

# Is climate change really that important to Australians?

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## **Abstract**

The 2007 Australian Survey of Social Attitudes is analysed to examine three questions: how important is global warming and climate change *vis a vis* other environmental issues in Australia? To what extent is support for environmental issues socially circumscribed and how willing are Australians to act to address environmental problems, as opposed to merely expressing concern?

Australians are more concerned about the drought than any other environmental issue, with concerns high in both cities and rural areas. Environmental issues receive stronger support from leftwing, postmaterialists, those who engage in eastern spiritual practices and professionals, although tertiary education is a less reliable indicator. Men are less likely than women to favour environmental protection over economic growth, and to pay extra tax to protect the environment, while *ceteris paribus*, intention to pay more for renewable energy is stronger among younger cohorts, suggesting support for non-fossil fuel based energy will increase with generational replacement.

## **Introduction**

In 2007 the Intergovernmental Panel on Climate Change (IPCC) (Solomon et al. 2007) stated: “[W]arming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea level”. Global warming is partly attributable to greenhouse gas emissions that trap solar radiation in the atmosphere and result in increased global temperatures and is associated with severe climactic change. The consequences are claimed to include rising sea levels and increased storm activity and drought, although positive outcomes are also possible (Schwartz and Randall 2003, cited in Townsend and Harris 2004, 1). Serious economic as well as environmental implications are predicted with the Stern (2006) review, estimating failure to address climate change will lead to an annual loss of global GDP of between 5% and 20%.

Global warming is attracting considerable international attention with governments in many countries beginning to at least engage in dialogue to address the consequences of climate change. In December 2007 the Rudd Labor government announced its ratification of the Kyoto protocol at the United Nations Climate Change Conference in Bali. This was a significant symbolic step forward as was the ‘Carbon Pollution Reduction Scheme’ White Paper in December 2008 that outlined the Australian government’s carbon emission targets for 2020. The White Paper specified a minimum commitment to reduce carbon emissions to 5% below 2000 emission levels by 2020 (Carbon Pollution Reduction Scheme 2008) while the Rudd government’s proposal to ratify the Kyoto protocol was an important election issue for many.

While climate change and related issues such as the debate over the Rudd government’s proposed carbon trading scheme attract regular media attention, to what extent does public opinion follow the media hype and government spin? In this paper I examine data from the 2007 Australian Survey of Social Attitudes to examine three questions: how important is global warming and climate change *vis a vis* other environmental issues in Australia? To what extent is environmental issue support socially circumscribed? How willing are Australians to act to address environmental problems, as opposed to merely expressing concern?

### **Social background of environmentalists**

Concern over environmental issues has been explained in terms of value priorities, age/generations, gender, education, place and social class (e.g., McAllister and Studlar 1999; Tranter 1996; Inglehart 1990). For Inglehart (1997), citizens of advanced industrialised countries born after World War II are more likely to hold ‘postmaterial’ values, prioritise free speech and seek greater say in political decision

making. 'Materialists' on the other hand tend to be concerned about economic and security issues.<sup>1</sup> Inglehart argues that value orientations are generationally structured. For example, those born in the relatively affluent post WWII period tend to prioritise postmaterialist values. As postmaterialists also emphasise environmental protection (Inglehart 1990), post war generations are more likely to be concerned about the environment than older generations. In the Australian case, postmaterialists are also more concerned than materialists about environmental issues (Pakulski and Tranter 2004) and more likely to join environmental groups (Tranter 1996), however, generational differences in value priorities are very weak in Australia (Tranter and Western 2003).

Zelezny et al. (2000: 444-45) suggest women are more likely than men to participate in 'proenvironmental behaviour/activism' and have 'significantly more general environmental concern than men'. In Australia, women are more likely than men to participate in environmental demonstrations, although they are not more likely to join environmental groups (Tranter 1996). The 'new class' and 'new middle class' allegedly exhibit pro-environmental behaviours (Kriesi 1989), yet for Rootes (1995: 227), the key factor underlying environmental support is tertiary education. In Australia, Tranter (1996: 73) found only weak associations between new class location and propensity to be an environmentally active, although a strong effect for tertiary education and postmaterial values. The left of the political spectrum are also more supportive of environmental issues than the right (Tranter 1996). In fact Inglehart (1990), claims the educated, articulate and politically skilled, or as he labels them, the 'cognitively mobilised', are most likely to participate in the environmental movement.

Finally, activism is weaker among the religiously affiliated (Pakulski and Tranter 2004; McAllister and Studlar 1999), while there is also a link between support for environmental protection and alternative lifestyles, with Tranter (1996, 76) finding that viewing nature as ‘spiritual or sacred in itself’ is associated with environmentally activism, while support from those who engage in eastern spiritualist practices, such as Buddhism is well documented (e.g. Kaza and Kraft 2000; Queen, 2000) and linked with participation in environmental groups (Tranter 2010). Environmental issue support is examined below using a variety of measures following a description of the data analysed in this research.

### **Data and method**

In order to gauge the level of environmental concern and the social bases of environmentalism on a national basis, a survey strategy is adopted in this research. The main source of data analysed here is the 2007 Australian Survey of Social Attitudes (AuSSA). The AuSSA is a systematic sample drawn from the 2007 federal electoral roll with 2,583 cases and a response rate of 39% (Phillips et al. 2008). Australian Election Study data from 1990 to 2007 are also presented to allow comparisons of environmental issue support over time (see Bean *et al.* 2005).

Several questions designed by the author for the AuSSA are examined. Respondents were first asked about their level of concern about ten environmental issues: ‘How urgent are each of the following environmental concerns in this country?’ They were then asked to prioritise these issues: ‘Which two of the above environmental issues has worried you personally the most in the last 12 months? Which is the most urgent and which is the second most urgent?’

In an examination of survey data from the International Social Survey Programme (ISSP), Ivanova and Tranter (2008) found public willingness to pay higher taxes or higher prices for environmental protection actually decreased in several countries over time. In this context, I consider how willing Australians were to act upon, rather than merely express, concern over environmental issues. In addition, questions previously included in the ISSP where participants were asked how willing they would be to pay extra taxes or prices to protect ‘the environment’ were amended to differentiate between the local, national and global environment: ‘How willing would you be to pay higher taxes in order to protect the quality of the... Local environment (i.e. your neighbourhood)...National environment (i.e. countrywide)...Global environment (i.e. worldwide)?’

What are the most important environmental issues for Australian adults? Three questions provide an indication. Respondents were asked ‘how urgent are each of the following environmental concerns in this country?’ and then asked to rank their 1<sup>st</sup> and 2<sup>nd</sup> most important choices from the 10 issues listed. The environmental items included a range of issues that have an impact either locally, nationally or on a global basis. Some of these questions had appeared in earlier AES, while some such as the ‘drought’, ‘renewable energy’ and ‘climate change’ are recent additions (Table 1).

**Table 1: Importance and urgency of environmental issues (per cent)**

	Very Urgent	1st	2nd
Drought	71.9	42.1	18.7
Climate Change	48.5	26.1	22.1
Pollution	34.7	11.2	10.6
Renewable Energy	49.3	5.7	17.3
Logging of Forests	33.6	3.6	6.2
Nuclear Power	23.7	3.3	5.2
Destruction of Wildlife	39.0	3.2	7.3
Waste Disposal	24.9	1.9	4.2
Loss of Biodiversity	28.7	1.8	4.0
Soil Degradation	31.1	1.1	4.5
N	-	(2447)	(2426)

Questions: ‘How urgent are each of the following environmental concerns in this country?’; ‘Which two of the above environmental issues has worried you personally the most in the last 12 months? Which is the most urgent? And which is the second most urgent?’

Source: Australian Survey of Social Attitudes 2007.

Perhaps in contrast to expectations driven by the media coverage climate change receives, the prolonged drought experienced in many parts of the country was identified as by far the most important issue, with 42 per cent of the sample identifying drought as the most important issue and a further 22 per cent as their 2<sup>nd</sup> choice. The salience of the drought is also notable with 72 per cent claiming it to be an issue of ‘very urgent’ concern. Renewable energy and climate change were the next most urgent issues, both at 49%, although climate change ranked much higher than renewable energy as the second issue ‘of most concern’ (26%), with pollution third on the latter question.

**Table 2: Urgency Environmental Issues Over Time (per cent)**

	1990	1993	1996	2001	2004	2007
Logging	28.9	33.8	27.7	38.1	37.9	33.6
Wildlife	46.3	50.5	45.8	44.8	43.0	39.0
Soil Erosion	51.6	50.9	46.2	45.2	41.6	31.1
Greenhouse/Climate*	50.8	47.3	42.0	40.9	41.5	48.5
Pollution	58.1	54.6	48.3	39.5	40.7	34.7
Waste Disposal	49.4	46.7	39.4	35.8	35.6	24.9

\* Question referred to ‘climate change’ in the 2007 AuSSA and ‘greenhouse effect’ in the AES (1990-2004).

Sources: Australian Election Studies 1990 – 2004; Australian Survey of Social Attitudes 2007

In Table 2, data from the Australian Election Studies (AES) and the AuSSA are used to provide a temporal comparison on six environmental issues that have appeared in these national surveys since 1990. Some qualification is necessary however. The 2007 AuSSA refers to ‘climate change’ which is a related, but clearly different concept to the ‘greenhouse effect’ included in the AES surveys. While these are different surveys, both employ the same mail out, mail back administration and similar follow up strategies to maximize response rates and both were administered by researchers at the Australian National University. The results should therefore be comparable. They indicate the proportion of respondents claiming wildlife, soil erosion, pollution and waste disposal issues to be ‘very urgent’ has actually declined over time. Alternatively, concern over logging of forests is very similar to 1993

levels after rising somewhat in 2001 and 2004, while greenhouse/climate change appears to have increased in urgency in 2007, approaching the high levels of 1990.

In order to examine the social and political background of support for environmental issues more rigorously, three sets of regression analyses were developed (Tables 3 to 5). The first uses a broad question that contrasts support for environmental and economic values: 'Here are two statements people sometimes make when discussing the environment and economic growth. Which of them comes closer to your own point of view?...Protecting the environment should be given priority, even if it causes slower economic growth and some loss of jobs. Economic growth and creating jobs should be given top priority, even if the environment suffers to some extent.' Two models are presented in Table 3 with the first examining the association between age and sex and the dependent variable. In the second model several other socio-economic variables are added.

**Table 3: Protect the Environment versus Economic Growth?**

	1	2
Men	0.71**	0.68***
Aged 18-24	1.39	0.72
25-34	2.11***	1.13
35-44	2.27***	1.27
45-54	1.86***	1.21
55-64	1.49**	1.08
65+ (referent)	1	1
Degree		1.17
Professionals		1.49*
Income <\$36,400 (referent)		1
\$36,400-77,999		1.07
\$78,000+		1.13
No Religious Denomination		1.52**
‘Spiritual’		1.75**
Middle Class (vs other classes)		0.99
Capital City		1.17
Left scale		2.23**
Values scale		1.77***
R <sup>2</sup>	.03	.12
N	(2409)	(1846)
% who would protect the environment	77.5	

Source: Australian Survey of Social Attitudes 2007.

**Table 4: Willingness to Pay Extra Tax to Protect the Local, National and Global Environment (OLS)**

	<b>Local</b>	<b>National</b>	<b>Global</b>
Intercept	3.08	2.91	2.50
Men	-0.12*	-0.14*	-0.20**
Aged 18-24	-0.13	-0.05	0.05
25-34	-0.03	0.05	0.12
35-44	-0.04	-0.14	-0.12
45-54	0.07	0.01	0.10
55-64	.091	0.10	0.07
65+ (referent)	0	0	0
Degree	0.20*	0.22**	0.17*
Professional	0.19*	0.18*	0.18*
Income <\$36,400 (referent)	0	0	0
\$36,400-77,999	0.003	0.03	0.01
\$78,000+	0.15	0.21*	0.13
No Religious Denomination	0.03	0.11	0.12
Spiritual	0.16*	0.18*	0.22**
Middle Class	0.15*	0.17**	0.12
Capital City	-0.01	0.12*	0.13*
Left	0.39***	0.56***	0.62***
Values	0.05	0.10*	0.12**
R <sup>2</sup>	.07	.11	.11
N	(1,810)	(1,819)	(1,810)
% who were 'Very Willing' to pay	17.6	20.1	14.4

Source: Australian Survey of Social Attitudes 2007.

**Table 5: Would you Pay more Tax for Energy Produced Through Renewable Sources? (odds ratios)**

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Men	0.93
Aged 18-24	2.34**
25-34	2.06**
35-44	1.87***
45-54	1.57**
55-64	1.51*
65+ (referent)	1
Degree	1.11
Professionals	1.44*
Income <\$36,400 (referent)	1
\$36,400-77,999	1.22
\$78,000+	1.15
No Religious Denomination	1.21
Spiritualist	1.42*
Middle Class	1.56***
Capital City	1.19
Left	2.42***
Values	1.17
R <sup>2</sup>	.11
N	(1,785)
% who would pay more for renewable energy	70.2

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Dependent variable code: 1 = pay more; 0 = not pay more.

Source: Australian Survey of Social Attitudes 2007.

The results show that while there are discernable age effects in Model 1, these are attenuated in Model 2 with the introduction of other controls. This is important as it suggests that age is not a major factor when other background effects are accounted for, at least on this measure of environmental concern. In the second model men are less likely than women to support protection for the environment over economic growth, professionals are more environmentally supportive than other occupations and the non-religious and 'spiritual' are more environmentally friendly,<sup>2</sup> while the left of centre and postmaterialists exhibit pro-environmental sentiments, as expected.

In Table 4, three questions are examined to assess the social background of support for local, national and global environmental issues. The coefficients for the left and postmaterialists increase in magnitude moving from local to national to global issue concerns, perhaps indicating greater altruistic tendencies of these respondents in contrast with more self-interested rightwing, materialists. The self-assessed middle class exhibit almost the opposite tendency, suggesting they are more concerned than the working class about national issues and with their own backyard than with the global environment, although the differences in the size of the coefficients for class across the dependent variables are quite modest (Table 4).

While the results presented in Tables 3 and 4 fall clearly in the realm of attitudinal responses, they are somewhat stronger indicators of environmental concerns than the now traditional urgency questions outlined above. However, the final dependent variable takes this a step further toward the measurement of behaviour by asking about a specific behavioural intention – to reduce the impact of global warming: 'Energy generated through renewable sources such as wind or solar power is claimed to reduce global warming, compared to non-renewable power sources such as coal. How much extra would you be prepared to pay on top of your existing energy bill for

power generated from renewable sources?’ For the purposes of this paper, responses were dichotomised as ‘would pay more’ versus ‘would not pay more’. Once again, professionals, the middle class, the left and those who hold postmaterial values say they would pay more tax for renewable energy if it reduced global warming. Age is also an important factor in this instance, with younger cohorts most likely to claim they would pay more tax for renewable energy, regardless of their income level or other social background factors.

### **Conclusion**

Climate change is clearly an important environmental issue for many Australians, although it is not *the* most important issue, according to the Australian Survey of Social Attitudes, with national issues viewed as more important than local or global issues. In 2007, far more Australians were concerned about the drought than any other issue and not only in rural areas. As separate regression analyses (not shown) suggest, there is no statistically significant difference in the ‘urgency’ of concerns over the drought between those who live in capital cities and other areas. These findings have potential policy implications. Given the level of public concern over drought, there appears to be electoral support for changes to government drought support programs, such as the provision of income contingent loans and the form of welfare support delivered to farming families (see Chapman, Botterill and Eagan 2006). Consistent predictors of environmental concern include leftwing political orientation, postmaterial values, engaging in eastern spiritual practices (perhaps reflecting alternative lifestyles and consumption practices), professional occupational location, and to an extent, tertiary education. Gender differences are also apparent, with men

less likely than women to favour environmental protection over economic growth, or to claim they would pay extra tax to protect the environment.

Support for energy produced through renewable sources is strongest among younger cohorts, even after controlling for other socio-economic variables. Interestingly, the only question to elicit age based differences was also the strongest measure of behavioural intent. Yet the question remains, is environmental support indeed senescent? If these data actually tap aged based differences in support for renewable energy, there are potential electoral and policy implications, as support for such schemes should increase with generational replacement.

While there is some suggestion in these data that Australians link climate change with support for renewable energy, loss of biodiversity and pollution, the association is somewhat weaker for climate change and drought.<sup>3</sup> Further research is needed to examine this link, particularly as political debate continues over the most appropriate strategies to address climate change. While scientific evidence of a causal link between climate change and drought may be inconclusive, this research suggests that linking these two most important issues may be a successful *political* strategy to ensure public support for policy initiatives on both issues.

**Notes:**

- 1 Value orientations were measured in the 2007 AuSSA using the following question: 'People sometimes talk about what the aims of this country should be for the next ten years. Listed below are some of the goals which different people would give top priority. Please indicate which one of these you consider the most important? And which would be the next most important?'
  - A. Maintain order in the nation
  - B. Give people more say in important government decisions
  - C. Protect freedom of speech
  - D. Maintain a high rate of economic growthThose who chose options A and D were deemed 'materialists' and options B and C as 'postmaterialists'. All other combinations were classified as 'mixed'.

A scale was constructed for regression analyses scored 1=materialists; 2=mixed; 3=postmaterialists.

- 2 How often do you personally do the following...Engage in Eastern spiritualities (e.g. Buddhism or yoga)? Response categories: at least once a week; at least once a month; several times a year; at least once a year; never. Those engaged were coded 1 and 'never' coded 0.
- 3 Pearson's product moment correlations between climate change and support for renewable energy ( $r = .39$ ), loss of biodiversity ( $r = .43$ ), pollution ( $r = .44$ ) and drought ( $r = .34$ ).

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