"Energy research for a sustainable future"

Results of Modelling a Proposed National Low-Income Energy Efficiency Improvement Programme:

Economic, Environmental and Employment Impacts *(NEW SCENARIO*)*

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Prepared for:

ÉQUITERRE
GREEN COMMUNITIES AS SOCIATION
VIVRE EN VILLE

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** Follow-up report from the initial February, 2001 version.*
This report predicts the results of a scaled-down version of the initial programme.

Utility Regulation

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All monetary values used in this report are expressed in real 2002 dollars.

Helios Centre

The Helios Centre is an independent energy research and consulting group. The Centre's expertise is focused primarily on utility regulation, competitive energy markets, energy efficiency and new energy technologies. The Centre prides itself on having a broad range of clients including governments and para-governmental bodies, environmental and consumer organizations, industrial end-users, independent power producers, utilities, First Nations and others. The Centre was founded in 1996 in Montréal, Canada.

Philippe U. Dunsky

Philippe Dunsky is Director of the Helios Centre. In the field of energy efficiency, he has extensive expertise in programme design and economic analysis, as well as in designing and analyzing the effects of a host of utility regulatory tools and incentives. He has provided expert testimony on these subjects in regulatory proceedings, has written dozens of reports, studies and other publications on these and related topics, and has lectured on energy matters at industry conferences throughout North America. Mr. Dunsky's expertise further extends into the fields of monopoly utility regulation, competitive market restructuring, "green" power markets and distributed energy technologies.

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Important Notice

This report follows on an earlier report (February, 2001) outlining the modelling results for a proposed *Low-Income Energy Efficiency Improvement Programme (LIEEP)*. In this report, we provide the results for a scaled-down version of the initial programme parameters.

While the presentation remains the same, all data and some text have therefore been modified from the initial version. Please note that all initial non-programmatic assumptions have been retained for this exercise.

Executive Summary

The Helios Centre was hired to model the likely economic, environmental and employment impacts of a proposed national *Low-Income Energy Efficiency Improvement Programme (LIEEP)*. The programme would run for a period of five years.

To this end, we were provided with a set roll-out period, individual measure costs and forecasted per-measure energy savings. Combined with our own assumptions – which we explain in each of the following sections and in further detail in Appendix A –, we proceeded to perform a complete cost-benefit analysis of the programme as well as to forecast reductions in air emissions and both losses and gains in employment.

Our modelling suggests the following results. **Note that all monetary costs and benefits are expressed, below and throughout the report, in real 2002 dollars.**

Energy savings

- Electricity savings of 830.8 GWh
- Natural gas savings of 453.3 million m^3
- Heating oil savings of 126.9 million litres

Economic costs and benefits

- Total lifetime direct costs of $116.9 million, or $14.6 million per year on average
- Total lifetime direct benefits (bill savings) of between $222.8 and $297.9 million
- Net lifetime direct benefits of between $105.9 and $181.0 million
- Average per-household bill savings of $1,087 to $1,453
- 205,000 low-income households – comprising roughly 450,000 Canadians – will benefit directly
- Benefit/cost ratio of between 1.91 and 2.55 to 1

Environmental benefits

- Total greenhouse gas emissions (GHGs) reduction of roughly 1.5 billion kg CO_2-equivalent
- Air pollution emissions reduction of:
  - 1.0 million kg of NOx
  - 685.7 thousand kg of SOx
  - 298.6 thousand kg of CO
  - 70.0 thousand kg of VOC (volatile organic compounds)
  - 169.9 thousand kg of PM (particulate matter)
  - 16.3 thousand kg of N2O

Employment impacts

- Between 0 and 2,305 person-years of employment lost in the energy industry
- 4,906 person-years of employment gained throughout the economy
- Net gain of between 2,601 and 4,906 person-years of employment in Canada

Finally, it is worth noting some benefits that we were unable to account for in our analysis. Firstly, we did not attempt to quantify the non-heating load savings (ex: lighting) associated with the educational components of the programme, since only two of programme's four measures are likely to affect non-heating loads and even then, only marginally. Second, beyond *direct* economic, environmental and employment impacts, we have not attempted to quantify other known benefits of energy efficiency improvements and, by extension, of the LIEEP, which generally include the following:

- reductions in water bills (accruing either to participants or municipalities, depending on local metering and billing rules);
- reduction in foregone bill payments to – and associated collection costs for – utilities;
- reductions in social spending (housing, medical care, etc.) from improvements in both the comfort and the quality of life of low-income Canadians;
- improvements to the value of Canada's existing housing stock, including that of low-income home-owners;
- the economic value of reduced air pollution (including reductions in pollution-related health stresses and costs);
- the potential economic value of greenhouse gas emissions reductions under an eventual credit trading system, which could fall in the range of $15 million to $150 million; and
- any theoretical energy price depression impacts from reduced overall demand.

With these exceptions, the following report details the forecast costs and benefits of the LIEEP.

1. Programme Description

General approach

Our clients have proposed a national, low-income energy efficiency improvement programme. The LIEEP proposes to implement a series of measures for improving energy efficiency in low-income dwellings. These measures would be delivered over an five-year period through existing, community-based, non-profit organizations.

The LIEEP is predicated on a combination of factors: (1) that energy, and in particular home heating in Canada, is an essential service and critical to human health and well-being; (2) that low-income tenants and home owners, for reasons respectively of split incentives and lack of access to credit, typically occupy the least-efficient dwellings and, as such, stand to benefit, on a per-household basis, far more than the average from energy efficiency improvements; (3) that savings from energy efficiency improvement measures often outweigh any implementation costs and as such can constitute a particularly cost-efficient tool for poverty reduction; (4) that such improvements also generate significant ancillary environmental benefits which, in turn, reduce health care costs and greenhouse gas emissions; and (5) that they also, typically, generate other benefits including net employment gains.

Specific measures

The LIEEP seeks to deliver to participants one or more of a set of four measures which, together, form the basis of the programme. These are:

- *Measure 1a) Education and weatherstripping.* This measure combines, during a customized home visit, a sit-down discussion with participants regarding their energy consumption habits, a professional "eyeball" analysis of major problem areas within the home, verbal and written suggestions on how to reduce home heating costs and increase comfort levels, and finally, implementation of a series of on-site, low-cost weatherstripping measures throughout the dwelling. These visits will last roughly 2 hours each, and will be conducted by a team consisting of one technician for installation of weatherstripping measures and one energy efficiency counsellor.

- *Measure 1b) Electronic programmable thermostat.* This measure consists of the professional installation of electronic programmable thermostats, combined with on-site training designed to ensure proper use of the equipment.

- *Measure 2a) EnerGuide and weatherstripping.* This measure is similar to measure 1a, with the following exceptions: it is the entry point for low-income *home owners* as opposed to tenants, it lasts 4 hours and it includes a full "EnerGuide for Houses" visit including blowerdoor analysis. EnerGuide for Houses is a highly specialized and technical method

developed by Natural Resources Canada to pinpoint structural energy efficiency problems (leaks and areas of low thermal insulation), and prepare a thorough and detailed customized report, including a complete diagnosis as well as a list of proposed weatherization improvements to the thermal envelope.

- *Measure 2b) Weatherization.* This measure offers significant long-term improvements to the home's thermal envelope by providing extensive weatherization services (insulation, etc.) free of charge. This will be offered only to the most inefficient homes identified by the EnerGuide for Houses analysis discussed in *measure 2a*.

The bulk of these measures and their related savings potentials focus primarily on residential space heating loads. However, the educational component of measures 1a and 2a do address non- space heating loads such as hot water heating and lighting. For simplicity, our model was limited, in its analytical capabilities, to accounting for space heating load reductions only.

Measure distribution and roll-out

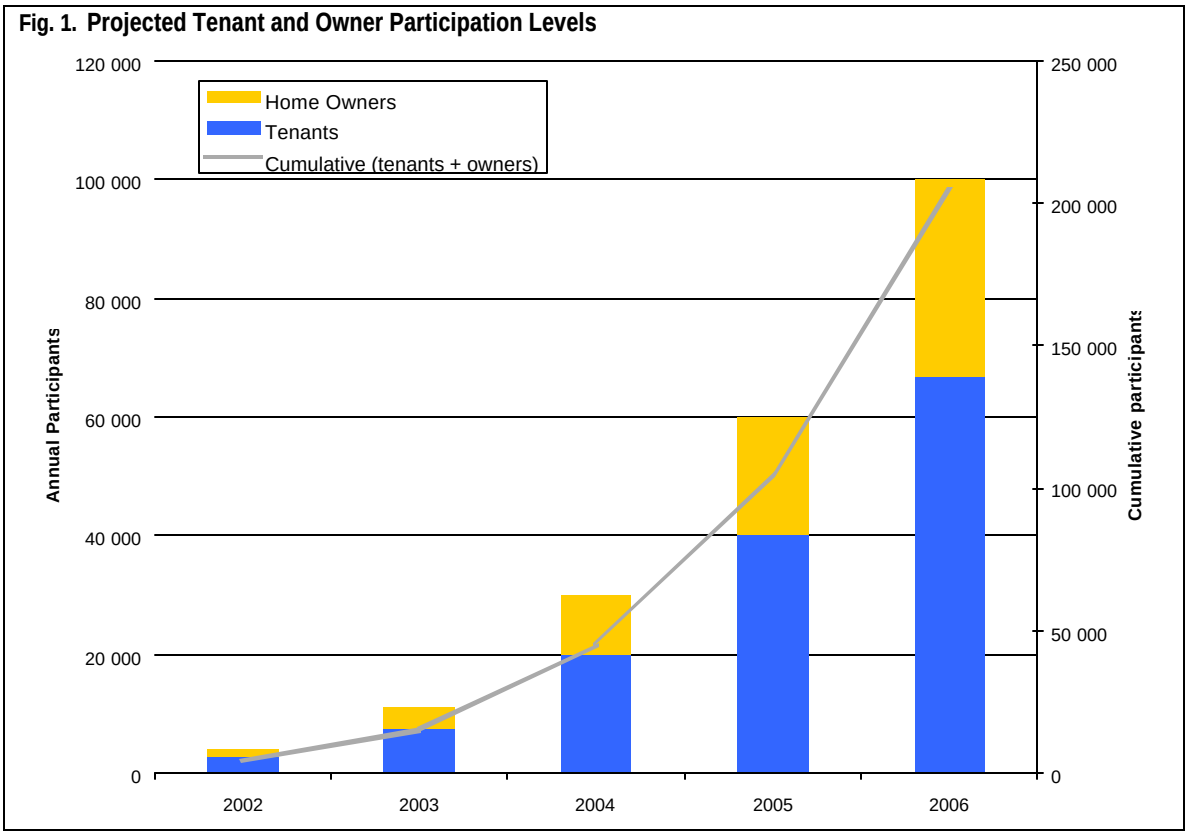
Since many participants will receive more than one measure, the total number of delivered measures is expected to be nearly double the total number of participants. The following table indicates the annual breakdown of forecasted measure delivery for both tenants and home-owners.

Measure Distribution by Year and Participant Type

	Individual Measures						*Total Measures*		*Total Visits*	
	1a) Education & weatherstripping		*1b) Programmable thermostats*		*2a) Ener-Guide & WS*	*2b) Weatheri-zation*				
Year	*Tenants*	*Owners*	*Tenants*	*Owners*	*Owners*	*Owners*	*Tenants*	*Owners*	*Tenants*	*Owners*
2002	2,667	600	1,333	667	667	333	4,000	2,267	2,667	1,333
2003	7,333	1,650	3,667	1,833	1,833	917	11,000	6,233	7,333	3,667
2004	20,000	4,500	10,000	5,000	5,000	2,500	30,000	17,000	20,000	10,000
2005	40,000	9,000	20,000	10,000	10,000	5,000	60,000	34,000	40,000	20,000
2006	66,667	15,000	33,333	16,667	16,667	8,333	100,000	56,667	66,667	33,333
S-tot.	**136,667**	**30,750**	**68,333**	**34,167**	**34,167**	**17,083**	**205,000**	**116,167**	**136,667**	**68,333**
Total	**167 417**		**102,500**		**34,167**	**17,083**	**321,167**		**205,000**	

The distribution of tenant and home-owner beneficiaries throughout the proposed five-year programme life is further illustrated in Figure 1, below.

Fig. 1. Projected Tenant and Owner Participation Levels



2. Energy Savings

To estimate energy savings from the LIEEP, we first chose, for simplicity, to reduce the breadth of home heating energy sources into three main categories: electricity, natural gas and heating oil. This meant folding other likely energy source reductions, including wood, coal and propane, proportionally into each of the first three categories.

Our analysis points to cumulative reductions in energy use as follows: 830.8 GWh electricity, 453.3 million cubic metres of natural gas and 126.9 million litres of home heating oil. To put these figures into perspective, they are the equivalent of removing, for one full year, the combined heating loads (energy used for space heating) of nearly 350,000 Canadian households.

As indicated below and throughout the report, energy savings and resulting benefits increase rapidly throughout the first five years (i.e. the programme's lifetime), as new measures continue to be installed in participants' homes. As of year 6, annual savings begin to diminish as the useful lives of the measures previously installed come to an end. Since the useful lives vary significantly from measure to measure (from six to twenty-eight years), the residual energy savings fall in steps until the last of the longest-lasting measures installed in year 5 finally outlive their usefulness.

Figures 2, 3 and 4 indicate annual and cumulative savings of electricity, natural gas and distillates, respectively.

Fig. 2. Reduction in Electricity Consumption

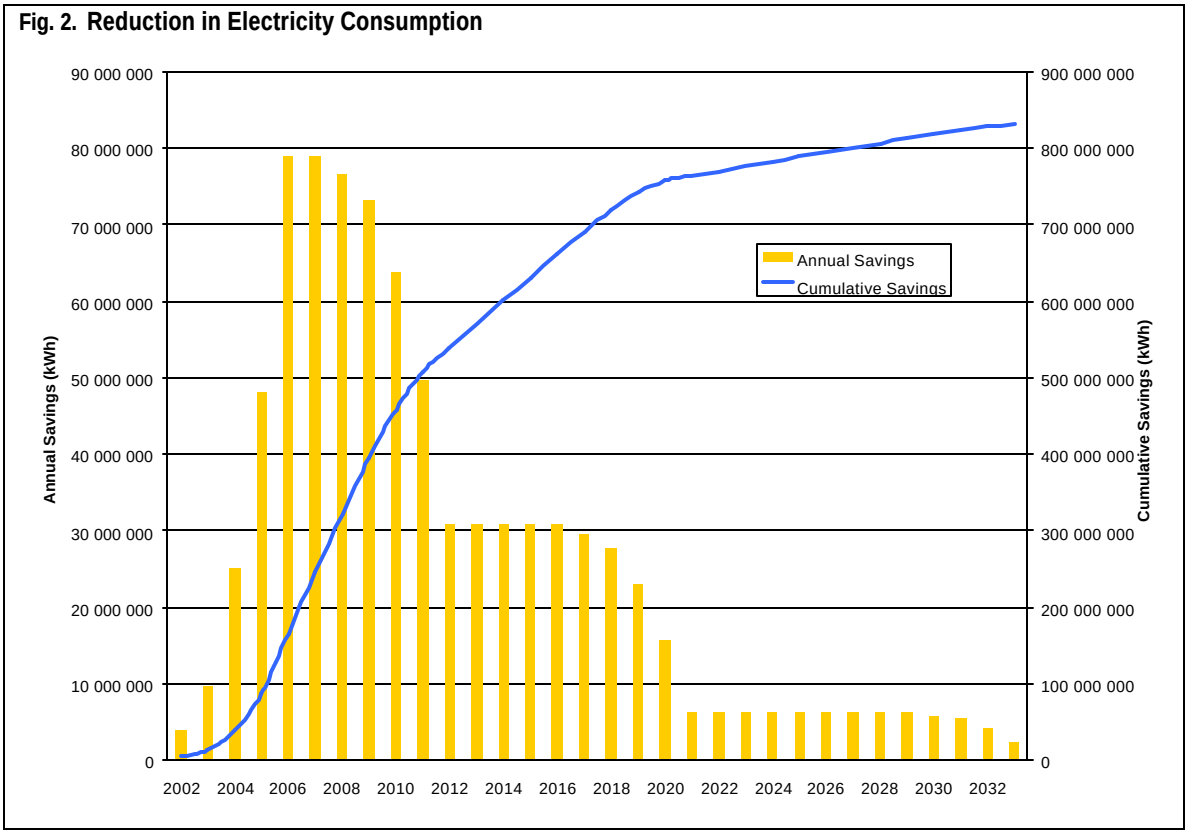


Fig. 3. Reduction in Natural Gas Consumption

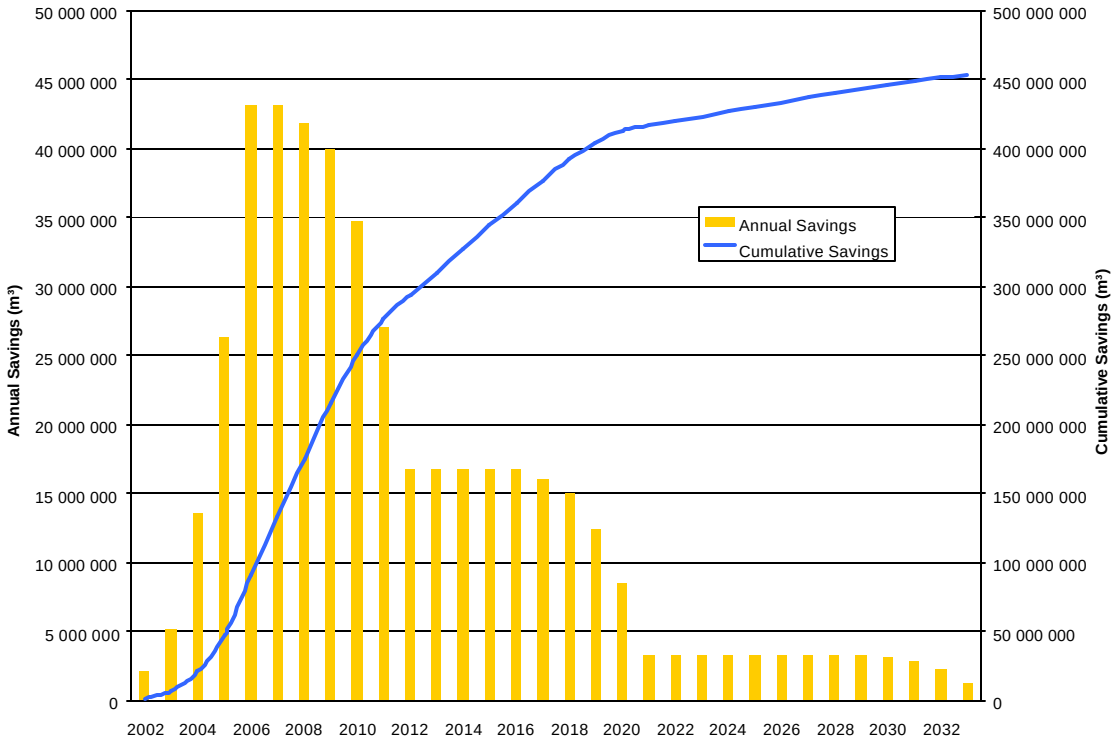
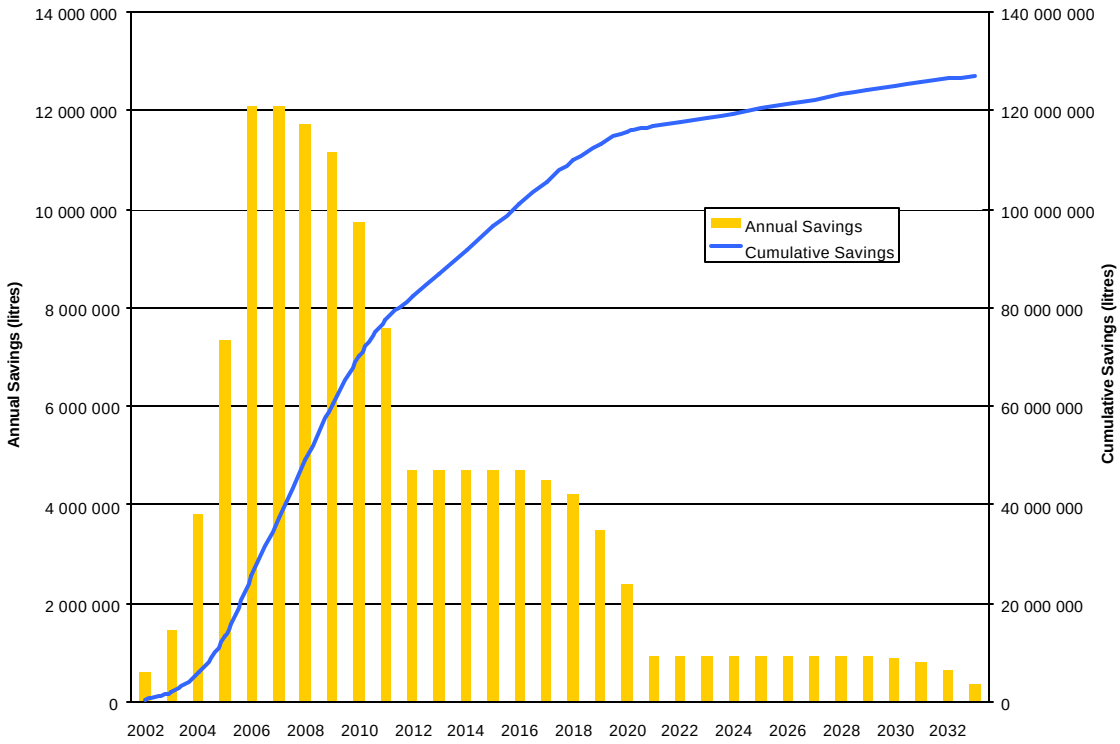


Fig. 4. Reduction in Heating Oil Consumption



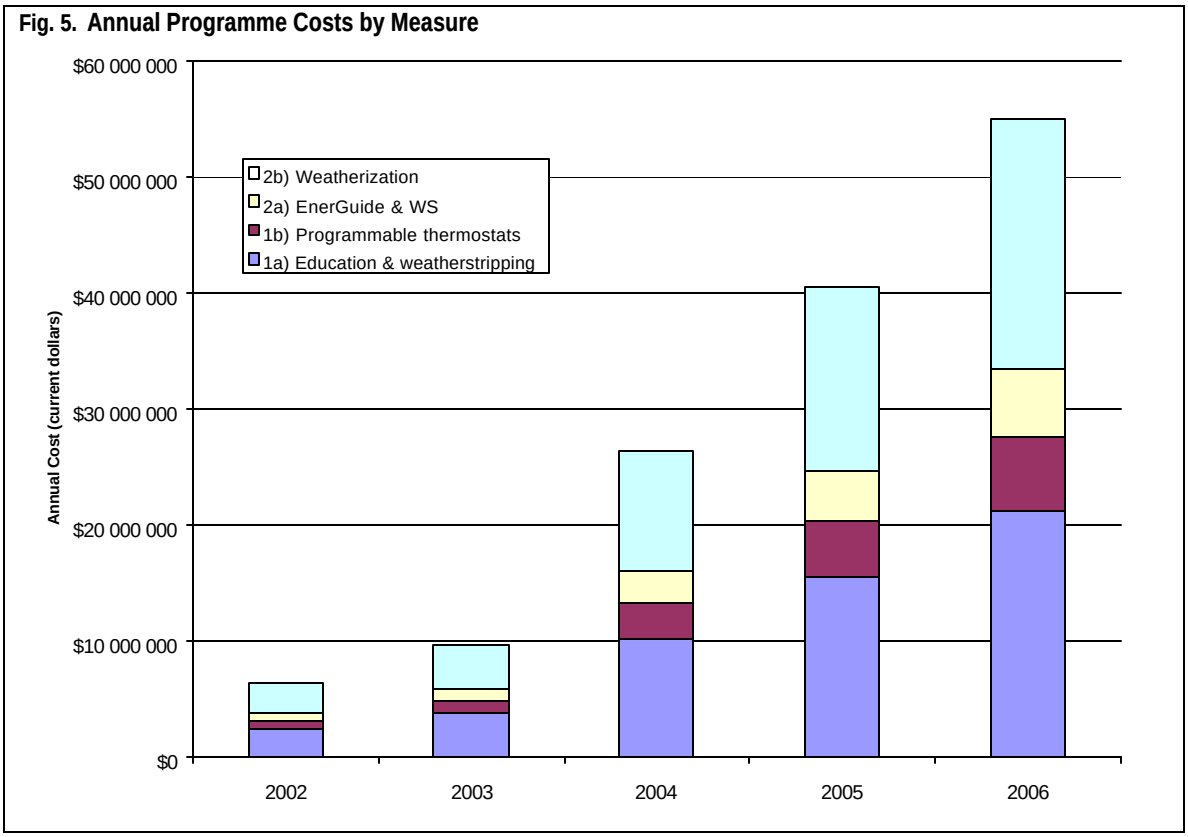
3. Programme Costs

To assess programme costs, we used the costs-per-measure provided by our clients, adding an inflation factor of 2% per year. These costs include all equipment and labour as well as any administrative costs for the NGO delivery agents.[1] We further applied a 6% discount rate to bring these costs into real 2002 dollars, this rate reflecting the average cost of the Government of Canada's current debt.

Given the programme specifications, the total real-dollar cost of delivering the LIEEP, over the five-year programme period, is estimated at $116.8 million, or an average of $14.6 million per year. However, since the programme includes a ramp-up period during the early years, actual annual costs vary, as follows: Year 1 (2002) $6.4 million, Year 2 (2003) $9.2 million, Year 3 (2004) $23.6 million, Year 4 (2005) $34.0 million and Year 5 (2006) $43.7 million.

Figure 5 indicates the programme's annual delivery costs, including a breakdown by individual measure.

Fig. 5. Annual Programme Costs by Measure



[1] We do not, however, account for any administrative costs incurred by the body charged with overseeing the programme nationally.

4. Participant Benefits

To assess the direct benefits, in terms of reduced energy bills, to low-income participants, we used the percent-savings and useful lives estimates provided by our clients. These estimates have been derived from detailed *ex-post* studies of similar programmes conducted by utilities in Canada and the U.S. We then proceeded to make a series of assumptions concerning pre-LIEEP energy use and rates.

Specifically, we assumed that programme participants would mirror the Canadian population in terms of the distribution of energy sources used to serve residential heating loads. We further assumed that their pre-LIEEP consumption, in volumetric terms, of these energy sources would also mirror that of the Canadian population.[2] Regarding energy prices, we assumed that current prices would increase by inflation over the coming 35 years.[3]

Finally, we had to choose a discount rate to bring these benefits into comparable real 2002 dollars. The choice of an appropriate discount rate for programme benefits is a particularly difficult one, and for which there is no standard. While some authors suggest using the same rate as used for programme costs (in this case, 6%), others believe a distinct rate is necessary to reflect low-income consumers' own time-valuation of money. However, we find the choice of this rate to be a difficult one, with evidence pointing in contradictory directions. For these reasons, we chose to apply three distinct discount rate scenarios: the first, 6%, being the rate used to discount costs; the others, 8% and 10%, seeking to reflect potentially higher valuations by consumers and low-income consumers in particular.

Under this sensitivity analysis, we find that low-income consumers will benefit significantly from reduced energy bills due to the LIEE programme. Specifically, we find total bill savings ranging from $222.8 million (using a 10% d.r.) to $297.9 million (using a 6% d.r.), as can be seen in Figure 6. Figure 7 then provides the projected savings on an annual basis, again accounting for our three discount rate scenarios ("mid", "low" and "high" refer inversely to these rates). Changes in annual savings are explained by a combination of the programme's life (5 years) and each measure's useful life (from 6 to 28 years), as described previously in the section on energy savings.

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[2] This assumption is subject to debate. On the one hand, low-income Canadians typically inhabit dwellings with less floor space to heat than the average. On the other hand, these dwellings are also, typically, far less well-insulated. Furthermore, furnaces are likely to be older and thus less efficient than the average (efficiencies for gas and oil furnaces range from ~70% to 95% depending on their age). Finally, our decision to roll wood-heated homes into the three main categories according to their own weights will further tend to understate total consumption levels, since wood furnaces are typically far less efficient (at ~50%) than typical gas or oil furnaces. In the absence of detailed data, we assume that these factors cancel each other out.

[3] This assumption too is subject to debate, since most long-term forecasts tend to point to fossil fuel prices increasing in real terms. In limiting the increases to inflation, there is a possibility that we underestimate the programme benefits. However, given significant recent energy price increases, we believe our assumption provides a reasonable time-weighted average.

Fig. 6. Total Participant Benefits (Energy Bill Savings)

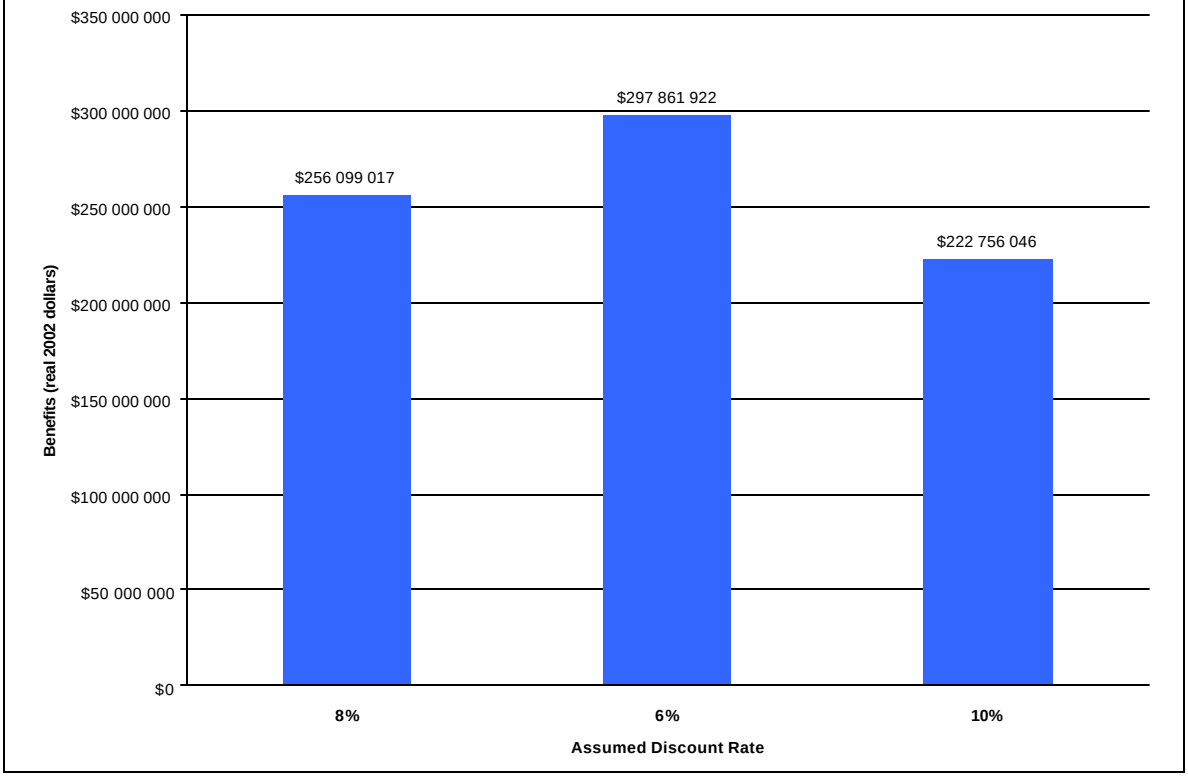
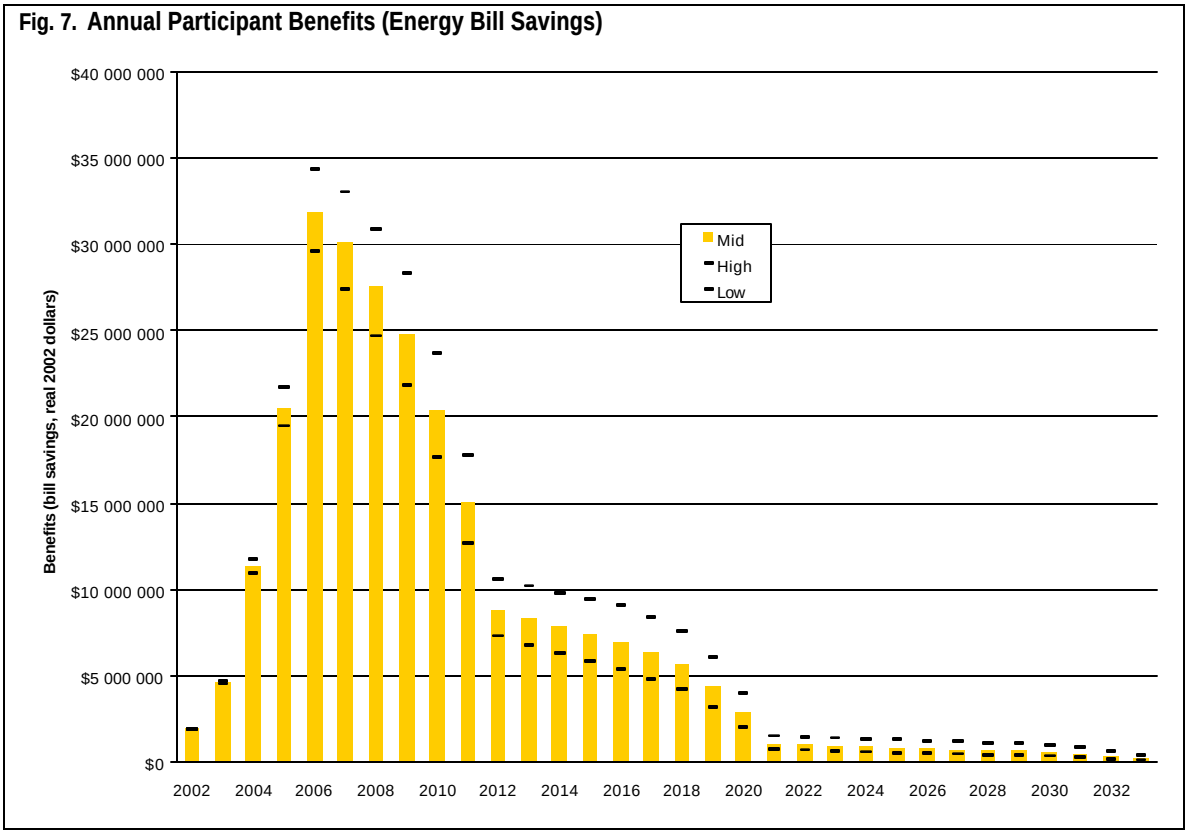


Fig. 7. Annual Participant Benefits (Energy Bill Savings)



5. Cost-Benefit Analysis

From a public policy standpoint, decision-makers seek to have a comparative basis upon which to choose among multiple potential uses of government revenue. In the case of the low-income energy efficiency programme, no one point of comparison is sufficient to provide a "best use of available resources" answer, since the programme purports to respond to multiple concerns, particularly those concerning equity and environmental protection.

For example, it may be that the programme is not the most cost-efficient way to provide relief to low-income Canadians, but that its ancillary benefit of reduced pollutant and greenhouse gas emissions is found to more than compensate. Similarly, it may be that it is not the most cost-efficient method of achieving air emissions reduction targets, but that its ancillary employment creation and low-income relief benefits are deemed sufficiently important to prefer this to another, more cost-efficient environmental programme.

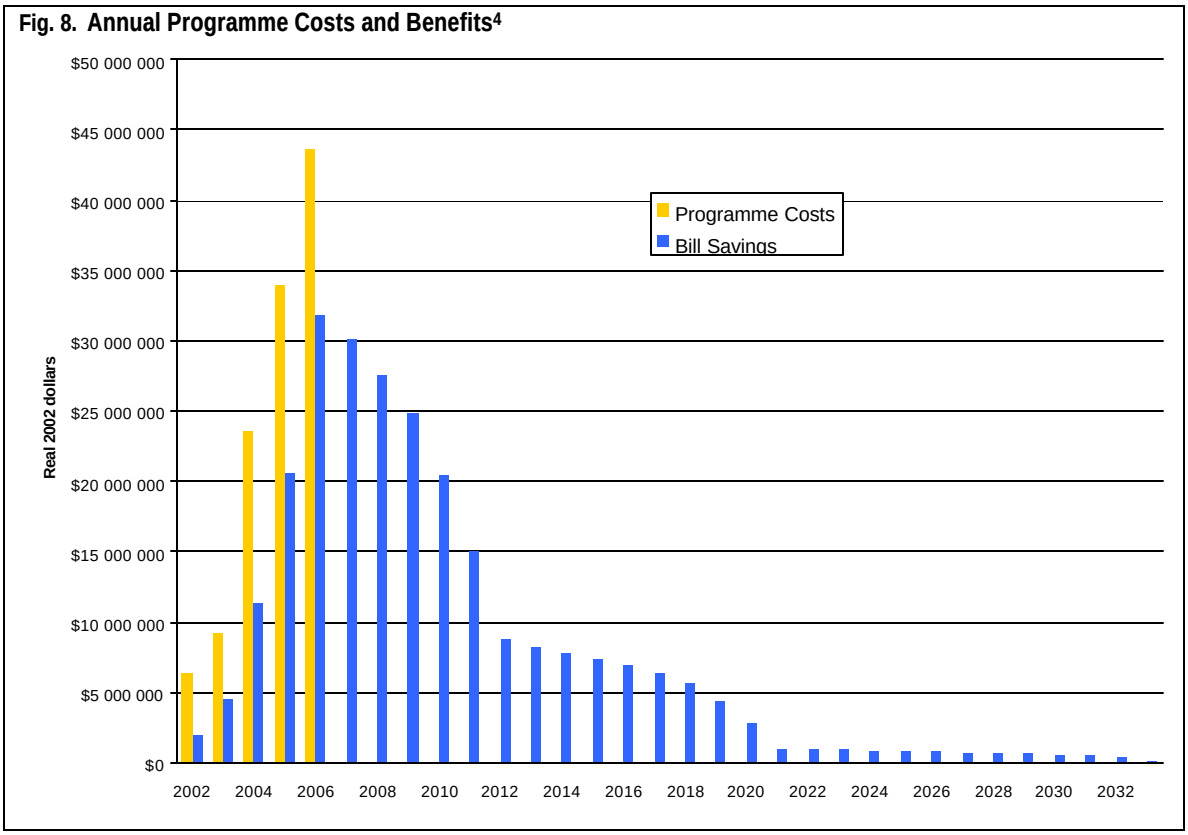
While there are multiple facets to the LIEEP, we have not undertaken to assess its relative costs and benefits regarding each of these concerns. However, the comparison of direct economic costs and benefits does provide a comparative basis for determining the merits of this programme – relative to a more direct tax or rebate measure – for reducing poverty among low-income Canadians. As such, this analysis responds to the question:

> "*Are participants better off receiving targeted tax relief and/or a targeted cash rebate, or instead targeted energy efficiency improvements under the LIEEP, all else being equal?*"

We found that the LIEEP is a superior method of delivering benefits to low-income Canadians compared to targeted tax relief or cash rebates. Specifically, for every dollar directed to the LIEEP instead of directly to one-time, targeted low-income tax relief or cash rebates, participants would receive between $1.91 and $2.55 in real discounted terms. This suggests that from a public policy standpoint, the LIEEP is likely a preferable poverty reduction tool by a factor of more than two, independent of its ancillary air emissions and employment benefits. These additional benefits then become, in a sense, "free of charge".

As can be seen in Figure 8, benefits from the programme are spread over a significantly longer period of time than are its costs. This is due to the useful lives of the various efficiency improvement measures.

Fig. 8. Annual Programme Costs and Benefits[4]



It is important to note that these results are presented in real dollars. In other words, the fact that benefits are spread over a longer period of time is already accounted for by discounting the value of those benefits by a rate set to reflect participants' and society's time-valuation of money. To further determine the extent of the preference for the LIEEP option, we sought to identify the discount rate necessary to bring benefits down to the same level as costs (costs being a synonym here for the value of a more direct use of government revenue for poverty reduction). We found that one would have to discount the value of money at an annual rate of nearly 21.5% – more than ten times inflation – for the two options to equate from the low-income participant's perspective. This rate is sufficiently high, we believe, to withstand even the most pessimistic view of the average low-income Canadian's time-valuation of money.

Finally, Figures 9 and 10 illustrate the relative merits of each option over time, indicating a break-even point just after the programme's end. For the purposes of these graphs, we have employed only the middle scenario regarding benefits, i.e. the use of an 8% discount rate.

[4] Benefits presented here are derived from the middle scenario, using an 8% discount rate.

Fig. 9. Cumulative Costs and Benefits

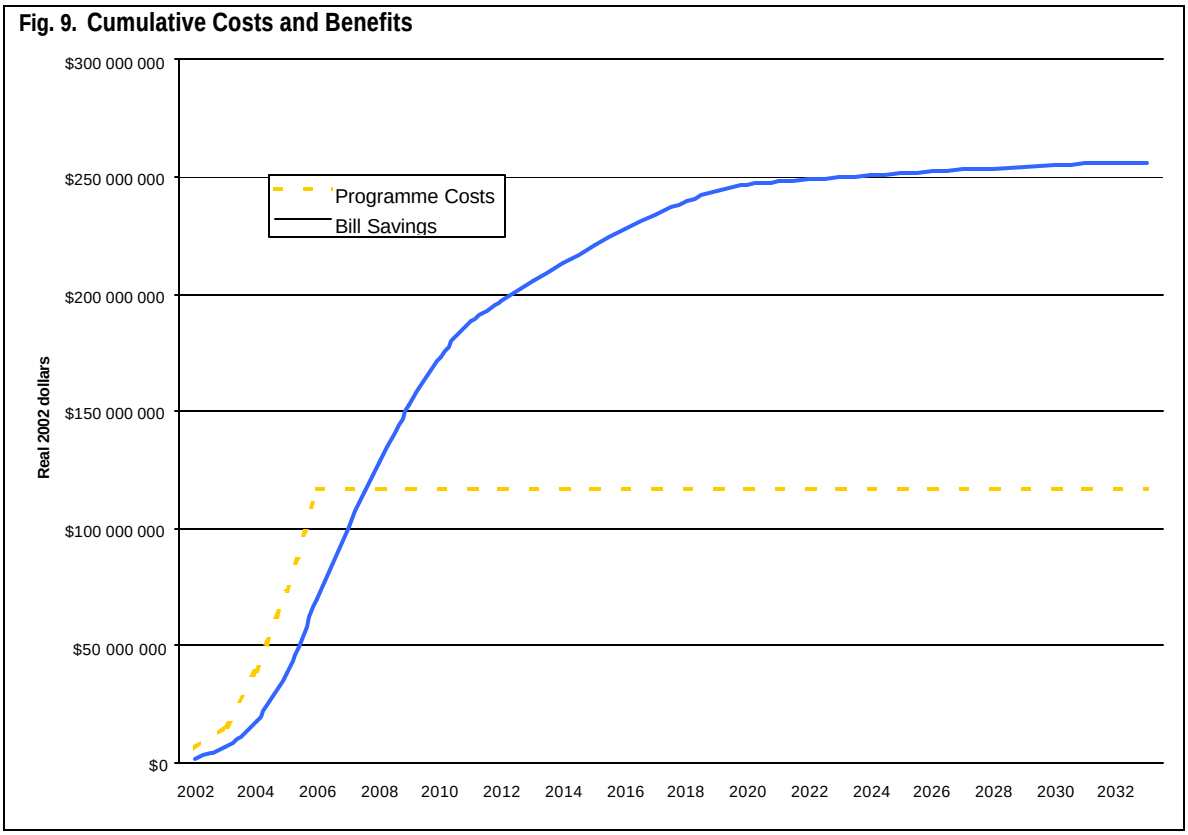
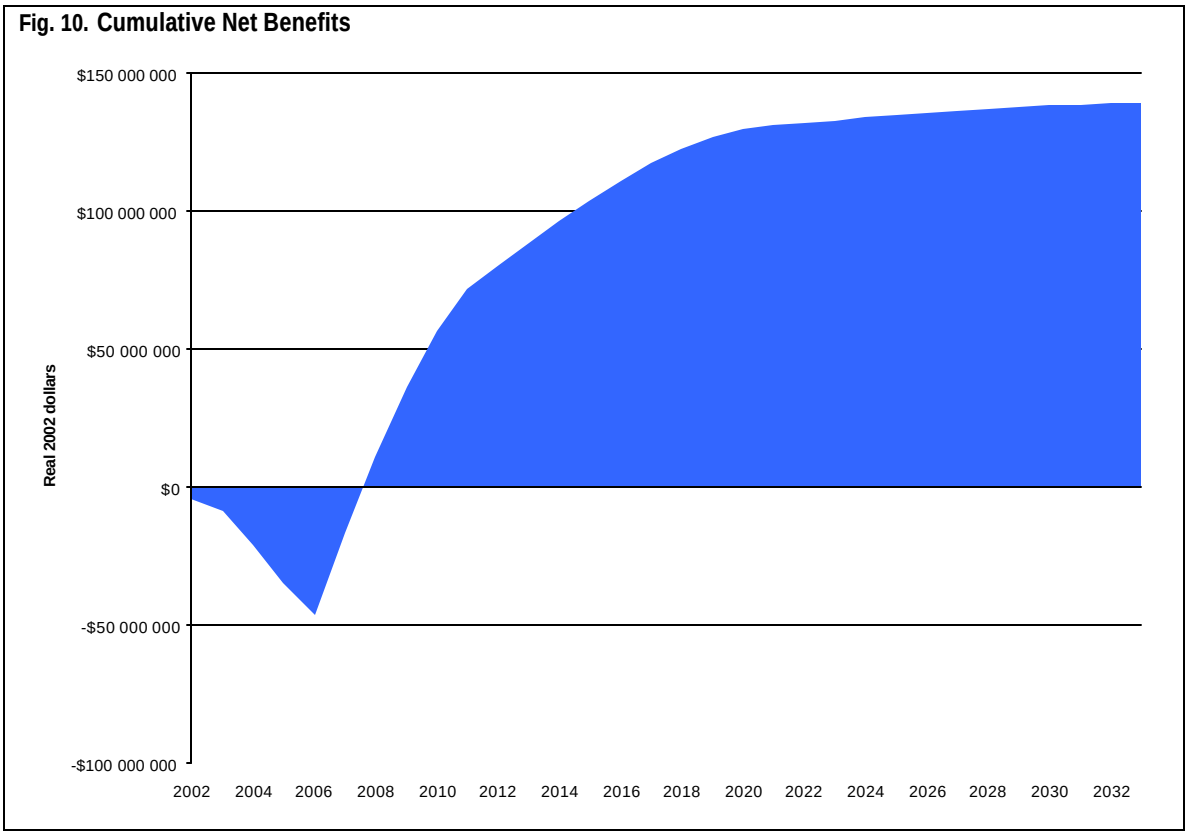


Fig. 10. Cumulative Net Benefits



Our analysis of the costs and benefits of the LIEEP indicates that it is clearly a preferable policy tool for poverty reduction. More specifically, it provides only slightly less short-term benefits and significantly more long-term benefits than would a direct tax or cash rebate alternative.

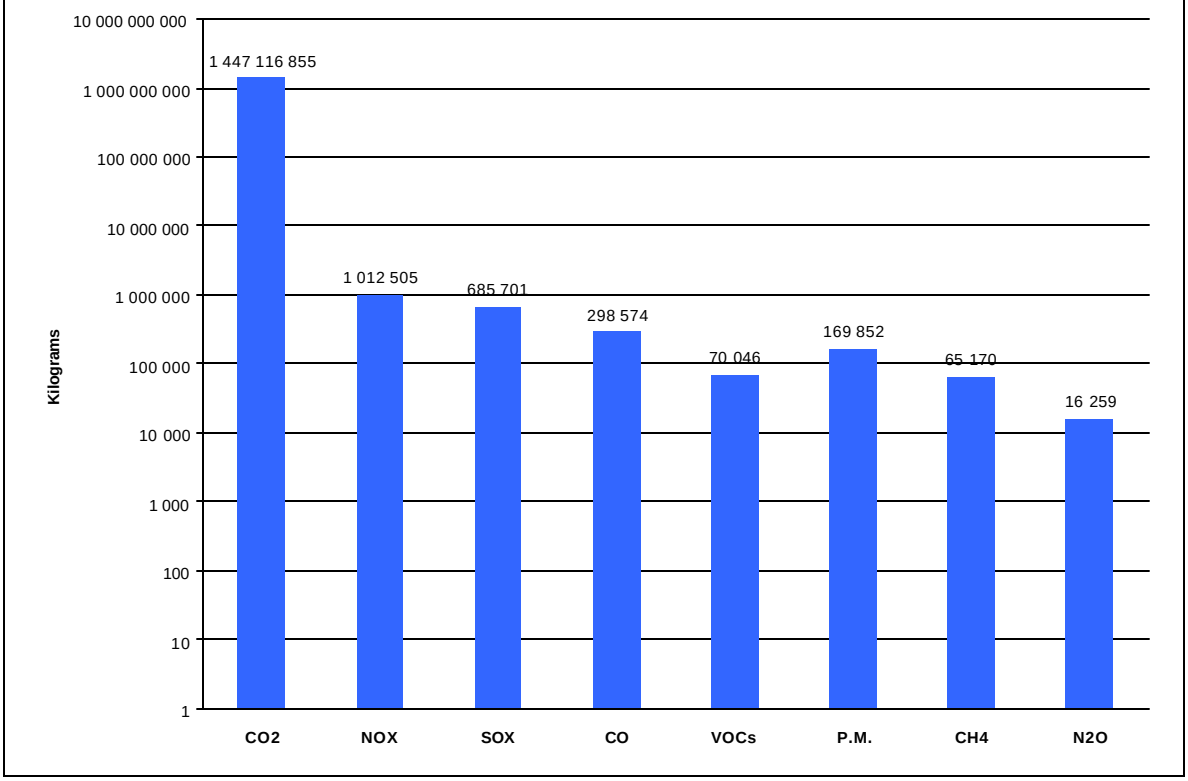
Furthermore, this superiority in terms of net economic benefits to participants comes in addition to the programme's other, societal benefits, described in the following two sections.

6. Environmental Benefits

In addition to its benefits for low-income Canadians, the LIEEP seeks to reduce the environmental impacts of energy use and production. To assess the environmental impacts of the programme, we multiplied the volumes of each type of energy saved by certain emissions factors. These factors represent, for oil and natural gas, the typical emissions per unit burned in existing home heating units. For electricity, the factors used represent the emissions associated with future, state-of-the-art electric power plants.[5]

Figure 11 illustrates, on a logarithmic scale, the LIEEP's total direct emissions reductions for CO_2, NO_X, SO_X, carbon monoxide (CO), volatile organic compounds (VOC), particulate matter (PM), methane (CH_4) and N_2O.

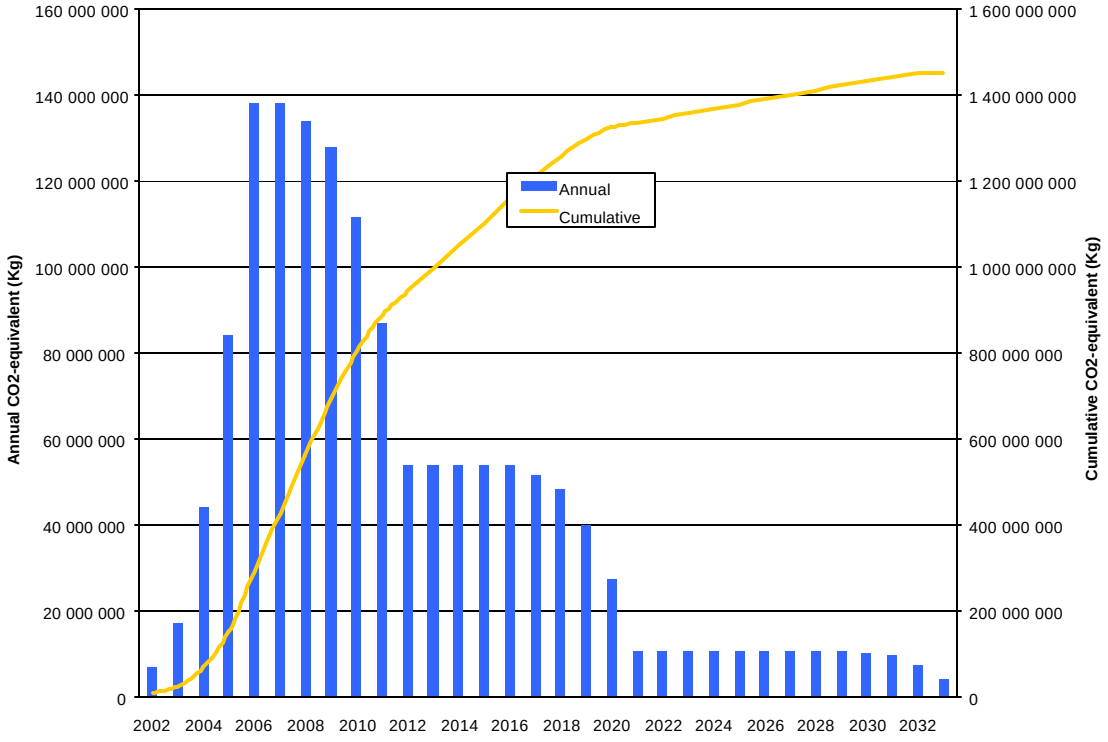
Fig. 11. Total Air Emissions Reductions (logarithmic scale)



[5] The use of average stock for oil and gas but marginal plants for electricity is purposeful, and accounts for the very different nature of each resource's market. As such, these choices are set to best reflect the real-world air emissions impacts of the LIEEP. See Appendix A for more discussion of the assumptions affecting electricity-related emissions.

While most of these air emissions are local or regional air pollutants, thus directly affecting human and environmental health, others – namely CO_2, CH_4 and N_2O – are key greenhouse gases likely to have atmospheric impacts. Applying standard global warming potential (GWP) factors to each of these greenhouse gases, we arrive at the total reduction in CO_2-equivalent greenhouse gas emissions, which we find to be on the order of 1.45 billion kilograms, or just under 1.5 million tonnes (MT) over the life of the measures, as seen in Figure 12.

Fig. 12. Annual and Cumulative Reduction in Greenhouse Gas Emissions



To put this into perspective, 1.5 million tonnes – the bulk of which, in this case, is spread over 15-odd years – is the equivalent of just under 2% of current *annual* greenhouse gas emissions from the residential sector in Canada. While we do not seek to estimate the potential economic value of such reductions, it is also worth noting that most analysts predict that CO_2 credits, under an eventual cap-and-trade system, will likely trade in a range of roughly $10 - $100 per tonne, depending on the specific rules to be adopted. This could thus translate into economy-wide savings of an additional $15 million to $150 million.[6]

[6] This represents the money Canadian industry and consumers would otherwise have to spend to meet the nation's overall emissions reductions (or credit purchase) target, assuming eventual ratification of the Kyoto protocol.

7. Employment Impacts

Finally, we were asked to estimate the employment impacts of the low-income energy efficiency improvement programme. To do so, we undertook to assess three types of employment impacts:

- first, jobs gained due to the measures themselves (i.e. from manufacturing and selling caulking and other weatherstripping devices, insulation, construction materials and other weatherization goods and services, etc.);
- second, jobs lost in the energy sector due to reduced domestic energy expenditures; and
- third, jobs gained throughout the economy due to respending of the savings on energy bills.

For each of these types of impacts, we applied employment coefficients developed for similar energy efficiency programmes.

In attempting to reflect these three types of impacts, we have taken care to consider the very hypothetical nature of the second, that is, of reduced employment arising from a reduction in domestic energy expenditures. Indeed, North American energy markets are currently affected with a high degree of continental integration, which is set to increase even more in the coming years. Furthermore, Canada is a net exporter of both electricity and natural gas, as well as a significant exporter of oil and oil products. Given these factors, it is unlikely that a reduction in domestic energy consumption would result in an equivalent reduction in Canadian energy output. Rather, a large share, if not the bulk of such domestic reductions in energy expenditures are likely to be compensated by an equivalent increase in energy exports.

For this reason, we have chosen to adopt three scenarios regarding the degree of affected jobs that would be maintained due to compensating exports: 0%, 50% and 100%.

Using the middle scenario, i.e. an export compensation rate of 50%, our analysis found that the LIEEP would result in a net gain of some 3,753 person-years of employment. More specifically, it would lead to some 1,776 person-years employment from installation of the measures, and in an additional 1,977 person-years from respending of the savings on consumers' energy bills. On the other hand, that same reduction in energy bills would result in the loss of 1,152 person-years employment in the energy sector, assuming an export compensation rate of 50%. This last figure would drop to zero assuming a compensation rate of 100%, and would increase to 2,305 assuming a compensation rate of 0%.

Figure 13 illustrates the annual employment impact of the programme, net of any losses, using the middle scenario for compensating energy exports. As can be seen from this graph, the bulk of employment gains would occur over the first five years of the LIEE programme, with peak annual employment gains topping 900 new jobs.

Finally, Figure 14 indicates the cumulative net employment impact for each scenario.

Fig. 13. Net Annual and Cumulative Employment Impacts (middle scenario)

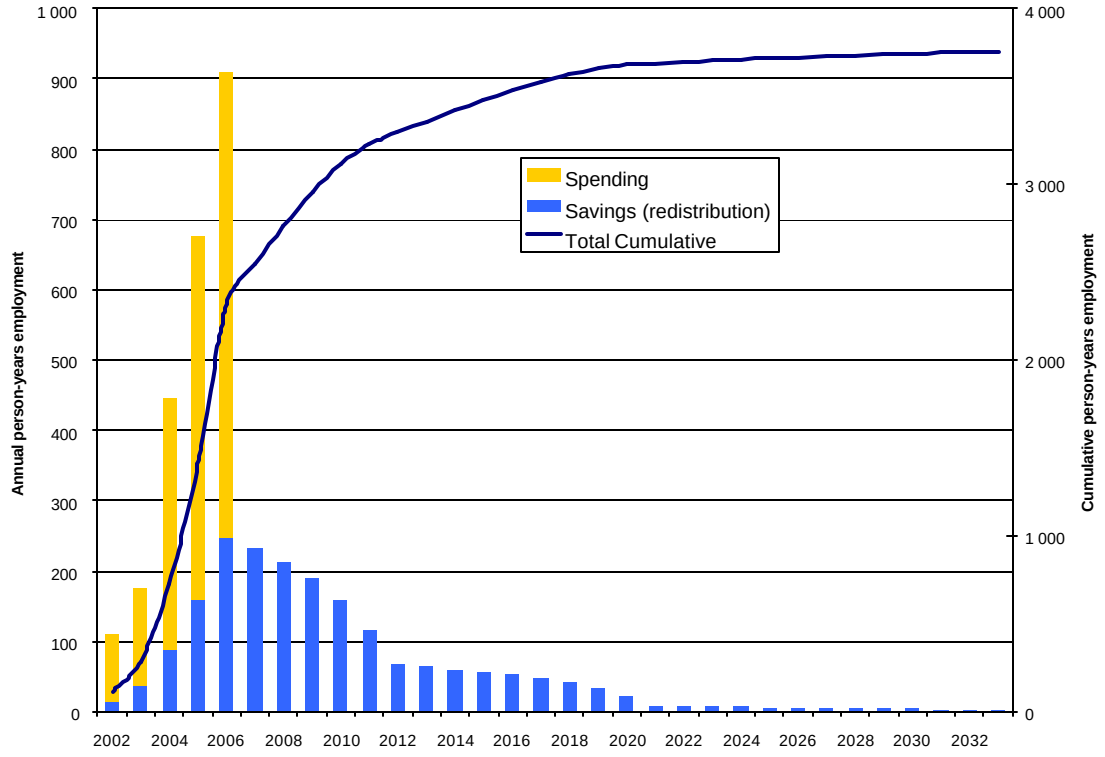
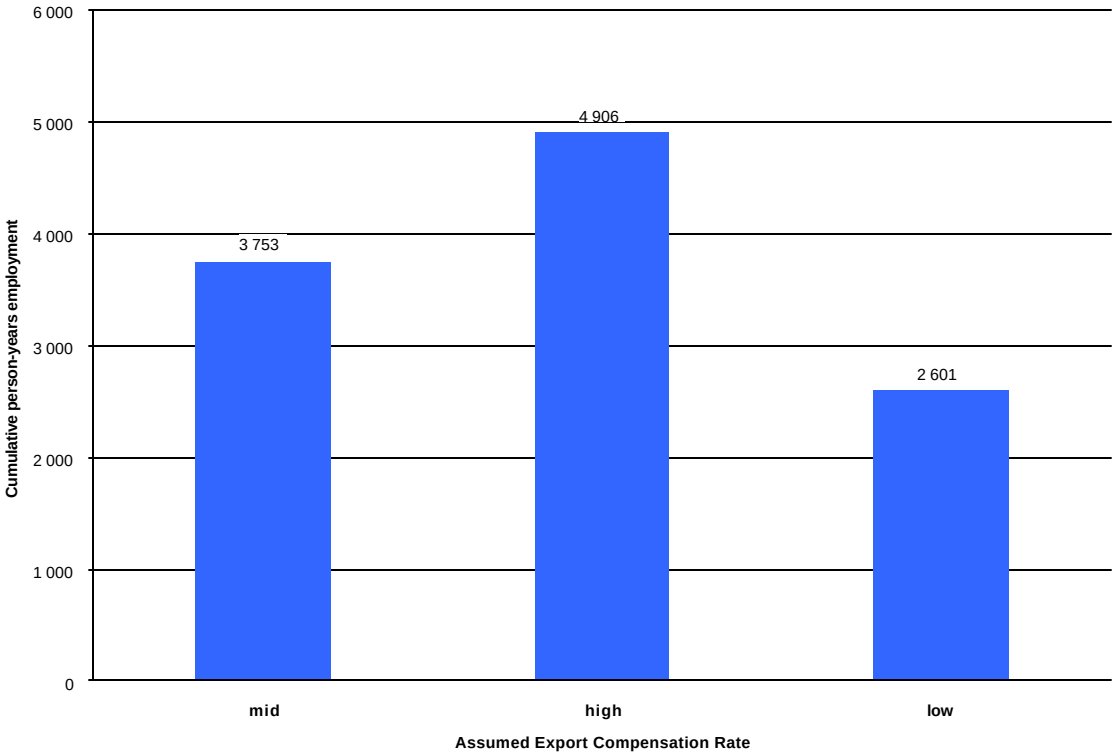


Fig. 14. Net Cumulative Employment Impacts (all scenarios)



Appendix A. Discussion of Assumptions

ECONOMIC ASSUMPTIONS

Inflation

We have set inflation at 2% annually, that is, mid-way in the Bank of Canada's target range of 1% - 3%.

Discount rate for programme costs

We have chosen to discount programme costs at 6%, reflecting the average cost of the Canadian government's current debt (put differently, this reflects the value of debt payments in time).

Discount rate for programme benefits

Choosing an appropriate discount rate for low-income consumers is difficult. On the one hand, low-income Canadians have significantly less access to credit and significantly less savings than average consumers, translating into a higher degree of respending of additional revenue or bill reductions. Assuming that all such gains will be respent on consumer goods and services (as opposed to debt relief or savings), one could suggest the appropriate rate of discount would merely be the rate of inflation. This rate, at roughly 2%, would be significantly lower than the discount rates typically applied to consumers or to governments.

On the other hand, low-income consumers will often respend the savings immediately to meet basic needs such as food and shelter. Assuming that all bill savings will be respent in this way, the appropriate rate of discount could in theory approach 100%.

Unfortunately, there is no standard for treating low-income Canadians' time-valuation of money. For the purposes of this assessment, we therefore chose to offer a sensitivity analysis by providing the results for three scenarios of discount rates: 6%, 8% and 10%. We feel this range is broad enough to account for a variety of situations (some of which fall outside the extremes, but the combined effect of which is likely to fall somewhere within the range). We do, however, find the possibility that low-income consumers' discount rates will actually be higher to be a legitimate concern worthy of mention.

ENERGY ASSUMPTIONS

Participant breakup by heating source

We assume that participants in the programme will mirror, in terms of heating sources, the energy source distribution of current Canada-wide residential heating loads. According to the federal Office of Energy Efficiency, Canadian residential home heating loads in 1998 were served in the following proportions: electricity 16.8%, natural gas 53.4%, heating oil 14.3% and all others, including wood, propane and coal, a further 15.5%.[7] For simplicity, we chose to limit our energy type categories to the first three, the remainder being reapportioned into these three categories according to their initial respective weights. As such, our model breaks up home heating loads in the following way:

Electricity	Natural gas	Heating oil
19.9%	63.1%	17.0%

Pre-visit consumption

For purposes of determining the pre-LIEEP consumption rates of potential participants, we assume that their space heating loads reflect the average in Canada, as follows[8]:

Electricity (kWh)	Natural gas (m^3)	Heating oil (litres)
12,053	2,072	2,159

This is founded on the assumption that the following two distinctions will tend to cancel themselves out: on the one hand, low-income customers will tend to have smaller dwellings to heat; on the other hand, these same dwellings will tend to be less well insulated, as well as being serviced by older – and therefore less efficient (in the case of natural gas and heating oil) – furnaces.

Energy prices

Electricity: We use an average post-tax electricity price of 8.88¢/kWh. This is the unweighted average of after-tax rates applicable to typical residential customers using 1000 kWh per month as of May 1, 2000 in the largest cities in each of Canada's ten provinces, as follows:[9]

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[7] Department of Natural Resources, Office of Energy Efficiency, customized results table produced at http://oee1.NRCan.gc.ca/dpa/data_e/database_e.cfm.

[8] These data were kindly provided for this analysis by the *Canadian Residential Energy End-Use Data and Analysis Centre* in Halifax, Nova Scotia.

[9] Hydro-Québec, *Comparison of Electricity Prices in Major North American Cities – Rates Effective May 1, 2000*, p. 30 and 36, 2000.

	Rate *(¢/kWh)*	Applicable taxes *(¢/kWh)*	Rate incl. Taxes *(¢/kWh)*
St-John's, NFLD	8.37	1.25	9.62
Charlottown, PEI	10.06	0.70	10.76
Moncton, NB	9.14	1.37	10.51
Halifax, NS	9.40	1.40	10.80
Montréal, QC	6.03	0.91	6.94
Toronto, ON	8.32	0.58	8.90
Winnipeg, MB	5.89	0.98	6.87
Regina, SK	8.20	1.45	9.65
Edmonton, AB	7.51	0.53	8.04
Vancouver, BC	6.12	0.63	6.75
Unweighted average	7.90	0.98	8.88

Natural gas: We use an estimate of 58.4¢/m³ as the marginal avoided post-tax rate for natural gas for winter space heating. This estimate is derived from assumptions regarding commodity, transportation and distribution rates and taxes, as follows:

Commodity prices	T/D & Storage prices	Applicable taxes	Total Rate incl. taxes
32.0¢/m³	20.0¢/m³	6.4¢/m³	58.4¢/m³

Regarding commodity prices, gas sold at roughly 32¢/m³ in December 2000.[10] While this reflects a significant increase over previous years, Enerdata expects prices to continue their upward trend – increasing to nearly 50¢/m³ by next winter and more by December 2002. Most analysts believe prices will drop thereafter, once increased production kicks in. By limiting the short-term price jump to its current rate, and setting annual increases thereafter at inflation (energy prices are used in this analysis for a period of 35 years), we believe this to be a reasonable, time-weighted reflection of future gas prices on the whole.

Regarding combined T&D and storage rates, these differ according to geographic location; however, rates for delivery in Toronto by Enbridge Consumers Gas are currently, for a typical residential heat and hot water customer, roughly 15¢/m³, while the same service provided in Montréal by Gaz Métropolitain will cost roughly 30.3¢/m³.[11] These examples are likely to reflect extremes as regards the distribution component of these aggregated rates, given the relative maturity and immaturity of their respective distribution grids. Given that transportation rates to the western provinces will be lower (all things being equal), we have assumed an average T&D and storage rate of 20¢/m³, bringing the total average pre-tax rate to 52¢/m³. Finally, we have assumed an average blended tax rate of 12.4%.[12]

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[10] Source: Enerdata, Dec. 11, 2000.

[11] Source for Toronto: http://www.cgc.enbridge.com/A/A15-03_r-rates.html. Source for Montréal: Société en commandite Gaz Métropolitain, *R-3444-2000, Dossier tarifaire 2001*, SCGM-19, doc. 16, p. 33, May 31, 2000.

[12] This is the average tax rate applicable to electricity sales in each of the ten provinces.

Heating oil: We use an estimate of 64.6¢/litre as the marginal avoided post-tax rate for home heating oil for winter space heating. This estimate is based on the Canada-wide average retail price of home heating oil in the month of September, 2000, as follows:

Retail pre-tax price	Applicable taxes	Ave. post-tax price
57.5¢/litre	7.1¢/litre	64.6¢/litre

September 2000 is the most recent month for which reliable statistical data is available.[13] This particular month has two weaknesses in terms of it representativity of typical winter domestic heating oil prices. On the one hand, prices tend to be significantly higher during winter months than in September.[14] On the other hand, crude oil prices recently peaked during the month of September 2000. We assume, for the purposes of our analysis, that these two factors cancel each other out.

Energy price escalator

For the purposes of this analysis, we assume energy prices will increase equally among the three main energy sources, and at a level equal to inflation, that is, by 2% per annum.

SPECIFIC MEASURES ASSUMPTIONS

The choice of individual measures as well as the proposed roll-out and expected savings were provided by our clients.

It is important to note that the programme itself was designed as a coherent package of interdependent measures, whose real-life performance will rely heavily on each other's implementation. For example, high-precision electronic programmable thermostats are unlikely to achieve their expected performance – in homes previously affected with very poor insulation – in the absence of significant weatherization services. For this reason, the following measure-by-measure breakdown should be read with some reserve.

The Low-Income Energy Efficiency programme is comprised of two "entry point" measures, one for each main market segment (tenants and owners), as well as subsequent measures. For the low-income tenant market, 136,667 participants will receive measure *1a* – a free education and weatherstripping visit –, while 50% of these same participants will also receive measure *1b* – installation of free electronic programmable thermostats. For the low-income home owners market, some 30,750 participants will receive measure *1a* and 34,167 will receive measure 1b. Furthermore,

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[13] Statistics Canada and Natural Resources Canada, *Energy Statistics Handbook*, November 2000, p. 10.14.

[14] Average price in December 1999, for example, was some 21% higher than in September 1999.

those same 34,167 home-owner participants to measure *1b* will also receive measure *2a* – a free, customized "EnerGuide for Houses" visit and diagnosis as well as weatherstripping measures. Finally, half of those same participants will receive measure *2b* – significant weatherization home renovations. Overall, measure *1a* will be delivered 167,417 times; measure *1b* will be delivered 102,500 times; measure *2a* will be delivered 34,167 times; and measure *2b* will be delivered 17,083 times.

NGOs expect to be able to deliver measure *1a* – education and weatherstripping visits – at a charge of $300 per participant, which should cover all materials, labour and overhead. The measure is expected to result in energy savings of 10% of the participant's annual heating bill, and have a useful life of 6 years. These estimates are based on detailed studies conducted for similar programmes applied in Canada in the past.

NGOs expect to be able to deliver measure *1b* – installation of programmable thermostats – at an average charge of $150 per participant (assuming an average 2 to 3 thermostats per household), which should cover all materials, labour and overhead. The measure is expected to result in energy savings equivalent to an additional 10% of the participant's annual heating load, and have a useful life of 15 years. These estimates are based on detailed studies conducted for similar programmes applied in both Canada and the U.S. in the past.

NGOs expect to be able to deliver measure *2a* – "EnerGuide for Houses" visits and diagnoses combined with weatherstripping – at a total charge of $400 per participant, which should cover all materials, labour and overhead. This same measure will result in energy savings of 10% of the participant's annual heating bill, and have a useful life of 6 years. These estimates are precisely the same as for measure 1a.

Finally, NGOs expect to be able to deliver measure *2b* – weatherization home renovations – at a charge of $3000 per participant, which should cover all materials, labour and overhead. This same measure is expected to result in energy savings of 15% *over and above* the savings already generated from measure *2a*, which all participants to *2b* will already have received. These additional savings have a useful life of 28 years. These estimates are based on detailed studies conducted for similar programmes applied in both Canada and the U.S. in the past.

PARTICIPANT ASSUMPTIONS

The proposed LIEE programme would reach, among tenants, 2,667 households in year 1, 7,333 in year 2, 20,000 in year 3, 40,000 in year 4 and 66,667 in year 5; among home owners, it would reach 1,333 households in year 1, 3,667 in year 2, 10,000 in year 3, 20,000 in year 4 and 33,333 in year 5. As discussed earlier, each tenant or home-owning household will receive a minimum of one and a maximum of three free services. The following table details the participation rates proposed by our clients, as well as the total number of visits and of measures installed.

Year	Individual Measures						Total Measures		Total Visits	
	1a) Education & weatherstripping		1b) Programmable thermostats		2a) Ener-Guide & WS	2b) Weatheri-zation				
	Tenants	Owners	Tenants	Owners	Owners	Owners	Tenants	Owners	Tenants	Owners
2002	2,667	600	1,333	667	667	333	4,000	2,267	2,667	1,333
2003	7,333	1,650	3,667	1,833	1,833	917	11,000	6,233	7,333	3,667
2004	20,000	4,500	10,000	5,000	5,000	2,500	30,000	17,000	20,000	10,000
2005	40,000	9,000	20,000	10,000	10,000	5,000	60,000	34,000	40,000	20,000
2006	66,667	15,000	33,333	16,667	16,667	8,333	100,000	56,667	66,667	33,333
S-tot.	**136,667**	**30,750**	**68,333**	**34,167**	**34,167**	**17,083**	**205,000**	**116,167**	**136,667**	**68,333**
Total	**167 417**		**102,500**		**34,167**	**17,083**	**321,167**		**205,000**	

ENVIRONMENTAL ASSUMPTIONS

Underlying assumptions

For assessing environmental impacts, we first chose the underlying assumptions concerning the marginal effects of reduced consumption on each principal energy source.

For gas and heating oil, the effect is direct; that is, each 1% reduction in gas- or oil-fired heat load is assumed to result in an equivalent reduction in gas or oil consumption.

For electricity, however, the situation is far more complex. For example, a reduction in electric heat loads in Québec, Manitoba or British Columbia does not result in an equivalent reduction in hydroelectric output, but rather, in an equivalent reduction in the *need* to build and operate a future power plant. If the nature of power plant technology were static, then we could simply assume that the marginal effect would be equal to the existing stock, e.g., the same type of hydroelectric plant in the case of those provinces, or the same mix of hydro, oil, gas and nuclear plants in the case of Ontario, for example. However, power plant technology is rapidly evolving.

For this reason, we have chosen to assume that any reduction in electric heat loads results in an equivalent reduction in electric output from a natural gas-fired combined-cycle gas turbine (CCGT) plant. Indeed, CCGTs are widely recognized in North America as the marginal power technology both currently and for at least a decade or two to come.

Among the many options for CCGTs, we have chosen the emissions characteristics of a state-of-the-art power plant boasting a water-steam injection emissions control system and CO_2 emissions of roughly 280 Kg/MWh. It is worth noting that this is lower than the emissions factor defined for “best technology” by the U.S. State and Territorial

Air Pollution Program Administrators and the U.S. Association of Local Air Pollution Control Officials (304 Kg/MWh).[15] It is also significantly lower than the emissions factor for a sample "state-of-the-art" CCGT plant recently proposed for location in Athens, N.Y. (362 KG/MWh).

While the efficiency and emissions characteristics we use are certainly far superior to even the average of new CCGTs coming on line today (not to mention the emissions from non-CCGT additions), we feel it is reasonable to assume that as power plant technology continues to improve, market and regulatory demands will result in the state-of-the-art becoming the norm. Still, it is possible that this assumption is too optimistic, resulting in an understating of the emissions reductions resulting from the LIEEP.

Resulting emissions coefficients

Given the above, we use the following emissions factors:

	Electric (Kg/MWh)[16]	*Gas (Kg/m³)*[17]	*Oil (Kg/litre)*[18]
CO_2	283,867867	1,880000	2,830000
NO_X	0,325158	0,000774	0,003086
SO_X	0,008722	0,000015	0,005294
CO	0,086193	0,000260	0,000858
VOCs	0,005316	0,000112	0,000119
P.M.	0,017109	0,000223	0,000429
CH_4	0,022297	0,000043	0,000214
N_2O	0,007742	0,000020	0,000006

We have also used the following standard greenhouse warming potential (GWP) coefficients for the three principal greenhouse gases: CO_2=1, CH_4=21 and N_2O=310.

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[15] STAPPA/ALAPCO, *Reducing Greenhouse Gases and Air Pollution: A Menu of Harmonized Options*, October 1999.

[16] Source: United States Environmental Protection Agency (EPA), *Emissions Factor Documentation for AP-42 Section 3.1 Stationary Gas Turbines*, April 2000, tables 3.4.1 and 3.1-2a. Where different options were available, we chose data for plants using a water-steam injection control method, which tends to be superior to other emissions control methods.

[17] Source: For CO2, CH4 and N2O we applied most recent available data from Environment Canada. Environment Canada, *Canada's Greenhouse Gas Inventory – 1997 Emissions and Removals with Trends*, April 1999, p. 101. For other emissions, we used Consumers Gas, *EBRO 490*, Exhibit D2, Tab 6, Schedule 1, page IV-21.

[18] Source: For CO2, CH4 and N2O we applied most recent available data from Environment Canada (see reference above). For other emissions, we used Alliance to Save Energy, American Council for an Energy Efficient Economy, Natural Resources Defense Council and Union of Concerned Scientists, *America's Energy Choices – Technical Appendixes*, 1992, p. I-15.

EMPLOYMENT ASSUMPTIONS

In order to estimate employment impacts from the LIEEP, we first estimate the impacts of the money being spent to improve participants' energy efficiency. For this we have chosen an employment coefficient of 15.2 job-years per $1 million. This coefficient is the result of detailed modelling of a similar energy efficiency programme evaluated in 1996 for the Province of Québec. Specifically, it was generated by the Québec Statistical Bureau (*Bureau de la statistique du Québec*) using a linear intersectoral model.[19] There is no reason that we are aware of for which the impact of spending on energy efficiency improvements would be significantly different in the remainder of the country.

In addition to the impact from direct energy efficiency spending, the LIEEP will also affect employment in Canada in two ways: (a) spending on energy, in the form of payments to utilities and other energy providers, will be reduced, with a resulting reduction in employment in related sectors (exploration / generation, transmission / transportation, storage and distribution), and (b) the money saved on energy bills will be redistributed differently throughout the economy (largely by increased purchases of consumer goods and marginally by increased savings investments), resulting in the creation of new jobs.

To account for employment losses, we first applied an energy-industry coefficient of 9.0 job-years per $1 million. This coefficient is borrowed from Hydro-Québec, and represents a weighted blend of employment coefficients for the utility's electricity generation, transmission and distribution activities.[20] The choice of Hydro-Québec's employment coefficient may overstate the nationwide effect of the energy industry, given that the Québec utility is likely even more self-sufficient than the Canadian energy industry as a whole. Furthermore, since this coefficient was determined in 1992, it does not reflect significant labour productivity gains ushered in by corporate downsizing both within Hydro-Québec and throughout the energy industry since that time. Since this coefficient is used to determine job losses associated with the LIEEP, it may as such overestimate such losses and lead to underestimating net job gains.

Second, we chose to account for the likelihood of significant compensating energy exports. In other words, we chose to reflect the likelihood that, given current and forecasted continental integration of energy markets, a certain percentage of domestic sales losses due to the LIEEP will be compensated by equivalent increases in energy commodity exports. For the purposes of our analysis, we have chosen to assess three scenarios: a middle scenario in which 50% of jobs potentially affected by lost domestic sales are maintained due to export increases; a high scenario in which increased exports compensate for 100% of potential losses associated with reduced domestic demand; and a low scenario in which the export compensation rate is set at 0%.

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[19] Bureau de la statistique du Québec, *Étude d'impact économique pour le Québec de la rénovation éconergétique de bâtiments*, for the Ministère des Ressources naturelles, Direction de l'efficacité énergétique, July 9, 1996, 66 p.

[20] Hydro-Québec, *Plan de développement 1993 (proposition)*, 1992, annexes 2 and 3.

Finally, to account for the effect of the redistribution throughout the economy of domestic energy bill savings, we once again turned to the study conducted in 1996 for the *Bureau de la statistique du Québec*, which uses a coefficient of 12.22 job-years per $1 million respent after bills savings.[21] Again, there is no reason to believe results would differ significantly in the rest of the country.

The complete employment coefficients are therefore as follows:

Programme spending *(p-y/$M)*	Redistribution of energy bill savings *(p-y/$M)*						
	Lost			Gained	Net gained		
	Mid	High	Low		Mid	High	Low
15.2	(4.5)	0.0	(9.0)	12.2	**7.7**	**12.2**	**3.2**

[21] It is worth noting that the effet of export compensation rates on net job losses in no way affects the job gains from the redistribution of domestic savings.

Appendix B. Summary of Results

[available in PDF or paper versions only]

Summary of Key Results

	Primary Quantities (all scenarios)				Alternative Quantities (middle scenario)	
	Mid	High	Low	Units		
Energy Conservation						
Electric Savings	830 845 999	n.a.	n.a.	kWh	68 933	households' annual consumption
Gas Savings	453 285 442	n.a.	n.a.	m^3	218 758	households' annual consumption
Oil Savings	126 886 834	n.a.	n.a.	litres	58 760	households' annual consumption
					346 450	
Costs and Benefits						
Ave. Annual Cost	$14 605 428	n.a.	n.a.	real dollars	$17 284 151	current dollars
Lifetime Direct Costs	$116 843 428	n.a.	n.a.	real dollars	$138 273 210	current dollars
Lifetime Direct Benefits	$256 099 017	$297 861 922	$222 756 046	real dollars	$513 840 865	current dollars
Net Direct Benefit	**$139 255 590**	**$181 018 494**	**$105 912 618**	**real dollars**	$375 567 654	current dollars
B/C Ratio	2,19	2,55	1,91		n.a.	
Ave. Bill Savings	$1 249	$1 453	$1 087	real dollars per participant	$3 760	current dollars per participant
Emissions Reductions						
CO2	1 447 116 855	n.a.	n.a.	kilograms	1 447 117	tonnes
NOX	1 012 505	n.a.	n.a.	kilograms	1 013	tonnes
SOX	685 701	n.a.	n.a.	kilograms	686	tonnes
CO	298 574	n.a.	n.a.	kilograms	299	tonnes
VOCs	70 046	n.a.	n.a.	kilograms	70	tonnes
P.M.	169 852	n.a.	n.a.	kilograms	170	tonnes
CH4	65 170	n.a.	n.a.	kilograms	65	tonnes
N2O	16 259	n.a.	n.a.	kilograms	16	tonnes
GHG Emissions (CO_2-equiv.)	1 453 525 814	n.a.	n.a.	kilograms	1 453 526	tonnes
% of Cdn. 2000	0,21%	n.a.	n.a.			
% of Cdn. Resid. 2000	1,80%	n.a.	n.a.			
Employment Impact						
Jobs Lost	(1 152,4)	0,0	(2 304,9)	person-years employment		
Jobs Gained	4 905,6	4 905,6	4 905,6	person-years employment		
Net Jobs Created	3 753,1	4 905,6	2 600,7	person-years employment		
Beneficiaries						
Households	205 000	n.a.	n.a.	households		
Low-income individuals	451 000	n.a.	n.a.	individuals		
% of low-income pop.	5,9%	n.a.	n.a.	of total		

Appendix C. Summary of Assumptions

[available in PDF or paper versions only]

Key Assumptions

Economic

Inflation	2,00%		
Nominal Discount Rates	*mid*	*low*	*high*
Benefits	8,0%	6,0%	10,0%
Costs (government rate)	6,0%	*n.a.*	*n.a.*

Energy

Heat Type:	*Elec (kWh)*	*Gas (m^3)*	*Oil (litres)*	*Others*
1998 residential end-use (PJ)	128,88	409,00	109,86	118,75
Participants distribution	16,8%	53,4%	14,3%	15,5%
Participants distribution (integ. "Others")	19,9%	63,1%	17,0%	
Average pre-visit consumption:	12 053	2 072	2 159	
Unit Rates (after tax)	$0,089	$0,584	$0,646	
Price escalator (annual nominal)	2,0%	2,0%	2,0%	

Specific Measures

		Measure Uptake		Energy	Useful life
	Cost / Part.*	Tenants	Owners	Savings	(years)
1a) Education & weatherstripping	$300	67%	15%	10,0%	6
1b) Programmable thermostats	$150	33%	17%	10,0%	15
2a) EnerGuide & WS	$400	n.a.	17%	10,0%	6
2b) Weatherization	$3 000	n.a.	8%	15,0%	28

**Delivered; includes equipment, labour and NGO administrative costs.*

Participation Rates

Programme duration (years)	5		
Low-income households in Canada	3 500 000		
Ave. individuals per household	2,2		
Total participants	*Tenants*	*Owners*	*Total*
	136 667	68 333	205 000
% of all low-income households	6%		

Programme roll-out

Year	*1a) Education & weatherstripping*		*1b) Programmable thermostats*		*2a) EnerGuide & WS*	*2b) Weatherization*
	Tenants	*Owners*	*Tenants*	*Owners*	*Owners*	*Owners*
2002	2 667	600	1 333	667	667	333
2003	7 333	1 650	3 667	1 833	1 833	917
2004	20 000	4 500	10 000	5 000	5 000	2 500
2005	40 000	9 000	20 000	10 000	10 000	5 000
2006	66 667	15 000	33 333	16 667	16 667	8 333
2007	0	0	0	0	0	0
2008	0	0	0	0	0	0
2009	0	0	0	0	0	0
	136 667	**30 750**	**68 333**	**34 167**		
Totals	**167 417**		**102 500**		**34 167**	**17 083**

	A	B	C	D	E	F	G
53	**Environmental**						
54	Electricity - Underlying hypothesis:	Emissions offsets from marginal plants (see notes for explanation)					
55	Marginal Electricity Plant:	State-of-the-art gas-fired combined-cycle (CCGT) gas turbine units					
56	Gas/Oil/Other - Underlying hypothesis:	Emissions offsets from average existing stock					
57	Typical emissions offsets	*Elec (kG/MWh)*	*Gas (kG/m³)*	*Oil (KG/litre)*	*GWP*		
58	CO_2	283,867867	1,880000	2,830000	*1*		
59	NO_X	0,325158	0,000774	0,003086			
60	SO_X	0,008722	0,000015	0,005294			
61	CO	0,086193	0,000260	0,000858			
62	VOCs	0,005316	0,000112	0,000119			
63	P.M.	0,017109	0,000223	0,000429			
64	CH_4	0,022297	0,000043	0,000214	*21*		
65	N_2O	0,007742	0,000020	0,000006	*310*		
66	Cdn. Y2K GHG Emissions (MT CO2-eq.)	694,0	(total; unrelated to column heading)				
67	Cdn. Res. GHG Emissions (MT CO2-eq.)	80,8	(total; unrelated to column heading)				
68	Conversion factor (lbs/MMBtu to kG/litre)	0,0204	(total; unrelated to column heading)				
69							
70							
71	**Employment**						
72		mid	high	low			
73	Export compensation rate (person-yrs./M$)	50,0%	0,0%	100,0%			
74	Programme spending	15,2	15,2	15,2			
75	Energy bills reduction	7,7	12,2	3,2			
76	*Jobs lost*	*(4,5)*	*0,0*	*(9,0)*			
77	*Jobs gained*	*12,2*	*12,2*	*12,2*			

Appendix D. Spreadsheet: Energy Savings

[available in PDF or paper versions only]

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	**1a) Education & weatherstripping**	**Cost / Part.***	**Energy Savings**	**Useful life (years)**													
2		**300 $**	**10%**	**6,0**													
3																	
4			**Participant Data**						**Energy Savings**								
5			**Participant Assumptions**			**New Participants by Energy Source**			**New Annual Savings**			**Cumulative Annual Savings**			**Cumulative Savings**		
6	**Years**	**Year**	**New**	**Growth from t-1**	**Cumulative**	**Elec**	**Gas**	**Oil**	**Elec (kWh)**	**Gas (m³)**	**Oil (litres)**	**Elec (kWh)**	**Gas (m³)**	**Oil (litres)**	**Elec (kWh)**	**Gas (m³)**	**Oil (litres)**
7	1	2002	8 167		8 167	1 625	5 157	1 385	1 958 506	1 068 504	299 103	1 958 506	1 068 504	299 103	1 958 506	1 068 504	299 103
8	2	2003	12 250	50%	20 417	2 437	7 735	2 078	2 937 758	1 602 756	448 655	4 896 264	2 671 259	747 758	6 854 769	3 739 763	1 046 861
9	3	2004	32 667	167%	53 083	6 500	20 627	5 540	7 834 022	4 274 015	1 196 412	12 730 286	6 945 274	1 944 170	19 585 055	10 685 037	2 991 030
10	4	2005	49 000	50%	102 083	9 749	30 940	8 311	11 751 033	6 411 022	1 794 618	24 481 319	13 356 296	3 738 788	44 066 374	24 041 334	6 729 818
11	5	2006	65 333	33%	167 417	12 999	41 253	11 081	15 668 044	8 548 030	2 392 824	40 149 363	21 904 326	6 131 612	84 215 737	45 945 660	12 861 431
12	6	2007	0		167 417	0	0	0	0	0	0	40 149 363	21 904 326	6 131 612	124 365 100	67 849 986	18 993 043
13	7	2008	0		167 417	0	0	0	0	0	0	38 190 857	20 835 822	5 832 509	162 555 957	88 685 808	24 825 552
14	8	2009	0		167 417	0	0	0	0	0	0	35 253 099	19 233 067	5 383 855	197 809 056	107 918 875	30 209 407
15	9	2010	0			0	0	0	0	0	0	27 419 077	14 959 052	4 187 443	225 228 133	122 877 927	34 396 850
16	10	2011	0			0	0	0	0	0	0	15 668 044	8 548 030	2 392 824	240 896 177	131 425 957	36 789 674
17	11	2012	0			0	0	0	0	0	0	0	0	0	240 896 177	131 425 957	36 789 674
18	12	2013	0			0	0	0	0	0	0	0	0	0	240 896 177	131 425 957	36 789 674
19	13	2014	0			0	0	0	0	0	0	0	0	0	240 896 177	131 425 957	36 789 674
20	14	2015	0			0	0	0	0	0	0	0	0	0	240 896 177	131 425 957	36 789 674
21	15	2016	0			0	0	0	0	0	0	0	0	0	240 896 177	131 425 957	36 789 674
22	16	2017	0			0	0	0	0	0	0	0	0	0	240 896 177	131 425 957	36 789 674
23	17	2018	0			0	0	0	0	0	0	0	0	0	240 896 177	131 425 957	36 789 674
24	18	2019	0			0	0	0	0	0	0	0	0	0	240 896 177	131 425 957	36 789 674
25	19	2020	0			0	0	0	0	0	0	0	0	0	240 896 177	131 425 957	36 789 674
26	20	2021	0			0	0	0	0	0	0	0	0	0	240 896 177	131 425 957	36 789 674
27	21	2022	0			0	0	0	0	0	0	0	0	0	240 896 177	131 425 957	36 789 674
28	22	2023	0			0	0	0	0	0	0	0	0	0	240 896 177	131 425 957	36 789 674
29	23	2024	0			0	0	0	0	0	0	0	0	0	240 896 177	131 425 957	36 789 674
30	24	2025	0			0	0	0	0	0	0	0	0	0	240 896 177	131 425 957	36 789 674
31	25	2026	0			0	0	0	0	0	0	0	0	0	240 896 177	131 425 957	36 789 674
32	26	2027	0			0	0	0	0	0	0	0	0	0	240 896 177	131 425 957	36 789 674
33	27	2028	0			0	0	0	0	0	0	0	0	0	240 896 177	131 425 957	36 789 674
34	28	2029	0			0	0	0	0	0	0	0	0	0	240 896 177	131 425 957	36 789 674
35	29	2030	0			0	0	0	0	0	0	0	0	0	240 896 177	131 425 957	36 789 674
36	30	2031	0			0	0	0	0	0	0	0	0	0	240 896 177	131 425 957	36 789 674
37	31	2032	0			0	0	0	0	0	0	0	0	0	240 896 177	131 425 957	36 789 674
38	32	2033	0			0	0	0	0	0	0	0	0	0	240 896 177	131 425 957	36 789 674
39		**Totals:**	**167 417**			**33 311**	**105 711**	**28 395**	**40 149 363**	**21 904 326**	**6 131 612**						

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	**1b) Programmable thermostats**	**Cost / Part.***	**Energy Savings**	**Useful life (years)**													
2		**150 $**	**10%**	**15,0**													
3																	
4			**Participant Data**						**Energy Savings**								
5			**Participant Assumptions**			**New Participants by Energy Source**			**New Annual Savings**			**Cumulative Annual Savings**			**Cumulative Savings**		
6	**Years**	**Year**	**New**	**Growth from t-1**	**Cumulative**	**Elec**	**Gas**	**Oil**	**Elec (kWh)**	**Gas (m³)**	**Oil (litres)**	**Elec (kWh)**	**Gas (m³)**	**Oil (litres)**	**Elec (kWh)**	**Gas (m³)**	**Oil (litres)**
7	1	2002	5 000		5 000	995	3 157	848	1 199 085	654 186	183 124	1 199 085	654 186	183 124	1 199 085	654 186	183 124
8	2	2003	7 500	50%	12 500	1 492	4 736	1 272	1 798 628	981 279	274 686	2 997 713	1 635 465	457 811	4 196 798	2 289 651	640 935
9	3	2004	20 000	167%	32 500	3 979	12 629	3 392	4 796 340	2 616 744	732 497	7 794 053	4 252 209	1 190 308	11 990 850	6 541 859	1 831 243
10	4	2005	30 000	50%	62 500	5 969	18 943	5 088	7 194 510	3 925 116	1 098 746	14 988 563	8 177 324	2 289 054	26 979 413	14 719 184	4 120 297
11	5	2006	40 000	33%	102 500	7 959	25 257	6 784	9 592 680	5 233 488	1 464 994	24 581 243	13 410 812	3 754 048	51 560 655	28 129 996	7 874 345
12	6	2007	0		102 500	0	0	0	0	0	0	24 581 243	13 410 812	3 754 048	76 141 898	41 540 808	11 628 394
13	7	2008	0		102 500	0	0	0	0	0	0	24 581 243	13 410 812	3 754 048	100 723 140	54 951 620	15 382 442
14	8	2009	0		102 500	0	0	0	0	0	0	24 581 243	13 410 812	3 754 048	125 304 383	68 362 431	19 136 490
15	9	2010	0			0	0	0	0	0	0	24 581 243	13 410 812	3 754 048	149 885 625	81 773 243	22 890 539
16	10	2011	0			0	0	0	0	0	0	24 581 243	13 410 812	3 754 048	174 466 868	95 184 055	26 644 587
17	11	2012	0			0	0	0	0	0	0	24 581 243	13 410 812	3 754 048	199 048 111	108 594 867	30 398 635
18	12	2013	0			0	0	0	0	0	0	24 581 243	13 410 812	3 754 048	223 629 353	122 005 679	34 152 684
19	13	2014	0			0	0	0	0	0	0	24 581 243	13 410 812	3 754 048	248 210 596	135 416 491	37 906 732
20	14	2015	0			0	0	0	0	0	0	24 581 243	13 410 812	3 754 048	272 791 838	148 827 303	41 660 781
21	15	2016	0			0	0	0	0	0	0	24 581 243	13 410 812	3 754 048	297 373 081	162 238 115	45 414 829
22	16	2017	0			0	0	0	0	0	0	23 382 158	12 756 626	3 570 924	320 755 238	174 994 741	48 985 753
23	17	2018	0			0	0	0	0	0	0	21 583 530	11 775 347	3 296 238	342 338 768	186 770 088	52 281 991
24	18	2019	0			0	0	0	0	0	0	16 787 190	9 158 603	2 563 740	359 125 958	195 928 691	54 845 731
25	19	2020	0			0	0	0	0	0	0	9 592 680	5 233 488	1 464 994	368 718 638	201 162 179	56 310 725
26	20	2021	0			0	0	0	0	0	0	0	0	0	368 718 638	201 162 179	56 310 725
27	21	2022	0			0	0	0	0	0	0	0	0	0	368 718 638	201 162 179	56 310 725
28	22	2023	0			0	0	0	0	0	0	0	0	0	368 718 638	201 162 179	56 310 725
29	23	2024	0			0	0	0	0	0	0	0	0	0	368 718 638	201 162 179	56 310 725
30	24	2025	0			0	0	0	0	0	0	0	0	0	368 718 638	201 162 179	56 310 725
31	25	2026	0			0	0	0	0	0	0	0	0	0	368 718 638	201 162 179	56 310 725
32	26	2027	0			0	0	0	0	0	0	0	0	0	368 718 638	201 162 179	56 310 725
33	27	2028	0			0	0	0	0	0	0	0	0	0	368 718 638	201 162 179	56 310 725
34	28	2029	0			0	0	0	0	0	0	0	0	0	368 718 638	201 162 179	56 310 725
35	29	2030	0			0	0	0	0	0	0	0	0	0	368 718 638	201 162 179	56 310 725
36	30	2031	0			0	0	0	0	0	0	0	0	0	368 718 638	201 162 179	56 310 725
37	31	2032	0			0	0	0	0	0	0	0	0	0	368 718 638	201 162 179	56 310 725
38	32	2033	0			0	0	0	0	0	0	0	0	0	368 718 638	201 162 179	56 310 725
39		**Totals:**	**102 500**			**20 394**	**64 721**	**17 385**	**24 581 243**	**13 410 812**	**3 754 048**						

	A	B	C	D
1	2a) EnerGuide & WS	Cost / Part.*	Energy Savings	Useful life (years)
2		400 $	10%	6,0

			Participant Data						Energy Savings								
			Participant Assumptions			New Participants by Energy Source			New Annual Savings			Cumulative Annual Savings			Cumulative Savings		
6	Years	Year	New	Growth from t-1	Cumulative	Elec	Gas	Oil	Elec (kWh)	Gas (m³)	Oil (litres)	Elec (kWh)	Gas (m³)	Oil (litres)	Elec (kWh)	Gas (m³)	Oil (litres)
7	1	2002	1 667		1 667	332	1 052	283	399 695	218 062	61 041	399 695	218 062	61 041	399 695	218 062	61 041
8	2	2003	2 500	50%	4 167	497	1 579	424	599 543	327 093	91 562	999 238	545 155	152 604	1 398 933	763 217	213 645
9	3	2004	6 667	167%	10 833	1 326	4 210	1 131	1 598 780	872 248	244 166	2 598 018	1 417 403	396 769	3 996 950	2 180 620	610 414
10	4	2005	10 000	50%	20 833	1 990	6 314	1 696	2 398 170	1 308 372	366 249	4 996 188	2 725 775	763 018	8 993 138	4 906 395	1 373 432
11	5	2006	13 333	33%	34 167	2 653	8 419	2 261	3 197 560	1 744 496	488 331	8 193 748	4 470 271	1 251 349	17 186 885	9 376 665	2 624 782
12	6	2007	0			0	0	0	0	0	0	8 193 748	4 470 271	1 251 349	25 380 633	13 846 936	3 876 131
13	7	2008	0			0	0	0	0	0	0	7 794 053	4 252 209	1 190 308	33 174 685	18 099 145	5 066 439
14	8	2009	0			0	0	0	0	0	0	7 194 510	3 925 116	1 098 746	40 369 195	22 024 260	6 165 185
15	9	2010	0			0	0	0	0	0	0	5 595 730	3 052 868	854 580	45 964 925	25 077 128	7 019 765
16	10	2011	0			0	0	0	0	0	0	3 197 560	1 744 496	488 331	49 162 485	26 821 624	7 508 097
17	11	2012	0			0	0	0	0	0	0	0	0	0	49 162 485	26 821 624	7 508 097
18	12	2013	0			0	0	0	0	0	0	0	0	0	49 162 485	26 821 624	7 508 097
19	13	2014	0			0	0	0	0	0	0	0	0	0	49 162 485	26 821 624	7 508 097
20	14	2015	0			0	0	0	0	0	0	0	0	0	49 162 485	26 821 624	7 508 097
21	15	2016	0			0	0	0	0	0	0	0	0	0	49 162 485	26 821 624	7 508 097
22	16	2017	0			0	0	0	0	0	0	0	0	0	49 162 485	26 821 624	7 508 097
23	17	2018	0			0	0	0	0	0	0	0	0	0	49 162 485	26 821 624	7 508 097
24	18	2019	0			0	0	0	0	0	0	0	0	0	49 162 485	26 821 624	7 508 097
25	19	2020	0			0	0	0	0	0	0	0	0	0	49 162 485	26 821 624	7 508 097
26	20	2021	0			0	0	0	0	0	0	0	0	0	49 162 485	26 821 624	7 508 097
27	21	2022	0			0	0	0	0	0	0	0	0	0	49 162 485	26 821 624	7 508 097
28	22	2023	0			0	0	0	0	0	0	0	0	0	49 162 485	26 821 624	7 508 097
29	23	2024	0			0	0	0	0	0	0	0	0	0	49 162 485	26 821 624	7 508 097
30	24	2025	0			0	0	0	0	0	0	0	0	0	49 162 485	26 821 624	7 508 097
31	25	2026	0			0	0	0	0	0	0	0	0	0	49 162 485	26 821 624	7 508 097
32	26	2027	0			0	0	0	0	0	0	0	0	0	49 162 485	26 821 624	7 508 097
33	27	2028	0			0	0	0	0	0	0	0	0	0	49 162 485	26 821 624	7 508 097
34	28	2029	0			0	0	0	0	0	0	0	0	0	49 162 485	26 821 624	7 508 097
35	29	2030	0			0	0	0	0	0	0	0	0	0	49 162 485	26 821 624	7 508 097
36	30	2031	0			0	0	0	0	0	0	0	0	0	49 162 485	26 821 624	7 508 097
37	31	2032	0			0	0	0	0	0	0	0	0	0	49 162 485	26 821 624	7 508 097
38	32	2033	0			0	0	0	0	0	0	0	0	0	49 162 485	26 821 624	7 508 097
39	33	2034	0			0	0	0	0	0	0	0	0	0	49 162 485	26 821 624	7 508 097
40		Totals:	34 167			6 798	21 574	5 795	8 193 748	4 470 271	1 251 349						

	A	B	C	D
1		Cost / Part.*	Energy Savings	Useful life (years)
2	2b) Weatherization	3 000 $	15%	28,0

			Participant Data			New Participants by Energy Source			Energy Savings								
			Participant Assumptions						New Annual Savings			Cumulative Annual Savings			Cumulative Savings		
6	Years	Year	New	Growth from t-1	Cumulative	Elec	Gas	Oil	Elec (kWh)	Gas (m³)	Oil (litres)	Elec (kWh)	Gas (m³)	Oil (litres)	Elec (kWh)	Gas (m³)	Oil (litres)
7	1	2002	833		833	166	526	141	299 771	163 546	45 781	299 771	163 546	45 781	299 771	163 546	45 781
8	2	2003	1 250	50%	2 083	249	789	212	449 657	245 320	68 672	749 428	408 866	114 453	1 049 199	572 413	160 234
9	3	2004	3 333	167%	5 417	663	2 105	565	1 199 085	654 186	183 124	1 948 513	1 063 052	297 577	2 997 713	1 635 465	457 811
10	4	2005	5 000	50%	10 417	995	3 157	848	1 798 628	981 279	274 686	3 747 141	2 044 331	572 263	6 744 853	3 679 796	1 030 074
11	5	2006	6 667	33%	17 083	1 326	4 210	1 131	2 398 170	1 308 372	366 249	6 145 311	3 352 703	938 512	12 890 164	7 032 499	1 968 586
12	6	2007	0			0	0	0	0	0	0	6 145 311	3 352 703	938 512	19 035 474	10 385 202	2 907 098
13	7	2008	0			0	0	0	0	0	0	6 145 311	3 352 703	938 512	25 180 785	13 737 905	3 845 611
14	8	2009	0			0	0	0	0	0	0	6 145 311	3 352 703	938 512	31 326 096	17 090 608	4 784 123
15	9	2010	0			0	0	0	0	0	0	6 145 311	3 352 703	938 512	37 471 406	20 443 311	5 722 635
16	10	2011	0			0	0	0	0	0	0	6 145 311	3 352 703	938 512	43 616 717	23 796 014	6 661 147
17	11	2012	0			0	0	0	0	0	0	6 145 311	3 352 703	938 512	49 762 028	27 148 717	7 599 659
18	12	2013	0			0	0	0	0	0	0	6 145 311	3 352 703	938 512	55 907 338	30 501 420	8 538 171
19	13	2014	0			0	0	0	0	0	0	6 145 311	3 352 703	938 512	62 052 649	33 854 123	9 476 683
20	14	2015	0			0	0	0	0	0	0	6 145 311	3 352 703	938 512	68 197 960	37 206 826	10 415 195
21	15	2016	0			0	0	0	0	0	0	6 145 311	3 352 703	938 512	74 343 270	40 559 529	11 353 707
22	16	2017	0			0	0	0	0	0	0	6 145 311	3 352 703	938 512	80 488 581	43 912 232	12 292 219
23	17	2018	0			0	0	0	0	0	0	6 145 311	3 352 703	938 512	86 633 891	47 264 935	13 230 731
24	18	2019	0			0	0	0	0	0	0	6 145 311	3 352 703	938 512	92 779 202	50 617 638	14 169 243
25	19	2020	0			0	0	0	0	0	0	6 145 311	3 352 703	938 512	98 924 513	53 970 341	15 107 756
26	20	2021	0			0	0	0	0	0	0	6 145 311	3 352 703	938 512	105 069 823	57 323 044	16 046 268
27	21	2022	0			0	0	0	0	0	0	6 145 311	3 352 703	938 512	111 215 134	60 675 747	16 984 780
28	22	2023	0			0	0	0	0	0	0	6 145 311	3 352 703	938 512	117 360 445	64 028 450	17 923 292
29	23	2024	0			0	0	0	0	0	0	6 145 311	3 352 703	938 512	123 505 755	67 381 152	18 861 804
30	24	2025	0			0	0	0	0	0	0	6 145 311	3 352 703	938 512	129 651 066	70 733 855	19 800 316
31	25	2026	0			0	0	0	0	0	0	6 145 311	3 352 703	938 512	135 796 377	74 086 558	20 738 828
32	26	2027	0			0	0	0	0	0	0	6 145 311	3 352 703	938 512	141 941 687	77 439 261	21 677 340
33	27	2028	0			0	0	0	0	0	0	6 145 311	3 352 703	938 512	148 086 998	80 791 964	22 615 852
34	28	2029	0			0	0	0	0	0	0	6 145 311	3 352 703	938 512	154 232 309	84 144 667	23 554 364
35	29	2030	0			0	0	0	0	0	0	5 845 539	3 189 156	892 731	160 077 848	87 333 824	24 447 095
36	30	2031	0			0	0	0	0	0	0	5 395 883	2 943 837	824 059	165 473 730	90 277 661	25 271 155
37	31	2032	0			0	0	0	0	0	0	4 196 798	2 289 651	640 935	169 670 528	92 567 311	25 912 090
38	32	2033	0			0	0	0	0	0	0	2 398 170	1 308 372	366 249	172 068 698	93 875 683	26 278 338
39		Totals:	17 083			3 399	10 787	2 897	6 145 311	3 352 703	938 512						

ALL MEASURES COMBINED

			Participant Data						Energy Savings								
			Participant Assumptions			New Participants by Energy Source			New Annual Savings			Cumulative Annual Savings			Cumulative Savings		
Years		Year	New	Growth from t-1	Cumulative	Elec	Gas	Oil	Elec (kWh)	Gas (m³)	Oil (litres)	Elec (kWh)	Gas (m³)	Oil (litres)	Elec (kWh)	Gas (m³)	Oil (litres)
	1	2002	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	3 857 057	2 104 298	589 050	3 857 057	2 104 298	589 050	3 857 057	2 104 298	589 050
	2	2003	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	5 785 585	3 156 447	883 575	9 642 642	5 260 745	1 472 625	13 499 699	7 365 043	2 061 675
	3	2004	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	15 428 227	8 417 193	2 356 199	25 070 869	13 677 938	3 828 824	38 570 568	21 042 981	5 890 499
	4	2005	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	23 142 341	12 625 789	3 534 299	48 213 210	26 303 727	7 363 123	86 783 777	47 346 708	13 253 622
	5	2006	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	30 856 454	16 834 385	4 712 399	79 069 664	43 138 112	12 075 522	165 853 441	90 484 820	25 329 144
	6	2007							0	0	0	79 069 664	43 138 112	12 075 522	244 923 104	133 622 931	37 404 666
	7	2008							0	0	0	76 711 463	41 851 546	11 715 378	321 634 567	175 474 477	49 120 044
	8	2009							0	0	0	73 174 162	39 921 697	11 175 161	394 808 730	215 396 174	60 295 205
	9	2010							0	0	0	63 741 360	34 775 435	9 734 583	458 550 090	250 171 609	70 029 788
	10	2011							0	0	0	49 592 157	27 056 040	7 573 716	508 142 247	277 227 649	77 603 504
	11	2012							0	0	0	30 726 553	16 763 515	4 692 560	538 868 800	293 991 164	82 296 065
	12	2013							0	0	0	30 726 553	16 763 515	4 692 560	569 595 354	310 754 679	86 988 625
	13	2014							0	0	0	30 726 553	16 763 515	4 692 560	600 321 907	327 518 194	91 681 186
	14	2015							0	0	0	30 726 553	16 763 515	4 692 560	631 048 460	344 281 709	96 373 746
	15	2016							0	0	0	30 726 553	16 763 515	4 692 560	661 775 013	361 045 224	101 066 307
	16	2017							0	0	0	29 527 468	16 109 329	4 509 436	691 302 481	377 154 553	105 575 743
	17	2018							0	0	0	27 728 841	15 128 050	4 234 750	719 031 322	392 282 603	109 810 493
	18	2019							0	0	0	22 932 501	12 511 306	3 502 252	741 963 823	404 793 909	113 312 745
	19	2020							0	0	0	15 737 991	8 586 191	2 403 507	757 701 814	413 380 100	115 716 252
	20	2021							0	0	0	6 145 311	3 352 703	938 512	763 847 124	416 732 803	116 654 764
	21	2022							0	0	0	6 145 311	3 352 703	938 512	769 992 435	420 085 506	117 593 276
	22	2023							0	0	0	6 145 311	3 352 703	938 512	776 137 745	423 438 209	118 531 788
	23	2024							0	0	0	6 145 311	3 352 703	938 512	782 283 056	426 790 912	119 470 300
	24	2025							0	0	0	6 145 311	3 352 703	938 512	788 428 367	430 143 614	120 408 812
	25	2026							0	0	0	6 145 311	3 352 703	938 512	794 573 677	433 496 317	121 347 324
	26	2027							0	0	0	6 145 311	3 352 703	938 512	800 718 988	436 849 020	122 285 836
	27	2028							0	0	0	6 145 311	3 352 703	938 512	806 864 299	440 201 723	123 224 348
	28	2029							0	0	0	6 145 311	3 352 703	938 512	813 009 609	443 554 426	124 162 860
	29	2030							0	0	0	5 845 539	3 189 156	892 731	818 855 149	446 743 583	125 055 591
	30	2031							0	0	0	5 395 883	2 943 837	824 059	824 251 031	449 687 420	125 879 651
	31	2032							0	0	0	4 196 798	2 289 651	640 935	828 447 829	451 977 070	126 520 586
	32	2033							0	0	0	2 398 170	1 308 372	366 249	830 845 999	453 285 442	126 886 834
		Totals:							**79 069 664**	**43 138 112**	**12 075 522**	**830 845 999**	**453 285 442**	**126 886 834**			

Appendix E. Spreadsheet: Economic Benefits

[available in PDF or paper versions only]

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	**1a) Education & weatherstripping**	**Cost / Part.***	**Energy Savings**	**Useful life (years)**										
2		**300 $**	**10%**	**6,0**										
3														
4			**Participant Data**											
5			**Participant Assumptions**			**New Participants by Energy Source**			**Annual, current dollars**					
6	**Years**	**Year**	**New**	**Growth from t-1**	**Cumulative**	**Elec**	**Gas**	**Oil**	**Elec**	**Gas**	**Oil**	**Total**	**8%**	**Elec 6%**
7														
8	1	2002	8 167		8 167	1 625	5 157	1 385	$173 994	$624 519	$193 310	$991 823	$173 994	$173 994
9	2	2003	12 250	50%	20 417	2 437	7 735	2 078	$443 684	$1 592 524	$492 941	$2 529 149	$410 818	$418 570
10	3	2004	32 667	167%	53 083	6 500	20 627	5 540	$1 176 649	$4 223 373	$1 307 280	$6 707 302	$1 008 787	$1 047 214
11	4	2005	49 000	50%	102 083	9 749	30 940	8 311	$2 308 043	$8 284 308	$2 564 280	$13 156 631	$1 832 199	$1 937 877
12	5	2006	65 333	33%	167 417	12 999	41 253	11 081	$3 860 894	$13 857 990	$4 289 528	$22 008 412	$2 837 872	$3 058 190
13	6	2007	0			0	0	0	$3 938 112	$14 135 150	$4 375 319	$22 448 580	$2 680 213	$2 942 786
14	7	2008	0			0	0	0	$3 820 929	$13 714 543	$4 245 126	$21 780 598	$2 407 834	$2 693 604
15	8	2009	0			0	0	0	$3 597 552	$12 912 769	$3 996 950	$20 507 271	$2 099 137	$2 392 577
16	9	2010	0			0	0	0	$2 854 058	$10 244 130	$3 170 913	$16 269 102	$1 541 959	$1 790 671
17	10	2011	0			0	0	0	$1 663 508	$5 970 865	$1 848 190	$9 482 562	$832 168	$984 628
18	11	2012	0			0	0	0	$0	$0	$0	$0	$0	$0
19	12	2013	0			0	0	0	$0	$0	$0	$0	$0	$0
20	13	2014	0			0	0	0	$0	$0	$0	$0	$0	$0
21	14	2015	0			0	0	0	$0	$0	$0	$0	$0	$0
22	15	2016	0			0	0	0	$0	$0	$0	$0	$0	$0
23	16	2017	0			0	0	0	$0	$0	$0	$0	$0	$0
24	17	2018	0			0	0	0	$0	$0	$0	$0	$0	$0
25	18	2019	0			0	0	0	$0	$0	$0	$0	$0	$0
26	19	2020	0			0	0	0	$0	$0	$0	$0	$0	$0
27	20	2021	0			0	0	0	$0	$0	$0	$0	$0	$0
28	21	2022	0			0	0	0	$0	$0	$0	$0	$0	$0
29	22	2023	0			0	0	0	$0	$0	$0	$0	$0	$0
30	23	2024	0			0	0	0	$0	$0	$0	$0	$0	$0
31	24	2025	0			0	0	0	$0	$0	$0	$0	$0	$0
32	25	2026	0			0	0	0	$0	$0	$0	$0	$0	$0
33	26	2027	0			0	0	0	$0	$0	$0	$0	$0	$0
34	27	2028	0			0	0	0	$0	$0	$0	$0	$0	$0
35	28	2029	0			0	0	0	$0	$0	$0	$0	$0	$0
36	29	2030	0			0	0	0	$0	$0	$0	$0	$0	$0
37	30	2031	0			0	0	0	$0	$0	$0	$0	$0	$0
38	31	2032	0			0	0	0	$0	$0	$0	$0	$0	$0
39	32	2033	0			0	0	0	$0	$0	$0	$0	$0	$0
40		**Totals:**	**167 417**			**33 311**	**105 711**	**28 395**	**$23 837 422**	**$85 560 170**	**$26 483 838**	**$135 881 430**	**$15 824 980**	

	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA
1													
2													
3													
4	**Bill Savings**												
5	**Annual, real 2002 dollars**										**Cumulative, current dollars**		
6			Gas			Oil			Total				
7	**10%**	**8%**	**6%**	**10%**	**8%**	**6%**	**10%**	**8%**	**6%**	**10%**	**Elec**	**Gas**	**Oil**
8	$173 994	$624 519	$624 519	$624 519	$193 310	$193 310	$193 310	$991 823	$991 823	$991 823	$173 994	$624 519	$193 310
9	$403 349	$1 474 559	$1 502 381	$1 447 749	$456 427	$465 039	$448 128	$2 341 804	$2 385 989	$2 299 226	$617 677	$2 217 043	$686 252
10	$972 437	$3 620 861	$3 758 787	$3 490 391	$1 120 782	$1 163 475	$1 080 397	$5 750 430	$5 969 475	$5 543 225	$1 794 327	$6 440 415	$1 993 532
11	$1 734 067	$6 576 351	$6 955 664	$6 224 123	$2 035 608	$2 153 019	$1 926 582	$10 444 158	$11 046 561	$9 884 772	$4 102 370	$14 724 723	$4 557 812
12	$2 637 043	$10 186 036	$10 976 826	$9 465 194	$3 152 931	$3 397 708	$2 929 806	$16 176 840	$17 432 724	$15 032 042	$7 963 264	$28 582 713	$8 847 340
13	$2 445 258	$9 620 145	$10 562 606	$8 776 816	$2 977 768	$3 269 493	$2 716 729	$15 278 127	$16 774 885	$13 938 802	$11 901 376	$42 717 862	$13 222 659
14	$2 156 815	$8 642 488	$9 668 211	$7 741 502	$2 675 150	$2 992 647	$2 396 263	$13 725 472	$15 354 462	$12 294 580	$15 722 305	$56 432 405	$17 467 786
15	$1 846 113	$7 534 477	$8 587 729	$6 626 292	$2 332 182	$2 658 200	$2 051 067	$11 965 796	$13 638 506	$10 523 473	$19 319 857	$69 345 174	$21 464 735
16	$1 331 439	$5 534 585	$6 427 294	$4 778 962	$1 713 146	$1 989 470	$1 479 255	$8 789 689	$10 207 436	$7 589 656	$22 173 914	$79 589 305	$24 635 649
17	$705 490	$2 986 919	$3 534 146	$2 532 229	$924 555	$1 093 941	$783 813	$4 743 642	$5 612 714	$4 021 532	$23 837 422	$85 560 170	$26 483 838
18	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$23 837 422	$85 560 170	$26 483 838
19	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$23 837 422	$85 560 170	$26 483 838
20	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$23 837 422	$85 560 170	$26 483 838
21	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$23 837 422	$85 560 170	$26 483 838
22	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$23 837 422	$85 560 170	$26 483 838
23	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$23 837 422	$85 560 170	$26 483 838
24	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$23 837 422	$85 560 170	$26 483 838
25	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$23 837 422	$85 560 170	$26 483 838
26	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$23 837 422	$85 560 170	$26 483 838
27	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$23 837 422	$85 560 170	$26 483 838
28	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$23 837 422	$85 560 170	$26 483 838
29	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$23 837 422	$85 560 170	$26 483 838
30	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$23 837 422	$85 560 170	$26 483 838
31	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$23 837 422	$85 560 170	$26 483 838
32	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$23 837 422	$85 560 170	$26 483 838
33	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$23 837 422	$85 560 170	$26 483 838
34	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$23 837 422	$85 560 170	$26 483 838
35	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$23 837 422	$85 560 170	$26 483 838
36	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$23 837 422	$85 560 170	$26 483 838
37	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$23 837 422	$85 560 170	$26 483 838
38	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$23 837 422	$85 560 170	$26 483 838
39	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$23 837 422	$85 560 170	$26 483 838
40		**$56 800 940**			**$17 581 860**			**$90 207 781**	**$99 414 576**	**$82 119 130**			

	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN
1													
2													
3													
4													
5		Cumulative, real 2002 dollars											
6	Total		Elec			Gas			Oil			Total	
7		8%	6%	10%	8%	6%	10%	8%	6%	10%	8%	6%	10%
8	$991 823	$173 994	$173 994	$173 994	$624 519	$624 519	$624 519	$193 310	$193 310	$193 310	$991 823	$991 823	$991 823
9	$3 520 972	$584 812	$592 563	$577 342	$2 099 078	$2 126 900	$2 072 268	$649 737	$658 349	$641 439	$3 333 627	$3 377 812	$3 291 049
10	$10 228 274	$1 593 599	$1 639 777	$1 549 780	$5 719 939	$5 885 686	$5 562 658	$1 770 519	$1 821 824	$1 721 836	$9 084 058	$9 347 287	$8 834 274
11	$23 384 905	$3 425 798	$3 577 654	$3 283 847	$12 296 290	$12 841 351	$11 786 781	$3 806 128	$3 974 843	$3 648 417	$19 528 215	$20 393 848	$18 719 045
12	$45 393 317	$6 263 670	$6 635 844	$5 920 889	$22 482 326	$23 818 177	$21 251 975	$6 959 059	$7 372 551	$6 578 223	$35 705 055	$37 826 572	$33 751 087
13	$67 841 897	$8 943 883	$9 578 630	$8 366 147	$32 102 471	$34 380 783	$30 028 791	$9 936 828	$10 642 044	$9 294 952	$50 983 182	$54 601 457	$47 689 889
14	$89 622 496	$11 351 717	$12 272 235	$10 522 962	$40 744 959	$44 048 994	$37 770 292	$12 611 977	$13 634 691	$11 691 215	$64 708 654	$69 955 920	$59 984 469
15	$110 129 767	$13 450 854	$14 664 812	$12 369 075	$48 279 436	$52 636 723	$44 396 585	$14 944 159	$16 292 891	$13 742 282	$76 674 449	$83 594 426	$70 507 942
16	$126 398 868	$14 992 812	$16 455 483	$13 700 514	$53 814 021	$59 064 018	$49 175 547	$16 657 305	$18 282 361	$15 221 537	$85 464 139	$93 801 862	$78 097 598
17	$135 881 430	$15 824 980	$17 440 111	$14 406 004	$56 800 940	$62 598 163	$51 707 777	$17 581 860	$19 376 301	$16 005 349	$90 207 781	$99 414 576	$82 119 130
18	$135 881 430	$15 824 980	$17 440 111	$14 406 004	$56 800 940	$62 598 163	$51 707 777	$17 581 860	$19 376 301	$16 005 349	$90 207 781	$99 414 576	$82 119 130
19	$135 881 430	$15 824 980	$17 440 111	$14 406 004	$56 800 940	$62 598 163	$51 707 777	$17 581 860	$19 376 301	$16 005 349	$90 207 781	$99 414 576	$82 119 130
20	$135 881 430	$15 824 980	$17 440 111	$14 406 004	$56 800 940	$62 598 163	$51 707 777	$17 581 860	$19 376 301	$16 005 349	$90 207 781	$99 414 576	$82 119 130
21	$135 881 430	$15 824 980	$17 440 111	$14 406 004	$56 800 940	$62 598 163	$51 707 777	$17 581 860	$19 376 301	$16 005 349	$90 207 781	$99 414 576	$82 119 130
22	$135 881 430	$15 824 980	$17 440 111	$14 406 004	$56 800 940	$62 598 163	$51 707 777	$17 581 860	$19 376 301	$16 005 349	$90 207 781	$99 414 576	$82 119 130
23	$135 881 430	$15 824 980	$17 440 111	$14 406 004	$56 800 940	$62 598 163	$51 707 777	$17 581 860	$19 376 301	$16 005 349	$90 207 781	$99 414 576	$82 119 130
24	$135 881 430	$15 824 980	$17 440 111	$14 406 004	$56 800 940	$62 598 163	$51 707 777	$17 581 860	$19 376 301	$16 005 349	$90 207 781	$99 414 576	$82 119 130
25	$135 881 430	$15 824 980	$17 440 111	$14 406 004	$56 800 940	$62 598 163	$51 707 777	$17 581 860	$19 376 301	$16 005 349	$90 207 781	$99 414 576	$82 119 130
26	$135 881 430	$15 824 980	$17 440 111	$14 406 004	$56 800 940	$62 598 163	$51 707 777	$17 581 860	$19 376 301	$16 005 349	$90 207 781	$99 414 576	$82 119 130
27	$135 881 430	$15 824 980	$17 440 111	$14 406 004	$56 800 940	$62 598 163	$51 707 777	$17 581 860	$19 376 301	$16 005 349	$90 207 781	$99 414 576	$82 119 130
28	$135 881 430	$15 824 980	$17 440 111	$14 406 004	$56 800 940	$62 598 163	$51 707 777	$17 581 860	$19 376 301	$16 005 349	$90 207 781	$99 414 576	$82 119 130
29	$135 881 430	$15 824 980	$17 440 111	$14 406 004	$56 800 940	$62 598 163	$51 707 777	$17 581 860	$19 376 301	$16 005 349	$90 207 781	$99 414 576	$82 119 130
30	$135 881 430	$15 824 980	$17 440 111	$14 406 004	$56 800 940	$62 598 163	$51 707 777	$17 581 860	$19 376 301	$16 005 349	$90 207 781	$99 414 576	$82 119 130
31	$135 881 430	$15 824 980	$17 440 111	$14 406 004	$56 800 940	$62 598 163	$51 707 777	$17 581 860	$19 376 301	$16 005 349	$90 207 781	$99 414 576	$82 119 130
32	$135 881 430	$15 824 980	$17 440 111	$14 406 004	$56 800 940	$62 598 163	$51 707 777	$17 581 860	$19 376 301	$16 005 349	$90 207 781	$99 414 576	$82 119 130
33	$135 881 430	$15 824 980	$17 440 111	$14 406 004	$56 800 940	$62 598 163	$51 707 777	$17 581 860	$19 376 301	$16 005 349	$90 207 781	$99 414 576	$82 119 130
34	$135 881 430	$15 824 980	$17 440 111	$14 406 004	$56 800 940	$62 598 163	$51 707 777	$17 581 860	$19 376 301	$16 005 349	$90 207 781	$99 414 576	$82 119 130
35	$135 881 430	$15 824 980	$17 440 111	$14 406 004	$56 800 940	$62 598 163	$51 707 777	$17 581 860	$19 376 301	$16 005 349	$90 207 781	$99 414 576	$82 119 130
36	$135 881 430	$15 824 980	$17 440 111	$14 406 004	$56 800 940	$62 598 163	$51 707 777	$17 581 860	$19 376 301	$16 005 349	$90 207 781	$99 414 576	$82 119 130
37	$135 881 430	$15 824 980	$17 440 111	$14 406 004	$56 800 940	$62 598 163	$51 707 777	$17 581 860	$19 376 301	$16 005 349	$90 207 781	$99 414 576	$82 119 130
38	$135 881 430	$15 824 980	$17 440 111	$14 406 004	$56 800 940	$62 598 163	$51 707 777	$17 581 860	$19 376 301	$16 005 349	$90 207 781	$99 414 576	$82 119 130
39	$135 881 430	$15 824 980	$17 440 111	$14 406 004	$56 800 940	$62 598 163	$51 707 777	$17 581 860	$19 376 301	$16 005 349	$90 207 781	$99 414 576	$82 119 130
40													

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	**1b) Programmable thermostats**	**Cost / Part.***	**Energy Savings**	**Useful life (years)**										
2		**150 $**	**10%**	**15,0**										
3														
4			**Participant Data**											
5			**Participant Assumptions**			**New Participants by Energy Source**			**Annual, current dollars**					
6	**Years**	**Year**	**New**	**Growth from t-1**	**Cumulative**	**Elec**	**Gas**	**Oil**	**Elec**	**Gas**	**Oil**	**Total**	**Elec 8%**	**Elec 6%**
7														
8	1	2002	5 000		5 000	995	3 157	848	$106 527	$382 359	$118 353	$607 239	$106 527	$106 527
9	2	2003	7 500	50%	12 500	1 492	4 736	1 272	$271 643	$975 014	$301 801	$1 548 458	$251 521	$256 267
10	3	2004	20 000	167%	32 500	3 979	12 629	3 392	$720 398	$2 585 738	$800 376	$4 106 511	$617 625	$641 151
11	4	2005	30 000	50%	62 500	5 969	18 943	5 088	$1 413 087	$5 072 025	$1 569 968	$8 055 080	$1 121 754	$1 186 455
12	5	2006	40 000	33%	102 500	7 959	25 257	6 784	$2 363 813	$8 484 484	$2 626 242	$13 474 538	$1 737 473	$1 872 361
13	6	2007	0			0	0	0	$2 411 089	$8 654 173	$2 678 767	$13 744 029	$1 640 947	$1 801 706
14	7	2008	0			0	0	0	$2 459 311	$8 827 257	$2 732 342	$14 018 909	$1 549 783	$1 733 717
15	8	2009	0			0	0	0	$2 508 497	$9 003 802	$2 786 989	$14 299 288	$1 463 684	$1 668 294
16	9	2010	0			0	0	0	$2 558 667	$9 183 878	$2 842 729	$14 585 273	$1 382 368	$1 605 339
17	10	2011	0			0	0	0	$2 609 840	$9 367 555	$2 899 583	$14 876 979	$1 305 570	$1 544 760
18	11	2012	0			0	0	0	$2 662 037	$9 554 907	$2 957 575	$15 174 518	$1 233 038	$1 486 468
19	12	2013	0			0	0	0	$2 715 278	$9 746 005	$3 016 726	$15 478 009	$1 164 536	$1 430 374
20	13	2014	0			0	0	0	$2 769 583	$9 940 925	$3 077 061	$15 787 569	$1 099 840	$1 376 398
21	14	2015	0			0	0	0	$2 824 975	$10 139 743	$3 138 602	$16 103 320	$1 038 737	$1 324 459
22	15	2016	0			0	0	0	$2 881 475	$10 342 538	$3 201 374	$16 425 387	$981 030	$1 274 479
23	16	2017	0			0	0	0	$2 795 733	$10 034 785	$3 106 114	$15 936 631	$881 332	$1 166 562
24	17	2018	0			0	0	0	$2 632 290	$9 448 136	$2 924 525	$15 004 951	$768 340	$1 036 191
25	18	2019	0			0	0	0	$2 088 284	$7 495 521	$2 320 124	$11 903 928	$564 398	$775 514
26	19	2020	0			0	0	0	$1 217 171	$4 368 818	$1 352 301	$6 938 290	$304 596	$426 428
27	20	2021	0			0	0	0	$0	$0	$0	$0	$0	$0
28	21	2022	0			0	0	0	$0	$0	$0	$0	$0	$0
29	22	2023	0			0	0	0	$0	$0	$0	$0	$0	$0
30	23	2024	0			0	0	0	$0	$0	$0	$0	$0	$0
31	24	2025	0			0	0	0	$0	$0	$0	$0	$0	$0
32	25	2026	0			0	0	0	$0	$0	$0	$0	$0	$0
33	26	2027	0			0	0	0	$0	$0	$0	$0	$0	$0
34	27	2028	0			0	0	0	$0	$0	$0	$0	$0	$0
35	28	2029	0			0	0	0	$0	$0	$0	$0	$0	$0
36	29	2030	0			0	0	0	$0	$0	$0	$0	$0	$0
37	30	2031	0			0	0	0	$0	$0	$0	$0	$0	$0
38	31	2032	0			0	0	0	$0	$0	$0	$0	$0	$0
39	32	2033	0			0	0	0	$0	$0	$0	$0	$0	$0
40		**Totals:**	**102 500**			**20 394**	**64 721**	**17 385**	**$40 009 697**	**$143 607 662**	**$44 451 549**	**$228 068 908**	**$19 213 099**	**$22 713 451**

	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB
1														
2														
3														
4	**Bill Savings**													
5	**Annual, real 2002 dollars**										**Cumulative, current dollars**			
6			**Gas**			**Oil**			**Total**		**Elec**	**Gas**	**Oil**	**Total**
7	**10%**	**8%**	**6%**	**10%**	**8%**	**6%**	**10%**	**8%**	**6%**	**10%**				
8	$106 527	$382 359	$382 359	$382 359	$118 353	$118 353	$118 353	$607 239	$607 239	$607 239	$106 527	$382 359	$118 353	$607 239
9	$246 948	$902 791	$919 825	$886 377	$279 445	$284 718	$274 364	$1 433 758	$1 460 810	$1 407 689	$378 170	$1 357 373	$420 154	$2 155 697
10	$595 370	$2 216 854	$2 301 298	$2 136 974	$686 193	$712 331	$661 467	$3 520 672	$3 654 781	$3 393 811	$1 098 567	$3 943 111	$1 220 530	$6 262 208
11	$1 061 674	$4 026 337	$4 258 570	$3 810 688	$1 246 291	$1 318 175	$1 179 540	$6 394 382	$6 763 201	$6 051 901	$2 511 655	$9 015 136	$2 790 497	$14 317 288
12	$1 614 516	$6 236 349	$6 720 506	$5 795 016	$1 930 366	$2 080 229	$1 793 758	$9 904 188	$10 673 096	$9 203 291	$4 875 468	$17 499 620	$5 416 739	$27 791 827
13	$1 497 097	$5 889 885	$6 466 902	$5 373 561	$1 823 124	$2 001 730	$1 663 303	$9 353 955	$10 270 338	$8 533 961	$7 286 557	$26 153 793	$8 095 506	$41 535 855
14	$1 388 217	$5 562 669	$6 222 868	$4 982 756	$1 721 839	$1 926 193	$1 542 336	$8 834 291	$9 882 778	$7 913 309	$9 745 867	$34 981 050	$10 827 848	$55 554 765
15	$1 287 256	$5 253 632	$5 988 042	$4 620 374	$1 626 181	$1 853 507	$1 430 166	$8 343 497	$9 509 843	$7 337 796	$12 254 364	$43 984 852	$13 614 836	$69 854 052
16	$1 193 637	$4 961 763	$5 762 079	$4 284 347	$1 535 838	$1 783 563	$1 326 154	$7 879 969	$9 150 981	$6 804 138	$14 813 031	$53 168 730	$16 457 565	$84 439 326
17	$1 106 827	$4 686 110	$5 544 642	$3 972 758	$1 450 513	$1 716 259	$1 229 706	$7 442 193	$8 805 661	$6 309 291	$17 422 872	$62 536 285	$19 357 148	$99 316 305
18	$1 026 331	$4 425 770	$5 335 410	$3 683 830	$1 369 929	$1 651 494	$1 140 273	$7 028 738	$8 473 372	$5 850 434	$20 084 909	$72 091 192	$22 314 723	$114 490 823
19	$951 688	$4 179 894	$5 134 074	$3 415 915	$1 293 822	$1 589 174	$1 057 344	$6 638 253	$8 153 622	$5 424 948	$22 800 186	$81 837 196	$25 331 449	$129 968 832
20	$882 475	$3 947 678	$4 940 335	$3 167 485	$1 221 943	$1 529 205	$980 446	$6 269 461	$7 845 938	$5 030 406	$25 569 770	$91 778 121	$28 408 510	$145 756 401
21	$818 295	$3 728 363	$4 753 907	$2 937 122	$1 154 057	$1 471 499	$909 141	$5 921 157	$7 549 865	$4 664 558	$28 394 745	$101 917 864	$31 547 112	$161 859 721
22	$758 782	$3 521 231	$4 574 515	$2 723 514	$1 089 943	$1 415 971	$843 022	$5 592 204	$7 264 964	$4 325 318	$31 276 219	$112 260 402	$34 748 486	$178 285 108
23	$669 276	$3 163 383	$4 187 165	$2 402 248	$979 177	$1 296 073	$743 579	$5 023 891	$6 649 799	$3 815 103	$34 071 953	$122 295 187	$37 854 600	$194 221 739
24	$572 863	$2 757 821	$3 719 223	$2 056 190	$853 641	$1 151 229	$636 462	$4 379 802	$5 906 643	$3 265 515	$36 704 243	$131 743 323	$40 779 125	$209 226 691
25	$413 156	$2 025 807	$2 783 570	$1 482 949	$627 057	$861 611	$459 024	$3 217 262	$4 420 695	$2 355 129	$38 792 526	$139 238 844	$43 099 249	$221 130 619
26	$218 919	$1 093 292	$1 530 588	$785 770	$338 412	$473 770	$243 223	$1 736 300	$2 430 787	$1 247 912	$40 009 697	$143 607 662	$44 451 549	$228 068 908
27	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$40 009 697	$143 607 662	$44 451 549	$228 068 908
28	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$40 009 697	$143 607 662	$44 451 549	$228 068 908
29	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$40 009 697	$143 607 662	$44 451 549	$228 068 908
30	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$40 009 697	$143 607 662	$44 451 549	$228 068 908
31	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$40 009 697	$143 607 662	$44 451 549	$228 068 908
32	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$40 009 697	$143 607 662	$44 451 549	$228 068 908
33	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$40 009 697	$143 607 662	$44 451 549	$228 068 908
34	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$40 009 697	$143 607 662	$44 451 549	$228 068 908
35	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$40 009 697	$143 607 662	$44 451 549	$228 068 908
36	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$40 009 697	$143 607 662	$44 451 549	$228 068 908
37	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$40 009 697	$143 607 662	$44 451 549	$228 068 908
38	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$40 009 697	$143 607 662	$44 451 549	$228 068 908
39	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$40 009 697	$143 607 662	$44 451 549	$228 068 908
40	**$16 409 852**	**$68 961 988**	**$81 525 876**	**$58 900 232**	**$21 346 126**	**$25 235 085**	**$18 231 663**	**$109 521 213**	**$129 474 412**	**$93 541 747**				

	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN
1												
2												
3												
4												
5					**Cumulative, real 2002 dollars**							
6		**Elec**			**Gas**			**Oil**			**Total**	
7	**8%**	**6%**	**10%**	**8%**	**6%**	**10%**	**8%**	**6%**	**10%**	**8%**	**6%**	**10%**
8	$106 527	$106 527	$106 527	$382 359	$382 359	$382 359	$118 353	$118 353	$118 353	$607 239	$607 239	$607 239
9	$358 048	$362 794	$353 475	$1 285 150	$1 302 184	$1 268 735	$397 798	$403 071	$392 718	$2 040 996	$2 068 048	$2 014 928
10	$975 673	$1 003 945	$948 845	$3 502 004	$3 603 481	$3 405 709	$1 083 991	$1 115 402	$1 054 185	$5 561 668	$5 722 829	$5 408 739
11	$2 097 427	$2 190 401	$2 010 518	$7 528 341	$7 862 051	$7 216 397	$2 330 282	$2 433 577	$2 233 725	$11 956 050	$12 486 029	$11 460 640
12	$3 834 900	$4 062 762	$3 625 034	$13 764 689	$14 582 557	$13 011 413	$4 260 648	$4 513 807	$4 027 483	$21 860 238	$23 159 126	$20 663 931
13	$5 475 847	$5 864 468	$5 122 131	$19 654 574	$21 049 459	$18 384 974	$6 083 772	$6 515 537	$5 690 787	$31 214 193	$33 429 464	$29 197 891
14	$7 025 630	$7 598 185	$6 510 348	$25 217 243	$27 272 326	$23 367 730	$7 805 611	$8 441 730	$7 233 122	$40 048 484	$43 312 242	$37 111 200
15	$8 489 314	$9 266 478	$7 797 603	$30 470 875	$33 260 369	$27 988 104	$9 431 792	$10 295 237	$8 663 288	$48 391 981	$52 822 085	$44 448 996
16	$9 871 682	$10 871 818	$8 991 240	$35 432 639	$39 022 448	$32 272 451	$10 967 630	$12 078 800	$9 989 442	$56 271 950	$61 973 065	$51 253 133
17	$11 177 252	$12 416 578	$10 098 067	$40 118 749	$44 567 089	$36 245 209	$12 418 143	$13 795 059	$11 219 149	$63 714 144	$70 778 726	$57 562 425
18	$12 410 290	$13 903 046	$11 124 398	$44 544 519	$49 902 499	$39 929 039	$13 788 073	$15 446 553	$12 359 422	$70 742 882	$79 252 098	$63 412 859
19	$13 574 826	$15 333 420	$12 076 086	$48 724 413	$55 036 573	$43 344 954	$15 081 895	$17 035 727	$13 416 766	$77 381 134	$87 405 720	$68 837 806
20	$14 674 666	$16 709 818	$12 958 561	$52 672 091	$59 976 908	$46 512 439	$16 303 838	$18 564 932	$14 397 212	$83 650 595	$95 251 658	$73 868 212
21	$15 713 403	$18 034 277	$13 776 855	$56 400 454	$64 730 815	$49 449 562	$17 457 896	$20 036 431	$15 306 353	$89 571 753	$102 801 523	$78 532 770
22	$16 694 433	$19 308 756	$14 535 638	$59 921 685	$69 305 330	$52 173 075	$18 547 839	$21 452 402	$16 149 375	$95 163 957	$110 066 488	$82 858 088
23	$17 575 765	$20 475 318	$15 204 914	$63 085 068	$73 492 495	$54 575 323	$19 527 015	$22 748 475	$16 892 954	$100 187 848	$116 716 287	$86 673 191
24	$18 344 105	$21 511 509	$15 777 777	$65 842 889	$77 211 718	$56 631 512	$20 380 656	$23 899 703	$17 529 416	$104 567 650	$122 622 930	$89 938 706
25	$18 908 503	$22 287 023	$16 190 933	$67 868 695	$79 995 288	$58 114 461	$21 007 714	$24 761 315	$17 988 440	$107 784 912	$127 043 626	$92 293 834
26	$19 213 099	$22 713 451	$16 409 852	$68 961 988	$81 525 876	$58 900 232	$21 346 126	$25 235 085	$18 231 663	$109 521 213	$129 474 412	$93 541 747
27	$19 213 099	$22 713 451	$16 409 852	$68 961 988	$81 525 876	$58 900 232	$21 346 126	$25 235 085	$18 231 663	$109 521 213	$129 474 412	$93 541 747
28	$19 213 099	$22 713 451	$16 409 852	$68 961 988	$81 525 876	$58 900 232	$21 346 126	$25 235 085	$18 231 663	$109 521 213	$129 474 412	$93 541 747
29	$19 213 099	$22 713 451	$16 409 852	$68 961 988	$81 525 876	$58 900 232	$21 346 126	$25 235 085	$18 231 663	$109 521 213	$129 474 412	$93 541 747
30	$19 213 099	$22 713 451	$16 409 852	$68 961 988	$81 525 876	$58 900 232	$21 346 126	$25 235 085	$18 231 663	$109 521 213	$129 474 412	$93 541 747
31	$19 213 099	$22 713 451	$16 409 852	$68 961 988	$81 525 876	$58 900 232	$21 346 126	$25 235 085	$18 231 663	$109 521 213	$129 474 412	$93 541 747
32	$19 213 099	$22 713 451	$16 409 852	$68 961 988	$81 525 876	$58 900 232	$21 346 126	$25 235 085	$18 231 663	$109 521 213	$129 474 412	$93 541 747
33	$19 213 099	$22 713 451	$16 409 852	$68 961 988	$81 525 876	$58 900 232	$21 346 126	$25 235 085	$18 231 663	$109 521 213	$129 474 412	$93 541 747
34	$19 213 099	$22 713 451	$16 409 852	$68 961 988	$81 525 876	$58 900 232	$21 346 126	$25 235 085	$18 231 663	$109 521 213	$129 474 412	$93 541 747
35	$19 213 099	$22 713 451	$16 409 852	$68 961 988	$81 525 876	$58 900 232	$21 346 126	$25 235 085	$18 231 663	$109 521 213	$129 474 412	$93 541 747
36	$19 213 099	$22 713 451	$16 409 852	$68 961 988	$81 525 876	$58 900 232	$21 346 126	$25 235 085	$18 231 663	$109 521 213	$129 474 412	$93 541 747
37	$19 213 099	$22 713 451	$16 409 852	$68 961 988	$81 525 876	$58 900 232	$21 346 126	$25 235 085	$18 231 663	$109 521 213	$129 474 412	$93 541 747
38	$19 213 099	$22 713 451	$16 409 852	$68 961 988	$81 525 876	$58 900 232	$21 346 126	$25 235 085	$18 231 663	$109 521 213	$129 474 412	$93 541 747
39	$19 213 099	$22 713 451	$16 409 852	$68 961 988	$81 525 876	$58 900 232	$21 346 126	$25 235 085	$18 231 663	$109 521 213	$129 474 412	$93 541 747
40												

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	**2a) EnerGuide & WS**	**Cost / Part.***	**Energy Savings**	**Useful life (years)**									
2		**400 $**	**10%**	**6,0**									
3													
4			**Participant Data**										
5			**Participant Assumptions**			**New Participants by Energy Source**			**Annual, current dollars**				
6	**Years**	**Year**	**New**	**Growth from t-1**	**Cumulative**	**Elec**	**Gas**	**Oil**	**Elec**	**Gas**	**Oil**	**Total**	
7													**8%**
8	1	2002	1 667		1 667	332	1 052	283	$35 509	$127 453	$39 451	$202 413	$35 509
9	2	2003	2 500	50%	4 167	497	1 579	424	$90 548	$325 005	$100 600	$516 153	$83 840
10	3	2004	6 667	167%	10 833	1 326	4 210	1 131	$240 133	$861 913	$266 792	$1 368 837	$205 875
11	4	2005	10 000	50%	20 833	1 990	6 314	1 696	$471 029	$1 690 675	$523 323	$2 685 027	$373 918
12	5	2006	13 333	33%	34 167	2 653	8 419	2 261	$787 938	$2 828 161	$875 414	$4 491 513	$579 158
13	6	2007	0			0	0	0	$803 696	$2 884 724	$892 922	$4 581 343	$546 982
14	7	2008	0			0	0	0	$779 781	$2 798 886	$866 352	$4 445 020	$491 395
15	8	2009	0			0	0	0	$734 194	$2 635 259	$815 704	$4 185 157	$428 395
16	9	2010	0			0	0	0	$582 461	$2 090 639	$647 125	$3 320 225	$314 685
17	10	2011	0			0	0	0	$339 491	$1 218 544	$377 182	$1 935 217	$169 830
18	11	2012	0			0	0	0	$0	$0	$0	$0	$0
19	12	2013	0			0	0	0	$0	$0	$0	$0	$0
20	13	2014	0			0	0	0	$0	$0	$0	$0	$0
21	14	2015	0			0	0	0	$0	$0	$0	$0	$0
22	15	2016	0			0	0	0	$0	$0	$0	$0	$0
23	16	2017	0			0	0	0	$0	$0	$0	$0	$0
24	17	2018	0			0	0	0	$0	$0	$0	$0	$0
25	18	2019	0			0	0	0	$0	$0	$0	$0	$0
26	19	2020	0			0	0	0	$0	$0	$0	$0	$0
27	20	2021	0			0	0	0	$0	$0	$0	$0	$0
28	21	2022	0			0	0	0	$0	$0	$0	$0	$0
29	22	2023	0			0	0	0	$0	$0	$0	$0	$0
30	23	2024	0			0	0	0	$0	$0	$0	$0	$0
31	24	2025	0			0	0	0	$0	$0	$0	$0	$0
32	25	2026	0			0	0	0	$0	$0	$0	$0	$0
33	26	2027	0			0	0	0	$0	$0	$0	$0	$0
34	27	2028	0			0	0	0	$0	$0	$0	$0	$0
35	28	2029	0			0	0	0	$0	$0	$0	$0	$0
36	29	2030	0			0	0	0	$0	$0	$0	$0	$0
37	30	2031	0			0	0	0	$0	$0	$0	$0	$0
38	31	2032	0			0	0	0	$0	$0	$0	$0	$0
39	32	2033	0			0	0	0	$0	$0	$0	$0	$0
40		**Totals:**	**34 167**			**6 798**	**21 574**	**5 795**	**$4 864 780**	**$17 461 259**	**$5 404 865**	**$27 730 904**	**$3 229 588**

	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
1													
2													
3													
4	**Bill Savings**												
5	**Annual, real 2002 dollars**											**Cumulative, c**	
6	**Elec**			**Gas**			**Oil**			**Total**		**Elec**	**Gas**
7	**6%**	**10%**	**8%**	**6%**	**10%**	**8%**	**6%**	**10%**	**8%**	**6%**	**10%**		
8	$35 509	$35 509	$127 453	$127 453	$127 453	$39 451	$39 451	$39 451	$202 413	$202 413	$202 413	$35 509	$127 453
9	$85 422	$82 316	$300 930	$306 608	$295 459	$93 148	$94 906	$91 455	$477 919	$486 937	$469 230	$126 057	$452 458
10	$213 717	$198 457	$738 951	$767 099	$712 325	$228 731	$237 444	$220 489	$1 173 557	$1 218 260	$1 131 270	$366 189	$1 314 370
11	$395 485	$353 891	$1 342 112	$1 419 523	$1 270 229	$415 430	$439 392	$393 180	$2 131 461	$2 254 400	$2 017 300	$837 218	$3 005 045
12	$624 120	$538 172	$2 078 783	$2 240 169	$1 931 672	$643 455	$693 410	$597 919	$3 301 396	$3 557 699	$3 067 764	$1 625 156	$5 833 207
13	$600 569	$499 032	$1 963 295	$2 155 634	$1 791 187	$607 708	$667 243	$554 434	$3 117 985	$3 423 446	$2 844 654	$2 428 852	$8 717 931
14	$549 715	$440 166	$1 763 773	$1 973 104	$1 579 898	$545 949	$610 744	$489 033	$2 801 117	$3 133 564	$2 509 098	$3 208 634	$11 516 817
15	$488 281	$376 758	$1 537 648	$1 752 598	$1 352 305	$475 955	$542 490	$418 585	$2 441 999	$2 783 369	$2 147 647	$3 942 828	$14 152 076
16	$365 443	$271 722	$1 129 507	$1 311 693	$975 298	$349 622	$406 014	$301 889	$1 793 814	$2 083 150	$1 548 909	$4 525 289	$16 242 715
17	$200 944	$143 978	$609 575	$721 254	$516 782	$188 685	$223 253	$159 962	$968 090	$1 145 452	$820 721	$4 864 780	$17 461 259
18	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4 864 780	$17 461 259
19	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4 864 780	$17 461 259
20	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4 864 780	$17 461 259
21	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4 864 780	$17 461 259
22	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4 864 780	$17 461 259
23	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4 864 780	$17 461 259
24	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4 864 780	$17 461 259
25	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4 864 780	$17 461 259
26	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4 864 780	$17 461 259
27	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4 864 780	$17 461 259
28	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4 864 780	$17 461 259
29	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4 864 780	$17 461 259
30	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4 864 780	$17 461 259
31	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4 864 780	$17 461 259
32	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4 864 780	$17 461 259
33	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4 864 780	$17 461 259
34	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4 864 780	$17 461 259
35	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4 864 780	$17 461 259
36	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4 864 780	$17 461 259
37	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4 864 780	$17 461 259
38	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4 864 780	$17 461 259
39	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4 864 780	$17 461 259
40	**$3 559 206**	**$2 940 001**	**$11 592 029**	**$12 775 135**	**$10 552 608**	**$3 588 135**	**$3 954 347**	**$3 266 398**	**$18 409 751**	**$20 288 689**	**$16 759 006**		

	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN
1														
2														
3														
4														
5	**urrent dollars**		**Cumulative, real 2002 dollars**											
6														
7	**Oil**	**Total**	**Elec**			**Gas**			**Oil**			**Total**		
8			**8%**	**6%**	**10%**	**8%**	**6%**	**10%**	**8%**	**6%**	**10%**	**8%**	**6%**	**10%**
9	$39 451	$202 413	$35 509	$35 509	$35 509	$127 453	$127 453	$127 453	$39 451	$39 451	$39 451	$202 413	$202 413	$202 413
10	$140 051	$718 566	$119 349	$120 931	$117 825	$428 383	$434 061	$422 912	$132 599	$134 357	$130 906	$680 332	$689 349	$671 643
11	$406 843	$2 087 403	$325 224	$334 648	$316 282	$1 167 335	$1 201 160	$1 135 236	$361 330	$371 801	$351 395	$1 853 889	$1 907 610	$1 802 913
12	$930 166	$4 772 429	$699 142	$730 134	$670 173	$2 509 447	$2 620 684	$2 405 466	$776 761	$811 192	$744 575	$3 985 350	$4 162 010	$3 820 213
13	$1 805 580	$9 263 942	$1 278 300	$1 354 254	$1 208 345	$4 588 230	$4 860 852	$4 337 138	$1 420 216	$1 504 602	$1 342 494	$7 286 746	$7 719 709	$6 887 977
14	$2 698 502	$13 845 285	$1 825 282	$1 954 823	$1 707 377	$6 551 525	$7 016 486	$6 128 325	$2 027 924	$2 171 846	$1 896 929	$10 404 731	$11 143 155	$9 732 630
15	$3 564 854	$18 290 305	$2 316 677	$2 504 538	$2 147 543	$8 315 298	$8 989 591	$7 708 223	$2 573 873	$2 782 590	$2 385 962	$13 205 848	$14 276 718	$12 241 728
16	$4 380 558	$22 475 463	$2 745 072	$2 992 819	$2 524 301	$9 852 946	$10 742 188	$9 060 528	$3 049 828	$3 325 080	$2 804 547	$15 647 847	$17 060 087	$14 389 376
17	$5 027 683	$25 795 687	$3 059 758	$3 358 262	$2 796 023	$10 982 453	$12 053 881	$10 035 826	$3 399 450	$3 731 094	$3 106 436	$17 441 661	$19 143 237	$15 938 285
18	$5 404 865	$27 730 904	$3 229 588	$3 559 206	$2 940 001	$11 592 029	$12 775 135	$10 552 608	$3 588 135	$3 954 347	$3 266 398	$18 409 751	$20 288 689	$16 759 006
19	$5 404 865	$27 730 904	$3 229 588	$3 559 206	$2 940 001	$11 592 029	$12 775 135	$10 552 608	$3 588 135	$3 954 347	$3 266 398	$18 409 751	$20 288 689	$16 759 006
20	$5 404 865	$27 730 904	$3 229 588	$3 559 206	$2 940 001	$11 592 029	$12 775 135	$10 552 608	$3 588 135	$3 954 347	$3 266 398	$18 409 751	$20 288 689	$16 759 006
21	$5 404 865	$27 730 904	$3 229 588	$3 559 206	$2 940 001	$11 592 029	$12 775 135	$10 552 608	$3 588 135	$3 954 347	$3 266 398	$18 409 751	$20 288 689	$16 759 006
22	$5 404 865	$27 730 904	$3 229 588	$3 559 206	$2 940 001	$11 592 029	$12 775 135	$10 552 608	$3 588 135	$3 954 347	$3 266 398	$18 409 751	$20 288 689	$16 759 006
23	$5 404 865	$27 730 904	$3 229 588	$3 559 206	$2 940 001	$11 592 029	$12 775 135	$10 552 608	$3 588 135	$3 954 347	$3 266 398	$18 409 751	$20 288 689	$16 759 006
24	$5 404 865	$27 730 904	$3 229 588	$3 559 206	$2 940 001	$11 592 029	$12 775 135	$10 552 608	$3 588 135	$3 954 347	$3 266 398	$18 409 751	$20 288 689	$16 759 006
25	$5 404 865	$27 730 904	$3 229 588	$3 559 206	$2 940 001	$11 592 029	$12 775 135	$10 552 608	$3 588 135	$3 954 347	$3 266 398	$18 409 751	$20 288 689	$16 759 006
26	$5 404 865	$27 730 904	$3 229 588	$3 559 206	$2 940 001	$11 592 029	$12 775 135	$10 552 608	$3 588 135	$3 954 347	$3 266 398	$18 409 751	$20 288 689	$16 759 006
27	$5 404 865	$27 730 904	$3 229 588	$3 559 206	$2 940 001	$11 592 029	$12 775 135	$10 552 608	$3 588 135	$3 954 347	$3 266 398	$18 409 751	$20 288 689	$16 759 006
28	$5 404 865	$27 730 904	$3 229 588	$3 559 206	$2 940 001	$11 592 029	$12 775 135	$10 552 608	$3 588 135	$3 954 347	$3 266 398	$18 409 751	$20 288 689	$16 759 006
29	$5 404 865	$27 730 904	$3 229 588	$3 559 206	$2 940 001	$11 592 029	$12 775 135	$10 552 608	$3 588 135	$3 954 347	$3 266 398	$18 409 751	$20 288 689	$16 759 006
30	$5 404 865	$27 730 904	$3 229 588	$3 559 206	$2 940 001	$11 592 029	$12 775 135	$10 552 608	$3 588 135	$3 954 347	$3 266 398	$18 409 751	$20 288 689	$16 759 006
31	$5 404 865	$27 730 904	$3 229 588	$3 559 206	$2 940 001	$11 592 029	$12 775 135	$10 552 608	$3 588 135	$3 954 347	$3 266 398	$18 409 751	$20 288 689	$16 759 006
32	$5 404 865	$27 730 904	$3 229 588	$3 559 206	$2 940 001	$11 592 029	$12 775 135	$10 552 608	$3 588 135	$3 954 347	$3 266 398	$18 409 751	$20 288 689	$16 759 006
33	$5 404 865	$27 730 904	$3 229 588	$3 559 206	$2 940 001	$11 592 029	$12 775 135	$10 552 608	$3 588 135	$3 954 347	$3 266 398	$18 409 751	$20 288 689	$16 759 006
34	$5 404 865	$27 730 904	$3 229 588	$3 559 206	$2 940 001	$11 592 029	$12 775 135	$10 552 608	$3 588 135	$3 954 347	$3 266 398	$18 409 751	$20 288 689	$16 759 006
35	$5 404 865	$27 730 904	$3 229 588	$3 559 206	$2 940 001	$11 592 029	$12 775 135	$10 552 608	$3 588 135	$3 954 347	$3 266 398	$18 409 751	$20 288 689	$16 759 006
36	$5 404 865	$27 730 904	$3 229 588	$3 559 206	$2 940 001	$11 592 029	$12 775 135	$10 552 608	$3 588 135	$3 954 347	$3 266 398	$18 409 751	$20 288 689	$16 759 006
37	$5 404 865	$27 730 904	$3 229 588	$3 559 206	$2 940 001	$11 592 029	$12 775 135	$10 552 608	$3 588 135	$3 954 347	$3 266 398	$18 409 751	$20 288 689	$16 759 006
38	$5 404 865	$27 730 904	$3 229 588	$3 559 206	$2 940 001	$11 592 029	$12 775 135	$10 552 608	$3 588 135	$3 954 347	$3 266 398	$18 409 751	$20 288 689	$16 759 006
39	$5 404 865	$27 730 904	$3 229 588	$3 559 206	$2 940 001	$11 592 029	$12 775 135	$10 552 608	$3 588 135	$3 954 347	$3 266 398	$18 409 751	$20 288 689	$16 759 006
40														

	A	B	C	D	E	F	G	H	I	J	K	L	M
1		Cost / Part.*	Energy Savings	Useful life (years)									
2	2b) Weatherization	3 000 $	15%	28,0									
3													
4			Participant Data										
5			Participant Assumptions			New Participants by Energy Source			Annual, current dollars				
6	Years	Year	New	Growth from t-1	Cumulative	Elec	Gas	Oil	Elec	Gas	Oil	Total	8%
7													
8	1	2002	833		833	166	526	141	$26 632	$95 590	$29 588	$151 810	$26 632
9	2	2003	1 250	50%	2 083	249	789	212	$67 911	$243 754	$75 450	$387 115	$62 880
10	3	2004	3 333	167%	5 417	663	2 105	565	$180 099	$646 435	$200 094	$1 026 628	$154 406
11	4	2005	5 000	50%	10 417	995	3 157	848	$353 272	$1 268 006	$392 492	$2 013 770	$280 439
12	5	2006	6 667	33%	17 083	1 326	4 210	1 131	$590 953	$2 121 121	$656 560	$3 368 635	$434 368
13	6	2007	0			0	0	0	$602 772	$2 163 543	$669 692	$3 436 007	$410 237
14	7	2008	0			0	0	0	$614 828	$2 206 814	$683 085	$3 504 727	$387 446
15	8	2009	0			0	0	0	$627 124	$2 250 950	$696 747	$3 574 822	$365 921
16	9	2010	0			0	0	0	$639 667	$2 295 969	$710 682	$3 646 318	$345 592
17	10	2011	0			0	0	0	$652 460	$2 341 889	$724 896	$3 719 245	$326 392
18	11	2012	0			0	0	0	$665 509	$2 388 727	$739 394	$3 793 630	$308 260
19	12	2013	0			0	0	0	$678 819	$2 436 501	$754 182	$3 869 502	$291 134
20	13	2014	0			0	0	0	$692 396	$2 485 231	$769 265	$3 946 892	$274 960
21	14	2015	0			0	0	0	$706 244	$2 534 936	$784 651	$4 025 830	$259 684
22	15	2016	0			0	0	0	$720 369	$2 585 635	$800 344	$4 106 347	$245 257
23	16	2017	0			0	0	0	$734 776	$2 637 347	$816 350	$4 188 474	$231 632
24	17	2018	0			0	0	0	$749 472	$2 690 094	$832 677	$4 272 243	$218 764
25	18	2019	0			0	0	0	$764 461	$2 743 896	$849 331	$4 357 688	$206 610
26	19	2020	0			0	0	0	$779 750	$2 798 774	$866 318	$4 444 842	$195 132
27	20	2021	0			0	0	0	$795 345	$2 854 749	$883 644	$4 533 739	$184 291
28	21	2022	0			0	0	0	$811 252	$2 911 844	$901 317	$4 624 413	$174 053
29	22	2023	0			0	0	0	$827 477	$2 970 081	$919 343	$4 716 902	$164 383
30	23	2024	0			0	0	0	$844 027	$3 029 483	$937 730	$4 811 240	$155 251
31	24	2025	0			0	0	0	$860 907	$3 090 073	$956 485	$4 907 464	$146 626
32	25	2026	0			0	0	0	$878 125	$3 151 874	$975 614	$5 005 614	$138 480
33	26	2027	0			0	0	0	$895 688	$3 214 912	$995 127	$5 105 726	$130 786
34	27	2028	0			0	0	0	$913 602	$3 279 210	$1 015 029	$5 207 840	$123 521
35	28	2029	0			0	0	0	$931 874	$3 344 794	$1 035 330	$5 311 997	$116 658
36	29	2030	0			0	0	0	$904 145	$3 245 266	$1 004 522	$5 153 933	$104 803
37	30	2031	0			0	0	0	$851 287	$3 055 543	$945 796	$4 852 626	$91 367
38	31	2032	0			0	0	0	$675 354	$2 424 064	$750 332	$3 849 750	$67 115
39	32	2033	0			0	0	0	$393 635	$1 412 883	$437 336	$2 243 854	$36 221
40		**Totals:**	**17 083**			**3 399**	**10 787**	**2 897**	**$21 430 231**	**$76 919 988**	**$23 809 403**	**$122 159 622**	**$6 659 299**

	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
1													
2													
3													
4	**Bill Savings**												
5	**Annual, real 2002 dollars**											**Cumulative, cu**	
6	**Elec**			**Gas**			**Oil**			**Total**		**Elec**	**Gas**
7	**6%**	**10%**	**8%**	**6%**	**10%**	**8%**	**6%**	**10%**	**8%**	**6%**	**10%**		
8	$26 632	$26 632	$95 590	$95 590	$95 590	$29 588	$29 588	$29 588	$151 810	$151 810	$151 810	$26 632	$95 590
9	$64 067	$61 737	$225 698	$229 956	$221 594	$69 861	$71 179	$68 591	$358 439	$365 202	$351 922	$94 542	$339 343
10	$160 288	$148 842	$554 213	$575 324	$534 243	$171 548	$178 083	$165 367	$880 168	$913 695	$848 453	$274 642	$985 778
11	$296 614	$265 418	$1 006 584	$1 064 643	$952 672	$311 573	$329 544	$294 885	$1 598 596	$1 690 800	$1 512 975	$627 914	$2 253 784
12	$468 090	$403 629	$1 559 087	$1 680 126	$1 448 754	$482 592	$520 057	$448 440	$2 476 047	$2 668 274	$2 300 823	$1 218 867	$4 374 905
13	$450 426	$374 274	$1 472 471	$1 616 725	$1 343 390	$455 781	$500 433	$415 826	$2 338 489	$2 567 584	$2 133 490	$1 821 639	$6 538 448
14	$433 429	$347 054	$1 390 667	$1 555 717	$1 245 689	$430 460	$481 548	$385 584	$2 208 573	$2 470 694	$1 978 327	$2 436 467	$8 745 262
15	$417 073	$321 814	$1 313 408	$1 497 011	$1 155 094	$406 545	$463 377	$357 541	$2 085 874	$2 377 461	$1 834 449	$3 063 591	$10 996 213
16	$401 335	$298 409	$1 240 441	$1 440 520	$1 071 087	$383 959	$445 891	$331 538	$1 969 992	$2 287 745	$1 701 034	$3 703 258	$13 292 182
17	$386 190	$276 707	$1 171 527	$1 386 160	$993 189	$362 628	$429 065	$307 427	$1 860 548	$2 201 415	$1 577 323	$4 355 718	$15 634 071
18	$371 617	$256 583	$1 106 443	$1 333 852	$920 958	$342 482	$412 874	$285 068	$1 757 185	$2 118 343	$1 462 608	$5 021 227	$18 022 798
19	$357 594	$237 922	$1 044 974	$1 283 518	$853 979	$323 456	$397 293	$264 336	$1 659 563	$2 038 405	$1 356 237	$5 700 047	$20 459 299
20	$344 100	$220 619	$986 920	$1 235 084	$791 871	$305 486	$382 301	$245 112	$1 567 365	$1 961 485	$1 257 602	$6 392 442	$22 944 530
21	$331 115	$204 574	$932 091	$1 188 477	$734 281	$288 514	$367 875	$227 285	$1 480 289	$1 887 466	$1 166 140	$7 098 686	$25 479 466
22	$318 620	$189 696	$880 308	$1 143 629	$680 878	$272 486	$353 993	$210 755	$1 398 051	$1 816 241	$1 081 329	$7 819 055	$28 065 101
23	$306 596	$175 900	$831 402	$1 100 473	$631 360	$257 348	$340 634	$195 428	$1 320 382	$1 747 704	$1 002 687	$8 553 831	$30 702 448
24	$295 027	$163 107	$785 213	$1 058 946	$585 443	$243 051	$327 780	$181 215	$1 247 027	$1 681 753	$929 765	$9 303 302	$33 392 542
25	$283 894	$151 245	$741 590	$1 018 985	$542 865	$229 548	$315 411	$168 036	$1 177 748	$1 618 290	$862 145	$10 067 763	$36 136 438
26	$273 181	$140 245	$700 390	$980 533	$503 384	$216 795	$303 509	$155 815	$1 112 317	$1 557 223	$799 444	$10 847 514	$38 935 212
27	$262 872	$130 045	$661 480	$943 532	$466 774	$204 751	$292 056	$144 483	$1 050 522	$1 498 460	$741 302	$11 642 859	$41 789 961
28	$252 952	$120 587	$624 731	$907 927	$432 827	$193 376	$281 035	$133 975	$992 160	$1 441 914	$687 390	$12 454 111	$44 701 806
29	$243 407	$111 817	$590 024	$873 665	$401 349	$182 633	$270 430	$124 231	$937 040	$1 387 502	$637 398	$13 281 588	$47 671 887
30	$234 222	$103 685	$557 245	$840 697	$372 160	$172 487	$260 225	$115 196	$884 982	$1 335 144	$591 041	$14 125 615	$50 701 370
31	$225 383	$96 145	$526 287	$808 973	$345 094	$162 904	$250 405	$106 818	$835 816	$1 284 761	$548 057	$14 986 522	$53 791 443
32	$216 878	$89 152	$497 048	$778 445	$319 996	$153 854	$240 956	$99 050	$789 382	$1 236 279	$508 198	$15 864 647	$56 943 317
33	$208 694	$82 668	$469 435	$749 070	$296 723	$145 306	$231 863	$91 846	$745 527	$1 189 627	$471 238	$16 760 335	$60 158 228
34	$200 819	$76 656	$443 355	$720 803	$275 144	$137 234	$223 114	$85 166	$704 109	$1 144 736	$436 966	$17 673 937	$63 437 438
35	$193 241	$71 081	$418 724	$693 603	$255 133	$129 610	$214 694	$78 973	$664 992	$1 101 538	$405 187	$18 605 810	$66 782 232
36	$176 878	$62 696	$376 171	$634 872	$225 038	$116 438	$196 515	$69 657	$597 412	$1 008 265	$357 391	$19 509 955	$70 027 498
37	$157 111	$53 665	$327 944	$563 921	$192 620	$101 510	$174 553	$59 622	$520 820	$895 585	$305 907	$20 361 242	$73 083 041
38	$117 586	$38 704	$240 897	$422 054	$138 920	$74 566	$130 640	$43 000	$382 578	$670 280	$220 624	$21 036 596	$75 507 105
39	$64 656	$20 508	$130 008	$232 073	$73 609	$40 242	$71 835	$22 785	$206 471	$368 564	$116 902	$21 430 231	$76 919 988
40	**$8 540 585**	**$5 321 816**	**$23 902 364**	**$30 654 904**	**$19 101 707**	**$7 398 610**	**$9 488 756**	**$5 912 640**	**$37 960 273**	**$48 684 245**	**$30 336 163**		

	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN
1														
2														
3														
4														
5	**urrent dollars**		**Cumulative, real 2002 dollars**											
6		**Oil**	**Total**		**Elec**			**Gas**			**Oil**			**Total**	
7				**8%**	**6%**	**10%**	**8%**	**6%**	**10%**	**8%**	**6%**	**10%**	**8%**	**6%**	**10%**
8		$29 588	$151 810	$26 632	$26 632	$26 632	$95 590	$95 590	$95 590	$29 588	$29 588	$29 588	$151 810	$151 810	$151 810
9		$105 039	$538 924	$89 512	$90 698	$88 369	$321 287	$325 546	$317 184	$99 450	$100 768	$98 179	$510 249	$517 012	$503 732
10		$305 132	$1 565 552	$243 918	$250 986	$237 211	$875 501	$900 870	$851 427	$270 998	$278 851	$263 546	$1 390 417	$1 430 707	$1 352 185
11		$697 624	$3 579 322	$524 357	$547 600	$502 630	$1 882 085	$1 965 513	$1 804 099	$582 571	$608 394	$558 431	$2 989 013	$3 121 507	$2 865 160
12		$1 354 185	$6 947 957	$958 725	$1 015 690	$906 259	$3 441 172	$3 645 639	$3 252 853	$1 065 162	$1 128 452	$1 006 871	$5 465 060	$5 789 781	$5 165 983
13		$2 023 876	$10 383 964	$1 368 962	$1 466 117	$1 280 533	$4 913 644	$5 262 365	$4 596 243	$1 520 943	$1 628 884	$1 422 697	$7 803 548	$8 357 366	$7 299 473
14		$2 706 962	$13 888 691	$1 756 407	$1 899 546	$1 627 587	$6 304 311	$6 818 082	$5 841 933	$1 951 403	$2 110 433	$1 808 281	$10 012 121	$10 828 060	$9 277 800
15		$3 403 709	$17 463 513	$2 122 328	$2 316 620	$1 949 401	$7 617 719	$8 315 092	$6 997 026	$2 357 948	$2 573 809	$2 165 822	$12 097 995	$13 205 521	$11 112 249
16		$4 114 391	$21 109 831	$2 467 920	$2 717 954	$2 247 810	$8 858 160	$9 755 612	$8 068 113	$2 741 907	$3 019 700	$2 497 361	$14 067 988	$15 493 266	$12 813 283
17		$4 839 287	$24 829 076	$2 794 313	$3 104 145	$2 524 517	$10 029 687	$11 141 772	$9 061 302	$3 104 536	$3 448 765	$2 804 787	$15 928 536	$17 694 682	$14 390 606
18		$5 578 681	$28 622 706	$3 102 573	$3 475 761	$2 781 099	$11 136 130	$12 475 625	$9 982 260	$3 447 018	$3 861 638	$3 089 855	$17 685 720	$19 813 025	$15 853 215
19		$6 332 862	$32 492 208	$3 393 707	$3 833 355	$3 019 022	$12 181 103	$13 759 143	$10 836 239	$3 770 474	$4 258 932	$3 354 191	$19 345 284	$21 851 430	$17 209 452
20		$7 102 127	$36 439 100	$3 668 666	$4 177 455	$3 239 640	$13 168 023	$14 994 227	$11 628 110	$4 075 960	$4 641 233	$3 599 303	$20 912 649	$23 812 915	$18 467 053
21		$7 886 778	$40 464 930	$3 928 351	$4 508 569	$3 444 214	$14 100 113	$16 182 704	$12 362 390	$4 364 474	$5 009 108	$3 826 588	$22 392 938	$25 700 381	$19 633 193
22		$8 687 122	$44 571 277	$4 173 608	$4 827 189	$3 633 909	$14 980 421	$17 326 332	$13 043 269	$4 636 960	$5 363 101	$4 037 344	$23 790 989	$27 516 622	$20 714 522
23		$9 503 472	$48 759 751	$4 405 240	$5 133 785	$3 809 809	$15 811 823	$18 426 805	$13 674 629	$4 894 307	$5 703 735	$4 232 772	$25 111 371	$29 264 326	$21 717 209
24		$10 336 149	$53 031 994	$4 624 004	$5 428 812	$3 972 916	$16 597 036	$19 485 751	$14 260 072	$5 137 358	$6 031 515	$4 413 986	$26 358 398	$30 946 078	$22 646 974
25		$11 185 480	$57 389 682	$4 830 614	$5 712 706	$4 124 160	$17 338 626	$20 504 736	$14 802 937	$5 366 906	$6 346 927	$4 582 022	$27 536 146	$32 564 368	$23 509 119
26		$12 051 798	$61 834 523	$5 025 746	$5 985 886	$4 264 405	$18 039 016	$21 485 269	$15 306 321	$5 583 701	$6 650 436	$4 737 837	$28 648 463	$34 121 591	$24 308 563
27		$12 935 442	$66 368 262	$5 210 037	$6 248 758	$4 394 451	$18 700 496	$22 428 801	$15 773 095	$5 788 452	$6 942 491	$4 882 320	$29 698 985	$35 620 051	$25 049 866
28		$13 836 759	$70 992 675	$5 384 089	$6 501 710	$4 515 038	$19 325 227	$23 336 728	$16 205 922	$5 981 828	$7 223 526	$5 016 295	$30 691 144	$37 061 965	$25 737 255
29		$14 756 102	$75 709 577	$5 548 473	$6 745 117	$4 626 855	$19 915 251	$24 210 393	$16 607 271	$6 164 461	$7 493 956	$5 140 526	$31 628 184	$38 449 467	$26 374 653
30		$15 693 832	$80 520 816	$5 703 723	$6 979 339	$4 730 541	$20 472 496	$25 051 090	$16 979 431	$6 336 947	$7 754 181	$5 255 722	$32 513 166	$39 784 610	$26 965 694
31		$16 650 316	$85 428 281	$5 850 349	$7 204 722	$4 826 685	$20 998 782	$25 860 063	$17 324 525	$6 499 851	$8 004 586	$5 362 541	$33 348 982	$41 069 371	$27 513 751
32		$17 625 930	$90 433 895	$5 988 829	$7 421 600	$4 915 837	$21 495 831	$26 638 508	$17 644 520	$6 653 705	$8 245 542	$5 461 591	$34 138 364	$42 305 650	$28 021 949
33		$18 621 057	$95 539 621	$6 119 615	$7 630 294	$4 998 506	$21 965 265	$27 387 578	$17 941 244	$6 799 011	$8 477 405	$5 553 437	$34 883 891	$43 495 277	$28 493 187
34		$19 636 086	$100 747 461	$6 243 136	$7 831 113	$5 075 162	$22 408 620	$28 108 381	$18 216 388	$6 936 245	$8 700 518	$5 638 603	$35 588 001	$44 640 013	$28 930 153
35		$20 671 416	$106 059 458	$6 359 794	$8 024 354	$5 146 243	$22 827 344	$28 801 985	$18 471 521	$7 065 854	$8 915 213	$5 717 576	$36 252 993	$45 741 551	$29 335 340
36		$21 675 938	$111 213 391	$6 464 597	$8 201 232	$5 208 940	$23 203 515	$29 436 856	$18 696 558	$7 182 292	$9 111 727	$5 787 233	$36 850 404	$46 749 816	$29 692 731
37		$22 621 735	$116 066 017	$6 555 963	$8 358 343	$5 262 604	$23 531 459	$30 000 777	$18 889 178	$7 283 802	$9 286 281	$5 846 855	$37 371 225	$47 645 400	$29 998 637
38		$23 372 066	$119 915 768	$6 623 078	$8 475 929	$5 301 308	$23 772 356	$30 422 831	$19 028 097	$7 358 368	$9 416 921	$5 889 856	$37 753 803	$48 315 681	$30 219 261
39		$23 809 403	$122 159 622	$6 659 299	$8 540 585	$5 321 816	$23 902 364	$30 654 904	$19 101 707	$7 398 610	$9 488 756	$5 912 640	$37 960 273	$48 684 245	$30 336 163
40															

ALL MEASURES COMBINED

Participant Data

			Participant Assumptions			New Participants by Energy Source			Annual, current dollars					
Years		Year	New	Growth from t-1	Cumulative	Elec	Gas	Oil	Elec	Gas	Oil	Total		Elec
													8%	6%
	1	2002	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	$342 661	$1 229 920	$380 703	$1 953 284	$342 661	$342 661
	2	2003	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	$873 785	$3 136 296	$970 792	$4 980 874	$809 061	$824 326
	3	2004	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	$2 317 279	$8 317 458	$2 574 542	$13 209 279	$1 986 693	$2 062 370
	4	2005	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	$4 545 431	$16 315 014	$5 050 062	$25 910 508	$3 608 310	$3 816 432
	5	2006	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	$7 603 598	$27 291 755	$8 447 744	$43 343 098	$5 588 871	$6 022 762
	6	2007							$7 755 670	$27 837 591	$8 616 699	$44 209 959	$5 278 378	$5 795 487
	7	2008							$7 674 849	$27 547 500	$8 526 906	$43 749 255	$4 836 457	$5 410 466
	8	2009							$7 467 367	$26 802 781	$8 296 390	$42 566 538	$4 357 137	$4 966 226
	9	2010							$6 634 852	$23 814 617	$7 371 449	$37 820 918	$3 584 604	$4 162 788
	10	2011							$5 265 300	$18 898 853	$5 849 850	$30 014 002	$2 633 961	$3 116 523
	11	2012							$3 327 546	$11 943 633	$3 696 968	$18 968 148	$1 541 298	$1 858 084
	12	2013							$3 394 097	$12 182 506	$3 770 908	$19 347 511	$1 455 670	$1 787 968
	13	2014							$3 461 979	$12 426 156	$3 846 326	$19 734 461	$1 374 800	$1 720 498
	14	2015							$3 531 219	$12 674 679	$3 923 253	$20 129 150	$1 298 422	$1 655 573
	15	2016							$3 601 843	$12 928 173	$4 001 718	$20 531 733	$1 226 287	$1 593 099
	16	2017							$3 530 509	$12 672 132	$3 922 464	$20 125 105	$1 112 964	$1 473 158
	17	2018							$3 381 762	$12 138 230	$3 757 203	$19 277 194	$987 104	$1 331 218
	18	2019							$2 852 745	$10 239 417	$3 169 454	$16 261 616	$771 008	$1 059 408
	19	2020							$1 996 921	$7 167 592	$2 218 618	$11 383 131	$499 728	$699 609
	20	2021							$795 345	$2 854 749	$883 644	$4 533 739	$184 291	$262 872
	21	2022							$811 252	$2 911 844	$901 317	$4 624 413	$174 053	$252 952
	22	2023							$827 477	$2 970 081	$919 343	$4 716 902	$164 383	$243 407
	23	2024							$844 027	$3 029 483	$937 730	$4 811 240	$155 251	$234 222
	24	2025							$860 907	$3 090 073	$956 485	$4 907 464	$146 626	$225 383
	25	2026							$878 125	$3 151 874	$975 614	$5 005 614	$138 480	$216 878
	26	2027							$895 688	$3 214 912	$995 127	$5 105 726	$130 786	$208 694
	27	2028							$913 602	$3 279 210	$1 015 029	$5 207 840	$123 521	$200 819
	28	2029							$931 874	$3 344 794	$1 035 330	$5 311 997	$116 658	$193 241
	29	2030							$904 145	$3 245 266	$1 004 522	$5 153 933	$104 803	$176 878
	30	2031							$851 287	$3 055 543	$945 796	$4 852 626	$91 367	$157 111
	31	2032							$675 354	$2 424 064	$750 332	$3 849 750	$67 115	$117 586
	32	2033							$393 635	$1 412 883	$437 336	$2 243 854	$36 221	$64 656
		Totals:							**$90 142 131**	**$323 549 078**	**$100 149 655**	**$513 840 865**	**$44 926 966**	**$52 253 354**

Bill Savings

Annual, real 2002 dollars

	Gas			Oil			Total		
10%	8%	6%	10%	8%	6%	10%	8%	6%	10%
$342 661	$1 229 920	$1 229 920	$1 229 920	$380 703	$380 703	$380 703	$1 953 284	$1 953 284	$1 953 284
$794 350	$2 903 978	$2 958 770	$2 851 179	$898 882	$915 842	$882 539	$4 611 921	$4 698 938	$4 528 067
$1 915 106	$7 130 880	$7 402 508	$6 873 932	$2 207 254	$2 291 333	$2 127 720	$11 324 827	$11 756 211	$10 916 759
$3 415 050	$12 951 384	$13 698 400	$12 257 712	$4 008 902	$4 240 130	$3 794 187	$20 568 597	$21 754 962	$19 466 948
$5 193 360	$20 060 255	$21 617 627	$18 640 636	$6 209 344	$6 691 405	$5 769 923	$31 858 471	$34 331 793	$29 603 919
$4 815 661	$18 945 796	$20 801 867	$17 284 954	$5 864 381	$6 438 899	$5 350 292	$30 088 556	$33 036 254	$27 450 907
$4 332 252	$17 359 598	$19 419 900	$15 549 846	$5 373 397	$6 011 132	$4 813 216	$27 569 452	$30 841 499	$24 695 314
$3 831 940	$15 639 165	$17 825 380	$13 754 065	$4 840 864	$5 517 573	$4 257 360	$24 837 166	$28 309 179	$21 843 364
$3 095 208	$12 866 296	$14 941 585	$11 109 694	$3 982 565	$4 624 939	$3 438 836	$20 433 465	$23 729 312	$17 643 737
$2 233 001	$9 454 132	$11 186 202	$8 014 958	$2 926 381	$3 462 517	$2 480 907	$15 014 474	$17 765 242	$12 728 867
$1 282 913	$5 532 213	$6 669 262	$4 604 788	$1 712 412	$2 064 368	$1 425 341	$8 785 923	$10 591 715	$7 313 042
$1 189 610	$5 224 868	$6 417 592	$4 269 894	$1 617 278	$1 986 467	$1 321 680	$8 297 816	$10 192 027	$6 781 185
$1 103 093	$4 934 598	$6 175 419	$3 959 356	$1 527 429	$1 911 506	$1 225 558	$7 836 826	$9 807 423	$6 288 008
$1 022 868	$4 660 453	$5 942 384	$3 671 403	$1 442 572	$1 839 374	$1 136 427	$7 401 447	$9 437 331	$5 830 698
$948 478	$4 401 539	$5 718 143	$3 404 392	$1 362 429	$1 769 964	$1 053 777	$6 990 255	$9 081 205	$5 406 647
$845 176	$3 994 784	$5 287 638	$3 033 608	$1 236 524	$1 636 707	$939 007	$6 344 272	$8 397 503	$4 817 790
$735 970	$3 543 034	$4 778 169	$2 641 632	$1 096 692	$1 479 009	$817 677	$5 626 829	$7 588 396	$4 195 279
$564 400	$2 767 396	$3 802 555	$2 025 814	$856 605	$1 177 023	$627 060	$4 395 010	$6 038 986	$3 217 274
$359 164	$1 793 683	$2 511 121	$1 289 154	$555 207	$777 279	$399 038	$2 848 618	$3 988 009	$2 047 356
$130 045	$661 480	$943 532	$466 774	$204 751	$292 056	$144 483	$1 050 522	$1 498 460	$741 302
$120 587	$624 731	$907 927	$432 827	$193 376	$281 035	$133 975	$992 160	$1 441 914	$687 390
$111 817	$590 024	$873 665	$401 349	$182 633	$270 430	$124 231	$937 040	$1 387 502	$637 398
$103 685	$557 245	$840 697	$372 160	$172 487	$260 225	$115 196	$884 982	$1 335 144	$591 041
$96 145	$526 287	$808 973	$345 094	$162 904	$250 405	$106 818	$835 816	$1 284 761	$548 057
$89 152	$497 048	$778 445	$319 996	$153 854	$240 956	$99 050	$789 382	$1 236 279	$508 198
$82 668	$469 435	$749 070	$296 723	$145 306	$231 863	$91 846	$745 527	$1 189 627	$471 238
$76 656	$443 355	$720 803	$275 144	$137 234	$223 114	$85 166	$704 109	$1 144 736	$436 966
$71 081	$418 724	$693 603	$255 133	$129 610	$214 694	$78 973	$664 992	$1 101 538	$405 187
$62 696	$376 171	$634 872	$225 038	$116 438	$196 515	$69 657	$597 412	$1 008 265	$357 391
$53 665	$327 944	$563 921	$192 620	$101 510	$174 553	$59 622	$520 820	$895 585	$305 907
$38 704	$240 897	$422 054	$138 920	$74 566	$130 640	$43 000	$382 578	$670 280	$220 624
$20 508	$130 008	$232 073	$73 609	$40 242	$71 835	$22 785	$206 471	$368 564	$116 902
$39 077 672	**$161 257 320**	**$187 554 079**	**$140 262 323**	**$49 914 731**	**$58 054 489**	**$43 416 051**	**$256 099 017**	**$297 861 922**	**$222 756 046**

Cumulative, current dollars

Elec	Gas	Oil	Total
$342 661	$1 229 920	$380 703	$1 953 284
$1 216 446	$4 366 217	$1 351 495	$6 934 158
$3 533 725	$12 683 675	$3 926 037	$20 143 437
$8 079 156	$28 998 689	$8 976 099	$46 053 945
$15 682 754	$56 290 444	$17 423 844	$89 397 042
$23 438 424	$84 128 035	$26 040 543	$133 607 002
$31 113 273	$111 675 535	$34 567 449	$177 356 257
$38 580 640	$138 478 316	$42 863 839	$219 922 795
$45 215 492	$162 292 932	$50 235 288	$257 743 713
$50 480 792	$181 191 785	$56 085 138	$287 757 715
$53 808 338	$193 135 418	$59 782 107	$306 725 863
$57 202 436	$205 317 924	$63 553 015	$326 073 374
$60 664 415	$217 744 080	$67 399 341	$345 807 836
$64 195 634	$230 418 759	$71 322 593	$365 936 986
$67 797 477	$243 346 932	$75 324 311	$386 468 719
$71 327 986	$256 019 064	$79 246 775	$406 593 824
$74 709 748	$268 157 293	$83 003 978	$425 871 019
$77 562 492	$278 396 710	$86 173 432	$442 132 635
$79 559 413	$285 564 302	$88 392 050	$453 515 766
$80 354 759	$288 419 052	$89 275 694	$458 049 505
$81 166 011	$291 330 896	$90 177 011	$462 673 918
$81 993 488	$294 300 977	$91 096 354	$467 390 819
$82 837 514	$297 330 460	$92 034 084	$472 202 059
$83 698 422	$300 420 533	$92 990 569	$477 109 524
$84 576 547	$303 572 407	$93 966 183	$482 115 137
$85 472 235	$306 787 319	$94 961 310	$487 220 863
$86 385 836	$310 066 528	$95 976 339	$492 428 704
$87 317 710	$313 411 322	$97 011 669	$497 740 701
$88 221 855	$316 656 588	$98 016 191	$502 894 634
$89 073 142	$319 712 131	$98 961 987	$507 747 260
$89 748 496	$322 136 195	$99 712 319	$511 597 010
$90 142 131	$323 549 078	$100 149 655	$513 840 865

	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN
1												
2												
3												
4												
5	**Cumulative, real 2002 dollars**											
6		**Elec**			**Gas**			**Oil**			**Total**	
7	**8%**	**6%**	**10%**	**8%**	**6%**	**10%**	**8%**	**6%**	**10%**	**8%**	**6%**	**10%**
8	$342 661	$342 661	$342 661	$1 229 920	$1 229 920	$1 229 920	$380 703	$380 703	$380 703	$1 953 284	$1 953 284	$1 953 284
9	$1 151 721	$1 166 987	$1 137 011	$4 133 898	$4 188 690	$4 081 099	$1 279 585	$1 296 545	$1 263 242	$6 565 205	$6 652 222	$6 481 352
10	$3 138 414	$3 229 357	$3 052 118	$11 264 778	$11 591 199	$10 955 031	$3 486 839	$3 587 878	$3 390 962	$17 890 032	$18 408 433	$17 398 111
11	$6 746 724	$7 045 788	$6 467 168	$24 216 162	$25 289 599	$23 212 743	$7 495 742	$7 828 008	$7 185 148	$38 458 628	$40 163 395	$36 865 059
12	$12 335 596	$13 068 550	$11 660 527	$44 276 417	$46 907 226	$41 853 379	$13 705 086	$14 519 412	$12 955 072	$70 317 099	$74 495 188	$66 468 977
13	$17 613 974	$18 864 037	$16 476 188	$63 222 214	$67 709 093	$59 138 332	$19 569 467	$20 958 311	$18 305 364	$100 405 655	$107 531 441	$93 919 884
14	$22 450 431	$24 274 503	$20 808 440	$80 581 811	$87 128 993	$74 688 178	$24 942 864	$26 969 444	$23 118 580	$127 975 106	$138 372 940	$118 615 198
15	$26 807 568	$29 240 729	$24 640 380	$96 220 977	$104 954 373	$88 442 243	$29 783 728	$32 487 017	$27 375 940	$152 812 272	$166 682 119	$140 458 562
16	$30 392 172	$33 403 517	$27 735 588	$109 087 273	$119 895 958	$99 551 937	$33 766 292	$37 111 955	$30 814 775	$173 245 738	$190 411 431	$158 102 300
17	$33 026 133	$36 520 040	$29 968 589	$118 541 405	$131 082 160	$107 566 895	$36 692 674	$40 574 472	$33 295 683	$188 260 211	$208 176 673	$170 831 167
18	$34 567 431	$38 378 125	$31 251 502	$124 073 618	$137 751 422	$112 171 683	$38 405 086	$42 638 840	$34 721 024	$197 046 134	$218 768 387	$178 144 209
19	$36 023 101	$40 166 093	$32 441 112	$129 298 486	$144 169 015	$116 441 577	$40 022 363	$44 625 308	$36 042 704	$205 343 950	$228 960 415	$184 925 394
20	$37 397 900	$41 886 590	$33 544 205	$134 233 083	$150 344 433	$120 400 933	$41 549 792	$46 536 814	$37 268 262	$213 180 776	$238 767 837	$191 213 401
21	$38 696 322	$43 542 163	$34 567 074	$138 893 536	$156 286 818	$124 072 336	$42 992 364	$48 376 188	$38 404 689	$220 582 223	$248 205 169	$197 044 099
22	$39 922 610	$45 135 262	$35 515 552	$143 295 075	$162 004 961	$127 476 728	$44 354 793	$50 146 151	$39 458 466	$227 572 478	$257 286 374	$202 450 746
23	$41 035 573	$46 608 420	$36 360 727	$147 289 860	$167 292 599	$130 510 336	$45 591 317	$51 782 858	$40 397 473	$233 916 751	$265 683 877	$207 268 536
24	$42 022 677	$47 939 638	$37 096 697	$150 832 893	$172 070 768	$133 151 968	$46 688 009	$53 261 867	$41 215 150	$239 543 580	$273 272 273	$211 463 815
25	$42 793 686	$48 999 046	$37 661 098	$153 600 290	$175 873 323	$135 177 782	$47 544 614	$54 438 890	$41 842 210	$243 938 590	$279 311 259	$214 681 089
26	$43 293 413	$49 698 655	$38 020 261	$155 393 973	$178 384 444	$136 466 937	$48 099 821	$55 216 169	$42 241 247	$246 787 207	$283 299 268	$216 728 446
27	$43 477 704	$49 961 527	$38 150 307	$156 055 453	$179 327 976	$136 933 711	$48 304 572	$55 508 225	$42 385 730	$247 837 729	$284 797 728	$217 469 748
28	$43 651 757	$50 214 479	$38 270 894	$156 680 184	$180 235 903	$137 366 538	$48 497 948	$55 789 260	$42 519 705	$248 829 889	$286 239 642	$218 157 138
29	$43 816 140	$50 457 886	$38 382 712	$157 270 207	$181 109 568	$137 767 887	$48 680 581	$56 059 689	$42 643 937	$249 766 928	$287 627 144	$218 794 535
30	$43 971 391	$50 692 108	$38 486 397	$157 827 452	$181 950 265	$138 140 047	$48 853 067	$56 319 914	$42 759 133	$250 651 910	$288 962 287	$219 385 577
31	$44 118 016	$50 917 491	$38 582 541	$158 353 739	$182 759 238	$138 485 140	$49 015 971	$56 570 319	$42 865 951	$251 487 726	$290 247 048	$219 933 633
32	$44 256 496	$51 134 369	$38 671 694	$158 850 787	$183 537 683	$138 805 136	$49 169 825	$56 811 275	$42 965 001	$252 277 108	$291 483 327	$220 441 831
33	$44 387 283	$51 343 063	$38 754 362	$159 320 222	$184 286 753	$139 101 860	$49 315 131	$57 043 138	$43 056 847	$253 022 636	$292 672 954	$220 913 069
34	$44 510 803	$51 543 882	$38 831 018	$159 763 577	$185 007 556	$139 377 003	$49 452 365	$57 266 252	$43 142 014	$253 726 745	$293 817 690	$221 350 036
35	$44 627 461	$51 737 123	$38 902 099	$160 182 301	$185 701 159	$139 632 136	$49 581 975	$57 480 946	$43 220 987	$254 391 737	$294 919 228	$221 755 222
36	$44 732 264	$51 914 001	$38 964 796	$160 558 472	$186 336 031	$139 857 174	$49 698 413	$57 677 461	$43 290 643	$254 989 149	$295 927 493	$222 112 613
37	$44 823 631	$52 071 111	$39 018 460	$160 886 416	$186 899 952	$140 049 794	$49 799 923	$57 852 014	$43 350 266	$255 509 969	$296 823 077	$222 418 520
38	$44 890 746	$52 188 697	$39 057 164	$161 127 313	$187 322 006	$140 188 713	$49 874 489	$57 982 654	$43 393 266	$255 892 547	$297 493 358	$222 639 144
39	$44 926 966	$52 253 354	$39 077 672	$161 257 320	$187 554 079	$140 262 323	$49 914 731	$58 054 489	$43 416 051	$256 099 017	$297 861 922	$222 756 046
40												

Appendix F. Spreadsheet: Economic Costs

[available in PDF or paper versions only]

	A	B	C	D	E	F	G	H	I
1	**1a) Education & weatherstripping**	**Cost / Part.***	**Energy Savings**	**Useful life (years)**					
2		**300 $**	**10%**	**6,0**					
3									
4			**Participant Data**			**Programme Costs**			
5			**Participant Assumptions**			**Annual**		**Cumulative**	
6	**Years**	**Year**	**New**	**Growth from t-1**	**Cumulative**	**Current**	**Real 2002**	**Current**	**Real 2002**
7	1	2002	8 167		8 167	$2 450 000	$2 450 000	$2 450 000	$2 450 000
8	2	2003	12 250	50%	20 417	$3 748 500	$3 536 321	$6 198 500	$5 986 321
9	3	2004	32 667	167%	53 083	$10 195 920	$9 074 333	$16 394 420	$15 060 653
10	4	2005	49 000	50%	102 083	$15 599 758	$13 097 857	$31 994 178	$28 158 511
11	5	2006	65 333	33%	167 417	$21 215 670	$16 804 798	$53 209 848	$44 963 309
12	6	2007	0			$0	$0	$53 209 848	$44 963 309
13	7	2008	0			$0	$0	$53 209 848	$44 963 309
14	8	2009	0			$0	$0	$53 209 848	$44 963 309
15	9	2010	0			$0	$0	$53 209 848	$44 963 309
16	10	2011	0			$0	$0	$53 209 848	$44 963 309
17	11	2012	0			$0	$0	$53 209 848	$44 963 309
18	12	2013	0			$0	$0	$53 209 848	$44 963 309
19	13	2014	0			$0	$0	$53 209 848	$44 963 309
20	14	2015	0			$0	$0	$53 209 848	$44 963 309
21	15	2016	0			$0	$0	$53 209 848	$44 963 309
22	16	2017	0			$0	$0	$53 209 848	$44 963 309
23	17	2018	0			$0	$0	$53 209 848	$44 963 309
24	18	2019	0			$0	$0	$53 209 848	$44 963 309
25	19	2020	0			$0	$0	$53 209 848	$44 963 309
26	20	2021	0			$0	$0	$53 209 848	$44 963 309
27	21	2022	0			$0	$0	$53 209 848	$44 963 309
28	22	2023	0			$0	$0	$53 209 848	$44 963 309
29	23	2024	0			$0	$0	$53 209 848	$44 963 309
30	24	2025	0			$0	$0	$53 209 848	$44 963 309
31	25	2026	0			$0	$0	$53 209 848	$44 963 309
32	26	2027	0			$0	$0	$53 209 848	$44 963 309
33	27	2028	0			$0	$0	$53 209 848	$44 963 309
34	28	2029	0			$0	$0	$53 209 848	$44 963 309
35	29	2030	0			$0	$0	$53 209 848	$44 963 309
36	30	2031	0			$0	$0	$53 209 848	$44 963 309
37	31	2032	0			$0	$0	$53 209 848	$44 963 309
38	32	2033	0			$0	$0	$53 209 848	$44 963 309
39		**Totals:**	**167 417**			**$53 209 848**	**$44 963 309**		

	A	B	C	D	E	F	G	H	I
1	1b) Programmable thermostats	Cost / Part.*	Energy Savings	Useful life (years)					
2		150 $	10%	15,0					
3									
4			Participant Data			Programme Costs			
5			Participant Assumptions			Annual		Cumulative	
6	Years	Year	New	Growth from t-1	Cumulative	Current	Real 2002	Current	Real 2002
7	1	2002	5 000		5 000	$750 000	$750 000	$750 000	$750 000
8	2	2003	7 500	50%	12 500	$1 147 500	$1 082 547	$1 897 500	$1 832 547
9	3	2004	20 000	167%	32 500	$3 121 200	$2 777 857	$5 018 700	$4 610 404
10	4	2005	30 000	50%	62 500	$4 775 436	$4 009 548	$9 794 136	$8 619 952
11	5	2006	40 000	33%	102 500	$6 494 593	$5 144 326	$16 288 729	$13 764 278
12	6	2007	0			$0	$0	$16 288 729	$13 764 278
13	7	2008	0			$0	$0	$16 288 729	$13 764 278
14	8	2009	0			$0	$0	$16 288 729	$13 764 278
15	9	2010	0			$0	$0	$16 288 729	$13 764 278
16	10	2011	0			$0	$0	$16 288 729	$13 764 278
17	11	2012	0			$0	$0	$16 288 729	$13 764 278
18	12	2013	0			$0	$0	$16 288 729	$13 764 278
19	13	2014	0			$0	$0	$16 288 729	$13 764 278
20	14	2015	0			$0	$0	$16 288 729	$13 764 278
21	15	2016	0			$0	$0	$16 288 729	$13 764 278
22	16	2017	0			$0	$0	$16 288 729	$13 764 278
23	17	2018	0			$0	$0	$16 288 729	$13 764 278
24	18	2019	0			$0	$0	$16 288 729	$13 764 278
25	19	2020	0			$0	$0	$16 288 729	$13 764 278
26	20	2021	0			$0	$0	$16 288 729	$13 764 278
27	21	2022	0			$0	$0	$16 288 729	$13 764 278
28	22	2023	0			$0	$0	$16 288 729	$13 764 278
29	23	2024	0			$0	$0	$16 288 729	$13 764 278
30	24	2025	0			$0	$0	$16 288 729	$13 764 278
31	25	2026	0			$0	$0	$16 288 729	$13 764 278
32	26	2027	0			$0	$0	$16 288 729	$13 764 278
33	27	2028	0			$0	$0	$16 288 729	$13 764 278
34	28	2029	0			$0	$0	$16 288 729	$13 764 278
35	29	2030	0			$0	$0	$16 288 729	$13 764 278
36	30	2031	0			$0	$0	$16 288 729	$13 764 278
37	31	2032	0			$0	$0	$16 288 729	$13 764 278
38	32	2033	0			$0	$0	$16 288 729	$13 764 278
39		Totals:	102 500			$16 288 729	$13 764 278		

	A	B	C	D	E	F	G	H	I
1	2a) EnerGuide & WS	Cost / Part.*	Energy Savings	Useful life (years)					
2		400 $	10%	6,0					
3									
4			Participant Data			Programme Costs			
5			Participant Assumptions			Annual		Cumulative	
6	Years	Year	New	Growth from t-1	Cumulative	Current	Real 2002	Current	Real 2002
7	1	2002	1 667		1 667	$666 667	$666 667	$666 667	$666 667
8	2	2003	2 500	50%	4 167	$1 020 000	$962 264	$1 686 667	$1 628 931
9	3	2004	6 667	167%	10 833	$2 774 400	$2 469 206	$4 461 067	$4 098 137
10	4	2005	10 000	50%	20 833	$4 244 832	$3 564 043	$8 705 899	$7 662 180
11	5	2006	13 333	33%	34 167	$5 772 972	$4 572 734	$14 478 870	$12 234 914
12	6	2007	0			$0	$0	$14 478 870	$12 234 914
13	7	2008	0			$0	$0	$14 478 870	$12 234 914
14	8	2009	0			$0	$0	$14 478 870	$12 234 914
15	9	2010	0			$0	$0	$14 478 870	$12 234 914
16	10	2011	0			$0	$0	$14 478 870	$12 234 914
17	11	2012	0			$0	$0	$14 478 870	$12 234 914
18	12	2013	0			$0	$0	$14 478 870	$12 234 914
19	13	2014	0			$0	$0	$14 478 870	$12 234 914
20	14	2015	0			$0	$0	$14 478 870	$12 234 914
21	15	2016	0			$0	$0	$14 478 870	$12 234 914
22	16	2017	0			$0	$0	$14 478 870	$12 234 914
23	17	2018	0			$0	$0	$14 478 870	$12 234 914
24	18	2019	0			$0	$0	$14 478 870	$12 234 914
25	19	2020	0			$0	$0	$14 478 870	$12 234 914
26	20	2021	0			$0	$0	$14 478 870	$12 234 914
27	21	2022	0			$0	$0	$14 478 870	$12 234 914
28	22	2023	0			$0	$0	$14 478 870	$12 234 914
29	23	2024	0			$0	$0	$14 478 870	$12 234 914
30	24	2025	0			$0	$0	$14 478 870	$12 234 914
31	25	2026	0			$0	$0	$14 478 870	$12 234 914
32	26	2027	0			$0	$0	$14 478 870	$12 234 914
33	27	2028	0			$0	$0	$14 478 870	$12 234 914
34	28	2029	0			$0	$0	$14 478 870	$12 234 914
35	29	2030	0			$0	$0	$14 478 870	$12 234 914
36	30	2031	0			$0	$0	$14 478 870	$12 234 914
37	31	2032	0			$0	$0	$14 478 870	$12 234 914
38	32	2033	0			$0	$0	$14 478 870	$12 234 914
39		Totals:	34 167			$14 478 870	$12 234 914		

	A	B	C	D	E	F	G	H	I
1		Cost / Part.*	Energy Savings	Useful life (years)					
2	2b) Weatherization	3 000 $	15%	28,0					
3									
4			Participant Data			Programme Costs			
5			Participant Assumptions			Annual		Cumulative	
6	Years	Year	New	Growth from t-1	Cumulative	Current	Real 2002	Current	Real 2002
7	1	2002	833		833	$2 500 000	$2 500 000	$2 500 000	$2 500 000
8	2	2003	1 250	50%	2 083	$3 825 000	$3 608 491	$6 325 000	$6 108 491
9	3	2004	3 333	167%	5 417	$10 404 000	$9 259 523	$16 729 000	$15 368 014
10	4	2005	5 000	50%	10 417	$15 918 120	$13 365 161	$32 647 120	$28 733 174
11	5	2006	6 667	33%	17 083	$21 648 643	$17 147 753	$54 295 763	$45 880 927
12	6	2007	0			$0	$0	$54 295 763	$45 880 927
13	7	2008	0			$0	$0	$54 295 763	$45 880 927
14	8	2009	0			$0	$0	$54 295 763	$45 880 927
15	9	2010	0			$0	$0	$54 295 763	$45 880 927
16	10	2011	0			$0	$0	$54 295 763	$45 880 927
17	11	2012	0			$0	$0	$54 295 763	$45 880 927
18	12	2013	0			$0	$0	$54 295 763	$45 880 927
19	13	2014	0			$0	$0	$54 295 763	$45 880 927
20	14	2015	0			$0	$0	$54 295 763	$45 880 927
21	15	2016	0			$0	$0	$54 295 763	$45 880 927
22	16	2017	0			$0	$0	$54 295 763	$45 880 927
23	17	2018	0			$0	$0	$54 295 763	$45 880 927
24	18	2019	0			$0	$0	$54 295 763	$45 880 927
25	19	2020	0			$0	$0	$54 295 763	$45 880 927
26	20	2021	0			$0	$0	$54 295 763	$45 880 927
27	21	2022	0			$0	$0	$54 295 763	$45 880 927
28	22	2023	0			$0	$0	$54 295 763	$45 880 927
29	23	2024	0			$0	$0	$54 295 763	$45 880 927
30	24	2025	0			$0	$0	$54 295 763	$45 880 927
31	25	2026	0			$0	$0	$54 295 763	$45 880 927
32	26	2027	0			$0	$0	$54 295 763	$45 880 927
33	27	2028	0			$0	$0	$54 295 763	$45 880 927
34	28	2029	0			$0	$0	$54 295 763	$45 880 927
35	29	2030	0			$0	$0	$54 295 763	$45 880 927
36	30	2031	0			$0	$0	$54 295 763	$45 880 927
37	31	2032	0			$0	$0	$54 295 763	$45 880 927
38	32	2033	0			$0	$0	$54 295 763	$45 880 927
39		Totals:	17 083			$54 295 763	$45 880 927		

ALL MEASURES COMBINED

			Participant Data			Programme Costs			
			Participant Assumptions			Annual		Cumulative	
Years		Year	New	Growth from t-1	Cumulative	Current	Real 2002	Current	Real 2002
	1	2002	n.a.	n.a.	n.a.	$6 366 667	$6 366 667	$6 366 667	$6 366 667
	2	2003	n.a.	n.a.	n.a.	$9 741 000	$9 189 623	$16 107 667	$15 556 289
	3	2004	n.a.	n.a.	n.a.	$26 495 520	$23 580 918	$42 603 187	$39 137 208
	4	2005	n.a.	n.a.	n.a.	$40 538 146	$34 036 609	$83 141 332	$73 173 817
	5	2006	n.a.	n.a.	n.a.	$55 131 878	$43 669 611	$138 273 210	$116 843 428
	6	2007				$0	$0	$138 273 210	$116 843 428
	7	2008				$0	$0	$138 273 210	$116 843 428
	8	2009				$0	$0	$138 273 210	$116 843 428
	9	2010				$0	$0	$138 273 210	$116 843 428
	10	2011				$0	$0	$138 273 210	$116 843 428
	11	2012				$0	$0	$138 273 210	$116 843 428
	12	2013				$0	$0	$138 273 210	$116 843 428
	13	2014				$0	$0	$138 273 210	$116 843 428
	14	2015				$0	$0	$138 273 210	$116 843 428
	15	2016				$0	$0	$138 273 210	$116 843 428
	16	2017				$0	$0	$138 273 210	$116 843 428
	17	2018				$0	$0	$138 273 210	$116 843 428
	18	2019				$0	$0	$138 273 210	$116 843 428
	19	2020				$0	$0	$138 273 210	$116 843 428
	20	2021				$0	$0	$138 273 210	$116 843 428
	21	2022				$0	$0	$138 273 210	$116 843 428
	22	2023				$0	$0	$138 273 210	$116 843 428
	23	2024				$0	$0	$138 273 210	$116 843 428
	24	2025				$0	$0	$138 273 210	$116 843 428
	25	2026				$0	$0	$138 273 210	$116 843 428
	26	2027				$0	$0	$138 273 210	$116 843 428
	27	2028				$0	$0	$138 273 210	$116 843 428
	28	2029				$0	$0	$138 273 210	$116 843 428
	29	2030				$0	$0	$138 273 210	$116 843 428
	30	2031				$0	$0	$138 273 210	$116 843 428
	31	2032				$0	$0	$138 273 210	$116 843 428
	32	2033				$0	$0	$138 273 210	$116 843 428
		Totals:				$138 273 210	$116 843 428		

Appendix G. Spreadsheet: Environmental Benefits

[available in PDF or paper versions only]

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	**1a) Education & weatherstripping**	**Cost / Part.***	**Energy Savings**	**Useful life (years)**										
2		**300 $**	**10%**	**6,0**										
3														
4				**Participant Data**					**All-Source**					
5				**Participant Assumptions**		**New Participants by Energy Source**			**Annual**					
6	**Years**	**Year**	**New**	**Growth from t-1**	**Cumulative**	**Elec**	**Gas**	**Oil**	**CO2**	**NOX**	**SOX**	**CO**	**VOCs**	**P.M.**
7	1	2002	8 167		8 167	1 373	4 358	1 171	3 411 205	2 387	1 616	704	165	400
8	2	2003	12 250	50%	20 417	2 060	6 537	1 756	8 528 013	5 967	4 041	1 760	413	1 001
9	3	2004	32 667	167%	53 083	5 493	17 431	4 682	22 172 835	15 514	10 506	4 575	1 073	2 602
10	4	2005	49 000	50%	102 083	8 239	26 146	7 023	42 640 067	29 834	20 205	8 798	2 064	5 005
11	5	2006	65 333	33%	167 417	10 985	34 862	9 364	69 929 710	48 928	33 135	14 428	3 385	8 208
12	6	2007	0			0	0	0	69 929 710	48 928	33 135	14 428	3 385	8 208
13	7	2008	0			0	0	0	66 518 505	46 541	31 519	13 724	3 220	7 807
14	8	2009	0			0	0	0	61 401 697	42 961	29 095	12 669	2 972	7 207
15	9	2010	0			0	0	0	47 756 875	33 414	22 629	9 853	2 312	5 605
16	10	2011	0			0	0	0	27 289 643	19 094	12 931	5 630	1 321	3 203
17	11	2012	0			0	0	0	0	0	0	0	0	0
18	12	2013	0			0	0	0	0	0	0	0	0	0
19	13	2014	0			0	0	0	0	0	0	0	0	0
20	14	2015	0			0	0	0	0	0	0	0	0	0
21	15	2016	0			0	0	0	0	0	0	0	0	0
22	16	2017	0			0	0	0	0	0	0	0	0	0
23	17	2018	0			0	0	0	0	0	0	0	0	0
24	18	2019	0			0	0	0	0	0	0	0	0	0
25	19	2020	0			0	0	0	0	0	0	0	0	0
26	20	2021	0			0	0	0	0	0	0	0	0	0
27	21	2022	0			0	0	0	0	0	0	0	0	0
28	22	2023	0			0	0	0	0	0	0	0	0	0
29	23	2024	0			0	0	0	0	0	0	0	0	0
30	24	2025	0			0	0	0	0	0	0	0	0	0
31	25	2026	0			0	0	0	0	0	0	0	0	0
32	26	2027	0			0	0	0	0	0	0	0	0	0
33	27	2028	0			0	0	0	0	0	0	0	0	0
34	28	2029	0			0	0	0	0	0	0	0	0	0
35	29	2030	0			0	0	0	0	0	0	0	0	0
36	30	2031	0			0	0	0	0	0	0	0	0	0
37	31	2032	0			0	0	0	0	0	0	0	0	0
38	32	2033	0			0	0	0	0	0	0	0	0	0
39		**Totals:**	**167 417**			**28 150**	**89 334**	**23 996**	**419 578 260**	**293 566**	**198 813**	**86 569**	**20 309**	**49 247**
40														
41														

42	**1a) Education & weatherstripping**	**Summary Table**							
43		**CO2**	**NOX**	**SOX**	**CO**	**VOCs**	**P.M.**	**CH4**	**N2O**
44	Electricity	68 382 684	78 329	2 101	20 763	1 280,6	4 122	5 371	1 865
45	Gas	247 080 799	101 692	1 956	34 223	14 667,1	29 334	5 651	2 629
46	Oil	104 114 777	113 545	194 756	31 582	4 361,3	15 791	7 873	221

	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG
1																			
2																			
3																			
4	**e Emissions Reductions (kG)**										**Electricity-Related Emissions R**								
5			**Cumulative**								**Annual**								
6	**CH4**	**N2O**	**CO2**	**NOX**	**SOX**	**CO**	**VOCs**	**P.M.**	**CH4**	**N2O**	**CO2**	**NOX**	**SOX**	**CO**	**VOCs**	**P.M.**	**CH4**	**N2O**	**CO2**
7	154	38	3 411 205	2 387	1 616	704	165	400	154	38	555 957	637	17	169	10	34	44	15	555 957
8	384	96	11 939 219	8 354	5 657	2 463	578	1 401	538	134	1 389 892	1 592	43	422	26	84	109	38	1 945 849
9	999	249	34 112 054	23 867	16 164	7 038	1 651	4 004	1 536	383	3 613 719	4 139	111	1 097	68	218	284	99	5 559 568
10	1 920	479	76 752 121	53 701	36 368	15 836	3 715	9 009	3 456	862	6 949 460	7 960	214	2 110	130	419	546	190	12 509 028
11	3 149	786	146 681 831	102 629	69 504	30 264	7 100	17 216	6 606	1 648	11 397 114	13 055	350	3 461	213	687	895	311	23 906 142
12	3 149	786	216 611 541	151 557	102 639	44 692	10 485	25 424	9 755	2 434	11 397 114	13 055	350	3 461	213	687	895	311	35 303 256
13	2 996	747	283 130 045	198 098	134 158	58 416	13 705	33 232	12 751	3 181	10 841 157	12 418	333	3 292	203	653	852	296	46 144 413
14	2 765	690	344 531 742	241 059	163 253	71 085	16 677	40 439	15 516	3 871	10 007 222	11 463	307	3 039	187	603	786	273	56 151 635
15	2 151	537	392 288 617	274 473	185 882	80 938	18 988	46 044	17 666	4 408	7 783 395	8 916	239	2 363	146	469	611	212	63 935 030
16	1 229	307	419 578 260	293 566	198 813	86 569	20 309	49 247	18 895	4 714	4 447 654	5 095	137	1 350	83	268	349	121	68 382 684
17	0	0	419 578 260	293 566	198 813	86 569	20 309	49 247	18 895	4 714	0	0	0	0	0	0	0	0	68 382 684
18	0	0	419 578 260	293 566	198 813	86 569	20 309	49 247	18 895	4 714	0	0	0	0	0	0	0	0	68 382 684
19	0	0	419 578 260	293 566	198 813	86 569	20 309	49 247	18 895	4 714	0	0	0	0	0	0	0	0	68 382 684
20	0	0	419 578 260	293 566	198 813	86 569	20 309	49 247	18 895	4 714	0	0	0	0	0	0	0	0	68 382 684
21	0	0	419 578 260	293 566	198 813	86 569	20 309	49 247	18 895	4 714	0	0	0	0	0	0	0	0	68 382 684
22	0	0	419 578 260	293 566	198 813	86 569	20 309	49 247	18 895	4 714	0	0	0	0	0	0	0	0	68 382 684
23	0	0	419 578 260	293 566	198 813	86 569	20 309	49 247	18 895	4 714	0	0	0	0	0	0	0	0	68 382 684
24	0	0	419 578 260	293 566	198 813	86 569	20 309	49 247	18 895	4 714	0	0	0	0	0	0	0	0	68 382 684
25	0	0	419 578 260	293 566	198 813	86 569	20 309	49 247	18 895	4 714	0	0	0	0	0	0	0	0	68 382 684
26	0	0	419 578 260	293 566	198 813	86 569	20 309	49 247	18 895	4 714	0	0	0	0	0	0	0	0	68 382 684
27	0	0	419 578 260	293 566	198 813	86 569	20 309	49 247	18 895	4 714	0	0	0	0	0	0	0	0	68 382 684
28	0	0	419 578 260	293 566	198 813	86 569	20 309	49 247	18 895	4 714	0	0	0	0	0	0	0	0	68 382 684
29	0	0	419 578 260	293 566	198 813	86 569	20 309	49 247	18 895	4 714	0	0	0	0	0	0	0	0	68 382 684
30	0	0	419 578 260	293 566	198 813	86 569	20 309	49 247	18 895	4 714	0	0	0	0	0	0	0	0	68 382 684
31	0	0	419 578 260	293 566	198 813	86 569	20 309	49 247	18 895	4 714	0	0	0	0	0	0	0	0	68 382 684
32	0	0	419 578 260	293 566	198 813	86 569	20 309	49 247	18 895	4 714	0	0	0	0	0	0	0	0	68 382 684
33	0	0	419 578 260	293 566	198 813	86 569	20 309	49 247	18 895	4 714	0	0	0	0	0	0	0	0	68 382 684
34	0	0	419 578 260	293 566	198 813	86 569	20 309	49 247	18 895	4 714	0	0	0	0	0	0	0	0	68 382 684
35	0	0	419 578 260	293 566	198 813	86 569	20 309	49 247	18 895	4 714	0	0	0	0	0	0	0	0	68 382 684
36	0	0	419 578 260	293 566	198 813	86 569	20 309	49 247	18 895	4 714	0	0	0	0	0	0	0	0	68 382 684
37	0	0	419 578 260	293 566	198 813	86 569	20 309	49 247	18 895	4 714	0	0	0	0	0	0	0	0	68 382 684
38	0	0	419 578 260	293 566	198 813	86 569	20 309	49 247	18 895	4 714	0	0	0	0	0	0	0	0	68 382 684
39	**18 895**	**4 714**									**68 382 684**	**78 329**	**2 101**	**20 763**	**1 281**	**4 122**	**5 371**	**1 865**	
40																			
41																			
42																			
43																			
44																			
45																			
46																			

	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC
1																						
2																						
3																						
4	**eductions (kG)**							**Gas-Related Emissions Reductions (kG)**														
5	**Cumulative**							**Annual**								**Cumulative**						
6	**NOX**	**SOX**	**CO**	**VOCs**	**P.M.**	**CH4**	**N2O**	**CO2**	**NOX**	**SOX**	**CO**	**VOCs**	**P.M.**	**CH4**	**N2O**	**CO2**	**NOX**	**SOX**	**CO**	**VOCs**	**P.M.**	**CH4**
7	637	17	169	10	34	44	15	2 008 787	827	16	278	119	238	46	21	2 008 787	827	16	278	119	238	46
8	2 229	60	591	36	117	153	53	5 021 967	2 067	40	696	298	596	115	53	7 030 754	2 894	56	974	417	835	161
9	6 368	171	1 688	104	335	437	152	13 057 115	5 374	103	1 809	775	1 550	299	139	20 087 870	8 268	159	2 782	1 192	2 385	459
10	14 329	384	3 798	234	754	983	341	25 109 837	10 335	199	3 478	1 491	2 981	574	267	45 197 707	18 602	358	6 260	2 683	5 366	1 034
11	27 383	735	7 259	448	1 441	1 878	652	41 180 133	16 949	326	5 704	2 445	4 889	942	438	86 377 840	35 551	684	11 964	5 128	10 255	1 976
12	40 438	1 085	10 719	661	2 128	2 773	963	41 180 133	16 949	326	5 704	2 445	4 889	942	438	127 557 973	52 500	1 010	17 668	7 572	15 144	2 918
13	52 856	1 418	14 011	864	2 781	3 624	1 258	39 171 346	16 122	310	5 426	2 325	4 651	896	417	166 729 319	68 622	1 320	23 094	9 897	19 795	3 813
14	64 319	1 725	17 050	1 052	3 384	4 410	1 531	36 158 166	14 882	286	5 008	2 146	4 293	827	385	202 887 485	83 503	1 606	28 102	12 044	24 087	4 641
15	73 235	1 965	19 413	1 197	3 854	5 022	1 744	28 123 018	11 575	223	3 895	1 669	3 339	643	299	231 010 503	95 078	1 828	31 997	13 713	27 426	5 284
16	78 329	2 101	20 763	1 281	4 122	5 371	1 865	16 070 296	6 614	127	2 226	954	1 908	368	171	247 080 799	101 692	1 956	34 223	14 667	29 334	5 651
17	78 329	2 101	20 763	1 281	4 122	5 371	1 865	0	0	0	0	0	0	0	0	247 080 799	101 692	1 956	34 223	14 667	29 334	5 651
18	78 329	2 101	20 763	1 281	4 122	5 371	1 865	0	0	0	0	0	0	0	0	247 080 799	101 692	1 956	34 223	14 667	29 334	5 651
19	78 329	2 101	20 763	1 281	4 122	5 371	1 865	0	0	0	0	0	0	0	0	247 080 799	101 692	1 956	34 223	14 667	29 334	5 651
20	78 329	2 101	20 763	1 281	4 122	5 371	1 865	0	0	0	0	0	0	0	0	247 080 799	101 692	1 956	34 223	14 667	29 334	5 651
21	78 329	2 101	20 763	1 281	4 122	5 371	1 865	0	0	0	0	0	0	0	0	247 080 799	101 692	1 956	34 223	14 667	29 334	5 651
22	78 329	2 101	20 763	1 281	4 122	5 371	1 865	0	0	0	0	0	0	0	0	247 080 799	101 692	1 956	34 223	14 667	29 334	5 651
23	78 329	2 101	20 763	1 281	4 122	5 371	1 865	0	0	0	0	0	0	0	0	247 080 799	101 692	1 956	34 223	14 667	29 334	5 651
24	78 329	2 101	20 763	1 281	4 122	5 371	1 865	0	0	0	0	0	0	0	0	247 080 799	101 692	1 956	34 223	14 667	29 334	5 651
25	78 329	2 101	20 763	1 281	4 122	5 371	1 865	0	0	0	0	0	0	0	0	247 080 799	101 692	1 956	34 223	14 667	29 334	5 651
26	78 329	2 101	20 763	1 281	4 122	5 371	1 865	0	0	0	0	0	0	0	0	247 080 799	101 692	1 956	34 223	14 667	29 334	5 651
27	78 329	2 101	20 763	1 281	4 122	5 371	1 865	0	0	0	0	0	0	0	0	247 080 799	101 692	1 956	34 223	14 667	29 334	5 651
28	78 329	2 101	20 763	1 281	4 122	5 371	1 865	0	0	0	0	0	0	0	0	247 080 799	101 692	1 956	34 223	14 667	29 334	5 651
29	78 329	2 101	20 763	1 281	4 122	5 371	1 865	0	0	0	0	0	0	0	0	247 080 799	101 692	1 956	34 223	14 667	29 334	5 651
30	78 329	2 101	20 763	1 281	4 122	5 371	1 865	0	0	0	0	0	0	0	0	247 080 799	101 692	1 956	34 223	14 667	29 334	5 651
31	78 329	2 101	20 763	1 281	4 122	5 371	1 865	0	0	0	0	0	0	0	0	247 080 799	101 692	1 956	34 223	14 667	29 334	5 651
32	78 329	2 101	20 763	1 281	4 122	5 371	1 865	0	0	0	0	0	0	0	0	247 080 799	101 692	1 956	34 223	14 667	29 334	5 651
33	78 329	2 101	20 763	1 281	4 122	5 371	1 865	0	0	0	0	0	0	0	0	247 080 799	101 692	1 956	34 223	14 667	29 334	5 651
34	78 329	2 101	20 763	1 281	4 122	5 371	1 865	0	0	0	0	0	0	0	0	247 080 799	101 692	1 956	34 223	14 667	29 334	5 651
35	78 329	2 101	20 763	1 281	4 122	5 371	1 865	0	0	0	0	0	0	0	0	247 080 799	101 692	1 956	34 223	14 667	29 334	5 651
36	78 329	2 101	20 763	1 281	4 122	5 371	1 865	0	0	0	0	0	0	0	0	247 080 799	101 692	1 956	34 223	14 667	29 334	5 651
37	78 329	2 101	20 763	1 281	4 122	5 371	1 865	0	0	0	0	0	0	0	0	247 080 799	101 692	1 956	34 223	14 667	29 334	5 651
38	78 329	2 101	20 763	1 281	4 122	5 371	1 865	0	0	0	0	0	0	0	0	247 080 799	101 692	1 956	34 223	14 667	29 334	5 651
39								**247 080 799**	**101 692**	**1 956**	**34 223**	**14 667**	**29 334**	**5 651**	**2 629**							
40																						
41																						
42																						
43																						
44																						
45																						
46																						

Oil-Related Emissions Reductions (kG)

	Annual								Cumulative							
	N2O	CO2	NOX	SOX	CO	VOCs	P.M.	CH4	N2O	CO2	NOX	SOX	CO	VOCs	P.M.	CH4	N2O
7	21	846 462	923	1 583	257	35	128	64	2	846 462	923	1 583	257	35	128	64	2
8	75	2 116 154	2 308	3 958	642	89	321	160	4	2 962 616	3 231	5 542	899	124	449	224	6
9	214	5 502 000	6 000	10 292	1 669	230	834	416	12	8 464 616	9 231	15 834	2 568	355	1 284	640	18
10	481	10 580 770	11 539	19 792	3 210	443	1 605	800	22	19 045 386	20 770	35 626	5 777	798	2 889	1 440	40
11	919	17 352 463	18 924	32 459	5 264	727	2 632	1 312	37	36 397 849	39 695	68 085	11 041	1 525	5 520	2 752	77
12	1 357	17 352 463	18 924	32 459	5 264	727	2 632	1 312	37	53 750 312	58 619	100 545	16 305	2 252	8 152	4 065	114
13	1 774	16 506 001	18 001	30 876	5 007	691	2 503	1 248	35	70 256 313	76 620	131 421	21 311	2 943	10 656	5 313	149
14	2 158	15 236 309	16 616	28 501	4 622	638	2 311	1 152	32	85 492 622	93 236	159 922	25 933	3 581	12 967	6 465	181
15	2 458	11 850 462	12 924	22 167	3 595	496	1 797	896	25	97 343 084	106 160	182 089	29 528	4 078	14 764	7 361	206
16	2 629	6 771 693	7 385	12 667	2 054	284	1 027	512	14	104 114 777	113 545	194 756	31 582	4 361	15 791	7 873	221
17	2 629	0	0	0	0	0	0	0	0	104 114 777	113 545	194 756	31 582	4 361	15 791	7 873	221
18	2 629	0	0	0	0	0	0	0	0	104 114 777	113 545	194 756	31 582	4 361	15 791	7 873	221
19	2 629	0	0	0	0	0	0	0	0	104 114 777	113 545	194 756	31 582	4 361	15 791	7 873	221
20	2 629	0	0	0	0	0	0	0	0	104 114 777	113 545	194 756	31 582	4 361	15 791	7 873	221
21	2 629	0	0	0	0	0	0	0	0	104 114 777	113 545	194 756	31 582	4 361	15 791	7 873	221
22	2 629	0	0	0	0	0	0	0	0	104 114 777	113 545	194 756	31 582	4 361	15 791	7 873	221
23	2 629	0	0	0	0	0	0	0	0	104 114 777	113 545	194 756	31 582	4 361	15 791	7 873	221
24	2 629	0	0	0	0	0	0	0	0	104 114 777	113 545	194 756	31 582	4 361	15 791	7 873	221
25	2 629	0	0	0	0	0	0	0	0	104 114 777	113 545	194 756	31 582	4 361	15 791	7 873	221
26	2 629	0	0	0	0	0	0	0	0	104 114 777	113 545	194 756	31 582	4 361	15 791	7 873	221
27	2 629	0	0	0	0	0	0	0	0	104 114 777	113 545	194 756	31 582	4 361	15 791	7 873	221
28	2 629	0	0	0	0	0	0	0	0	104 114 777	113 545	194 756	31 582	4 361	15 791	7 873	221
29	2 629	0	0	0	0	0	0	0	0	104 114 777	113 545	194 756	31 582	4 361	15 791	7 873	221
30	2 629	0	0	0	0	0	0	0	0	104 114 777	113 545	194 756	31 582	4 361	15 791	7 873	221
31	2 629	0	0	0	0	0	0	0	0	104 114 777	113 545	194 756	31 582	4 361	15 791	7 873	221
32	2 629	0	0	0	0	0	0	0	0	104 114 777	113 545	194 756	31 582	4 361	15 791	7 873	221
33	2 629	0	0	0	0	0	0	0	0	104 114 777	113 545	194 756	31 582	4 361	15 791	7 873	221
34	2 629	0	0	0	0	0	0	0	0	104 114 777	113 545	194 756	31 582	4 361	15 791	7 873	221
35	2 629	0	0	0	0	0	0	0	0	104 114 777	113 545	194 756	31 582	4 361	15 791	7 873	221
36	2 629	0	0	0	0	0	0	0	0	104 114 777	113 545	194 756	31 582	4 361	15 791	7 873	221
37	2 629	0	0	0	0	0	0	0	0	104 114 777	113 545	194 756	31 582	4 361	15 791	7 873	221
38	2 629	0	0	0	0	0	0	0	0	104 114 777	113 545	194 756	31 582	4 361	15 791	7 873	221
39		**104 114 777**	**113 545**	**194 756**	**31 582**	**4 361**	**15 791**	**7 873**	**221**								

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	**1b) Programmable thermostats**	**Cost / Part.***	**Energy Savings**	**Useful life (years)**										
2		**150 $**	**10%**	**15,0**										
3														
4			**Participant Data**						**All-Sour**					
5			**Participant Assumptions**			**New Participants by Energy Source**			**Annual**					
6	**Years**	**Year**	**New**	**Growth from t-1**	**Cumulative**	**Elec**	**Gas**	**Oil**	**CO2**	**NOX**	**SOX**	**CO**	**VOCs**	**P.M.**
7	1	2002	5 000		5 000	841	2 668	717	2 088 493	1 461	990	431	101	245
8	2	2003	7 500	50%	12 500	1 261	4 002	1 075	5 221 233	3 653	2 474	1 077	253	613
9	3	2004	20 000	167%	32 500	3 363	10 672	2 867	13 575 205	9 498	6 432	2 801	657	1 593
10	4	2005	30 000	50%	62 500	5 044	16 008	4 300	26 106 163	18 266	12 370	5 386	1 264	3 064
11	5	2006	40 000	33%	102 500	6 726	21 344	5 733	42 814 108	29 956	20 287	8 834	2 072	5 025
12	6	2007	0			0	0	0	42 814 108	29 956	20 287	8 834	2 072	5 025
13	7	2008	0			0	0	0	42 814 108	29 956	20 287	8 834	2 072	5 025
14	8	2009	0			0	0	0	42 814 108	29 956	20 287	8 834	2 072	5 025
15	9	2010	0			0	0	0	42 814 108	29 956	20 287	8 834	2 072	5 025
16	10	2011	0			0	0	0	42 814 108	29 956	20 287	8 834	2 072	5 025
17	11	2012	0			0	0	0	42 814 108	29 956	20 287	8 834	2 072	5 025
18	12	2013	0			0	0	0	42 814 108	29 956	20 287	8 834	2 072	5 025
19	13	2014	0			0	0	0	42 814 108	29 956	20 287	8 834	2 072	5 025
20	14	2015	0			0	0	0	42 814 108	29 956	20 287	8 834	2 072	5 025
21	15	2016	0			0	0	0	42 814 108	29 956	20 287	8 834	2 072	5 025
22	16	2017	0			0	0	0	40 725 615	28 494	19 297	8 403	1 971	4 780
23	17	2018	0			0	0	0	37 592 875	26 303	17 813	7 756	1 820	4 412
24	18	2019	0			0	0	0	29 238 903	20 458	13 855	6 033	1 415	3 432
25	19	2020	0			0	0	0	16 707 945	11 690	7 917	3 447	809	1 961
26	20	2021	0			0	0	0	0	0	0	0	0	0
27	21	2022	0			0	0	0	0	0	0	0	0	0
28	22	2023	0			0	0	0	0	0	0	0	0	0
29	23	2024	0			0	0	0	0	0	0	0	0	0
30	24	2025	0			0	0	0	0	0	0	0	0	0
31	25	2026	0			0	0	0	0	0	0	0	0	0
32	26	2027	0			0	0	0	0	0	0	0	0	0
33	27	2028	0			0	0	0	0	0	0	0	0	0
34	28	2029	0			0	0	0	0	0	0	0	0	0
35	29	2030	0			0	0	0	0	0	0	0	0	0
36	30	2031	0			0	0	0	0	0	0	0	0	0
37	31	2032	0			0	0	0	0	0	0	0	0	0
38	32	2033	0			0	0	0	0	0	0	0	0	0
39		**Totals:**	**102 500**			**17 235**	**54 694**	**14 691**	**642 211 622**	**449 336**	**304 305**	**132 503**	**31 085**	**75 378**
40														
41														

1b) Programmable thermostats — **Summary Table**

	CO2	NOX	SOX	CO	VOCs	P.M.	CH4	N2O
Electricity	104 667 374	119 892	3 216	31 781	1 960,1	6 309	8 221	2 855
Gas	378 184 896	155 651	2 993	52 383	22 449,7	44 899	8 650	4 023
Oil	159 359 353	173 793	298 096	48 340	6 675,5	24 170	12 050	338

	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG
1																			
2																			
3																			
4	**ce Emissions Reductions (kG)**										**Electricity-Related Emissions R**								
5			**Cumulative**								**Annual**								
6	**CH4**	**N2O**	**CO2**	**NOX**	**SOX**	**CO**	**VOCs**	**P.M.**	**CH4**	**N2O**	**CO2**	**NOX**	**SOX**	**CO**	**VOCs**	**P.M.**	**CH4**	**N2O**	**CO2**
7	94	23	2 088 493	1 461	990	431	101	245	94	23	340 382	390	10	103	6	21	27	9	340 382
8	235	59	7 309 726	5 114	3 464	1 508	354	858	329	82	850 954	975	26	258	16	51	67	23	1 191 336
9	611	153	20 884 931	14 613	9 896	4 309	1 011	2 451	941	235	2 212 481	2 534	68	672	41	133	174	60	3 403 817
10	1 176	293	46 991 094	32 878	22 266	9 695	2 275	5 515	2 116	528	4 254 771	4 874	131	1 292	80	256	334	116	7 658 588
11	1 928	481	89 805 202	62 834	42 553	18 529	4 347	10 541	4 044	1 009	6 977 825	7 993	214	2 119	131	421	548	190	14 636 413
12	1 928	481	132 619 311	92 790	62 840	27 362	6 419	15 566	5 972	1 490	6 977 825	7 993	214	2 119	131	421	548	190	21 614 238
13	1 928	481	175 433 419	122 746	83 127	36 196	8 492	20 591	7 901	1 971	6 977 825	7 993	214	2 119	131	421	548	190	28 592 063
14	1 928	481	218 247 527	152 701	103 414	45 030	10 564	25 616	9 829	2 452	6 977 825	7 993	214	2 119	131	421	548	190	35 569 888
15	1 928	481	261 061 635	182 657	123 701	53 863	12 636	30 641	11 757	2 933	6 977 825	7 993	214	2 119	131	421	548	190	42 547 713
16	1 928	481	303 875 743	212 613	143 988	62 697	14 709	35 667	13 685	3 414	6 977 825	7 993	214	2 119	131	421	548	190	49 525 538
17	1 928	481	346 689 851	242 569	164 275	71 530	16 781	40 692	15 613	3 895	6 977 825	7 993	214	2 119	131	421	548	190	56 503 363
18	1 928	481	389 503 959	272 524	184 562	80 364	18 853	45 717	17 541	4 376	6 977 825	7 993	214	2 119	131	421	548	190	63 481 188
19	1 928	481	432 318 068	302 480	204 849	89 197	20 926	50 742	19 469	4 857	6 977 825	7 993	214	2 119	131	421	548	190	70 459 012
20	1 928	481	475 132 176	332 436	225 136	98 031	22 998	55 767	21 397	5 338	6 977 825	7 993	214	2 119	131	421	548	190	77 436 837
21	1 928	481	517 946 284	362 392	245 423	106 864	25 070	60 793	23 325	5 819	6 977 825	7 993	214	2 119	131	421	548	190	84 414 662
22	1 834	458	558 671 899	390 886	264 721	115 267	27 042	65 573	25 159	6 277	6 637 443	7 603	204	2 015	124	400	521	181	91 052 105
23	1 693	422	596 264 774	417 189	282 534	123 023	28 861	69 985	26 852	6 699	6 126 871	7 018	188	1 860	115	369	481	167	97 178 976
24	1 317	329	625 503 677	437 646	296 388	129 056	30 277	73 417	28 169	7 028	4 765 344	5 458	146	1 447	89	287	374	130	101 944 320
25	752	188	642 211 622	449 336	304 305	132 503	31 085	75 378	28 922	7 216	2 723 054	3 119	84	827	51	164	214	74	104 667 374
26	0	0	642 211 622	449 336	304 305	132 503	31 085	75 378	28 922	7 216	0	0	0	0	0	0	0	0	104 667 374
27	0	0	642 211 622	449 336	304 305	132 503	31 085	75 378	28 922	7 216	0	0	0	0	0	0	0	0	104 667 374
28	0	0	642 211 622	449 336	304 305	132 503	31 085	75 378	28 922	7 216	0	0	0	0	0	0	0	0	104 667 374
29	0	0	642 211 622	449 336	304 305	132 503	31 085	75 378	28 922	7 216	0	0	0	0	0	0	0	0	104 667 374
30	0	0	642 211 622	449 336	304 305	132 503	31 085	75 378	28 922	7 216	0	0	0	0	0	0	0	0	104 667 374
31	0	0	642 211 622	449 336	304 305	132 503	31 085	75 378	28 922	7 216	0	0	0	0	0	0	0	0	104 667 374
32	0	0	642 211 622	449 336	304 305	132 503	31 085	75 378	28 922	7 216	0	0	0	0	0	0	0	0	104 667 374
33	0	0	642 211 622	449 336	304 305	132 503	31 085	75 378	28 922	7 216	0	0	0	0	0	0	0	0	104 667 374
34	0	0	642 211 622	449 336	304 305	132 503	31 085	75 378	28 922	7 216	0	0	0	0	0	0	0	0	104 667 374
35	0	0	642 211 622	449 336	304 305	132 503	31 085	75 378	28 922	7 216	0	0	0	0	0	0	0	0	104 667 374
36	0	0	642 211 622	449 336	304 305	132 503	31 085	75 378	28 922	7 216	0	0	0	0	0	0	0	0	104 667 374
37	0	0	642 211 622	449 336	304 305	132 503	31 085	75 378	28 922	7 216	0	0	0	0	0	0	0	0	104 667 374
38	0	0	642 211 622	449 336	304 305	132 503	31 085	75 378	28 922	7 216	0	0	0	0	0	0	0	0	104 667 374
39	**28 922**	**7 216**									**104 667 374**	**119 892**	**3 216**	**31 781**	**1 960**	**6 309**	**8 221**	**2 855**	
40																			
41																			
42																			
43																			
44																			
45																			
46																			

	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC
1																						
2																						
3																						
4	**eductions (kG)**							**Gas-Related Emissions Reductions (kG)**														
5	**Cumulative**							**Annual**								**Cumulative**						
6	**NOX**	**SOX**	**CO**	**VOCs**	**P.M.**	**CH4**	**N2O**	**CO2**	**NOX**	**SOX**	**CO**	**VOCs**	**P.M.**	**CH4**	**N2O**	**CO2**	**NOX**	**SOX**	**CO**	**VOCs**	**P.M.**	**CH4**
7	390	10	103	6	21	27	9	1 229 870	506	10	170	73	146	28	13	1 229 870	506	10	170	73	146	28
8	1 365	37	362	22	72	94	32	3 074 674	1 265	24	426	183	365	70	33	4 304 544	1 772	34	596	256	511	98
9	3 899	105	1 034	64	205	267	93	7 994 152	3 290	63	1 107	475	949	183	85	12 298 696	5 062	97	1 704	730	1 460	281
10	8 773	235	2 325	143	462	602	209	15 373 370	6 327	122	2 129	913	1 825	352	164	27 672 066	11 389	219	3 833	1 643	3 285	633
11	16 765	450	4 444	274	882	1 150	399	25 212 326	10 377	200	3 492	1 497	2 993	577	268	52 884 392	21 766	419	7 325	3 139	6 279	1 210
12	24 758	664	6 563	405	1 303	1 698	589	25 212 326	10 377	200	3 492	1 497	2 993	577	268	78 096 718	32 143	618	10 817	4 636	9 272	1 786
13	32 751	879	8 682	535	1 723	2 246	780	25 212 326	10 377	200	3 492	1 497	2 993	577	268	103 309 045	42 519	818	14 309	6 133	12 265	2 363
14	40 744	1 093	10 800	666	2 144	2 794	970	25 212 326	10 377	200	3 492	1 497	2 993	577	268	128 521 371	52 896	1 017	17 802	7 629	15 258	2 940
15	48 736	1 307	12 919	797	2 564	3 342	1 160	25 212 326	10 377	200	3 492	1 497	2 993	577	268	153 733 697	63 273	1 217	21 294	9 126	18 252	3 516
16	56 729	1 522	15 038	927	2 985	3 890	1 351	25 212 326	10 377	200	3 492	1 497	2 993	577	268	178 946 024	73 650	1 416	24 786	10 623	21 245	4 093
17	64 722	1 736	17 156	1 058	3 406	4 438	1 541	25 212 326	10 377	200	3 492	1 497	2 993	577	268	204 158 350	84 026	1 616	28 278	12 119	24 238	4 670
18	72 715	1 951	19 275	1 189	3 826	4 986	1 731	25 212 326	10 377	200	3 492	1 497	2 993	577	268	229 370 677	94 403	1 815	31 770	13 616	27 232	5 246
19	80 708	2 165	21 394	1 320	4 247	5 534	1 922	25 212 326	10 377	200	3 492	1 497	2 993	577	268	254 583 003	104 780	2 015	35 262	15 112	30 225	5 823
20	88 700	2 379	23 513	1 450	4 667	6 082	2 112	25 212 326	10 377	200	3 492	1 497	2 993	577	268	279 795 329	115 157	2 215	38 755	16 609	33 218	6 400
21	96 693	2 594	25 631	1 581	5 088	6 630	2 302	25 212 326	10 377	200	3 492	1 497	2 993	577	268	305 007 656	125 533	2 414	42 247	18 106	36 212	6 976
22	104 296	2 798	27 647	1 705	5 488	7 152	2 483	23 982 457	9 871	190	3 322	1 424	2 847	549	255	328 990 113	135 404	2 604	45 569	19 529	39 059	7 525
23	111 314	2 986	29 507	1 820	5 857	7 633	2 650	22 137 652	9 111	175	3 066	1 314	2 628	506	236	351 127 765	144 515	2 779	48 635	20 844	41 687	8 031
24	116 773	3 132	30 954	1 909	6 144	8 007	2 780	17 218 174	7 087	136	2 385	1 022	2 044	394	183	368 345 939	151 602	2 915	51 020	21 866	43 731	8 425
25	119 892	3 216	31 781	1 960	6 309	8 221	2 855	9 838 957	4 049	78	1 363	584	1 168	225	105	378 184 896	155 651	2 993	52 383	22 450	44 899	8 650
26	119 892	3 216	31 781	1 960	6 309	8 221	2 855	0	0	0	0	0	0	0	0	378 184 896	155 651	2 993	52 383	22 450	44 899	8 650
27	119 892	3 216	31 781	1 960	6 309	8 221	2 855	0	0	0	0	0	0	0	0	378 184 896	155 651	2 993	52 383	22 450	44 899	8 650
28	119 892	3 216	31 781	1 960	6 309	8 221	2 855	0	0	0	0	0	0	0	0	378 184 896	155 651	2 993	52 383	22 450	44 899	8 650
29	119 892	3 216	31 781	1 960	6 309	8 221	2 855	0	0	0	0	0	0	0	0	378 184 896	155 651	2 993	52 383	22 450	44 899	8 650
30	119 892	3 216	31 781	1 960	6 309	8 221	2 855	0	0	0	0	0	0	0	0	378 184 896	155 651	2 993	52 383	22 450	44 899	8 650
31	119 892	3 216	31 781	1 960	6 309	8 221	2 855	0	0	0	0	0	0	0	0	378 184 896	155 651	2 993	52 383	22 450	44 899	8 650
32	119 892	3 216	31 781	1 960	6 309	8 221	2 855	0	0	0	0	0	0	0	0	378 184 896	155 651	2 993	52 383	22 450	44 899	8 650
33	119 892	3 216	31 781	1 960	6 309	8 221	2 855	0	0	0	0	0	0	0	0	378 184 896	155 651	2 993	52 383	22 450	44 899	8 650
34	119 892	3 216	31 781	1 960	6 309	8 221	2 855	0	0	0	0	0	0	0	0	378 184 896	155 651	2 993	52 383	22 450	44 899	8 650
35	119 892	3 216	31 781	1 960	6 309	8 221	2 855	0	0	0	0	0	0	0	0	378 184 896	155 651	2 993	52 383	22 450	44 899	8 650
36	119 892	3 216	31 781	1 960	6 309	8 221	2 855	0	0	0	0	0	0	0	0	378 184 896	155 651	2 993	52 383	22 450	44 899	8 650
37	119 892	3 216	31 781	1 960	6 309	8 221	2 855	0	0	0	0	0	0	0	0	378 184 896	155 651	2 993	52 383	22 450	44 899	8 650
38	119 892	3 216	31 781	1 960	6 309	8 221	2 855	0	0	0	0	0	0	0	0	378 184 896	155 651	2 993	52 383	22 450	44 899	8 650
39								**378 184 896**	**155 651**	**2 993**	**52 383**	**22 450**	**44 899**	**8 650**	**4 023**							
40																						
41																						
42																						
43																						
44																						
45																						
46																						

	BD	BE	BF	BG	BH	BI	BJ	BK	BL	BM	BN	BO	BP	BQ	BR	BS	BT
1																	
2																	
3																	
4		**Oil-Related Emissions Reductions (kG)**															
5		**Annual**								**Cumulative**							
6	**N2O**	**CO2**	**NOX**	**SOX**	**CO**	**VOCs**	**P.M.**	**CH4**	**N2O**	**CO2**	**NOX**	**SOX**	**CO**	**VOCs**	**P.M.**	**CH4**	**N2O**
7	13	518 242	565	969	157	22	79	39	1	518 242	565	969	157	22	79	39	1
8	46	1 295 604	1 413	2 424	393	54	197	98	3	1 813 846	1 978	3 393	550	76	275	137	4
9	131	3 368 572	3 674	6 301	1 022	141	511	255	7	5 182 418	5 652	9 694	1 572	217	786	392	11
10	294	6 478 022	7 065	12 118	1 965	271	983	490	14	11 660 440	12 717	21 812	3 537	488	1 769	882	25
11	563	10 623 957	11 586	19 873	3 223	445	1 611	803	23	22 284 397	24 303	41 685	6 760	933	3 380	1 685	47
12	831	10 623 957	11 586	19 873	3 223	445	1 611	803	23	32 908 354	35 889	61 558	9 982	1 379	4 991	2 488	70
13	1 099	10 623 957	11 586	19 873	3 223	445	1 611	803	23	43 532 311	47 475	81 431	13 205	1 824	6 603	3 292	92
14	1 367	10 623 957	11 586	19 873	3 223	445	1 611	803	23	54 156 268	59 061	101 304	16 428	2 269	8 214	4 095	115
15	1 635	10 623 957	11 586	19 873	3 223	445	1 611	803	23	64 780 225	70 648	121 177	19 650	2 714	9 825	4 899	137
16	1 904	10 623 957	11 586	19 873	3 223	445	1 611	803	23	75 404 182	82 234	141 050	22 873	3 159	11 437	5 702	160
17	2 172	10 623 957	11 586	19 873	3 223	445	1 611	803	23	86 028 138	93 820	160 923	26 096	3 604	13 048	6 505	182
18	2 440	10 623 957	11 586	19 873	3 223	445	1 611	803	23	96 652 095	105 406	180 796	29 318	4 049	14 659	7 309	205
19	2 708	10 623 957	11 586	19 873	3 223	445	1 611	803	23	107 276 052	116 993	200 669	32 541	4 494	16 270	8 112	227
20	2 977	10 623 957	11 586	19 873	3 223	445	1 611	803	23	117 900 009	128 579	220 542	35 764	4 939	17 882	8 915	250
21	3 245	10 623 957	11 586	19 873	3 223	445	1 611	803	23	128 523 966	140 165	240 416	38 986	5 384	19 493	9 719	272
22	3 500	10 105 715	11 021	18 904	3 065	423	1 533	764	21	138 629 681	151 186	259 319	42 052	5 807	21 026	10 483	294
23	3 735	9 328 352	10 173	17 450	2 830	391	1 415	705	20	147 958 033	161 359	276 769	44 881	6 198	22 441	11 188	314
24	3 919	7 255 385	7 913	13 572	2 201	304	1 100	549	15	155 213 418	169 272	290 341	47 082	6 502	23 541	11 737	329
25	4 023	4 145 934	4 521	7 755	1 258	174	629	314	9	159 359 353	173 793	298 096	48 340	6 676	24 170	12 050	338
26	4 023	0	0	0	0	0	0	0	0	159 359 353	173 793	298 096	48 340	6 676	24 170	12 050	338
27	4 023	0	0	0	0	0	0	0	0	159 359 353	173 793	298 096	48 340	6 676	24 170	12 050	338
28	4 023	0	0	0	0	0	0	0	0	159 359 353	173 793	298 096	48 340	6 676	24 170	12 050	338
29	4 023	0	0	0	0	0	0	0	0	159 359 353	173 793	298 096	48 340	6 676	24 170	12 050	338
30	4 023	0	0	0	0	0	0	0	0	159 359 353	173 793	298 096	48 340	6 676	24 170	12 050	338
31	4 023	0	0	0	0	0	0	0	0	159 359 353	173 793	298 096	48 340	6 676	24 170	12 050	338
32	4 023	0	0	0	0	0	0	0	0	159 359 353	173 793	298 096	48 340	6 676	24 170	12 050	338
33	4 023	0	0	0	0	0	0	0	0	159 359 353	173 793	298 096	48 340	6 676	24 170	12 050	338
34	4 023	0	0	0	0	0	0	0	0	159 359 353	173 793	298 096	48 340	6 676	24 170	12 050	338
35	4 023	0	0	0	0	0	0	0	0	159 359 353	173 793	298 096	48 340	6 676	24 170	12 050	338
36	4 023	0	0	0	0	0	0	0	0	159 359 353	173 793	298 096	48 340	6 676	24 170	12 050	338
37	4 023	0	0	0	0	0	0	0	0	159 359 353	173 793	298 096	48 340	6 676	24 170	12 050	338
38	4 023	0	0	0	0	0	0	0	0	159 359 353	173 793	298 096	48 340	6 676	24 170	12 050	338
39		**159 359 353**	**173 793**	**298 096**	**48 340**	**6 676**	**24 170**	**12 050**	**338**								
40																	
41																	
42																	
43																	
44																	
45																	
46																	

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	2a) EnerGuide & WS	Cost / Part.*	Energy Savings	Useful life (years)										
2		400 $	10%	6,0										
3														
4			Participant Data						All-Sourc					
5			Participant Assumptions			New Participants by Energy Source			Annual					
6	Years	Year	New	Growth from t-1	Cumulative	Elec	Gas	Oil	CO2	NOX	SOX	CO	VOCs	P.M.
7	1	2002	1 667		1 667	280	889	239	696 164	487	330	144	34	82
8	2	2003	2 500	50%	4 167	420	1 334	358	1 740 411	1 218	825	359	84	204
9	3	2004	6 667	167%	10 833	1 121	3 557	956	4 525 068	3 166	2 144	934	219	531
10	4	2005	10 000	50%	20 833	1 681	5 336	1 433	8 702 054	6 089	4 123	1 795	421	1 021
11	5	2006	13 333	33%	34 167	2 242	7 115	1 911	14 271 369	9 985	6 762	2 945	691	1 675
12	6	2007	0			0	0	0	14 271 369	9 985	6 762	2 945	691	1 675
13	7	2008	0			0	0	0	13 575 205	9 498	6 432	2 801	657	1 593
14	8	2009	0			0	0	0	12 530 958	8 768	5 938	2 585	607	1 471
15	9	2010	0			0	0	0	9 746 301	6 819	4 618	2 011	472	1 144
16	10	2011	0			0	0	0	5 569 315	3 897	2 639	1 149	270	654
17	11	2012	0			0	0	0	0	0	0	0	0	0
18	12	2013	0			0	0	0	0	0	0	0	0	0
19	13	2014	0			0	0	0	0	0	0	0	0	0
20	14	2015	0			0	0	0	0	0	0	0	0	0
21	15	2016	0			0	0	0	0	0	0	0	0	0
22	16	2017	0			0	0	0	0	0	0	0	0	0
23	17	2018	0			0	0	0	0	0	0	0	0	0
24	18	2019	0			0	0	0	0	0	0	0	0	0
25	19	2020	0			0	0	0	0	0	0	0	0	0
26	20	2021	0			0	0	0	0	0	0	0	0	0
27	21	2022	0			0	0	0	0	0	0	0	0	0
28	22	2023	0			0	0	0	0	0	0	0	0	0
29	23	2024	0			0	0	0	0	0	0	0	0	0
30	24	2025	0			0	0	0	0	0	0	0	0	0
31	25	2026	0			0	0	0	0	0	0	0	0	0
32	26	2027	0			0	0	0	0	0	0	0	0	0
33	27	2028	0			0	0	0	0	0	0	0	0	0
34	28	2029	0			0	0	0	0	0	0	0	0	0
35	29	2030	0			0	0	0	0	0	0	0	0	0
36	30	2031	0			0	0	0	0	0	0	0	0	0
37	31	2032	0			0	0	0	0	0	0	0	0	0
38	32	2033	0			0	0	0	0	0	0	0	0	0
39		Totals:	34 167			5 745	18 231	4 897	85 628 216	59 912	40 574	17 667	4 145	10 050
40														
41														

42	2a) EnerGuide & WS	Summary Table							
43		CO2	NOX	SOX	CO	VOCs	P.M.	CH4	N2O
44	Electricity	13 955 650	15 986	429	4 237	261,4	841	1 096	381
45	Gas	50 424 653	20 753	399	6 984	2 993,3	5 987	1 153	536
46	Oil	21 247 914	23 172	39 746	6 445	890,1	3 223	1 607	45

	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG
1																			
2																			
3																			
4	**e Emissions Reductions (kG)**										**Electricity-Related Emissions F**								
5			**Cumulative**								**Annual**								
6	**CH4**	**N2O**	**CO2**	**NOX**	**SOX**	**CO**	**VOCs**	**P.M.**	**CH4**	**N2O**	**CO2**	**NOX**	**SOX**	**CO**	**VOCs**	**P.M.**	**CH4**	**N2O**	**CO2**
7	31	8	696 164	487	330	144	34	82	31	8	113 461	130	3	34	2	7	9	3	113 461
8	78	20	2 436 575	1 705	1 155	503	118	286	110	27	283 651	325	9	86	5	17	22	8	397 112
9	204	51	6 961 644	4 871	3 299	1 436	337	817	314	78	737 494	845	23	224	14	44	58	20	1 134 606
10	392	98	15 663 698	10 959	7 422	3 232	758	1 838	705	176	1 418 257	1 625	44	431	27	85	111	39	2 552 863
11	643	160	29 935 067	20 945	14 184	6 176	1 449	3 514	1 348	336	2 325 942	2 664	71	706	44	140	183	63	4 878 804
12	643	160	44 206 437	30 930	20 947	9 121	2 140	5 189	1 991	497	2 325 942	2 664	71	706	44	140	183	63	7 204 746
13	611	153	57 781 642	40 428	27 379	11 922	2 797	6 782	2 602	649	2 212 481	2 534	68	672	41	133	174	60	9 417 227
14	564	141	70 312 600	49 196	33 317	14 507	3 403	8 253	3 166	790	2 042 290	2 339	63	620	38	123	160	56	11 459 517
15	439	110	80 058 901	56 015	37 935	16 518	3 875	9 397	3 605	900	1 588 448	1 819	49	482	30	96	125	43	13 047 965
16	251	63	85 628 216	59 912	40 574	17 667	4 145	10 050	3 856	962	907 685	1 040	28	276	17	55	71	25	13 955 650
17	0	0	85 628 216	59 912	40 574	17 667	4 145	10 050	3 856	962	0	0	0	0	0	0	0	0	13 955 650
18	0	0	85 628 216	59 912	40 574	17 667	4 145	10 050	3 856	962	0	0	0	0	0	0	0	0	13 955 650
19	0	0	85 628 216	59 912	40 574	17 667	4 145	10 050	3 856	962	0	0	0	0	0	0	0	0	13 955 650
20	0	0	85 628 216	59 912	40 574	17 667	4 145	10 050	3 856	962	0	0	0	0	0	0	0	0	13 955 650
21	0	0	85 628 216	59 912	40 574	17 667	4 145	10 050	3 856	962	0	0	0	0	0	0	0	0	13 955 650
22	0	0	85 628 216	59 912	40 574	17 667	4 145	10 050	3 856	962	0	0	0	0	0	0	0	0	13 955 650
23	0	0	85 628 216	59 912	40 574	17 667	4 145	10 050	3 856	962	0	0	0	0	0	0	0	0	13 955 650
24	0	0	85 628 216	59 912	40 574	17 667	4 145	10 050	3 856	962	0	0	0	0	0	0	0	0	13 955 650
25	0	0	85 628 216	59 912	40 574	17 667	4 145	10 050	3 856	962	0	0	0	0	0	0	0	0	13 955 650
26	0	0	85 628 216	59 912	40 574	17 667	4 145	10 050	3 856	962	0	0	0	0	0	0	0	0	13 955 650
27	0	0	85 628 216	59 912	40 574	17 667	4 145	10 050	3 856	962	0	0	0	0	0	0	0	0	13 955 650
28	0	0	85 628 216	59 912	40 574	17 667	4 145	10 050	3 856	962	0	0	0	0	0	0	0	0	13 955 650
29	0	0	85 628 216	59 912	40 574	17 667	4 145	10 050	3 856	962	0	0	0	0	0	0	0	0	13 955 650
30	0	0	85 628 216	59 912	40 574	17 667	4 145	10 050	3 856	962	0	0	0	0	0	0	0	0	13 955 650
31	0	0	85 628 216	59 912	40 574	17 667	4 145	10 050	3 856	962	0	0	0	0	0	0	0	0	13 955 650
32	0	0	85 628 216	59 912	40 574	17 667	4 145	10 050	3 856	962	0	0	0	0	0	0	0	0	13 955 650
33	0	0	85 628 216	59 912	40 574	17 667	4 145	10 050	3 856	962	0	0	0	0	0	0	0	0	13 955 650
34	0	0	85 628 216	59 912	40 574	17 667	4 145	10 050	3 856	962	0	0	0	0	0	0	0	0	13 955 650
35	0	0	85 628 216	59 912	40 574	17 667	4 145	10 050	3 856	962	0	0	0	0	0	0	0	0	13 955 650
36	0	0	85 628 216	59 912	40 574	17 667	4 145	10 050	3 856	962	0	0	0	0	0	0	0	0	13 955 650
37	0	0	85 628 216	59 912	40 574	17 667	4 145	10 050	3 856	962	0	0	0	0	0	0	0	0	13 955 650
38	0	0	85 628 216	59 912	40 574	17 667	4 145	10 050	3 856	962	0	0	0	0	0	0	0	0	13 955 650
39	**3 856**	**962**									**13 955 650**	**15 986**	**429**	**4 237**	**261**	**841**	**1 096**	**381**	
40																			
41																			
42																			
43																			
44																			
45																			
46																			

	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC
1																						
2																						
3																						
4	**Reductions (kG)**							**Gas-Related Emissions Reductions (kG)**														
5	**Cumulative**							**Annual**								**Cumulative**						
6	**NOX**	**SOX**	**CO**	**VOCs**	**P.M.**	**CH4**	**N2O**	**CO2**	**NOX**	**SOX**	**CO**	**VOCs**	**P.M.**	**CH4**	**N2O**	**CO2**	**NOX**	**SOX**	**CO**	**VOCs**	**P.M.**	**CH4**
7	130	3	34	2	7	9	3	409 957	169	3	57	24	49	9	4	409 957	169	3	57	24	49	9
8	455	12	121	7	24	31	11	1 024 891	422	8	142	61	122	23	11	1 434 848	591	11	199	85	170	33
9	1 300	35	345	21	68	89	31	2 664 717	1 097	21	369	158	316	61	28	4 099 565	1 687	32	568	243	487	94
10	2 924	78	775	48	154	201	70	5 124 457	2 109	41	710	304	608	117	55	9 224 022	3 796	73	1 278	548	1 095	211
11	5 588	150	1 481	91	294	383	133	8 404 109	3 459	67	1 164	499	998	192	89	17 628 131	7 255	140	2 442	1 046	2 093	403
12	8 253	221	2 188	135	434	566	196	8 404 109	3 459	67	1 164	499	998	192	89	26 032 239	10 714	206	3 606	1 545	3 091	595
13	10 787	289	2 859	176	568	740	257	7 994 152	3 290	63	1 107	475	949	183	85	34 026 392	14 004	269	4 713	2 020	4 040	778
14	13 126	352	3 480	215	691	900	313	7 379 217	3 037	58	1 022	438	876	169	79	41 405 609	17 041	328	5 735	2 458	4 916	947
15	14 946	401	3 962	244	786	1 025	356	5 739 391	2 362	45	795	341	681	131	61	47 145 001	19 404	373	6 530	2 799	5 597	1 078
16	15 986	429	4 237	261	841	1 096	381	3 279 652	1 350	26	454	195	389	75	35	50 424 653	20 753	399	6 984	2 993	5 987	1 153
17	15 986	429	4 237	261	841	1 096	381	0	0	0	0	0	0	0	0	50 424 653	20 753	399	6 984	2 993	5 987	1 153
18	15 986	429	4 237	261	841	1 096	381	0	0	0	0	0	0	0	0	50 424 653	20 753	399	6 984	2 993	5 987	1 153
19	15 986	429	4 237	261	841	1 096	381	0	0	0	0	0	0	0	0	50 424 653	20 753	399	6 984	2 993	5 987	1 153
20	15 986	429	4 237	261	841	1 096	381	0	0	0	0	0	0	0	0	50 424 653	20 753	399	6 984	2 993	5 987	1 153
21	15 986	429	4 237	261	841	1 096	381	0	0	0	0	0	0	0	0	50 424 653	20 753	399	6 984	2 993	5 987	1 153
22	15 986	429	4 237	261	841	1 096	381	0	0	0	0	0	0	0	0	50 424 653	20 753	399	6 984	2 993	5 987	1 153
23	15 986	429	4 237	261	841	1 096	381	0	0	0	0	0	0	0	0	50 424 653	20 753	399	6 984	2 993	5 987	1 153
24	15 986	429	4 237	261	841	1 096	381	0	0	0	0	0	0	0	0	50 424 653	20 753	399	6 984	2 993	5 987	1 153
25	15 986	429	4 237	261	841	1 096	381	0	0	0	0	0	0	0	0	50 424 653	20 753	399	6 984	2 993	5 987	1 153
26	15 986	429	4 237	261	841	1 096	381	0	0	0	0	0	0	0	0	50 424 653	20 753	399	6 984	2 993	5 987	1 153
27	15 986	429	4 237	261	841	1 096	381	0	0	0	0	0	0	0	0	50 424 653	20 753	399	6 984	2 993	5 987	1 153
28	15 986	429	4 237	261	841	1 096	381	0	0	0	0	0	0	0	0	50 424 653	20 753	399	6 984	2 993	5 987	1 153
29	15 986	429	4 237	261	841	1 096	381	0	0	0	0	0	0	0	0	50 424 653	20 753	399	6 984	2 993	5 987	1 153
30	15 986	429	4 237	261	841	1 096	381	0	0	0	0	0	0	0	0	50 424 653	20 753	399	6 984	2 993	5 987	1 153
31	15 986	429	4 237	261	841	1 096	381	0	0	0	0	0	0	0	0	50 424 653	20 753	399	6 984	2 993	5 987	1 153
32	15 986	429	4 237	261	841	1 096	381	0	0	0	0	0	0	0	0	50 424 653	20 753	399	6 984	2 993	5 987	1 153
33	15 986	429	4 237	261	841	1 096	381	0	0	0	0	0	0	0	0	50 424 653	20 753	399	6 984	2 993	5 987	1 153
34	15 986	429	4 237	261	841	1 096	381	0	0	0	0	0	0	0	0	50 424 653	20 753	399	6 984	2 993	5 987	1 153
35	15 986	429	4 237	261	841	1 096	381	0	0	0	0	0	0	0	0	50 424 653	20 753	399	6 984	2 993	5 987	1 153
36	15 986	429	4 237	261	841	1 096	381	0	0	0	0	0	0	0	0	50 424 653	20 753	399	6 984	2 993	5 987	1 153
37	15 986	429	4 237	261	841	1 096	381	0	0	0	0	0	0	0	0	50 424 653	20 753	399	6 984	2 993	5 987	1 153
38	15 986	429	4 237	261	841	1 096	381	0	0	0	0	0	0	0	0	50 424 653	20 753	399	6 984	2 993	5 987	1 153
39								**50 424 653**	**20 753**	**399**	**6 984**	**2 993**	**5 987**	**1 153**	**536**							
40																						
41																						
42																						
43																						
44																						
45																						
46																						

Oil-Related Emissions Reductions (kG)

	Annual								Cumulative							
	N2O	CO2	NOX	SOX	CO	VOCs	P.M.	CH4	N2O	CO2	NOX	SOX	CO	VOCs	P.M.	CH4	N2O
7	4	172 747	188	323	52	7	26	13	0	172 747	188	323	52	7	26	13	0
8	15	431 868	471	808	131	18	66	33	1	604 615	659	1 131	183	25	92	46	1
9	44	1 122 857	1 225	2 100	341	47	170	85	2	1 727 473	1 884	3 231	524	72	262	131	4
10	98	2 159 341	2 355	4 039	655	90	328	163	5	3 886 813	4 239	7 271	1 179	163	590	294	8
11	188	3 541 319	3 862	6 624	1 074	148	537	268	8	7 428 132	8 101	13 895	2 253	311	1 127	562	16
12	277	3 541 319	3 862	6 624	1 074	148	537	268	8	10 969 451	11 963	20 519	3 327	460	1 664	829	23
13	362	3 368 572	3 674	6 301	1 022	141	511	255	7	14 338 023	15 637	26 821	4 349	601	2 175	1 084	30
14	440	3 109 451	3 391	5 817	943	130	472	235	7	17 447 474	19 028	32 637	5 292	731	2 646	1 319	37
15	502	2 418 462	2 638	4 524	734	101	367	183	5	19 865 936	21 665	37 161	6 026	832	3 013	1 502	42
16	536	1 381 978	1 507	2 585	419	58	210	105	3	21 247 914	23 172	39 746	6 445	890	3 223	1 607	45
17	536	0	0	0	0	0	0	0	0	21 247 914	23 172	39 746	6 445	890	3 223	1 607	45
18	536	0	0	0	0	0	0	0	0	21 247 914	23 172	39 746	6 445	890	3 223	1 607	45
19	536	0	0	0	0	0	0	0	0	21 247 914	23 172	39 746	6 445	890	3 223	1 607	45
20	536	0	0	0	0	0	0	0	0	21 247 914	23 172	39 746	6 445	890	3 223	1 607	45
21	536	0	0	0	0	0	0	0	0	21 247 914	23 172	39 746	6 445	890	3 223	1 607	45
22	536	0	0	0	0	0	0	0	0	21 247 914	23 172	39 746	6 445	890	3 223	1 607	45
23	536	0	0	0	0	0	0	0	0	21 247 914	23 172	39 746	6 445	890	3 223	1 607	45
24	536	0	0	0	0	0	0	0	0	21 247 914	23 172	39 746	6 445	890	3 223	1 607	45
25	536	0	0	0	0	0	0	0	0	21 247 914	23 172	39 746	6 445	890	3 223	1 607	45
26	536	0	0	0	0	0	0	0	0	21 247 914	23 172	39 746	6 445	890	3 223	1 607	45
27	536	0	0	0	0	0	0	0	0	21 247 914	23 172	39 746	6 445	890	3 223	1 607	45
28	536	0	0	0	0	0	0	0	0	21 247 914	23 172	39 746	6 445	890	3 223	1 607	45
29	536	0	0	0	0	0	0	0	0	21 247 914	23 172	39 746	6 445	890	3 223	1 607	45
30	536	0	0	0	0	0	0	0	0	21 247 914	23 172	39 746	6 445	890	3 223	1 607	45
31	536	0	0	0	0	0	0	0	0	21 247 914	23 172	39 746	6 445	890	3 223	1 607	45
32	536	0	0	0	0	0	0	0	0	21 247 914	23 172	39 746	6 445	890	3 223	1 607	45
33	536	0	0	0	0	0	0	0	0	21 247 914	23 172	39 746	6 445	890	3 223	1 607	45
34	536	0	0	0	0	0	0	0	0	21 247 914	23 172	39 746	6 445	890	3 223	1 607	45
35	536	0	0	0	0	0	0	0	0	21 247 914	23 172	39 746	6 445	890	3 223	1 607	45
36	536	0	0	0	0	0	0	0	0	21 247 914	23 172	39 746	6 445	890	3 223	1 607	45
37	536	0	0	0	0	0	0	0	0	21 247 914	23 172	39 746	6 445	890	3 223	1 607	45
38	536	0	0	0	0	0	0	0	0	21 247 914	23 172	39 746	6 445	890	3 223	1 607	45
39		**21 247 914**	**23 172**	**39 746**	**6 445**	**890**	**3 223**	**1 607**	**45**								

	Cost / Part.*	Energy Savings	Useful life (years)
2b) Weatherization	3 000 $	15%	28,0

			Participant Data						All-Source Em						
			Participant Assumptions			New Participants by Energy Source			Annual						
Years		Year	New	Growth from t-1	Cumulative	Elec	Gas	Oil	CO2	NOX	SOX	CO	VOCs	P.M.	CH4
	1	2002	833		833	140	445	119	522 123	365	247	108	25	61	24
	2	2003	1 250	50%	2 083	210	667	179	1 305 308	913	619	269	63	153	59
	3	2004	3 333	167%	5 417	560	1 779	478	3 393 801	2 375	1 608	700	164	398	153
	4	2005	5 000	50%	10 417	841	2 668	717	6 526 541	4 566	3 093	1 347	316	766	294
	5	2006	6 667	33%	17 083	1 121	3 557	956	10 703 527	7 489	5 072	2 208	518	1 256	482
	6	2007	0			0	0	0	10 703 527	7 489	5 072	2 208	518	1 256	482
	7	2008	0			0	0	0	10 703 527	7 489	5 072	2 208	518	1 256	482
	8	2009	0			0	0	0	10 703 527	7 489	5 072	2 208	518	1 256	482
	9	2010	0			0	0	0	10 703 527	7 489	5 072	2 208	518	1 256	482
	10	2011	0			0	0	0	10 703 527	7 489	5 072	2 208	518	1 256	482
	11	2012	0			0	0	0	10 703 527	7 489	5 072	2 208	518	1 256	482
	12	2013	0			0	0	0	10 703 527	7 489	5 072	2 208	518	1 256	482
	13	2014	0			0	0	0	10 703 527	7 489	5 072	2 208	518	1 256	482
	14	2015	0			0	0	0	10 703 527	7 489	5 072	2 208	518	1 256	482
	15	2016	0			0	0	0	10 703 527	7 489	5 072	2 208	518	1 256	482
	16	2017	0			0	0	0	10 703 527	7 489	5 072	2 208	518	1 256	482
	17	2018	0			0	0	0	10 703 527	7 489	5 072	2 208	518	1 256	482
	18	2019	0			0	0	0	10 703 527	7 489	5 072	2 208	518	1 256	482
	19	2020	0			0	0	0	10 703 527	7 489	5 072	2 208	518	1 256	482
	20	2021	0			0	0	0	10 703 527	7 489	5 072	2 208	518	1 256	482
	21	2022	0			0	0	0	10 703 527	7 489	5 072	2 208	518	1 256	482
	22	2023	0			0	0	0	10 703 527	7 489	5 072	2 208	518	1 256	482
	23	2024	0			0	0	0	10 703 527	7 489	5 072	2 208	518	1 256	482
	24	2025	0			0	0	0	10 703 527	7 489	5 072	2 208	518	1 256	482
	25	2026	0			0	0	0	10 703 527	7 489	5 072	2 208	518	1 256	482
	26	2027	0			0	0	0	10 703 527	7 489	5 072	2 208	518	1 256	482
	27	2028	0			0	0	0	10 703 527	7 489	5 072	2 208	518	1 256	482
	28	2029	0			0	0	0	10 703 527	7 489	5 072	2 208	518	1 256	482
	29	2030	0			0	0	0	10 181 404	7 124	4 824	2 101	493	1 195	459
	30	2031	0			0	0	0	9 398 219	6 576	4 453	1 939	455	1 103	423
	31	2032	0			0	0	0	7 309 726	5 114	3 464	1 508	354	858	329
	32	2033	0			0	0	0	4 176 986	2 923	1 979	862	202	490	188
		Totals:	17 083			2 872	9 116	2 449	299 698 757	209 690	142 009	61 835	14 506	35 176	13 497

2b) Weatherization **Summary Table**

	CO2	NOX	SOX	CO	VOCs	P.M.	CH4	N2O
Electricity	48 844 774	55 949	1 501	14 831	914,7	2 944	3 837	1 332
Gas	176 486 285	72 637	1 397	24 445	10 476,5	20 953	4 037	1 878
Oil	74 367 698	81 104	139 111	22 559	3 115,2	11 279	5 624	158

	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH
1																			
2																			
3																			
4	**issions Reductions (kG)**									**Electricity-Related Emissions Reducti**									
5		**Cumulative**								**Annual**									
6	**N2O**	**CO2**	**NOX**	**SOX**	**CO**	**VOCs**	**P.M.**	**CH4**	**N2O**	**CO2**	**NOX**	**SOX**	**CO**	**VOCs**	**P.M.**	**CH4**	**N2O**	**CO2**	**NOX**
7	6	522 123	365	247	108	25	61	24	6	85 095	97	3	26	2	5	7	2	85 095	97
8	15	1 827 431	1 279	866	377	88	214	82	21	212 739	244	7	65	4	13	17	6	297 834	341
9	38	5 221 233	3 653	2 474	1 077	253	613	235	59	553 120	634	17	168	10	33	43	15	850 954	975
10	73	11 747 774	8 220	5 567	2 424	569	1 379	529	132	1 063 693	1 218	33	323	20	64	84	29	1 914 647	2 193
11	120	22 451 301	15 709	10 638	4 632	1 087	2 635	1 011	252	1 744 456	1 998	54	530	33	105	137	48	3 659 103	4 191
12	120	33 154 828	23 197	15 710	6 841	1 605	3 891	1 493	373	1 744 456	1 998	54	530	33	105	137	48	5 403 560	6 190
13	120	43 858 355	30 686	20 782	9 049	2 123	5 148	1 975	493	1 744 456	1 998	54	530	33	105	137	48	7 148 016	8 188
14	120	54 561 882	38 175	25 854	11 257	2 641	6 404	2 457	613	1 744 456	1 998	54	530	33	105	137	48	8 892 472	10 186
15	120	65 265 409	45 664	30 925	13 466	3 159	7 660	2 939	733	1 744 456	1 998	54	530	33	105	137	48	10 636 928	12 184
16	120	75 968 936	53 153	35 997	15 674	3 677	8 917	3 421	854	1 744 456	1 998	54	530	33	105	137	48	12 381 384	14 182
17	120	86 672 463	60 642	41 069	17 883	4 195	10 173	3 903	974	1 744 456	1 998	54	530	33	105	137	48	14 125 841	16 181
18	120	97 375 990	68 131	46 141	20 091	4 713	11 429	4 385	1 094	1 744 456	1 998	54	530	33	105	137	48	15 870 297	18 179
19	120	108 079 517	75 620	51 212	22 299	5 231	12 686	4 867	1 214	1 744 456	1 998	54	530	33	105	137	48	17 614 753	20 177
20	120	118 783 044	83 109	56 284	24 508	5 750	13 942	5 349	1 335	1 744 456	1 998	54	530	33	105	137	48	19 359 209	22 175
21	120	129 486 571	90 598	61 356	26 716	6 268	15 198	5 831	1 455	1 744 456	1 998	54	530	33	105	137	48	21 103 666	24 173
22	120	140 190 098	98 087	66 428	28 925	6 786	16 454	6 313	1 575	1 744 456	1 998	54	530	33	105	137	48	22 848 122	26 171
23	120	150 893 625	105 576	71 499	31 133	7 304	17 711	6 795	1 695	1 744 456	1 998	54	530	33	105	137	48	24 592 578	28 170
24	120	161 597 152	113 065	76 571	33 341	7 822	18 967	7 277	1 816	1 744 456	1 998	54	530	33	105	137	48	26 337 034	30 168
25	120	172 300 679	120 554	81 643	35 550	8 340	20 223	7 759	1 936	1 744 456	1 998	54	530	33	105	137	48	28 081 490	32 166
26	120	183 004 206	128 043	86 715	37 758	8 858	21 480	8 241	2 056	1 744 456	1 998	54	530	33	105	137	48	29 825 947	34 164
27	120	193 707 733	135 532	91 786	39 966	9 376	22 736	8 724	2 176	1 744 456	1 998	54	530	33	105	137	48	31 570 403	36 162
28	120	204 411 260	143 020	96 858	42 175	9 894	23 992	9 206	2 297	1 744 456	1 998	54	530	33	105	137	48	33 314 859	38 161
29	120	215 114 787	150 509	101 930	44 383	10 412	25 249	9 688	2 417	1 744 456	1 998	54	530	33	105	137	48	35 059 315	40 159
30	120	225 818 314	157 998	107 002	46 592	10 930	26 505	10 170	2 537	1 744 456	1 998	54	530	33	105	137	48	36 803 772	42 157
31	120	236 521 841	165 487	112 073	48 800	11 449	27 761	10 652	2 657	1 744 456	1 998	54	530	33	105	137	48	38 548 228	44 155
32	120	247 225 368	172 976	117 145	51 008	11 967	29 017	11 134	2 778	1 744 456	1 998	54	530	33	105	137	48	40 292 684	46 153
33	120	257 928 895	180 465	122 217	53 217	12 485	30 274	11 616	2 898	1 744 456	1 998	54	530	33	105	137	48	42 037 140	48 152
34	120	268 632 422	187 954	127 289	55 425	13 003	31 530	12 098	3 018	1 744 456	1 998	54	530	33	105	137	48	43 781 597	50 150
35	114	278 813 826	195 078	132 113	57 526	13 496	32 725	12 556	3 133	1 659 361	1 901	51	504	31	100	130	45	45 440 957	52 051
36	106	288 212 045	201 653	136 566	59 465	13 950	33 828	12 979	3 238	1 531 718	1 755	47	465	29	92	120	42	46 972 675	53 805
37	82	295 521 771	206 768	140 030	60 973	14 304	34 686	13 309	3 320	1 191 336	1 365	37	362	22	72	94	32	48 164 011	55 170
38	47	299 698 757	209 690	142 009	61 835	14 506	35 176	13 497	3 367	680 763	780	21	207	13	41	53	19	48 844 774	55 949
39	**3 367**									**48 844 774**	**55 949**	**1 501**	**14 831**	**915**	**2 944**	**3 837**	**1 332**		
40																			
41																			
42																			
43																			
44																			
45																			
46																			

	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD
1																						
2																						
3																						
4	**ons (kG)**						**Gas-Related Emissions Reductions (kG)**															
5	**Cumulative**						**Annual**								**Cumulative**							
6	**SOX**	**CO**	**VOCs**	**P.M.**	**CH4**	**N2O**	**CO2**	**NOX**	**SOX**	**CO**	**VOCs**	**P.M.**	**CH4**	**N2O**	**CO2**	**NOX**	**SOX**	**CO**	**VOCs**	**P.M.**	**CH4**	**N2O**
7	3	26	2	5	7	2	307 467	127	2	43	18	37	7	3	307 467	127	2	43	18	37	7	3
8	9	90	6	18	23	8	768 668	316	6	106	46	91	18	8	1 076 136	443	9	149	64	128	25	11
9	26	258	16	51	67	23	1 998 538	823	16	277	119	237	46	21	3 074 674	1 265	24	426	183	365	70	33
10	59	581	36	115	150	52	3 843 342	1 582	30	532	228	456	88	41	6 918 016	2 847	55	958	411	821	158	74
11	112	1 111	69	221	287	100	6 303 082	2 594	50	873	374	748	144	67	13 221 098	5 441	105	1 831	785	1 570	302	141
12	166	1 641	101	326	424	147	6 303 082	2 594	50	873	374	748	144	67	19 524 180	8 036	155	2 704	1 159	2 318	447	208
13	220	2 170	134	431	561	195	6 303 082	2 594	50	873	374	748	144	67	25 827 261	10 630	204	3 577	1 533	3 066	591	275
14	273	2 700	167	536	698	243	6 303 082	2 594	50	873	374	748	144	67	32 130 343	13 224	254	4 450	1 907	3 815	735	342
15	327	3 230	199	641	835	290	6 303 082	2 594	50	873	374	748	144	67	38 433 424	15 818	304	5 323	2 281	4 563	879	409
16	380	3 759	232	746	973	338	6 303 082	2 594	50	873	374	748	144	67	44 736 506	18 412	354	6 196	2 656	5 311	1 023	476
17	434	4 289	265	851	1 110	385	6 303 082	2 594	50	873	374	748	144	67	51 039 588	21 007	404	7 070	3 030	6 060	1 167	543
18	488	4 819	297	957	1 247	433	6 303 082	2 594	50	873	374	748	144	67	57 342 669	23 601	454	7 943	3 404	6 808	1 312	610
19	541	5 348	330	1 062	1 384	480	6 303 082	2 594	50	873	374	748	144	67	63 645 751	26 195	504	8 816	3 778	7 556	1 456	677
20	595	5 878	363	1 167	1 521	528	6 303 082	2 594	50	873	374	748	144	67	69 948 832	28 789	554	9 689	4 152	8 305	1 600	744
21	648	6 408	395	1 272	1 658	576	6 303 082	2 594	50	873	374	748	144	67	76 251 914	31 383	604	10 562	4 526	9 053	1 744	811
22	702	6 938	428	1 377	1 795	623	6 303 082	2 594	50	873	374	748	144	67	82 554 996	33 978	653	11 435	4 901	9 801	1 888	878
23	756	7 467	461	1 482	1 932	671	6 303 082	2 594	50	873	374	748	144	67	88 858 077	36 572	703	12 308	5 275	10 550	2 032	945
24	809	7 997	493	1 587	2 069	718	6 303 082	2 594	50	873	374	748	144	67	95 161 159	39 166	753	13 181	5 649	11 298	2 177	1 012
25	863	8 527	526	1 693	2 206	766	6 303 082	2 594	50	873	374	748	144	67	101 464 240	41 760	803	14 054	6 023	12 046	2 321	1 079
26	916	9 056	559	1 798	2 343	813	6 303 082	2 594	50	873	374	748	144	67	107 767 322	44 354	853	14 927	6 397	12 795	2 465	1 146
27	970	9 586	591	1 903	2 480	861	6 303 082	2 594	50	873	374	748	144	67	114 070 403	46 948	903	15 800	6 771	13 543	2 609	1 214
28	1 024	10 116	624	2 008	2 617	909	6 303 082	2 594	50	873	374	748	144	67	120 373 485	49 543	953	16 673	7 146	14 291	2 753	1 281
29	1 077	10 645	657	2 113	2 754	956	6 303 082	2 594	50	873	374	748	144	67	126 676 567	52 137	1 003	17 546	7 520	15 039	2 897	1 348
30	1 131	11 175	689	2 218	2 891	1 004	6 303 082	2 594	50	873	374	748	144	67	132 979 648	54 731	1 053	18 419	7 894	15 788	3 042	1 415
31	1 184	11 705	722	2 323	3 028	1 051	6 303 082	2 594	50	873	374	748	144	67	139 282 730	57 325	1 102	19 292	8 268	16 536	3 186	1 482
32	1 238	12 234	755	2 429	3 165	1 099	6 303 082	2 594	50	873	374	748	144	67	145 585 811	59 919	1 152	20 165	8 642	17 284	3 330	1 549
33	1 292	12 764	787	2 534	3 302	1 146	6 303 082	2 594	50	873	374	748	144	67	151 888 893	62 514	1 202	21 038	9 016	18 033	3 474	1 616
34	1 345	13 294	820	2 639	3 439	1 194	6 303 082	2 594	50	873	374	748	144	67	158 191 975	65 108	1 252	21 911	9 391	18 781	3 618	1 683
35	1 396	13 798	851	2 739	3 569	1 239	5 995 614	2 468	47	830	356	712	137	64	164 187 589	67 575	1 300	22 742	9 746	19 493	3 755	1 747
36	1 443	14 263	880	2 831	3 689	1 281	5 534 413	2 278	44	767	329	657	127	59	169 722 002	69 853	1 343	23 508	10 075	20 150	3 882	1 806
37	1 480	14 624	902	2 903	3 783	1 314	4 304 544	1 772	34	596	256	511	98	46	174 026 545	71 625	1 377	24 105	10 331	20 661	3 980	1 851
38	1 501	14 831	915	2 944	3 837	1 332	2 459 739	1 012	19	341	146	292	56	26	176 486 285	72 637	1 397	24 445	10 477	20 953	4 037	1 878
39							**176 486 285**	**72 637**	**1 397**	**24 445**	**10 477**	**20 953**	**4 037**	**1 878**								
40																						
41																						
42																						
43																						
44																						
45																						
46																						

Oil-Related Emissions Reductions (kG)

	Annual								Cumulative							
	CO2	**NOX**	**SOX**	**CO**	**VOCs**	**P.M.**	**CH4**	**N2O**	**CO2**	**NOX**	**SOX**	**CO**	**VOCs**	**P.M.**	**CH4**	**N2O**
7	129 560	141	242	39	5	20	10	0	129 560	141	242	39	5	20	10	0
8	323 901	353	606	98	14	49	24	1	453 462	495	848	138	19	69	34	1
9	842 143	918	1 575	255	35	128	64	2	1 295 604	1 413	2 424	393	54	197	98	3
10	1 619 506	1 766	3 029	491	68	246	122	3	2 915 110	3 179	5 453	884	122	442	220	6
11	2 655 989	2 897	4 968	806	111	403	201	6	5 571 099	6 076	10 421	1 690	233	845	421	12
12	2 655 989	2 897	4 968	806	111	403	201	6	8 227 089	8 972	15 390	2 496	345	1 248	622	17
13	2 655 989	2 897	4 968	806	111	403	201	6	10 883 078	11 869	20 358	3 301	456	1 651	823	23
14	2 655 989	2 897	4 968	806	111	403	201	6	13 539 067	14 765	25 326	4 107	567	2 053	1 024	29
15	2 655 989	2 897	4 968	806	111	403	201	6	16 195 056	17 662	30 294	4 913	678	2 456	1 225	34
16	2 655 989	2 897	4 968	806	111	403	201	6	18 851 045	20 558	35 263	5 718	790	2 859	1 425	40
17	2 655 989	2 897	4 968	806	111	403	201	6	21 507 035	23 455	40 231	6 524	901	3 262	1 626	46
18	2 655 989	2 897	4 968	806	111	403	201	6	24 163 024	26 352	45 199	7 330	1 012	3 665	1 827	51
19	2 655 989	2 897	4 968	806	111	403	201	6	26 819 013	29 248	50 167	8 135	1 123	4 068	2 028	57
20	2 655 989	2 897	4 968	806	111	403	201	6	29 475 002	32 145	55 136	8 941	1 235	4 470	2 229	62
21	2 655 989	2 897	4 968	806	111	403	201	6	32 130 991	35 041	60 104	9 747	1 346	4 873	2 430	68
22	2 655 989	2 897	4 968	806	111	403	201	6	34 786 981	37 938	65 072	10 552	1 457	5 276	2 631	74
23	2 655 989	2 897	4 968	806	111	403	201	6	37 442 970	40 834	70 040	11 358	1 568	5 679	2 831	79
24	2 655 989	2 897	4 968	806	111	403	201	6	40 098 959	43 731	75 009	12 164	1 680	6 082	3 032	85
25	2 655 989	2 897	4 968	806	111	403	201	6	42 754 948	46 627	79 977	12 969	1 791	6 485	3 233	91
26	2 655 989	2 897	4 968	806	111	403	201	6	45 410 938	49 524	84 945	13 775	1 902	6 887	3 434	96
27	2 655 989	2 897	4 968	806	111	403	201	6	48 066 927	52 421	89 913	14 581	2 014	7 290	3 635	102
28	2 655 989	2 897	4 968	806	111	403	201	6	50 722 916	55 317	94 882	15 386	2 125	7 693	3 836	108
29	2 655 989	2 897	4 968	806	111	403	201	6	53 378 905	58 214	99 850	16 192	2 236	8 096	4 036	113
30	2 655 989	2 897	4 968	806	111	403	201	6	56 034 894	61 110	104 818	16 998	2 347	8 499	4 237	119
31	2 655 989	2 897	4 968	806	111	403	201	6	58 690 884	64 007	109 787	17 803	2 459	8 902	4 438	124
32	2 655 989	2 897	4 968	806	111	403	201	6	61 346 873	66 903	114 755	18 609	2 570	9 304	4 639	130
33	2 655 989	2 897	4 968	806	111	403	201	6	64 002 862	69 800	119 723	19 415	2 681	9 707	4 840	136
34	2 655 989	2 897	4 968	806	111	403	201	6	66 658 851	72 696	124 691	20 220	2 792	10 110	5 041	141
35	2 526 429	2 755	4 726	766	106	383	191	5	69 185 280	75 452	129 417	20 987	2 898	10 493	5 232	147
36	2 332 088	2 543	4 362	707	98	354	176	5	71 517 368	77 995	133 780	21 694	2 996	10 847	5 408	152
37	1 813 846	1 978	3 393	550	76	275	137	4	73 331 214	79 973	137 173	22 244	3 072	11 122	5 545	155
38	1 036 484	1 130	1 939	314	43	157	78	2	74 367 698	81 104	139 111	22 559	3 115	11 279	5 624	158
39	**74 367 698**	**81 104**	**139 111**	**22 559**	**3 115**	**11 279**	**5 624**	**158**								

ALL MEASURES COMBINED

			Participant Data						All-Source Emissions Reduc									
			Participant Assumptions			New Participants			Annual									
Years	Year		New	Growth from t-1	Cumulative	Elec	Gas	Oil	CO2	NOX	SOX	CO	VOCs	P.M.	CH4	N2O	CO2-equiv.	CO2
1	2002		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	6 717 986	4 700	3 183	1 386	325	789	303	75	6 747 739	6 717 986
2	2003		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	16 794 965	11 751	7 958	3 465	813	1 971	756	189	16 869 346	23 512 951
3	2004		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	43 666 909	30 552	20 691	9 010	2 114	5 125	1 967	491	43 860 301	67 179 861
4	2005		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	83 974 826	58 755	39 791	17 326	4 065	9 856	3 782	944	84 346 732	151 154 687
5	2006		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	137 718 714	96 358	65 257	28 415	6 666	16 164	6 202	1 547	138 328 640	288 873 401
6	2007								137 718 714	96 358	65 257	28 415	6 666	16 164	6 202	1 547	138 328 640	426 592 116
7	2008								133 611 345	93 484	63 310	27 567	6 467	15 682	6 017	1 501	134 203 080	560 203 460
8	2009								127 450 290	89 173	60 391	26 296	6 169	14 959	5 740	1 432	128 014 739	687 653 751
9	2010								111 020 811	77 678	52 606	22 906	5 374	13 031	5 000	1 247	111 512 498	798 674 562
10	2011								86 376 593	60 435	40 929	17 822	4 181	10 138	3 890	970	86 759 136	885 051 155
11	2012								53 517 635	37 445	25 359	11 042	2 590	6 281	2 410	601	53 754 653	938 568 790
12	2013								53 517 635	37 445	25 359	11 042	2 590	6 281	2 410	601	53 754 653	992 086 425
13	2014								53 517 635	37 445	25 359	11 042	2 590	6 281	2 410	601	53 754 653	1 045 604 060
14	2015								53 517 635	37 445	25 359	11 042	2 590	6 281	2 410	601	53 754 653	1 099 121 696
15	2016								53 517 635	37 445	25 359	11 042	2 590	6 281	2 410	601	53 754 653	1 152 639 331
16	2017								51 429 142	35 983	24 369	10 611	2 489	6 036	2 316	578	51 656 910	1 204 068 473
17	2018								48 296 402	33 792	22 885	9 965	2 338	5 669	2 175	543	48 510 296	1 252 364 875
18	2019								39 942 430	27 947	18 926	8 241	1 933	4 688	1 799	449	40 119 326	1 292 307 305
19	2020								27 411 472	19 179	12 989	5 656	1 327	3 217	1 234	308	27 532 871	1 319 718 777
20	2021								10 703 527	7 489	5 072	2 208	518	1 256	482	120	10 750 931	1 330 422 304
21	2022								10 703 527	7 489	5 072	2 208	518	1 256	482	120	10 750 931	1 341 125 831
22	2023								10 703 527	7 489	5 072	2 208	518	1 256	482	120	10 750 931	1 351 829 358
23	2024								10 703 527	7 489	5 072	2 208	518	1 256	482	120	10 750 931	1 362 532 885
24	2025								10 703 527	7 489	5 072	2 208	518	1 256	482	120	10 750 931	1 373 236 412
25	2026								10 703 527	7 489	5 072	2 208	518	1 256	482	120	10 750 931	1 383 939 939
26	2027								10 703 527	7 489	5 072	2 208	518	1 256	482	120	10 750 931	1 394 643 466
27	2028								10 703 527	7 489	5 072	2 208	518	1 256	482	120	10 750 931	1 405 346 993
28	2029								10 703 527	7 489	5 072	2 208	518	1 256	482	120	10 750 931	1 416 050 520
29	2030								10 181 404	7 124	4 824	2 101	493	1 195	459	114	10 226 495	1 426 231 924
30	2031								9 398 219	6 576	4 453	1 939	455	1 103	423	106	9 439 841	1 435 630 143
31	2032								7 309 726	5 114	3 464	1 508	354	858	329	82	7 342 099	1 442 939 869
32	2033								4 176 986	2 923	1 979	862	202	490	188	47	4 195 485	1 447 116 855
	Totals:								**1 447 116 855**	**1 012 505**	**685 701**	**298 574**	**70 046**	**169 852**	**65 170**	**16 259**	**1 453 525 814**	

	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK
1																			
2																			
3																			
4	**tions (kG)**								**Electricity-Related Emissions Reductions**										
5	**Cumulative**								**Annual**								**C**		
6	**NOX**	**SOX**	**CO**	**VOCs**	**P.M.**	**CH4**	**N2O**	**CO2-equiv.**	**CO2**	**NOX**	**SOX**	**CO**	**VOCs**	**P.M.**	**CH4**	**N2O**	**CO2**	**NOX**	**SOX**
7	4 700	3 183	1 386	325	789	303	75	6 747 739	1 094 894	1 254	34	332	21	66	86	30	1 094 894	1 254	34
8	16 451	11 141	4 851	1 138	2 760	1 059	264	23 617 085	2 737 236	3 135	84	831	51	165	215	75	3 832 131	4 390	118
9	47 004	31 832	13 861	3 252	7 885	3 025	755	67 477 385	7 116 814	8 152	219	2 161	133	429	559	194	10 948 945	12 542	336
10	105 758	71 623	31 187	7 316	17 741	6 807	1 698	151 824 117	13 686 181	15 677	421	4 156	256	825	1 075	373	24 635 126	28 218	757
11	202 116	136 880	59 601	13 983	33 906	13 009	3 246	290 152 757	22 445 337	25 710	690	6 815	420	1 353	1 763	612	47 080 463	53 929	1 447
12	298 474	202 136	88 016	20 649	50 070	19 211	4 793	428 481 397	22 445 337	25 710	690	6 815	420	1 353	1 763	612	69 525 799	79 639	2 136
13	391 958	265 447	115 583	27 116	65 752	25 228	6 294	562 684 477	21 775 919	24 943	669	6 612	408	1 312	1 710	594	91 301 719	104 582	2 805
14	481 131	325 838	141 879	33 285	80 712	30 968	7 726	690 699 216	20 771 793	23 793	638	6 307	389	1 252	1 632	567	112 073 512	128 375	3 444
15	558 809	378 444	164 785	38 659	93 742	35 968	8 974	802 211 714	18 094 124	20 726	556	5 494	339	1 091	1 421	493	130 167 636	149 101	4 000
16	619 244	419 372	182 607	42 840	103 881	39 858	9 944	888 970 850	14 077 620	16 125	433	4 274	264	848	1 106	384	144 245 256	165 226	4 432
17	656 689	444 731	193 649	45 430	110 162	42 268	10 545	942 725 502	8 722 281	9 991	268	2 648	163	526	685	238	152 967 537	175 217	4 700
18	694 133	470 090	204 691	48 021	116 444	44 678	11 147	996 480 155	8 722 281	9 991	268	2 648	163	526	685	238	161 689 818	185 208	4 968
19	731 578	495 449	215 733	50 611	122 725	47 088	11 748	1 050 234 808	8 722 281	9 991	268	2 648	163	526	685	238	170 412 100	195 199	5 236
20	769 023	520 807	226 775	53 201	129 007	49 498	12 349	1 103 989 461	8 722 281	9 991	268	2 648	163	526	685	238	179 134 381	205 190	5 504
21	806 467	546 166	237 817	55 792	135 288	51 908	12 951	1 157 744 114	8 722 281	9 991	268	2 648	163	526	685	238	187 856 662	215 181	5 772
22	842 451	570 535	248 428	58 281	141 324	54 225	13 529	1 209 401 024	8 381 899	9 601	258	2 545	157	505	658	229	196 238 561	224 782	6 030
23	876 242	593 420	258 392	60 619	146 993	56 400	14 071	1 257 911 321	7 871 327	9 016	242	2 390	147	474	618	215	204 109 888	233 799	6 272
24	904 189	612 346	266 633	62 552	151 681	58 198	14 520	1 298 030 647	6 509 800	7 457	200	1 977	122	392	511	178	210 619 688	241 255	6 472
25	923 368	625 335	272 289	63 879	154 899	59 433	14 828	1 325 563 518	4 467 510	5 117	137	1 356	84	269	351	122	215 087 198	246 373	6 609
26	930 857	630 407	274 497	64 397	156 155	59 915	14 948	1 336 314 449	1 744 456	1 998	54	530	33	105	137	48	216 831 654	248 371	6 663
27	938 346	635 479	276 706	64 915	157 411	60 397	15 068	1 347 065 379	1 744 456	1 998	54	530	33	105	137	48	218 576 110	250 369	6 716
28	945 835	640 550	278 914	65 433	158 667	60 879	15 189	1 357 816 310	1 744 456	1 998	54	530	33	105	137	48	220 320 567	252 367	6 770
29	953 324	645 622	281 123	65 951	159 924	61 361	15 309	1 368 567 240	1 744 456	1 998	54	530	33	105	137	48	222 065 023	254 365	6 823
30	960 813	650 694	283 331	66 470	161 180	61 843	15 429	1 379 318 171	1 744 456	1 998	54	530	33	105	137	48	223 809 479	256 364	6 877
31	968 302	655 766	285 539	66 988	162 436	62 325	15 549	1 390 069 101	1 744 456	1 998	54	530	33	105	137	48	225 553 935	258 362	6 931
32	975 790	660 837	287 748	67 506	163 693	62 807	15 670	1 400 820 032	1 744 456	1 998	54	530	33	105	137	48	227 298 392	260 360	6 984
33	983 279	665 909	289 956	68 024	164 949	63 289	15 790	1 411 570 963	1 744 456	1 998	54	530	33	105	137	48	229 042 848	262 358	7 038
34	990 768	670 981	292 164	68 542	166 205	63 771	15 910	1 422 321 893	1 744 456	1 998	54	530	33	105	137	48	230 787 304	264 356	7 091
35	997 892	675 805	294 265	69 035	167 400	64 229	16 025	1 432 548 388	1 659 361	1 901	51	504	31	100	130	45	232 446 665	266 257	7 142
36	1 004 468	680 258	296 204	69 490	168 503	64 653	16 130	1 441 988 230	1 531 718	1 755	47	465	29	92	120	42	233 978 383	268 012	7 190
37	1 009 582	683 722	297 712	69 843	169 361	64 982	16 212	1 449 330 329	1 191 336	1 365	37	362	22	72	94	32	235 169 718	269 376	7 226
38	1 012 505	685 701	298 574	70 046	169 852	65 170	16 259	1 453 525 814	680 763	780	21	207	13	41	53	19	235 850 482	270 156	7 247
39									**235 850 482**	**270 156**	**7 247**	**71 613**	**4 417**	**14 215**	**18 525**	**6 432**			

	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF
1																					
2																					
3																					
4	**(kG)**					**Gas-Related Emissions Reductions (kG)**															
5	**Cumulative**					**Annual**								**Cumulative**							
6	**CO**	**VOCs**	**P.M.**	**CH4**	**N2O**	**CO2**	**NOX**	**SOX**	**CO**	**VOCs**	**P.M.**	**CH4**	**N2O**	**CO2**	**NOX**	**SOX**	**CO**	**VOCs**	**P.M.**	**CH4**	**N2O**
7	332	21	66	86	30	3 956 080	1 628	31	548	235	470	90	42	3 956 080	1 628	31	548	235	470	90	42
8	1 164	72	231	301	105	9 890 201	4 071	78	1 370	587	1 174	226	105	13 846 282	5 699	110	1 918	822	1 644	317	147
9	3 324	205	660	860	299	25 714 523	10 583	204	3 562	1 526	3 053	588	274	39 560 805	16 282	313	5 480	2 348	4 697	905	421
10	7 480	461	1 485	1 935	672	49 451 006	20 353	391	6 849	2 935	5 871	1 131	526	89 011 811	36 635	705	12 329	5 284	10 568	2 036	947
11	14 295	882	2 838	3 698	1 284	81 099 650	33 379	642	11 233	4 814	9 628	1 855	863	170 111 461	70 014	1 346	23 562	10 098	20 196	3 891	1 810
12	21 111	1 302	4 191	5 461	1 896	81 099 650	33 379	642	11 233	4 814	9 628	1 855	863	251 211 111	103 392	1 988	34 795	14 912	29 825	5 746	2 672
13	27 723	1 710	5 503	7 171	2 490	78 680 906	32 383	623	10 898	4 671	9 341	1 800	837	329 892 017	135 775	2 611	45 694	19 583	39 166	7 545	3 509
14	34 030	2 099	6 755	8 803	3 057	75 052 791	30 890	594	10 396	4 455	8 911	1 717	798	404 944 808	166 665	3 205	56 089	24 038	48 076	9 262	4 308
15	39 524	2 438	7 846	10 224	3 550	65 377 817	26 908	517	9 056	3 881	7 762	1 495	696	470 322 625	193 573	3 723	65 145	27 919	55 838	10 757	5 003
16	43 798	2 701	8 694	11 330	3 934	50 865 356	20 935	403	7 045	3 019	6 039	1 163	541	521 187 981	214 508	4 125	72 190	30 939	61 877	11 921	5 545
17	46 447	2 865	9 220	12 015	4 172	31 515 408	12 971	249	4 365	1 871	3 742	721	335	552 703 389	227 479	4 375	76 555	32 809	65 619	12 642	5 880
18	49 095	3 028	9 745	12 700	4 410	31 515 408	12 971	249	4 365	1 871	3 742	721	335	584 218 797	240 450	4 624	80 921	34 680	69 360	13 362	6 215
19	51 743	3 191	10 271	13 385	4 648	31 515 408	12 971	249	4 365	1 871	3 742	721	335	615 734 205	253 420	4 873	85 286	36 551	73 102	14 083	6 550
20	54 392	3 355	10 797	14 070	4 885	31 515 408	12 971	249	4 365	1 871	3 742	721	335	647 249 613	266 391	5 123	89 651	38 422	76 844	14 804	6 886
21	57 040	3 518	11 323	14 755	5 123	31 515 408	12 971	249	4 365	1 871	3 742	721	335	678 765 021	279 362	5 372	94 016	40 293	80 585	15 525	7 221
22	59 585	3 675	11 828	15 414	5 352	30 285 538	12 465	240	4 195	1 798	3 596	693	322	709 050 559	291 827	5 612	98 211	42 090	84 181	16 218	7 543
23	61 975	3 822	12 302	16 032	5 567	28 440 734	11 705	225	3 939	1 688	3 377	651	303	737 491 293	303 533	5 837	102 150	43 779	87 557	16 868	7 846
24	63 952	3 944	12 695	16 543	5 744	23 521 256	9 681	186	3 258	1 396	2 793	538	250	761 012 549	313 213	6 023	105 408	45 175	90 350	17 406	8 096
25	65 308	4 028	12 964	16 894	5 866	16 142 038	6 644	128	2 236	958	1 916	369	172	777 154 587	319 857	6 151	107 644	46 133	92 266	17 775	8 268
26	65 838	4 061	13 069	17 031	5 914	6 303 082	2 594	50	873	374	748	144	67	783 457 669	322 451	6 201	108 517	46 507	93 015	17 920	8 335
27	66 368	4 093	13 174	17 168	5 961	6 303 082	2 594	50	873	374	748	144	67	789 760 750	325 045	6 251	109 390	46 882	93 763	18 064	8 402
28	66 897	4 126	13 279	17 305	6 009	6 303 082	2 594	50	873	374	748	144	67	796 063 832	327 640	6 301	110 263	47 256	94 511	18 208	8 469
29	67 427	4 159	13 384	17 442	6 056	6 303 082	2 594	50	873	374	748	144	67	802 366 914	330 234	6 351	111 136	47 630	95 260	18 352	8 536
30	67 957	4 191	13 490	17 579	6 104	6 303 082	2 594	50	873	374	748	144	67	808 669 995	332 828	6 401	112 009	48 004	96 008	18 496	8 603
31	68 486	4 224	13 595	17 716	6 151	6 303 082	2 594	50	873	374	748	144	67	814 973 077	335 422	6 450	112 882	48 378	96 756	18 640	8 670
32	69 016	4 257	13 700	17 853	6 199	6 303 082	2 594	50	873	374	748	144	67	821 276 158	338 016	6 500	113 755	48 752	97 505	18 785	8 737
33	69 546	4 289	13 805	17 990	6 247	6 303 082	2 594	50	873	374	748	144	67	827 579 240	340 610	6 550	114 629	49 127	98 253	18 929	8 804
34	70 075	4 322	13 910	18 127	6 294	6 303 082	2 594	50	873	374	748	144	67	833 882 322	343 205	6 600	115 502	49 501	99 001	19 073	8 871
35	70 579	4 353	14 010	18 258	6 339	5 995 614	2 468	47	830	356	712	137	64	839 877 936	345 672	6 648	116 332	49 857	99 713	19 210	8 935
36	71 044	4 382	14 103	18 378	6 381	5 534 413	2 278	44	767	329	657	127	59	845 412 349	347 950	6 691	117 099	50 185	100 370	19 337	8 994
37	71 406	4 404	14 174	18 472	6 414	4 304 544	1 772	34	596	256	511	98	46	849 716 892	349 722	6 725	117 695	50 441	100 881	19 435	9 040
38	71 613	4 417	14 215	18 525	6 432	2 459 739	1 012	19	341	146	292	56	26	852 176 632	350 734	6 745	118 036	50 587	101 173	19 491	9 066
39						**852 176 632**	**350 734**	**6 745**	**118 036**	**50 587**	**101 173**	**19 491**	**9 066**								

Oil-Related Emissions Reductions (kG)

	Annual								Cumulative							
	CO2	**NOX**	**SOX**	**CO**	**VOCs**	**P.M.**	**CH4**	**N2O**	**CO2**	**NOX**	**SOX**	**CO**	**VOCs**	**P.M.**	**CH4**	**N2O**
7	1 667 011	1 818	3 118	506	70	253	126	4	1 667 011	1 818	3 118	506	70	253	126	4
8	4 167 528	4 545	7 796	1 264	175	632	315	9	5 834 539	6 363	10 914	1 770	244	885	441	12
9	10 835 572	11 817	20 269	3 287	454	1 643	819	23	16 670 111	18 180	31 183	5 057	698	2 528	1 261	35
10	20 837 639	22 725	38 979	6 321	873	3 160	1 576	44	37 507 750	40 905	70 162	11 378	1 571	5 689	2 836	80
11	34 173 728	37 269	63 925	10 366	1 432	5 183	2 584	72	71 681 478	78 174	134 087	21 744	3 003	10 872	5 420	152
12	34 173 728	37 269	63 925	10 366	1 432	5 183	2 584	72	105 855 206	115 443	198 012	32 110	4 434	16 055	8 005	224
13	33 154 519	36 157	62 018	10 057	1 389	5 029	2 507	70	139 009 725	151 601	260 030	42 167	5 823	21 084	10 512	295
14	31 625 706	34 490	59 159	9 593	1 325	4 797	2 391	67	170 635 431	186 091	319 189	51 760	7 148	25 880	12 903	362
15	27 548 870	30 044	51 533	8 357	1 154	4 178	2 083	58	198 184 301	216 135	370 721	60 117	8 302	30 058	14 986	420
16	21 433 617	23 375	40 093	6 502	898	3 251	1 621	45	219 617 918	239 510	410 815	66 619	9 200	33 309	16 607	466
17	13 279 946	14 483	24 841	4 028	556	2 014	1 004	28	232 897 864	253 993	435 656	70 647	9 756	35 323	17 611	494
18	13 279 946	14 483	24 841	4 028	556	2 014	1 004	28	246 177 810	268 475	460 498	74 675	10 312	37 338	18 616	522
19	13 279 946	14 483	24 841	4 028	556	2 014	1 004	28	259 457 756	282 958	485 339	78 704	10 869	39 352	19 620	550
20	13 279 946	14 483	24 841	4 028	556	2 014	1 004	28	272 737 702	297 441	510 180	82 732	11 425	41 366	20 624	578
21	13 279 946	14 483	24 841	4 028	556	2 014	1 004	28	286 017 648	311 924	535 022	86 760	11 981	43 380	21 628	606
22	12 761 704	13 918	23 872	3 871	535	1 936	965	27	298 779 352	325 841	558 893	90 631	12 516	45 316	22 593	633
23	11 984 342	13 070	22 418	3 635	502	1 818	906	25	310 763 694	338 911	581 311	94 267	13 018	47 133	23 499	659
24	9 911 374	10 809	18 540	3 007	415	1 503	749	21	320 675 068	349 720	599 851	97 273	13 433	48 637	24 249	680
25	6 801 924	7 418	12 724	2 063	285	1 032	514	14	327 476 992	357 138	612 575	99 336	13 718	49 668	24 763	694
26	2 655 989	2 897	4 968	806	111	403	201	6	330 132 981	360 035	617 543	100 142	13 829	50 071	24 964	700
27	2 655 989	2 897	4 968	806	111	403	201	6	332 788 970	362 931	622 511	100 948	13 940	50 474	25 165	706
28	2 655 989	2 897	4 968	806	111	403	201	6	335 444 959	365 828	627 480	101 753	14 052	50 877	25 366	711
29	2 655 989	2 897	4 968	806	111	403	201	6	338 100 949	368 725	632 448	102 559	14 163	51 280	25 567	717
30	2 655 989	2 897	4 968	806	111	403	201	6	340 756 938	371 621	637 416	103 365	14 274	51 682	25 767	722
31	2 655 989	2 897	4 968	806	111	403	201	6	343 412 927	374 518	642 385	104 170	14 385	52 085	25 968	728
32	2 655 989	2 897	4 968	806	111	403	201	6	346 068 916	377 414	647 353	104 976	14 497	52 488	26 169	734
33	2 655 989	2 897	4 968	806	111	403	201	6	348 724 906	380 311	652 321	105 782	14 608	52 891	26 370	739
34	2 655 989	2 897	4 968	806	111	403	201	6	351 380 895	383 207	657 289	106 587	14 719	53 294	26 571	745
35	2 526 429	2 755	4 726	766	106	383	191	5	353 907 323	385 963	662 015	107 354	14 825	53 677	26 762	750
36	2 332 088	2 543	4 362	707	98	354	176	5	356 239 412	388 506	666 378	108 061	14 923	54 031	26 938	755
37	1 813 846	1 978	3 393	550	76	275	137	4	358 053 258	390 484	669 771	108 611	14 999	54 306	27 075	759
38	1 036 484	1 130	1 939	314	43	157	78	2	359 089 741	391 614	671 709	108 926	15 042	54 463	27 154	761
39	**359 089 741**	**391 614**	**671 709**	**108 926**	**15 042**	**54 463**	**27 154**	**761**								

Appendix H. Spreadsheet: Employment Benefits

[available in PDF or paper versions only]

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	**1a) Education & weatherstripping**	**Cost / Part.***	**Energy Savings**	**Useful life (years)**									
2		**300 $**	**10%**	**6,0**									
3													
4			**Participant Data**						**Job-Years Employment**				
5			**Participant Assumptions**			**New Participants by Energy Source**			**Spending**	**Savings (redistribution)**			**Total**
6	**Years**	**Year**	**New**	**Growth from t-1**	**Cumulative**	**Elec**	**Gas**	**Oil**	**Sub-total**	**Loss**	**Gain**	**Sub-total**	**Total**
7	1	2002	8 167		8 167	1 373	4 358	1 171	37,2	(4,5)	12,1	7,7	44,9
8	2	2003	12 250	50%	20 417	2 060	6 537	1 756	53,8	(10,5)	28,6	18,1	71,8
9	3	2004	32 667	167%	53 083	5 493	17 431	4 682	137,9	(25,9)	70,3	44,4	182,3
10	4	2005	49 000	50%	102 083	8 239	26 146	7 023	199,1	(47,0)	127,6	80,6	279,7
11	5	2006	65 333	33%	167 417	10 985	34 862	9 364	255,4	(72,8)	197,7	124,9	380,3
12	6	2007	0			0	0	0	0,0	(68,8)	186,7	117,9	117,9
13	7	2008	0			0	0	0	0,0	(61,8)	167,7	106,0	106,0
14	8	2009	0			0	0	0	0,0	(53,8)	146,2	92,4	92,4
15	9	2010	0			0	0	0	0,0	(39,6)	107,4	67,9	67,9
16	10	2011	0			0	0	0	0,0	(21,3)	58,0	36,6	36,6
17	11	2012	0			0	0	0	0,0	0,0	0,0	0,0	0,0
18	12	2013	0			0	0	0	0,0	0,0	0,0	0,0	0,0
19	13	2014	0			0	0	0	0,0	0,0	0,0	0,0	0,0
20	14	2015	0			0	0	0	0,0	0,0	0,0	0,0	0,0
21	15	2016	0			0	0	0	0,0	0,0	0,0	0,0	0,0
22	16	2017	0			0	0	0	0,0	0,0	0,0	0,0	0,0
23	17	2018	0			0	0	0	0,0	0,0	0,0	0,0	0,0
24	18	2019	0			0	0	0	0,0	0,0	0,0	0,0	0,0
25	19	2020	0			0	0	0	0,0	0,0	0,0	0,0	0,0
26	20	2021	0			0	0	0	0,0	0,0	0,0	0,0	0,0
27	21	2022	0			0	0	0	0,0	0,0	0,0	0,0	0,0
28	22	2023	0			0	0	0	0,0	0,0	0,0	0,0	0,0
29	23	2024	0			0	0	0	0,0	0,0	0,0	0,0	0,0
30	24	2025	0			0	0	0	0,0	0,0	0,0	0,0	0,0
31	25	2026	0			0	0	0	0,0	0,0	0,0	0,0	0,0
32	26	2027	0			0	0	0	0,0	0,0	0,0	0,0	0,0
33	27	2028	0			0	0	0	0,0	0,0	0,0	0,0	0,0
34	28	2029	0			0	0	0	0,0	0,0	0,0	0,0	0,0
35	29	2030	0			0	0	0	0,0	0,0	0,0	0,0	0,0
36	30	2031	0			0	0	0	0,0	0,0	0,0	0,0	0,0
37	31	2032	0			0	0	0	0,0	0,0	0,0	0,0	0,0
38	32	2033	0			0	0	0	0,0	0,0	0,0	0,0	0,0
39		**Totals:**	**167 417**			**28 150**	**89 334**	**23 996**	**683,4**	**(405,9)**	**1 102,3**	**696,4**	**1 379,8**

1b) Programmable thermostats	Cost / Part.*	Energy Savings	Useful life (years)
	150 $	10%	15,0

			Participant Data					Job-Years Employment				
			Participant Assumptions			New Participants by Energy Source			Spending	Savings (redistribution)		Total
Years		Year	New	Growth from t-1	Cumulative	Elec	Gas	Oil	Sub-total	Loss	Gain	Sub-total	Total
	1	2002	5 000		5 000	841	2 668	717	11,4	(2,7)	7,4	4,7	16,1
	2	2003	7 500	50%	12 500	1 261	4 002	1 075	16,5	(6,5)	17,5	11,1	27,5
	3	2004	20 000	167%	32 500	3 363	10 672	2 867	42,2	(15,8)	43,0	27,2	69,4
	4	2005	30 000	50%	62 500	5 044	16 008	4 300	60,9	(28,8)	78,1	49,4	110,3
	5	2006	40 000	33%	102 500	6 726	21 344	5 733	78,2	(44,6)	121,0	76,5	154,7
	6	2007	0			0	0	0	0,0	(42,1)	114,3	72,2	72,2
	7	2008	0			0	0	0	0,0	(39,8)	108,0	68,2	68,2
	8	2009	0			0	0	0	0,0	(37,5)	102,0	64,4	64,4
	9	2010	0			0	0	0	0,0	(35,5)	96,3	60,8	60,8
	10	2011	0			0	0	0	0,0	(33,5)	90,9	57,5	57,5
	11	2012	0			0	0	0	0,0	(31,6)	85,9	54,3	54,3
	12	2013	0			0	0	0	0,0	(29,9)	81,1	51,2	51,2
	13	2014	0			0	0	0	0,0	(28,2)	76,6	48,4	48,4
	14	2015	0			0	0	0	0,0	(26,6)	72,4	45,7	45,7
	15	2016	0			0	0	0	0,0	(25,2)	68,3	43,2	43,2
	16	2017	0			0	0	0	0,0	(22,6)	61,4	38,8	38,8
	17	2018	0			0	0	0	0,0	(19,7)	53,5	33,8	33,8
	18	2019	0			0	0	0	0,0	(14,5)	39,3	24,8	24,8
	19	2020	0			0	0	0	0,0	(7,8)	21,2	13,4	13,4
	20	2021	0			0	0	0	0,0	0,0	0,0	0,0	0,0
	21	2022	0			0	0	0	0,0	0,0	0,0	0,0	0,0
	22	2023	0			0	0	0	0,0	0,0	0,0	0,0	0,0
	23	2024	0			0	0	0	0,0	0,0	0,0	0,0	0,0
	24	2025	0			0	0	0	0,0	0,0	0,0	0,0	0,0
	25	2026	0			0	0	0	0,0	0,0	0,0	0,0	0,0
	26	2027	0			0	0	0	0,0	0,0	0,0	0,0	0,0
	27	2028	0			0	0	0	0,0	0,0	0,0	0,0	0,0
	28	2029	0			0	0	0	0,0	0,0	0,0	0,0	0,0
	29	2030	0			0	0	0	0,0	0,0	0,0	0,0	0,0
	30	2031	0			0	0	0	0,0	0,0	0,0	0,0	0,0
	31	2032	0			0	0	0	0,0	0,0	0,0	0,0	0,0
	32	2033	0			0	0	0	0,0	0,0	0,0	0,0	0,0
		Totals:	102 500			17 235	54 694	14 691	209,2	(492,8)	1 338,3	845,5	1 054,7

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	2a) EnerGuide & WS	Cost / Part.*	Energy Savings	Useful life (years)									
2		400 $	10%	6,0									
3													
4			Participant Data						Job-Years Employment				
5			Participant Assumptions			New Participants by Energy Source			Spending	Savings (redistribution)			Total
6	Years	Year	New	Growth from t-1	Cumulative	Elec	Gas	Oil	Sub-total	Loss	Gain	Sub-total	Total
7	1	2002	1 667		1 667	280	889	239	10,1	(0,9)	2,5	1,6	11,7
8	2	2003	2 500	50%	4 167	420	1 334	358	14,6	(2,2)	5,8	3,7	18,3
9	3	2004	6 667	167%	10 833	1 121	3 557	956	37,5	(5,3)	14,3	9,1	46,6
10	4	2005	10 000	50%	20 833	1 681	5 336	1 433	54,2	(9,6)	26,0	16,5	70,6
11	5	2006	13 333	33%	34 167	2 242	7 115	1 911	69,5	(14,9)	40,3	25,5	95,0
12	6	2007	0			0	0	0	0,0	(14,0)	38,1	24,1	24,1
13	7	2008	0			0	0	0	0,0	(12,6)	34,2	21,6	21,6
14	8	2009	0			0	0	0	0,0	(11,0)	29,8	18,9	18,9
15	9	2010	0			0	0	0	0,0	(8,1)	21,9	13,8	13,8
16	10	2011	0			0	0	0	0,0	(4,4)	11,8	7,5	7,5
17	11	2012	0			0	0	0	0,0	(0,0)	0,0	0,0	0,0
18	12	2013	0			0	0	0	0,0	(0,0)	0,0	0,0	0,0
19	13	2014	0			0	0	0	0,0	(0,0)	0,0	0,0	0,0
20	14	2015	0			0	0	0	0,0	(0,0)	0,0	0,0	0,0
21	15	2016	0			0	0	0	0,0	(0,0)	0,0	0,0	0,0
22	16	2017	0			0	0	0	0,0	(0,0)	0,0	0,0	0,0
23	17	2018	0			0	0	0	0,0	(0,0)	0,0	0,0	0,0
24	18	2019	0			0	0	0	0,0	(0,0)	0,0	0,0	0,0
25	19	2020	0			0	0	0	0,0	(0,0)	0,0	0,0	0,0
26	20	2021	0			0	0	0	0,0	(0,0)	0,0	0,0	0,0
27	21	2022	0			0	0	0	0,0	(0,0)	0,0	0,0	0,0
28	22	2023	0			0	0	0	0,0	(0,0)	0,0	0,0	0,0
29	23	2024	0			0	0	0	0,0	(0,0)	0,0	0,0	0,0
30	24	2025	0			0	0	0	0,0	(0,0)	0,0	0,0	0,0
31	25	2026	0			0	0	0	0,0	(0,0)	0,0	0,0	0,0
32	26	2027	0			0	0	0	0,0	(0,0)	0,0	0,0	0,0
33	27	2028	0			0	0	0	0,0	(0,0)	0,0	0,0	0,0
34	28	2029	0			0	0	0	0,0	(0,0)	0,0	0,0	0,0
35	29	2030	0			0	0	0	0,0	(0,0)	0,0	0,0	0,0
36	30	2031	0			0	0	0	0,0	(0,0)	0,0	0,0	0,0
37	31	2032	0			0	0	0	0,0	(0,0)	0,0	0,0	0,0
38	32	2033	0			0	0	0	0,0	(0,0)	0,0	0,0	0,0
39		Totals:	34 167			5 745	18 231	4 897	186,0	(82,8)	225,0	142,1	328,1

	A	B	C	D	E	F	G	H	I	J	K	L	M
1			Energy	Useful life									
2	2b) Weatherization	Cost / Part.* 3 000 $	Savings 15%	(years) 28,0									
3													
4			Participant Data						Job-Years Employment				
5			Participant Assumptions			New Participants by Energy Source			Spending	Savings (redistribution)			Total
6	Years	Year	New	Growth from t-1	Cumulative	Elec	Gas	Oil	Sub-total	Loss	Gain	Sub-total	Total
7	1	2002	833		833	140	445	119	38,0	(0,7)	1,9	1,2	39,2
8	2	2003	1 250	50%	2 083	210	667	179	54,8	(1,6)	4,4	2,8	57,6
9	3	2004	3 333	167%	5 417	560	1 779	478	140,7	(4,0)	10,8	6,8	147,5
10	4	2005	5 000	50%	10 417	841	2 668	717	203,2	(7,2)	19,5	12,3	215,5
11	5	2006	6 667	33%	17 083	1 121	3 557	956	260,6	(11,1)	30,3	19,1	279,8
12	6	2007	0			0	0	0	0,0	(10,5)	28,6	18,1	18,1
13	7	2008	0			0	0	0	0,0	(9,9)	27,0	17,1	17,1
14	8	2009	0			0	0	0	0,0	(9,4)	25,5	16,1	16,1
15	9	2010	0			0	0	0	0,0	(8,9)	24,1	15,2	15,2
16	10	2011	0			0	0	0	0,0	(8,4)	22,7	14,4	14,4
17	11	2012	0			0	0	0	0,0	(7,9)	21,5	13,6	13,6
18	12	2013	0			0	0	0	0,0	(7,5)	20,3	12,8	12,8
19	13	2014	0			0	0	0	0,0	(7,1)	19,2	12,1	12,1
20	14	2015	0			0	0	0	0,0	(6,7)	18,1	11,4	11,4
21	15	2016	0			0	0	0	0,0	(6,3)	17,1	10,8	10,8
22	16	2017	0			0	0	0	0,0	(5,9)	16,1	10,2	10,2
23	17	2018	0			0	0	0	0,0	(5,6)	15,2	9,6	9,6
24	18	2019	0			0	0	0	0,0	(5,3)	14,4	9,1	9,1
25	19	2020	0			0	0	0	0,0	(5,0)	13,6	8,6	8,6
26	20	2021	0			0	0	0	0,0	(4,7)	12,8	8,1	8,1
27	21	2022	0			0	0	0	0,0	(4,5)	12,1	7,7	7,7
28	22	2023	0			0	0	0	0,0	(4,2)	11,5	7,2	7,2
29	23	2024	0			0	0	0	0,0	(4,0)	10,8	6,8	6,8
30	24	2025	0			0	0	0	0,0	(3,8)	10,2	6,5	6,5
31	25	2026	0			0	0	0	0,0	(3,6)	9,6	6,1	6,1
32	26	2027	0			0	0	0	0,0	(3,4)	9,1	5,8	5,8
33	27	2028	0			0	0	0	0,0	(3,2)	8,6	5,4	5,4
34	28	2029	0			0	0	0	0,0	(3,0)	8,1	5,1	5,1
35	29	2030	0			0	0	0	0,0	(2,7)	7,3	4,6	4,6
36	30	2031	0			0	0	0	0,0	(2,3)	6,4	4,0	4,0
37	31	2032	0			0	0	0	0,0	(1,7)	4,7	3,0	3,0
38	32	2033	0			0	0	0	0,0	(0,9)	2,5	1,6	1,6
39		Totals:	17 083			2 872	9 116	2 449	697,4	(170,8)	463,9	293,1	990,4

ALL MEASURES COMBINED

			Participant Data						Job-Years Employment													
			Participant Assumptions			New Participants by Energy Source			Spending	Savings (redistribution)							Total					
Years	Year	New	Growth from t-1	Cumulative	Elec	Gas	Oil	Sub-total	Loss (mid)	Loss (high)	Loss (low)	Gain	Sub-total (mid)	Sub-total (high)	Sub-total (low)	Total (mid)	Total (high)	Total (low)	Cumulative (mid)	Cumulative (high)	Cumulative (low)
1	2002	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	96,8	(8,8)	0,0	(17,6)	23,9	15,1	23,9	6,3	111,9	120,6	103,1	111,9	120,6	103,1
2	2003	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	139,7	(20,8)	0,0	(41,5)	56,4	35,6	56,4	14,9	175,3	196,0	154,5	287,1	316,7	257,6
3	2004	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	358,4	(51,0)	0,0	(101,9)	138,4	87,4	138,4	36,5	445,9	496,8	394,9	733,0	813,5	652,5
4	2005	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	517,4	(92,6)	0,0	(185,1)	251,3	158,8	251,3	66,2	676,1	768,7	583,6	1 409,1	1 582,2	1 236,1
5	2006	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	663,8	(143,4)	0,0	(286,7)	389,3	245,9	389,3	102,6	909,7	1 053,1	766,4	2 318,9	2 635,3	2 002,4
6	2007							0,0	(135,4)	0,0	(270,8)	367,7	232,3	367,7	96,9	232,3	367,7	96,9	2 551,2	3 003,0	2 099,3
7	2008							0,0	(124,1)	0,0	(248,1)	336,9	212,8	336,9	88,8	212,8	336,9	88,8	2 764,0	3 339,9	2 188,1
8	2009							0,0	(111,8)	0,0	(223,5)	303,5	191,7	303,5	80,0	191,7	303,5	80,0	2 955,7	3 643,4	2 268,1
9	2010							0,0	(92,0)	0,0	(183,9)	249,7	157,7	249,7	65,8	157,7	249,7	65,8	3 113,5	3 893,1	2 333,9
10	2011							0,0	(67,6)	0,0	(135,1)	183,5	115,9	183,5	48,3	115,9	183,5	48,3	3 229,4	4 076,6	2 382,2
11	2012							0,0	(39,5)	0,0	(79,1)	107,4	67,8	107,4	28,3	67,8	107,4	28,3	3 297,2	4 183,9	2 410,5
12	2013							0,0	(37,3)	0,0	(74,7)	101,4	64,1	101,4	26,7	64,1	101,4	26,7	3 361,3	4 285,3	2 437,2
13	2014							0,0	(35,3)	0,0	(70,5)	95,8	60,5	95,8	25,2	60,5	95,8	25,2	3 421,8	4 381,1	2 462,5
14	2015							0,0	(33,3)	0,0	(66,6)	90,4	57,1	90,4	23,8	57,1	90,4	23,8	3 478,9	4 471,5	2 486,3
15	2016							0,0	(31,5)	0,0	(62,9)	85,4	54,0	85,4	22,5	54,0	85,4	22,5	3 532,9	4 557,0	2 508,8
16	2017							0,0	(28,5)	0,0	(57,1)	77,5	49,0	77,5	20,4	49,0	77,5	20,4	3 581,9	4 634,5	2 529,2
17	2018							0,0	(25,3)	0,0	(50,6)	68,8	43,4	68,8	18,1	43,4	68,8	18,1	3 625,3	4 703,2	2 547,4
18	2019							0,0	(19,8)	0,0	(39,6)	53,7	33,9	53,7	14,2	33,9	53,7	14,2	3 659,2	4 756,9	2 561,5
19	2020							0,0	(12,8)	0,0	(25,6)	34,8	22,0	34,8	9,2	22,0	34,8	9,2	3 681,2	4 791,8	2 570,7
20	2021							0,0	(4,7)	0,0	(9,5)	12,8	8,1	12,8	3,4	8,1	12,8	3,4	3 689,3	4 804,6	2 574,1
21	2022							0,0	(4,5)	0,0	(8,9)	12,1	7,7	12,1	3,2	7,7	12,1	3,2	3 697,0	4 816,7	2 577,3
22	2023							0,0	(4,2)	0,0	(8,4)	11,5	7,2	11,5	3,0	7,2	11,5	3,0	3 704,2	4 828,2	2 580,3
23	2024							0,0	(4,0)	0,0	(8,0)	10,8	6,8	10,8	2,8	6,8	10,8	2,8	3 711,1	4 839,0	2 583,1
24	2025							0,0	(3,8)	0,0	(7,5)	10,2	6,5	10,2	2,7	6,5	10,2	2,7	3 717,5	4 849,2	2 585,8
25	2026							0,0	(3,6)	0,0	(7,1)	9,6	6,1	9,6	2,5	6,1	9,6	2,5	3 723,6	4 858,8	2 588,4
26	2027							0,0	(3,4)	0,0	(6,7)	9,1	5,8	9,1	2,4	5,8	9,1	2,4	3 729,4	4 868,0	2 590,8
27	2028							0,0	(3,2)	0,0	(6,3)	8,6	5,4	8,6	2,3	5,4	8,6	2,3	3 734,8	4 876,6	2 593,0
28	2029							0,0	(3,0)	0,0	(6,0)	8,1	5,1	8,1	2,1	5,1	8,1	2,1	3 739,9	4 884,7	2 595,2
29	2030							0,0	(2,7)	0,0	(5,4)	7,3	4,6	7,3	1,9	4,6	7,3	1,9	3 744,5	4 892,0	2 597,1
30	2031							0,0	(2,3)	0,0	(4,7)	6,4	4,0	6,4	1,7	4,0	6,4	1,7	3 748,6	4 898,4	2 598,8
31	2032							0,0	(1,7)	0,0	(3,4)	4,7	3,0	4,7	1,2	3,0	4,7	1,2	3 751,5	4 903,0	2 600,0
32	2033							0,0	(0,9)	0,0	(1,9)	2,5	1,6	2,5	0,7	1,6	2,5	0,7	3 753,1	4 905,6	2 600,7
Totals:								1 776,0	(1 152,4)	0,0	(2 304,9)	3 129,5	1 977,1	3 129,5	824,6	3 753,1	4 905,6	2 600,7			

Appendix I. Spreadsheet: Cost-Benefit Analysis

[available in PDF or paper versions only]

ALL MEASURES COMBINED

			Participant Data			Programme Costs				Programm			
			Participant Assumptions			Annual		Cumulative		Annual			
Years		Year	New	Growth from t-1	Cumulative	Current	Real 2002	Current	Real 2002	Current	Real 2002 (@8%dr)	Real 2002 (@6%dr)	Real 2002 (@10%dr)
	1	2002	n.a.	n.a.	n.a.	$6 366 667	$6 366 667	$6 366 667	$6 366 667	$1 953 284	$1 953 284	$1 953 284	$1 953 284
	2	2003	n.a.	n.a.	n.a.	$9 741 000	$9 189 623	$16 107 667	$15 556 289	$4 980 874	$4 611 921	$4 698 938	$4 528 067
	3	2004	n.a.	n.a.	n.a.	$26 495 520	$23 580 918	$42 603 187	$39 137 208	$13 209 279	$11 324 827	$11 756 211	$10 916 759
	4	2005	n.a.	n.a.	n.a.	$40 538 146	$34 036 609	$83 141 332	$73 173 817	$25 910 508	$20 568 597	$21 754 962	$19 466 948
	5	2006	n.a.	n.a.	n.a.	$55 131 878	$43 669 611	$138 273 210	$116 843 428	$43 343 098	$31 858 471	$34 331 793	$29 603 919
	6	2007				$0	$0	$138 273 210	$116 843 428	$44 209 959	$30 088 556	$33 036 254	$27 450 907
	7	2008				$0	$0	$138 273 210	$116 843 428	$43 749 255	$27 569 452	$30 841 499	$24 695 314
	8	2009				$0	$0	$138 273 210	$116 843 428	$42 566 538	$24 837 166	$28 309 179	$21 843 364
	9	2010				$0	$0	$138 273 210	$116 843 428	$37 820 918	$20 433 465	$23 729 312	$17 643 737
	10	2011				$0	$0	$138 273 210	$116 843 428	$30 014 002	$15 014 474	$17 765 242	$12 728 867
	11	2012				$0	$0	$138 273 210	$116 843 428	$18 968 148	$8 785 923	$10 591 715	$7 313 042
	12	2013				$0	$0	$138 273 210	$116 843 428	$19 347 511	$8 297 816	$10 192 027	$6 781 185
	13	2014				$0	$0	$138 273 210	$116 843 428	$19 734 461	$7 836 826	$9 807 423	$6 288 008
	14	2015				$0	$0	$138 273 210	$116 843 428	$20 129 150	$7 401 447	$9 437 331	$5 830 698
	15	2016				$0	$0	$138 273 210	$116 843 428	$20 531 733	$6 990 255	$9 081 205	$5 406 647
	16	2017				$0	$0	$138 273 210	$116 843 428	$20 125 105	$6 344 272	$8 397 503	$4 817 790
	17	2018				$0	$0	$138 273 210	$116 843 428	$19 277 194	$5 626 829	$7 588 396	$4 195 279
	18	2019				$0	$0	$138 273 210	$116 843 428	$16 261 616	$4 395 010	$6 038 986	$3 217 274
	19	2020				$0	$0	$138 273 210	$116 843 428	$11 383 131	$2 848 618	$3 988 009	$2 047 356
	20	2021				$0	$0	$138 273 210	$116 843 428	$4 533 739	$1 050 522	$1 498 460	$741 302
	21	2022				$0	$0	$138 273 210	$116 843 428	$4 624 413	$992 160	$1 441 914	$687 390
	22	2023				$0	$0	$138 273 210	$116 843 428	$4 716 902	$937 040	$1 387 502	$637 398
	23	2024				$0	$0	$138 273 210	$116 843 428	$4 811 240	$884 982	$1 335 144	$591 041
	24	2025				$0	$0	$138 273 210	$116 843 428	$4 907 464	$835 816	$1 284 761	$548 057
	25	2026				$0	$0	$138 273 210	$116 843 428	$5 005 614	$789 382	$1 236 279	$508 198
	26	2027				$0	$0	$138 273 210	$116 843 428	$5 105 726	$745 527	$1 189 627	$471 238
	27	2028				$0	$0	$138 273 210	$116 843 428	$5 207 840	$704 109	$1 144 736	$436 966
	28	2029				$0	$0	$138 273 210	$116 843 428	$5 311 997	$664 992	$1 101 538	$405 187
	29	2030				$0	$0	$138 273 210	$116 843 428	$5 153 933	$597 412	$1 008 265	$357 391
	30	2031				$0	$0	$138 273 210	$116 843 428	$4 852 626	$520 820	$895 585	$305 907
	31	2032				$0	$0	$138 273 210	$116 843 428	$3 849 750	$382 578	$670 280	$220 624
	32	2033				$0	$0	$138 273 210	$116 843 428	$2 243 854	$206 471	$368 564	$116 902
		Totals:				$138 273 210	$116 843 428			$513 840 865	$256 099 017	$297 861 922	$222 756 046

	N	O	P	Q	R	S	T	U	V	W	X	Y
1												
2												
3												
4	**e Benefits**				**Net Benefits (Costs)**							
5	**Cumulative**				**Annual**				**Cumulative**			
6	**Current**	**Real 2002 (@8%dr)**	**Real 2002 (@6%dr)**	**Real 2002 (@10%dr)**	**Current**	**Real 2002 (@8%dr)**	**Real 2002 (@6%dr)**	**Real 2002 (@10%dr)**	**Current**	**Real 2002 (@8%dr)**	**Real 2002 (@6%dr)**	**Real 2002 (@10%dr)**
7	$1 953 284	$1 953 284	$1 953 284	$1 953 284	-$4 413 383	-$4 413 383	-$4 413 383	-$4 413 383	-$4 413 383	-$4 413 383	-$4 413 383	-$4 413 383
8	$6 934 158	$6 565 205	$6 652 222	$6 481 352	-$4 760 126	-$4 577 702	-$4 490 685	-$4 661 555	-$9 173 508	-$8 991 085	-$8 904 067	-$9 074 938
9	$20 143 437	$17 890 032	$18 408 433	$17 398 111	-$13 286 241	-$12 256 091	-$11 824 708	-$12 664 159	-$22 459 750	-$21 247 176	-$20 728 775	-$21 739 097
10	$46 053 945	$38 458 628	$40 163 395	$36 865 059	-$14 627 638	-$13 468 012	-$12 281 647	-$14 569 661	-$37 087 388	-$34 715 188	-$33 010 422	-$36 308 758
11	$89 397 042	$70 317 099	$74 495 188	$66 468 977	-$11 788 780	-$11 811 141	-$9 337 818	-$14 065 692	-$48 876 168	-$46 526 329	-$42 348 240	-$50 374 450
12	$133 607 002	$100 405 655	$107 531 441	$93 919 884	$44 209 959	$30 088 556	$33 036 254	$27 450 907	-$4 666 209	-$16 437 773	-$9 311 986	-$22 923 544
13	$177 356 257	$127 975 106	$138 372 940	$118 615 198	$43 749 255	$27 569 452	$30 841 499	$24 695 314	$39 083 047	$11 131 679	$21 529 512	$1 771 770
14	$219 922 795	$152 812 272	$166 682 119	$140 458 562	$42 566 538	$24 837 166	$28 309 179	$21 843 364	$81 649 584	$35 968 845	$49 838 691	$23 615 135
15	$257 743 713	$173 245 738	$190 411 431	$158 102 300	$37 820 918	$20 433 465	$23 729 312	$17 643 737	$119 470 503	$56 402 310	$73 568 003	$41 258 872
16	$287 757 715	$188 260 211	$208 176 673	$170 831 167	$30 014 002	$15 014 474	$17 765 242	$12 728 867	$149 484 505	$71 416 784	$91 333 245	$53 987 739
17	$306 725 863	$197 046 134	$218 768 387	$178 144 209	$18 968 148	$8 785 923	$10 591 715	$7 313 042	$168 452 653	$80 202 706	$101 924 960	$61 300 781
18	$326 073 374	$205 343 950	$228 960 415	$184 925 394	$19 347 511	$8 297 816	$10 192 027	$6 781 185	$187 800 164	$88 500 522	$112 116 987	$68 081 966
19	$345 807 836	$213 180 776	$238 767 837	$191 213 401	$19 734 461	$7 836 826	$9 807 423	$6 288 008	$207 534 625	$96 337 348	$121 924 410	$74 369 973
20	$365 936 986	$220 582 223	$248 205 169	$197 044 099	$20 129 150	$7 401 447	$9 437 331	$5 830 698	$227 663 776	$103 738 795	$131 361 741	$80 200 671
21	$386 468 719	$227 572 478	$257 286 374	$202 450 746	$20 531 733	$6 990 255	$9 081 205	$5 406 647	$248 195 509	$110 729 050	$140 442 946	$85 607 318
22	$406 593 824	$233 916 751	$265 683 877	$207 268 536	$20 125 105	$6 344 272	$8 397 503	$4 817 790	$268 320 614	$117 073 323	$148 840 450	$90 425 109
23	$425 871 019	$239 543 580	$273 272 273	$211 463 815	$19 277 194	$5 626 829	$7 588 396	$4 195 279	$287 597 809	$122 700 152	$156 428 845	$94 620 388
24	$442 132 635	$243 938 590	$279 311 259	$214 681 089	$16 261 616	$4 395 010	$6 038 986	$3 217 274	$303 859 425	$127 095 162	$162 467 831	$97 837 662
25	$453 515 766	$246 787 207	$283 299 268	$216 728 446	$11 383 131	$2 848 618	$3 988 009	$2 047 356	$315 242 556	$129 943 780	$166 455 840	$99 885 018
26	$458 049 505	$247 837 729	$284 797 728	$217 469 748	$4 533 739	$1 050 522	$1 498 460	$741 302	$319 776 294	$130 994 301	$167 954 300	$100 626 320
27	$462 673 918	$248 829 889	$286 239 642	$218 157 138	$4 624 413	$992 160	$1 441 914	$687 390	$324 400 708	$131 986 461	$169 396 214	$101 313 710
28	$467 390 819	$249 766 928	$287 627 144	$218 794 535	$4 716 902	$937 040	$1 387 502	$637 398	$329 117 609	$132 923 501	$170 783 716	$101 951 108
29	$472 202 059	$250 651 910	$288 962 287	$219 385 577	$4 811 240	$884 982	$1 335 144	$591 041	$333 928 849	$133 808 482	$172 118 860	$102 542 149
30	$477 109 524	$251 487 726	$290 247 048	$219 933 633	$4 907 464	$835 816	$1 284 761	$548 057	$338 836 313	$134 644 299	$173 403 620	$103 090 206
31	$482 115 137	$252 277 108	$291 483 327	$220 441 831	$5 005 614	$789 382	$1 236 279	$508 198	$343 841 927	$135 433 681	$174 639 899	$103 598 404
32	$487 220 863	$253 022 636	$292 672 954	$220 913 069	$5 105 726	$745 527	$1 189 627	$471 238	$348 947 653	$136 179 208	$175 829 527	$104 069 642
33	$492 428 704	$253 726 745	$293 817 690	$221 350 036	$5 207 840	$704 109	$1 144 736	$436 966	$354 155 493	$136 883 317	$176 974 262	$104 506 608
34	$497 740 701	$254 391 737	$294 919 228	$221 755 222	$5 311 997	$664 992	$1 101 538	$405 187	$359 467 491	$137 548 309	$178 075 800	$104 911 795
35	$502 894 634	$254 989 149	$295 927 493	$222 112 613	$5 153 933	$597 412	$1 008 265	$357 391	$364 621 424	$138 145 721	$179 084 065	$105 269 186
36	$507 747 260	$255 509 969	$296 823 077	$222 418 520	$4 852 626	$520 820	$895 585	$305 907	$369 474 050	$138 666 541	$179 979 650	$105 575 092
37	$511 597 010	$255 892 547	$297 493 358	$222 639 144	$3 849 750	$382 578	$670 280	$220 624	$373 323 800	$139 049 119	$180 649 930	$105 795 716
38	$513 840 865	$256 099 017	$297 861 922	$222 756 046	$2 243 854	$206 471	$368 564	$116 902	$375 567 654	$139 255 590	$181 018 494	$105 912 618
39					**$375 567 654**	**$139 255 590**	**$181 018 494**	**$105 912 618**				

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