

# INTERNATIONAL PUBLIC OPINION

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## ABSTRACT

The Uranium Institute is co-ordinating a project that will allow a comparison of public opinion between different countries. Preliminary work found that such a comparison could not be made using the then existing data. The Institute, therefore, developed a series of questions that can be used to make valid comparisons. After these questions had been included in public opinion surveys conducted in three countries, a preliminary analysis of results was carried out. This has shown some interesting similarities and differences. Further work is underway to determine the relationship between political goals and attitudes towards nuclear power.

At the beginning of 1995, two or three members of The Uranium Institute jointly suggested that it would be of value to have an international perspective on public opinion regarding nuclear power. One of these members, COGEMA, offered to provide a Visiting Research Officer to assist the Secretariat in carrying out a project designed to provide this perspective. The proposal was supported by other members of the Institute and the Public Opinion Polling project, often referred to as the POP project, was initiated.

## PHASE 1

The project may logically be divided into three phases. In the initial phase, from February to August 1995, existing results from public opinion polling conducted in various countries were assembled and compared. It was found that similar questions had been asked in a number of surveys, and an attempt was made to reach some conclusions regarding similarities and differences in public opinion based on the responses that had been received in those surveys.

Detailed results from thirteen different surveys, conducted between 1992 and 1995, were reviewed along with thirteen published reports on public opinion survey findings. Eight themes, several with sub-themes, that occurred in multiple surveys were identified.

For example, in the US the question 'Which of [a list of] energy sources do you think will be the primary source of electricity in the United States 10 years from now?' was asked. In a Japanese survey there was the question: 'Which one energy source do you think will be the primary source of electricity 10 years from now?'

It was found that for most subjects the questions asked were similar, but not the same. Sometimes the differences were only slight, but even so, the validity of any comparison was questionable.

For example, in Japan the question asked was 'Do you think a serious accident like Chernobyl will occur in Japan?' and in France the question was 'Could there be an accident as serious as the one in Chernobyl?' In Japan, the respondents were asked if they thought it would happen, but in France only if it could happen.

Often, when the questions were similar, the available responses were different, making comparisons difficult. For example, in surveys in the UK and in Saskatchewan, Canada respondents were asked to identify, from a list, the 'industries having the greatest impact on the environment.' In the UK 10 industries were listed and in Saskatchewan only 6. The closest match between the lists was 'farming' in the UK and 'agriculture' in Saskatchewan. 'Tourism' was on the Saskatchewan list, but surprisingly not on the UK one.

It was concluded that public opinion could not be compared using existing data, and the Institute's Committee on Nuclear Energy and the Public (CNEP) was advised of this in September 1995. The report submitted to the committee suggested that there were three options for obtaining better data:

- Members could include questions in any surveys that they conducted that were similar to those that had been asked elsewhere,
- A set of standard questions could be developed for the members to use in their public opinion surveys, or
- The Institute could undertake an international public opinion survey.

Members of CNEP agreed that there was value in obtaining more information of the global perception of the nuclear fuel cycle and the second option was chosen as being the most cost effective. The Secretariat was asked, therefore, to develop a short list of questions that the Members of the Institute could use in their own opinion surveys. It was agreed that results from polls containing these questions would be submitted to the Secretariat, which would compile and analyse the findings and circulate them to the Members.

## **PHASE 2**

The developing of a series of questions, which began in September 1995, is the second phase of the POP project. For this work, it soon became evident that assistance from opinion survey specialists would be required. Initially, this assistance was obtained through informal consultation with representatives of some of the member companies.

However, at the CNEP meeting in January 1996 the decision was taken to create a Working Group, consisting of public opinion polling experts, to advance the project. This Group identified three aspects of the project on which they needed to concentrate:

- Developing questions that
  - (a) were suitable for most members and
  - (b) would provide interesting results,
- Identifying significant socio-cultural and socio-demographic variables, and
- Preparing technical guidelines designed to make the responses as comparable as possible.

Five polling questions were developed. This number was a compromise between limiting the questions to a number that might be considered acceptable by those being asked to add them to their surveys, and having a sufficient number of questions to cover most of the main areas of interest.

Since it was intended that the questions be included in larger surveys, it was agreed there was no need to develop questions to determine socio-cultural and socio-demographic information. This information would be available from the responses to questions always included in such surveys

However, the first question of the series was designed to identify respondents' values. It was based on the 'Inglehart scale,' which had been used (and validated) in the UK to characterise the population in surveys conducted for BNFL in the West Cumbria area 9ie close to the BNFL operations at Sellafield. The Group felt that such information would be valuable in interpretation and explanation of the results from different countries.

The other four questions were nuclear industry related. They were selected to be as close as possible to already existing questions in national surveys. It was felt that this would facilitate their introduction. The selected questions were intended to enable the assessment of the amount of support for nuclear energy.

The Working Group selected the following subjects for inclusion:

- The image of nuclear energy in comparison with other sources of energy as far as cost and future development are concerned,
- The degree to which nuclear energy is thought to be an important source of energy in the future, and
- The perception of nuclear related risks compared to that of other industrial risks.

It was decided that respondents should be asked to indicate the extent to which they agreed with a number of statements on nuclear energy, including its waste.

A pilot test of the questions was undertaken, with the co-operation of BNFL, in the UK. This allowed the working group to assess the amount of information which could actually be gathered from these questions and to identify problems in the formulation. Following the pilot test, a number of changes were made in the proposed questions.

### **PHASE 3**

Having developed the questions, and had them accepted at the CNEP meeting in September 1996, the third phase of the project, in which questions were to be asked, was started. It was decided that two years should be allowed for this phase. Following this, the findings will be reviewed and a decision will be made regarding continuation of the project. The decision will be based primarily on the enthusiasm demonstrated by the membership and the nuclear industry in general for this work. Putting it simply, the more people who ask the questions, the more likely it is that the project will be continued.

It was agreed that at the end of the first year of the two years of questioning, a preliminary evaluation of findings would be made, based on the responses then available. By mid-1997, the questions had been asked in three countries:

- In France by CEA, in December 1996 with 1052 respondents,
- In the UK by BNFL, in January and February 1997 with 3105 respondents, and
- In Canada by AECL, in April 1997 with 1500 respondents.

### **Results**

The preliminary analysis of the results from the first three countries has provided some interesting data. Asked if they agreed that there was an energy crisis, those questioned gave similar responses in each country. About half the respondents in each country thought that there was. This similarity is significant in interpreting responses to other questions.

### **Future Energy Sources**

Respondents were asked what they thought would be the main source of energy in 20 years time. 'Renewables,' which does not include hydro electricity which was listed separately, was the first choice in Canada (32%), joint first choice in France with 'Nuclear' (38%) and third choice behind 'Nuclear' and

‘Natural gas’ in the UK. It is interesting to note that in France the third choice was ‘Don’t know’ (10%). This suggests that the French foresee Nuclear Power and Renewables each providing nearly half the country’s energy by 2020.

However, if ‘Renewables’ are to be the main source of electricity in any of these countries they are going to require rapid expansion. In Canada their current contribution is negligible, in France its 0.1% and in the UK its 0.2%.

The responses to this question were compared with the current usage of nuclear power in each country and to the responses to another question asking if nuclear should be used in the future. It would appear that the perception of nuclear power’s future use is more influenced by its current use than by whether people thought it should be used (Table 1).

**Table 1** Influence on the future of nuclear power

	<b>Nuclear power seen as the main source of energy in 20 years</b>	<b>Nuclear power should be used in the future</b>	<b>Current (1996) usage of nuclear power</b>
<b>France</b>	38%	48%	77%
<b>UK</b>	28%	24%	26%
<b>Canada</b>	15%	25%	16%

### **Support for Nuclear Power**

To determine why people support or reject nuclear power, respondents were given a series of statements and asked to indicate how much they agreed or disagreed with them. Statements such as ‘Nuclear power plants are well managed’ and ‘Nuclear waste is a problem which has not been resolved.’

It was found that the fact that the use of nuclear power does not produce greenhouse gases did not have any influence on how it was perceived in any of the countries (Table 2). However, the surveys were conducted before all the media reporting on climate change in the lead-up to last year’s Kyoto Conference. A more recent survey in France has found that the situation has now changed and people do recognise that the use of nuclear power can be beneficial with respect to avoiding climate change.

**Table 2** Connotations of nuclear power

	<b>France</b>	<b>UK</b>	<b>Canada</b>
<b>Future role</b>	Positive	Positive	
<b>Well managed</b>	Positive		
<b>Democratic</b>		Negative	Negative
<b>Waste</b>	Negative	Negative	Negative
<b>Value for money</b>		Negative	Negative
<b>Good for economy</b>	Positive	Positive	
<b>Health risk</b>	Negative	Negative	Negative
<b>No greenhouse effect</b>			
<b>Role in medicine</b>	Positive	Positive	Posiitive

It should be noted that the surveys found that many people did not believe that there were no greenhouse gases produced by the use of nuclear power. Two in five people in the UK and Canada disagreed with the statement ‘Electricity by nuclear power does not contribute to the greenhouse effect.’

In each country, the biggest concern was with waste, with four out of five people in each country agreeing with the statement ‘Nuclear waste is a problem which has not been resolved.’

Nuclear power stations were perceived as more of a risk in the UK (85% agreed that ‘Nuclear power plants pose a serious risk to persons living nearby’) and Canada (82%) than in France (56%). Perhaps because more people have experience of living near a nuclear power station in France than in the other countries.

Some analysis has been done on the differences in perception of those who are in favour of nuclear power and those who are opposed to it. In particular, the analysis identified how each of these groups perceived the economic and the safety aspects of nuclear power. It was interesting to see that in France many of those who did not favour nuclear power did agree that it was good for the economy (Table 3).

**Table 3** Respondents who agreed that ‘The nuclear industry is good for the economy.’

	<b>Attitude toward nuclear power</b>	
	<b>Favourable</b>	<b>Unfavourable</b>
<b>France</b>	77%	44%
<b>UK</b>	66%	21%
<b>Canada</b>	71%	31%

On the other hand, it was found that everywhere a significant number of those who were in favour of nuclear power were concerned about the potential health impact (Table 4).

**Table 4** Respondents who agreed that ‘Nuclear power plants pose a serious health risk to persons living nearby.’

	<b>Attitude toward nuclear power</b>	
	<b>Favourable</b>	<b>Unfavourable</b>
<b>France</b>	40%	86%
<b>UK</b>	53%	83%
<b>Canada</b>	45%	77%

As noted previously, the survey included a question designed to indicate people’s values. Previous work in the UK had shown that values have a significant influence on perceptions of, and support for, nuclear power.

### **Values**

The correlation between values and responses to nuclear industry related questions was not determined in the preliminary analysis; however, the political goals of each country were identified. Respondents were shown a list of such goals and asked which three of the ten choices they felt were most desirable. The results were significantly different in each country (Table 5).

**Table 5** Political goals in different countries.

	<b>France</b>	<b>UK</b>	<b>Canada</b>
<b>Maintain law and order in the nation</b>	43%	62%	
<b>Achieve greater equality between people</b>	61%	33%	
<b>Maintain a high rate of economic growth</b>			40%
<b>Conserve and protect the natural environment</b>			50%
<b>Give people more say in the decisions of government</b>	35%	42%	39%

It is quite clear that people in different countries have different priorities and expectations. Additional analysis of results from the surveys is currently underway, at the University of Newcastle-upon-Tyne, to determine the relationships between political goals and attitude towards nuclear power in the different countries. It is anticipated that results from this work will be available in time for presentation at the Conference.

### **FUTURE WORK**

Organisations in a number of countries are currently considering asking the questions during 1998. Countries where the question may be asked include Japan, Russia, Sweden, Finland, Slovenia and Switzerland.

Further analysis of results is planned for the third quarter of 1998, when it is anticipated that results from other countries will be available. We hope that by mid 1998 we will have received some additional results.

Participation in this project is open to anyone connected with the nuclear industry who is interested. A Technical Manual is supplied to all participants. This gives instructions on such matters as translation, question placement in surveys and soci-demographic information required to support the analysis and comparison of results.

Only those who utilise the questions developed by the Institute, and provide data on the responses, have full access to the results obtained from this project. Participants may contract with the company that is assisting the Institute with this work to carry out additional analysis on the data. This will be particularly useful to those wishing to compare a particular aspect of public opinion in their country with other countries.

It has been suggested that this project will be of use to those who are contemplating initiating work in a new country and those who may be considering using a public information project that has been successful in another country. It is also expected to provide useful general information regarding the factors that affect the public's perception of nuclear power.