



Ipsos  **Reid**

**CANADIAN ATTITUDES TOWARDS NUCLEAR ENERGY
TRACKING SURVEY RESULTS, NOVEMBER 2003**

Prepared by Ipsos-Reid

For the Canadian Nuclear Association

November 21, 2003



TABLE OF CONTENTS

- Executive Summary 1**
- Introduction To The Study..... 3**
- 1. Support For Nuclear Energy 5**
 - Support For Other Energy Sources 6
- 2. Benefits/Concerns of Nuclear Technology 9**
 - Benefits 9
 - Concerns..... 10
- 3. Handling Of Nuclear Waste..... 12**
- 4. Perceived Safety of Nuclear Power Plants..... 14**
- 5. Belief That Nuclear Power Will Continue To Be Part Of Future Energy Mix..... 16**
- 6. Support for Upgrading & Refurbishing Existing Nuclear Power Plants and Building
New Power Plants 17**
 - Upgrading and Refurbishing Nuclear Power Plants 17
 - Building New Nuclear Plants..... 18
- 7. In a Post-Blackout Has Anyone Changed Their Views? 19**
- 8. CNA Advertising Campaign 20**
- Appendix: Survey QuestionnaireCanadian Attitudes Towards Nuclear Energy i**



LIST OF TABLES:

Table 1. Regional Distribution of Interviews and Regional Margins of Error.....	4
Table 2. Support for/Opposition to Nuclear Energy (%).....	6
Table 3. Support for Other Energy Sources (%).....	8
Table 4. Support for Other Energy Sources, July vs. November 2003 (%).....	8
Table 5. Perceived Benefits of Nuclear Technology (%).....	9
Table 6. Concerns about Nuclear Technology (%).....	11
Table 7. Level of Confidence That Authorities Have a Good System for Dealing with Nuclear Waste (%).....	13
Table 8. Perceived Safety of Nuclear Power Plants (%).....	15
Table 9. The Future of Nuclear Power (%).....	16
Table 10. Upgrading and Refurbishing vs. Building New Nuclear Plants (%).....	18
Table 11. Feelings about Nuclear Power After Power Blackout (%).....	19
Table 12. Awareness of Recent CNA Advertising (%).....	20
Table 13. Effect of Recent CAN Advertisements (%).....	20

EXECUTIVE SUMMARY

The Canadian Nuclear Association has undertaken public opinion surveys of the Canadian population concerning their views on nuclear power and energy issues since 1987 with the last sounding having occurred in July 2003. This random telephone national survey of Canadians was conducted in November 2003 and updates many previous tracking questions. The new survey also added a few new questions in a “post-blackout” era, and some preference choices concerning nuclear plant construction or refurbishing in the future.

Since July 2003, support for nuclear power in the country has remained virtually static (50% in July and 48% this November). However, opposition has increased to pre-July levels and is now at 48 percent. Consequently, the country is virtually split, again, on their support for and opposition to nuclear power. Opposition has risen due to regional shifts as opposed to any other apparent factor.

As for support for other energy sources (solar and wind, hydro-electric, natural gas and coal), while there is very little change in the top-line results from the last survey there are some regional changes worth noting – particularly with respect to coal, where support has risen in most parts of the country except in Quebec.

While there are no changes since July as to how Canadians view the benefits of nuclear energy, there are some very distinct changes in concern levels in various regions of the country. Concerns about nuclear power plant safety have *dropped* in most regions but this has given way to a rise in levels of concern in other dimensions, particularly in the Province of Quebec. The story here is that while “concern levels” have fluctuated and perhaps changed on a regional basis, overall, the top-line results have not changed very much at all since July.

This is also the case with the level of confidence in the handling of nuclear waste. On the top-line, 54 percent nationally say they are *not* confident that authorities have a good system to deal with nuclear waste (41% say they are confident), similar to the July 2003 finding. There is a slight regional shift, however, in the past six months. A majority (51%) in Ontario is now confident compared to 46% on the previous survey.



There has been an increase in the perception that nuclear power plants currently operating in Canada are safe with 48 percent of Canadians (up from 43 percent in July 2003) taking this view. Again, these numbers are being driven on a regional basis, primarily by Quebec and Alberta. Quebec (54%) and Ontario (51%) are the provinces with majority views that the plants are safe, followed closely by Atlantic Canada (47%).

Eight-in-ten (77%) believe that nuclear power will be part of the future mix of energy in the country and 68 percent of Canadians support upgrading and refurbishing nuclear power plants. This latter view compares with only 41 percent who support building new nuclear power plants. It would appear that *the Blackout* had no real net effect on people's views of nuclear power – 78 percent indicate no change, 8 percent are more positive and 13 percent are more negative.

INTRODUCTION TO THE STUDY

BACKGROUND

As part of its communications efforts, the Canadian Nuclear Association (CNA) regularly monitors the Canadian public's perceptions of various nuclear issues. As part of this monitoring activity, the Canadian Nuclear Association (CNA) engaged Ipsos-Reid Corporation to conduct public opinion research on a number of issues that are important to the nuclear industry. This current research specifically addressed the following topic areas:

- Public support for nuclear electricity generation,
- Public support for other energy sources,
- Perceived benefits and concerns about nuclear technology,
- Confidence in the system to handle nuclear waste,
- Perceived safety of nuclear power plants in Canada, and
- Awareness and effect of the CNA's recent advertising campaign.

All of the questions noted above have been tracked previously. For the purposes of this public opinion sounding, two new questions were added that have not been previously tracked. These questions included:

- Canadians' views on the inevitability that nuclear power will continue to be part of the energy generating mix in Canada for the next few decades; and
- Support for upgrading and refurbishing existing nuclear power plants and building new nuclear power plants.

This report presents the results of the survey. Values in the tables are percentages unless otherwise indicated. Copies of the omnibus questions as well as the detailed statistical tables accompany this report.

METHODOLOGY

Between November 10 and 13, 2003 Ipsos-Reid poll conducted a random sample survey of 1,056 Canadians aged 18 and older. Interviews were conducted by telephone in both English and French. The Canadian Nuclear Society questions were fielded as part of the Canadian Ipsos-Reid Express omnibus survey.

SAMPLING AND MARGINS OF ERROR

The results of the survey sample are considered accurate to within ± 3.1 percentage points, 19 times out of 20, of what they would have been had the entire adult Canadian population been polled. The Atlantic Region and Manitoba/Saskatchewan regions were over-sampled to ensure a minimum of 100 interviews. The margin of error is larger within sub-groupings of the survey population. The data were statistically weighted to ensure the sample's regional and age/sex composition reflects that of the actual Canadian population according to the 2001 Census data. No interviews were conducted in Nunavut, the Northwest Territories and the Yukon.

Table 1. Regional Distribution of Interviews and Regional Margins of Error

Province/Region	# of Interviews	Margins of Error
Atlantic	100	$\pm 9.8\%$
Quebec	239	$\pm 6.3\%$
Ontario	385	$\pm 5.0\%$
Manitoba/ Saskatchewan	100	$\pm 9.8\%$
Alberta	100	$\pm 9.8\%$
British Columbia	132	$\pm 8.5\%$

REPORTING CONVENTIONS

The survey included a number of questions that asked respondents about the extent to which they agree or disagree with given statements. Throughout this Report, responses of “agree strongly” and “agree somewhat” are grouped together and represented as “TOTAL agree,” while “disagree somewhat” and “disagree strongly” are grouped together and represented as “TOTAL disagree.”

1. SUPPORT FOR NUCLEAR ENERGY

Canadians are split in their support/opposition concerning the use of nuclear energy as one of the ways to provide electricity for Canada. Since the last sounding on this question in July 2003, opposition has risen by eight percentage points while support has dipped slightly. Parallel findings were evident in April 1989 and October 1987.

It would appear that since July there has been a shift in opposition in a number of regions of the country. While opposition has remained relatively static in British Columbia, it has risen 10 points (from 36 percent to 46 percent) in Alberta, nine points (from 37 percent to 46 percent) in Saskatchewan/Manitoba, eight points (from 26 percent to 34 percent) in the Province of Ontario, seven points (from 58 percent to 65 percent) in the Province of Quebec and six points (from 40 percent to 46 percent) in Atlantic Canada. All of the other socio-economic and demographic indicators have remained relatively static within the margin of error with one notable exception and that is with opposition rising among men by seven points (from 37 percent to 44 percent).

Those regions expressing the most support for nuclear energy are led by Ontario (61%), followed by Atlantic Canada (50%), Alberta (49%), Saskatchewan/Manitoba (45%), and B.C. (38%). Those with a university degree (54%) and a higher annual household income (54%) are more likely to support this position. Alternately, those with less education (49%) and lower income (51%) are more likely to oppose this form of energy.

On the whole it would appear that the “undecided” group has shifted leaving a relatively static topline compared to the last report but having increased opposition at the other end of the scale.

Table 2. Support for/Opposition to Nuclear Energy (%)

	Oct 1987	Nov 1988	April 1989	Feb 1994	Jan 2001	April 2002	Nov 2002	July 2003	Nov 2003
TOTAL Support	51	62	50	34	37	49	42	50	48
TOTAL Oppose	49	37	49	48	47	44	51	40	48
Strongly support	12	17	14	10	10	13	12	17	15
Somewhat support	39	45	36	24	27	36	30	33	33
Somewhat oppose	25	22	25	22	20	22	18	17	20
Strongly oppose	24	15	24	26	27	22	33	23	28
Neither	-	-	-	12	14	-	-	-	-
DK/NA	-	4	2	6	2	7	7	10	5

Question: In general, do you strongly support, somewhat support, somewhat oppose or strongly oppose the use of nuclear energy as one of the ways to provide electricity for Canada?¹

SUPPORT FOR OTHER ENERGY SOURCES

The following analysis is confined to comparisons of the tracking questions concerning solar and wind power, hydro-electric power, natural gas and coal. Comparisons with respect to nuclear power are noted above.

Support for and opposition to all of the alternatives tracked from the previous study have remained static (within the margin of error). In every element or sub-category there is virtually no change with the exception of the following directional findings:

¹ The October 1987, November 1988, and April 1989 results are from Decima Research and the question wording and response options were slightly different than the current wording. The question wording was as follows: Do you favour or oppose the use of nuclear energy as one of the ways to provide electricity for Canada?

The May 1991 and February 1994 results are from the Angus Reid Group. The question wording for these surveys was as follows: I'd like to read you a list of different energy sources for producing electricity. For each one, I'd like you to tell me if you support that source for producing electricity. You can do this by using a scale of 1 to 7, where "1" means strongly oppose this method, and "7" means strongly support this method. Scores 2 and 3 on this scale were coded as "somewhat oppose", a score of 4 was coded as "neutral", and scores of 5 and 6 were coded as "somewhat support".

The January 2001 results are from Earnslcliffe Research and Communications. The question wording for this survey is similar to the Decima wording, except it allowed for a "neither" response. The April and November 2002 results are from Environics and use the same wording as the current July 2003 survey wording outlined above.

- There would appear to be a directional change in the intensity of support for **solar and wind power** in the Province of Quebec with strong support having increased from 68 percent in the last sounding to 77 percent now. Concurrently, soft support (“somewhat”) has dropped from 26 percent to 17 percent.
- There would appear to be a softening in the intensity of support for **hydro-electric power** in Atlantic Canada with strong support having dropped from 62 percent in July to 48 percent today (14 points) and with soft support (“somewhat”) having moved from 32 percent to 47 percent in the same timeframe (15 points).
- The most significant change in the tracking would appear to be in the Province of British Columbia where overall support has risen 11 points for **natural gas** since the last survey (86 percent up from 75 percent). Also, there would appear to be a directional change in the intensity of support for natural gas in the Atlantic Provinces with strong support having dropped from 40 percent in the previous poll to 33 percent today (down seven points) and with an increase in soft support (“somewhat”) rising from 39 percent to 47 percent (a rise of 8 points).
- Of all of the different forms of energy measured in the survey, **coal** has the highest level of volatility in terms of the last sounding in public opinion. While there is a four point difference in overall support (from 29 percent previously to 33 percent today) and while change in opposition remains within the margin of error (dropping from 67 percent to 64 percent), there are some significant potential directional changes within the regions.
 - In the Province of British Columbia, support for coal has risen 18 points to 43 percent (up from 25 percent). Opposition has dropped from 72 percent to 53 percent;
 - In the Province of Alberta, support for coal has risen nine points (up from 47 percent to 56 percent); support has risen in Atlantic Canada by eight points (up from 34 percent to 42 percent);
 - Support has risen in Saskatchewan/Manitoba by five points (up from 34 percent to 39 percent); and,
 - In Ontario support has risen four points (up from 22 percent to 26 percent).
 - There has been a drop in support for coal in the Province of Quebec by eight points, having dropped 32 percent to 24 percent.

It is instructive to note that certain provinces have a greater affinity towards coal than others— a majority (56%) in Alberta support the use of coal, followed by B.C. (43%) and Atlantic Canada (42%). Those provinces most likely to be in opposition to the use of coal are Ontario (72%), Quebec (70%), and Saskatchewan/Manitoba (60%).

Table 3. Support for Other Energy Sources (%)

	Solar and wind power	Hydro- electric power	Natural gas	Coal	Nuclear power
TOTAL Support	96	92	82	33	48
TOTAL Oppose	3	6	16	64	48
Strongly support	79	55	36	7	15
Somewhat support	16	37	46	26	33
Somewhat oppose	2	3	9	25	20
Strongly oppose	1	3	7	39	18
Neither	-	-	-	-	-
DK/NA	1	2	2	3	5

Question: In general, do you strongly support, somewhat support, somewhat oppose or strongly oppose the use of each of the following as one of the ways to provide electricity for Canada? How about . . . ?

Table 4. Support for Other Energy Sources, July vs. November 2003 (%)

	July 2003	November 2003
Solar and wind	96	96
Hydroelectric	92	92
Natural gas	80	82
Coal	29	33
Nuclear	50	48

2. BENEFITS/CONCERNS OF NUCLEAR TECHNOLOGY

BENEFITS

There are no statistically significant changes in the findings of this survey compared to July 2003. The only element worth noting is in the top of mind response (pre-coded) which identifies nuclear technology as “less harmful to the environment than other energy sources.” This attitude has continued to land at the top of the pre-coded “benefit” list at 15 percent with the highest responses in Ontario (20%), followed by Alberta (18%) and Atlantic Canada (17%). There appear to be no changes in the socio, demographic and economic sub-groupings since July.

Of those who support nuclear power (48%), twenty-six percent cite a benefit as “less harmful to the environment than other energy sources” (13%) and “cost efficient alternative” (10%).

Table 5. Perceived Benefits of Nuclear Technology (%)

	April 2002	July 2003	November 2003
Medical diagnostics/research	14	11	6
Less harmful to the environment than other energy sources	13	15	14
Cost-efficient alternative	10	10	9
Energy production efficiency	9	6	6
Needed to meet energy demand	7	2	1
Plentiful/renewable	6	6	5
It is a non-fossil fuel	4	2	1
It is a safe technology/energy source	3	3	1
Creates jobs/helps economy	1	2	3
Advanced technology/research	2	-	2
Produces power/electricity/energy	-	5	7
Other	6	11	6
None/no benefits	21	28	29
DK/NA	23	21	25

Q.13 What benefits, if any, do you associate with nuclear technology?

Note: Multiple responses allowed, so total may sum to more than 100%.

CONCERNS

As noted above, very few of the tracking indicators have changed since the last sounding. However, it is important to note that, directionally, the following open-ended pre-coded elements have had a change, which is detectible:

- The **concern over the safety of nuclear power plants** has dropped from 22% of mentions to 13% (down nine points). This is most evident in B.C. (down 11 points), Atlantic Canada down nine points, Quebec down nine points, Ontario down eight points and Alberta down five points.
- Concern which is attributed to **“dangerous/frightening”** is up seven points mainly driven out of the Province of Quebec (up 13 points) and Alberta (up 8 points).
- Concern over **“incompetence/improperly managed”** is up six points, driven primarily out of the Province of Quebec where this response is at 10%.

Stepping back from the individual items that have been tracked and examining the dimensions from a regional perspective, the following observations are made

- The province that has had the largest change in open-ended response tracking is Quebec. Ironically, while the research indicates that concern about the safety of nuclear power plants has dropped from 12 percent to three percent (9 points) since the last sounding, many other concerns have heightened including:
 - Dangerous/ frightening up 13 points to 15 percent;
 - The effects of radiation exposure/effects of a nuclear accident on workers and the community, up from 24 percent to 35 percent,
 - Incompetence/improperly managed from zero percent to 10 percent (up 10 points);
 - Overall negative/against it from zero percent to nine percent (up nine points); and,
 - The environmental effects of producing nuclear energy from nine percent to 15 percent (up 6 points).
 - Directionally, with the exception of the issue of disposal of nuclear waste where the concern has dropped seven points from 15 percent to eight percent (7 points), it appears that more concerns about nuclear technology have been raised here in Quebec more than anywhere else in the country.
- All other changes in the regional areas of the country would be considered within the margin of error and therefore not statistically significant.
- Those who oppose nuclear power are more likely than others to cite as their chief concerns:
 - Effects of radiation exposure/effects of a nuclear accident (31%),

- Environmental effects of producing nuclear electricity (18%), and
- Disposal of nuclear waste (16%).
- Among those who support nuclear power, 18 percent cite the effects of radiation exposure/effects of nuclear accident as their chief concern followed then by the safety of nuclear power plants (16%) and the disposal of nuclear waste (15%).

Table 6. Concerns about Nuclear Technology (%)

	April 2002	July 2003	November 2003
The effects of radiation exposure/effects of a nuclear accident on workers and the community	28	19	23
The safety of nuclear power plants	24	22	13
The disposal of nuclear waste	19	18	15
The environmental effects of producing nuclear electricity	11	8	11
Terrorist access to nuclear weapons	5	6	0
Lack of knowledge of implications	5	5	3
Weapons/warfare	4	4	6
Misuse/abuse of nuclear technology	4	2	4
Nuclear power plants being possible targets of terrorism	2	2	4
The cost of nuclear-generated electricity	2	1	2
The export of nuclear technology to developing countries	1	1	0
Dangerous/frightening	-	3	10
Lack of controls/regulations	-	2	4
Incompetence/ improperly managed	-	2	8
Overall negative/against it	-	1	5
Other	3	2	2
None/no concerns	15	20	15
DK/NA	8	8	11

Q.14 What concerns, if any, do you have about nuclear technology?

Note: Multiple responses allowed

3. HANDLING OF NUCLEAR WASTE

A majority of Canadians (54%) are not confident that the authorities responsible for nuclear waste have a good system in place to deal with it. This has remained static since the previous tracking survey in July 2003. Directionally, slightly more Canadians (41%) feel confident compared to the July survey (37%), but this is within the margin of error.

There are no significant shifts in the sub-elements except for the following:

- Confidence has risen in the Province of Ontario from 45 percent to 51 percent (an increase by six points). Ontario currently is the only province where a majority of its residents (51%) express confidence that authorities have a good system in place. This compares with Atlantic Canada (35%), Saskatchewan/Manitoba (43%), B.C. and Alberta (38%) and Quebec (27%).
- Confidence has also risen, directionally, in British Columbia up from 27 percent to 38 percent (up nine points) since the last survey in July 2003.

The current opinion landscape of those lacking confidence that authorities have a good system in place to deal with nuclear waste is led by Quebec (69%) and followed by B.C. (59%), Alberta (56%), Atlantic Canada and Saskatchewan/Manitoba (51%) and Ontario (43%). Examining all other socio and economic indicators and demographic sub-elements from the last poll, there have been no significant changes. Of those who do not have confidence, the most significant are noted as women (57%) and older (55-plus: 58%) and middle-aged (35-54: 56%) individuals. Younger adults (18-34) are split in their views (49% confident vs. 46% not confident).

Of those who support nuclear power, the majority (56%) is confident that the authorities responsible for nuclear waste have a good system in place to deal with it and 38 percent are not. Of those who oppose nuclear energy, 26 percent are confident and 71 percent are not.

Table 7. Level of Confidence That Authorities Have a Good System for Dealing with Nuclear Waste (%)

	January 2001	July 2003	November 2003
CONFIDENT	53	37	41
NOT CONFIDENT	44	55	54
Very confident	8	7	8
Somewhat confident	45	30	33
Not very confident	27	30	28
Not at all confident	17	25	26
DK/NA	3	8	5

Q15. In general, would you say that you are very, somewhat, not very, or not at all confident that the authorities responsible for nuclear waste have a good system in place to deal with it?

4. PERCEIVED SAFETY OF NUCLEAR POWER PLANTS

There has been an increase in the perception of the safety of the nuclear power plants currently operating in Canada. This tracking survey shows that nationally 48 percent of Canadians (up five points from 43% in July 2003) give the operation of nuclear power plants a good rating on their safety (a rating of 5, 6 or 7 on a 1-7 scale). At the same time there has been a rise of three points (moving from 26% in July to 29% in November) in those believe that nuclear power plant operations are unsafe with respondents giving the operations the lowest ratings. The proportion of neutral responses (rated four out of seven category) has moved from 21 percent to 17 percent (a drop of four points).

Virtually all of the socio, economic and demographic sub-elements are unchanged from the July survey. However, there are some significant directional findings to be taken into consideration. Quebec (up 15 points from 39 percent to 54 percent) has given higher ratings of safety to the nuclear plant operations, whereas several other provinces are of a contrary mind: Alberta (moving 12 points from 23 percent to 35 percent unsafe), Saskatchewan/Manitoba (moving 8 points from 21 percent to 29 percent unsafe) and B.C. (moving 4 points from 36 to 40 percent unsafe).

In ranked order, those provinces which view nuclear power plants currently operating in Canada as “safe” are: Quebec (54%) and Ontario (51%) followed by Atlantic Canada (47%); Saskatchewan/Manitoba (46%), Alberta (44%) and B.C. (34%). It is interesting to note that in the open-ended pre-coded questions above, with respect to concerns about nuclear technology the concern about nuclear safety in Quebec has dropped 12 points where this question reflects an almost concurrent rise in confidence and safety.

- Those provinces most likely to indicate unsafe ratings are led by B.C. (40%) and Alberta (35%) followed by Saskatchewan/Manitoba (29%), Atlantic Canada (28%) and Ontario and Quebec both at 25 percent.
- Of those who are supportive of nuclear energy, three in five (62%) view nuclear power plants as currently operating safely compared with 18 percent who believe that they are unsafe. Of those who oppose nuclear energy, 36 percent indicate that the plants are operating safely compared to 40 percent who do not believe they are safe.
- There are very few differences in terms of socio, economic and demographic sub-elements. However, directionally it should be noted that those with a higher education and with higher annual household income have more confidence in the

safety of the nuclear power plants than those who with a lower educated and lower annual household income.

Table 8. Perceived Safety of Nuclear Power Plants (%)

	July 2003	November 2003
1 Very unsafe	6	4
2	4	6
3	16	18
4	21	17
5	26	28
6	12	14
7 Very safe	5	7
DK/NA	9	6
Mean	4.26	4.34

Q16. In your opinion, using a scale from 1 to 7, where 1 means very unsafe and 7 means very safe, how safe are nuclear power plants currently operating in Canada?

5. BELIEF THAT NUCLEAR POWER WILL CONTINUE TO BE PART OF FUTURE ENERGY MIX

A new question was added to the survey which asked people whether they agreed or disagreed with the view that while today, the main fuel sources of electricity production in Canada are hydro, coal, nuclear and natural gas, over the next 25 years the demand for electricity is expected to increase by over 60 percent and it is inevitable that nuclear power will continue to be part of the energy generating mix in Canada for the next few decades. A full majority (77%) agrees with this statement with the highest level of support in Atlantic Canada (87%) and Ontario (84%) followed by British Columbia and Saskatchewan/Manitoba at 77 percent, Alberta at 75 percent and Quebec at 63 percent.

Of those who support nuclear energy, 89 percent believe this will be the case and even among those who oppose nuclear energy a full majority (66%) also believe this will be the case.

There are no significant differences with respect to age, gender or other socio, economic or demographic elements.

Table 9. The Future of Nuclear Power (%)

	November 2003
Yes	77
No	21
DN/NA	2

Q7. Today, the main fuel sources for electricity production in Canada are hydro, coal, nuclear and natural gas. Over the next 25 years, the demand for electricity is expected to increase by almost 60%. Do you believe that it is INEVITABLE that nuclear power will continue to be part of the energy generating mix in Canada for the next few decades?

6. SUPPORT FOR UPGRADING & REFURBISHING EXISTING NUCLEAR POWER PLANTS AND BUILDING NEW POWER PLANTS

Respondents were told that many large generating plants in Canada with various fuel sources will have to be replaced over the next 10 to 15 years. Canadians were asked to either support or oppose both propositions of upgrading and refurbishing existing nuclear power plants and building new nuclear power plants in order to help meet Canada's future electricity demand.

Seven-in-ten (68%) support upgrading and refurbishing existing nuclear power plants whereas only 41 percent support building new nuclear power plants. Opposition to upgrading existing nuclear power plants is at 30 percent and to building new nuclear power plants is at 57 percent.

UPGRADING AND REFURBISHING NUCLEAR POWER PLANTS

As noted above, 68 percent of Canadians support upgrading and refurbishing nuclear power plants with the highest level of support being in Ontario (78%), followed by Alberta (74%), Atlantic Canada (70%), and B.C. (67%). Lower levels of support are registered in Saskatchewan/Manitoba (59%) and Quebec (52%). Younger (18-34: 73%) Canadians are slightly more likely to support this position than middle-aged (35-54: 66%) and older (55+: 65%) respondents. Men (71%) are more likely than women (65%) to support this position. Those with higher levels of education (72%) and with higher annual household incomes (\$60,000: 72%) are more likely to support this view. Further, those who support nuclear energy are more likely to support this approach (89%) than those who oppose nuclear energy (47%).

What is instructive is that almost half of those who oppose of nuclear energy (23% of the population) are likely to support this proposition when adding the totals of those who support and oppose of nuclear power it is interesting to note that two-thirds (65%) of the entire population ends up supporting this option.

When examining the difference between upgrading/refurbishing existing nuclear power plants and building new nuclear power plants the "net" nationally is +27 in favour of upgrading/refurbishing existing nuclear power plants. This positive view is predominant in

B.C. (+33) and Alberta (+33), followed by Ontario (+27), Quebec (+25), and Atlantic Canada (+22) and Saskatchewan/Manitoba (+22).

Opposition to upgrading and refurbishing (30%) is highest in Quebec (46%) followed by Saskatchewan/Manitoba (40%), B.C. (31%), Atlantic Canada (29%), Alberta (25%) and Ontario (20%).

BUILDING NEW NUCLEAR PLANTS

Only 41 percent of Canadians support the building of new nuclear plants. There are, however, significant regional differences with Ontario (51%) and Atlantic Canada (48%) supporting this initiative to a greater extent than Alberta (41%), Saskatchewan/Manitoba (37%), B.C. (34%), and Quebec (27%). There are no age differences noted but men (44%) are more likely than women (37%) to support this option. There are no statistical differences in education or income. Support among those who support nuclear power for this option is at 68 percent whereas support for new nuclear power plants is at 13% for those who are as opposed.

Six-in-ten (57%) are opposed to building new nuclear power plants with strongest opposition coming from Quebec (71%), B.C. (65%), Saskatchewan/Manitoba (61%), Alberta (56%) followed by Atlantic Canada (47%) and Ontario (46%). There are no significant statistical differences in age, gender, education or income. Of those who support nuclear power, 30 percent support this option whereas of those who oppose nuclear power, some 85 percent oppose this option.

Table 10. Upgrading and Refurbishing vs. Building New Nuclear Plants (%)

	Support	Oppose
Upgrading and refurbishing EXISTING nuclear power plants	68	30
Building NEW nuclear power plants	41	57

Many large power-generating plants in Canada with various fuel sources will have to be replaced over the next 10 to 15 years. In order to help meet Canada's future electricity demand, do you support or oppose: [ROTATE.]

7. IN A POST-BLACKOUT HAS ANYONE CHANGED THEIR VIEWS?

Respondents were asked to reflect upon the blackout that occurred this past August and to determine if they were more positive, negative or had not changed their views on nuclear power as a result of this circumstance. Findings indicate that a significant majority (78%) had not changed their views while 8 percent are more positive and 13 percent are more negative. Those who are more positive are predominately from Ontario (12%), older (55+: 12%), and female (10%). Those who were more negative are more likely to be found in B.C. (18%), Saskatchewan/Manitoba (16%), Quebec (15%), Alberta (13%), Ontario (12%) and Atlantic Canada (10%) with women (16%) slightly more negative than men (11%). Canadians with a lower level of education (17%) and lower annual household income (12%) also appear to have a slightly more positive view but this is somewhat negated by the same grouping of lower income (16%) and lower educated (16%) having a more negative view. Those who support nuclear energy are more likely to say the blackout reinforced their positive view of nuclear power (12%) than those who oppose nuclear energy (4%).

Table 11. Feelings about Nuclear Power After Power Blackout (%)

	November 2003
More positive	8
More negative	13
No change	78
DK/NA	1

8. CNA ADVERTISING CAMPAIGN

There is virtually no change in the tracking figures since last reported in July 2003. This is consistent with all socio, demographic and economic indicators across the country and in all regions.

Table 12. Awareness of Recent CNA Advertising (%)

	April 1989	May 1991	Feb 1994	Nov 2002	July 2003	Nov 2003
Yes	20	28	12	8	5	3
No	80	70	87	92	95	96
DK/NA	-	2	1	*	*	*

Question: Have you recently seen or heard any advertising from the Canadian Nuclear Association?

While the July 2003 and April 1989 question wording is essentially the same, the wording for the other surveys is slightly different. The November 2002 question wording was as follows: Have you recently seen or heard any advertising from the Canadian Nuclear Association promoting nuclear energy and clean air and clean electricity?; the February 1994 question read: Have you recently seen any advertisements about nuclear issues in Canada?; and the May 1991 question was as follows: Thinking about advertisements you may have seen, read, or heard, do you recall any advertisements by the Canadian Nuclear Association on the nuclear industry that talked about "seeking to generate a better understanding"?

* Less than one percent

Table 13. Effect of Recent CAN Advertisements (%)

	July 2003	Nov 2003
More supportive	14	15
Less supportive	18	18
Has no effect	68	67

After having seen or heard this advertising, would you say that it makes you more supportive of nuclear energy, less supportive, or has no effect on your views?



APPENDIX: SURVEY QUESTIONNAIRE



CANADIAN ATTITUDES TOWARDS NUCLEAR ENERGY

Canadian Ipsos-Reid Express Omnibus

November 10-13, 2003

Now I would like to talk to you about a different subject, energy supply in Canada.

1. In general, do you strongly support, somewhat support, somewhat oppose or strongly oppose the use of nuclear energy as one of the ways to provide electricity for Canada?

Strongly support
Somewhat support
Somewhat oppose
Strongly oppose

2. In general, do you strongly support, somewhat support, somewhat oppose or strongly oppose the use of each of the following as one of the ways to provide electricity for Canada? How about? [RANDOMIZE]

a) Hydroelectric power
b) Coal
c) Natural gas
d) Alternative sources such as solar and wind power

Strongly support
Somewhat support
Somewhat oppose
Strongly oppose

ROTATE Q3 AND Q4 ASK ALL.

3. What benefits, if any, do you associate with nuclear technology? [RECORD ALL MENTIONS.]
4. What concerns, if any, do you have about nuclear technology? [RECORD ALL MENTIONS.]
5. In general, would you say that you are very, somewhat, not very, or not at all confident that the authorities responsible for nuclear waste have a good system in place to deal with it?

Very
Somewhat
Not very
Not at all confident

6. In your opinion, using a scale from 1 to 7, where 1 means very unsafe and 7 means very safe, how safe are the nuclear power plants currently operating in Canada?

7. Today, the main fuel sources for electricity production in Canada are hydro, coal, nuclear and natural gas. Over the next 25 years, the demand for electricity is expected to increase by almost 60%. Do you believe that it is inevitable that nuclear power will continue to be part of the energy generating mix in Canada for the next few decades?

Yes
No

8. Many large power-generating plants in Canada with various fuel sources will have to be replaced over the next 10 to 15 years. In order to help meet Canada's future electricity demand, do you support or oppose: [ROTATE.]

- a) Upgrading and refurbishing existing nuclear power plants?
b) Building new nuclear power plants?

Support
Oppose

9. As you may know, this past August, Ontario along with parts of the United States, experienced a widespread power blackout. Because of this power black out, do you now feel more positive about nuclear power than you did before, more negative about nuclear power, or did this event not change your views?

More positive
More negative
No change

10. Have you recently seen or heard any advertising from the Canadian Nuclear Association?

Yes
No
DK/UNSURE [VOLUNTEERED]

SKIP Q11 IF "NO" OR "DK" IN Q10

11. After having seen or heard this advertising, would you say that it makes you more supportive of nuclear energy, less supportive, or has no effect on your views?

More supportive
Less supportive
No effect on your views



Ipsos  **Reid**

www.ipsos-reid.com