadmus regarding these issues, as they're both critical to us completing this work? I've attached copies of the Cost Effectiveness tool and the associated database so that they can help us troubleshoot.

Thanks!

John

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[cid:image001.png@01CC7218.4AE847A0]

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**From:** [Robillard, Paul](#)  
**To:** [Norman, Colin](#)  
**Cc:** [Flannigan, Bryan](#); [Claudino, Paula](#); [Dikeos, John](#); [Narbaitz, Peter](#)  
**Subject:** Draft agenda for today's call  
**Date:** Friday, September 16, 2011 12:03:20 PM

---

**FortisBC - - EEC Plan- Status Review  
Draft Agenda, Sept 16**

- 1. Status Update – Paul**
- 2. Quick Overview of Portfolio Results to date – Paul**
  - a. Gaps
  - b. Issues
- 3. High Level Response of Results to date – Sarah**
  - a. Results
  - b. Report structure, content etc
- 4. Review of Individual Program Areas – Program Managers**
  - a. Overall results (Program Portfolio level) Are there issues re: total savings, program spend, etc. Are changes needed? If so, what are they & what is plan to fix?
  - b. Are there data errors? If so, what are they & what is plan to fix?
  - c. Are there data gaps? If so, what are they & what is plan to complete?

Proposed order of Program discussion:

  1. Residential
  2. Industrial
  3. Low Income
  4. High Carbon Fuel Replacement/Switching
  5. Commercial
  6. Conservation Education & Outreach
  7. Innovative Technologies
- 5. Wrap up/Summary of Changes Discussed Above - All**
- 6. Next Steps, Timing and Responsibility - All**



**From:** [Robillard, Paul](#)  
**To:** [Norman, Colin](#); [Flannigan, Bryan](#); [Claudino, Paula](#); [Dikeos, John](#); [Narbaitz, Peter](#)  
**Subject:** Today's call  
**Date:** Friday, September 16, 2011 12:55:35 PM  
**Attachments:** [image001.png](#)  
[Prel Fortis EEC Items .doc](#)

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Hi All

Attached is a preliminary list of items that we have noted in going through the report/results so far. It is by no means complete – rather a snap shot of where we are at currently. It may be useful to use this to keep track of our decisions in today's meetings.

Also below is an updated (but not complete) summary of results to date.

Talk to you in a few minutes.

Paul



**From:** [Norman, Colin](#)  
**To:** [Robillard, Paul](#)  
**Cc:** [Flannigan, Bryan \(flannigan@marbek.ca\)](#)  
**Subject:** RE: Draft agenda for today's call  
**Date:** Friday, September 16, 2011 12:56:00 PM

---

Hi Paul,

One big discrepancy I just noticed is that you have Industrial down for a \$10M spend per year in the report. It should be \$2M per year. You may want to address this up front in the call.

Thanks,

**Colin Norman**

Program Manager, Portfolio Projects  
Energy Efficiency & Conservation

**FortisBC**

ph: (604) 592-7513

cell: (604) 868-3724

*Please note that our name has changed effective March 1, 2011. We're now FortisBC.*

---

**From:** Robillard, Paul [mailto:[paulr@marbek.ca](mailto:paulr@marbek.ca)]  
**Sent:** Friday, September 16, 2011 12:21 PM  
**To:** Norman, Colin  
**Cc:** Flannigan, Bryan; Claudino, Paula; Dikeos, John; Narbaitz, Peter  
**Subject:** RE: Draft agenda for today's call

Great

I am working on compiling a list of items/issues noted as I go through the doc. Ideally will get through the doc in time to get it out prior to our call. Will do my best and will keep you posted.

Paul

---

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**From:** Norman, Colin [mailto:[Colin.Norman@fortisbc.com](mailto:Colin.Norman@fortisbc.com)]  
**Sent:** September 16, 2011 3:14 PM  
**To:** Robillard, Paul  
**Cc:** Flannigan, Bryan; Claudino, Paula; Dikeos, John; Narbaitz, Peter  
**Subject:** RE: Draft agenda for today's call

Hi Paul,

This looks good to me. I have no suggested edits to this agenda. I'll forward this to my team now. Thanks.

**Colin Norman**

Program Manager, Portfolio Projects

Energy Efficiency & Conservation

**FortisBC**

ph: (604) 592-7513

cell: (604) 868-3724

*Please note that our name has changed effective March 1, 2011. We're now FortisBC.*

---

**From:** Robillard, Paul [mailto:paulr@marbek.ca]

**Sent:** Friday, September 16, 2011 12:03 PM

**To:** Norman, Colin

**Cc:** Flannigan, Bryan; Claudino, Paula; Dikeos, John; Narbaitz, Peter

**Subject:** Draft agenda for today's call

**FortisBC - - EEC Plan- Status Review  
Draft Agenda, Sept 16**

- 1. Status Update – Paul**
- 2. Quick Overview of Portfolio Results to date – Paul**
  - a. Gaps
  - b. Issues
- 3. High Level Response of Results to date – Sarah**
  - a. Results
  - b. Report structure, content etc
- 4. Review of Individual Program Areas – Program Managers**
  - a. Overall results (Program Portfolio level) Are there issues re: total savings, program spend, etc. Are changes needed? If so, what are they & what is

plan to fix?

- b. Are there data errors? If so, what are they & what is plan to fix?
- c. Are there data gaps? If so, what are they & what is plan to complete?

Proposed order of Program discussion:

1. Residential
2. Industrial
3. Low Income
4. High Carbon Fuel Replacement/Switching
5. Commercial
6. Conservation Education & Outreach
7. Innovative Technologies

**5      Wrap up/Summary of Changes Discussed Above - All**

**6      Next Steps, Timing and Responsibility - All**

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**From:** [Robillard, Paul](#)  
**To:** [Norman, Colin](#)  
**Subject:** Paula's co-ord  
**Date:** Friday, September 16, 2011 3:37:58 PM

---

Hi Colin.. here is Paula's co-ord for Ramsay. I don't see to have Ramsay's email. Could you pls fwd to him.

Thx  
Paul

Paula's cell # is 613-608-8000. She will also be checking email regularly.

The earlier in the day on Sat. the better, as she is only available until Saturday afternoon.

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**From:** [Robillard, Paul](#)  
**To:** [Norman, Colin](#)  
**Subject:** revised  
**Date:** Friday, September 16, 2011 4:03:57 PM  
**Attachments:** [Prel Fortis EEC Items Decisions.v2.doc](#)

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**From:** [Dikeos, John](#)  
**To:** [Norman, Colin](#)  
**Cc:** [Robillard, Paul](#); [Flannigan, Bryan](#); [Claudino, Paula](#)  
**Subject:** Fortis Results  
**Date:** Friday, September 16, 2011 5:12:55 PM  
**Attachments:** [image001.png](#)  
[Fortis Portfolio Results, 2011.09.16.zip](#)

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Hi Colin,

As promised, here's the most recent version of the Fortis results. As before, the Exhibits file summarize all of the results for each of the portfolios. The Cost Effectiveness Tool and Database are included if you want to look under the hood at any of the inputs. We look forward to receiving and implementing your suggested changes.

Have a great weekend!

John

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[home.jpg](#)



**From:** [Robillard, Paul](#)  
**To:** [Kobialko, Jim](#); [Ramakrishnan, Arvind](#)  
**Cc:** [Norman, Colin](#)  
**Subject:** RE: IT Issues for 2012/2013 Plan  
**Date:** Monday, September 19, 2011 5:09:48 AM  
**Attachments:** [image001.png](#)

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Folks

Can you pls send in a separate table any changes that you made to the pilot program costs/savings data. In our Friday call, we agreed to update and highlight any changes in Colin's template. As you did not use that template in the initial input a simple table would be fine.

As we have now consolidated the B/C model, John is the only one that can make changes and he holds the master copy. With 100 programs to tweak today, he has no time to search through the revised model to identify changes.

Thx  
Paul

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**From:** Kobialko, Jim [mailto:Jim.Kobialko@fortisbc.com]  
**Sent:** September 17, 2011 7:52 PM  
**To:** Ramakrishnan, Arvind; Robillard, Paul; Flannigan, Bryan; Claudino, Paula  
**Cc:** Dikeos, John; Smith, Sarah; Norman, Colin  
**Subject:** RE: IT Issues for 2012/2013 Plan

Hey Gang

Attached is the following

- 1.) Updated measure data for Solar Air Heating and Catalytic radiant Burner technology. We will need to review the results and update the numbers so it meets the 1.5 million funding ask for both 2012 and 2013.
- 2.) Intro write-up for IT section. Emphasizes that the TRC simulation is a rough estimate and will be updated once we receive more current credible information from the pre-feasibility report.
- 3.) Measure Description – I have included a detailed write-up for each technology including when we will be expecting the prefeasibility study to be completed. Marbek may want to include this in the write-up.

Please let me know if you have any questions.

I can be reached on my cell today and tomorrow – 604-690-3886

Best Regards.

-----  
Jim Kobialko



EEC Program Manager, Innovative Technologies

16705 Fraser Highway | Surrey BC V4N 0E8

☎: 604-592-8266 Cell: 604-690-3886 ✉: Jim.Kobialko@fortisbc.com

Terasen Gas is known as FortisBC effective March 1, 2011. My e-mail address has changed to @fortisbc.com. Please update your records accordingly. For more information on FortisBC, please visit fortisbc.com

---

**From:** Ramakrishnan, Arvind

**Sent:** Saturday, September 17, 2011 1:44 PM

**To:** Robillard, Paul; Flannigan, Bryan (flannigan@marbek.ca); Claudino, Paula (claudino@marbek.ca)

**Cc:** dikeos@marbek.ca; Smith, Sarah; Norman, Colin; Kobialko, Jim

**Subject:** IT Issues for 2012/2013 Plan

Paul/John,

Jim & I spent some time this morning going over the model & inputs. There has been a data input error for the occupancy sensors pilot program. Rather than entering 6.2 as annual savings; the value was incorrectly entered as 620 GJ yielding TRC as high as 39. Once we applied the 6.2 GJ savings, the TRC for this program dropped to about 1.09 which makes more sense. Applying the same changes to the portfolio level, the TRC is now at 1.40 rather than 8.84. This should be corrected immediately in your master version.

Shortly Jim would be sending over some revisions to the inputs for the solar air heating & the catalytic radiant burner pilot only based on some informal conversations more recently with manufacturers. The inputs should not have a huge impact on overall TRC but are more accurate and should be factored into the master model.

John Couple of other model issues that I noticed. I don't think this is impacting the results but just seemed odd to me. Please call me at 604 999 6808 to discuss this if you like.

- The measure database in the cost effectiveness front end tool surprisingly does not include any IT measures although they are in the "Master FortisDatabase, Markbek " file. I was under the impression when you create a measure, it should get added in the "measure database" tab in the front end cost effectiveness tool. I am not sure why this is happening & if this has any implications on the overall result.

- The front end cost effectiveness tool for the IT\_FEI Portfolio only includes Thermal curtain, IND\_Energy analysis audit & IND Tech retrofit when it should include just the proposed seven IT measures & none from Industrial program area. I don't believe this is changing the results but just the optics of not seeing the proposed IT measures under the IT Portfolio.
- Measure naming for IT- Rather than naming them as " Generic IT measure" , it would be beneficial to have the actual name such as thermal curtains etc for consistency purposes.

I will be around today/tomorrow; any questions give me a call at 604 999 6808

Arvind

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**From:** [Robillard, Paul](#)  
**To:** [Norman, Colin](#)  
**Subject:** RE: Status Update  
**Date:** Monday, September 19, 2011 5:21:36 AM

---

Hi Colin

We are still missing pieces from Sarah and Beth (via Sarah re: Fuel switch) and as per my last email, I need Jim/Arvind to send a table with what they changed in IT .. they sent the whole model back.

I am meeting with the team later this am to determine where we stand. It is looking very tight. As we have consolidated the model, there is only one up-to-date version and John has a lot of programs and tweaks to go through. We will do our best.

Also with many people sending modifications, QA is critical.

We may need until Tuesday mid day. Will keep you posted.

Cheers,  
Paul

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-----Original Message-----

From: Norman, Colin [<mailto:Colin.Norman@fortisbc.com>]  
Sent: September 18, 2011 7:56 PM  
To: Robillard, Paul  
Subject: RE: Status Update

Hi Paul,

Sounds good. I just sent a reminder email out to those folks on my team that you are still waiting input from. I will let you know if any issues come up.

Otherwise, I will assume that we're still a go to get an updated report from you tomorrow. Please send that updated report to myself and Sarah. I will be in transit most of the day tomorrow so I have asked Sarah to follow up with you directly with any further feedback she has just so I don't slow up the process.

I will be available via blackberry though all day tomorrow except between 11am to 2pm PST.

Thanks,

Colin

-----Original Message-----

From: Robillard, Paul [<mailto:paulr@marbek.ca>]  
Sent: Sunday, September 18, 2011 3:06 PM  
To: Norman, Colin  
Subject: RE: Status Update

Hi Colin

As of 6 pm EST, your update is the same as mine.

I went through the report one more time today and brought it to the next stage of "ready". I dropped in excerpts from Jim's revised IT materials in the process.

Still waiting for the rest. Will keep you posted.

Paul

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-----Original Message-----

From: Norman, Colin [<mailto:Colin.Norman@fortisbc.com>]

Sent: September 18, 2011 2:47 PM

To: Robillard, Paul

Subject: RE: Status Update

Hi Paul,

Please see attached for the project status as I understand it to be as of this Sunday morning. See the "Status" column. I have outlined in red where action is still required. Please review and let me know if you have any further updates. I can then follow up directly with the respective team members on my end to ensure you have what you need by tonight.

Note too that I did manage to get a hold of Ramsay last night. He will be providing an update to Paula today for some of his inputs. In particular, we discussed what caveats he should write up for his Continuous Optimization program. I asked him to use our original spreadsheet template and just highlight where he has made changes so you guys can then plop those into the model and the program profiles.

Thanks,

Colin

-----Original Message-----

From: Robillard, Paul [<mailto:paulr@marbek.ca>]

Sent: Saturday, September 17, 2011 5:26 PM

To: Norman, Colin

Subject: Re: Status Update

Hi Colin

Paula was working with Bryan today but do not know if she connectd with Ramsay. Heard from Beth too.

We gave others to COB Sunday to provide their final inputs so will need to assess Mon am.

Will keep you posted.

BTW..congrats on the pending baby

Paul

Paul Robillard

613-406-3304  
Sent from Samsung mobile

"Norman, Colin" <Colin.Norman@fortisbc.com> wrote:

Hi Paul,

I just wanted to touch base and see where things are at. I saw that Jim and Arvind sent you guys some updates regarding Innovative Technologies. Beyond that though, I haven't seen any other updates. Please let me know if you guys aren't getting what you need.

Also, I was wondering if you had an update on the Commercial section. Ramsay tried calling me this morning but didn't specify what his question was. I was with my wife in prenatal class (we're expecting a baby in a month and half) so I missed his call in the morning and then wasn't able to get a hold of him in the afternoon. Do you happen to know if there were any issues with the Commercial section and, if so, if those were resolved today?

Thanks,

Colin

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**From:** [Smith, Sarah](#)  
**To:** [Norman, Colin](#)  
**Cc:** ["paulr@marbek.ca"](mailto:paulr@marbek.ca)  
**Subject:** RE: 2012/13 DSM Plan Updates Required  
**Date:** Monday, September 19, 2011 9:10:24 AM

---

I will write the intro once I see the draft report.

*Sarah Smith  
Manager, Energy Efficiency and Conservation  
604-592-7528*

*Please note that our name has changed effective March 1, 2011. We're now FortisBC.  
For great tips on saving both natural gas and electricity, go to our website at [fortisbc.com](http://fortisbc.com).*

---

**From:** Norman, Colin  
**Sent:** Sunday, September 18, 2011 4:50 PM  
**To:** Smith, Sarah; Ringdahl, Beth; Georgy, Ned; Cook, Ramsay; Chia, Jenny  
**Subject:** 2012/13 DSM Plan Updates Required  
**Importance:** High

Hello all,

Please see attached the current action item status update. If you are receiving this email, you still have action items assigned to you that are awaiting completion (see items highlighted with red text under the "Status" column). Marbek requires these items to be completed before they can provide us with a final report.

Please let me know what the status is for your respective action items and when you expect them to be completed by.

Sarah, since I will be in transit through most of the day tomorrow, I will ask Marbek to send the revised report to the both of us. Please go ahead and offer your feedback directly and/or set up a time with Paul to discuss any next steps required. I likely will not be able to review anything tomorrow until I get into the hotel in Denver at about 4pm local time.

Thanks,

Colin

**From:** [Dikeos, John](#)  
**To:** [Ringdahl, Beth](#)  
**Cc:** [Norman, Colin](#); [Robillard, Paul](#)  
**Subject:** RE: Fuel Switching Area  
**Date:** Monday, September 19, 2011 12:20:01 PM

---

Hi Beth,

We would need your guidance to add in another “representative program” in the high carbon fuel switching portfolio. Since there are a lot of pieces that still need to fall into place before the end of the day, I would suggest that we leave the portfolio as is for now and circle back later if we have time.

John

**John Dikeos, P.Eng., M.A.Sc.** | Senior Associate | +1 613-523-0784  
x330 | [dikeos@marbek.ca](mailto:dikeos@marbek.ca) | [marbek.ca](http://marbek.ca) | [icfi.com](http://icfi.com)

---

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**From:** Ringdahl, Beth [<mailto:Beth.Ringdahl@fortisbc.com>]  
**Sent:** September 19, 2011 2:47 PM  
**To:** Dikeos, John  
**Cc:** Norman, Colin; Narbaitz, Peter  
**Subject:** RE: Fuel Switching Area

Does it make sense to add another line item – other opportunities to be determined.

John – you are likely the best judge of the best way to create a “placeholder” that other projects will be coming.

We don’t want that those millions to “fall off” the overall budget ask.

Thanks!

**Beth Ringdahl | EEC Program Manager, Residential | FortisBC**  
16705 Fraser Highway | Surrey BC V4N 0E8 | 604.592.8265 [beth.ringdahl@fortisbc.com](mailto:beth.ringdahl@fortisbc.com)

---

**From:** Dikeos, John [<mailto:dikeos@marbek.ca>]  
**Sent:** September 19, 2011 11:43 AM  
**To:** Ringdahl, Beth  
**Cc:** Norman, Colin; Narbaitz, Peter  
**Subject:** RE: Fuel Switching Area

So, if I’m understanding correctly, we will keep things as they are so that the current funding (i.e. as per the results of the Cost Effectiveness) will stay at \$1.25M, which is lower than the ask of \$4.00M. However, we’ll include your wording below in the description. Please confirm.

**John Dikeos, P.Eng., M.A.Sc.** | Senior Associate | +1 613-523-0784  
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**From:** Ringdahl, Beth [<mailto:Beth.Ringdahl@fortisbc.com>]  
**Sent:** September 19, 2011 11:26 AM

**To:** Dikeos, John  
**Cc:** Norman, Colin  
**Subject:** Fuel Switching Area

Sarah has approved this approach to explain that we only have one program in place to date.  
Wording such as the following –

The FEU have requested funding for high carbon to lower carbon fuel switching initiatives because they make significant contributions to GHG emission reduction strategies. Assumptions for economic modeling are not known at this time however further information will be available in the 2011 EEC Report.

**Beth Ringdahl | EEC Program Manager, Residential | FortisBC**  
16705 Fraser Highway | Surrey BC V4N 0E8 | 604.592.8265 [beth.ringdahl@fortisbc.com](mailto:beth.ringdahl@fortisbc.com)

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**From:** [Dikeos, John](#)  
**To:** [Ringdahl, Beth](#); [Norman, Colin](#)  
**Subject:** RE: Residential Updates - one last change  
**Date:** Monday, September 19, 2011 1:31:13 PM

---

Hi Beth,

Ok, we've incorporated these changes and we are trying to make our way to the finish line now.

John

**John Dikeos, P.Eng., M.A.Sc.** | Senior Associate | +1 613-523-0784  
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**From:** Ringdahl, Beth [mailto:[Beth.Ringdahl@fortisbc.com](mailto:Beth.Ringdahl@fortisbc.com)]  
**Sent:** September 19, 2011 12:33 PM  
**To:** Norman, Colin; Dikeos, John  
**Subject:** RE: Residential Updates - one last change  
**Importance:** High

Hi John,

After chatting with Sarah we would like to include Furnace / Fireplace Service TLC in the program lineup.

Please reduce participants in LiveSmart BC to transfer \$625k into the Furnace Service Program for both 2012 and 2013

Hopefully this will not be too big an inconvenience for you –

Beth

(If there is an easier way to transfer some funds around please let me know)

**Beth Ringdahl | EEC Program Manager, Residential | FortisBC**  
16705 Fraser Highway | Surrey BC V4N 0E8 | 604.592.8265 [beth.ringdahl@fortisbc.com](mailto:beth.ringdahl@fortisbc.com)

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**From:** Ringdahl, Beth  
**Sent:** September 18, 2011 8:03 AM  
**To:** Norman, Colin; 'dikeos@marbek.ca'  
**Subject:** Residential Updates

Hi John,

I have made some updates within the document that hopefully explains the programs better and hopefully the intro flows better as well.

I few things that I have noticed / changed include the following:

- All programs need a 90:10 split except fireplaces which are an 80:20 split between FEI and

FEVI

- Fireplace TRC may be too high. This is because the incentive is higher than the incremental cost we use. Jadey has done a work around – I'm not sure if she uses an absolute value or zeros it out but I think your TRC will raise a red flag. Can you please investigate – if you think its defensible that's ok to leave as is. But this TRC is much higher than what we report in our EEC reports.
- OPower tool – savings – I think we need to be leary claiming savings in 2012 – it will not even be launched until Sept so we cant claim a full year. Similarly the rollout will be late 2013 so likely no savings...I have not had the time to fully investigate the savings claims for this tool – so I'm not sure how we should source savings...ie a customer may need to receive several reports before they actually make behavior changes).
- We have not yet fully investigated inputs for new construction for hot water or enerchoice fireplaces. Fireplaces should be similar to retrofit. Hot water tanks will have substantial cost savings for volume buys. This is a high priority for us to delve into these numbers but not available today. The numbers we are using are therefore conservative and we may be ok.
- Please note that the Home Retrofit Program includes weatherization capacity and I have added the possibility of low flow fixtures into DHW E\* appliances. I want to leave an opening for a future program. I'm not sure what strategy Sarah has in mind for this.

I have sent a note to Sarah about Fuel Switching and how to position the fact that we don't have inputs into other program areas.

When we are under this level of scrutiny I don't think we should be "guessing". I will let you know when I get some feedback.

Good luck.

I will try to log in after 5pm PST.

Beth

---

**From:** Beth Ringdahl [mailto:beth@ecoeco.ca]

**Sent:** Sunday, September 18, 2011 7:45 AM

**To:** Ringdahl, Beth

**Subject:**

Beth Ringdahl, MBA | Principal  
ECOECO

[www.ecoeco.ca](http://www.ecoeco.ca)

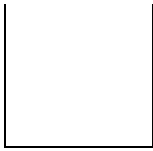
[beth@ecoeco.ca](mailto:beth@ecoeco.ca)

Founder, Red Dot Campaign

"No Junk Mail Please"

[www.reddotcampaign.ca](http://www.reddotcampaign.ca)

[Redacted]



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**From:** [Robillard, Paul](#)  
**To:** [Norman, Colin](#)  
**Cc:** [Sarah Smith - Terasen](#); [Dikeos, John](#); [Flannigan, Bryan](#); [Claudino, Paula](#); [Narbaitz, Peter](#); [Ramakrishnan, Arvind](#)  
**Subject:** DSM Plan update  
**Date:** Monday, September 19, 2011 2:33:56 PM

---

Hi Colin and Sarah

We are getting close but we will need until mid day, or so, tomorrow before we will have a completed next draft. Everyone has been great in getting stuff to us but the result has been a lot of changes affecting both the C/B model and the report. We have also gone through all of the programs re: the evaluation budgets. Based on current best practice, evaluation budgets should be in the range of 4-6% of total incentive amounts. If current evaluation budgets were significantly less than these amounts, we adjusted them upwards. All changes are being reflected first in the C/B model and then in the Program Profiles.

The plan is as follows:

1. John and Paula expect to finish updating the C/B model by about 9 pm this evening, or so. As per my chat with Arvind today, John will email the revised model to Arvind this evening for his review along with the revised exhibits from the draft report.
  - a. Given that there are over 100 programs, this realistically means that Arvind will be able to do spot checks. Similarly, there has not yet been an opportunity to confirm that the resulting budgets match the Asks after the last round of changes. We will need Arvind's comments by 8 am (PST) if we are to meet the Tuesday deadline.
2. In parallel, Peter has been working all day with the draft report and has been revising the Program Profiles based on the new inputs. He also expects to be finished by about 8 or 9 pm this evening. Peter will send to me later this evening.
3. I will do a final pass through the report and new exhibits on Tuesday am. Final budget changes are likely to be needed given the extent of the changes. I propose to send this revised version of the report to you for your review. I will also include a list of questions for your review, as applicable, at the time.

There are 2 items that we did not hear from you on. For the moment we have made an executive decision in an attempt to narrow the list of 'unfinished items'.

1. First - - - Re: High Carbon Fuel Switching - - we left the budget as is. Although Beth did ask John to expand the budget at our discretion, we don't have enough market information at this point to that without first chatting to you.
2. The CEO program is currently \$1m over the Ask.... John is going to take a shot at lowering this based on our chat yesterday. We will let you know how that turns out.

Thoughts and suggestions welcome.

Paul

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**From:** [Smith, Sarah](#)  
**To:** ["paulr@marbek.ca"](#); [Norman, Colin](#); [Ringdahl, Beth](#); [Chia, Jenny](#)  
**Cc:** ["dikeos@marbek.ca"](#); ["flannigan@marbek.ca"](#); ["claudino@marbek.ca"](#); ["narbaitz@marbek.ca"](#); [Ramakrishnan, Arvind](#)  
**Subject:** Re: DSM Plan update  
**Date:** Monday, September 19, 2011 3:07:46 PM

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I am fine with that time frame. Beth and I spoke today about High-Carbon Fuel Switching and arrived at an approach that she will communicate. As did Jenny and I about CEO. I will write the intro once we have a more complete report. Beth and Jenny please communicate with Marbek with a cc to Colin.

---

**From:** Robillard, Paul [<mailto:paulr@marbek.ca>]  
**Sent:** Monday, September 19, 2011 02:33 PM  
**To:** Norman, Colin  
**Cc:** Sarah Smith - Terasen <[sarah.smith2@terasen.com](mailto:sarah.smith2@terasen.com)>; Dikeos, John <[dikeos@marbek.ca](mailto:dikeos@marbek.ca)>; Flannigan, Bryan <[flannigan@marbek.ca](mailto:flannigan@marbek.ca)>; Claudino, Paula <[claudino@marbek.ca](mailto:claudino@marbek.ca)>; Narbaitz, Peter <[narbaitz@marbek.ca](mailto:narbaitz@marbek.ca)>; Ramakrishnan, Arvind  
**Subject:** DSM Plan update

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2. The CEO program is currently \$1m over the Ask.... John is going to take a shot at lowering this based on our chat yesterday. We will let you know how that turns out.

Thoughts and suggestions welcome.

Paul

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**From:** [Ramakrishnan, Arvind](#)  
**To:** [Dikeos, John](#); [Robillard, Paul](#); [Flannigan, Bryan](#); [Claudino, Paula](#)  
**Cc:** [Smith, Sarah](#); [Norman, Colin](#); [Kobialko, Jim](#); [Cook, Ramsay](#)  
**Subject:** RE: IT Issues for 2012/2013 Plan  
**Date:** Monday, September 19, 2011 11:36:52 PM

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I did a random check on a few programs and program areas & most of the values entered into the model seem accurate. I have a few comments for John below & my observation from the results.

John can you please comment on the below or call me at 8:30 to discuss the below.

- In the dashboard view, under costs (marketing, evaluation, administrative), the system default is to fill values for 2012/2012 adjusted for inflation. If the intention was to just have the cost for one year, you must click on box for “yearly entered “ & make it zero for the other year. This seemed fine on the ones I checked but wanted to bring this to your attention.
- Also some of the costs entered under Commercial program where you have coupled NC & Retrofit, I am assuming you have added the costs from both NC & Retrofit for FEI & FEVI respectively. If so, I found some inconsistencies with the values for Eg. Commercial water heater program for the admin costs unless I am not looking at the right file for the inputs.
- Portfolio level FEI in the dashboard view does not include all the programs but interestingly the measure calculations tab does shows all the 66 measures. I am assuming while estimating TRC at the portfolio level, all the 66 measures are taken into consideration & not the ones just in the dashboard view.
- How come I don't see a portfolio for FEI & FEVI together in the dashboard view?
- Also I didn't see a placeholder to add other general admin costs such as labor, research costs, consulting costs unless it's already captured elsewhere.

Sarah some of my observations while going over the results: We don't need to worry about the below if you think it makes sense.

- The continuous optimization program for commercial shows a TRC of 0.04, is it that low?
- Advance Control lumber drying has TRC as high as 6.98 pushing the overall number on IT to 1.95
- Commercial MURBS has TRC of 10.4

Arvind

---

**From:** Dikeos, John [mailto:[dikeos@marbek.ca](mailto:dikeos@marbek.ca)]  
**Sent:** Monday, September 19, 2011 6:08 PM  
**To:** Ramakrishnan, Arvind; Robillard, Paul; Flannigan, Bryan; Claudino, Paula  
**Cc:** Smith, Sarah; Norman, Colin; Kobialko, Jim

**Subject:** RE: IT Issues for 2012/2013 Plan

Hi Arvind,

I apologize for not getting back to you earlier today but we've been very busy updating all of the inputs. As such, a zip file with the updated results is attached. As before, the "Exhibits" file summarizes the results and you should look at the other files if you want to "look under the hood". You'll notice that we're getting closer to the asks for each of the program areas but there are a few that are still off.

I've also responded to some of your comments below but feel free to give me a call tomorrow if you'd like to discuss.

John

**John Dikeos, P.Eng., M.A.Sc.** | Senior Associate | +1 613-523-0784  
x330 | [dikeos@marbek.ca](mailto:dikeos@marbek.ca) | [marbek.ca](http://marbek.ca) | [icfi.com](http://icfi.com)

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---

**From:** Ramakrishnan, Arvind [mailto:Arvind.Ramakrishnan@fortisbc.com]

**Sent:** September 17, 2011 4:44 PM

**To:** Robillard, Paul; Flannigan, Bryan; Claudino, Paula

**Cc:** Dikeos, John; Smith, Sarah; Norman, Colin; Kobialko, Jim

**Subject:** IT Issues for 2012/2013 Plan

Paul/John,

Jim & I spent some time this morning going over the model & inputs. There has been a data input error for the occupancy sensors pilot program. Rather than entering 6.2 as annual savings; the value was incorrectly entered as 620 GJ yielding TRC as high as 39. Once we applied the 6.2 GJ savings, the TRC for this program dropped to about 1.09 which makes more sense. Applying the same changes to the portfolio level, the TRC is now at 1.40 rather than 8.84. This should be corrected immediately in your master version.

Shortly Jim would be sending over some revisions to the inputs for the solar air heating & the catalytic radiant burner pilot only based on some informal conversations more recently with manufacturers. The inputs should not have a huge impact on overall TRC but are more accurate and should be factored into the master model.

John Couple of other model issues that I noticed. I don't think this is impacting the results but just seemed odd to me. Please call me at 604 999 6808 to discuss this if you like.

- The measure database in the cost effectiveness front end tool surprisingly does not include any IT measures although they are in the "Master FortisDatabase, Markbek " file. I was under the impression when you create a measure, it should get added in the "measure database" tab in the front end cost effectiveness tool. I am not sure why this is happening

& if this has any implications on the overall result.

[JD] You don't necessarily need to use the Measure Database to build programs, especially if you're just working in the database file (i.e. rather than the "wizard"). I guess Paula used a generic measure for the IT program area in order to save time. However, I agree that it is more transparent to use the Measure Database. Perhaps we can circle back at the end and add measures that reflect the inputs to the IT programs.

- The front end cost effectiveness tool for the IT\_FEI Portfolio only includes Thermal curtain, IND\_Energy analysis audit & IND Tech retrofit when it should include just the proposed seven IT measures & none from Industrial program area. I don't believe this is changing the results but just the optics of not seeing the proposed IT measures under the IT Portfolio.

[JD] If you look at the inputs to the portfolios in the database, it clearly shows that they include all of the relevant programs. As such, I believe that there is something wrong with the way that the Cost Effectiveness tool is showing the programs that are included in each of the portfolios. We'll have to discuss this with Aaron. I'm also having problems updating portfolios but it seems like this is another issue that only I may be experiencing.

- Measure naming for IT- Rather than naming them as "Generic IT measure", it would be beneficial to have the actual name such as thermal curtains etc for consistency purposes.

[JD] Agree with you here but we used this approach to save time. Also, as we discussed with Aaron, it is important to note that any updates to the measure database inputs do not carry through to the measure inputs for a program that is already built.

I will be around today/tomorrow; any questions give me a call at 604 999 6808

Arvind

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**From:** [Dikeos, John](#)  
**To:** [Ramakrishnan, Arvind](#); [Robillard, Paul](#); [Flannigan, Bryan](#); [Claudino, Paula](#)  
**Cc:** [Smith, Sarah](#); [Norman, Colin](#); [Kobialko, Jim](#); [Cook, Ramsay](#)  
**Subject:** RE: IT Issues for 2012/2013 Plan  
**Date:** Tuesday, September 20, 2011 1:26:30 PM  
**Attachments:** [Updated Commercial Program Inputs, ICF Marbek Update.xlsx](#)

---

Hi Arvind,

Thanks for checking things over and getting back to us so quickly. We've been busy making some updates and trying to get the budgets to line up more closely with the asks. We'll be sending you an updated version shortly. In the meantime, see below for some replies to each of your comments.

John

**John Dikeos, P.Eng., M.A.Sc.** | Senior Associate | +1 613-523-0784  
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**From:** Ramakrishnan, Arvind [mailto:Arvind.Ramakrishnan@fortisbc.com]  
**Sent:** September 20, 2011 2:37 AM  
**To:** Dikeos, John; Robillard, Paul; Flannigan, Bryan; Claudino, Paula  
**Cc:** Smith, Sarah; Norman, Colin; Kobialko, Jim; Cook, Ramsay  
**Subject:** RE: IT Issues for 2012/2013 Plan

I did a random check on a few programs and program areas & most of the values entered into the model seem accurate. I have a few comments for John below & my observation from the results.

John can you please comment on the below or call me at 8:30 to discuss the below.

- In the dashboard view, under costs (marketing, evaluation, administrative), the system default is to fill values for 2012/2012 adjusted for inflation. If the intention was to just have the cost for one year, you must click on box for "yearly entered " & make it zero for the other year. This seemed fine on the ones I checked but wanted to bring this to your attention.

**[JD]** Yes, we've used this approach to some degree. However, we've typically been editing the program costs through the actual database file rather than the dashboard.

- Also some of the costs entered under Commercial program where you have coupled NC & Retrofit, I am assuming you have added the costs from both NC & Retrofit for FEI & FEVI respectively. If so, I found some inconsistencies with the values for Eg. Commercial water heater program for the admin costs unless I am not looking at the right file for the inputs.

**[JD]** Seems to line up with the most recent version of the commercial inputs that we have. The file is attached so that you can take a look.

- Portfolio level FEI in the dashboard view does not include all the programs but interestingly the measure calculations tab does shows all the 66 measures. I am assuming while

estimating TRC at the portfolio level, all the 66 measures are taken into consideration & not the ones just in the dashboard view.

[JD] Yes, as I mentioned in my email yesterday, there is an issue with the dashboard sometimes not displaying all of the programs that are included in a particular portfolio. However, we do use the dashboard to build the portfolios and, based on the Exhibits file, the values that are output at the portfolio level seem to match the sum of all of the measures contained in them.

- How come I don't see a portfolio for FEI & FEVI together in the dashboard view?

[JD] Which program area are you referring to? Perhaps the naming is a little bit confusing. For example, the overall portfolio for residential is named "RES", while the sub-portfolio for FEI is named "RES, FEI" and the sub-portfolio for FEVI is named "RES, FEVI".

- Also I didn't see a placeholder to add other general admin costs such as labor, research costs, consulting costs unless it's already captured elsewhere.

[JD] We didn't get any input for any of the costs you've highlighted above. However, I would assume that these costs would be included in "Admin" in most cases.

Sarah some of my observations while going over the results: We don't need to worry about the below if you think it makes sense.

- The continuous optimization program for commercial shows a TRC of 0.04, is it that low?

[JD] Noticed this as well but have not had a chance to discuss the commercial outputs with Ramsay. Would suggest that we run all of the outputs by him. We will be forwarding some updates to the results to you shortly.

- Advance Control lumber drying has TRC as high as 6.98 pushing the overall number on IT to 1.95

[JD] I spoke with Jim and he said that the TRC for this particular program should be high and that he didn't have any concerns.

- Commercial MURBS has TRC of 10.4

[JD] Same comment as above re: the commercial sector outputs

Arvind

---

**From:** Dikeos, John [mailto:dikeos@marbek.ca]  
**Sent:** Monday, September 19, 2011 6:08 PM  
**To:** Ramakrishnan, Arvind; Robillard, Paul; Flannigan, Bryan; Claudino, Paula  
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Arvind

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**From:** [Dikeos, John](#)  
**To:** [Sarah Smith - Terasen](#); [Norman, Colin](#)  
**Cc:** [Robillard, Paul](#)  
**Subject:** RE: EEC Plan - next version  
**Date:** Tuesday, September 20, 2011 4:00:51 PM  
**Attachments:** [Fortis EEC Plan Report Sept 20.docx](#)

---

Hi Sarah and Colin,

As promised, the revised report is attached. We look forward to your feedback.

John

**John Dikeos, P.Eng., M.A.Sc.** | Senior Associate | +1 613-523-0784  
x330 | [dikeos@marbek.ca](mailto:dikeos@marbek.ca) | [marbek.ca](http://marbek.ca) | [icfi.com](http://icfi.com)

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**ICF MARBEK** | 222 Somerset Street West, Suite 300, Ottawa, ON K2P 2G3 | +1 613-523-0717 (f)

---

**From:** Robillard, Paul  
**Sent:** September 20, 2011 6:07 PM  
**To:** Sarah Smith - Terasen; Colin Norman  
**Cc:** Dikeos, John; Claudino, Paula; Narbaitz, Peter; Flannigan, Bryan  
**Subject:** EEC Plan - next version

Hi Sarah and Colin

John and Peter are in the final stages of consolidating all of the changes from the last couple of days. John will email a copy of the revised report to both of you in about an hour.

Below are some highlights:

1. The budget numbers now line up quite well with the Ask.
2. We spent quite a bit of time trying to get the commercial numbers to work. There were a couple of things going on:
  - a. Colin provided an Energy Specialist Program for the commercial sector but Ramsay did not include this program in his budget. Hence, when combined with Ramsay's budget numbers, the total commercial budget was too large.
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- c. We did our best to capture all of the above changes in the individual Program Profiles.
- d. The revised report still needs a careful proof reading and a final formatting through our front office. However, we have not had time to do either just yet. We will do this at the end of the process, once we are finished making changes.
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At this point in the process, we need to limit any further changes to an absolute minimum if we are to meet the schedule.

I am unfortunately tied up for most of Wed until about 5pm but will be able to step out and chat and/or exchange emails.

Look fwd to hearing from you and hope that the conference is going well.

Paul

---

**PAUL ROBILLARD** | Principal | +1 613.523.0784 x315 | [paulr@marbek.ca](mailto:paulr@marbek.ca) | [marbek.ca](http://marbek.ca) | [icfi.com](http://icfi.com)

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**From:** [Norman, Colin](#)  
**To:** ["Dikeos, John"](#)  
**Cc:** [Robillard, Paul](#); [Smith, Sarah](#)  
**Subject:** RE: EEC Plan - next version  
**Date:** Tuesday, September 20, 2011 8:43:14 PM

---

Hi Paul & John,

Here's my feedback on the report:

- (Table of Contents) High Carbon Fuel Switching should come immediately after Residential as it fits closely with Residential and also to align with the order of program areas as listed in the RRA.
- (Page 1) I agree with Sarah that we need to include some write up indicating the work done through the CPR and how that has fed into this plan. The 1.2 section needs some commentary on this. I don't think that the footnote is enough.
- (Page 4) We should include an explanation as to why Whistler has been included in FEI and not shown separately. As I understand it, our current benefit/cost model has only been built to accept two service territories but we will be developing it further so that we can include FEW. I'll let you guys finesse the words but we should explain how FEW has been included in this report and why.
- (Page 23) Replace the first paragraph with the following: "The High Carbon Fuel Switching programs are designed to result in lower overall GHG emissions by moving existing customers away from fossil fuels with a higher carbon content than natural gas to natural gas Energy Star or Enerchoice rated appliances." Because of the recent NGV decision, we need to alter our description of this program area.
- (Page 73) Reword third paragraph so it makes sense.
- (Last page) Should there be some sort of conclusion written up on the last page that either summarizes at a very high level what was presented in this report and/or lists what we are asking the BCUC to do here for next steps? It doesn't quite match with our typical Regulatory format to have a submission document just end like it does now on just a program profile. [Sarah](#), perhaps you can comment?

That's my feedback. I have forwarded this report to each of the program managers as well and have asked them to proof read their respective sections and respond with any feedback no later than noon tomorrow. I will forward their feedback to you immediately should I receive any.

Thanks,

Colin

---

**From:** Dikeos, John [mailto:[dikeos@marbek.ca](mailto:dikeos@marbek.ca)]  
**Sent:** Tuesday, September 20, 2011 3:59 PM  
**To:** Sarah Smith - Terasen; Norman, Colin  
**Cc:** Robillard, Paul  
**Subject:** RE: EEC Plan - next version

Hi Sarah and Colin,

As promised, the revised report is attached. We look forward to your feedback.

John

**John Dikeos, P.Eng., M.A.Sc.** | Senior Associate | +1 613-523-0784  
x330 | [dikeos@marbek.ca](mailto:dikeos@marbek.ca) | [marbek.ca](http://marbek.ca) | [icfi.com](http://icfi.com)

---

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---

**From:** Robillard, Paul  
**Sent:** September 20, 2011 6:07 PM  
**To:** Sarah Smith - Terasen; Colin Norman  
**Cc:** Dikeos, John; Claudino, Paula; Narbaitz, Peter; Flannigan, Bryan  
**Subject:** EEC Plan - next version

Hi Sarah and Colin

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Below are some highlights:

1. The budget numbers now line up quite well with the Ask.
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  - b. Ramsay's calculations of costs used fractional participants (e.g., 0.0268 ) which doesn't work in the C/B model - whole numbers are needed.
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Look fwd to hearing from you and hope that the conference is going well.

Paul

---

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**From:** [Norman, Colin](#)  
**To:** [Robillard, Paul](#); ["Dikeos, John"](#)  
**Subject:** FW: EEC Plan - next version  
**Date:** Tuesday, September 20, 2011 9:21:25 PM

---

Hi Paul & John,

I just got word from Sarah regarding my last bullet point there. We'll be including this plan as an appendix so it'll be a reference in our rebuttal argument to BCSEA. Please add a Summary page at the end of this report (assuming you agree with this suggestion) which summarizes the results and next steps.

Thanks,

Colin

---

**From:** Norman, Colin  
**Sent:** Tuesday, September 20, 2011 8:43 PM  
**To:** 'Dikeos, John'  
**Cc:** Robillard, Paul; Smith, Sarah  
**Subject:** RE: EEC Plan - next version

Hi Paul & John,

Here's my feedback on the report:

- (Table of Contents) High Carbon Fuel Switching should come immediately after Residential as it fits closely with Residential and also to align with the order of program areas as listed in the RRA.
- (Page 1) I agree with Sarah that we need to include some write up indicating the work done through the CPR and how that has fed into this plan. The 1.2 section needs some commentary on this. I don't think that the footnote is enough.
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Colin

---

**From:** Dikeos, John [mailto:dikeos@marbek.ca]  
**Sent:** Tuesday, September 20, 2011 3:59 PM  
**To:** Sarah Smith - Terasen; Norman, Colin  
**Cc:** Robillard, Paul  
**Subject:** RE: EEC Plan - next version

Hi Sarah and Colin,

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John

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x330 | [dikeos@marbek.ca](mailto:dikeos@marbek.ca) | [marbek.ca](http://marbek.ca) | [icfi.com](http://icfi.com)

---

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---

**From:** Robillard, Paul  
**Sent:** September 20, 2011 6:07 PM  
**To:** Sarah Smith - Terasen; Colin Norman  
**Cc:** Dikeos, John; Claudino, Paula; Narbaitz, Peter; Flannigan, Bryan  
**Subject:** EEC Plan - next version

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Look fwd to hearing from you and hope that the conference is going well.

Paul

**From:** [Smith, Sarah](#)  
**To:** ["Paul Robillard \(paulr@marbek.ca\)"](#)  
**Cc:** [Norman, Colin](#); ["johnd@marbek.ca"](#)  
**Subject:** Text below for insertion into Background and Objectives Section of FortisBC's EEC Plan  
**Date:** Wednesday, September 21, 2011 11:38:34 AM  
**Importance:** High

---

This EEC Plan covering the time period 2012 – 2013 was commissioned by FortisBC's EEC Department in response to Intervenor evidence and Commission Information Requests expressing concern about the lack of detail provided by FortisBC to support the Companies' EEC funding request for the 2012 – 2013 period. This EEC Plan covers the funding request in the Companies' 2012 – 2013 Revenue Requirements Application for previously approved Program Areas: Residential (including the Program Area previously known as "Joint Initiatives"), High-Carbon Fuel Switching, Low Income, Commercial, Conservation Education and Outreach, Industrial and Innovative Technologies. This EEC Plan does not provide information about the "New Initiatives" proposed in the Revenue Requirements Application as this Program Area has not been previously approved by the BCUC and FortisBC's preference at this time is to focus their resources on an EEC Plan for those Program Areas that the Commission had previously approved. Many of the programs in this EEC Plan are continuations of programs that FortisBC is currently running, and has reported on in their 2009 and 2010 EEC Annual Report. This EEC Plan is intended to provide program details and projected cost-effectiveness results for FortisBC's proposed portfolio of previously-approved EEC Program Area activity. It should be noted that as with all plans, this EEC Plan is subject to change in response to changes in market conditions, customer responses to programs, input from stakeholders including program partners, and changes in the political environment in which the Companies operate.

**From:** [Norman, Colin](#)  
**To:** ["Robillard, Paul"](#)  
**Cc:** ["John Dikeos \(dikeos@marbek.ca\)"; Smith, Sarah](#)  
**Subject:** Final FortisBC Edits to 2012/13 DSM Plan  
**Date:** Wednesday, September 21, 2011 3:06:07 PM  
**Attachments:** [FortisBC Edits to DSM Plan \(Sept 21\).doc](#)  
[IT Comments Fortis EEC Plan Report Sept 21.docx](#)  
[Low Income Programs Intro for DSM Plan \(Sept 21\).doc](#)  
[CEO edits Marbek - Fortis EEC Plan Report Sept 21.docx](#)  
**Importance:** High

---

Hi Paul,

Sorry for all of the feedback (and in some cases overlapping feedback) from multiple people. I wasn't expecting that kind of volume. In order to hopefully simplify things for you, I have consolidated everyone's feedback into the attached feedback list document. I've also attached a few edited documents which are referenced in our feedback list (in a couple cases it was too difficult to pull all of the edits/comments from a program area out into a bulleted list so I left them in as tracked changes).

If you have any questions regarding any of this feedback, please contact the appropriate program manager directly.

My suggestion is that you guys implement all of our feedback here and provide us with one more draft report before you calculate the SCT numbers. If we could have that before end of day tomorrow that would be great. We can then review that and give you the final go ahead to finalize the report and include the SCT numbers. I believe the absolute final version of the report needs to be delivered by the end of this week (Sarah, let me know if I'm mistaken here).

Thanks,

Colin

**From:** [Robillard, Paul](#)  
**To:** [Norman, Colin](#)  
**Cc:** [Dikeos, John](#); [Smith, Sarah](#); [Narbaitz, Peter](#)  
**Subject:** RE: Final FortisBC Edits to 2012/13 DSM Plan  
**Date:** Wednesday, September 21, 2011 3:40:26 PM

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Thanks Colin

We're on it.

Given that these are text changes, then we should be fine with COB Thursday re: the text. However, given that the comments are from multiple authors you and I may need to talk on Thursday and make some executive decisions re: consistency in our responses to all of the comments. I will go through them first thing Thur am and will let you know. I believe that you are back home on Thur. Correct? Is there a good time to chat???

Re: changes to the numbers, John will send you, Sarah and Ramsay a new set of exhibits that incorporate the commercial changes made today. He will send them tonight so that you can have a look at the most recent version. Ultimately, we need sign off on the numbers by end of day Thur/start of our Friday if we are to make the COB Friday deadline i.e. waiting until Thur COB to send the revised numbers does not leave us any 'wiggle' room. Pls keep in mind that, to be safe, we need the better part of a day re: the Societal....

Will keep you posted.

Cheers,  
Paul

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**PAUL ROBILLARD** | Principal | +1 613.523.0784 x315 | [paulr@marbek.ca](mailto:paulr@marbek.ca) | [marbek.ca](http://marbek.ca) | [icfi.com](http://icfi.com)  
**ICF MARBEK** | 222 Somerset Street West, Suite 300, Ottawa, ON K2P 2G3 | +1 613.523.0717 (f)

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**From:** Norman, Colin [<mailto:Colin.Norman@fortisbc.com>]  
**Sent:** September 21, 2011 6:06 PM  
**To:** Robillard, Paul  
**Cc:** Dikeos, John; Smith, Sarah  
**Subject:** Final FortisBC Edits to 2012/13 DSM Plan  
**Importance:** High

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Colin

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**From:** [Robillard, Paul](#)  
**To:** [Norman, Colin](#)  
**Cc:** [McGuire, Greg](#)  
**Subject:** Revised Authorization  
**Date:** Friday, September 23, 2011 6:20:47 AM

---

Hi Colin

Can you pls help me through my own administration. Apparently, the earlier version that you provided as per my request requires more specifics, which are included in the version below. I did/have not yet prepared a full budget as none of us really knew just how much work was going to be involved.

At our end, all of us have been tracking our time as per usual; as of Wed COB, I believe that we had spent just over 50k since starting work at the beginning of the month. I selected \$75k and Nov 15 as notional upset limits in the approval below to accommodate bringing this to completion and whatever additional work might flow from Sarah's email request re: being on standby for the hearings. We, of course, will just invoice actual time spent.

If the revised "authorization to proceed" is okay, can you pls hit reply and state that you approve.  
Thanks,  
Paul

This email is to confirm that FortisBC has authorized ICF Marbek to proceed on the development of FortisBC's 2012/2013 EEC Plan.

The period of performance authorized by this email is from September 1, 2011 to November 15, 2011. In consideration of the Services provided, ICF shall send invoices to the FortisBC and FortisBC agrees to pay ICF Marbek as per the invoice terms below.

ICF Marbek's Services are provided on a time & materials basis using our daily billing rates. Our normal working day consists of 7.5 hour. The personnel and daily rates for this work are:

Paul Robillard - \$1,800  
Bryan Flannigan - \$1,600  
Paula Claudino & John Dikeos - \$850  
Peter Narbaitz - \$750

Our total fees on this project shall not exceed \$ \$75,000 without FortisBC's further approval.

Please reply that you agree to the terms written above.

Thank you,

**PAUL ROBILLARD** | Principal | +1 613.523.0784 x315 | [paulr@marbek.ca](mailto:paulr@marbek.ca) | [marbek.ca](http://marbek.ca) | [icfi.com](http://icfi.com)

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**From:** [Smith, Sarah](#)  
**To:** [Robillard, Paul](#)  
**Cc:** [Bennett, David A](#); [Hearn, Alicia](#); [Alionis, Chris](#); [Carey, Leanne](#); [Giampa, Cheryl](#); [Chia, Jenny](#); [Collins, Samantha](#); [Cook, Ramsay](#); [Georgy, Ned](#); [Hameluck, Jenelle](#); [John, Benjamin](#); [Kobialko, Jim](#); [Kok, Hakan](#); [Lego, Gina](#); [Lengle, Gary](#); [Lunde, Allison](#); [Norman, Colin](#); [Peng, Jady](#); [Ramakrishnan, Arvind](#); [Ringdahl, Beth](#); [Sewak, Monika](#); [Thomson, Shelley](#)  
**Subject:** RE: EEC Plan - Final  
**Date:** Monday, September 26, 2011 8:16:00 AM

---

Thanks to all for your dedication and commitment to getting this important piece of work completed. I know that this was a mad scramble entailing lots of extra work for all, but it's a hugely important piece of evidence in the Revenue Requirement Application and will go a long way towards supporting our asks. Thanks especially to Colin, whose leadership on this project was exemplary.

Sarah

*Sarah Smith  
Manager, Energy Efficiency and Conservation  
604-592-7528*

*Please note that our name has changed effective March 1, 2011. We're now FortisBC.  
For great tips on saving both natural gas and electricity, go to our website at [fortisbc.com](http://fortisbc.com).*

---

**From:** Robillard, Paul [<mailto:paulr@marbek.ca>]  
**Sent:** Friday, September 23, 2011 4:24 PM  
**To:** Norman, Colin; Sarah Smith - Terasen  
**Subject:** EEC Plan - Final

Hi Colin and Sarah

Here it is.....it's been great working with you and the crew on this...

Just so that you know.. I am hopping on a plane for Denver tomorrow – for the ACEEE conference. While away I will have limited email access via my iphone.

Good luck...

Will touch base later next week when I return.

Paul





**From:** [Dikeos, John](#)  
**To:** [Norman, Colin](#); [Ramakrishnan, Arvind](#)  
**Cc:** [Robillard, Paul](#)  
**Subject:** RE: Input Changes Required for SCT  
**Date:** Friday, September 23, 2011 9:05:28 AM  
**Attachments:** [Societal Test Inputs.xlsm](#)

---

Hi Colin and Arvind,

As per the direction you provided below, I'm starting to calculate the results to the Societal Cost Test. However, I thought that it may be prudent for you to review the inputs on the "UtilityData" tab of the Cost Effectiveness Tool (attached). As you can see, I've modified the Avoided Gas Commodity Costs, deleted the inputs in the Carbon Tax column, and changed the discount rates for FortisBC to 3.0%. All this has been done in addition to adding a 30% TRC adder to all of the program except for the low income programs (i.e. since they already include a low income adder of 30%). You'll also notice that the FEVI distribution adder has been left at \$0.15 and that the customer discount rates and any of the other inputs haven't been touched.

I'm going to move forward with the calculations but would appreciate your confirmation that the inputs are correct, as I should have enough time to circle back and make changes if need be.

Thanks!

John

**John Dikeos, P.Eng., M.A.Sc.** | Senior Associate | +1 613-523-0784  
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---

**From:** Dikeos, John  
**Sent:** September 9, 2011 3:37 PM  
**To:** 'Norman, Colin'; Ramakrishnan, Arvind  
**Cc:** Flannigan, Bryan; Robillard, Paul; Claudino, Paula  
**Subject:** RE: Input Changes Required for SCT

Hi Colin and Arvind,

Thanks for all of your feedback. I think we've been able to resolve all of the issues and questions for the time being. Based on your input, we'll integrate FEW into FEI. I'll let you know if we have any more questions.

John

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---

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---

**From:** Norman, Colin [<mailto:Colin.Norman@fortisbc.com>]  
**Sent:** September 9, 2011 3:00 PM

**To:** Ramakrishnan, Arvind; Dikeos, John  
**Cc:** Flannigan, Bryan; Robillard, Paul  
**Subject:** RE: Input Changes Required for SCT

Hi guys,

I talked to Arvind about this and we're okay. No changes needed to our approach so long as we calculate the SCT results in isolation of the other benefit/cost test results which is the approach Paul proposed earlier today. Arvind's comment below would only affect the Participant Test in the model in a scenario where the Societal Test changes were made at the same time.

Thanks,

**Colin Norman**

Program Manager, Portfolio Projects  
Energy Efficiency & Conservation

**FortisBC**

ph: (604) 592-7513

cell: (604) 868-3724

*Please note that our name has changed effective March 1, 2011. We're now FortisBC.*

---

**From:** Ramakrishnan, Arvind  
**Sent:** Friday, September 9, 2011 11:21 AM  
**To:** Norman, Colin; Dikeos, John  
**Cc:** Flannigan, Bryan; Robillard, Paul  
**Subject:** RE: Input Changes Required for SCT

on carbon tax, if you delete the values in the input tab then does that mean we are not estimating the carbon tax benefit that would flow to the participant.

---

**From:** Norman, Colin  
**Sent:** Friday, September 9, 2011 11:03 AM  
**To:** Ramakrishnan, Arvind; Dikeos, John  
**Cc:** Flannigan, Bryan; Robillard, Paul  
**Subject:** RE: Input Changes Required for SCT

Hi John,

Please see my responses in **green** below where Arvind has indicated I need to respond.

Thanks,

**Colin Norman**

Program Manager, Portfolio Projects  
Energy Efficiency & Conservation

**FortisBC**

ph: (604) 592-7513

cell: (604) 868-3724

*Please note that our name has changed effective March 1, 2011. We're now FortisBC.*

---

**From:** Ramakrishnan, Arvind  
**Sent:** Friday, September 9, 2011 10:52 AM  
**To:** Dikeos, John; Norman, Colin  
**Cc:** Flannigan, Bryan; Robillard, Paul  
**Subject:** RE: Input Changes Required for SCT

John my response: Colin you need to confirm a few things

---

**From:** Dikeos, John [mailto:dikeos@marbek.ca]  
**Sent:** Friday, September 9, 2011 8:44 AM  
**To:** Norman, Colin; Ramakrishnan, Arvind  
**Cc:** Flannigan, Bryan; Robillard, Paul  
**Subject:** RE: Input Changes Required for SCT

Hi Colin and Arvind,

Please see your email below for some questions (in red) related to the SCT input changes that you're specified. Here are a couple of additional questions as well:

1. **Service Territories:** The model can only accept a maximum of two service territories. Can we potentially integrate FEW with FEI or does it need to be kept separate (which would require us to make a copy of the model just for FEW)?

AR- I would have to ask Cadmus on how much additional work is to include FEW in the same model if we need to keep that separate? Also for FEW the retail rates are a bit different than FEI/FEVI so we need to capture that too.

CN – Per the email I just sent, don't worry now about calculating benefit/cost results for FEW.

2. **Financial Inputs:** I've copied the financial inputs from the "UtilityData" tab of the model to the attached Excel file. Can you please confirm that these numbers are up-to-date?

AR- I have attached the sheet with latest avoided cost of gas. This is the conventional price of gas & not the proposed Biomethane.

Please feel free to give me a call if you'd like to discuss any of these issues over the phone.

Thanks!  
John

---

**John Dikeos, P.Eng., M.A.Sc.** | Senior Associate | +1 613-523-0784  
x330 | [dikeos@marbek.ca](mailto:dikeos@marbek.ca) | [marbek.ca](http://marbek.ca) | [icfi.com](http://icfi.com)

---

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---

**From:** Norman, Colin [mailto:Colin.Norman@fortisbc.com]  
**Sent:** September 8, 2011 8:26 PM  
**To:** Robillard, Paul  
**Cc:** Flannigan, Bryan; Dikeos, John  
**Subject:** Input Changes Required for SCT

Hi Paul,

Per our conference call today, here are the benefit/cost model input changes required for the Societal Cost Test:

[JD] I'm guessing this would require us to make a copy of the model and database – Arvind, can you think of any other alternative?

AR- should be a matter of simply changing the inputs into Utility data set and make a separate copy to save the results. The TRC under this scenario would spit out the proposed SCT results. Also keep in mind the current model has SCT which is not the same as the one we are proposing; this only includes additional environmental benefits as adder.

- 3% discount rate

[JD] Does this apply to all of the service territories (i.e. FEI, FEVI, and FEW)?

AR- Colin please advise on this, I am assuming yes.

CN – Yes, this discount rate would apply to all service territories for the SCT.

- 30% adder on total benefits

[JD] I'm not sure where this would be added/changed in the model. Can you provide some direction, Arvind?

Ar- Yes . Once you click on program, edit button under basic information there is a spot for adder that says " TRC Adder". You can add a value in there & the results would be reflect in TRC.

- The avoided commodity cost is a levelized \$15.28 per GJ with a \$0.16 distribution adder per GJ

[JD] Just to confirm, these costs would apply for each year from 2012 onwards (i.e. replace \$5.88 in 2012 and \$6.61 in 2013)? The distribution adder is already \$0.16, so it would not change.

Yes.

- There are no carbon tax costs included

[JD] Ok, to eliminate \$1.25 and \$1.50 costs

AR- Yes, Colin pls confirm that there are no carbon tax.

CN – Yes, there is no carbon tax for the SCT.

- Otherwise, the assumptions for the SCT are identical to TRC analysis assumptions

[JD] I'll assume that nothing else is changing, as per the attached spreadsheet

AR- yes

Let me know if you need anything else regarding this.

Thanks,

**Colin Norman**

Program Manager, Portfolio Projects

Energy Efficiency & Conservation

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**From:** [Ramakrishnan, Arvind](#)  
**To:** [Norman, Colin](#); [Dikeos, John](#)  
**Cc:** [Robillard, Paul](#)  
**Subject:** RE: Input Changes Required for SCT  
**Date:** Friday, September 23, 2011 9:50:10 AM

---

Colin John & I spoke we are quite clear on the direction.

For clarity, the environmental adder of 10% was for SCT as applied in the initial modeling, nothing to do with the SCT which we are proposing.

The SCT which we are proposing should be taken from the TRC label with the revised inputs. John are you ok with this?

---

**From:** Norman, Colin  
**Sent:** Friday, September 23, 2011 9:48 AM  
**To:** Ramakrishnan, Arvind; Dikeos, John  
**Cc:** Robillard, Paul  
**Subject:** RE: Input Changes Required for SCT

Hi John,

Although I'm admittedly not familiar with this part of our model, I just noticed that under the "Discount/Inflation Rates" section you have an Environmental Adder of 10% and a Low Income Adder of 30%. For the purposes of the SCT calculations shouldn't the Environmental Adder be 30% and the Low Income Adder be 0%? Let me know though if I'm just not understanding this part of the model correctly. Arvind will know for sure.

Thanks,

Colin

---

**From:** Ramakrishnan, Arvind  
**Sent:** Friday, September 23, 2011 9:41 AM  
**To:** Dikeos, John; Norman, Colin  
**Cc:** Robillard, Paul  
**Subject:** RE: Input Changes Required for SCT

This looks ok John. I will call you as well in a bit to confirm a few things

---

**From:** Dikeos, John [mailto:[dikeos@marbek.ca](mailto:dikeos@marbek.ca)]  
**Sent:** Friday, September 23, 2011 9:04 AM  
**To:** Norman, Colin; Ramakrishnan, Arvind  
**Cc:** Robillard, Paul  
**Subject:** RE: Input Changes Required for SCT

Hi Colin and Arvind,

As per the direction you provided below, I'm starting to calculate the results to the Societal Cost

Test. However, I thought that it may be prudent for you to review the inputs on the “UtilityData” tab of the Cost Effectiveness Tool (attached). As you can see, I’ve modified the Avoided Gas Commodity Costs, deleted the inputs in the Carbon Tax column, and changed the discount rates for FortisBC to 3.0%. All this has been done in addition to adding a 30% TRC adder to all of the program except for the low income programs (i.e. since they already include a low income adder of 30%). You’ll also notice that the FEVI distribution adder has been left at \$0.15 and that the customer discount rates and any of the other inputs haven’t been touched.

I’m going to move forward with the calculations but would appreciate your confirmation that the inputs are correct, as I should have enough time to circle back and make changes if need be.

Thanks!

John

**John Dikeos, P.Eng., M.A.Sc.** | Senior Associate | +1 613-523-0784  
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---

**From:** Dikeos, John  
**Sent:** September 9, 2011 3:37 PM  
**To:** 'Norman, Colin'; Ramakrishnan, Arvind  
**Cc:** Flannigan, Bryan; Robillard, Paul; Claudino, Paula  
**Subject:** RE: Input Changes Required for SCT

Hi Colin and Arvind,

Thanks for all of your feedback. I think we’ve been able to resolve all of the issues and questions for the time being. Based on your input, we’ll integrate FEW into FEI. I’ll let you know if we have any more questions.

John

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**From:** Norman, Colin [<mailto:Colin.Norman@fortisbc.com>]  
**Sent:** September 9, 2011 3:00 PM  
**To:** Ramakrishnan, Arvind; Dikeos, John  
**Cc:** Flannigan, Bryan; Robillard, Paul  
**Subject:** RE: Input Changes Required for SCT

Hi guys,

I talked to Arvind about this and we’re okay. No changes needed to our approach so long as we calculate the SCT results in isolation of the other benefit/cost test results which is the approach Paul proposed earlier today. Arvind’s comment below would only affect the Participant Test in the model in a scenario where the Societal Test changes were made at the same time.



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**From:** Ramakrishnan, Arvind  
**Sent:** Friday, September 9, 2011 11:21 AM  
**To:** Norman, Colin; Dikeos, John  
**Cc:** Flannigan, Bryan; Robillard, Paul  
**Subject:** RE: Input Changes Required for SCT

on carbon tax, if you delete the values in the input tab then does that mean we are not estimating the carbon tax benefit that would flow to the participant.

---

**From:** Norman, Colin  
**Sent:** Friday, September 9, 2011 11:03 AM  
**To:** Ramakrishnan, Arvind; Dikeos, John  
**Cc:** Flannigan, Bryan; Robillard, Paul  
**Subject:** RE: Input Changes Required for SCT

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Energy Efficiency & Conservation

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**To:** Dikeos, John; Norman, Colin  
**Cc:** Flannigan, Bryan; Robillard, Paul  
**Subject:** RE: Input Changes Required for SCT

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**To:** Robillard, Paul  
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**Subject:** Input Changes Required for SCT

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[JD] I'll assume that nothing else is changing, as per the attached spreadsheet

AR- yes

Let me know if you need anything else regarding this.

Thanks,

**Colin Norman**

Program Manager, Portfolio Projects

Energy Efficiency & Conservation

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**From:** [Narbaitz, Peter](#)  
**To:** [Norman, Colin](#)  
**Cc:** [Smith, Sarah](#); [Robillard, Paul](#)  
**Subject:** RE: EEC Plan - Final - Point of Contact  
**Date:** Monday, September 26, 2011 11:13:58 AM  
**Attachments:** [Fortis EEC Plan Report Sept 26.docx](#)  
**Importance:** High

---

Colin,

Here is the final Report containing the requested changes.

Feel free to get in touch with me if you have any other concerns.

Thanks,  
Peter

**Peter Narbaitz, B.A.Sc.** | Research Assistant | +1 613-523-0784  
x270 | [narbaitz@marbek.ca](mailto:narbaitz@marbek.ca) | [marbek.ca](http://marbek.ca) | [icfi.com](http://icfi.com)

---

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---

**From:** Norman, Colin [<mailto:Colin.Norman@fortisbc.com>]  
**Sent:** Monday, September 26, 2011 1:38 PM  
**To:** Narbaitz, Peter  
**Cc:** Smith, Sarah  
**Subject:** RE: EEC Plan - Final - Point of Contact  
**Importance:** High

Hi Peter,

Per our phone conversation, please see attached for our final edits. They are only minor wordsmithing edits. Note that there are edits on the following pages (as listed on the document in the non-markup version): 1, 6, 16, 33, 38, 73, 76, & 84.

Also note that there is a page break issue on page 74.

Please implement these edits immediately and send me back the final version before noon PST today. Thanks!

**Colin Norman**

Program Manager, Portfolio Projects  
Energy Efficiency & Conservation  
**FortisBC**  
ph: (604) 592-7513  
cell: (604) 868-3724

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---

**From:** Robillard, Paul [mailto:paulr@marbek.ca]  
**Sent:** Saturday, September 24, 2011 6:27 AM  
**To:** Norman, Colin; 'sarah.smith2@terasen.com'  
**Cc:** Narbaitz, Peter; Flannigan, Bryan; Claudino, Paula; Dikeos, John  
**Subject:** RE: EEC Plan - Final - Point of Contact

Hi Colin

Re: Point of contact for next week – Peter Narbaitz will be the point person. His email address is above and his phone # is the same as mine – but extension 270.

Peter...if Colin does need an edit, you know the report well. Also, as needed you can call on Bryan or Paula for any help if you need it and/or send me an email ( I will monitor via my phone).

Re: the numbers - - John is also away Monday and Tuesday on a course in Toronto. As a fall back, I believe that Arvind has a copy of the latest version of the model . Also Paula in our office knows the model well.

I think that should leave us well covered.

Cheers  
Paul

---

**PAUL ROBILLARD** | Principal | +1 613.523.0784 x315 | [paulr@marbek.ca](mailto:paulr@marbek.ca) | [marbek.ca](http://marbek.ca) | [icfi.com](http://icfi.com)  
**ICF MARBEK** | 222 Somerset Street West, Suite 300, Ottawa, ON K2P 2G3 | +1 613.523.0717 (f)

---

**From:** Norman, Colin [mailto:Colin.Norman@fortisbc.com]  
**Sent:** September 23, 2011 7:40 PM  
**To:** Robillard, Paul; 'sarah.smith2@terasen.com'  
**Subject:** Re: EEC Plan - Final

Hi Paul,

If there are any more edits required should we send those to you or is there someone else in your team who could make updates to the report quickly? Hopefully no further edits are required but I know we've all been running full steam at this with some long hours so in case something was missed I thought I should ask.

Thanks,

Colin

---

**From:** Robillard, Paul [mailto:paulr@marbek.ca]  
**Sent:** Friday, September 23, 2011 04:23 PM  
**To:** Norman, Colin; Sarah Smith - Terasen <sarah.smith2@terasen.com>  
**Subject:** EEC Plan - Final

Hi Colin and Sarah

Here it is.....it's been great working with you and the crew on this...

Just so that you know.. I am hopping on a plane for Denver tomorrow – for the ACEEE conference. While away I will have limited email access via my iphone.

Good luck...

Will touch base later next week when I return.

Paul

---

**PAUL ROBILLARD** | Principal | +1 613.523.0784 x315 | [paulr@marbek.ca](mailto:paulr@marbek.ca) | [marbek.ca](http://marbek.ca) | [icfi.com](http://icfi.com)  
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**From:** [Dikeos, John](#)  
**To:** [Ramakrishnan, Arvind](#); [Norman, Colin](#)  
**Cc:** [Robillard, Paul](#)  
**Subject:** Final Exhibits  
**Date:** Friday, September 23, 2011 11:11:55 AM  
**Attachments:** [Fortis Exhibits, Current.xlsm](#)

---

Hi Colin and Arvind,

Yes, the environmental adder is not being used for our purposes. In addition, the low income adder of 30% is only being applied to the low income programs, where an additional TRC adder of 30% is not being applied (i.e. 30% adder is only being applied once). Colin, for clarity, the low income adder is only added on if you choose this option in each of the programs (i.e. not all of the inputs in the tab I forwarded to you are automatically applied).

I've attached the final results of the modeling, including the SCT results. Looks like the SCT results are about 2.5 times higher than the TRC results. Please feel free to distribute these results. We'll be busy incorporating the updated exhibits into the report and making other editorial changes.

Thanks for your help!

John

**John Dikeos, P.Eng., M.A.Sc.** | Senior Associate | +1 613-523-0784  
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---

**From:** Ramakrishnan, Arvind [mailto:Arvind.Ramakrishnan@fortisbc.com]  
**Sent:** September 23, 2011 12:50 PM  
**To:** Norman, Colin; Dikeos, John  
**Cc:** Robillard, Paul  
**Subject:** RE: Input Changes Required for SCT

Colin John & I spoke we are quite clear on the direction.

For clarity, the environmental adder of 10% was for SCT as applied in the initial modeling, nothing to do with the SCT which we are proposing.

The SCT which we are proposing should be taken from the TRC label with the revised inputs. John are you ok with this?

---

**From:** Norman, Colin  
**Sent:** Friday, September 23, 2011 9:48 AM  
**To:** Ramakrishnan, Arvind; Dikeos, John  
**Cc:** Robillard, Paul  
**Subject:** RE: Input Changes Required for SCT

Hi John,

Although I'm admittedly not familiar with this part of our model, I just noticed that under the



“Discount/Inflation Rates” section you have an Environmental Adder of 10% and a Low Income Adder of 30%. For the purposes of the SCT calculations shouldn't the Environmental Adder be 30% and the Low Income Adder be 0%? Let me know though if I'm just not understanding this part of the model correctly. Arvind will know for sure.

Thanks,

Colin

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**From:** Ramakrishnan, Arvind  
**Sent:** Friday, September 23, 2011 9:41 AM  
**To:** Dikeos, John; Norman, Colin  
**Cc:** Robillard, Paul  
**Subject:** RE: Input Changes Required for SCT

This looks ok John. I will call you as well in a bit to confirm a few things

---

**From:** Dikeos, John [mailto:dikeos@marbek.ca]  
**Sent:** Friday, September 23, 2011 9:04 AM  
**To:** Norman, Colin; Ramakrishnan, Arvind  
**Cc:** Robillard, Paul  
**Subject:** RE: Input Changes Required for SCT

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I'm going to move forward with the calculations but would appreciate your confirmation that the inputs are correct, as I should have enough time to circle back and make changes if need be.

Thanks!

John

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**From:** Dikeos, John  
**Sent:** September 9, 2011 3:37 PM  
**To:** 'Norman, Colin'; Ramakrishnan, Arvind  
**Cc:** Flannigan, Bryan; Robillard, Paul; Claudino, Paula  
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Hi Colin and Arvind,

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I talked to Arvind about this and we're okay. No changes needed to our approach so long as we calculate the SCT results in isolation of the other benefit/cost test results which is the approach Paul proposed earlier today. Arvind's comment below would only affect the Participant Test in the model in a scenario where the Societal Test changes were made at the same time.

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**To:** Ramakrishnan, Arvind; Dikeos, John  
**Cc:** Flannigan, Bryan; Robillard, Paul  
**Subject:** RE: Input Changes Required for SCT

Hi John,

Please see my responses in **green** below where Arvind has indicated I need to respond.

Thanks,

**Colin Norman**

Program Manager, Portfolio Projects

Energy Efficiency & Conservation

**FortisBC**

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cell: (604) 868-3724

*Please note that our name has changed effective March 1, 2011. We're now FortisBC.*

---

**From:** Ramakrishnan, Arvind  
**Sent:** Friday, September 9, 2011 10:52 AM  
**To:** Dikeos, John; Norman, Colin  
**Cc:** Flannigan, Bryan; Robillard, Paul  
**Subject:** RE: Input Changes Required for SCT

John my response: Colin you need to confirm a few things

---

**From:** Dikeos, John [mailto:dikeos@marbek.ca]  
**Sent:** Friday, September 9, 2011 8:44 AM  
**To:** Norman, Colin; Ramakrishnan, Arvind  
**Cc:** Flannigan, Bryan; Robillard, Paul  
**Subject:** RE: Input Changes Required for SCT

Hi Colin and Arvind,

Please see your email below for some questions (in **red**) related to the SCT input changes that you're specified. Here are a couple of additional questions as well:

1. **Service Territories:** The model can only accept a maximum of two service territories. Can we potentially integrate FEW with FEI or does it need to be kept separate (which would require us to make a copy of the model just for FEW)?

AR- I would have to ask Cadmus on how much additional work is to include FEW in the same model if we need to keep that separate? Also for FEW the retail rates are a bit different than FEI/FEVI so we need to capture that too.

**CN – Per the email I just sent, don't worry now about calculating benefit/cost results for FEW.**

2. **Financial Inputs:** I've copied the financial inputs from the "UtilityData" tab of the model to the attached Excel file. Can you please confirm that these numbers are up-to-date?

AR- I have attached the sheet with latest avoided cost of gas. This is the conventional price of gas & not the proposed Biomethane.

Please feel free to give me a call if you'd like to discuss any of these issues over the phone.

Thanks!

John

**John Dikeos, P.Eng., M.A.Sc.** | Senior Associate | +1 613-523-0784  
x330 | [dikeos@marbek.ca](mailto:dikeos@marbek.ca) | [marbek.ca](http://marbek.ca) | [icfi.com](http://icfi.com)

---

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---

**From:** Norman, Colin [mailto:Colin.Norman@fortisbc.com]  
**Sent:** September 8, 2011 8:26 PM  
**To:** Robillard, Paul  
**Cc:** Flannigan, Bryan; Dikeos, John  
**Subject:** Input Changes Required for SCT

Hi Paul,

Per our conference call today, here are the benefit/cost model input changes required for the Societal Cost Test:

[JD] I'm guessing this would require us to make a copy of the model and database – Arvind, can you think of any other alternative?

AR- should be a matter of simply changing the inputs into Utility data set and make a separate copy to save the results. The TRC under this scenario would spit out the proposed SCT results. Also keep in mind the current model has SCT which is not the same as the one we are proposing; this only includes additional environmental benefits as adder.

- 3% discount rate

[JD] Does this apply to all of the service territories (i.e. FEI, FEVI, and FEW)?

AR- Colin please advise on this, I am assuming yes.

CN – Yes, this discount rate would apply to all service territories for the SCT.

- 30% adder on total benefits

[JD] I'm not sure where this would be added/changed in the model. Can you provide some direction, Arvind?

Ar- Yes. Once you click on program, edit button under basic information there is a spot for adder that says "TRC Adder". You can add a value in there & the results would be reflect in TRC.

- The avoided commodity cost is a levelized \$15.28 per GJ with a \$0.16 distribution adder per GJ

[JD] Just to confirm, these costs would apply for each year from 2012 onwards (i.e. replace \$5.88 in 2012 and \$6.61 in 2013)? The distribution adder is already \$0.16, so it would not change.

Yes.

- There are no carbon tax costs included

[JD] Ok, to eliminate \$1.25 and \$1.50 costs

AR- Yes, Colin pls confirm that there are no carbon tax.

CN – Yes, there is no carbon tax for the SCT.

- Otherwise, the assumptions for the SCT are identical to TRC analysis assumptions

[JD] I'll assume that nothing else is changing, as per the attached spreadsheet

AR- yes

Let me know if you need anything else regarding this.

Thanks,

**Colin Norman**

Program Manager, Portfolio Projects

Energy Efficiency & Conservation

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cell: (604) 868-3724

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**From:** [Dikeos, John](#)  
**To:** [Ramakrishnan, Arvind](#); [Norman, Colin](#)  
**Cc:** [Robillard, Paul](#)  
**Subject:** RE: Final Exhibits  
**Date:** Friday, September 23, 2011 12:09:19 PM

---

Yes, that's exactly what I did, Arvind.

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---

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---

**From:** Ramakrishnan, Arvind [mailto:Arvind.Ramakrishnan@fortisbc.com]  
**Sent:** September 23, 2011 2:36 PM  
**To:** Dikeos, John; Norman, Colin  
**Cc:** Robillard, Paul  
**Subject:** RE: Final Exhibits

& the TRC results in this exhibit are from conventional inputs, correct! So in essence you replaced the initial SCT results from the conventional inputs with the revised one after incorporating the changes,

---

**From:** Dikeos, John [mailto:dikeos@marbek.ca]  
**Sent:** Friday, September 23, 2011 11:21 AM  
**To:** Ramakrishnan, Arvind; Norman, Colin  
**Cc:** Robillard, Paul  
**Subject:** RE: Final Exhibits

Hi Arvind,

Yes, the societal listed in the report is based on the proposed changes (i.e. the TRC output from the updated front end, as we discussed).

John

**John Dikeos, P.Eng., M.A.Sc.** | Senior Associate | +1 613-523-0784  
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---

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**From:** Ramakrishnan, Arvind [mailto:Arvind.Ramakrishnan@fortisbc.com]  
**Sent:** September 23, 2011 2:15 PM  
**To:** Dikeos, John; Norman, Colin  
**Cc:** Robillard, Paul  
**Subject:** RE: Final Exhibits

For clarification, the societal listed in the report is based on the proposed changes (3% discount rate, 15.28 as commodity etc) or is it the initial SCT results based on conventional inputs?

---

**From:** Dikeos, John [mailto:dikeos@marbek.ca]  
**Sent:** Friday, September 23, 2011 11:12 AM

**To:** Ramakrishnan, Arvind; Norman, Colin  
**Cc:** Robillard, Paul  
**Subject:** Final Exhibits

Hi Colin and Arvind,

Yes, the environmental adder is not being used for our purposes. In addition, the low income adder of 30% is only being applied to the low income programs, where an additional TRC adder of 30% is not being applied (i.e. 30% adder is only being applied once). Colin, for clarity, the low income adder is only added on if you choose this option in each of the programs (i.e. not all of the inputs in the tab I forwarded to you are automatically applied).

I've attached the final results of the modeling, including the SCT results. Looks like the SCT results are about 2.5 times higher than the TRC results. Please feel free to distribute these results. We'll be busy incorporating the updated exhibits into the report and making other editorial changes.

Thanks for your help!  
John

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---

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---

**From:** Ramakrishnan, Arvind [mailto:Arvind.Ramakrishnan@fortisbc.com]  
**Sent:** September 23, 2011 12:50 PM  
**To:** Norman, Colin; Dikeos, John  
**Cc:** Robillard, Paul  
**Subject:** RE: Input Changes Required for SCT

Colin John & I spoke we are quite clear on the direction.

For clarity, the environmental adder of 10% was for SCT as applied in the initial modeling, nothing to do with the SCT which we are proposing.

The SCT which we are proposing should be taken from the TRC label with the revised inputs. John are you ok with this?

---

**From:** Norman, Colin  
**Sent:** Friday, September 23, 2011 9:48 AM  
**To:** Ramakrishnan, Arvind; Dikeos, John  
**Cc:** Robillard, Paul  
**Subject:** RE: Input Changes Required for SCT

Hi John,

Although I'm admittedly not familiar with this part of our model, I just noticed that under the "Discount/Inflation Rates" section you have an Environmental Adder of 10% and a Low Income Adder of 30%. For the purposes of the SCT calculations shouldn't the Environmental Adder be 30%

and the Low Income Adder be 0%? Let me know though if I'm just not understanding this part of the model correctly. Arvind will know for sure.

Thanks,

Colin

---

**From:** Ramakrishnan, Arvind  
**Sent:** Friday, September 23, 2011 9:41 AM  
**To:** Dikeos, John; Norman, Colin  
**Cc:** Robillard, Paul  
**Subject:** RE: Input Changes Required for SCT

This looks ok John. I will call you as well in a bit to confirm a few things

---

**From:** Dikeos, John [mailto:dikeos@marbek.ca]  
**Sent:** Friday, September 23, 2011 9:04 AM  
**To:** Norman, Colin; Ramakrishnan, Arvind  
**Cc:** Robillard, Paul  
**Subject:** RE: Input Changes Required for SCT

Hi Colin and Arvind,

As per the direction you provided below, I'm starting to calculate the results to the Societal Cost Test. However, I thought that it may be prudent for you to review the inputs on the "UtilityData" tab of the Cost Effectiveness Tool (attached). As you can see, I've modified the Avoided Gas Commodity Costs, deleted the inputs in the Carbon Tax column, and changed the discount rates for FortisBC to 3.0%. All this has been done in addition to adding a 30% TRC adder to all of the program except for the low income programs (i.e. since they already include a low income adder of 30%). You'll also notice that the FEVI distribution adder has been left at \$0.15 and that the customer discount rates and any of the other inputs haven't been touched.

I'm going to move forward with the calculations but would appreciate your confirmation that the inputs are correct, as I should have enough time to circle back and make changes if need be.

Thanks!

John

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---

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---

**From:** Dikeos, John  
**Sent:** September 9, 2011 3:37 PM  
**To:** 'Norman, Colin'; Ramakrishnan, Arvind  
**Cc:** Flannigan, Bryan; Robillard, Paul; Claudino, Paula  
**Subject:** RE: Input Changes Required for SCT

Hi Colin and Arvind,



Thanks for all of your feedback. I think we've been able to resolve all of the issues and questions for the time being. Based on your input, we'll integrate FEW into FEI. I'll let you know if we have any more questions.

John

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---

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---

**From:** Norman, Colin [mailto:Colin.Norman@fortisbc.com]  
**Sent:** September 9, 2011 3:00 PM  
**To:** Ramakrishnan, Arvind; Dikeos, John  
**Cc:** Flannigan, Bryan; Robillard, Paul  
**Subject:** RE: Input Changes Required for SCT

Hi guys,

I talked to Arvind about this and we're okay. No changes needed to our approach so long as we calculate the SCT results in isolation of the other benefit/cost test results which is the approach Paul proposed earlier today. Arvind's comment below would only affect the Participant Test in the model in a scenario where the Societal Test changes were made at the same time.

Thanks,

**Colin Norman**

Program Manager, Portfolio Projects  
Energy Efficiency & Conservation

**FortisBC**

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cell: (604) 868-3724

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---

**From:** Ramakrishnan, Arvind  
**Sent:** Friday, September 9, 2011 11:21 AM  
**To:** Norman, Colin; Dikeos, John  
**Cc:** Flannigan, Bryan; Robillard, Paul  
**Subject:** RE: Input Changes Required for SCT

on carbon tax, if you delete the values in the input tab then does that mean we are not estimating the carbon tax benefit that would flow to the participant.

---

**From:** Norman, Colin  
**Sent:** Friday, September 9, 2011 11:03 AM  
**To:** Ramakrishnan, Arvind; Dikeos, John  
**Cc:** Flannigan, Bryan; Robillard, Paul  
**Subject:** RE: Input Changes Required for SCT

Hi John,

Please see my responses in green below where Arvind has indicated I need to respond.

Thanks,

**Colin Norman**

Program Manager, Portfolio Projects  
Energy Efficiency & Conservation

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---

**From:** Ramakrishnan, Arvind  
**Sent:** Friday, September 9, 2011 10:52 AM  
**To:** Dikeos, John; Norman, Colin  
**Cc:** Flannigan, Bryan; Robillard, Paul  
**Subject:** RE: Input Changes Required for SCT

John my response: Colin you need to confirm a few things

---

**From:** Dikeos, John [mailto:dikeos@marbek.ca]  
**Sent:** Friday, September 9, 2011 8:44 AM  
**To:** Norman, Colin; Ramakrishnan, Arvind  
**Cc:** Flannigan, Bryan; Robillard, Paul  
**Subject:** RE: Input Changes Required for SCT

Hi Colin and Arvind,

Please see your email below for some questions (in red) related to the SCT input changes that you're specified. Here are a couple of additional questions as well:

1. **Service Territories:** The model can only accept a maximum of two service territories. Can we potentially integrate FEW with FEI or does it need to be kept separate (which would require us to make a copy of the model just for FEW)?

AR- I would have to ask Cadmus on how much additional work is to include FEW in the same model if we need to keep that separate? Also for FEW the retail rates are a bit different than FEI/FEVI so we need to capture that too.

CN – Per the email I just sent, don't worry now about calculating benefit/cost results for FEW.

2. **Financial Inputs:** I've copied the financial inputs from the "UtilityData" tab of the model to the attached Excel file. Can you please confirm that these numbers are up-to-date?

AR- I have attached the sheet with latest avoided cost of gas. This is the conventional price of gas & not the proposed Biomethane.

Please feel free to give me a call if you'd like to discuss any of these issues over the phone.

Thanks!

John

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---

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---

**From:** Norman, Colin [<mailto:Colin.Norman@fortisbc.com>]

**Sent:** September 8, 2011 8:26 PM

**To:** Robillard, Paul

**Cc:** Flannigan, Bryan; Dikeos, John

**Subject:** Input Changes Required for SCT

Hi Paul,

Per our conference call today, here are the benefit/cost model input changes required for the Societal Cost Test:

[JD] I'm guessing this would require us to make a copy of the model and database – Arvind, can you think of any other alternative?

AR- should be a matter of simply changing the inputs into Utility data set and make a separate copy to save the results. The TRC under this scenario would spit out the proposed SCT results. Also keep in mind the current model has SCT which is not the same as the one we are proposing; this only includes additional environmental benefits as adder.

- 3% discount rate

[JD] Does this apply to all of the service territories (i.e. FEI, FEVI, and FEW)?

AR- Colin please advise on this, I am assuming yes.

CN – Yes, this discount rate would apply to all service territories for the SCT.

- 30% adder on total benefits

[JD] I'm not sure where this would be added/changed in the model. Can you provide some direction, Arvind?

Ar- Yes . Once you click on program, edit button under basic information there is a spot for adder that says " TRC Adder". You can add a value in there & the results would be reflect in TRC.

- The avoided commodity cost is a levelized \$15.28 per GJ with a \$0.16 distribution adder per GJ

[JD] Just to confirm, these costs would apply for each year from 2012 onwards (i.e. replace \$5.88 in 2012 and \$6.61 in 2013)? The distribution adder is already \$0.16, so it would not

change.

Yes.

- There are no carbon tax costs included

[JD] Ok, to eliminate \$1.25 and \$1.50 costs

AR- Yes, Colin pls confirm that there are no carbon tax.

CN – Yes, there is no carbon tax for the SCT.

- Otherwise, the assumptions for the SCT are identical to TRC analysis assumptions

[JD] I'll assume that nothing else is changing, as per the attached spreadsheet

AR- yes

Let me know if you need anything else regarding this.

Thanks,

**Colin Norman**

Program Manager, Portfolio Projects

Energy Efficiency & Conservation

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**From:** [Robillard, Paul](#)  
**To:** [Norman, Colin](#)  
**Subject:** two inserts for review  
**Date:** Friday, September 23, 2011 12:53:12 PM

---

Hi Colin

Below are two draft inserts as per earlier comments...Any suggestions/comments etc???

Am moving on to summary now. What do you normally expect to include in Summary?

#### **1.2.1 Conservation Potential Review 2010 – Insert 1**

FortisBC completed its Conservation Potential Review -2010 (CPR 2010) in May of 2011. The completed CPR provided a comprehensive update of the current energy efficiency opportunities within FortisBC's service territory. The results identified both the sectors and the end uses that offer the most significant opportunities for natural gas efficiency over the next 20 years. The completed CPR 2010 also provided an updated dataset on the current costs and performance for a wide range of energy efficiency technologies and measures that are applicable to FortisBC's customers.

While the completed CPR 2010 did not recommend specific programs or targets both the technology and market priorities as well as the scope of achievable savings potential identified in the study have assisted FortisBC's program managers in the design of the program portfolios included in this EEC plan.

#### **Insert - 2 - Section 2.2 on page 3 below the two bullets..RE: FEW**

The results presented in the following exhibits and throughout the remainder of this EEC Plan combine the Whistler results within the FEI service area. This is because FortisBC's Cost-Effectiveness Model is currently only able to track a maximum of two service areas. Future versions of the model will have the capability to report Whistler (FEW) separately

---

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**From:** [Norman, Colin](#)  
**To:** ["Robillard, Paul"](#)  
**Subject:** RE: two inserts for review  
**Date:** Friday, September 23, 2011 1:40:05 PM

---

Hi Paul,

Your CPR write-up here looks good to me. I have no suggested changes. Please make sure though that it is mentioned somewhere in the report that the program inputs were derived not only from the CPR but also from the program managers' own experience in running some of these programs as well as from other research sources which are cited in the program profiles.

The only thing I would add to the second insert concerning FEW is some language on how FEW is included in the report. I've inserted my suggested edit in blue text below.

Regarding the overall summary, the summary basically just re-phrases the introduction by reminding the reader of the key message and overall results. Our 2010 EEC Annual Report displays this format with each section having a summary. I wouldn't expect the summary to be more than two or three paragraphs.

Thanks,

Colin

---

**From:** Robillard, Paul [mailto:paulr@marbek.ca]  
**Sent:** Friday, September 23, 2011 12:53 PM  
**To:** Norman, Colin  
**Subject:** two inserts for review

Hi Colin

Below are two draft inserts as per earlier comments...Any suggestions/comments etc???

Am moving on to summary now. What do you normally expect to include in Summary?

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included in this EEC plan.

**Insert - 2 - Section 2.2 on page 3 below the two bullets..RE: FEW**

The results presented in the following exhibits and throughout the remainder of this EEC Plan combine the Whistler results within the FEI service area. This is because FortisBC's Cost-Effectiveness Model is currently only able to track a maximum of two service areas. Future versions of the model will have the capability to report Whistler (FEW) separately. *Note however that the projected expenditures for the FEW territory have been included in the individual program profiles.*

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**From:** [Robillard, Paul](#)  
**To:** [Sarah Smith - Terasen](#); [Norman, Colin](#)  
**Subject:** Final inserts  
**Date:** Friday, September 23, 2011 2:29:45 PM  
**Attachments:** [Final inserts Paul Fri.doc](#)

---

Sarah & Colin

Summary plus prev insert for your review. Colin - - re: your comment on CPR – note that in approach we mention those points.

This is the last of the items...all else is ready to go.

---

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**From:** [Smith, Sarah](#)  
**To:** [Robillard, Paul](#); [Norman, Colin](#)  
**Subject:** Final inserts\_Paul\_Fri.doc  
**Date:** Friday, September 23, 2011 2:33:55 PM  
**Attachments:** [Final inserts\\_Paul\\_Fri.doc](#)

---

Comments from Sarah

**From:** [Robillard, Paul](#)  
**To:** [Norman, Colin](#); [Sarah Smith - Terasen](#)  
**Subject:** EEC Plan - Final  
**Date:** Friday, September 23, 2011 4:23:51 PM  
**Attachments:** [Fortis EEC Plan Report Sept 23 7pm.docx](#)

---

Hi Colin and Sarah

Here it is.....it's been great working with you and the crew on this...

Just so that you know.. I am hopping on a plane for Denver tomorrow – for the ACEEE conference. While away I will have limited email access via my iphone.

Good luck...

Will touch base later next week when I return.

Paul

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**From:** [Claudino, Paula](#)  
**To:** [Norman, Colin](#)  
**Cc:** [Robillard, Paul](#); [Dikeos, John](#)  
**Subject:** RE: Working Model Required  
**Date:** Tuesday, September 27, 2011 8:01:36 PM

---

Hello Colin,

I guess I should have been clearer in my emails. The files I just sent should be used in addition to the previous set, not instead of.

Here is a more complete description. There are two sets of files, one for each scenario.

The first set of files is for the "current" scenario, which can be seen by opening the file, "Fortis Cost Effectiveness Tool, ALL, Current.xlsm" and then loading the corresponding database file, "Fortis Database, ALL, Current.xlsx".

The second set of files is for the "societal test" scenario and can be seen by opening the file, "Fortis Cost Effectiveness Tool, ALL, Societal Test, Current.xlsm" and then loading the corresponding database file, "Fortis Database, ALL, Societal Test, Current.xlsx".

All of the exhibits in the report are in the file, "Fortis Exhibits, Current.xlsm", which is linked to the other four files, listed above.

If you would like to discuss these files, or need any further clarification, please feel free to call me tomorrow.

Thanks,  
Paula

---

**PAULA CLAUDINO** | Senior Associate | +1 613.523.0784 x.229 | [claudino@marbek.ca](mailto:claudino@marbek.ca) | [marbek.ca](http://marbek.ca) | [icfi.com](http://icfi.com)

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---

**From:** Norman, Colin [[Colin.Norman@fortisbc.com](mailto:Colin.Norman@fortisbc.com)]  
**Sent:** September 27, 2011 6:37 PM  
**To:** Claudino, Paula  
**Cc:** Robillard, Paul; Dikeos, John  
**Subject:** RE: Working Model Required

Hi Paula,

Could you explain further how these files are different from the ones you already sent me and whether or not I should replace any of the previous files you sent me with either of these new files? I want to make sure I have a proper final version of these models for our records and info on how they link to the report that was just filed.

Thanks,

**Colin Norman**

Program Manager, Portfolio Projects

Energy Efficiency & Conservation

**FortisBC**

ph: (604) 592-7513  
cell: (604) 868-3724

*Please note that our name has changed effective March 1, 2011. We're now FortisBC.*

---

**From:** Claudino, Paula [mailto:claudino@marbek.ca]  
**Sent:** Tuesday, September 27, 2011 11:14 AM  
**To:** Norman, Colin  
**Cc:** Robillard, Paul; Dikeos, John  
**Subject:** RE: Working Model Required

Hello Colin,

John has requested that I also provide you with the two files attached. These are:

Fortis Exhibits, Current.xlsm : Exhibits listed in the report. This file is linked to the tool and database files.

Fortis Cost Effectiveness Tool, ALL, Current.xlsm : This is the tool that should be used with the database file named "Fortis Database, ALL, Current.xlsx" as some of the assumptions are different between this file and the other tool I provided earlier.

Please let me know if you have any questions on any of these files, or the files I sent earlier. Also, please confirm your receipt of this email.

Best regards,  
Paula

---

PAULA CLAUDINO | Senior Associate | +1 613.523.0784 x.229 | [claudino@marbek.ca](mailto:claudino@marbek.ca) | [marbek.ca](http://marbek.ca) | [icfi.com](http://icfi.com)

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---

**From:** Norman, Colin [mailto:Colin.Norman@fortisbc.com]  
**Sent:** September 26, 2011 11:49 AM  
**To:** Claudino, Paula  
**Subject:** RE: Working Model Required

Hi Paula,

Received. Would you mind also providing me with a quick one sentence description of each file you sent me here? I see that there are three Excel files included in the zip file. Thanks.

**Colin Norman**

Program Manager, Portfolio Projects  
Energy Efficiency & Conservation

**FortisBC**

ph: (604) 592-7513  
cell: (604) 868-3724

*Please note that our name has changed effective March 1, 2011. We're now FortisBC.*

---

**From:** Claudino, Paula [mailto:claudino@marbek.ca]  
**Sent:** Monday, September 26, 2011 8:43 AM  
**To:** Norman, Colin  
**Cc:** Narbaitz, Peter; Flannigan, Bryan; Dikeos, John; Robillard, Paul  
**Subject:** RE: Working Model Required

Hello Colin,

Attached is a .zip file with the two databases and the tool. Please let me know when you receive this email.

Thanks,  
Paula

---

**PAULA CLAUDINO** | Senior Associate | +1 613.523.0784 x.229 | [claudino@marbek.ca](mailto:claudino@marbek.ca) | [marbek.ca](http://marbek.ca) | [icfi.com](http://icfi.com)

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---

**From:** Norman, Colin [mailto:Colin.Norman@fortisbc.com]  
**Sent:** September 26, 2011 11:24 AM  
**To:** Robillard, Paul  
**Cc:** Narbaitz, Peter; Flannigan, Bryan; Claudino, Paula; Dikeos, John  
**Subject:** Working Model Required  
**Importance:** High

Hello Marbek,

Thank you very much for all your hard work on this report. We are very pleased with the final result. Stay tuned in case there are any last minute edits required (the report is with our Legal team right now before being finalized for submission).

In addition to this report, we also require the working model as we will likely file this as well with our Regulator. Our filing is being processed later today so if one of you could email me this or save it to our ftp site today it would be very much appreciated.

Thanks,

**Colin Norman**

Program Manager, Portfolio Projects  
Energy Efficiency & Conservation

**FortisBC**

ph: (604) 592-7513

cell: (604) 868-3724

*Please note that our name has changed effective March 1, 2011. We're now FortisBC.*

---

**From:** Robillard, Paul [mailto:paulr@marbek.ca]  
**Sent:** Saturday, September 24, 2011 6:27 AM  
**To:** Norman, Colin; 'sarah.smith2@terasen.com'  
**Cc:** Narbaitz, Peter; Flannigan, Bryan; Claudino, Paula; Dikeos, John  
**Subject:** RE: EEC Plan - Final - Point of Contact

Hi Colin

Re: Point of contact for next week – Peter Narbaitz will be the point person. His email address is above and his phone # is the same as mine – but extension 270.

Peter...if Colin does need an edit, you know the report well. Also, as needed you can call on Bryan or Paula for any help if you need it and/or send me an email ( I will monitor via my phone).

Re: the numbers - - John is also away Monday and Tuesday on a course in Toronto. As a fall back, I believe that Arvind has a copy of the latest version of the model . Also Paula in our office knows the model well.

I think that should leave us well covered.

Cheers  
Paul

---

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**ICF MARBEK** | 222 Somerset Street West, Suite 300, Ottawa, ON K2P 2G3 | +1 613.523.0717 (f)

---

**From:** Norman, Colin [mailto:Colin.Norman@fortisbc.com]  
**Sent:** September 23, 2011 7:40 PM  
**To:** Robillard, Paul; 'sarah.smith2@terasen.com'  
**Subject:** Re: EEC Plan - Final

Hi Paul,

If there are any more edits required should we send those to you or is there someone else in your team who could make updates to the report quickly? Hopefully no further edits are required but I know we've all been running full steam at this with some long hours so in case something was missed I thought I should ask.

Thanks,

Colin

---

**From:** Robillard, Paul [mailto:paulr@marbek.ca]  
**Sent:** Friday, September 23, 2011 04:23 PM  
**To:** Norman, Colin; Sarah Smith - Terasen <sarah.smith2@terasen.com>  
**Subject:** EEC Plan - Final

Hi Colin and Sarah

Here it is.....it's been great working with you and the crew on this...

Just so that you know.. I am hopping on a plane for Denver tomorrow – for the ACEEE conference. While away I will have limited email access via my iphone.

Good luck...

Will touch base later next week when I return.

Paul

---

**PAUL ROBILLARD** | Principal | +1 613.523.0784 x315 | [paulr@marbek.ca](mailto:paulr@marbek.ca) | [marbek.ca](http://marbek.ca) | [icfi.com](http://icfi.com)  
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**From:** [Flannigan, Bryan](#)  
**To:** [Kok, Hakan](#)  
**Cc:** [Robillard, Paul](#); [Norman, Colin](#)  
**Subject:** Re: Industry Program Inputs for 2012/13 DSM Plan  
**Date:** Friday, September 09, 2011 10:25:06 AM  
**Attachments:** [4345C988-8EEF-4A0F-9CE8-ACC239A186E8.png](#)

---

Hi Hakan,

I'll be looking after the industrial component.

I would like to have a conversation with you on Monday morning. I imagine an allowance for 30 minutes would be more than sufficient. What time would be good to reach out to you?

Bryan

---

BRYAN FLANNIGAN CMVP, P. Eng. | Principal | 613.523.0784 x318 | [Flannigan@marbek.ca](mailto:Flannigan@marbek.ca) | [marbek.ca](http://marbek.ca) | [icfi.com](http://icfi.com)

---

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[home.jpg](#)



---

**From:** "Robillard, Paul" <[paulr@marbek.ca](mailto:paulr@marbek.ca)>  
**Date:** Fri, 9 Sep 2011 13:12:06 -0400  
**To:** "Norman, Colin" <[Colin.Norman@fortisbc.com](mailto:Colin.Norman@fortisbc.com)>  
**Cc:** Bryan Flannigan <[flannigan@marbek.ca](mailto:flannigan@marbek.ca)>, "Kok, Hakan" <[Hakan.Kok@fortisbc.com](mailto:Hakan.Kok@fortisbc.com)>  
**Subject:** RE: Industry Program Inputs for 2012/13 DSM Plan

ok

---

PAUL ROBILLARD | Principal | +1 613.523.0784 x315 | [paulr@marbek.ca](mailto:paulr@marbek.ca) | [marbek.ca](http://marbek.ca) | [icfi.com](http://icfi.com)  
ICF MARBEK | 222 Somerset Street West, Suite 300, Ottawa, ON K2P 2G3 | +1 613.523.0717 (f)

---

**From:** Norman, Colin [<mailto:Colin.Norman@fortisbc.com>]  
**Sent:** September 9, 2011 1:10 PM  
**To:** Robillard, Paul  
**Cc:** Flannigan, Bryan; Kok, Hakan  
**Subject:** Industry Program Inputs for 2012/13 DSM Plan



Hi Paul,

I checked with Hakan and what I forwarded to you before from him is his final version. Please follow up with him directly if you need further details regarding his program inputs.

Thanks,

**Colin Norman**

Program Manager, Portfolio Projects

Energy Efficiency & Conservation

**FortisBC**

ph: (604) 592-7513

cell: (604) 868-3724

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**From:** [Flannigan, Bryan](#)  
**To:** [Kok, Hakan](#)  
**Subject:** Re: Industry Program Inputs for 2012/13 DSM Plan  
**Date:** Monday, September 12, 2011 6:18:02 AM  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[4345C988-8EEF-4A0F-9CE8-ACC239A186E8.png](#)

---

That works. I'll send a meeting request.

Bryan

BRYAN FLANNIGAN CMVP, P. Eng. | Principal | 613.523.0784 x318 | [Flannigan@marbek.ca](mailto:Flannigan@marbek.ca) | [marbek.ca](http://marbek.ca) | [icfi.com](http://icfi.com)

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---

**From:** "Kok, Hakan" <[Hakan.Kok@fortisbc.com](mailto:Hakan.Kok@fortisbc.com)>  
**Date:** Fri, 9 Sep 2011 17:40:53 +0000  
**To:** Bryan Flannigan <[flannigan@marbek.ca](mailto:flannigan@marbek.ca)>  
**Subject:** RE: Industry Program Inputs for 2012/13 DSM Plan

Hello Mr. Flannigan,

Would 10 o'clock be okay with you? I have a meeting at 11 AM and would be happy to talk to you at or around 10 AM in the morning. Let me know if that works for you.

Thanks.

**Hakan Kok, MA & BSc Geo.Eng. (P.Eng. Candidate)**  
**EEC Program Manager, Industrial**  
**FortisBC Energy Inc.**



16705 Fraser Highway | Surrey BC V4N 0E8  
☎: (604) 592 8243 Blackberry: (604) 690 3890 Fax: (604) 592 7618  
✉: [hakan.kok@fortisbc.com](mailto:hakan.kok@fortisbc.com)

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For more information on FortisBC, please visit [fortisbc.com](http://fortisbc.com). This email is confidential and may be legally privileged.*

---

**From:** Flannigan, Bryan [<mailto:flannigan@marbek.ca>]  
**Sent:** Friday, September 9, 2011 10:25 AM  
**To:** Kok, Hakan  
**Cc:** Robillard, Paul; Norman, Colin  
**Subject:** Re: Industry Program Inputs for 2012/13 DSM Plan

Hi Hakan,

I'll be looking after the industrial component.

I would like to have a conversation with you on Monday morning. I imagine an allowance for 30 minutes would be more than sufficient. What time would be good to reach out to you?

Bryan

---

BRYAN FLANNIGAN CMVP, P. Eng. | Principal | 613.523.0784 x318 | [Flannigan@marbek.ca](mailto:Flannigan@marbek.ca) | [marbek.ca](http://marbek.ca) | [icfi.com](http://icfi.com)

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---

**From:** "Robillard, Paul" <[paulr@marbek.ca](mailto:paulr@marbek.ca)>  
**Date:** Fri, 9 Sep 2011 13:12:06 -0400  
**To:** "Norman, Colin" <[Colin.Norman@fortisbc.com](mailto:Colin.Norman@fortisbc.com)>  
**Cc:** Bryan Flannigan <[flannigan@marbek.ca](mailto:flannigan@marbek.ca)>, "Kok, Hakan" <[Hakan.Kok@fortisbc.com](mailto:Hakan.Kok@fortisbc.com)>  
**Subject:** RE: Industry Program Inputs for 2012/13 DSM Plan

ok

---

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ICF MARBEK | 222 Somerset Street West, Suite 300, Ottawa, ON K2P 2G3 | +1 613.523.0717 (f)

---

**From:** Norman, Colin [<mailto:Colin.Norman@fortisbc.com>]  
**Sent:** September 9, 2011 1:10 PM  
**To:** Robillard, Paul  
**Cc:** Flannigan, Bryan; Kok, Hakan  
**Subject:** Industry Program Inputs for 2012/13 DSM Plan

Hi Paul,

I checked with Hakan and what I forwarded to you before from him is his final version. Please follow up with him directly if you need further details regarding his program inputs.

Thanks,

**Colin Norman**

Program Manager, Portfolio Projects

Energy Efficiency & Conservation

**FortisBC**

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cell: (604) 868-3724

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**From:** [Flannigan, Bryan](#)  
**To:** [Kok, Hakan](#)  
**Subject:** Re: Industry Program Inputs for 2012/13 DSM Plan  
**Date:** Monday, September 12, 2011 11:59:31 AM  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[4345C988-8EEF-4A0F-9CE8-ACC239A186E8\[2\].png](#)

---

Hi Hakan,

I am going to spend some time working to populate the TRC model with the information I have, and then will get back to you after I've spoken again with Colin on our approach.

Thanks again for your time this morning.

Bryan

BRYAN FLANNIGAN CMVP, P. Eng. | Principal | 613.523.0784 x318 | [Flannigan@marbek.ca](mailto:Flannigan@marbek.ca) | [marbek.ca](http://marbek.ca) | [icfi.com](http://icfi.com)

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---

**From:** "Kok, Hakan" <[Hakan.Kok@fortisbc.com](mailto:Hakan.Kok@fortisbc.com)>  
**Date:** Mon, 12 Sep 2011 17:33:27 +0000  
**To:** Bryan Flannigan <[flannigan@marbek.ca](mailto:flannigan@marbek.ca)>  
**Subject:** RE: Industry Program Inputs for 2012/13 DSM Plan

Hi Brian,

I will be expecting your call at or around 1 PM BC time here (4 PM with your time).

Thanks.

**Hakan Kok**, MA & BSc Geo.Eng. (P.Eng. Candidate)  
EEC Program Manager, Industrial  
**FortisBC Energy Inc.**



16705 Fraser Highway | Surrey BC V4N 0E8  
☎: (604) 592 8243 Blackberry: (604) 690 3890 Fax: (604) 592 7618  
✉: [hakan.kok@fortisbc.com](mailto:hakan.kok@fortisbc.com)

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My e-mail address has changed to @fortisbc.com. Please update your records accordingly.  
For more information on FortisBC, please visit fortisbc.com. This email is confidential and may be legally privileged.*

---

**From:** Flannigan, Bryan [<mailto:flannigan@marbek.ca>]  
**Sent:** Monday, September 12, 2011 6:14 AM  
**To:** Kok, Hakan  
**Subject:** Re: Industry Program Inputs for 2012/13 DSM Plan

That works. I'll send a meeting request.

Bryan

BRYAN FLANNIGAN CMVP, P. Eng. | Principal | 613.523.0784 x318 | [Flannigan@marbek.ca](mailto:Flannigan@marbek.ca) | [marbek.ca](http://marbek.ca) | [icfi.com](http://icfi.com)

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**From:** "Kok, Hakan" <[Hakan.Kok@fortisbc.com](mailto:Hakan.Kok@fortisbc.com)>  
**Date:** Fri, 9 Sep 2011 17:40:53 +0000  
**To:** Bryan Flannigan <[flannigan@marbek.ca](mailto:flannigan@marbek.ca)>  
**Subject:** RE: Industry Program Inputs for 2012/13 DSM Plan

Hello Mr. Flannigan,

Would 10 o'clock be okay with you? I have a meeting at 11 AM and would be happy to talk to you at or around 10 AM in the morning. Let me know if that works for you.

Thanks.

**Hakan Kok, MA & BSc Geo.Eng. (P.Eng. Candidate)**  
*EEC Program Manager, Industrial*  
**FortisBC Energy Inc.**



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For more information on FortisBC, please visit [fortisbc.com](http://fortisbc.com). *This email is confidential and may be legally privileged.*

---

**From:** Flannigan, Bryan [<mailto:flannigan@marbek.ca>]  
**Sent:** Friday, September 9, 2011 10:25 AM  
**To:** Kok, Hakan  
**Cc:** Robillard, Paul; Norman, Colin  
**Subject:** Re: Industry Program Inputs for 2012/13 DSM Plan

Hi Hakan,

I'll be looking after the industrial component.

I would like to have a conversation with you on Monday morning. I imagine an allowance for 30 minutes would be more than sufficient. What time would be good to reach out to you?

Bryan

---

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**From:** "Robillard, Paul" <[paulr@marbek.ca](mailto:paulr@marbek.ca)>  
**Date:** Fri, 9 Sep 2011 13:12:06 -0400  
**To:** "Norman, Colin" <[Colin.Norman@fortisbc.com](mailto:Colin.Norman@fortisbc.com)>  
**Cc:** Bryan Flannigan <[flannigan@marbek.ca](mailto:flannigan@marbek.ca)>, "Kok, Hakan" <[Hakan.Kok@fortisbc.com](mailto:Hakan.Kok@fortisbc.com)>  
**Subject:** RE: Industry Program Inputs for 2012/13 DSM Plan

ok

---

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---

**From:** Norman, Colin [<mailto:Colin.Norman@fortisbc.com>]  
**Sent:** September 9, 2011 1:10 PM  
**To:** Robillard, Paul  
**Cc:** Flannigan, Bryan; Kok, Hakan  
**Subject:** Industry Program Inputs for 2012/13 DSM Plan

Hi Paul,

I checked with Hakan and what I forwarded to you before from him is his final version. Please follow up with him directly if you need further details regarding his program inputs.

Thanks,

**Colin Norman**

Program Manager, Portfolio Projects

Energy Efficiency & Conservation

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**From:** [Flannigan, Bryan](#)  
**To:** [Norman, Colin](#)  
**Cc:** [Robillard, Paul](#)  
**Subject:** Fortis Industrial Programs - Urgent Input Required  
**Date:** Tuesday, September 13, 2011 2:11:13 PM  
**Attachments:** [Industrial EEC Program Plan - 2012 and 2013 BF Condensed Version.xls](#)  
**Importance:** High

---

Hi Colin,

Just checking in.

See the attached spreadsheet. Notably, I have collapsed the 6 programs into two (Retrofit and Study), and I have also added 10% admin costs, 4% evaluation cost, and approx 1-2% communications costs. These amounts are in line with best practice, and have been subtracted from the incentive amounts available.

After the kids go to bed tonight, I'll proceed to better flush out the measure performance, and add some savings in year two attributable to the study program, as well as proceed with some of the write-up elements based on the rate filing, the annual report and my condensed version of the programs.

Let me know as soon as you can whether or not this structure is acceptable, and I will proceed.

Bryan

---

**From:** "Norman, Colin" <[Colin.Norman@fortisbc.com](mailto:Colin.Norman@fortisbc.com)>  
**Date:** Mon, 12 Sep 2011 22:13:07 +0000  
**To:** "Robillard, Paul" <[paulr@marbek.ca](mailto:paulr@marbek.ca)>  
**Cc:** Bryan Flannigan <[flannigan@marbek.ca](mailto:flannigan@marbek.ca)>, John Dikeos <[dikeos@marbek.ca](mailto:dikeos@marbek.ca)>, Paula Claudino <[claudino@marbek.ca](mailto:claudino@marbek.ca)>, "Narbaitz, Peter" <[narbaitz@marbek.ca](mailto:narbaitz@marbek.ca)>  
**Subject:** RE: Fortis Report Outline - Revised

Hi Paul and Marbek Team,

Thanks for pulling this together so quickly. I think you've captured the changes we discussed quite well. I just noticed a few other minor edits that should be made:

- For section 2.2, please break out the program expenditures into "Incentive" and "Non-Incentive" in addition to listing the total expenditures
- The title for section 2.3 should be "Overview of EEC Portfolio Results, by Program Area"
- Remove "Enabling Activities" from the tables in section 2.3
  - Our Contractor Program should be listed under the Residential Programs and our Energy Specialist Program should be listed under the Commercial Programs
- Reorder the program areas in the section 2.3 tables per the order listed in section 2.1
- For the program example table in section 4.3.1, the Whistler service region should be listed as "FEW"

I've asked our program managers to send me a one paragraph introduction for each of their program area sections. I should have that to you by end of day Wednesday.

If you need anything else from me, please let me know.

Thanks,

**Colin Norman**

Program Manager, Portfolio Projects

Energy Efficiency & Conservation

**FortisBC**

ph: (604) 592-7513

cell: (604) 868-3724

*Please note that our name has changed effective March 1, 2011. We're now FortisBC.*

---

**From:** Robillard, Paul [<mailto:paulr@marbek.ca>]

**Sent:** Monday, September 12, 2011 1:37 PM

**To:** Norman, Colin

**Cc:** Flannigan, Bryan; Dikeos, John; Claudino, Paula; Narbaitz, Peter

**Subject:** Fortis Report Outline - Revised

Hi Colin and Team

Have run out of time but attached is my best shot at capturing the comments from my conversation with Colin. Net effect of Colin's comments is to simply.

Peter is starting the process of doing the individual Program write up from Colin's template and will be around to see you as needed. He is starting with residential, then to commercial.

Talk to on Wed

Paul

---

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drive. Thank you.

**From:** [Robillard, Paul](#)  
**To:** [Norman, Colin](#); [Flannigan, Bryan](#)  
**Subject:** RE: Fortis Industrial Programs - Urgent Input Required  
**Date:** Wednesday, September 14, 2011 7:39:03 AM

---

Colin

Given our more streamlined approach to the report I don't think that the chap on the CPR results is needed. We can reference it in the Intro. What do you think?

Am in a meeting now but if you agree then I will apply in the next version.

Paul

Paul Robillard  
613-406-3304  
Sent from Samsung mobile

"Norman, Colin" <Colin.Norman@fortisbc.com> wrote:

Hi Bryan,

This structure looks good to me. Please proceed. Thanks.

**Colin Norman**

Program Manager, Portfolio Projects  
Energy Efficiency & Conservation

**FortisBC**

ph: (604) 592-7513  
cell: (604) 868-3724

*Please note that our name has changed effective March 1, 2011. We're now FortisBC.*

---

**From:** Flannigan, Bryan [mailto:flannigan@marbek.ca]  
**Sent:** Tuesday, September 13, 2011 2:09 PM  
**To:** Norman, Colin  
**Cc:** Robillard, Paul  
**Subject:** Fortis Industrial Programs - Urgent Input Required  
**Importance:** High

Hi Colin,

Just checking in.

See the attached spreadsheet. Notably, I have collapsed the 6 programs into two (Retrofit and Study), and I have also added 10% admin costs, 4% evaluation cost, and approx 1-2% communications costs. These amounts are in line with best practice, and have been subtracted from the incentive amounts available.

After the kids go to bed tonight, I'll proceed to better flush out the measure performance, and add some savings in year two attributable to the study program, as well as proceed with some of the write-up elements based on the rate filing, the annual report and my condensed version of the programs.

Let me know as soon as you can whether or not this structure is acceptable, and I will proceed.

Bryan

---

**From:** "Norman, Colin" <[Colin.Norman@fortisbc.com](mailto:Colin.Norman@fortisbc.com)>

**Date:** Mon, 12 Sep 2011 22:13:07 +0000

**To:** "Robillard, Paul" <[paulr@marbek.ca](mailto:paulr@marbek.ca)>

**Cc:** Bryan Flannigan <[flannigan@marbek.ca](mailto:flannigan@marbek.ca)>, John Dikeos <[dikeos@marbek.ca](mailto:dikeos@marbek.ca)>, Paula Claudino <[claudino@marbek.ca](mailto:claudino@marbek.ca)>, "Narbaitz, Peter" <[narbaitz@marbek.ca](mailto:narbaitz@marbek.ca)>

**Subject:** RE: Fortis Report Outline - Revised

Hi Paul and Marbek Team,

Thanks for pulling this together so quickly. I think you've captured the changes we discussed quite well. I just noticed a few other minor edits that should be made:

- For section 2.2, please break out the program expenditures into "Incentive" and "Non-Incentive" in addition to listing the total expenditures
- The title for section 2.3 should be "Overview of EEC Portfolio Results, by Program Area"
- Remove "Enabling Activities" from the tables in section 2.3
  - Our Contractor Program should be listed under the Residential Programs and our Energy Specialist Program should be listed under the Commercial Programs
- Reorder the program areas in the section 2.3 tables per the order listed in section 2.1
- For the program example table in section 4.3.1, the Whistler service region should be listed as "FEW"

I've asked our program managers to send me a one paragraph introduction for each of their program area sections. I should have that to you by end of day Wednesday.

If you need anything else from me, please let me know.

Thanks,

**Colin Norman**

Program Manager, Portfolio Projects

Energy Efficiency & Conservation

**FortisBC**

ph: (604) 592-7513

cell: (604) 868-3724

*Please note that our name has changed effective March 1, 2011. We're now FortisBC.*

---

**From:** Robillard, Paul [<mailto:paulr@marbek.ca>]  
**Sent:** Monday, September 12, 2011 1:37 PM  
**To:** Norman, Colin  
**Cc:** Flannigan, Bryan; Dikeos, John; Claudino, Paula; Narbaitz, Peter  
**Subject:** Fortis Report Outline - Revised

Hi Colin and Team

Have run out of time but attached is my best shot at capturing the comments from my conversation with Colin. Net effect of Colin's comments is to simply.

Peter is starting the process of doing the individual Program write up from Colin's template and will be around to see you as needed. He is starting with residential, then to commercial.

Talk to on Wed  
Paul

---

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**From:** Kobialko, Jim  
**To:** ["Paul Robillard \(Paul@marbek.ca\)"](mailto:Paul.Robillard@marbek.ca)  
**Subject:** Innovative Technologies  
**Date:** Wednesday, September 07, 2011 3:52:00 PM  
**Attachments:** [image001.png](#)  
[BCUCIR197\\_3.PDF](#)  
[BCUCIR1\\_198\\_1.PDF](#)  
[BCUCIR2\\_114\\_2.PDF](#)  
[image003.png](#)

---

Hi Paul

In response to your phone message, yes Innovative Technologies is requesting 1.5 million for each 2012 and 2013. The breakdown is listed below:



Attached is a response to BCUC IR's from the most recent 2012/2013 RRA that breaks down each category and funding amount and explains why specific pilots haven't been outlined as they are based on the results from the Reports & Studies. I recommend that you read through BCUC IR 197.3 then BCUC IR 114.2 and then BCUC IR 198.1.

We can touch base tomorrow if you have any questions.

Best Regards.

-----  
Jim Kobialko



EEC Program Manager, Innovative Technologies  
16705 Fraser Highway | Surrey BC V4N 0E8  
☎: 604-592-8266 Cell: 604-690-3886 ✉: [Jim.Kobialko@fortisbc.com](mailto:Jim.Kobialko@fortisbc.com)

Terasen Gas is known as FortisBC effective March 1, 2011. My e-mail address has changed to @fortisbc.com. Please update your records accordingly. For more information on FortisBC, please visit [fortisbc.com](http://fortisbc.com)

**From:** Kobialko, Jim  
**To:** ["Robillard, Paul"](#)  
**Subject:** RE: Innovative Technologies  
**Date:** Thursday, September 08, 2011 3:28:00 PM  
**Attachments:** [image001.png](#)  
[image002.png](#)

---

Hi Paul

Just following up if you have any questions regarding the content I have provided you.

-----  
Jim Kobialko



EEC Program Manager, Innovative Technologies  
16705 Fraser Highway | Surrey BC V4N 0E8  
☎: 604-592-8266 Cell: 604-690-3886 ✉: [Jim.Kobialko@fortisbc.com](mailto:Jim.Kobialko@fortisbc.com)

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---

**From:** Robillard, Paul [<mailto:paulr@marbek.ca>]  
**Sent:** Thursday, September 8, 2011 10:36 AM  
**To:** Kobialko, Jim  
**Subject:** RE: Innovative Technologies

Thanks Jim

I will take a look through this and be back to you. I have a conference call with Sarah later today to discuss/confirm scope, approach etc. I will wait until we clarify those high level topic before getting back to you.

Paul

---

**PAUL ROBILLARD** | Principal | +1 613.523.0784 x315 | [paulr@marbek.ca](mailto:paulr@marbek.ca) | [marbek.ca](http://marbek.ca) | [icfi.com](http://icfi.com)  
**ICF MARBEK** | 222 Somerset Street West, Suite 300, Ottawa, ON K2P 2G3 | +1 613.523.0717 (f)

---

---

**From:** Kobialko, Jim [<mailto:Jim.Kobialko@fortisbc.com>]  
**Sent:** September 7, 2011 6:52 PM  
**To:** Robillard, Paul  
**Subject:** Innovative Technologies

Hi Paul

In response to your phone message, yes Innovative Technologies is requesting 1.5 million for each 2012 and 2013. The breakdown is listed below:





Attached is a response to BCUC IR's from the most recent 2012/2013 RRA that breaks down each category and funding amount and explains why specific pilots haven't been outlined as they are based on the results from the Reports & Studies. I recommend that you read through BCUC IR 197.3 then BCUC IR 114.2 and then BCUC IR 198.1.

We can touch base tomorrow if you have any questions.

Best Regards.

-----  
Jim Kobialko



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**From:** Kobialko, Jim  
**To:** ["Robillard, Paul"](#)  
**Subject:** RE: Innovative Technologies  
**Date:** Monday, September 12, 2011 1:20:00 PM  
**Attachments:** [image001.png](#)  
[image002.png](#)

---

Hi Paul

Sorry to hear about your uncle.

I'll make the time for Wednesday preferably earlier the better (8:30am – 10:30am)

Does that work for you?

-----  
Jim Kobialko



EEC Program Manager, Innovative Technologies  
16705 Fraser Highway | Surrey BC V4N 0E8  
☎: 604-592-8266 Cell: 604-690-3886 ✉: [Jim.Kobialko@fortisbc.com](mailto:Jim.Kobialko@fortisbc.com)

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**From:** Robillard, Paul [<mailto:paulr@marbek.ca>]  
**Sent:** Monday, September 12, 2011 1:18 PM  
**To:** Kobialko, Jim  
**Cc:** Norman, Colin  
**Subject:** RE: Innovative Technologies

Hi Jim

I am still working on getting the overall approach and conventional program pieces into place. Have also had a death in the family (uncle) meaning that I will be away until Wed of this week.

Are you available on Wed for a chat? I plan to take your info with me while away.

Pls let me know your availability on Wed and I will give you a call.

Paul

---

**From:** Kobialko, Jim [mailto:Jim.Kobialko@fortisbc.com]  
**Sent:** September 8, 2011 6:29 PM  
**To:** Robillard, Paul  
**Subject:** RE: Innovative Technologies

Hi Paul

Just following up if you have any questions regarding the content I have provided you.

---

Jim Kobialko



EEC Program Manager, Innovative Technologies  
16705 Fraser Highway | Surrey BC V4N 0E8  
☎: 604-592-8266 Cell: 604-690-3886 ✉: [Jim.Kobialko@fortisbc.com](mailto:Jim.Kobialko@fortisbc.com)

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**From:** Robillard, Paul [mailto:paulr@marbek.ca]  
**Sent:** Thursday, September 8, 2011 10:36 AM  
**To:** Kobialko, Jim  
**Subject:** RE: Innovative Technologies

Thanks Jim

I will take a look through this and be back to you. I have a conference call with Sarah later today to discuss/confirm scope, approach etc. I will wait until we clarify those high level topic before getting back to you.

Paul

---

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---

**From:** Kobialko, Jim [mailto:Jim.Kobialko@fortisbc.com]  
**Sent:** September 7, 2011 6:52 PM  
**To:** Robillard, Paul  
**Subject:** Innovative Technologies

Hi Paul

In response to your phone message, yes Innovative Technologies is requesting 1.5 million for each 2012 and 2013. The breakdown is listed below:



Attached is a response to BCUC IR's from the most recent 2012/2013 RRA that breaks down each category and funding amount and explains why specific pilots haven't been outlined as they are based on the results from the Reports & Studies. I recommend that you read through BCUC IR 197.3 then BCUC IR 114.2 and then BCUC IR 198.1.

We can touch base tomorrow if you have any questions.

Best Regards.

-----  
Jim Kobialko



EEC Program Manager, Innovative Technologies  
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**From:** Kobialko, Jim  
**To:** ["Robillard, Paul"](#)  
**Subject:** RE: Innovative Technologies  
**Date:** Monday, September 12, 2011 3:34:00 PM  
**Attachments:** [image001.png](#)  
[image002.png](#)

---

Hi Paul

Okay I will speak with you on Wednesday @ 10:30. You can reach me with my details below.

Talk to you then!

-----  
Jim Kobialko



EEC Program Manager, Innovative Technologies  
16705 Fraser Highway | Surrey BC V4N 0E8  
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---

**From:** Robillard, Paul [<mailto:paulr@marbek.ca>]  
**Sent:** Monday, September 12, 2011 1:31 PM  
**To:** Kobialko, Jim  
**Subject:** RE: Innovative Technologies

Will do my best but likely to be closer to 10:30 -11 (PST) as I am in meetings until about 1 pm my time.

Thanks  
Paul

---

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**From:** Kobialko, Jim [<mailto:Jim.Kobialko@fortisbc.com>]  
**Sent:** September 12, 2011 4:21 PM  
**To:** Robillard, Paul  
**Subject:** RE: Innovative Technologies

Hi Paul

Sorry to hear about your uncle.

I'll make the time for Wednesday preferably earlier the better (8:30am – 10:30am)

Does that work for you?

---

Jim Kobialko



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**To:** Robillard, Paul  
**Subject:** RE: Innovative Technologies

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Jim Kobialko



EEC Program Manager, Innovative Technologies

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**Sent:** Thursday, September 8, 2011 10:36 AM

**To:** Kobialko, Jim

**Subject:** RE: Innovative Technologies

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Paul

---

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**From:** Kobialko, Jim [<mailto:Jim.Kobialko@fortisbc.com>]

**Sent:** September 7, 2011 6:52 PM

**To:** Robillard, Paul

**Subject:** Innovative Technologies

Hi Paul

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We can touch base tomorrow if you have any questions.

Best Regards.

---

Jim Kobialko



EEC Program Manager, Innovative Technologies  
16705 Fraser Highway | Surrey BC V4N 0E8

☎: 604-592-8266 Cell: 604-690-3886 ✉: [Jim.Kobialko@fortisbc.com](mailto:Jim.Kobialko@fortisbc.com)

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**From:** Kobialko, Jim  
**To:** "Robillard, Paul"  
**Subject:** Innovative Technology Soft copy documents  
**Date:** Wednesday, September 14, 2011 11:26:00 AM  
**Attachments:** [image001.png](#)  
[BCUC IR1 197 series.doc](#)  
[BCUC IR2 114.doc](#)  
[Innovative Technologies program area.doc](#)

---

Hi Paul

As requested, attached are soft copies of the following:

BCUC\_IR1\_197.3

BCUC\_IR1\_197.1

BCUC\_IR2\_114.2

Annual Report Description

Definition of Innovative Technology -

[http://www.bclaws.ca/EPLibraries/bclaws\\_new/document/ID/freeside/10\\_326\\_2008](http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/10_326_2008)

Please finesse the data and let me know if you have any questions prior to Friday. Beyond Friday, I will be periodically checking my emails.

Best Regards.

-----  
Jim Kobialko



EEC Program Manager, Innovative Technologies

16705 Fraser Highway | Surrey BC V4N 0E8

☎: 604-592-8266   Cell: 604-690-3886   ✉: [Jim.Kobialko@fortisbc.com](mailto:Jim.Kobialko@fortisbc.com)

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**From:** [Robillard, Paul](#)  
**To:** [Kobialko, Jim](#)  
**Cc:** [Norman, Colin](#); [Sarah Smith - Terasen](#)  
**Subject:** RE: Innovative Technology Soft copy documents  
**Date:** Wednesday, September 14, 2011 12:08:14 PM  
**Attachments:** [image001.png](#)

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Jim

Just spoke with Sarah and Colin. Looks like Innovative Tech will be both “on its own” and “part of the total portfolio”. We will need some estimated project costs and savings data as a result.

Sarah said that she would speak with you shortly.

Paul

---

**PAUL ROBILLARD** | Principal | +1 613.523.0784 x315 | [paulr@marbek.ca](mailto:paulr@marbek.ca) | [marbek.ca](http://marbek.ca) | [icfi.com](http://icfi.com)  
**ICF MARBEK** | 222 Somerset Street West, Suite 300, Ottawa, ON K2P 2G3 | +1 613.523.0717 (f)

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---

**From:** Kobialko, Jim [mailto:Jim.Kobialko@fortisbc.com]  
**Sent:** September 14, 2011 2:27 PM  
**To:** Robillard, Paul  
**Subject:** Innovative Technology Soft copy documents

Hi Paul

As requested, attached are soft copies of the following:

BCUC\_IR1\_197.3

BCUC\_IR1\_197.1

BCUC\_IR2\_114.2

Annual Report Description

Definition of Innovative Technology -

[http://www.bclaws.ca/EPLibraries/bclaws\\_new/document/ID/freeside/10\\_326\\_2008](http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/10_326_2008)

Please finesse the data and let me know if you have any questions prior to Friday. Beyond Friday, I will be periodically checking my emails.

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Jim Kobialko



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**From:** [Smith, Sarah](#)  
**To:** [Kobialko, Jim](#)  
**Cc:** [Norman, Colin](#); "[paulr@marbek.ca](mailto:paulr@marbek.ca)"  
**Subject:** IT EEC Program Plan - 2012 and 2013 Marbek Update.xlsm  
**Date:** Thursday, September 15, 2011 11:56:04 AM  
**Attachments:** [IT EEC Program Plan - 2012 and 2013 Marbek Update.xlsm](#)

---

Please work with Colin and Marbek to finalize.  
THX SDS

**From:** Kobialko, Jim  
**To:** [Ramakrishnan, Arvind](#); [Robillard, Paul](#); [Flannigan, Bryan \(flannigan@marbek.ca\)](#); [Claudino, Paula \(claudino@marbek.ca\)](#)  
**Cc:** [dikeos@marbek.ca](#); [Smith, Sarah](#); [Norman, Colin](#)  
**Subject:** RE: IT Issues for 2012/2013 Plan  
**Date:** Saturday, September 17, 2011 4:52:00 PM  
**Attachments:** [IT Pilots 2012 2013.doc](#)  
[IT EEC Program Plan - 2012 and 2013 Marbek Updated Numbers.xlsm](#)  
[Pilot Descriptions.doc](#)  
[image001.png](#)

---

Hey Gang

Attached is the following

- 1.) Updated measure data for Solar Air Heating and Catalytic radiant Burner technology. We will need to review the results and update the numbers so it meets the 1.5 million funding ask for both 2012 and 2013.
- 2.) Intro write-up for IT section. Emphasizes that the TRC simulation is a rough estimate and will be updated once we receive more current credible information from the pre-feasibility report.
- 3.) Measure Description – I have included a detailed write-up for each technology including when we will be expecting the prefeasibility study to be completed. Marbek may want to include this in the write-up.

Please let me know if you have any questions.

I can be reached on my cell today and tomorrow – 604-690-3886

Best Regards.

-----  
Jim Kobialko



EEC Program Manager, Innovative Technologies  
16705 Fraser Highway | Surrey BC V4N 0E8  
☎: 604-592-8266 Cell: 604-690-3886 ✉: [Jim.Kobialko@fortisbc.com](mailto:Jim.Kobialko@fortisbc.com)

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---

**From:** Ramakrishnan, Arvind  
**Sent:** Saturday, September 17, 2011 1:44 PM  
**To:** Robillard, Paul; Flannigan, Bryan ([flannigan@marbek.ca](mailto:flannigan@marbek.ca)); Claudino, Paula ([claudino@marbek.ca](mailto:claudino@marbek.ca))  
**Cc:** [dikeos@marbek.ca](mailto:dikeos@marbek.ca); Smith, Sarah; Norman, Colin; Kobialko, Jim  
**Subject:** IT Issues for 2012/2013 Plan

Paul/John,

Jim & I spent some time this morning going over the model & inputs. There has been a data input error for the occupancy sensors pilot program. Rather than entering 6.2 as annual savings; the value was incorrectly entered as 620 GJ yielding TRC as high as 39. Once we applied the 6.2 GJ savings, the TRC for this program dropped to about 1.09 which makes more sense. Applying the same changes to the portfolio level, the TRC is now at 1.40 rather than 8.84. This should be corrected immediately in your master version.

Shortly Jim would be sending over some revisions to the inputs for the solar air heating & the catalytic radiant burner pilot only based on some informal conversations more recently with manufacturers. The inputs should not have a huge impact on overall TRC but are more accurate and should be factored into the master model.

John Couple of other model issues that I noticed. I don't think this is impacting the results but just seemed odd to me. Please call me at 604 999 6808 to discuss this if you like.

- The measure database in the cost effectiveness front end tool surprisingly does not include any IT measures although they are in the "Master FortisDatabase, Markbek " file. I was under the impression when you create a measure, it should get added in the "measure database" tab in the front end cost effectiveness tool. I am not sure why this is happening & if this has any implications on the overall result.
- The front end cost effectiveness tool for the IT\_FEI Portfolio only includes Thermal curtain, IND\_Energy analysis audit & IND Tech retrofit when it should include just the proposed seven IT measures & none from Industrial program area. I don't believe this is changing the results but just the optics of not seeing the proposed IT measures under the IT Portfolio.
- Measure naming for IT- Rather than naming them as " Generic IT measure" , it would be beneficial to have the actual name such as thermal curtains etc for consistency purposes.

I will be around today/tomorrow; any questions give me a call at 604 999 6808

Arvind

**From:** [Kobialko, Jim](#)  
**To:** ["Paulr@marbek.ca"](mailto:Paulr@marbek.ca)  
**Subject:** Re: IT Issues for 2012/2013 Plan  
**Date:** Sunday, September 18, 2011 11:40:36 AM  
**Attachments:** [image001.png](#)

---

Hi Paul

I am traveling on Monday and will be unreachable for most of the day. You can speak to Arvind if you have any questions. Please cc me on all communications.

-Jim

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**From:** Robillard, Paul [mailto:[paulr@marbek.ca](mailto:paulr@marbek.ca)]  
**Sent:** Saturday, September 17, 2011 05:05 PM  
**To:** Kobialko, Jim; Ramakrishnan, Arvind; Flannigan, Bryan <[flannigan@marbek.ca](mailto:flannigan@marbek.ca)>; Claudino, Paula <[claudino@marbek.ca](mailto:claudino@marbek.ca)>  
**Cc:** Dikeos, John <[dikeos@marbek.ca](mailto:dikeos@marbek.ca)>; Smith, Sarah; Norman, Colin  
**Subject:** RE: IT Issues for 2012/2013 Plan

Thanks Jim

John is away for the rest of the week end. Will get this into the modrl on Monday am.

Paul

Paul Robillard  
613-406-3304  
Sent from Samsung mobile

"Kobialko, Jim" <[Jim.Kobialko@fortisbc.com](mailto:Jim.Kobialko@fortisbc.com)> wrote:

Hey Gang

Attached is the following

- 1.) Updated measure data for Solar Air Heating and Catalytic radiant Burner technology. We will need to review the results and update the numbers so it meets the 1.5 million funding ask for both 2012 and 2013.
- 2.) Intro write-up for IT section. Emphasizes that the TRC simulation is a rough estimate and will be updated once we receive more current credible information from the pre-feasibility report.
- 3.) Measure Description – I have included a detailed write-up for each technology including when we will be expecting the prefeasibility study to be completed. Marbek may want to include this in the write-up.

Please let me know if you have any questions.

I can be reached on my cell today and tomorrow – 604-690-3886

Best Regards.

---

Jim Kobialko



EEC Program Manager, Innovative Technologies  
16705 Fraser Highway | Surrey BC V4N 0E8  
☎: 604-592-8266 Cell: 604-690-3886 ✉: Jim.Kobialko@fortisbc.com

Terasen Gas is known as FortisBC effective March 1, 2011. My e-mail address has changed to @fortisbc.com. Please update your records accordingly. For more information on FortisBC, please visit fortisbc.com

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**From:** Ramakrishnan, Arvind  
**Sent:** Saturday, September 17, 2011 1:44 PM  
**To:** Robillard, Paul; Flannigan, Bryan (flannigan@marbek.ca); Claudino, Paula (claudino@marbek.ca)  
**Cc:** dikeos@marbek.ca; Smith, Sarah; Norman, Colin; Kobialko, Jim  
**Subject:** IT Issues for 2012/2013 Plan

Paul/John,

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Arvind

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**From:** [Smith, Sarah](#)  
**To:** ["Paul Robillard \(paulr@marbek.ca\)"; "johnd@marbek.ca"](#)  
**Cc:** [Norman, Colin](#); [Kobialko, Jim](#)  
**Subject:** FW: Innovative Technologies comments  
**Date:** Wednesday, September 21, 2011 1:05:40 PM

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Oopsie, wasn't quite done yet!

Additional comments:

I have edited the text below – please use this version

**Note:** FEU would like to emphasize that the inputs used to calculate cost-effectiveness for Innovative Technologies are estimates as there is a lack of measure-specific performance data since these technologies have little or no market penetration in BC. FEU has derived those estimates based on manufacturer data, industry information, informal conversations and professional experience. FEU intends to update those assumptions and determine the feasibility of launching a pilot for each of these technologies in 2012 or 2013 upon receiving further information such as the prefeasibility study

In your technology bullets you need to explain what a thermal curtain is please

---

**From:** Smith, Sarah  
**Sent:** September 21, 2011 12:58 PM  
**To:** 'Paul Robillard (paulr@marbek.ca)'; 'johnd@marbek.ca'  
**Cc:** Norman, Colin; Kobialko, Jim  
**Subject:** Innovative Technologies comments

This section refers to FEU while the other sections refer to FortisBC. Marbek please edit for consistency.

Footnote 2 should come after "Technologies"

This sentence "Ultimately, the program's results will determine the feasibility of launching the pilot or demonstration project." needs to be edited for clarity – Jim to tackle

Following sentence, insert colon after "identified" and eliminate last 4 words

**From:** [Georgy, Ned](#)  
**To:** ["Dikeos, John"](#)  
**Cc:** [Norman, Colin](#)  
**Subject:** RE: FortisBC Residential Programs - Review Gaps and Assumptions  
**Date:** Tuesday, September 13, 2011 7:03:00 PM  
**Attachments:** [image001.png](#)

---

Hi John,

Fire away with the questions and I'll do my best to help. Either send me an email and I'll endeavor to answer within 24 hours or you can try to call my cell 604.916.5179 if it's something I can answer without the computer in front of me.

Thanks,

Ned

---

**From:** Dikeos, John [mailto:[dikeos@marbek.ca](mailto:dikeos@marbek.ca)]  
**Sent:** Tuesday, September 13, 2011 5:19 PM  
**To:** Georgy, Ned  
**Cc:** Norman, Colin  
**Subject:** FortisBC Residential Programs - Review Gaps and Assumptions

Hi Ned,

I've been entering the three Affordable Housing programs into the Cost Effectiveness Tool and I've identified some gaps and questions for you. However, I was told that you are out of the office this week. Do you think that you may still be able to address my questions or perhaps can you refer me to somebody else?

Thanks!

John

**John Dikeos, P.Eng., M.A.Sc.** | Senior Associate | +1 613-523-0784  
x330 | [dikeos@marbek.ca](mailto:dikeos@marbek.ca) | [marbek.ca](http://marbek.ca) | [icfi.com](http://icfi.com)

---

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[home.jpg](#)



**From:** [Dikeos, John](#)  
**To:** [Georgy, Ned](#)  
**Cc:** [Norman, Colin](#)  
**Subject:** RE: FortisBC Residential Programs - Review Gaps and Assumptions  
**Date:** Wednesday, September 14, 2011 10:25:54 AM  
**Attachments:** [image001.png](#)

---

Hi Ned,

Thanks for the quick response. Here are some questions for each of the three programs:

- Please confirm that the input (costs, savings, etc.) are identical for 2012 and 2013
- Are there any incentives provided by BC Hydro or any other partners for the three programs in questions? If so, please provide some details on these contributions.

**REnEW:**

- **No savings:** Please confirm that there are no savings attributed to this program (i.e. that it is an enabling program)

**ESK:**

- **Incremental cost:** Since you've already provided a weighted average of the gas savings and lifetime, I need a bundled incremental cost for the measures included in the energy savings kit as well. Is this available to you? If not, can you give me some more details on each of the items that are included so that we can estimate the incremental cost (i.e. you've indicated that the following items would be included: Faucet Aerators, Low Flow Showerhead, Water Heater Pipe Wrap, Caulking, Draftproofing, Outlet Gaskets, Window Film)?
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**ECAP:**

- **Incremental cost:** I need an incremental cost for this program as well. I realize that the measures that are being installed would vary from home to home but we need some kind of weighted average, based on the number of participants and the average number of each measure installed per home. Are any estimates available to you or can we derive this from somewhere?
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Please feel free to give me a call if you'd like to discuss any of these questions over the phone. However, please note that I'll be out of the office for the rest of the day.

Thanks!  
John

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---

**From:** Georgy, Ned [mailto:Ned.Georgy@fortisbc.com]  
**Sent:** September 13, 2011 10:03 PM  
**To:** Dikeos, John  
**Cc:** Norman, Colin  
**Subject:** RE: FortisBC Residential Programs - Review Gaps and Assumptions

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**From:** [Dikeos, John](#)  
**To:** [Georgy, Ned](#)  
**Cc:** [Norman, Colin](#)  
**Subject:** RE: FortisBC Residential Programs - Review Gaps and Assumptions  
**Date:** Friday, September 16, 2011 5:01:33 PM  
**Attachments:** [image001.png](#)

---

Hi Ned,

Thanks for the feedback. It was nice to chat with you on the phone today as well. See below for some comments (in red). In addition, I'll be forwarding an updated version of the results to Colin shortly. As a spoiler, it seems like the Low Income spending is currently about \$200K higher than the ask per year.

John

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---

**From:** Georgy, Ned [mailto:Ned.Georgy@fortisbc.com]  
**Sent:** September 14, 2011 4:54 PM  
**To:** Dikeos, John  
**Cc:** Norman, Colin  
**Subject:** RE: FortisBC Residential Programs - Review Gaps and Assumptions

Hi John,  
[See my responses below...](#)

---

**From:** Dikeos, John [mailto:dikeos@marbek.ca]  
**Sent:** Wednesday, September 14, 2011 10:26 AM  
**To:** Georgy, Ned  
**Cc:** Norman, Colin  
**Subject:** RE: FortisBC Residential Programs - Review Gaps and Assumptions

Hi Ned,

Thanks for the quick response. Here are some questions for each of the three programs:

- Please confirm that the input (costs, savings, etc.) are identical for 2012 and 2013  
\*\*\*Yes. The most cost intensive program is ECAP and many of the program costs are contractual so costs should remain approximately identical. Savings would only change if we complete an evaluation that tells us the savings should be something other than what I've indicated.  
**[JD] Thanks for the confirmation.**
- Are there any incentives provided by BC Hydro or any other partners for the three programs in questions? If so, please provide some details on these contributions.  
\*\*\* REnEW costs are the FBC costs. Actual costs of the program are considerably higher but the remaining amount of the costs are covered by sponsoring partners (FortisBC Electric in some cases

and BC Hydro in all cases). Historically, the FBC costs represent 30-40% of the total costs of the program.

**[JD]** Ok, since this is just an enabling program, we can ignore these contributions.

\*\*\* ESK costs – again, the costs and savings identified are specific to FBC. BCH is the central administrator for this program and they actually cover a greater amount of costs than what FBC incurs. I don't know the extent of their administration and marketing costs but, as a ball park, the ~\$10 per kit that FBC pays represents about 20% of the total cost of the kit (the total cost includes some electric only measures such as light bulbs, fridge/freezer thermometers, etc.)

**[JD]** As discussed on the phone, I think it's ok to neglect the BCH contributions, as they aren't providing any funding for the gas measures.

\*\*\* ECAP costs – again, BC Hydro is the central administrator of the program and they have savings and costs that would be quite onerous to estimate. This program hasn't launched yet so there's a lack of experience in the market to really estimate the costs moving forward. We can't use historical costs because the historical costs of administration will increase significantly once the joint program is launched and some of those increased costs will be shared by both parties. In short, ECAP has two streams, Basic and Advanced. A lot of the costs of the Basic stream will be covered by both BC Hydro and FortisBC. In the Advanced stream, the utility that the home is heated by will cover all of the measures and costs of the advanced work (insulation and draftproofing). I sent along a TRC spreadsheet that has the details of FBC expected costs. I have not attempted to determine what the total incentives from both BCH and FBC would be. That would take some time.

**[JD]** Same as above

#### **REnEW:**

- **No savings:** Please confirm that there are no savings attributed to this program (i.e. that it is an enabling program)

\*\*\*correct...at least that's the plan.

**[JD]** Thanks for the confirmation

#### **ESK:**

- **Incremental cost:** Since you've already provided a weighted average of the gas savings and lifetime, I need a bundled incremental cost for the measures included in the energy savings kit as well. Is this available to you? If not, can you give me some more details on each of the items that are included so that we can estimate the incremental cost (i.e. you've indicated that the following items would be included: Faucet Aerators, Low Flow Showerhead, Water Heater Pipe Wrap, Caulking, Draftproofing, Outlet Gaskets, Window Film)?

\*\*\* For low income programs we don't typically put a lot of thought in to what the incremental costs are because the incentive for low income programs is the entire costs of the measure (the gas-specific measures in the energy saving kit). Since we're paying the entire costs (and making assumptions about installation rates of each of the measures) there was no need for us to identify non-efficient measure costs vs efficient measure costs. The "measures" sheet in the attached ESK file details all the measures and their full costs.

**[JD]** Ok, as I understand it, the per unit cost is identical to the per unit incentive. However, since it seems more accurate, I've used the gas portion of the cost highlighted in the ESK spreadsheet you



sent to me (i.e. \$13.76) rather than the cost in the program spreadsheet you sent (i.e. \$10.00). Does this make sense?

- **Electricity savings:** Accounting for electricity savings would help the TRC. Are estimates for these savings available anywhere (i.e. for measures that are installed in homes with electric heating or DHW)? We commonly include some of these measures in our CPR projects but we haven't looked at all of them. If there isn't any good info available, we should probably just ignore any potential electricity savings.

\*\*\*The approach has been to only account for gas savings and gas costs. Where the measures are installed in electric heated homes, BC Hydro captures the savings and the costs of those measures. So, FBC does not include the costs of things like CFL's and only includes a proportion savings of things like faucet aerators that matches the proportion of times those measures are being installed in gas homes.

[JD] As discussed on the phone, we'll neglect these electricity savings for now.

#### ECAP:

- **Incremental cost:** I need an incremental cost for this program as well. I realize that the measures that are being installed would vary from home to home but we need some kind of weighted average, based on the number of participants and the average number of each measure installed per home. Are any estimates available to you or can we derive this from somewhere?

\*\*\* As stated above – we only consider the full cost of the measure because that's what our incentive is based on. In fact, for ECAP is further complicated by the fact that non-measure costs, such as having a contractor come to the customer's home, is part of the incentive costs. Attached is the ECAP TRC spreadsheet which details full-costs. No other work has been completed on attempting to quantify incremental costs.

[JD] The cost of having the contractor visit the home should definitely be included in the per unit cost (i.e. which is equal to the per unit incentive), since it reflects the cost of implementing the measure and the cost that Fortis is covering per participant. I see that costs and participant numbers are included for each of the measures in the ECAP spreadsheet. Does the \$1,150 estimate in your original spreadsheet represent the average cost of implementing the measures based on these inputs? Also, I'm guessing 5.78 GJ and 4% are weighted averages of the savings and free rider rate per participant.

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\*\*\* Same as ESK stated above.

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**Sent:** September 13, 2011 10:03 PM  
**To:** Dikeos, John  
**Cc:** Norman, Colin  
**Subject:** RE: FortisBC Residential Programs - Review Gaps and Assumptions

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intended recipient, please contact the sender immediately and delete all copies of the message including removal from your hard drive. Thank you.

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**To:** [Dikeos, John](#)  
**Cc:** [Norman, Colin](#)  
**Subject:** RE: FortisBC Residential Programs - Review Gaps and Assumptions  
**Date:** Sunday, September 18, 2011 5:37:24 PM  
**Attachments:** [image001.png](#)

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Hi John,

Sorry for the delay in responding.

Also, per the tracking list of outstanding items, can you please change the introductory paragraph as per the suggestion to spell out the program names before using their acronyms.

REnEW: Residential Energy Efficiency Works

ESK: Energy Saving Kit

ECAP: Energy Conservation Assistance Program.

With respect to the over-budget spend, I suggest we take some out of the ECAP program by bringing down the number of High Efficiency Furnaces. If you bring it down to 200 that will shave off just over \$200k.

Responses to other outstanding questions are below.

Just in case, my cell number is 604.916.5179

Thanks,  
Ned

---

**From:** Dikeos, John [dikeos@marbek.ca]  
**Sent:** Friday, September 16, 2011 4:57 PM  
**To:** Georgy, Ned  
**Cc:** Norman, Colin  
**Subject:** RE: FortisBC Residential Programs - Review Gaps and Assumptions

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\*\*\* ESK costs – again, the costs and savings identified are specific to FBC. BCH is the central administrator for this program and they actually cover a greater amount of costs than what FBC incurs. I don't know the extent of their administration and marketing costs but, as a ball park, the ~\$10 per kit that FBC pays represents about 20% of the total cost of the kit (the total cost includes some electric only measures such as light bulbs, fridge/freezer thermometers, etc.)

[JD] As discussed on the phone, I think it's ok to neglect the BCH contributions, as they aren't providing any funding for the gas measures.

\*\*\* ECAP costs – again, BC Hydro is the central administrator of the program and they have savings and costs that would be quite onerous to estimate. This program hasn't launched yet so there's a lack of experience in the market to really estimate the costs moving forward. We can't use historical costs because the historical costs of administration will increase significantly once the joint program is launched and some of those increased costs will be shared by both parties. In short, ECAP has two streams, Basic and Advanced. A lot of the costs of the Basic stream will be covered by both BC Hydro and FortisBC. In the Advanced stream, the utility that the home is heated by will cover all of the measures and costs of the advanced work (insulation and draftproofing). I sent along a TRC spreadsheet that has the details of FBC expected costs. I have not attempted to determine what the total incentives from both BCH and FBC would be. That would take some time.

[JD] Same as above

**REnEW:**

- **No savings:** Please confirm that there are no savings attributed to this program (i.e. that it is an enabling program)

\*\*\*correct...at least that's the plan.

[JD] Thanks for the confirmation

**ESK:**

- **Incremental cost:** Since you've already provided a weighted average of the gas savings and lifetime, I need a bundled incremental cost for the measures included in the energy savings kit as well. Is this available to you? If not, can you give me some more details on each of the items that are included so that we can estimate the incremental cost (i.e. you've indicated that the following items would be included: Faucet Aerators, Low Flow Showerhead, Water Heater Pipe Wrap, Caulking, Draftproofing, Outlet Gaskets, Window Film)?

\*\*\* For low income programs we don't typically put a lot of thought in to what the incremental costs are because the incentive for low income programs is the entire costs of the measure (the gas-specific measures in the energy saving kit). Since we're paying the entire costs (and making assumptions about installation rates of each of the measures) there was no need for us to identify non-efficient measure costs vs efficient measure costs. The "measures" sheet in the attached ESK file details all the measures and their full costs.

[JD] Ok, as I understand it, the per unit cost is identical to the per unit incentive. However, since it seems more accurate, I've used the gas portion of the cost highlighted in the ESK spreadsheet you sent to me (i.e. \$13.76) rather than the cost in the program spreadsheet you sent (i.e. \$10.00).

Does this make sense?

[NG] What I sent you was the original business case numbers. We do have almost a year of experience now and at the end of 2010 the cost we contributed per ESK was reported as \$10 plus change. This year it's looking like it might be just under \$10 so I'd rather stick with the \$10 estimate please.

- **Electricity savings:** Accounting for electricity savings would help the TRC. Are estimates for these savings available anywhere (i.e. for measures that are installed in homes with electric heating or DHW)? We commonly include some of these measures in our CPR projects but we haven't looked at all of them. If there isn't any good info available, we should probably just ignore any potential electricity savings.

\*\*\*The approach has been to only account for gas savings and gas costs. Where the measures are installed in electric heated homes, BC Hydro captures the savings and the costs of those measures. So, FBC does not include the costs of things like CFL's and only includes a proportion savings of things like faucet aerators that matches the proportion of times those measures are being installed in gas homes.

[JD] As discussed on the phone, we'll neglect these electricity savings for now.

[NG] Okay. Note that in the ECAP TRC spreadsheet I sent, there were some electricity savings captured for only the High Efficiency Furnace measure because BC Hydro is not paying for any portion of the furnaces.

**ECAP:**

- **Incremental cost:** I need an incremental cost for this program as well. I realize that the

measures that are being installed would vary from home to home but we need some kind of weighted average, based on the number of participants and the average number of each measure installed per home. Are any estimates available to you or can we derive this from somewhere?

\*\*\* As stated above – we only consider the full cost of the measure because that's what our incentive is based on. In fact, for ECAP is further complicated by the fact that non-measure costs, such as having a contractor come to the customer's home, is part of the incentive costs. Attached is the ECAP TRC spreadsheet which details full-costs. No other work has been completed on attempting to quantify incremental costs.

[JD] The cost of having the contractor visit the home should definitely be included in the per unit cost (i.e. which is equal to the per unit incentive), since it reflects the cost of implementing the measure and the cost that Fortis is covering per participant. I see that costs and participant numbers are included for each of the measures in the ECAP spreadsheet. Does the \$1,150 estimate in your original spreadsheet represent the average cost of implementing the measures based on these inputs? Also, I'm guessing 5.78 GJ and 4% are weighted averages of the savings and free rider rate per participant.

[NG] Eesh. I just double checked and it does not appear that I included the costs of a contractor going to the participants home as part of the incentive cost - it was included as a non-incentive cost. Technically \$480k per participant (2400 participants x \$200 = 480k) should come out of non-incentive cost and put in to incentive costs. And, yes, 5.78GJ and 4% are weighted averages.

- **Electricity savings:** Accounting for electricity savings would help the TRC. Are estimates for these savings available anywhere (i.e. for measures that are installed in homes with electric heating or DHW)? We commonly include some of these measures in our CPR projects but we haven't looked at all of them. If there isn't any good info available, we should probably just ignore any potential electricity savings.

\*\*\* Same as ESK stated above.

[JD] As discussed on the phone, we'll neglect these electricity savings for now.

Please feel free to give me a call if you'd like to discuss any of these questions over the phone. However, please note that I'll be out of the office for the rest of the day.

Thanks!

John

**John Dikeos, P.Eng., M.A.Sc.** | Senior Associate | +1 613-523-0784  
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---

**From:** Georgy, Ned [mailto:Ned.Georgy@fortisbc.com]  
**Sent:** September 13, 2011 10:03 PM  
**To:** Dikeos, John  
**Cc:** Norman, Colin  
**Subject:** RE: FortisBC Residential Programs - Review Gaps and Assumptions

Hi John,

Fire away with the questions and I'll do my best to help. Either send me an email and I'll endeavor

to answer within 24hours or you can try to call my cell 604.916.5179 if it's something I can answer without the computer in front of me.

Thanks,  
Ned

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**From:** Dikeos, John [mailto:dikeos@marbek.ca]  
**Sent:** Tuesday, September 13, 2011 5:19 PM  
**To:** Georgy, Ned  
**Cc:** Norman, Colin  
**Subject:** FortisBC Residential Programs - Review Gaps and Assumptions

Hi Ned,

I've been entering the three Affordable Housing programs into the Cost Effectiveness Tool and I've identified some gaps and questions for you. However, I was told that you are out of the office this week. Do you think that you may still be able to address my questions or perhaps can you refer me to somebody else?

Thanks!  
John

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**From:** [Dikeos, John](#)  
**To:** [Georgy, Ned](#)  
**Cc:** [Norman, Colin](#); [Narbaitz, Peter](#)  
**Subject:** RE: FortisBC Residential Programs - Review Gaps and Assumptions  
**Date:** Monday, September 19, 2011 11:01:05 AM

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Hi Ned,

Thanks for the feedback. I have revised the incremental cost of the ESK to \$10, as requested. In addition, I've reduced the number of participants for ECAP from 2,400 to 2,200 (i.e. we haven't broken out each of the measures that are included with this program, so I have to modify the aggregate number of participants). Lastly, we've discussed it internally and we believe that it's actually ok to include the \$200 contractor cost for the ECAP program in the program costs rather than the incentive costs.

John

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-----Original Message-----

**From:** Georgy, Ned [<mailto:Ned.Georgy@fortisbc.com>]  
**Sent:** September 18, 2011 8:37 PM  
**To:** Dikeos, John  
**Cc:** Norman, Colin  
**Subject:** RE: FortisBC Residential Programs - Review Gaps and Assumptions

Hi John,

Sorry for the delay in responding.

Also, per the tracking list of outstanding items, can you please change the introductory paragraph as per the suggestion to spell out the program names before using their acronyms.

REnEW: Residential Energy Efficiency Works

ESK: Energy Saving Kit

ECAP: Energy Conservation Assistance Program.

With respect to the over-budget spend, I suggest we take some out of the ECAP program by bringing down the number of High Efficiency Furnaces. If you bring it down to 200 that will shave off just over \$200k.

Responses to other outstanding questions are below.

Just in case, my cell number is 604.916.5179

Thanks,  
Ned

---

**From:** Dikeos, John [[dikeos@marbek.ca](mailto:dikeos@marbek.ca)]  
**Sent:** Friday, September 16, 2011 4:57 PM  
**To:** Georgy, Ned  
**Cc:** Norman, Colin  
**Subject:** RE: FortisBC Residential Programs - Review Gaps and Assumptions

Hi Ned,

Thanks for the feedback. It was nice to chat with you on the phone today as well. See below for some comments (in red). In addition, I'll be forwarding an updated version of the results to Colin shortly. As a spoiler, it seems like the Low Income spending is currently about \$200K higher than the ask per year.

John

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icfi.com<http://www.icfi.com/> ICF MARBEK | 222 Somerset Street West, Suite 300, Ottawa, ON K2P  
2G3 | +1 613-523-0717 (f)

From: Georgy, Ned [mailto:Ned.Georgy@fortisbc.com]  
Sent: September 14, 2011 4:54 PM  
To: Dikeos, John  
Cc: Norman, Colin  
Subject: RE: FortisBC Residential Programs - Review Gaps and Assumptions

Hi John,  
See my responses below...

From: Dikeos, John [mailto:dikeos@marbek.ca]  
Sent: Wednesday, September 14, 2011 10:26 AM  
To: Georgy, Ned  
Cc: Norman, Colin  
Subject: RE: FortisBC Residential Programs - Review Gaps and Assumptions

Hi Ned,

Thanks for the quick response. Here are some questions for each of the three programs:

. Please confirm that the input (costs, savings, etc.) are identical for 2012 and 2013  
\*\*\*Yes. The most cost intensive program is ECAP and many of the program costs are contractual so costs should remain approximately identical. Savings would only change if we complete an evaluation that tells us the savings should be something other than what I've indicated.  
[JD] Thanks for the confirmation.

. Are there any incentives provided by BC Hydro or any other partners for the three programs in questions? If so, please provide some details on these contributions.  
\*\*\* REnEW costs are the FBC costs. Actual costs of the program are considerably higher but the remaining amount of the costs are covered by sponsoring partners (FortisBC Electric in some cases and BC Hydro in all cases). Historically, the FBC costs represent 30-40% of the total costs of the program.  
[JD] Ok, since this is just an enabling program, we can ignore these contributions.  
\*\*\* ESK costs – again, the costs and savings identified are specific to FBC. BCH is the central administrator for this program and they actually cover a greater amount of costs than what FBC incurs. I don't know the extent of their administration and marketing costs but, as a ball park, the ~\$10 per kit that FBC pays represents about 20% of the total cost of the kit (the total cost includes some electric only measures such as light bulbs, fridge/freezer thermometers, etc.) [JD] As discussed on the phone, I think it's ok to neglect the BCH contributions, as they aren't providing any funding for the gas measures.

\*\*\* ECAP costs – again, BC Hydro is the central administrator of the program and they have savings and costs that would be quite onerous to estimate. This program hasn't launched yet so there's a lack

of experience in the market to really estimate the costs moving forward. We can't use historical costs because the historical costs of administration will increase significantly once the joint program is launched and some of those increased costs will be shared by both parties. In short, ECAP has two streams, Basic and Advanced. A lot of the costs of the Basic stream will be covered by both BC Hydro and FortisBC. In the Advanced stream, the utility that the home is heated by will cover all of the measures and costs of the advanced work (insulation and draftproofing). I sent along a TRC spreadsheet that has the details of FBC expected costs. I have not attempted to determine what the total incentives from both BCH and FBC would be. That would take some time.

[JD] Same as above

REnEW:

. No savings: Please confirm that there are no savings attributed to this program (i.e. that it is an enabling program)

\*\*\*correct...at least that's the plan.

[JD] Thanks for the confirmation

ESK:

. Incremental cost: Since you've already provided a weighted average of the gas savings and lifetime, I need a bundled incremental cost for the measures included in the energy savings kit as well. Is this available to you? If not, can you give me some more details on each of the items that are included so that we can estimate the incremental cost (i.e. you've indicated that the following items would be included: Faucet Aerators, Low Flow Showerhead, Water Heater Pipe Wrap, Caulking, Draftproofing, Outlet Gaskets, Window Film)?

\*\*\* For low income programs we don't typically put a lot of thought in to what the incremental costs are because the incentive for low income programs is the entire costs of the measure (the gas-specific measures in the energy saving kit). Since we're paying the entire costs (and making assumptions about installation rates of each of the measures) there was no need for us to identify non-efficient measure costs vs efficient measure costs. The "measures" sheet in the attached ESK file details all the measures and their full costs.

[JD] Ok, as I understand it, the per unit cost is identical to the per unit incentive. However, since it seems more accurate, I've used the gas portion of the cost highlighted in the ESK spreadsheet you sent to me (i.e. \$13.76) rather than the cost in the program spreadsheet you sent (i.e. \$10.00). Does this make sense?

[NG] What I sent you was the original business case numbers. We do have almost a year of experience now and at the end of 2010 the cost we contributed per ESK was reported as \$10 plus change. This year it's looking like it might be just under \$10 so I'd rather stick with the \$10 estimate please.

. Electricity savings: Accounting for electricity savings would help the TRC. Are estimates for these savings available anywhere (i.e. for measures that are installed in homes with electric heating or DHW)? We commonly include some of these measures in our CPR projects but we haven't looked at all of them. If there isn't any good info available, we should probably just ignore any potential electricity savings.

\*\*\*The approach has been to only account for gas savings and gas costs. Where the measures are installed in electric heated homes, BC Hydro captures the savings and the costs of those measures. So, FBC does not include the costs of things like CFL's and only includes a proportion savings of things like faucet aerators that matches the proportion of times those measures are being installed in gas homes.

[JD] As discussed on the phone, we'll neglect these electricity savings for now.

[NG] Okay. Note that in the ECAP TRC spreadsheet I sent, there were some electricity savings captured for only the High Efficiency Furnace measure because BC Hydro is not paying for any portion of the furnaces.

ECAP:

· Incremental cost: I need an incremental cost for this program as well. I realize that the measures that are being installed would vary from home to home but we need some kind of weighted average, based on the number of participants and the average number of each measure installed per home. Are any estimates available to you or can we derive this from somewhere?

\*\*\* As stated above – we only consider the full cost of the measure because that's what our incentive is based on. In fact, for ECAP is further complicated by the fact that non-measure costs, such as having a contractor come to the customer's home, is part of the incentive costs. Attached is the ECAP TRC spreadsheet which details full-costs. No other work has been completed on attempting to quantify incremental costs.

[JD] The cost of having the contractor visit the home should definitely be included in the per unit cost (i.e. which is equal to the per unit incentive), since it reflects the cost of implementing the measure and the cost that Fortis is covering per participant. I see that costs and participant numbers are included for each of the measures in the ECAP spreadsheet. Does the \$1,150 estimate in your original spreadsheet represent the average cost of implementing the measures based on these inputs? Also, I'm guessing 5.78 GJ and 4% are weighted averages of the savings and free rider rate per participant. [NG] Eesh. I just double checked and it does not appear that I included the costs of a contractor going to the participants home as part of the incentive cost - it was included as a non-incentive cost. Technically \$480k per participant (2400 participants x \$200 = 480k) should come out of non-incentive cost and put in to incentive costs. And, yes, 5.78GJ and 4% are weighted averages.

· Electricity savings: Accounting for electricity savings would help the TRC. Are estimates for these savings available anywhere (i.e. for measures that are installed in homes with electric heating or DHW)? We commonly include some of these measures in our CPR projects but we haven't looked at all of them. If there isn't any good info available, we should probably just ignore any potential electricity savings.

\*\*\* Same as ESK stated above.

[JD] As discussed on the phone, we'll neglect these electricity savings for now.

Please feel free to give me a call if you'd like to discuss any of these questions over the phone. However, please note that I'll be out of the office for the rest of the day.

Thanks!  
John

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icfi.com<http://www.icfi.com/> ICF MARBEK | 222 Somerset Street West, Suite 300, Ottawa, ON K2P  
2G3 | +1 613-523-0717 (f)

From: Georgy, Ned [mailto:Ned.Georgy@fortisbc.com]  
Sent: September 13, 2011 10:03 PM  
To: Dikeos, John  
Cc: Norman, Colin  
Subject: RE: FortisBC Residential Programs - Review Gaps and Assumptions

Hi John,  
Fire away with the questions and I'll do my best to help. Either send me an email and I'll endeavor to answer within 24hours or you can try to call my cell 604.916.5179 if it's something I can answer without the computer in front of me.  
Thanks,  
Ned

From: Dikeos, John [mailto:dikeos@marbek.ca]  
Sent: Tuesday, September 13, 2011 5:19 PM  
To: Georgy, Ned

Cc: Norman, Colin

Subject: FortisBC Residential Programs - Review Gaps and Assumptions

Hi Ned,

I've been entering the three Affordable Housing programs into the Cost Effectiveness Tool and I've identified some gaps and questions for you. However, I was told that you are out of the office this week. Do you think that you may still be able to address my questions or perhaps can you refer me to somebody else?

Thanks!

John

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**From:** [Georgy, Ned](#)  
**To:** [Norman, Colin](#)  
**Subject:** RE: EEC Plan - next version  
**Date:** Wednesday, September 21, 2011 11:36:00 AM

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Hi Colin,

In all programs (including other program areas) I notice that the annual gas savings for 2013 is double that of 2012. It's not intuitive to me why this is the case. We have NPV Gas savings which shows the cumulative view so shouldn't 2013 annual savings be it's own independent year (as appose to cumulative 2012, 2013?) If there is some technical reason why this is not the case, I wonder if we should add a footnote to explain. (Beth thought so too).

The TRC on the ECAP program is very low. All assumptions/inputs in to the model should have been identical to business case assumptions and our internal TRC model yielded a TRC of 0.6 whereas Marbek is showing a 0.38 TRC. Please ensure Marbek has utilized the 30% benefit bump. They may need to do some reconciliation work to determine why their result is so different from the TRC spreadsheets I sent them (which showed a 0.6 TRC). The TRC spreadsheets I sent were using discount rates and cost of gas rates as available in January 2011 and were vetted by Jady and Arvind. Also, Sarah has been using my figures in some high level conversations recently so if 0.6 is not correct, we might have to do some back peddling – therefore an explanation of the variance will be needed.

In the ECAP description under "Eligible Measures", please include "High Efficiency Furnaces" as an Advanced Stream measure. This is important as High Efficiency Furnaces account for a large amount of the incentives.

For ESK, the description for "Incremental Measure Cost" and "Incentive Amount" is "\$10". But in ECAP we have "Incremental Measure Cost" of "Not Available". In both cases however, the "Incremental Cost" by conventional definition is not relevant or factored in to the TRC calculations. The Incentive amount is the full cost of the measure. On the back end, if we need to deem the incremental amount to equal the incentive amount, in order to make the model work, that is fine. In ESK, it's just the measure. In ECAP, it's the installed cost of the measure. If this makes sense, then I suggest the following:

ESK:

Incremental Cost – Not applicable.

Incentive Amount - \$10. Based on the full cost of the gas measures included in the ESK and pro-rated by the proportion of participants that use natural gas for space or water heating.

ECAP:

Incremental Cost – Not applicable.

Incentive Amount - \$1,150. Based on the full cost of the gas measures installed.

For REnEW, can we change description of Program Description to, "Energy efficiency trade training by industry experts at no cost to participant. Training program includes course materials developed by FortisBC focused on the Energy Efficiency trade as well as, first aid, Workplace

Hazardous Materials Information System ("WHMIS") and other trade industry certifications, a set of tools and a tool belt, and two nutritious meals per day during training."

And change description of REnEW "Target Market" to "Low income individuals facing barriers to employment".

Thanks,  
Ned

**Ned Georgy**

Program Manager, Conservation Assistance  
FortisBC  
o 604 576 7026  
c 604 916 5179

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**From:** Norman, Colin  
**Sent:** Tuesday, September 20, 2011 7:21 PM  
**To:** Kobialko, Jim; Georgy, Ned; Kok, Hakan; Ringdahl, Beth; Chia, Jenny  
**Subject:** FW: EEC Plan - next version  
**Importance:** High

Hello Program Managers,

Sorry for another tight turnaround time, but we need each of you to review your respective sections in the attached revised 2012/13 DSM Plan report with a critical eye and provide any feedback absolutely no later than **noon tomorrow (Wednesday)**. If you spot any errors or required edits please let me know directly and I will forward them to Marbek. However, if your feedback concerns any decisions that have been made regarding funding allocation, etc. please notify myself and Sarah and it will be taken forward for consideration.

Note that if I do not hear from you before noon tomorrow I will assume that you are fine with your section as is and we will move forward and finalize it.

Thanks,

Colin

---

**From:** Dikeos, John [mailto:dikeos@marbek.ca]  
**Sent:** Tuesday, September 20, 2011 3:59 PM  
**To:** Sarah Smith - Terasen; Norman, Colin  
**Cc:** Robillard, Paul  
**Subject:** RE: EEC Plan - next version

Hi Sarah and Colin,

As promised, the revised report is attached. We look forward to your feedback.

John

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**From:** [Smith, Sarah](#)  
**To:** ["Paul Robillard \(paulr@marbek.ca\)"; "johnd@marbek.ca"](#)  
**Cc:** [Norman, Colin](#); [Georgy, Ned](#)  
**Subject:** Minor edit to Low Income Program Area  
**Date:** Wednesday, September 21, 2011 12:01:12 PM

---

Very first sentence, change the first "is" to "was"

**From:** [Smith, Sarah](#)  
**To:** ["Paul Robillard \(paulr@marbek.ca\)"; "johnd@marbek.ca"](#)  
**Cc:** [Norman, Colin](#); [Georgy, Ned](#)  
**Subject:** Another edit to Low Income  
**Date:** Wednesday, September 21, 2011 12:06:13 PM

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Need to add some verbiage about why the TRC results for ECAP are low please.  
Ned/Marbek please work together to develop this. Also need to note that TRC results reflect 30% bump provided for in the DSM Regulation, and some verbiage about how these programs are important to the EEC portfolio despite their low TRC as they are required under the DSM Regulation for adequacy. Ned to provide verbiage for these latter two items please, including citation and excerpt from reg.

**From:** [Georgy, Ned](#)  
**To:** [Norman, Colin](#)  
**Cc:** [Smith, Sarah](#); ["Paul Robillard \(paulr@marbek.ca\)"; "johnd@marbek.ca"](mailto:paulr@marbek.ca)  
**Subject:** RE: EEC Plan - next version  
**Date:** Wednesday, September 21, 2011 1:26:00 PM  
**Attachments:** [Low Income Programs Intro for DSM Plan.doc](#)

---

Hi Colin,

As per Sarah's note, please use the attached revised intro section for Low Income programs.

The TRC on the ECAP program is very low. All assumptions/inputs in to the model should have been identical to business case assumptions and our internal TRC model yielded a TRC of 0.6 whereas Marbek is showing a 0.38 TRC. Please ensure Marbek has utilized the 30% benefit bump. They may need to do some reconciliation work to determine why their result is so different from the TRC spreadsheets I sent them (which showed a 0.6 TRC). The TRC spreadsheets I sent were using discount rates and cost of gas rates as available in January 2011 and were vetted by Jady and Arvind. So if 0.6 is not correct, I hope Marbek and help me understand the variance.

For ESK, the description for "Incremental Measure Cost" and "Incentive Amount" is "\$10". But in ECAP we have "Incremental Measure Cost" of "Not Available". In both cases however, the "Incremental Cost" by conventional definition is not relevant or factored in to the TRC calculations. The Incentive amount is the full cost of the measure. On the back end, if we need to deem the incremental amount to equal the incentive amount, in order to make the model work, that is fine. Therefore, please see the following edits:

ESK:

Program Description: Please take "will" out. i.e. "This Program provides..."

Incremental Cost – Not applicable.\*\*

Incentive Amount - \$10. Based on the full cost of the gas measures included in the ESK and pro-rated by the proportion of participants that use natural gas for space or water heating.

ECAP:

Incremental Cost – Not applicable.\*\*

Incentive Amount - \$1,150. Based on the full cost of the gas measures installed.

Eligible Measures - under please include "High Efficiency Furnaces" as an Advanced Stream measure.

\*\*For both Incremental Cost items above, please footnote: For Low Income programs, the Incremental Cost is not applicable because the Companies pay for the entire cost of the measure, not the incremental cost of an efficient model versus the standard model as is the case in typical residential (able-to-pay) market.

For REnEW, can we change description of Program Description to, "This program provides energy efficiency trade training by industry experts at no cost to the participants. This training program includes course materials, developed by FortisBC, that is focused on the Energy Efficiency trade industry and the program also includes, first aid, Workplace Hazardous Materials Information

System ("WHMIS") and other trade industry certifications, a set of tools and a tool belt, and two nutritious meals per day during training."

Change "Target Market" to "Low income individuals facing barriers to employment".

Finally, in all programs (including other program areas) I notice that the annual gas savings for 2013 is double that of 2012. It's not intuitive to me why this is the case. We have NPV Gas savings which shows the cumulative view so shouldn't 2013 annual savings be it's own independent year (as appose to cumulative 2012, 2013?) If there is some technical reason why this is not the case, I wonder if we should add a footnote to explain. (Beth thought so too).

Thanks,  
Ned

**Ned Georgy**

Program Manager, Conservation Assistance

FortisBC

o 604 576 7026

c 604 916 5179

---

**From:** Norman, Colin

**Sent:** Tuesday, September 20, 2011 7:21 PM

**To:** Kobialko, Jim; Georgy, Ned; Kok, Hakan; Ringdahl, Beth; Chia, Jenny

**Subject:** FW: EEC Plan - next version

**Importance:** High

Hello Program Managers,

Sorry for another tight turnaround time, but we need each of you to review your respective sections in the attached revised 2012/13 DSM Plan report with a critical eye and provide any feedback absolutely no later than **noon tomorrow (Wednesday)**. If you spot any errors or required edits please let me know directly and I will forward them to Marbek. However, if your feedback concerns any decisions that have been made regarding funding allocation, etc. please notify myself and Sarah and it will be taken forward for consideration.

Note that if I do not hear from you before noon tomorrow I will assume that you are fine with your section as is and we will move forward and finalize it.

Thanks,

Colin

---

**From:** Dikeos, John [mailto:dikeos@marbek.ca]

**Sent:** Tuesday, September 20, 2011 3:59 PM

**To:** Sarah Smith - Terasen; Norman, Colin

**Cc:** Robillard, Paul

**Subject:** RE: EEC Plan - next version

Hi Sarah and Colin,

As promised, the revised report is attached. We look forward to your feedback.

John

**John Dikeos, P.Eng., M.A.Sc.** | Senior Associate | +1 613-523-0784  
x330 | [jdikeos@marbek.ca](mailto:jdikeos@marbek.ca) | [marbek.ca](http://marbek.ca) | [icfi.com](http://icfi.com)

---

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**From:** [Dikeos, John](#)  
**To:** [Ringdahl, Beth](#)  
**Cc:** [Norman, Colin](#); [Robillard, Paul](#)  
**Subject:** Residential Program Inputs  
**Date:** Friday, September 16, 2011 10:33:30 AM  
**Attachments:** [image001.png](#)  
[FortisBC Residential Measures.xlsm](#)  
[Residential EEC Program Plan - 2012 and 2013, Marbek Update.xls](#)

---

Hi Beth,

I apologize for not getting these to you sooner but here are the residential measure inputs, as promised. Assumptions for ranges of values or measures that weren't included in your original breakdown are highlighted. An updated version of the program spreadsheet, with changes highlighted, is attached as well. It may make sense for us to discuss these inputs over the phone (i.e. after the meeting this afternoon or on Monday). Let me know if you have any questions.

John

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---

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[home.jpg](#)



**From:** [Dikeos, John](#)  
**To:** [Ringdahl, Beth](#)  
**Cc:** [Norman, Colin](#); [Robillard, Paul](#)  
**Subject:** RE: High Carbon Fuel Switching Portfolio  
**Date:** Friday, September 16, 2011 5:20:49 PM  
**Attachments:** [image001.png](#)

---

Hi Beth,

It was nice to chat with you during the meeting this afternoon. One issue that came up after you signed off is that the spending for the Fuel Switching portfolio is quite low (i.e. ~\$1.25M for 2012 and 2013 versus the ask of \$4.00M). I know that this is likely due to the fact that several of the programs in the portfolio were dropped since they're still under development. However, we were wondering what approach you'd like us to take to ensure that the funding is closer to the ask.

John

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**From:** Dikeos, John  
**Sent:** September 16, 2011 1:30 PM  
**To:** 'Ringdahl, Beth'  
**Cc:** Norman, Colin; Robillard, Paul  
**Subject:** Residential Program Inputs

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[home.jpg](#)



**From:** [Ringdahl, Beth](#)  
**To:** ["dikeos@marbek.ca"](mailto:dikeos@marbek.ca)  
**Cc:** [Norman, Colin](#); ["paulr@marbek.ca"](mailto:paulr@marbek.ca)  
**Subject:** Re: High Carbon Fuel Switching Portfolio  
**Date:** Friday, September 16, 2011 5:31:26 PM  
**Attachments:** [image001.png](#)

---

Hi John

I think we would like to keep the ask at this level. Let me work on the caveats for the intended ask. Is Sunday early enough? I won't be near a laptop until later tomorrow.

I have a couple of things to clarify with Sarah and will see if she has time to approve this approach. It must be close to wine o'clock.

Beth

---

**From:** Dikeos, John [mailto:dikeos@marbek.ca]  
**Sent:** Friday, September 16, 2011 05:18 PM  
**To:** Ringdahl, Beth  
**Cc:** Norman, Colin; Robillard, Paul <paulr@marbek.ca>  
**Subject:** RE: High Carbon Fuel Switching Portfolio

Hi Beth,

It was nice to chat with you during the meeting this afternoon. One issue that came up after you signed off is that the spending for the Fuel Switching portfolio is quite low (i.e. ~\$1.25M for 2012 and 2013 versus the ask of \$4.00M). I know that this is likely due to the fact that several of the programs in the portfolio were dropped since they're still under development. However, we were wondering what approach you'd like us to take to ensure that the funding is closer to the ask.

John

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**Sent:** September 16, 2011 1:30 PM  
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**Cc:** Norman, Colin; Robillard, Paul  
**Subject:** Residential Program Inputs

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John

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[home.jpg](#)



**From:** Ringdahl, Beth  
**To:** ["dikeos@marbek.ca"](mailto:dikeos@marbek.ca)  
**Cc:** [Norman, Colin](#)  
**Subject:** Fuel Switching Area  
**Date:** Monday, September 19, 2011 8:26:00 AM

---

Sarah has approved this approach to explain that we only have one program in place to date.  
Wording such as the following –

The FEU have requested funding for high carbon to lower carbon fuel switching initiatives because they make significant contributions to GHG emission reduction strategies. Assumptions for economic modeling are not known at this time however further information will be available in the 2011 EEC Report.

**Beth Ringdahl | EEC Program Manager, Residential | FortisBC**  
16705 Fraser Highway | Surrey BC V4N 0E8 | 604.592.8265 [beth.ringdahl@fortisbc.com](mailto:beth.ringdahl@fortisbc.com)

**From:** [Dikeos, John](#)  
**To:** [Ringdahl, Beth](#); [Norman, Colin](#)  
**Cc:** [Robillard, Paul](#); [Narbaitz, Peter](#)  
**Subject:** RE: Residential Updates  
**Date:** Monday, September 19, 2011 9:23:55 AM

---

Hi Beth,

Thanks for the feedback. As discussed on Friday, I've decreased the number of participants in the Fireplace program. Based on your input for the OPower Tool (Customer Engagement) program below, I've also modified the inputs to include no participants in 2012 (i.e. no savings in this year) and only ¼ of the costs in 2012 for this particular program. Peter is working on incorporating your edits into the residential section of the report as well. Let me know if you have any more feedback or would like us to make any other changes.

Thanks!

John

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---

**From:** Ringdahl, Beth [mailto:[Beth.Ringdahl@fortisbc.com](mailto:Beth.Ringdahl@fortisbc.com)]  
**Sent:** September 18, 2011 11:03 AM  
**To:** Norman, Colin; Dikeos, John  
**Subject:** Residential Updates

Hi John,

I have made some updates within the document that hopefully explains the programs better and hopefully the intro flows better as well.

I few things that I have noticed / changed include the following:

- All programs need a 90:10 split except fireplaces which are an 80:20 split between FEI and FEVI

**[JD]** Ok, will make sure that this rule is adhered to.

- Fireplace TRC may be too high. This is because the incentive is higher than the incremental cost we use. Jadey has done a work around – I'm not sure if she uses an absolute value or zeros it out but I think your TRC will raise a red flag. Can you please investigate – if you think its defensible that's ok to leave as is. But this TRC is much higher than what we report in our EEC reports.

**[JD]** I believe that the TRC is being calculated properly – it shouldn't matter that the potential incentive is larger than the incremental cost.

- OPower tool – savings – I think we need to be leary claiming savings in 2012 – it will not even be launched until Sept so we cant claim a full year. Similarly the rollout will be late 2013 so likely no savings...I have not had the time to fully investigate the savings claims for

this tool – so I'm not sure how we should source savings...ie a customer may need to receive several reports before they actually make behavior changes).

**[JD]** Since the program is ramping up in late 2012, I have modified the inputs to include no participants in 2012 (i.e. no savings in this year) and only ¼ of the costs in 2012. Does this make sense to you or would you like me to modify the assumptions in some other way?

- We have not yet fully investigated inputs for new construction for hot water or enerchoice fireplaces. Fireplaces should be similar to retrofit. Hot water tanks will have substantial cost savings for volume buys. This is a high priority for us to delve into these numbers but not available today. The numbers we are using are therefore conservative and we may be ok.

**[JD]** Ok, have not changed the input assumptions for now.

- Please note that the Home Retrofit Program includes weatherization capacity and I have added the possibility of low flow fixtures into DHW E\* appliances. I want to leave an opening for a future program. I'm not sure what strategy Sarah has in mind for this.

**[JD]** Will modify the description as you've suggested.

I have sent a note to Sarah about Fuel Switching and how to position the fact that we don't have inputs into other program areas.

When we are under this level of scrutiny I don't think we should be "guessing". I will let you know when I get some feedback.

Good luck.

I will try to log in after 5pm PST.

Beth

---

**From:** Beth Ringdahl [mailto:beth@ecoeco.ca]

**Sent:** Sunday, September 18, 2011 7:45 AM

**To:** Ringdahl, Beth

**Subject:**

Beth Ringdahl, MBA | Principal  
ECOECO

[www.ecoeco.ca](http://www.ecoeco.ca)

[beth@ecoeco.ca](mailto:beth@ecoeco.ca)

Founder, Red Dot Campaign

"No Junk Mail Please"

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**From:** Ringdahl, Beth  
**To:** ["Dikeos, John"](#); [Norman, Colin](#)  
**Cc:** [Robillard, Paul](#); [Narbaitz, Peter](#)  
**Subject:** RE: Residential Updates  
**Date:** Monday, September 19, 2011 10:24:00 AM

---

Thanks for these updates –

Opower tool assumptions:

I think we can leave the expenditures as \$500k in 2012 and \$1 Million for 2013.

There may be significant start-up costs – for example IT, marketing, etc.

It sounds as if we will have leeway to move funds around if necessary.

Thanks everyone. I think that is all from me.

Beth

**Beth Ringdahl | EEC Program Manager, Residential | FortisBC**  
16705 Fraser Highway | Surrey BC V4N 0E8 | 604.592.8265 [beth.ringdahl@fortisbc.com](mailto:beth.ringdahl@fortisbc.com)

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**From:** Dikeos, John [<mailto:dikeos@marbek.ca>]  
**Sent:** September 19, 2011 9:21 AM  
**To:** Ringdahl, Beth; Norman, Colin  
**Cc:** Robillard, Paul; Narbaitz, Peter  
**Subject:** RE: Residential Updates

Hi Beth,

Thanks for the feedback. As discussed on Friday, I've decreased the number of participants in the Fireplace program. Based on your input for the OPower Tool (Customer Engagement) program below, I've also modified the inputs to include no participants in 2012 (i.e. no savings in this year) and only ¼ of the costs in 2012 for this particular program. Peter is working on incorporating your edits into the residential section of the report as well. Let me know if you have any more feedback or would like us to make any other changes.

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John

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**Sent:** September 18, 2011 11:03 AM  
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Good luck.

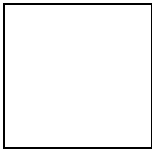
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Beth

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**From:** Beth Ringdahl [mailto:beth@ecoeco.ca]  
**Sent:** Sunday, September 18, 2011 7:45 AM  
**To:** Ringdahl, Beth  
**Subject:**

Beth Ringdahl, MBA | Principal  
ECOECO  
[www.ecoeco.ca](http://www.ecoeco.ca)  
[beth@ecoeco.ca](mailto:beth@ecoeco.ca)  
Founder, Red Dot Campaign  
**"No Junk Mail Please"**  
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**From:** [Dikeos, John](#)  
**To:** [Ringdahl, Beth](#)  
**Subject:** RE: Residential Updates  
**Date:** Monday, September 19, 2011 11:33:46 AM

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Will do.

**John Dikeos, P.Eng., M.A.Sc.** | Senior Associate | +1 613-523-0784  
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**From:** Ringdahl, Beth [<mailto:Beth.Ringdahl@fortisbc.com>]  
**Sent:** September 19, 2011 1:24 PM  
**To:** Dikeos, John; Norman, Colin  
**Cc:** Robillard, Paul; Narbaitz, Peter  
**Subject:** RE: Residential Updates

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**Beth Ringdahl | EEC Program Manager, Residential | FortisBC**  
16705 Fraser Highway | Surrey BC V4N 0E8 | 604.592.8265 [beth.ringdahl@fortisbc.com](mailto:beth.ringdahl@fortisbc.com)

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**Sent:** September 19, 2011 9:21 AM  
**To:** Ringdahl, Beth; Norman, Colin  
**Cc:** Robillard, Paul; Narbaitz, Peter  
**Subject:** RE: Residential Updates

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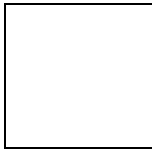
I will try to log in after 5pm PST.

Beth

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**Sent:** Sunday, September 18, 2011 7:45 AM  
**To:** Ringdahl, Beth  
**Subject:**

Beth Ringdahl, MBA | Principal  
ECOECO  
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[beth@ecoeco.ca](mailto:beth@ecoeco.ca)  
Founder, Red Dot Campaign  
**"No Junk Mail Please"**  
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**From:** [Dikeos, John](#)  
**To:** [Ringdahl, Beth](#)  
**Cc:** [Norman, Colin](#); [Narbaitz, Peter](#)  
**Subject:** RE: Fuel Switching Area  
**Date:** Monday, September 19, 2011 11:43:35 AM

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So, if I'm understanding correctly, we will keep things as they are so that the current funding (i.e. as per the results of the Cost Effectiveness) will stay at \$1.25M, which is lower than the ask of \$4.00M. However, we'll include your wording below in the description. Please confirm.

**John Dikeos, P.Eng., M.A.Sc.** | Senior Associate | +1 613-523-0784  
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**From:** Ringdahl, Beth [<mailto:Beth.Ringdahl@fortisbc.com>]  
**Sent:** September 19, 2011 11:26 AM  
**To:** Dikeos, John  
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**Subject:** Fuel Switching Area

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Wording such as the following –

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**Beth Ringdahl | EEC Program Manager, Residential | FortisBC**  
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**From:** Ringdahl, Beth  
**To:** ["Dikeos, John"](#)  
**Cc:** [Norman, Colin](#); [Narbaitz, Peter](#)  
**Subject:** RE: Fuel Switching Area  
**Date:** Monday, September 19, 2011 11:46:00 AM

---

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**From:** Dikeos, John [mailto:[dikeos@marbek.ca](mailto:dikeos@marbek.ca)]  
**Sent:** September 19, 2011 11:43 AM  
**To:** Ringdahl, Beth  
**Cc:** Norman, Colin; Narbaitz, Peter  
**Subject:** RE: Fuel Switching Area

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**From:** Ringdahl, Beth [mailto:[Beth.Ringdahl@fortisbc.com](mailto:Beth.Ringdahl@fortisbc.com)]  
**Sent:** September 19, 2011 11:26 AM  
**To:** Dikeos, John  
**Cc:** Norman, Colin  
**Subject:** Fuel Switching Area

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**From:** [Dikeos, John](#)  
**To:** [Ringdahl, Beth](#)  
**Cc:** [Norman, Colin](#); [Robillard, Paul](#)  
**Subject:** RE: Fuel Switching Area  
**Date:** Monday, September 19, 2011 12:20:01 PM

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**From:** [Dikeos, John](#)  
**To:** [Ringdahl, Beth](#); [Norman, Colin](#)  
**Subject:** RE: Residential Updates - one last change  
**Date:** Monday, September 19, 2011 1:31:13 PM

---

Hi Beth,

Ok, we've incorporated these changes and we are trying to make our way to the finish line now.

John

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**From:** Ringdahl, Beth [mailto:[Beth.Ringdahl@fortisbc.com](mailto:Beth.Ringdahl@fortisbc.com)]  
**Sent:** September 19, 2011 12:33 PM  
**To:** Norman, Colin; Dikeos, John  
**Subject:** RE: Residential Updates - one last change  
**Importance:** High

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Please reduce participants in LiveSmart BC to transfer \$625k into the Furnace Service Program for both 2012 and 2013

Hopefully this will not be too big an inconvenience for you –

Beth

(If there is an easier way to transfer some funds around please let me know)

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**From:** Ringdahl, Beth  
**Sent:** September 18, 2011 8:03 AM  
**To:** Norman, Colin; 'dikeos@marbek.ca'  
**Subject:** Residential Updates

Hi John,

I have made some updates within the document that hopefully explains the programs better and hopefully the intro flows better as well.

I few things that I have noticed / changed include the following:

- All programs need a 90:10 split except fireplaces which are an 80:20 split between FEI and

FEVI

- Fireplace TRC may be too high. This is because the incentive is higher than the incremental cost we use. Jadey has done a work around – I'm not sure if she uses an absolute value or zeros it out but I think your TRC will raise a red flag. Can you please investigate – if you think its defensible that's ok to leave as is. But this TRC is much higher than what we report in our EEC reports.
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- We have not yet fully investigated inputs for new construction for hot water or enerchoice fireplaces. Fireplaces should be similar to retrofit. Hot water tanks will have substantial cost savings for volume buys. This is a high priority for us to delve into these numbers but not available today. The numbers we are using are therefore conservative and we may be ok.
- Please note that the Home Retrofit Program includes weatherization capacity and I have added the possibility of low flow fixtures into DHW E\* appliances. I want to leave an opening for a future program. I'm not sure what strategy Sarah has in mind for this.

I have sent a note to Sarah about Fuel Switching and how to position the fact that we don't have inputs into other program areas.

When we are under this level of scrutiny I don't think we should be "guessing". I will let you know when I get some feedback.

Good luck.

I will try to log in after 5pm PST.

Beth

---

**From:** Beth Ringdahl [mailto:beth@ecoeco.ca]

**Sent:** Sunday, September 18, 2011 7:45 AM

**To:** Ringdahl, Beth

**Subject:**

Beth Ringdahl, MBA | Principal  
ECOECO

[www.ecoeco.ca](http://www.ecoeco.ca)

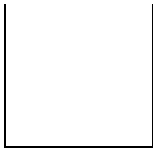
[beth@ecoeco.ca](mailto:beth@ecoeco.ca)

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[Redacted]



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**From:** Ringdahl, Beth  
**To:** ["Dikeos, John"](#)  
**Subject:** RE: Residential Updates - one last change  
**Date:** Monday, September 19, 2011 2:05:00 PM

---

EXCITING – Thanks John for the flexibility.

Beth

**Beth Ringdahl | EEC Program Manager, Residential | FortisBC**  
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**From:** Dikeos, John [mailto:dikeos@marbek.ca]  
**Sent:** September 19, 2011 1:30 PM  
**To:** Ringdahl, Beth; Norman, Colin  
**Subject:** RE: Residential Updates - one last change

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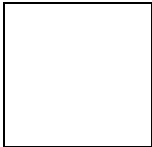
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**From:** Ringdahl, Beth  
**To:** ["Dikeos, John"](#)  
**Cc:** [Norman, Colin](#); [Robillard, Paul](#)  
**Subject:** RE: Fuel Switching Area  
**Date:** Monday, September 19, 2011 4:10:00 PM

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**To:** Ringdahl, Beth  
**Cc:** Norman, Colin; Robillard, Paul  
**Subject:** RE: Fuel Switching Area

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**To:** Ringdahl, Beth  
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**To:** [Ringdahl, Beth](#)  
**Cc:** [Norman, Colin](#); [Robillard, Paul](#)  
**Subject:** RE: Fuel Switching Area  
**Date:** Monday, September 19, 2011 6:11:05 PM

---

Hi Beth,

We've sent the updated results to Arvind and some others at Fortis. It seems like we'll have to circle back to update some of the numbers for a few program areas. Fuel switching will likely be among those.

John

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**From:** [Ringdahl, Beth](#)  
**To:** ["dikeos@marbek.ca"](mailto:dikeos@marbek.ca)  
**Cc:** [Norman, Colin](#); ["paulr@marbek.ca"](mailto:paulr@marbek.ca)  
**Subject:** Re: Fuel Switching Area  
**Date:** Monday, September 19, 2011 6:15:07 PM

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John anything you need from me tonight?

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**From:** Dikeos, John [mailto:dikeos@marbek.ca]  
**Sent:** Monday, September 19, 2011 06:10 PM  
**To:** Ringdahl, Beth  
**Cc:** Norman, Colin; Robillard, Paul <paulr@marbek.ca>  
**Subject:** RE: Fuel Switching Area

Hi Beth,

We've sent the updated results to Arvind and some others at Fortis. It seems like we'll have to circle back to update some of the numbers for a few program areas. Fuel switching will likely be among those.

John

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**From:** Ringdahl, Beth [mailto:Beth.Ringdahl@fortisbc.com]  
**Sent:** September 19, 2011 7:10 PM  
**To:** Dikeos, John  
**Cc:** Norman, Colin; Robillard, Paul  
**Subject:** RE: Fuel Switching Area

Hi John,

That's fine – just wondering if more clarification is required regarding the fuel switching budget? I will be in transit but can call you when I get home.

Beth

**Beth Ringdahl| EEC Program Manager, Residential | FortisBC**  
16705 Fraser Highway | Surrey BC V4N 0E8 | 604.592.8265 [beth.ringdahl@fortisbc.com](mailto:beth.ringdahl@fortisbc.com)

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**From:** Dikeos, John [mailto:dikeos@marbek.ca]  
**Sent:** September 19, 2011 12:20 PM  
**To:** Ringdahl, Beth  
**Cc:** Norman, Colin; Robillard, Paul  
**Subject:** RE: Fuel Switching Area

Hi Beth,

We would need your guidance to add in another “representative program” in the high carbon fuel switching portfolio. Since there are a lot of pieces that still need to fall into place before the end of

the day, I would suggest that we leave the portfolio as is for now and circle back later if we have time.

John

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**From:** Ringdahl, Beth [mailto:[Beth.Ringdahl@fortisbc.com](mailto:Beth.Ringdahl@fortisbc.com)]  
**Sent:** September 19, 2011 2:47 PM  
**To:** Dikeos, John  
**Cc:** Norman, Colin; Narbaitz, Peter  
**Subject:** RE: Fuel Switching Area

Does it make sense to add another line item – other opportunities to be determined.  
John – you are likely the best judge of the best way to create a “placeholder” that other projects will be coming.  
We don’t want that those millions to “fall off” the overall budget ask.

Thanks!

**Beth Ringdahl| EEC Program Manager, Residential | FortisBC**  
16705 Fraser Highway | Surrey BC V4N 0E8 | 604.592.8265 [beth.ringdahl@fortisbc.com](mailto:beth.ringdahl@fortisbc.com)

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**From:** Dikeos, John [mailto:[dikeos@marbek.ca](mailto:dikeos@marbek.ca)]  
**Sent:** September 19, 2011 11:43 AM  
**To:** Ringdahl, Beth  
**Cc:** Norman, Colin; Narbaitz, Peter  
**Subject:** RE: Fuel Switching Area

So, if I’m understanding correctly, we will keep things as they are so that the current funding (i.e. as per the results of the Cost Effectiveness) will stay at \$1.25M, which is lower than the ask of \$4.00M. However, we’ll include your wording below in the description. Please confirm.

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**From:** Ringdahl, Beth [mailto:[Beth.Ringdahl@fortisbc.com](mailto:Beth.Ringdahl@fortisbc.com)]  
**Sent:** September 19, 2011 11:26 AM  
**To:** Dikeos, John  
**Cc:** Norman, Colin  
**Subject:** Fuel Switching Area

Sarah has approved this approach to explain that we only have one program in place to date.  
Wording such as the following –

The FEU have requested funding for high carbon to lower carbon fuel switching initiatives because they make significant contributions to GHG emission reduction strategies. Assumptions for economic modeling are not known at this time however further information will be available in the

2011 EEC Report.

**Beth Ringdahl | EEC Program Manager, Residential | FortisBC**  
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**From:** [Smith, Sarah](#)  
**To:** ["Paul Robillard \(paulr@marbek.ca\)"; "johnd@marbek.ca"](#)  
**Cc:** [Ringdahl, Beth](#); [Norman, Colin](#)  
**Subject:** Edits to Residential Section  
**Date:** Wednesday, September 21, 2011 11:59:33 AM

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For all sections, the individual program descriptions should appear in the same order as they do in the introduction, in the overall program area table and should have approximately the same name.

Program Descriptions:

DHW and Enerchoice Fireplace – please explain what a “Dealer SPIF” is – Beth to provide wording.

TLC – delete sentence about program driving business for trades during off-peak season.

Program detail on Customer Engagement is showing participation in all 3 service areas, but the Program Area table is only showing FEI.

I have a call in to Beth as we have information about Furnace and Fireplace TLC but no line item for it in the Program Area table and that will confuse folks.

**From:** [Smith, Sarah](#)  
**To:** ["Paul Robillard \(paulr@marbek.ca\)"; "johnd@marbek.ca"](#)  
**Cc:** [Norman, Colin](#); [Ringdahl, Beth](#)  
**Subject:** One minor edit to high-carbon fuel switching  
**Date:** Wednesday, September 21, 2011 12:17:18 PM

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Need to spell out what a VSM is in the program detail



**From:** [Dikeos, John](#)  
**To:** [Norman, Colin](#)  
**Subject:** RE: Beth  
**Date:** Thursday, September 22, 2011 11:58:55 AM

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We're adjusting the participant numbers up a little bit, with Beth's blessing. The overall residential portfolio is still below 1.0 but Beth is ok with that. In addition, the overall B/C ratio will be above 1.0.

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**From:** Norman, Colin [mailto:Colin.Norman@fortisbc.com]  
**Sent:** September 22, 2011 2:52 PM  
**To:** Dikeos, John  
**Subject:** Re: Beth

Okay, great. What did you guys decide to do?

Colin

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**From:** Dikeos, John [mailto:dikeos@marbek.ca]  
**Sent:** Thursday, September 22, 2011 11:44 AM  
**To:** Norman, Colin; Robillard, Paul <paulr@marbek.ca>  
**Subject:** RE: Beth

Thanks, Colin. We just finished speaking with her a few minutes ago.

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-----Original Message-----

**From:** Norman, Colin [mailto:Colin.Norman@fortisbc.com]  
**Sent:** September 22, 2011 2:11 PM  
**To:** Robillard, Paul; Dikeos, John  
**Subject:** Beth

Hi guys,

I just contacted Beth and she is available at her desk. I told her to stay put until you call.

Colin

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