### **NOVA SCOTIA POWER**

### **CUSTOMER ENERGY FORUM**

**SUMMARY OF RESULTS** 

November 19-20, 2004

Prepared by The Public Decision Partnership:

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## NOVA SCOTIA POWER CUSTOMER ENERGY FORUM

#### EXECUTIVE SUMMARY

Following are broad conclusions and observations the Public Decision Partnership draws from the attached survey results and from observations at the event. The survey data are extensive and the authors direct those with detailed questions to the data itself.

#### Conclusions from Survey Results

- The NSP residential customers who participated in the customer meeting constitute <u>a valid sample</u> of NSP residential customers.
  - The 135 customers who attended the customer meeting reasonably match the comparative demographic base lines for NSP established by the larger telephone sample of 852 customers. The answers on issue questions of the larger telephone sample reasonably match the premeeting answers of meeting participants. The telephone survey and participant recruiting was conducted by Corporate Research Associates of Halifax.
  - Confidence limits for the forum are ±10% at 95%; in other words,
     95% of the time, if all NSP customers were asked the same questions,
     their responses would not vary by more than ±10%. Confidence limits
     for the pre-event telephone survey are in the range of plus or minus
     3% at 95% confidence.

- The results can be extrapolated to NSP residential customers as a whole, within confidence levels stated above.
- When customers were asked about <u>factors to consider</u> in the generation and delivery of electric power, environmental factors generally ranked higher than economic factors.
  - Having enough electricity ranked the highest.
  - Limiting emissions in the province and limiting greenhouse gases ranked second, and were strong in both pre-event and post-event results.
  - The economic factors, stable electric costs and lowest reasonable price, were strong in pre-event results but dropped by half in the post-event results.
- When customers were then <u>forced to rank these factors</u> to consider,
   limiting provincial emissions moved to the top, followed by having
   sufficient electricity and then limiting greenhouse gases. The closest
   economic factor, stable electric costs, was strong but 10-20 points behind.
- When asked if NSP should only meet federal and provincial requirements in the production of electricity as a means to produce electricity as inexpensively as possible or whether NSP should go beyond the current requirements to reduce pollution or greenhouse gases, even if that meant higher bills—the response to go beyond was three to one at 73%, with 26% saying meet current requirements.

- When asked about <u>specific options</u> to produce electricity, wind and conservation ranked highest. In the ranking, wind was ranked first by 56% and reduce the need (conservation) was ranked first by 27%. The next closest option was natural gas at 5%.
- When asked to allocate 100 points between the options to meet generation needs, customers favored a portfolio and allocated some points to all options. Responses fell into one of three tiers. Wind was strongest with about three times the points of options in the next tier. Conservation, natural gas, coal, and other renewables were in the second tier. Oil was in the bottom tier.
- As an additional means to understand customer preferences, participants were asked to state how much more they would pay for the option they prefer. Wind was strongest with a median response at \$10 per bill, followed by conservation with a median response at \$5 per bill. The next highest option was in the \$3 per bill range. (Median is the midpoint in the responses where half are above and half are below.) Readers are cautioned that willingness to pay data gathered in this fashion does not directly translate into actual customer actions. Most customers (72%) say they receive a bill every two months.
- When asked about a preference for using local resources, assuming the
  cost would be slightly higher; wind was given the highest preference at
  87% followed by natural gas at 67% and coal at 32% (percentage ranking
  the option as a strong preference).

- When asked whether Nova Scotia should generate its own electricity or participate in a regional approach, results were mixed with 48% saying regional and 40% saying Nova Scotia.
- The economic versus environment responses were some of the strongest.

  When asked if they would pay more to reduce local emissions, 84% said yes. When asked if they would pay more to contribute to the global effort to control greenhouse gases, 82% said yes. When asked to quantify their willingness to pay, the midpoint for both responses was \$10 per bill.
- When asked about renewables, specifically whether renewables should be developed as a system resource where everyone pays or developed only for those customers who commit to pay the difference, 88% favored a system resource.
- When asked whether NSP should provide information on ways for
  customers to reduce electric consumption or whether that was beyond the
  scope of what an electric utility should do, 92% favored NSP providing
  information. The verbatim written results also show a preference for
  receiving this kind of information from governmental sources (this was
  not one of the options offered in the question).
- The response of participants to the customer forum was very positive. On a scale of 1 to 10 with 1 being a waste of time and 10 being an extremely valuable experience, the average ranking was 9.4.
- Because the forum took place a few days following a large-scale outage,
   customers were asked about NSP preparedness and outage response. On a

scale of 1 to 10 where 1 was not at all prepared and 10 was very well prepared, 2/3 of the responses were in the positive end of the scale (6 and above) with 28% in the negative end of the scale. When asked about outage response, the results were more positive. On a scale of 1 to 10 with 1 being very poor and 10 being excellent, 82% were on the positive end of the scale.

The survey asked a number of open-ended questions calling for a written response. The participants took time at the end of a long day to write extensive responses. These verbatim responses provide an additional rich source of insight on customer values and attitudes. The verbatim responses should be considered in addition to the numeric responses as they provide insights into questions not asked or options not offered, in the customers' own words.

#### **Observations**

- The Nova Scotia sample participants came to the forum well prepared with a higher percentage having studied the materials than seen in similar events.
- The outage 5 days before the forum was not a factor. The customers were more supportive of the company than one would conclude from media coverage of the outage.
- The sample was very serious, studied hard, and thought about the options.

  Several of the expert panelists commented independently about the,

  "interested look on their faces", as they faced the participants during large
  group questions. This sample, now informed, might be useful as a means to
  explore additional questions.

### NOVA SCOTIA POWER CUSTOMER ENERGY FORUM

### **Summary of the Process**

On November 19-20, 2004, Nova Scotia Power (NSP) invited a scientifically selected sample of its residential customers to discuss energy alternatives. The 135 participants met in large and small group sessions over a day and a half. The participants had completed a telephone survey prior to the event and completed a similar survey again following the event. This report summarizes the results collected from those surveys.

#### **Topics of Discussion**

The major topic of discussion centered on customer values and preferences concerning options to meet the need for future generation in a context of increasingly strict emission requirements.

#### **The Process**

The process used at the Customer Energy Forum was Deliberative Polling<sup>TM</sup> as developed by Professor James Fishkin, Director of the Stanford University Center for Deliberative Democracy. This was the first Deliberative Poll held in Canada. The process samples <u>informed</u> opinion on an issue—in this case, options to meet the need for future generation. The process reveals what participants feel about an issue after having had a chance to read, think, discuss, and ask questions of experts and advocates.

Potential participants were selected with random calls and administered a questionnaire on electricity issues. Once they completed the questionnaire, they were invited to participate in the Customer Forum. Participants arrived at the event and were assigned randomly to 9 small groups of around15 people. A trained, neutral moderator (not an NSP employee) led each small group through a discussion of the issues. The issues were outlined in a set of materials delivered to participants approximately four weeks in advance of the event. Participants alternated between small group sessions and large group sessions, where participants asked questions of panels composed of subject-matter experts and advocates for different resource solutions. An outside moderator led the large group sessions. (Ron Lehr is an attorney in Denver and was formerly Chairman of the Colorado Public Utilities Commission.)

The Customer Energy Forum was videotaped by CBC as part of preparing a documentary on the event. The entire process was open to the press and observers.

Design and process consultation for the Customer Meeting was provided by Dennis Thomas, Will Guild, and Ron Lehr through the Public Decision Partnership. The telephone surveys and participant recruiting was conducted by Corporate Research Associates of Halifax, who also provided the initial data tabulation. Small group moderators were provided by Corporate Research Associates and by MT&L of Halifax.

#### **Advisory Group**

NSP convened a 15 person Advisory Group of diverse viewpoints on the issues to be discussed. The responsibility of the Advisory Group was to see that the survey, materials, and the large group panels represented a fair balance of viewpoints. The Advisory Group met four times and contributed many hours toward ensuring the process was fair and balanced.

### **Participant Reaction**

After a day and a half of discussions, the customers gave NSP high marks for the process. On a 10-point scale with 10 as "extremely valuable" and 1 as "a waste of time", the average ranking was 9.4.

#### **Confidence Levels and Experimental Design Factors**

Since it is not possible to have all NSP residential customers together at the same event, a "Customer Energy Forum" of randomly selected individuals was used as a surrogate. Confidence levels for the results from the Customer Forum are  $\pm 10\%$  at the 95% confidence level. In other words, one can say that, if all NSP residential customers had been given the same survey, we can be 95% confident their collected opinions would not differ by more than  $\pm 10\%$  from the results produced by the Customer Energy Forum. The confidence level for the larger pre-event survey (852 participants) is slightly higher and is  $\pm 5\%$  at the 95% level.

The demographics of those who participated in the larger pre-event survey were checked against the demographics of those who participated in the event. In general, the demographics of the two groups and their attitudes on the indicator questions are very similar. It would be possible to weight the results for any variable felt to be under-represented, but the authors do not believe weighting to be necessary in this case. As is the usual practice in research of this nature, participants were paid an honorarium of \$150 and offered a hotel room and hotel meal vouchers. Those traveling from a distance were reimbursed for travel expenses.

#### Format of the Report and Data Availability

This report provides a summary of the data resulting from the Customer Energy Forum. The entire data file is available on request.

All charts show results from the post-event questionnaire unless otherwise specified. When charts show pre-event and post-event numbers, the answers are from the pre-event and post-event questionnaires for those who attended the event (N=135). The

section on representativeness of the event sample compares those who attended with the whole pre-event sample (N=852).

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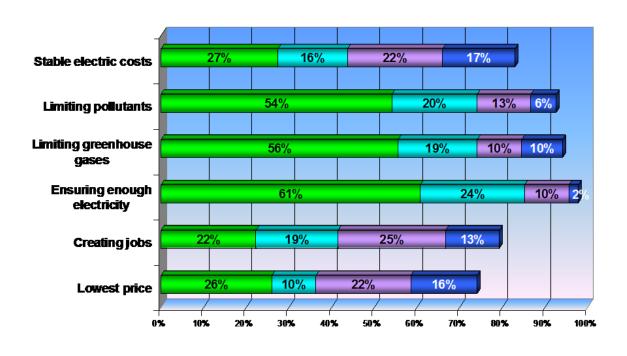
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### **Survey Results**

How important are each of the following factors in the delivery of electrical power on a scale of 1 to 10, with 1 being not at all important and 10 being critically important? (Post event)

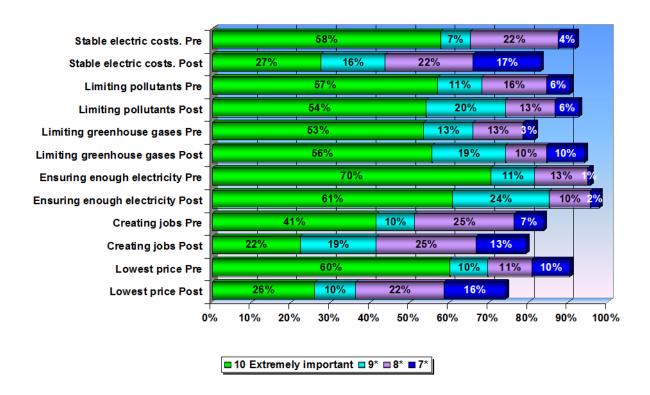


■ 10 Extremely important ■ 9 ■ 8 ■ 7

**Question** Thinking about the service of supplying electricity in general, how important are each of the following factors in the delivery of electrical power? On a scale of 1 to 10, with 1 being not at all important and 10 being critically important, how important are:...

**Observation** Since this is a rating question, respondents are free to rate all the factors as important. Ensuring enough electricity was ranked highest followed by limiting pollutants and greenhouse gases. The economic factors (lowest cost, stable cost and creating jobs) were not rated as highly.

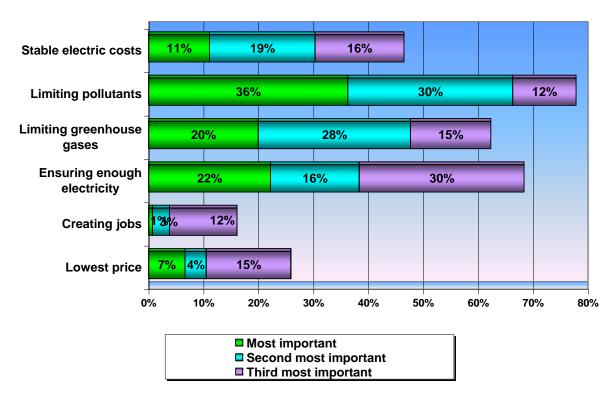
How important are each of the following factors in the delivery of electrical power on a scale of 1 to 10, with 1 being not at all important and 10 being critically important? (pre and post event)



**Question** Thinking about the service of supplying electricity in general, how important are each of the following factors in the delivery of electrical power? On a scale of 1 to 10, with 1 being not at all important and 10 being critically important, how important are:...

**Observation** This chart compares the pre and post event responses for participants. There was little change in ratings of environmental factors before and after the event. There was a substantial drop in the importance given to economic factors.

## Which factors are most important? (post event)

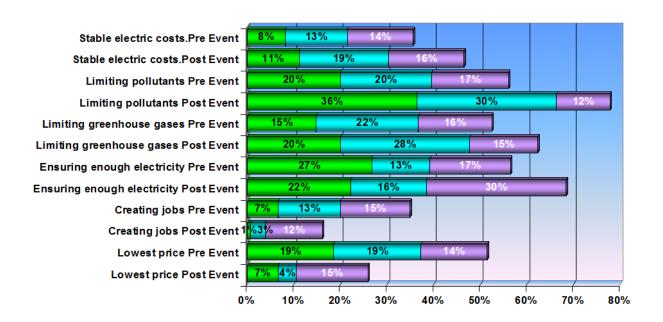


**Question** Which of these factors do you think is <u>most</u> important?

Which do you think is <u>second</u> most important? Which do you think is <u>third</u> most important?

**Observation** By asking for a ranking, these questions force participants to make choices about what factors are most important. In this case the factor, limiting pollutants, moves to the fore, particularly, as a first choice. It is followed by greenhouse gases and having enough electricity. Stable cost was the most important of the economic factors.

### Which factors are most important? (pre and post event)



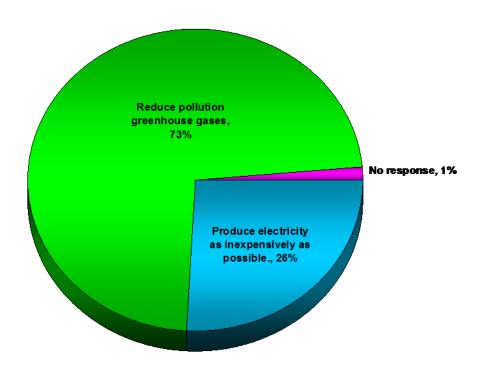
■ Most important ■ Second Most important ■ Third Most important

#### Question

Which of these factors do you think is <u>most</u> important? Which do you think is <u>second</u> most important? Which do you think is <u>third</u> most important?

**Observation** This chart compares rankings before and after the event. Limiting pollutants showed a substantial increase from pre to post. Ensuring enough electricity and limiting greenhouse gases also showed some increase as did stable electric costs. Lowest price and creating jobs both lost ground from the pre to post measurement.

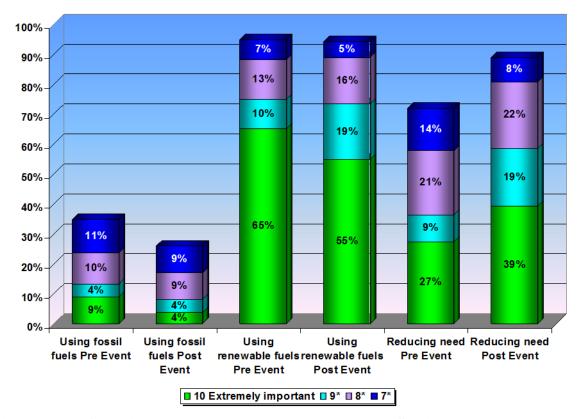
# Should NSPI produce power as inexpensively as possible while meeting government environmental standards, or go beyond this, even if it means higher bills for customers?



**Question** Some say the responsibility of Nova Scotia Power is to produce electricity as inexpensively as possible while meeting federal and provincial environmental standards. Others say Nova Scotia Power should go beyond this to reduce pollution and greenhouse gases even if that means higher bills for customers. Which of these is closer to your view?

**Observation** This result is consistent with the earlier responses comparing environmental and economic factors.

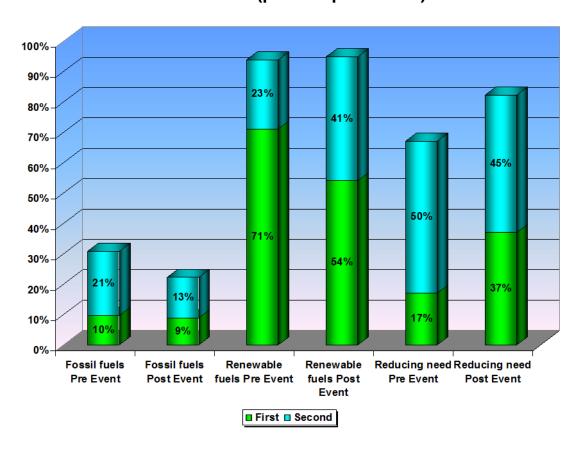
How important is it for Nova Scotia Power to focus on these general approaches to meet energy needs over the next ten years, using a 1 to 10 scale, where 1 stands for not at all important and 10 stands for extremely important? (pre and post event)



Question The following are some general approaches Nova Scotia Power could consider in planning to meet the province's future need for electricity. For each of these, please tell us how important you think it should be for Nova Scotia Power to focus on over the next ten years, using a 1 to 10 scale, where 1 stands for not at all important and 10 stands for extremely important.

**Observation** Using renewable fuels received the highest ratings both before and after the event followed by reducing the need for new electric generation. However, the gap between renewables and reducing the need narrowed quite substantially following the forum. Fossil fuels received the lowest ratings before and after the event.

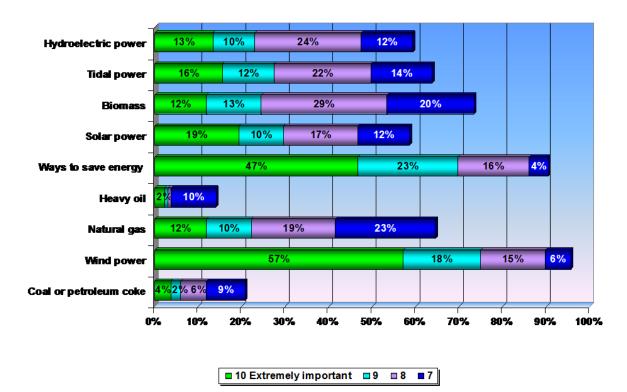
## Which approaches should Nova Scotia Power pursue first and second? (pre and post event)



**Question** Which approach do you think the utility should pursue first? Which should they pursue second?

**Observation** These results mirror those from the preceding question.

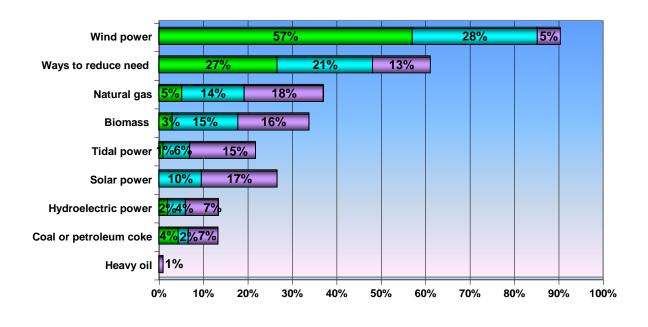
## How important is it for NSPI to focus on each of these <u>specific</u> options to meet future energy needs? (post event)



**Question** Now we would like to ask you about some **specific** options Nova Scotia Power could consider in planning to meet the Province's future need for electricity. For each of these, please tell us how important you think it should be for Nova Scotia Power to focus on in the future, using a 1 to 10 scale, where 1 stands for not at all important and 10 stands for extremely important. How important is it to provide customers with:...

**Observation** This question focused on more specific alternatives. Wind power and ways to save energy were rated as the most important. Natural gas received the highest ratings of any fossil fuel and interestingly, biomass and natural gas received very similar ratings.

## Which specific option should the utility pursue first, second and third? (post event)

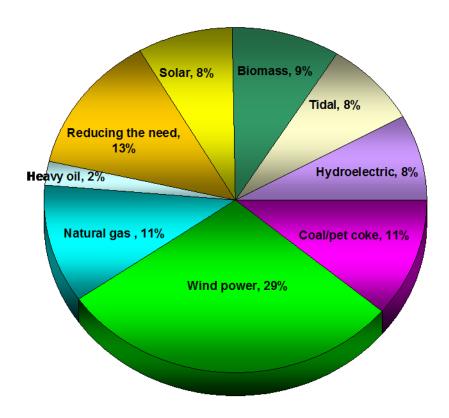


- Which of these do you think your utility should pursue first?
- Which do you think they should pursue second?
- Which do you think they should pursue third?

## **Question** Which specific option do you think the utility should pursue first? Which should they pursue second? Which should they pursue third?

**Observation** This question forced participants to rank the options. Wind power clearly was seen as a preferred option. Efficiency was in a second tier. Note that it performed better than any other renewable source or fossil fuel source. Natural gas and biomass performed similarly as was the case on the previous question.

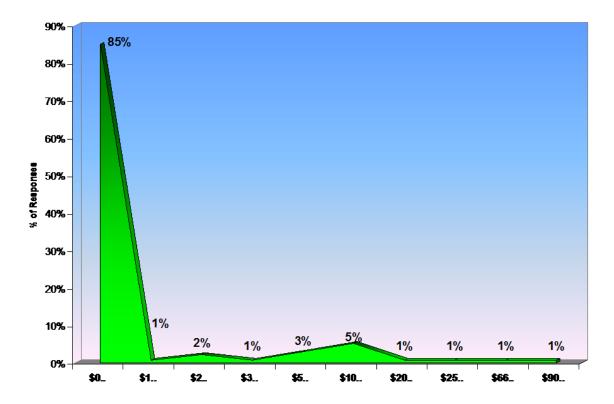
## Please divide 100 points in proportion to the kind of resource mix you would like for Nova Scotia Power (post event)



**Question** Please divide 100 points among the different resources in proportion to the kind of resource mix you would like for Nova Scotia.

**Observation** This question also forces respondents to make choices between options. The results show that participants wanted a portfolio of resources. Every option except oil received a substantial number of points. Wind received the highest number of points by a good margin.

## To what extent did participants value electric generation from facilities using coal/petroleum coke? Median \$0 (post event)

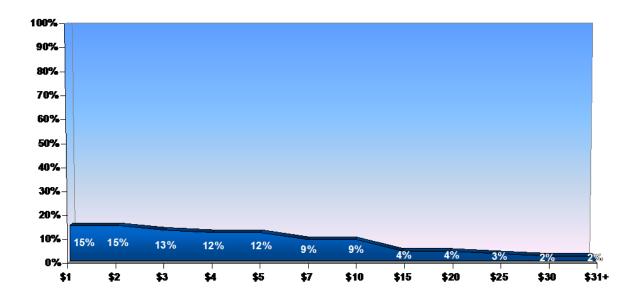


**Question** Some of the options just mentioned could be more expensive, while others could be less expensive. As a way of determining how much value you place on each option, please tell us how much more, if anything, you would be willing to pay above your current electric bill to have your utility pursue each option. If you are unwilling to pay any more, just say 0. Please answer in terms of dollars **per bill.** *Electric generation from Coal/petroleum coke* 

**Observation** In the following set of questions participants were asked how much more they were willing to pay for various options (how much more per bill). Readers are cautioned that this sort of expressed willingness to pay does not translate directly into writing a check. In this case 85% said they would pay no more for coal. In one sense this result indicates participants were paying attention, because coal was not discussed as costing more.

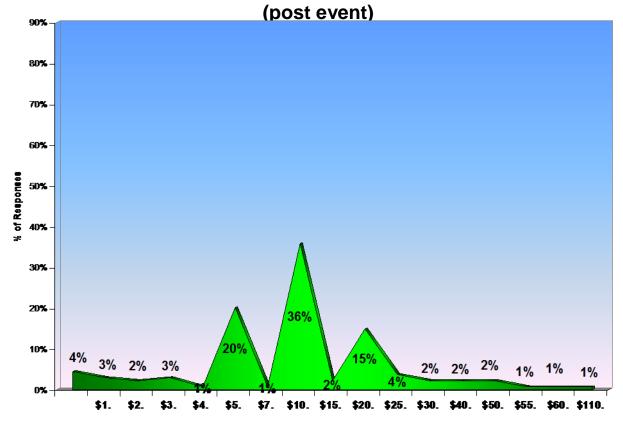
## Cumulative View: How do customers value electric generation from facilities using coal/petroleum coke? (85% would pay nothing) (post event)

This chart shows the percentage that said they would pay at least this much, e.g. 15% would pay at least \$1, 9% would pay at least \$7}



**Observation** This is a different way of looking at the result of the previous question. It shows the cumulative result.

## To what extent did participants value electric generation from facilities using wind? Median \$10

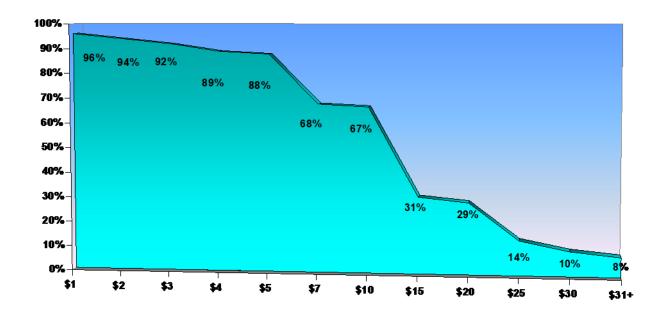


**Question** Some of the options just mentioned could be more expensive, while others could be less expensive. As a way of determining how much value you place on each option, please tell us how much more, if anything, you would be willing to pay above your current electric bill to have your utility pursue each option. If you are unwilling to pay any more, just say 0. Please answer in terms of dollars **per bill.** 

Electric generation from wind power

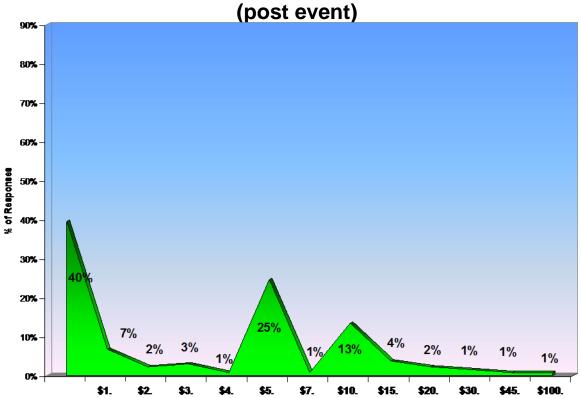
**Observation** The median response for wind was \$10. The median is midpoint of the distribution of responses. For this type of data, the midpoint is often more useful than the mean since it minimizes the effects of outliers. In this distribution note there are peaks at \$5, \$10, and \$20. Only 4% of participants said they were willing to pay nothing more for wind.

## Cumulative View: How do customers value electric generation from facilities using wind? (4% would pay nothing) (post event)



**Observation** This is a cumulative view of the same data. Note that 96% of participants indicate they would pay at least \$1 per bill and 67% would pay \$10.

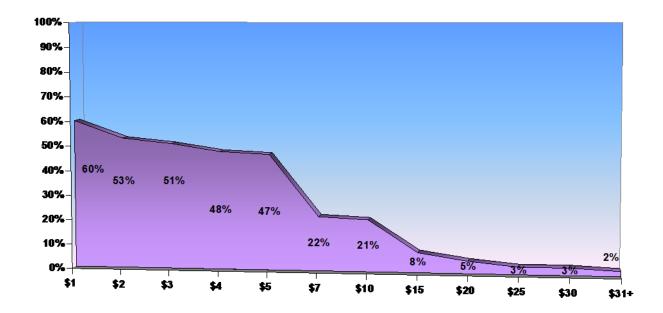
To what extent did participants value electric generation from facilities using natural gas? Median \$3



Question Some of the options just mentioned could be more expensive, while others could be less expensive. As a way of determining how much value you place on each option, please tell us how much more, if anything, you would be willing to pay above your current electric bill to have your utility pursue each option. If you are unwilling to pay any more, just say 0. Please answer in terms of dollars **per bill.**Electric generation from natural gas

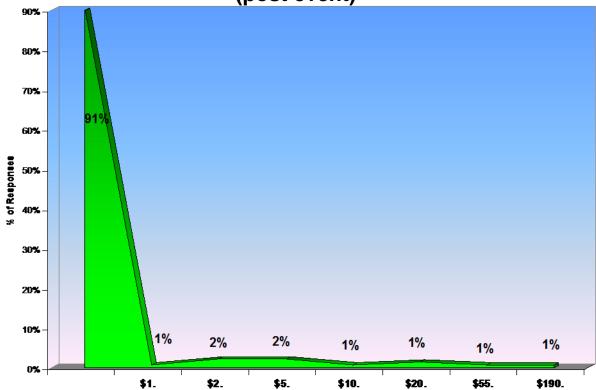
**Observation** There is moderate support for natural gas. Twenty five percent (25%) of participants say they would pay \$5 more per bill.

## Cumulative View: How do customers value electric generation from facilities using natural gas? (40% would pay nothing) (post event)



**Observation** This is a cumulative view of the same data. Note that 60% of participants indicate they would pay at least \$1 per bill and almost half (47%) would pay \$5.

To what extent did participants value electric generation from facilities using heavy oil? Median \$0 (post event)

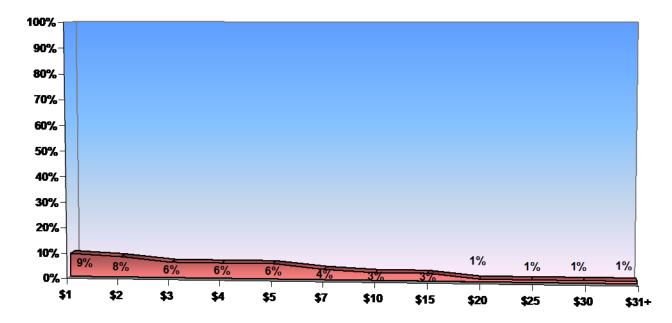


**Question** Some of the options just mentioned could be more expensive, while others could be less expensive. As a way of determining how much value you place on each option, please tell us how much more, if anything, you would be willing to pay above your current electric bill to have your utility pursue each option. If you are unwilling to pay any more, just say 0. Please answer in terms of dollars **per bill.** 

Electric generation from heavy (bunker C) oil

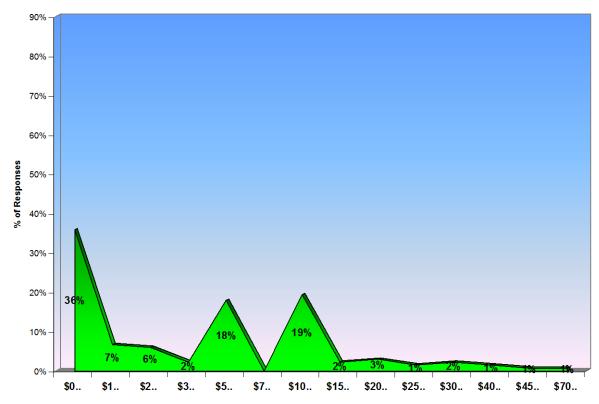
**Observation** There was very little support for paying more for oil. Again, oil was not discussed as costing more.

## Cumulative View: How do customers value electric generation from facilities using heavy oil? (91% would pay nothing) (post event)



**Observation** This is a cumulative view of the same data. .

## To what extent did participants value electric generation from facilities using solar power? Median \$2 (post event)

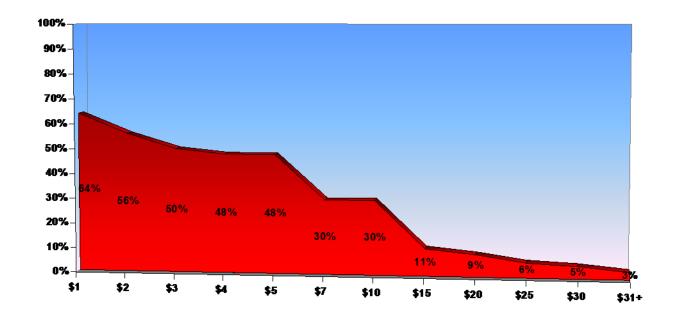


**Question** Some of the options just mentioned could be more expensive, while others could be less expensive. As a way of determining how much value you place on each option, please tell us how much more, if anything, you would be willing to pay above your current electric bill to have your utility pursue each option. If you are unwilling to pay any more, just say 0. Please answer in terms of dollars **per bill.** 

### Electric generation from solar power

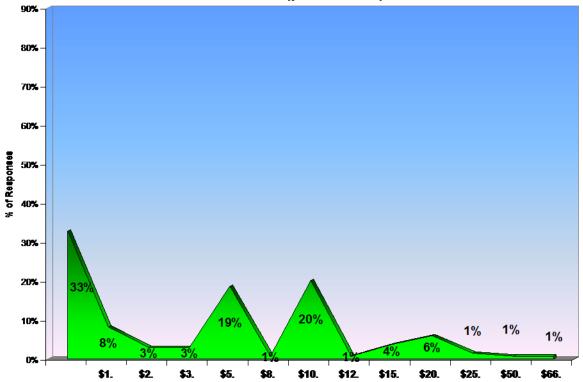
**Observation** About a third of participants were unwilling to pay more for solar but 18% say they would pay \$5 more per bill and 19% say they would pay\$10.

## Cumulative View: How do customers value electric generation from facilities using solar power? (36% would pay nothing) (post event)



**Observation** This is a cumulative view of the same data. Note that two thirds % of participants indicate they would pay at least \$1 per bill and almost half (48%) would pay \$5.

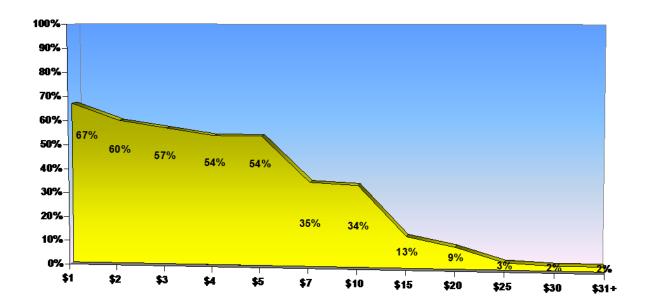
# To what extent did participants value reducing the need for additional electric generation by providing customers with ways to save electricity on their current electric bill? Median \$5 (post event)



**Question** Some of the options just mentioned could be more expensive, while others could be less expensive. As a way of determining how much value you place on each option, please tell us how much more, if anything, you would be willing to pay above your current electric bill to have your utility pursue each option. If you are unwilling to pay any more, just say 0. Please answer in terms of dollars **per bill. Reducing the need for additional electric generation by providing customers with ways to save electricity** 

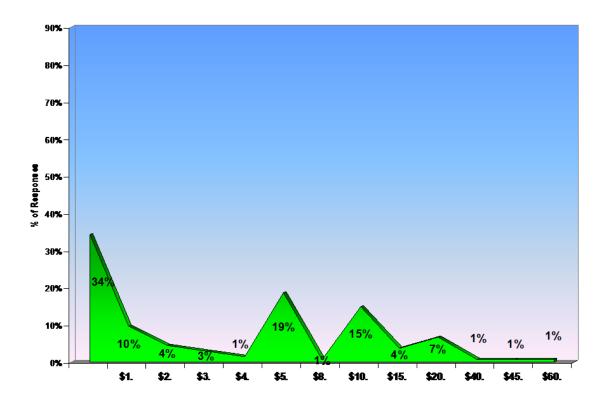
**Observation** Support for efficiency on this item is similar to solar although slightly higher.

## Cumulative View: How did customers value reducing the need for additional electric generation by providing customers with ways to save electricity? (post event)



**Observation** This is a cumulative view of the same data. A majority of participants say they would support efficiency at prices of \$5 or less per bill.

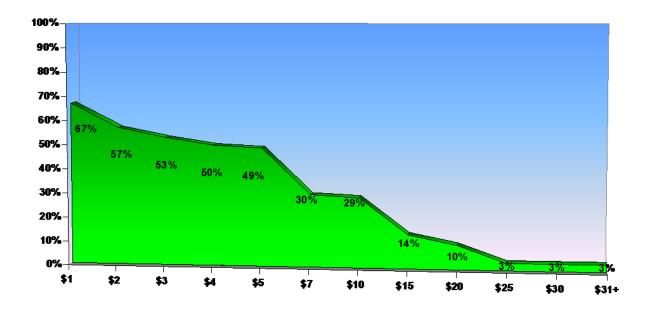
## To what extent did participants value electric generation from facilities using biomass? Median \$3 (post event)



**Question** Some of the options just mentioned could be more expensive, while others could be less expensive. As a way of determining how much value you place on each option, please tell us how much more, if anything, you would be willing to pay above your current electric bill to have your utility pursue each option. If you are unwilling to pay any more, just say 0. Please answer in terms of dollars **per bill.** *Electric generation from biomass* 

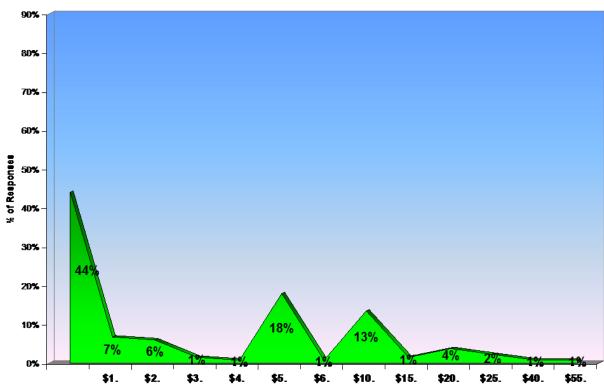
**Observation** Support for biomass is similar to solar and efficiency.

## Cumulative View: How do customers value electric generation from facilities using biomass? (33% would pay nothing) (post event)



**Observation** This is a cumulative view of the same data. Two thirds indicate they would pay a dollar a bill more for this resource and almost half say they would pay \$5.

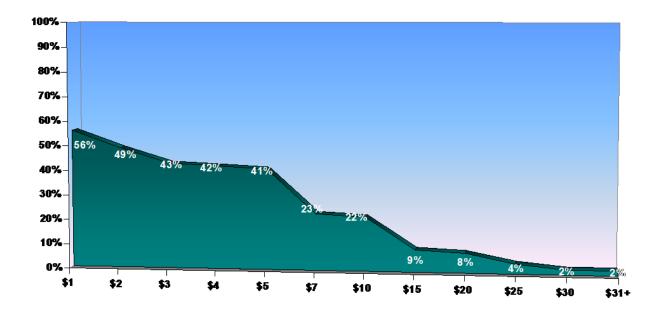
#### To what extent did participants value electric generation from facilities using tidal power? Median \$1 (post event)



**Question** Some of the options just mentioned could be more expensive, while others could be less expensive. As a way of determining how much value you place on each option, please tell us how much more, if anything, you would be willing to pay above your current electric bill to have your utility pursue each option. If you are unwilling to pay any more, just say 0. Please answer in terms of dollars **per bill.** *Electric generation tidal power* 

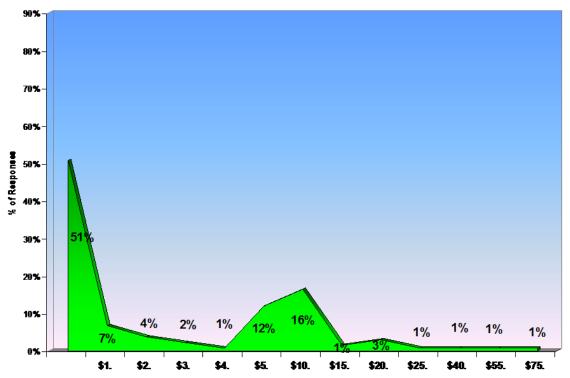
**Observation** Support for tidal power is somewhat less than for biomass, solar or efficiency.

## Cumulative View: How do customers value electric generation from facilities using tidal power? (44% would pay nothing) (post event)



**Observation** This is a cumulative view of the same data. Just over half would pay a dollar a bill more for this resource. Support does not drop away rapidly with 41% indicating they would pay \$5.

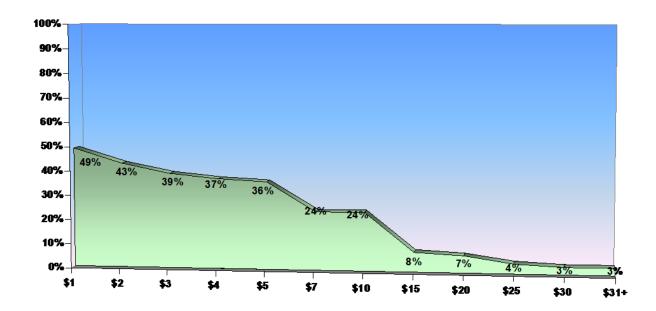
# To what extent did participants value electric generation from facilities using hydroelectric power? Median \$0 (post event)



**Question** Some of the options just mentioned could be more expensive, while others could be less expensive. As a way of determining how much value you place on each option, please tell us how much more, if anything, you would be willing to pay above your current electric bill to have your utility pursue each option. If you are unwilling to pay any more, just say 0. Please answer in terms of dollars **per bill.** *Electric generation hydroelectric* 

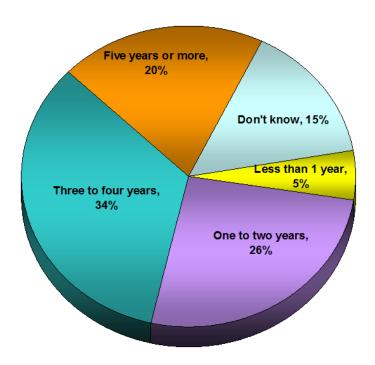
**Observation** Support for hydroelectric power is somewhat less than for other renewables with just over half saying they would pay no more for it. Perhaps since participants were told there was little or no new hydro available in Nova Scotia some did not want to pay more for an existing resource.

### Cumulative View: How do customers value electric generation from facilities using hydroelectric power? (51% would pay nothing) (post event)



**Observation** This is a cumulative view of the same data. Note that the decline in support is almost linear until the cost reaches \$10.

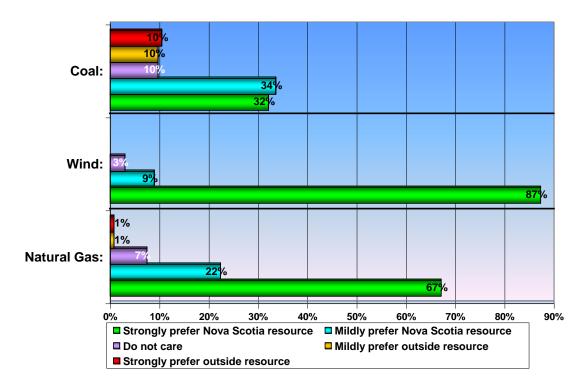
### How quickly would you need to recover your cost in order to make an investment to increase how efficiently you use electricity? (post event)



**Question** By making an investment in their homes or business to increase how efficiently they use electricity, many customers can reduce their electric bills and thereby recover the cost of their investment. How quickly would you need to recover your cost in order to make such an investment?

**Observation** This question asks how quickly efficiency investments must pay back. Over half were willing to consider a payback period of three years or more.

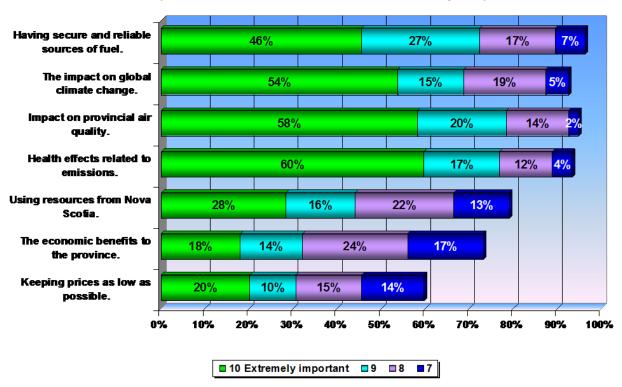
Assuming the cost of using a Nova Scotia resource would slightly increase your electric bills, would prefer to use a Nova Scotia resource or a resource from outside Nova Scotia for each of the following:



**Question** Assuming the cost of using a Nova Scotia resource would slightly increase your electric bills, please tell us if you would prefer to use a Nova Scotia resource or a resource from outside Nova Scotia for each of the following resources

**Observation** Participants had a strong preference for a local resource for wind and natural gas. There was a moderate preference for a Nova Scotia source for coal but there was also some opposition.

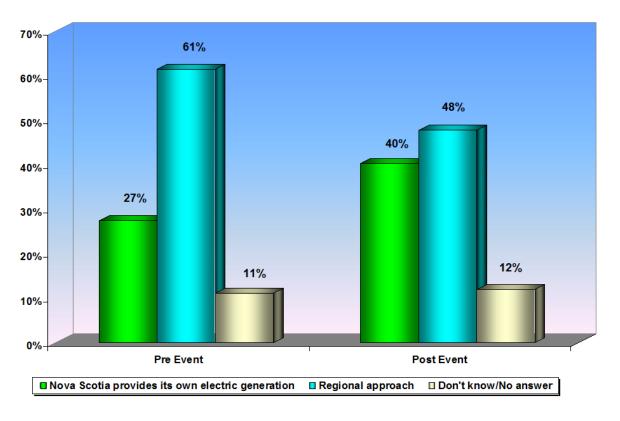
Please tell us how important it is to consider each of the following in selecting a resource on a scale of 1 to 10 where 1 stands for not at all important and 10 stands for extremely important.



**Question** In choosing between resources to produce electricity, there are many different factors that might be considered. Please tell us how important you believe it is to consider each of the following factors in selecting a resource, using a 1 to 10 scale where 1 stands for not at all important and 10 stands for critically important

**Observation** This question is another way to ask participants about what is important to them. These results are consistent with earlier questions on factors to consider. Secure sources (similar to sufficient electricity) and the environmental and health factors are in the first tier. Economic factors fall into a second tier.

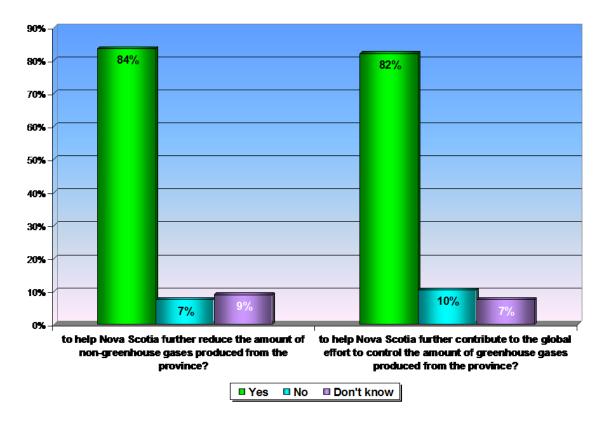
### How would customers prefer the electric need of Nova Scotia to be met - with a regional approach or by Nova Scotia providing its own generation? (pre event and post event)



**Question** Would you prefer the electric needs of Nova Scotia be met by: An approach in which Nova Scotia provides its own electric generation. A regional approach in which more than one province shares in generating electricity to meet the needs of the entire region. No preference.

**Observation** In the pre-event survey there was a strong preference for a regional approach. However the gap between the two approaches narrowed considerably after the event.

#### Would you be willing to pay more for your electricity..

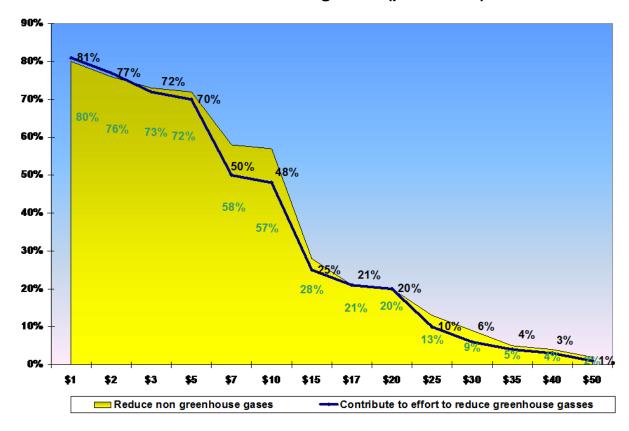


**Question** Would you be willing to pay more for your electricity to help Nova Scotia further reduce the amount of **non-greenhouse** gases produced from the province?

Would you be willing to pay more for your electricity to help Nova Scotia further contribute to the global effort to control the amount of **greenhouse** gases produced from the province?

**Observation** There was strong willingness to pay for both reduced emissions and reduced greenhouse gases.

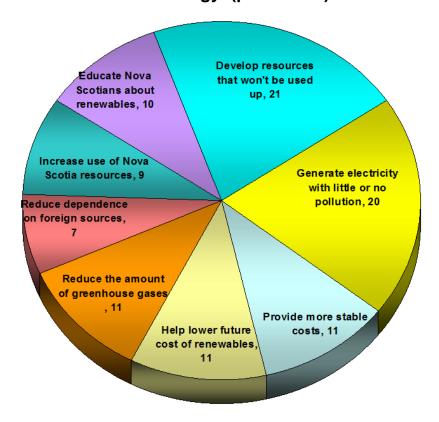
### Cumulative View: How much more per bill is it worth to further reduce the emission of gases? (post event)



**Question** How much more per bill?

**Observation** The results for the two types of emissions are very similar. For both about half of participants say they are willing to pay \$10.

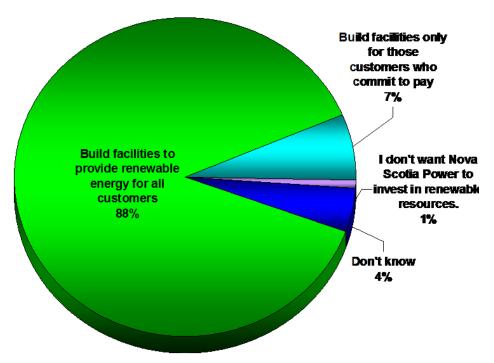
## Please divide 100 points in proportion to how important these objectives are to you in having Nova Scotia Power invest in renewable energy. (post event)



**Question** People might have different objectives they want fulfilled by having Nova Scotia Power invest in renewable technology. In order to help us understand how important these objectives are to you, please divide 100 points among the eight objectives listed below in proportion to how important they are to you.

**Observation** This question explores why people support renewables. Motivations are useful in considering new programs.

# Assuming they were more expensive than other electricity sources, there are two ways Nova Scotia could invest in renewable resources, such as wind power or solar power. Which one would you prefer?



**Question** Assuming they were more expensive than other electricity sources, there are two ways Nova Scotia could invest in renewable resources, such as wind power or solar power.

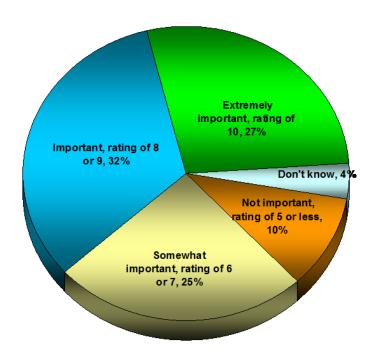
By building facilities that would provide renewable energy for <u>all customers</u> and divide the cost among all customers. In this case, everyone shares in the cost of the renewables and therefore shares in the benefits.

By building facilities <u>only for those customers</u> who commit to pay for renewable energy and having only those customers pay for the renewable energy. In this case, only those who commit share the costs, while everyone shares the benefits of the project.

I don't want Nova Scotia Power to invest in renewable resources

**Observation** There was very strong support for renewables as a system resource.

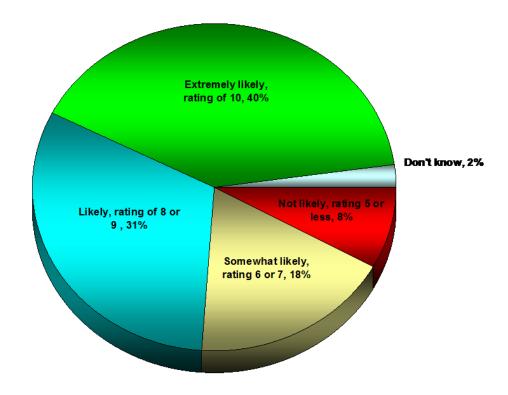
### How important is it to offer an optional renewable program that features a kind of insurance against rising fuel prices on a scale of 1 to 10?



Question Some utilities offer customers a type of renewable energy program that provides those who sign up with a kind of "insurance" against increasing energy prices. These renewable programs charge customers slightly more over what those, not in the program, pay for electricity since renewable energy may be somewhat more expensive. However, if the costs of fuels such as natural gas or coal increase, leading to higher electric bills for most customers, those in the renewable program are excused from these increases since the cost of renewable resources such as wind are stable. How important is it to offer this option to residents of Nova Scotia.

**Observation** This question poses the possibility of a renewable program with an individual benefit.

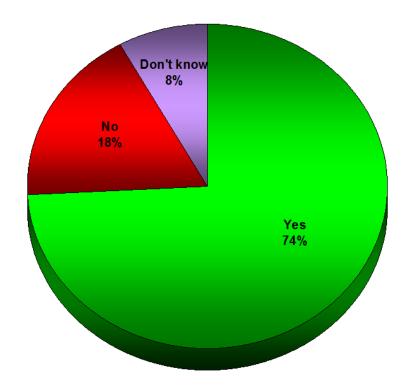
### Assuming the premium to sign up was was \$10.00 per bill. How likely would you be to sign up, on a scale of 1 to 10?



**Question** Assuming the premium was \$10.00 per bill how likely would you be to sign up?

**Observation** Support increases when the amount of the premium is known.

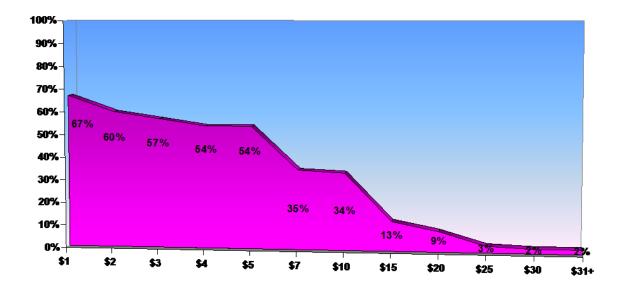
#### Would you be willing to pay more for your electricity to help Nova Scotia reduce the demand for electricity?



**Question** One way to control the need for new electric generation is to reduce the demand for electricity through conservation and efficiency programs. Would you be willing to pay more for your electricity to help Nova Scotia reduce the demand for electricity?

**Observation** Almost three fourths of participants said they were willing to pay more to reduce demand for electricity.

## Cumulative View: How much more per bill is it worth to reduce the demand for electricity through conservation and efficiency. (post event)

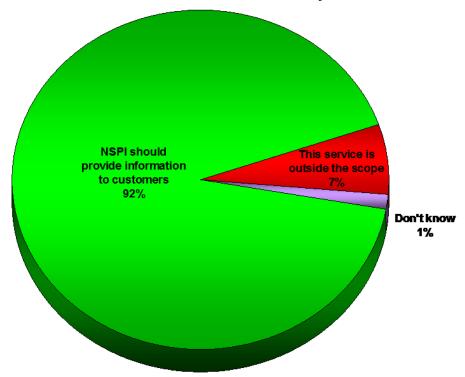


**Question** How much more per bill?

**Observation** Cumulative view, over half indicate they would pay up to \$5 per bill

Some say Nova Scotia Power should provide information to customers about how to reduce electric consumption, others say this service is outside the scope of what a utility should provide.

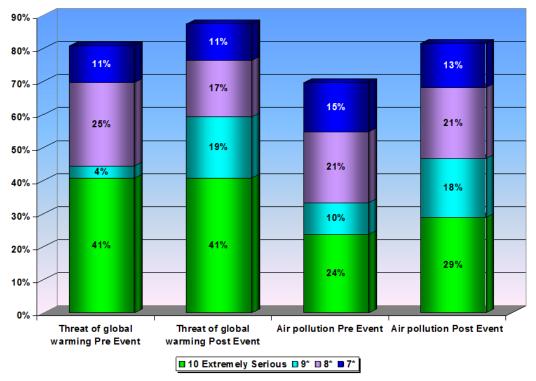
Which of these statements is closer to your view?



**Question** Some say Nova Scotia Power should provide information to customers about how to reduce electric consumption; others say this service is outside the scope of what a utility should provide. Which of these statements is closer to your view?

**Observation** There was tremendous support for NSPI to provide information about reducing electric consumption. The verbatim responses also indicate that government should provide this kind of information.

### How serious are the threats of climate change associated with global warming and air pollution in Nova Scotia? (pre and post event)

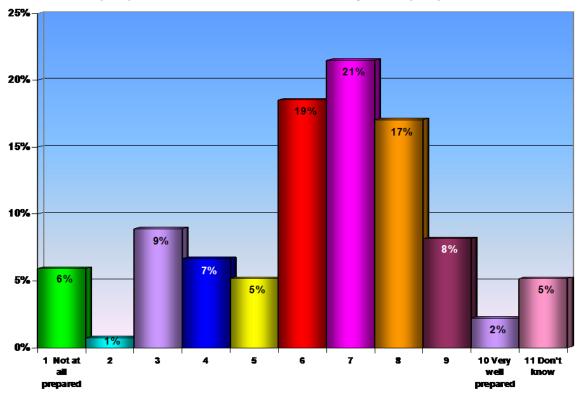


**Question** How serious is the threat of climate changes associated with global warming?

How serious is air pollution in Nova Scotia?

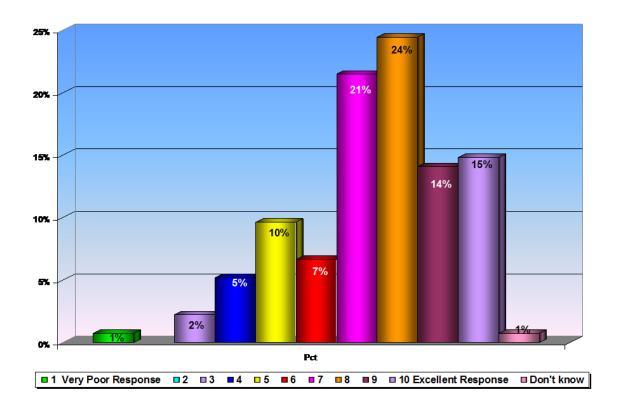
**Observation** Environmental concerns increased post event, but only slightly.

How well prepared do you believe Nova Scotia Power was for this storm? Please use a 1 to 10 scale where 1 stands for not at all prepared and 10 stands for very well prepared.



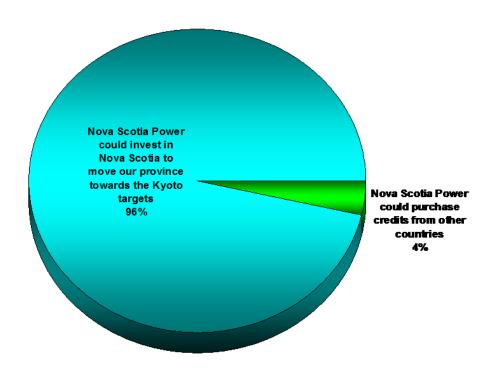
**Question** Last week a storm hit Nova Scotia. On a scale of 1 to 10 where 1 stands for not at all prepared and 10 stands for very well prepared, how well prepared do you think Nova Scotia Power was for this storm?

### On a scale of 1 to 10, how well did you think Nova Scotia Power did in responding to this emergency? (post event)



**Question** On a scale of 1 to 10 where 1 stands for a very poor job and 10 stands for an excellent job, how well do you think Nova Scotia Power did in responding to this emergency?

Meeting the initial Kyoto target for 2010 would require a 40% reduction in the amount of greenhouse gases from NSP. The company cannot accomplish this in the remaining time available and still meet customer's need for electricity. Which of the following two alternatives do you prefer? (post event)



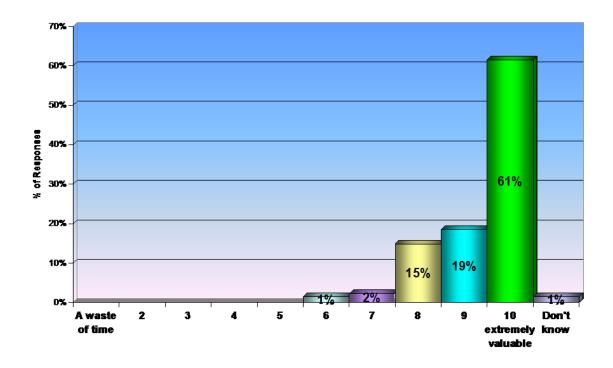
**Question** . . . Two of the options the company has two options in responding to the Kyoto agreement targets for 2010. Which do you prefer?

Nova Scotia Power could purchase credits from other countries where the production of greenhouse gases has already fallen. The cost of this option would be between \$30 and \$60 million each year and would result in a 3% to 6% increase in residential customer rates.

Nova Scotia Power could invest the same amount in Nova Scotia in ways that move our province towards the Kyoto targets but over a longer period of time. This approach would include investments in expanded use of natural gas, more renewable energy, more energy conservation, and more research in how to best capture and store greenhouse gases.

**Observation** This was a question added during the course of the event, with advisory group support. The result needs to be looked at carefully, since neither the materials nor the discussion fully explored both sides of this issue. Nonetheless the result is intriguing and worthy of further investigation.

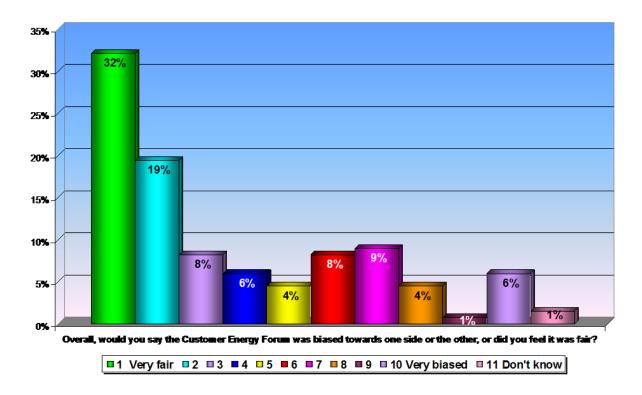
### Overall, how would you rate the Energy Customer Forum on a scale on 1 to 10 where 1 stands for a waste of time and 10 stands for extremely valuable?



**Question** Overall, the Customer Energy Forum was:...

**Observation** Participants average rating for the event was 9.4. Participants wrote a great deal about their experience in the verbatims.

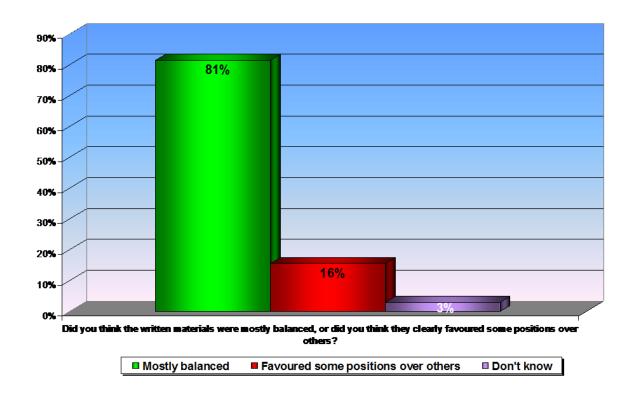
Overall, would you say the Customer Energy Forum was biased towards one side or the other, or did you think it was fair? Please use a 1 to 10 scale where 1 stands for very fair and 10 stand for very biased.



**Question** Overall, would you say the Customer Energy Forum was biased towards one side or the other, or did you feel it was fair?

**Observation** The verbatims indicate that where there was a concern for bias it was that there was too much emphasis on coal. The reader is invited to read the verbatim responses.

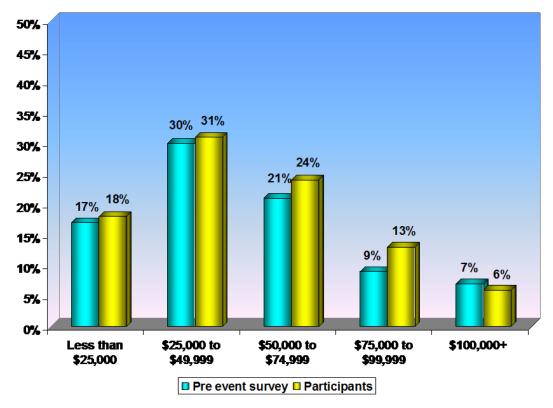
### Did you think the materials were mostly balanced, or did you think they clearly favoured some positions over others?



**Question** Did you think the written materials were mostly balanced, or did you think they clearly favoured some positions over others?

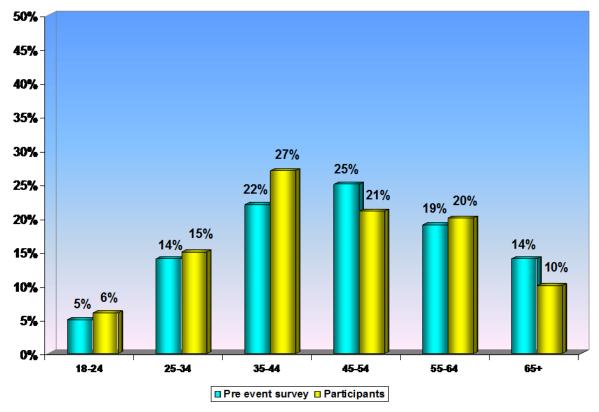
**Observation** Four fifths of the participants felt the materials were balanced.

### Comparison of income of initial telephone survey respondents and participants



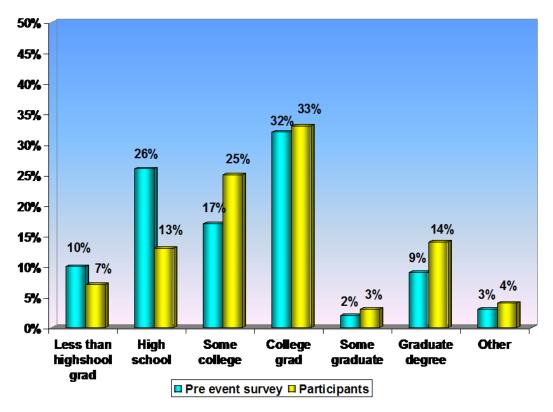
**Observation** The economic make-up of the participants was almost identical to the larger sample in the telephone survey.

### Comparison of age of initial telephone survey respondents and participants



**Observation** The age make-up of the participants was almost identical to the larger sample in the telephone survey.

### Comparison of education of initial telephone survey respondents and participants



**Observation** Participants were slightly more educated than the larger sample in the telephone survey.

## Appendix A Post Event Questionnaire with Results (See attached document)

#### Appendix B Verbatim Responses (See attached document)