

Community Views on Renewable Energy and Global Warming

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Abstract

A survey was carried out in Western Australia to determine community attitudes to global warming and proposed mitigation measures. Strong concern was identified, together with some confusion about the origins and effects of global warming. Support was evident for several proposed mitigation measures, although many respondents were uncertain about renewable energy options. The results of the survey point to a need for more education and information on specific aspects of these issues.

1. INTRODUCTION

International concern is rising about the environmental and social effects of burning fossil fuels. Global warming, acid rain and air pollution are all partly attributable to the use of fossil fuels, particularly for power generation. This concern has led to the United Nations Framework Convention on Climate Change (1992) and the Kyoto Protocol (1997), which are the international community's first attempts to halt the increase in greenhouse gas emissions from human activity.

The negotiations over the UNFCCC and the Kyoto Protocol have been complex and difficult and the USA has signed but so far refused to ratify the Kyoto Protocol. However, following COP 7 in 2001 it now appears as though the Kyoto Protocol will be implemented by the remaining Annexe 1 nations in the hope that the USA and other major emitters of greenhouse gases will join the treaty at a later date.

Concerns about global warming as a result of power generation are relatively recent. The first major concerns were expressed by scientists in the early 1980s as a result of global monitoring of CO₂ levels in the atmosphere. Global climate models have been developed over the last twenty years that are now able to predict with some consistency the possible climate scenarios that could result from rising levels of CO₂ in the atmosphere. This has led the Intergovernmental Panel on Climate Change to conclude in its Third Assessment Report (2001) that anthropogenic climate change is under way and that it is likely that substantial changes to the Earth's climate and ecology will occur over this century unless urgent action is taken to halt the increase in emissions of greenhouse gases from human activities.

Despite the scientific evidence, some sectors of society are still resisting efforts to develop agreements to halt global warming. Some groups have challenged the accuracy of the scientific models and others have rejected the approach taken to abatement by the UNFCCC. Nevertheless it now appears that the world is moving gradually towards accepting the need for change in order to achieve sustainability. Since energy supply is the major source greenhouse gas emissions this area is receiving close attention from policy analysts. In particular, renewable energy sources and energy efficiency are seen as options for replacing fossil fuels in the short to medium term. In some countries the Governments have introduced programs to support the renewable energy and energy efficiency industries in order to facilitate the transition from fossil fuels to sustainable sources of supply.

Education and Training have a vital role to play in creating public awareness of global warming and the role which sustainable energy practices can play in alleviating it. (Jennings, 1997)) Such awareness is essential for market development and for community support for policy initiatives to address global warming. A related issue is the need for community education about renewable energy in order to increase awareness about the technologies and options available and to overcome fears about the reliability and quality of renewable energy technology. (O'Mara, 2001)

The aims of this survey were to

1. determine the level of community awareness about global warming and efforts to control it
2. determine public attitudes to renewable energy technologies and their role in alleviating global warming
3. determine the need for education and training about global warming and renewable energy technologies.

A subsidiary aim was to determine whether differences in attitudes were present between different age groups, and genders, city and country residents.

2. METHODS

The survey was conducted in Perth, Western Australia during August and September of 2001. The questionnaire contained 20 questions as indicated in Table 1. The questions required only simple true/false/don't know or yes/no answers. The last five questions also provided space for comments in addition to the yes/no answer. We also collected the age, gender, residential area and educational level of the respondents.

The questionnaire was administered to 158 respondents chosen at random from various workplace and community groups and an effort was made to obtain a broad profile of age groups and genders.

The questionnaire included a brief introduction, which explained why we were seeking people's views and assuring them that their responses would be treated in confidence and that no person would be identified in the reporting of the results.

The questionnaires were completed privately and anonymously and returned to the coordinators in batches by the local contacts.

This survey was intended to be a trial of the questionnaire. Comments were sought from the participants and some of the questions will be reworded before the survey is conducted on a wider basis next year.

3. RESULTS

The questions and answers are presented in Table 1.

Question	Yes / True	No / False	Don't Know	No Response
1. The greenhouse effect occurs naturally but it has increased considerably over the past 100 years ?	127	24	5	2
2. The greenhouse effect is caused by a hole in the earth's atmosphere?	53	98	7	0
3. Scientists don't agree on whether global warming will occur	57	65	33	3
4. The greenhouse effect will cause increased risk of skin cancer in humans?	92	55	11	0

5. The greenhouse effect is a long-term issue and there is no need to take any specific action now?	6	149	2	1
6. Planting new forests is the most effective way to stop the increased greenhouse effect?	79	45	31	3
7. Reducing our use of energy is the most practical and effective way of limiting global warming?	96	35	25	2
8. There is little that the average person can do about the increased greenhouse effect?	11	137	8	2
9. In a typical household the amount of energy used in water heating is much less than that used by lights?	26	70	62	0
10. Industry is the main source of greenhouse gases?	109	21	27	1
11. Most of our electricity is generated from coal?	98	29	29	2
12. Australia should formally commit to an international agreement (Kyoto Protocol) to reduce its greenhouse gas emissions?	135	3	19	1
13. Solar energy isn't commercially viable at present?	44	85	28	1
14. Nuclear energy is a clean and non-polluting source of electricity?	32	92	31	3
15. Renewable energy (wind, solar, etc) is not as reliable as conventional sources of electricity such as coal and gas.	55	80	20	3
16. Do you have a solar hot water system?	57	98	0	3
17. Do you subscribe to Western Power's Natural Power scheme?	14	123	0	21
18. I am concerned about climate change	114	33	0	11
19. The community needs more information about climate change	124	30	0	4
20. The Government is already doing enough on the climate change issue.	13	128	0	17

The following comments relate to each of the questions.

Q1: It is clear that the vast majority of the respondents believe that global warming is occurring and understand that it is a natural effect gone awry.

Q2: Some people are still confused about the difference between ozone depletion and global warming. There is a major difference here between genders with more women confused about this issue.

Q3: Many people are confused about whether or not scientists agree about global warming.

Q4: A majority of respondents believe that there is a strong link between global warming and skin cancer. Women held this view much more strongly than men.

Q5: Most of the respondents strongly rejected the view that immediate action was not needed because the greenhouse effect is a long-term issue.

Q6: A majority of respondents believe that planting of carbon sinks is the most effective way to halt global warming

Q7: A majority of respondents believe that reducing our use of energy is the most effective and practical way of limiting global warming. This view was expressed much more strongly by women than by men.

Q8: The respondents strongly rejected the notion that there was little that the average person could do about global warming

Q9: There appears to be confusion about the relative amounts of energy used for heating and lighting of homes.

Q10: Most people believe that industry is the main source of greenhouse gas emissions. Women expressed this view much more strongly than men.

Q11: Most people were aware that most of Australia's electricity is generated by burning coal. Men were much more aware of this than women.

Q12: There was a very strong view expressed that Australia should commit formally to implementing the Kyoto protocol.

Q13: A narrow majority believes that solar energy is currently commercially viable. Women were more convinced of this than men.

Q14: A majority of respondents rejected the proposition that nuclear power is clean and non-polluting but 20% of respondents did not have an opinion.

Q15: A small majority of respondents rejected the notion that renewable energy sources were not as reliable as conventional sources of electricity.

Q16: The majority of respondents did not have a solar domestic hot water system. The main reasons given for this were the cost and the lack of choice in rented premises.

Q17: The vast majority of respondents did not subscribe to the local green power scheme. The main reason given was that they did not know it existed.

Q18: A large majority of respondents said that they were concerned about climate change. Many more women were concerned than men.

Q19: Most people, and especially women, agreed that more information was needed about climate change.

Q20: The vast majority of respondents rejected the proposition that the Government is already doing enough about climate change.

4. ANALYSIS

This preliminary survey of public opinion on global warming has yielded some very interesting results that point to a need for further education and information in the following areas.

1. It is clear that most of the people surveyed are very concerned about global warming and want to know more about it.
2. There was considerable confusion in the community about the differences between global warming and ozone depletion. Women especially lack this knowledge and are aware of it.
3. Many people are still cautious about renewable energy and are not convinced that it is cost effective or sufficiently reliable at present. They are more supportive of energy efficiency and carbon sinks as measures to combat global warming.

4. The priority and focus given to carbon sinks by the Western Australian and Australian governments is reflected in the support expressed by respondents for carbon sinks as the most effective way of addressing the greenhouse effect.
5. People are prepared to take action to address global warming and they support the Kyoto Protocol and would like to see it implemented as soon as possible.
6. Many people are requesting more information about what they can do about global warming, particularly via renewable energy and green power schemes.

5. CONCLUSIONS

This preliminary survey of public opinion on global warming and renewable energy has yielded some valuable information for educators.

- It is clear that there is still widespread public confusion about the causes and effects of global warming and the ability of renewable energy to alleviate them.
- The majority of people are concerned about global warming and are looking for effective ways of controlling it. Women were generally more concerned but less well informed about these issues than men.
- Education and information about renewables and global warming are urgently needed in order to remove confusion and build public confidence in renewable energy.
- More information about green power and greater promotion of green power options is needed.

This survey will be refined and administered throughout Australia and internationally over the next year to obtain a more complete picture of public opinion and education and training needs in relation to these issues.

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