

# Is climate change compatible with environmental protection? Exploring voter attitudes as expressed through “old” and “new” politics in Norway

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## **Abstract**

The international literature on public attitudes finds that attitudes to climate change are closely related to attitudes to environmental protection. We ask whether this conclusion also holds for Norway.

Our starting point is the political-science literature on “old” versus “new” politics, old politics being defined in socioeconomic left/right terms and new politics being defined in accordance with an authoritarian/libertarian dimension in which environmental protection plays an important role. Based on these two axes, Herbert Kitschelt finds a new axis – a diagonal – combining old and new divides. According to Kitschelt, voters with traditional environmental attitudes have leftist *and* libertarian values, while voters favouring economic growth have rightist *and* authoritarian values.

Using Norwegian data we compare voters who favour traditional environmental protection *and* take climate change seriously with voters who only take climate change seriously. We expect that if climate change is perceived as one of many environmental threats, then the two voter groups are similar.

We find that half of the voters see climate change as a big problem. Two thirds of these voters are in favour of environmental protection. However, the last third of these voters who take climate change seriously do not want greater environmental protection. Moreover, we find interesting differences between these groups. Those in the latter group have leftist and libertarian values, whilst climate-only voters have rightist and authoritarian values. Thus the

two groups of voters are dissimilar. Interestingly, this pattern corresponds to alignments along Kitschelt's new diagonal axis for party competition.

Keywords:

Climate change, environment, voters, Norway

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## 1. Introduction

Norwegian voters' interest in environmental issues has shifted over time, much in line with Anthony Downs's issue-attention cycles (Downs, 1972, Aardal, 1995). Public interest peaked in 1977 and 1989, and then again in 2009. But in 2009, unlike in previous periods, the perils of *climate change* first came to the forefront of public awareness (Tjernshaugen *et al.*, 2011). In the international literature on public attitudes to climate change these attitudes are closely linked to attitudes to environmental protection. (Dietz *et al.*, 2007, Spence *et al.*, 2010). Thus climate change is perceived as one of many environmental threats. We question whether this conclusion holds for Norway.

We do so by looking at separate measures of attitudes to traditional environmental protection and climate change, and ask whether the two measures represent separate attitudinal aspects. In particular, we study the position of (1) voters who have positive attitudes to environmental protection *and* are concerned about climate change, and (2) voters who have negative attitudes to environmental protection but still see climate change as a serious problem.

We find that most voters concerned with climate change are positive about environmental protection, though up to a third of this group are only concerned with climate change, and do not want greater environmental protection.

More specifically, we study whether the two voter groups represent similar or different positions in a political space defined by "old" and "new" political value dimensions. In line with the literature (Inglehart, 1977, Kriesi, 2010) we define old politics in socioeconomic left/right terms, while new politics is defined in accordance with an authoritarian/libertarian dimension in which environmental protection plays an important role. Based on these two

axes Kitschelt finds a new axis: a diagonal (1994, 1997). He finds that voters with traditional environmental attitudes have leftist *and* libertarian values, while voters favouring economic growth have rightist *and* authoritarian values. Hence if climate change is perceived as one of many environmental threats we would expect the two voter groups to be similar, comprising voters with leftist and libertarian values. If climate change is perceived as a separate issue, and not just one of many environmental threats, we would expect the two voter groups to differ.

In the study of climate change as one of many environmental issues, Norway is a particularly interesting case. Norway's large renewable-energy resources have become a dilemma for environmentally concerned voters: hydroelectric power and wind power are renewable and thus climate-friendly, but climate-friendly renewables might come at the expense of traditional environmental protection. This dilemma has only recently become more prevalent among environmental organisations in many industrialised countries (Shaw, 2011, Toke, 2008, 2011). In Norway the public became aware of the dilemma decades ago. Voter attitudes to environmental protection and climate change are of importance to the political feasibility of alternative greenhouse-gas mitigation strategies, including renewable-energy development. The results from Norway are thus of relevance to other countries where climate-friendly renewable-energy development might be in conflict with traditional nature conservation. The results are relevant not only to countries with abundant hydroelectric-power resources such as Costa Rica and New Zealand but also to countries with abundant wind and solar-power resources that may affect bird life, biodiversity and other nature-conservation issues. Although nature-conservation challenges vary – fish, biodiversity and landscape in the case of hydroelectric power, and birds, biodiversity and landscape in the case of wind power – the underlying conflict is the same, with climate-friendly renewable energy on the one hand and nature conservation on the other. Hence the Norwegian case may be of relevance to countries where the public sees climate-friendly renewable energy development as a challenge to nature conservation.

Lack of mitigation policies is often based on a lack of voter support (Giddens 2009). Hence the study of public awareness and public attitudes to climate change and climate-change mitigation is of great importance to understanding how public acceptance – or voter support - can be achieved.

Norwegian voters' attitudes to these questions have been monitored for many years as part of the long-standing Norwegian National Election Studies (NNES) programme. This paper uses

NNES data from the parliamentary elections of 2009 and 2013 (N = 1782 and N = 1727 respectively). The long duration of this programme makes it possible to go back even further in time regarding the two central questions of 1) issue priorities and 2) attitudes to environmental protection versus economic growth.

The paper's structure is as follows. In section two we review the literature on environmentalism as a political issue in Norway and the international literature on public attitudes to climate change. We furthermore present the research questions. In section three we analyse Norwegian voters' attitudes. In section four we draw conclusions.

## **2. Literature review**

According to Pidgeon (2012, p. 100) the study of public attitudes to climate change has reached 'a stage of maturity as an academic discipline'. This is an interdisciplinary field of research, involving contributions from the areas of political science, sociology, human geography and psychology. This literature is nevertheless only to a limited extent related to the political-science literature on political values, conflict dimensions, old versus new politics and, more specifically, environmental attitudes, party affiliation and party politics (Inglehart, 1977, Dalton, 1988, Knutsen, 1989, Aardal, 1990, Rohrschneider, 1993, Carter, 2013). There are, however, interesting findings within this discipline of relevance to the traditional political-science literature, particularly on old versus new politics. This paper aims to connect these two strands of the literature.

### ***2.1 The international literature***

The international literature on attitudes to climate change makes an important distinction between public *awareness* and public *attitudes*. While awareness relates to public attention to climate change, public attitudes relate to whether climate change is seen as being man-made (anthropogenic), and to the need for climate-change mitigation and adaptation.

In Norway the question of man-made climate change has been at the core of the political discussion of climate change. The right-wing Progress Party and its voters have been sceptical about man-made climate change, while all other parties, from the Conservative Party to the left-wing Socialist Left Party, have considered climate change to be man-made (Tjernshaugen et al. 2011).

This divide between the Progress Party voters and others is reflected in Norwegian voters'

attitudes to climate-change mitigation at the expense of jobs, the Progress Party voters being the ones who most support jobs at the expense of climate-change mitigation (Tjernshaugen et al. 2011). Voter attitudes to man-made climate change are closely associated with voter attitudes to climate-change mitigation (ibid).

Whitmarsh (2011) finds that although “rejection of the notion of man-made climate change is not widespread (at around 10–20%), the proportion of the public expressing some degree of uncertainty and doubt about climate change is far higher” (Whitmarsh 2011, p. 697).

As regards attitudes to climate change, they are found to be related to the left/right dimension.<sup>1</sup> In the United Kingdom, supporters of left- and green-leaning parties are less sceptical about climate change than are supporters of right-leaning parties (Pidgeon, 2012). Similarly, Democrats in the United States express greater belief in and concern about climate change than do Republicans (McCright and Dunlap, 2011, p. 166, Dunlap *et al.*, 2016). In a study of climate change from 2003 to 2011, Aasen (2015) finds that the likelihood of being concerned about climate change increases with egalitarian (leftist) values and decreases with individualistic (rightist) values in Norway (2015, p. 11).

In many countries voter alignment along a one-dimensional left/right axis has gradually been replaced by a two-dimensional space comprising both ‘old’ and ‘new’ politics, in line with Ronald Inglehart’s distinction between materialist and post-materialist value orientations (Inglehart, 1977, Kriesi *et al.*, 2008, Kriesi, 2010). ‘New’ politics is often defined in accordance with an ‘authoritarian/libertarian’ dimension, with environmental protection playing an important role, while old politics is defined in socioeconomic left/right terms. In Norway factor analyses of a number of questions relating to salient political issues have identified four important value dimensions. Two of them can be seen as a continuation of ‘old’ politics, namely left versus right and religious versus secular values. The other dimensions represent ‘new’ politics, namely a conflict between economic growth and environmental protection on the one hand, and attitudes to immigrants and immigration policies on the other (Aardal, 1995, Aardal & Bergh, 2015). The ‘new’-politics dimensions resonate well with findings from other countries (Flanagan, 1982; Kitschelt, 1994, 1997, Flanagan and Lee, 2003). According to Herbert Kitschelt (1994, pp 8–39, 1997, pp 1–45) a

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<sup>1</sup> Left/right here denotes the traditional socioeconomic divide between those who want the authorities/the state to be chiefly responsible for the economy on the one hand, and those who want more scope for free-market forces on the other.

new axis for party competition combining old and new political values has emerged, represented by a diagonal between the two axes. According to the theory – confirmed in empirical studies – voters with traditional environmental attitudes have leftist *and* libertarian values, while voters favouring economic growth have rightist *and* authoritarian values. The question is, as discussed below, how this pattern fits in with voter attitudes to climate change.

## ***2.2. Norwegian voters' attitudes to environmental issues***

While opposition to nuclear power has been an important mobilising issue in many European countries (Aardal, 1990, Rohrschneider and Miles, 2015, Müller-Rommel, 1985), nature protection, and more specifically opposition to hydroelectric power, has been a core issue in Norway (Jansen, 1989, Aardal, 1990). Hydroelectric power development in Norway has from the early 20th century been closely linked to development of energy-intensive industries, and thereby to economic growth – in contrast with environmental protection. Massive protests against hydroelectric power in the 1970s and 1980s almost immediately affected Norwegian political parties. Both among voters and the parties a new political divide emerged, separating supporters of economic growth from environmental protectionists (Valen, 1981). The emergence of new social movements and issues from the 1970s coincided with – and were partially conditioned by – the weakening bonds between socio-structural factors and political parties. The waning influence of social structure facilitated the growth of new issues such as environmentalism. In Norway political parties gradually adapted, although they tried to link environmentalism to their old core issues in order to de-emphasise the polarisation between 'old' and 'new' politics.

The leftist Socialist Left Party and the centrist Liberal Party were the first parties to embrace the environmental issue. The other two centrist parties – the Christian Democrats and the agrarian Centre Party – followed suit, while Labour, the Conservative Party and the Progress Party were more reluctant to accept policies that were critical of economic and industrial growth. This pattern was reflected among the voters (Aardal, 1993).

With an increased focus on climate change in the 2000s renewable energy became a question not only of economic growth versus environmental protection but also of climate-friendly renewable energy versus traditional environmental protection, e.g. nature conservation (Tjernshaugen et al., 2011). The environmental movement, with its long tradition of protests

against hydroelectric power, faced a dilemma. While nature and outdoor organisations prioritise nature protection, other environmental organisations emphasise the need for climate-friendly solutions – including new hydroelectric-power projects and development of wind power (Gullberg, 2013, Gullberg et al., 2014). Moreover, the dilemma of climate-friendly renewables at the expense of nature has been reflected in several parties' election platforms (Tjernshaugen et al. 2011).

However, since the mid-1990s voter focus on environmental protection has waned, although such attitudes have been important to the support for some political parties (Aardal, 2003, 2007, 2011a). More recently there have been contributions focusing on political parties' and voters' positions on climate policy: Båtstrand (2012) has studied climate policy in Norwegian party manifestos, defining different climate-policy measures as 'new' or 'old' politics. His findings are that parties on the left of the political spectrum prefer types of climate-policy instruments other than those preferred by parties on the right.

#### ***2.4 Research questions***

Although we see a pattern linking leftist political orientations with environmental concerns on the one hand and rightist orientations involving a preoccupation with economic growth on the other, this pattern may not be as relevant to attitudes to climate change. It is likely that the increasing public awareness of climate change is closely linked to increased media coverage of extreme weather conditions and global warming. Thus Anthony Downs's "issue-attention cycles" may come into play. He finds that environmental concern goes "up and down" in line with the visibility and attention given to these problems in the public eye (Downs 1972). Thus when other problems are taking over the public agenda, environmental concern drops.

However, if environmental concerns are integrated into the cleavage structure of a given political system we may expect a more stable underlying pattern, even though the attention paid to the issue may vary over time. Climate concerns on the other hand are a newcomer on the political agenda, and may not be rooted in the political system in the same way. Thus the increased media coverage of climate change may have expanded the awareness of this particular issue beyond the traditional support base of environmental politics. Moreover, this may have consequences for public support for restrictive actions taken by the authorities to avoid or prevent negative consequences of climate change. While those who see climate change as part of a deeper environmental commitment may accept restrictions and individual

costs related to climate change, this may be harder to accept among those for whom climate concern is not rooted in a broader set of environmental values.

Theoretically we may simplify attitudes to the two different issues into a fourfold typology, consisting of pro/con positions on both issues. If we think of attitudes to climate change as either acknowledging it as a big problem or not, we get the typology shown in Table 1. This may serve as a heuristic device for analysis of whether the well-established environmental dimension in Norwegian politics has become two separate sub-dimensions, with environmental policy as one attitude dimension and climate policy as another dimension (Tjernshaugen *et al.*, 2011, p. 354).

(Table 1 about here)

In Cell 1 we find voters who are positive about environmental protection, and who at the same time believe that climate change is a big problem. This is a position consistent with expectations about a close correspondence between the two environmental aspects. In Cell 2 we find voters who share the belief that climate change is a big problem but not the belief that we should increase protection of the environment. This group represents an “anomaly” in the sense that it deviates from the clear-cut pattern of environmentalists and non-environmentalists often portrayed in the literature. In Cell 3 we find voters who are in favour of environmental protection but do not believe that climate change is a big problem. In Cell 4 we find the archetypical economic-growth position, with advocates caring neither about the environment nor the climate. In this paper our focus is on the first two groups: firstly the group caring about both environmental protection *and* climate change (the environmentalists), and secondly the group caring only about climate change (climate-only).

Our main research question is whether those harbouring “environmentalist” or “climate-only” attitudes are different from each other with respect to politically relevant preferences. If they do differ, this may – as mentioned above – indicate that increased public attention to climate change will not necessarily translate into increased support either for climate-friendly policies or for green parties.

### **3. Methodology and discussion**

The data collection for the Norwegian National Election Studies (NNES) started at the Institute for Social Research in Norway in 1957. For the studies involved here Statistics Norway did the fieldwork, comprising a net sample of 1,782 individuals in 2009 and 1,727 in

2013. These samples represent a response rate of 61 per cent in 2009 and 55 per cent in 2013. The samples are probability samples drawn from the public register.<sup>2</sup>

### **3.1 Background**

Let us first show to what extent Norwegian voters have paid attention to environmental issues at all. In the NNES voters were asked to name one or two issues that were personally most important at the election. In Fig. 1 the solid line shows the percentage of voters mentioning environmental protection as the most important issue between 1977 and 2013.

(Fig. 1 about here)

In 1977 environmental protection was the second most important issue for Norwegian voters, mentioned by 26 per cent of the electorate (Valen & Aardal, 1983:43).<sup>3</sup> However, there was a dramatic drop at the next two elections, down to 5 per cent in 1985. Then, not least because of the dramatic Chernobyl nuclear plant disaster in April 1986, environmental protection became the second-most important issue in 1989, at 37 per cent. But once again there was a dramatic drop – down to 7 percent – in 1993. At the next three elections environmental attention lingered at between 8 and 10 per cent. In 2009, however, the environment was considerably higher on the agenda (20 per cent). Four years later we see a drop to 14 per cent.

Environmental protection thus seems constantly to go up and down in terms of voters' priorities, just as Downs predicted. Whether this variation corresponds to attitude change is harder to say, because of a lack of comparable questions over time. One environmental question has nevertheless been asked in all election studies since 1977. The question is phrased as a Likert-scale agree/disagree statement: 'To secure economic growth we need to develop our industry even if doing so conflicts with environmental protection'.<sup>4</sup> The percentage of respondents *disagreeing* with this statement is shown by the dotted line in Fig. 1.

The general pattern is that Norwegian voters demonstrate considerable support for environmental friendly policies. This can also be seen in their voting pattern. Both the Liberal Party and the Socialist Left Party have appealed to ecologically aware voters since the late

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<sup>2</sup> For full documentation for 2009 see: [http://www.ssb.no/a/publikasjoner/pdf/notat\\_201129/notat\\_201129.pdf](http://www.ssb.no/a/publikasjoner/pdf/notat_201129/notat_201129.pdf). For 2013 see: <http://www.ssb.no/valg/artikler-og-publikasjoner/attachment/235958?ts=14f1728b560>.

<sup>3</sup> Only abortion was higher, at 30 per cent.

<sup>4</sup> 1: Strongly agree, 2: Agree, 3: Neither agree nor disagree, 4: Disagree, 5: Strongly disagree

1970s. Since 1981, these two parties have won the support of almost half of the voters placing the environment highest on their agenda, while winning only 10-15 per cent of the overall vote. Similarly, between 43 and 62 per cent of voters report that one of these two parties have issue ownership of environmental policies in the 2001-2013 period.<sup>5</sup> There is thus no doubt that “traditional” environmental-protection attitudes were deeply rooted in Norwegian politics before the potential threats related to climate change became a salient issue in the public debate. This makes the relationship between these two issue domains particularly interesting, as it may indicate to what extent concern about climate change will increase the political bargaining power of established environmental groups.

### ***3.2. Environment and climate – two separate attitude dimensions?***

The apparent discrepancy between attitudes to ‘traditional’ environmental protection and climate change raises the question of whether attitudes to these issues constitute one or two attitudinal dimensions. A principal component analysis (with varimax rotation) of the 2013 NNES data indicated that attitudes to environmental protection and climate issues were split between two separate factors (Aardal and Bergh, 2015, pp 56–61). An attempt to construct two separate indices based on several items gave mixed results.<sup>6</sup> However, the NNES data includes two attitude scales that more directly addressed the issues in question. One question was phrased as follows: “So concerning your opinion on climate change, where would you place yourself on a scale from 0 to 10, where 0 means that climate change is not a problem, while 10 means that climate change is a serious problem?” The next scale was phrased as follows: ‘We have a question concerning nature conservation and environmental protection. The value 0 expresses the desire for environmental protection not to be taken as far as to affect our standard of living, while the value 10 expresses the desire to see much more done for environmental protection, even if doing more means a considerable reduction in the standard of living for everybody, yourself included. Where would you place yourself on this scale, or have you not given the issue much thought?’ Table 2 presents descriptive statistics for the two scales, for both 2009 and 2013.

(Table 2 about here)

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<sup>5</sup> Data from the Norwegian National Election Studies’ cumulative data file.

<sup>6</sup> An environmental index gave a Cronbach alpha value of .54 for 2009 and .66 for 2013. The climate index gave somewhat higher alpha values, but still in the lower range (.72 in 2009 and .69 in 2013).

Both scales are right-skewed, although the climate scale more so than the environmental scale. This means that a majority of respondents want to do more in order to protect the environment, while an even bigger majority think that climate change is a serious problem. The skewness and kurtosis values indicate that both scales can be used in analyses requiring normal distributions.<sup>7</sup> The correlation between the two scales (Pearson's  $r$ ) is .52 in 2009 and .41 in 2013. Although they are clearly correlated, the question is whether or not this means that they represent the same aspects of green attitudes or not.

Before we continue, we need to address a methodological question. Adding “even if doing more means a considerable reduction in the standard of living” in the environmental-protection question but not in the climate question may explain why more respondents see climate change as a big problem than the number wanting to do more for environmental protection. If our aim was to study the *level* of concern – or issue attention and awareness, this would be a serious problem. However, we want to study the *direction* of attitudes to these issues, not the level of concern. Nevertheless, as a robustness check we have run the analyses with an alternative set of questions about environmental protection and climate change (Results will be commented upon in the text, and tables with corresponding numbering (A.2, A.3 etc.) are presented in the appendix). Both “alternative” questions are Likert-type agree/disagree statements: 1) “There is too little emphasis on environmental protection in Norway today” and 2) “Climate change is primarily caused by humans”. While the climate question deals with respondents’ own beliefs, the “too little emphasis on environmental protection” question may be interpreted as an evaluation of government performance rather than measuring attitudes to the environment. However, this question and the 0-10 environmental scale used above have loaded on the same (environmental) factor in all factor analyses in the Norwegian Election Studies since 2001 (Aardal, 2003:69; Aardal, 2007:50; Aardal, 2011a:75; Aardal and Bergh, 2015:57).<sup>8</sup> This indicates that they are indicators of the same latent construct, in a reflective measurement model (see Coltman et al. 2008).<sup>9</sup> Subsequently, we may expect similar patterns for both combinations of indicators.

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<sup>7</sup> According to Christophersen (2013:17-18) skewness values between -1 and +1 will not usually create problems for analyses requiring normal distributions. The same applies to kurtosis values, but they may exceed +-1. As shown in Table 1, both values are within these limits for both scales and in both 2009 and 2013.

<sup>8</sup> The factor loadings vary between .57 and .67.

<sup>9</sup> The correlation (Pearson's  $r$ ) between the alternative environmental and climate question is .32 in 2009 and .30 in 2013. See Table A.2 in the appendix for descriptive statistics on the alternative attitude questions.

Whether two scales or indices represent separate attitude dimensions is not only a question of how strongly they correlate to each other but also a question of external consistency, i.e. the extent to which they correlate in the same way with important explanatory variables (Carmines and Zeller, 1979). The correlations between indicators of a theoretical variable and an indicator of another relevant variable should not vary too much in size (Mastekaasa, 1987, p. 173). Thus if the two scales do not correlate similarly with external variables, this might indicate that the indices are not valid measures of the same theoretical variable (Carmines and Zeller, 1979, pp 24–25). One way of testing whether the scales represent different attitudes is to correlate them with a standard set of control variables such as age, gender, education and income.<sup>10</sup> As we are particularly interested in the political relevance of the two attitude dimensions, we also control for three important ideological dimensions in Norwegian politics, namely left vs right, positive vs negative regarding immigration and religious vs secular (cf. Aardal, 2011b, Aardal & Bergh, 2015). Left/right and religious/secular are indicators of traditional divides in Norwegian politics (Rokkan 1967), and thus “old politics”, while attitudes to immigration represent “new politics”, closely linked to authoritarian/libertarian value dimensions (Kitschelt 1994, 1997, Aardal and Bergh, 2015).

In Table 3 we have run ordinary least-squares regressions with the two scales as dependent variables, a first model with only age, gender, education and income, and a second model where we add the three ideological indices mentioned above<sup>11</sup>

(Table 3 about here)

Table 3 shows that the two scales correlate in approximately the same way with gender and education. Women and people with a high educational level are more likely to support environmental protection and believe that climate change is a big problem than men and those with a low educational level.<sup>12</sup> Income level is not statistically significant for either scale. However, there are two important differences between the indices with respect to age and religious beliefs. While age is significant for attitudes to environmental protection (older people more positive), age is not significant for climate change. Moreover, religious belief is

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<sup>10</sup> Age is trichotomised into three dummy variables: low age (<30 years), medium age (31-50 years) and high age (over 50 years). Low age is used as a reference category. Education is also trichotomised into three dummy variables: low (primary school), medium (intermediate level) and high (college and university level). Low education is used as a reference. Income is also trichotomised and dummy-coded (using income in thousands (000) of NOK) into high, medium and low using equally sized groups (n-tiles). Low income is used as a reference.

<sup>11</sup> High values for the dependent variables indicate support for more environmental protection and seeing climate change as a big problem. High values for the independent variables are indicated in the table.

<sup>12</sup> However, education is not significant for climate change when controlling for ideology.

not significant for environmental protection, but secular people are more likely to believe that climate change is a big problem than are religious people. As an attempt to check the external validity of our two measures of green attitudes, we may conclude that we do find differences with respect to important exploratory variables. Using the alternative measures of environmental protection and climate change mentioned above, we find that both age and religious beliefs differentiate between attitudes to environmental protection and climate change, thus confirming the pattern (see Table A.3. in the appendix).<sup>13</sup> The considerable increase in explained variance from model 1 (.039 and .034 respectively) to model 2 (.158 and .150) emphasises the need to look more deeply into the role of ideology for these attitudes.<sup>14</sup>

As stated above, we are particularly interested in the distinction between those who want to do more to protect the environment *and* who worry about climate change on the one hand, and those who are worried about climate change but do not want to do more for the environment on the other. In the following analyses we will pursue this distinction in greater depth.

If we dichotomise the two empirical scales using their median value as a breaking point, the size of the four groups described in Table 2 is shown in Table 4:

(Table 4 about here)

The two groups of interest here are located in Cell 1 and Cell 2. The size of the groups is fairly similar in 2009 and 2013.<sup>15</sup> In order to analyse the difference between the “environmentalist” group and the “climate-only” group in a multivariate context, we have constructed a dichotomous dependent variable where the value of 1 is given to those combining a positive view of environmental protection and a belief in the seriousness of climate change (i.e. Cell 1), while the value of 0 is given to those agreeing with the latter aspect but not with the first (i.e. Cell 2). We have run a series of logistic regressions with two models, just as we did in Table 3. In Model 1 we include gender, age, education and income. In Model 2 we add the three ideological indices.

(Table 5 about here)

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<sup>13</sup> Although age matters for climate change and not environmental protection with the alternative measures, it goes in the opposite direction to that for the measures used in Table 3. Note that high score means pro-environmental attitudes for the 0-10 items (in Table 3), while low score means pro-environmental attitudes for the alternative 1-5 measures (in Table A.3).

<sup>14</sup> Table A.3 in the appendix shows that there is also a considerable increase in explained variance for the alternative attitudinal measures, when adding ideology to the model. For environmental protection the adjusted  $R^2$  increases from .035 to .082, and for climate change it goes from .020 to .083.

<sup>15</sup> See Table A.4 in the appendix for group size when using the alternative attitude questions.

Social background characteristics, particularly education and income, separate “environmentalists” from the “climate-only” group, explaining 4 per cent of the variance in 2009 and 9 per cent of the variance in 2013. People with a high educational level and a high or medium income are more likely to combine climate worry with a positive attitude to environmental protection than people with a low educational level and a low income. However, adding political ideology increases the explained variance considerably. The explained variance (Nagelkerke’s pseudo-R<sup>2</sup>) increases to 13 per cent in 2009 and 21 per cent in 2013. Compared with the climate-only group, environmentalists are ideologically left-leaning and pro-immigration. Immigration attitudes are most important. In order to ease the interpretation of the logit coefficients we have estimated the predicted probability of belonging to the environmentalist group rather than the climate-only group for independent variables, all other variables being set to their mean.<sup>16</sup> Going from the most negative position on immigration (score 0 on the 0-20 scale) to the most positive position (score 20) increases the probability of being an environmentalist from .55 to .94 in 2009 and from .33 to .94 in 2013. Figure 2a shows the predicted probabilities (with 5 per cent confidence intervals) for the entire range of the immigration index in 2009 and 2013.

(Fig. 2a about here)

As for left/right ideology, going from the position furthest to the left to the position furthest to the right on the left/right index *decreases* the probability of being an environmentalist from .84 to .71 in 2009 (not statistically significant in 2013). The predicted probabilities for the entire range of the left/right index in 2009 are shown in Figure 2b.

(Fig. 2b about here)

Moreover, going from a low to a high educational level increases the probability of belonging to the environmentalist group from .61 to .80 in 2013 (not significant in 2009).

A comparable pattern is revealed when using the alternative measures of environmental and climate attitudes (see Table A.5 in the appendix).<sup>17</sup> As for attitudes to immigration, the

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<sup>16</sup> Using the STATA 15 command margins. The calculations have been performed using Model 2, including social background and ideology.

<sup>17</sup> The explained variance increases from .032 to .091 and from .041 to .073, adding ideology when we use the alternative measures (Table A.3).

predicted probability of being an environmentalist rather than climate-only increases from .50 to .86 in 2009 and from .63 to .80 in 2013, going from most negative (score 0) to most positive (score 20).<sup>18</sup>

To sum up, the increased emphasis on climate change that we have seen lately does not seem to transform into renewed strength for environmental attitudes in general. Although the majority of those believing in climate change do link this concern to other environmental issues, about a third of them do not make this connection. This raises the issue of the political location of the two different views on climate change.

### ***3.4 The political anchoring of environmental and climate concerns***

In Norwegian politics, ideological predispositions play a major role in voting (Aardal, 2011a, Aardal & Bergh, 2015). Norwegian voters can be located in a political space defined by an “old” left/right dimension on the one hand and a “new” authoritarian/libertarian dimension on the other (Kitschelt, 1994, 1997). However, in the Norwegian context the authoritarian/libertarian dimension can be split into two related but distinguishable dimensions linked to immigration policy and environmental policy (Aardal and Bergh, 2015). In particular, the immigration dimension can be seen as being functionally comparable with – if not identical to – the authoritarian/libertarian dimension identified in the international literature.<sup>19</sup> We are thus able to study the location of attitudes to environmental and climate issues in a political space defined by a traditional left/right axis and a new authoritarian/libertarian axis. In Fig. 3 we have placed the “environmentalist” and the “climate-only” group in a two-dimensional space, with the location of the groups being calculated as the deviation from the sample mean in both dimensions. To locate the groups more directly within a political context, we have added the position of the major political parties as well. The diagonal from the top left-hand corner to the bottom right-hand corner illustrates the new political cleavage, combining left/right and authoritarian/libertarian

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<sup>18</sup> Going from the score furthest to the left (0) to the score furthest to the right (20) on the left/right index decreases the probability of being an environmentalist from .76 to .58 in 2009 and from .80 to .58 in 2013. As for education, the predicted probability of being an environmentalist is .66 for those with a low educational level and .77 for those with a high educational level.

<sup>19</sup> Although the immigration dimension (index) does not include items about attitudes to law and order, two items specifically related to law and order correlate (at Pearson's  $r=.26$  and  $r=.27$ ) with the index (“Law and order should be prioritised more in our society” and “Crime is best reduced by prevention and guidance rather than harsher punishments”)

politics. The Socialist Left Party and the Progress Party are placed as the main opponents on the diagonal axis.

The positions of the two groups compared with those of voters for the political parties are very interesting. The environmentalists are located close to the Green Party in the ‘left-libertarian’ quadrant. The climate-only group, however, is located in the bottom-right quadrant with the Conservative and Progress Party voters, who are the strongest advocates of economic growth.

(Fig. 3 about here)

In terms of green politics, the “environmentalist” and the “climate-only” groups seem to represent ideological opposites.<sup>20</sup> There is also an interesting difference between the two groups with respect to how salient environmental and climate issues are on a personal basis. While 30 per cent of the environmentalists say that environmental protection and climate change constitute one of the two most important issues for them at elections, only 11 per cent of the climate-only group agree. Thus environmentalists are putting these issues higher up on their personal agenda than the climate-only group.<sup>21</sup> As indicated in Fig. 3, attitudes to environmental concern and climate change have consequences for voting patterns as well. In 2013, 32 per cent of environmentalists voted for green parties (Socialist Left, Liberal and the Green Party), while only 12 per cent of the climate-only group did so.<sup>22</sup> Conversely, 37 per cent of the climate-only group voted for the “economic growth” parties (Conservatives and Progress), while only 21 per cent of environmentalists did so.<sup>23</sup>

## 4. Conclusions

We have studied the position of (1) voters concerned with traditional environmental protection *and* climate change and (2) voters concerned with climate change only. According to Herbert Kitschelt’s theory (1994, 1997) voters with traditional environmental attitudes have leftist *and* libertarian values, while voters favouring economic growth have rightist *and* authoritarian values. We find that regarding traditional environmental attitudes this pattern also matches voter attitudes in Norway. Environmentalists have leftist and libertarian values,

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<sup>20</sup> The same pattern is found when using 2009 data. Environmentalists and the climate-only group are located on opposite sides of the new political cleavage, combining authoritarian/libertarian and left/right values. Moreover, the position of the two groups is quite similar when using the alternative attitude measures (see Figure A.2 in the appendix).

<sup>21</sup> The corresponding figures for the alternative attitude measures are 25 and 8 per cent.

<sup>22</sup> The corresponding figures for the alternative attitude measures are 26 per cent voting for the environmentalists and 7 per cent voting for the economic-growth parties.

<sup>23</sup> The corresponding figures for the alternative attitude measures are 48 and 27 per cent.

and voters favouring economic growth have rightist and authoritarian values. However, in a study of voter attitudes to climate change this pattern is not as good a match as it is with traditional environmental attitudes. The environmentalists and the climate-only voters seem to represent ideological opposites. The climate-only voters share many characteristics with economic-growth supporters.

The political implications of these findings may be the most important part of this analysis. The negative effects of climate change have become more and more visible. Extreme drought and extreme rainfall are “breaking news” in many countries these days. At the same time, governments and local authorities are struggling to find effective climate policies and measures. In democratic politics climate-change policies and measures need to be accepted by the voters. If not, voters may “throw the rascals out” at the next election.

Decision-makers are facing a challenge, as Norwegian voters are split. A third of the voters can be characterised by “growth only”. Their acceptance of climate policies is very limited. Another third of the voters can be characterised as environment and climate change first – being willing to sacrifice economic growth and jobs to save the environment and the climate. Their acceptance level for climate policies is high. These two opposing groups were about the same size in 2013. To make the situation even more challenging, the last third of the population is also split in two. With a sixth of the voters concerned with the environment only, another sixth are concerned with climate only. Gathering public support for climate policy is thus a big challenge. All in all, half of the population accept climate-change policies, but only a third of the population do so to a large extent.

These findings may also be of great interest to other countries. If the distribution of voters between the four categories is similar, this poses a big challenge regarding important climate measures such as renewable energy development.

Together with energy efficiency, renewable energy is at the core of climate policies in the EU and in EU member states. Renewable energy may, however, conflict with nature conservation, biodiversity and landscape conservation. This suggests, in line with the international literature, that renewable energy may split voters and the environmental movement.

More research is needed, and one might hypothesise that while renewable energy development might gather support among climate-only voters, the “nature-only” voters will

oppose such development. Energy efficiency – another pillar of EU climate policy – is cost-effective in the long run, but is often associated with costs in the short run. Here, one might hypothesise that energy efficiency may only gather support among “nature-only” voters.

Although the “climate-only” voters may be seen as a segment in which one can gather more support for environmental policies, this group might also pose a challenge. The “broken line” between a commitment to environmental protection on the one hand and taking climate change seriously on the other may have negative consequences regarding implementation of stricter climate-change policies and measures, since voters concerned with climate-only may be less likely to accept such policies and measures at the expense of economic growth. On the other hand, voters positive about traditional environmental protection and taking climate change seriously are less likely to accept renewable energy development. Hence this analysis finds that it is definitely a challenge gathering broad voter support for climate-change policies and measures – despite the increasing concern for climate change. Moreover, the analysis indicates that increased concern about climate change does not necessarily increase the political bargaining power of established environmental groups.

Finally, and by way of conclusion, we find that although attitudes to environmental protection and climate change are linked, there are still important differences between the two. Voters concerned about the climate are to be found both among left- and right-leaning voters and among libertarian and authoritarian voters. These findings suggest that climate change is not necessarily a ‘new’-politics issue in line with other environmental issues in Norway.

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## Appendix

### *Construction of ideological indices*

From a principal component analysis (with varimax rotation) of 52 attitude questions in the 2013 election study, six separate factors were extracted, all with an eigenvalue above 1.0 (varying between 4.2 and 2.0). All items were salient and relevant to the ongoing political debate in Norway. Separate additive indices were constructed, based on the highest loading indices for each factor. In this paper we are using three such indices.

- A) A left/right index based on the following items: 1) Many public projects could have been carried out both better and more cheaply if left to the private sector, 2) We should reduce state control over private business, 3) We should allow commercial private schools, 4) In the present economic situation there is room for far lower taxes and tariffs, 5) Tax on wealth should be abolished, 6) It is more important to expand public services than to reduce taxes. (Cronbach's Alpha =.75)
- B) A libertarian/authoritarian index based on the following seven items: 1) Immigration represents a threat to our national heritage, 2) Where would you place yourself on a scale from 0 to 10, where 0 indicates that we should make it easier for immigrants to come to Norway, while 10 indicates that the number of immigrants to Norway should be even more restricted than today? 3) In bad times we should first and foremost secure jobs for Norwegians, 4) Some people think that Norway's aid to poor countries, i.e. developing countries, should be cut, that it should be as it is today or that it should be increased, 5) Begging should be banned in Norway, 6) Refugees and immigrants should have the same rights to social security as Norwegians, even if they are not Norwegian citizens, 7) Immigrants should pass a language

test and a knowledge test about Norwegian society in order to acquire citizenship (Cronbach's Alpha=.80).

- C) A religious/secular index based on the following six items: 1) Christian values should be more prominent in our society, 2) Where would you place yourself on a scale from 0 to 10, where 0 indicates that Christian instruction should be mandatory in primary school, while 10 indicates that Christian instruction should be voluntary in primary school? 3) We should allow euthanasia, 4) Surrogate mothers should be allowed in Norway, 5) Homosexuals should have the same right to adopt children as heterosexuals, 6) Abortion should never be allowed, allowed only if the woman's life is in danger, allowed if for personal reasons the woman cannot take care of the baby, or abortion should be determined by the woman alone (Cronbach's Alpha=.67).

See Aardal & Bergh (2015, p. 54-63) for further details about the indices.

(Table A.2 about here)

(Table A.3 about here)

(Table A.4. about here)

(Table A.5 about here)

(Figure A.2 about here)