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Bridging the Ideological Divide: Communicating the Positive Economic Impact of Climate Policy to Persuade the Right

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ABSTRACT

Political polarisation on the issue of climate change is an obstacle to an effective public debate on the measures needed to tackle the problem. Communication that focuses on the economic dimension could be one way to increase the limited support of right-wing audiences for climate policy. In two experimental studies, we examined how a message advocating a switch from fossil fuels to renewable energy sources affects participants' support for this policy. The message focused on the environmental or economic consequences of the policy (Studies 1 and 2), was framed in terms of gain or loss (Study 1) and was attributed to different sources (Study 2). Participants' political orientation and their beliefs and concerns about climate change were also assessed. The results showed that attitudes towards climate change and support for the policy were strongly related to political orientation. Right-leaning participants were significantly less concerned about climate change and less supportive of the proposed policy. This effect was moderated by the focus of the message, as right-leaning participants agreed more with the economic focus message than the environmental focus message, while left-leaning participants did the opposite. The discussion focuses on the role of communication and message framing in integrating climate action into the political agenda and bridging the existing political divide.

Overcoming the challenge of climate change is one of the most urgent tasks of our time. Given the scale and importance of the problem, the collective commitment of the world's peoples and governments is necessary (IPCC 2023). Nevertheless, this issue has become increasingly polarised in recent years, sparking heated political debates (Falkenberg et al. 2022) about the existence of climate change itself, the appropriateness of policy measures to tackle it and their economic feasibility.

Among the many factors that influence people's attitudes towards climate change and climate action (Gifford and Nilsson 2014), political orientation emerges as a key determinant (see Cole et al. (2023) for a review). Compared to individuals with other political views, conservative or right-leaning

individuals tend to be less aware of and less concerned about the problem of climate change, less likely to acknowledge the role of human activity in causing climate change and, crucially, less willing to support climate action (Clements 2012; Gregersen et al. 2020; Hamilton 2011; Hornsey, Harris, and Fielding 2018; McCright, Dunlap, and Marquart-Pyatt 2016; Tranter 2011). As people's political orientation is generally stable and polarisation on climate change is unlikely to decrease in the foreseeable future (it actually appears to be increasing, see Jaspal, Nerlich, and Cinnirella 2014; Whitmarsh and O'Neill 2010), new strategies are needed to bridge this partisan divide.

In this paper, we investigated whether a kind of 'emphasis framing' (Druckman 2011; Nelson 2019) in climate policy

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communication can potentially persuade the right, who are generally more sceptical than their left-wing counterparts. We compared messages that emphasise the positive economic consequences of climate policy (e.g., the potential benefits in terms of lower costs of energy production and, indirectly, lower electricity bills for consumers), with messages that emphasise the positive environmental consequences of climate policy (e.g., mitigating the effects of global temperature rise and the increase in extreme weather events). We expected that responses to messages emphasising environmental consequences would be more positive on the left than on the right, while we expected that responses to messages emphasising economic consequences would also be positive on the right. This would be the case because framing climate policy as economic policy has the potential to meaningfully engage the public even on the right side of the political spectrum and build consensus around climate policy. At the same time, we also tested whether this type of framing runs the risk of losing consensus on the left side of the political spectrum, as the environmental values typically associated with the political left are not emphasised.

In Study 1, we embedded an experiment in a large representative national survey, namely, the ITANES 2022 survey.¹ A subsample of the survey participants read a message advocating the switch to renewable energy sources. Depending on the experimental condition, the message focused on the impact of the policy on either the environment or the economy. We then examined whether participants' agreement with the message varied across experimental conditions and as a function of participants' political orientation and pre-existing beliefs and concerns about climate change. In Study 2, we examined the interaction between political orientation and message framing and assessed the potential moderating role of the source of the message (environmentalists vs. business representatives vs. researchers).

1 | Differences in Attitudes Towards Climate Change Depending on Political Orientation

Previous research has examined the social and psychological correlates of people's awareness, concern and attitudes towards climate change (Spence, Poortinga, and Pidgeon 2012). According to this research, political orientation is one of the individual factors most strongly associated with climate change attitudes (Malka and Lelkes 2010). Although the strength of association can vary in different political contexts, studies consistently show that left-wing individuals are more aware, concerned and proactive about climate change compared to right-wing individuals (Gregersen et al. 2020; McCright and Dunlap 2011). This result has been found in the United States (Hamilton 2011), in Western European countries (McCright, Dunlap, and Marquart-Pyatt 2016), in Australia (Tranter 2011) and to a lesser extent in the United Kingdom (Clements 2012; Crawley, Coffé, and Chapman 2020).

Various explanations have been proposed for the differences in environmental beliefs and attitudes along the political divide. Some research has shown that individuals with more self-transcendent and biospheric values, who tend to be on the

left side of the political spectrum, are more concerned with environmental issues and climate change than individuals with stronger self-enhancement values, who tend to be on the right side of the political spectrum (De Groot and Steg 2007; Milfont and Gouveia 2006; see Gifford and Nilsson 2014 for a review). Other research has attempted to explain political differences in knowledge and beliefs about climate change within the broader 'knowledge gap' model (Brossard and Lewenstein 2009), i.e., the idea that scepticism and denial of climate change are due to a lack of access to scientific information on the issue among individuals on the right of the spectrum compared to those on the left. This in turn could be due to a communication gap (Nisbet 2014), as conservative media are more reluctant to report on climate-related issues than independent and liberal media, indirectly contributing to different beliefs and attitudes in their respective audiences. This phenomenon seems to be gradually increasing in recent years, leading to further and deeper polarisation (Ballew et al. 2019; De Nadal 2024).

Finally, some research has reframed the ideological divide in terms of solution aversion (Campbell and Kay 2014), which is as a difference in attitudes towards climate *policy* rather than towards the environment in general. According to this view, proposed climate change mitigation measures (emission regulations, government restrictions on polluting industrial activities, international cooperation on the issue, etc.) are inherently less appealing to conservative and right-wing citizens and more appealing to progressive and left-wing ones (Feygina, Jost, and Goldsmith 2010; Gustafson et al. 2019), as they are interpreted as a new type of government interference in individual decisions.

In light of this, we expected in our studies that right-wing participants would believe less in climate change compared to left-wing participants and would be less supportive of political measures to combat it.

2 | Framing Climate Change Communication and the Focus on the Economic Dimension

As mentioned above, communication seems to play an important role in the political polarisation on the issue of climate change and how to deal with it. Environmental problems and the proposed solutions are often presented in ideological and moral language that is more appealing to people on the left than to people on the right (Feinberg and Willer 2013). For example, a common approach to climate change advocacy is to portray environmental crises as forms of injustice (Clayton, Koehn, and Grover 2013), appealing more to the sensibilities and values of liberals or leftists than those of conservatives or rightists. This may result in the latter group rejecting the ideological or moral undertones of environmental discourse, in line with the notion of solution aversion mentioned earlier.

Based on the above, some research has explored the possibility of manipulating the moral framing of pro-environmental messages to make them appealing to conservatives, as well. For example, in a study conducted in the US by Feygina, Jost, and

Goldsmith (2010), a pro-environmental message was framed as an affirmation of patriotic values, which led to a greater willingness among conservatives to sign a pro-environmental petition and participate in pro-environmental activities. Similarly, Wolsko, Ariceaga, and Seiden (2016) showed that a pro-environmental message framed in terms of individualising morality (Graham, Haidt, and Nosek 2009; Haidt, Graham, and Joseph 2009; Weber and Federico 2013) was more persuasive to liberal participants, whereas a pro-environmental message framed in terms of binding morality was more persuasive to conservative participants. It is therefore reasonable to assume that framing environmental policy in a way that resonates with the values of political conservatives, for example, mentioning the potential 'co-benefits' (Bain et al. 2016), could significantly promote pro-environmental attitudes and actions. However, this could come at the cost of (at least partially) alienating people at the other end of the political spectrum.

Based on this background, we tested whether a focus on the positive economic consequences of climate policy is a convincing communication strategy aimed at right-wing recipients and can thus overcome the pre-existing political polarisation on climate change. Communication can emphasise the relevant economic consequences of climate change policies, such as reduced dependence on fossil fuel imports or the promotion of technologically advanced industrial sectors (Bain et al. 2012; Bernauer and McGrath 2016; Bertolotti and Catellani 2014, 2015). Some previous research (Bertolotti, Catellani, and Nelson 2021; Bertolotti and Catellani 2021) has shown that economic-focused appeals for climate action can be more persuasive than environment-focused ones among the so-called 'climate sceptics', i.e., people who do not see climate change as a real or relevant issue (O'Neill and Boykoff 2010). As mentioned above, people on the right end of the political spectrum tend to underestimate the climate problem. Therefore, appeals that focus on the expected positive economic outcomes of climate action could be key to convincing them of its feasibility and desirability. While this potentially positive effect has not yet been studied, there is some evidence of the negative consequences of politicians and interest groups advocating against the adoption of climate change policies by focusing their communication on the expected negative economic impacts (Jacques, Dunlap, and Freeman 2008; Kachi, Bernauer, and Gampfer 2015). This negative effect is even greater when citizens see their economic security threatened, such as during a period of economic downturn (Baek 2015; Carmichael and Brulle 2016; Scruggs and Benegal 2012).

In this paper, for the first time, we compared the impact of messages that focus on the expected positive environmental or economic effects of climate policy. We argue that exposure to the latter type of message could appeal to right-wing individuals and thus potentially narrow the political divide in support of climate policy.

3 | Message Valence and Message Source as Possible Moderators of Economy-Focused Messages

When comparing the impact of messages focusing on the economic and environmental dimensions of climate policy, respectively, we considered two additional factors that might influence

right- and left-leaning individuals' responses, namely, the valence of the message and the source of the message.

Message valence (Druckman 2011; Tversky and Kahneman 1981) refers to the emphasis on the positive consequences that result from adopting a particular policy (i.e., a gain frame) or, conversely, the negative consequences that result from not adopting the policy (i.e., a loss frame). In the political discourse, climate change is often associated with losses (Boykoff 2008; Hulme 2008) and climate change policy is consequently presented as a strategy to avoid or mitigate (i.e., reduce) potential environmental damage. At the same time, past research has emphasised that conservative and right-leaning individuals are generally motivated to avoid threat and uncertainty (Jost et al. 2007). It is therefore possible that the frequent 'loss framing' of climate change communication (Davis 1995; Nisbet 2009; Scrase and Ockwell 2010; Van de Velde et al. 2010) motivates conservatives to pay less attention to the issue and distance themselves from proposed actions.

In our Study 1, we examined whether message valence would attenuate the differential effects of exposure to economy- or environment-related messages for left- and right-leaning participants, respectively. However, in light of the above, we did not have a specific hypothesis regarding the effect of message valence on left- and right-leaning participants.

Regarding the possible moderating effect of the source of the message, previous research has shown that people often form their opinion on a policy proposal on the basis of their attitude towards the source of the proposal (Petty, Wegener, and Fabrigar 1997). They also incorporate the credibility of the source into information processing, and weight arguments according to the perceived competence and trustworthiness of the source (Geiger, Sarge, and Comfort 2022). More generally, research on political communication (Zaller 1992) and environmental communication (Carmichael and Brulle 2016; Guber 2013; Jacques, Dunlap, and Freeman 2008; Tesler 2018) has shown that people can easily recognise partisan cues in arguments for or against certain policies.

In light of the above, it can be assumed that the source of a message about a climate policy has a relevant influence on how the recipients perceive this message. More specifically, part of right-leaning individuals' scepticism about the issue of climate change and related policies might derive from the fact that advocacy of these policies typically comes from sources such as left wing, progressive and liberal parties (Merkley and Stecula 2021), interest groups and organised movements (Mede and Schroeder 2024; Sorce 2022). If this is the case, climate policy proposals might be more attractive to right-wing recipients when they originate from sources perceived as politically right wing, such as conservative politicians, opinion leaders and interest groups (Bolsen, Palm, and Kingsland 2019), or from non-partisan sources, such as scientists, experts (Hmielowski et al. 2014, 2022) or even non-experts and ordinary people (see Mede, Schäfer, and Füchslin 2021 for a discussion of the phenomenon of scientific populism). In our Study 2, we varied the source of the message to which participants from the left and right were exposed, to assess whether the source of the message would influence their evaluation of the climate change policy addressed in the message.

4 | Research Overview and Hypotheses

In two studies, we investigated the extent to which citizens' evaluation of a climate change policy depends on the interaction between citizens' political orientation and whether communication about the policy focuses on either environmental or economic consequences.

Study 1 was part of the ITANES 2022 online survey and was conducted with a representative sample of Italian voters. We presented participants with a short message advocating a policy for the transition from fossil to renewable energy sources, focusing either on the environmental or on economic consequences of the policy itself. In addition to the focus of the message, we manipulated the gain or loss frame of the message. In Study 2, conducted with a convenience sample of Italian voters, we presented participants with an expanded version of the message used in Study 1. In addition to focusing the message on the environment or the economy, we manipulated the source of the message by attributing it to either an environmental activist, a business representative or a scientist.

In both studies, we first tested the existence of a significant relationship between political orientation and belief and concern about climate change. We started from the assumption that the issue of climate change is politicised (Hornsey et al. 2016; McCright, Dunlap, and Marquart-Pyatt 2016), leading to an observable polarisation (Cole et al. 2023) of beliefs and attitudes along the traditional left–right political axis. This is also the case in Italy, albeit to a lesser extent than elsewhere in the Western world (Biancalana, Ladini, and Visconti 2023; Bordignon et al. 2023). Therefore, we formulated the following two hypotheses:

H1. *Left-wing participants believe more strongly in climate change (H1a) and are more concerned about climate change (H1b) than right-wing participants.*

H2. *Left-wing participants have higher agreement with a climate policy message (H2a, tested in Study 1) and support for the policy (H2b, tested in Study 2) compared to right-wing participants.*

Our main aim was to test whether focusing the message on the environmental vs. the economic consequences of a climate change policy would attenuate the relationship between political orientation and attitudes towards this policy. As mentioned above, when right-wing individuals consider the economic dimension of an environmental policy, they may be less influenced by their existing beliefs and concerns about the environment than when they consider the purely environmental dimension of the policy. Consequently, we formulated the following hypothesis:

H3. *When a message focuses on the environmental consequences of the proposed climate change policy, left-wing participants are more likely to agree with the message (H3a, Study 1) and support the policy (H3b, Study 2) than right-wing participants. In contrast, when the message focuses on the economic consequences of the proposed policy, the difference between left- and right-wing participants' agreement with the message (H3c,*

Study 1) and support for the policy (H3d, Study 2) is reduced/eliminated.

Finally, in both our studies, we examined whether the effect of message focus on the environmental or economic consequences of a climate change policy is moderated by message frame and message source. Given the sparse and contradictory previous research findings on this topic, we formulated two research questions rather than formulating specific hypotheses.

Regarding the effect of message framing (Study 1), we formulated the following research question:

RQ1. *Does gain/loss framing of the environmental or economic consequences of a climate change policy moderate agreement with the policy among left- and right-wing participants?*

In relation to the effect of the source of the message (Study 2), we wondered whether a different source of the message would affect policy approval differently for left- and right-wing participants. We formulated the following research question:

RQ2. *Do messages from different sources (environmentalist vs. corporate spokesperson vs. university researcher) influence support for the policy differently for left- and right-wing participants?*

5 | Study 1

In Study 1, we investigated whether participants' attitudes towards a climate change policy are influenced by their political orientation and focus on the environmental or economic consequences of a climate policy, as presented in a short message promoting the policy.

5.1 | Participants and Procedure

The participants of our study were drawn from the ITANES 2022 online survey panel, which includes a representative sample of Italian voters. The online survey included a wide range of questions on voting preferences, political attitudes and views on various issues.

A subset of the panel ($N=1579$ participants; 47% women, ages 19–92, $M=51.1$, $SD=16.5$) was presented with a survey experiment focusing on attitudes towards climate change and involving our message manipulation. Based on an a priori power calculation using G*Power, this sample size was deemed sufficient to detect small effects ($f<0.02$) with high power ($1-\beta=0.95$). After being informed of the purpose of the experiment, participants were asked several questions about climate change (see Section 5.2) and then presented with a message advocating a policy of transitioning from fossil fuels to renewable energy sources in national energy production. The first part of the message reads as follows:

‘One of the ways to counteract the rise in temperature is to increase the production of renewable energy

such as solar or wind energy and reduce greenhouse gas emissions from other energy sources’.

The second and final part of the message was manipulated by focusing on the economic or environmental consequences of the proposed energy policy and by presenting the consequences as a gain (in case of adoption of the policy) or loss (in case of non-adoption of the policy). Participants were randomly assigned to one of the four versions of the text, shown in Table 1: gain/economy-focused message condition ($N=390$), loss/economy-focused message condition ($N=443$), gain/environment-focused message condition ($N=361$) and loss/environment-focused message condition ($N=385$). After reading the message, all participants were asked to rate their agreement with the message.

5.2 | Measures

5.2.1 | Political Orientation and Socio-Demographic Variables

Participants indicated their political orientation on an 11-point scale ranging from left (0) to right (10). In addition, there was the option ‘none of the above’ (11) and the option ‘I don’t know’ (12). The participants’ gender, age and level of education were also recorded in the survey.

5.2.2 | Belief in Climate Change

Participants’ beliefs about climate change were measured using a single item that is frequently used in research on this topic (Leiserowitz et al. 2010; ESS 2016): ‘As far as you know, do you personally believe that the global climate is changing?’. Answers were given on a 4-point scale from 1 (‘Not at all’) to 4 (‘Very much’), with a ‘I don’t know’ option (5). Respondents who chose the last option ($N=63$) were excluded from the main analyses.

5.2.3 | Attribution of Climate Change to Human Activities

Participants’ attribution of climate change was measured with the following item (Leiserowitz et al. 2010; ESS 2016): ‘Do you think this change is caused by natural processes, human activities, or both?’. There were six response options: ‘Caused solely by natural processes’, ‘Caused primarily by natural processes’, ‘Caused equally by natural processes and human activities’,

‘Caused primarily by human activities’ and ‘Caused solely by human activities’, with a further option ‘I don’t know’. After excluding participants who chose the latter option ($N=56$), the other options were scored from 1 to 5, reflecting a range from attribution to natural causes to attribution to human causes.

5.2.4 | Concern About Climate Change

Participants’ concern about climate change was measured using an item commonly used in research on this topic (Leiserowitz 2006): ‘How concerned are you about climate change?’. Responses were given on a 5-point scale from 1 (‘Not at all’) to 5 (‘Very much’), with a ‘I don’t know’ option. Respondents who chose the last option ($N=61$) were excluded from the main analyses.

5.2.5 | Agreement With the Message

After reading the manipulated message, participants rated their agreement with the message on a 10-point scale ranging from 1 (‘Strongly disagree’) to 10 (‘Strongly agree’).

5.3 | Results

5.3.1 | Beliefs and Concerns About Climate Change Depending on Political Orientation

Overall, participants reported a strong belief in climate change ($M=3.57$, $SD=0.67$ on a scale of 1–4) and moderate concern about it ($M=3.66$, $SD=0.93$ on a scale of 1–5). Most participants attributed climate change mainly (52.2%) or exclusively (9.9%) to human activities, while fewer participants attributed it equally to human and natural causes (25.7%), or mainly (10.4%) or exclusively (1.8%) to natural processes (overall $M=3.58$, $SD=0.87$). Consistent with our H1a, we found a significant relationship between political orientation and belief in climate change. Belief in climate change gradually declined along the left–right political spectrum, $r(1224)=-0.285$, $p<0.001$, as did the attribution of climate change to human activities rather than natural causes, $r(1212)=-0.322$, $p<0.001$. Consistent with our H1b, concern for climate change was also correlated with the left political orientation and negatively correlated with the right political orientation, $r(1206)=-0.293$, $p<0.001$. Climate change belief and concern were also positively, albeit weakly, associated with age and education and were stronger among men than women, as shown in Table 2.

TABLE 1 | Full text of the stimulus text in the four experimental conditions (manipulated text in italics).

		Focus	
		Economic consequences	Environmental consequences
Frame	Gain	If we increase the production of renewable energy, we <i>improve our economic conditions and have more favourable bills</i>	If we increase the production of renewable energy, we <i>improve our climate and have more reasonable temperatures</i>
	Loss	If we <i>do not</i> increase the production of renewable energy, we <i>deteriorate our economic conditions and have more expensive bills</i>	If we <i>do not</i> increase the production of renewable energy, we <i>deteriorate our climate and have less pleasant temperatures</i>

TABLE 2 | Zero-order correlations among environmental beliefs and concerns and socio-demographic variables (Study 1).

	1	2	3	4	5	6	7
1. Political orientation	—						
2. Climate change belief	-0.285**	—					
3. Climate change concern	-0.293**	0.470**	—				
4. Attribution of climate change	-0.322**	0.379**	0.474**	—			
5. Gender	-0.056*	0.074**	0.110**	0.065*	—		
6. Age	-0.016	0.043	-0.058*	-0.045	0.001	—	
7. Education	-0.082**	0.074**	0.089**	0.057*	-0.057*	-0.141**	—

* $p < 0.05$.
 ** $p < 0.01$.

To summarise, beliefs and concerns about climate change were stronger among the left-leaning individuals than among the right-leaning individuals. This is consistent with our H1(a and b) and with what has been observed in various national contexts (McCright, Dunlap, and Marquart-Pyatt 2016; Poortinga et al. 2019), including other large-scale surveys in Italy (e.g., ESS 2016). However, if we look at the dimensionality of this effect, the two groups were not that far apart in their respective positions. Even participants who positioned themselves on the far right of the political orientation scale ($N = 87$) believed only slightly less in climate change ($M = 3.44$, $SD = 0.76$) than participants who positioned themselves on the far left ($N = 123$) ($M = 3.84$, $SD = 0.37$).

5.3.2 | Effects of Political Orientation, Message Focus and Message Framing on Agreement With the Message

To test our H2, we ran a linear multiple regression model (PROCESS model 3; Hayes 2018), with political orientation as the main predictor, message focus and message framing as the potential moderators and agreement with the message as the dependent variable.

There was a main effect of political orientation, $B = -0.31$, $t = 4.91$, $p < 0.001$, 95% C.I. [-0.44; -0.19], suggesting that participants who positioned themselves on the left side of the political spectrum agreed with the message more than participants who positioned themselves on the right side, as described in H2a. In addition, the predicted interaction effect between political orientation and message focus occurred, $B = 0.10$, $t = 2.55$, $p = 0.011$, 95% C.I. [0.02; 0.18]. Follow-up simple slope analyses (Figure 1) showed that the effect of political orientation was stronger for the message with an environmental focus, $B = -0.21$, $t = 7.41$, $p < 0.001$, 95% C.I. [-0.27; -0.16], as left-wing participants agreed more with the message with an environmental focus than right-wing participants (confirming our H3a). The difference was still significant but smaller for the economy-focused message, $B = -0.11$, $t = 3.96$, $p = 0.001$, 95% C.I. [-0.16; -0.05], confirming our H3c.

In addition, we used the Johnson–Neyman technique (see Lin 2020) to examine the areas of significance of the conditional effect of message focus along the continuum of political

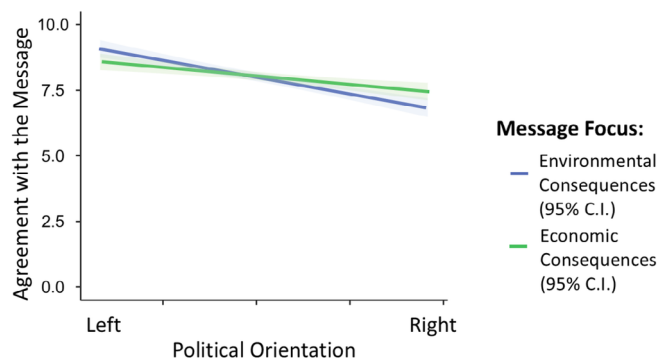


FIGURE 1 | Agreement with the message as a function of message focus and political orientation (Study 1).

orientation. Results showed that among participants on the right (i.e., those who positioned themselves above 8 on the left–right scale), agreement with the economy-focused message was significantly higher than agreement with the environment-focused message, $t = 2.19$, $p = 0.027$. Among participants on the extreme left (i.e., those who positioned themselves at zero on the 0–10 left–right scale), the effect was reversed, as these participants agreed significantly more with the environment-focused message ($M = 9.15$, $SD = 1.35$) than with the economy-focused message ($M = 8.40$, $SD = 2.30$), $t(105.16) = 2.25$, $p = 0.027$, 95% C.I. [0.89; 1.42].

We found no significant effect of message framing (i.e., gain vs. loss), $B = -0.15$, $t = 0.81$, $p = 0.42$, 95% C.I. [-0.22; -0.52], nor of the interaction with political orientation, $B = 0.09$, $t = 1.35$, $p = 0.18$, 95% C.I. [-0.04; 0.21].

Overall, the results of Study 1 confirmed the hypothesised political divide in climate change beliefs and concerns and the hypothesis that this divide would extend to approval of a message in support of climate action. However, as expected, this gap was evident when the focus of the message in support of such a policy was on the environmental consequences of climate change mitigation but narrowed and even reversed when the focus was on the economic consequences. As for our additional research question regarding the role of the gain or loss framing of the message, we found no significant main or interaction effects, suggesting that the two alternative formulations were similarly persuasive to participants at both ends of the political spectrum.

6 | Study 2

In Study 2, we further tested our main hypotheses and also manipulated the source of the message presented to participants. By assigning the same environment- or economy-focused messages to different sources (environmental activists vs. industrial representatives vs. university researchers), we tested whether the source of the message would moderate the relationship between participants' political orientation and their overall support for the policy (Figure 2).

6.1 | Participants and Procedure

The study was conducted with a convenience sample of Italian adults. Students from psychology courses were assigned to contact potential participants and match them in terms of gender (males and females) and age group (among 18–30 years, 31–53 years and 54–75 years). Sample size was determined using G*Power (Faul et al. 2007), and a sample size of 241 was found to be sufficient ($1 - \beta = 0.80$) to detect small to medium effects ($f = 0.15$) comparable to those observed in Study 1. Of the participants initially contacted ($N = 511$, mean age $M = 41.1$), $N = 389$ completed the experiment.

Participants completed an online survey via the Qualtrics platform. They answered a series of questions about their views on the environment, politics and the economy. They also read a short message that was presented as an appeal to voters in major newspapers (see Table 3 for the full text of the message). As in Study 1, the message was manipulated in terms of the positive consequences of the proposed policy for the environment or the economy. In addition, the message was attributed to a different source depending on the experimental condition, namely, a group of environmental activists, a group of industrial associations' representatives or a group of university researchers. After reading the message, participants were asked to rate their agreement and their support for the policy.

Two attention checks were used to assess participants' awareness of the manipulated content, namely, the source manipulation ('Think about the authors of the appeal you just read. The authors were: a group of environmental activists/a group of industrial associations' representatives/a group of university researchers') and the focus manipulation ('The appeal focused mainly on the

environmental consequences of the proposed policy/the economic consequences of the proposed policy'). A total of 40 participants ($n = 26$ in the environmental focus condition, $n = 14$ in the economic focus condition) did not correctly recognise the focus of the message they had been presented, and an additional 88 participants ($n = 35$ in the environmental activist source condition, $n = 27$ in the industrial representative source condition and $n = 26$ in the university researcher source condition) did not correctly recall the message source.² After excluding participants who failed one or both checks, the final number of participants was $N = 274$.

6.2 | Measures

6.2.1 | Political Orientation

As in Study 1, participants were asked to indicate their political orientation on a 10-point scale ranging from left (1) to right (10). In addition, there was a 'none of the above' option (11).

6.2.2 | Belief in Climate Change

Participants' beliefs about climate change were measured using the same item as in Study 1 but with a broader 7-point scale ranging from 1 ('Not at all') to 7 ('Very much').

6.2.3 | Attribution of Climate Change to Human Activities

Participants' attribution of climate change was measured using the same item and response options used in Study 1.

6.2.4 | Concern About Climate Change

Participants' concern about climate change was measured using three questions: 'To what extent are you interested in climate change/are you concerned by climate change/do you consider climate change important for you?', on a 7-point scale ranging from 1 ('Not at all') to 7 ('Very much'). The item scores were averaged to create a single index of concern about climate change (Cronbach's $\alpha = 0.911$).

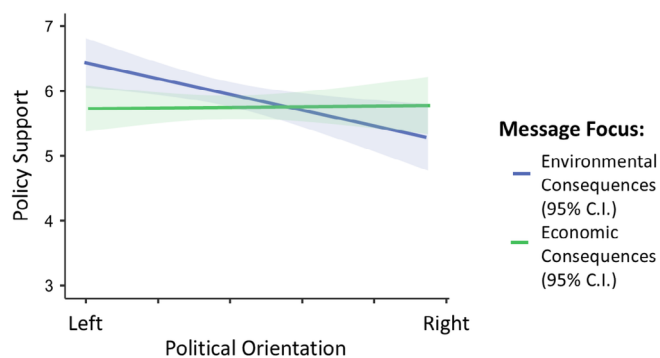


FIGURE 2 | Support for the policy as a function of message focus and political orientation (Study 2).

TABLE 3 | Full text of the message (manipulated parts in italics).

<i>Message focus</i>	
Economic	Environmental
If we radically change the way we produce and consume energy, we will be able to <i>achieve the transition to sustainable economic growth</i>	If we radically change the way we produce and consume energy, we will be able to <i>keep temperatures close to current levels</i>
If we increase the production of renewable energy, we will improve our <i>economy and have lower electricity bills</i>	If we increase the production of renewable energy, we will improve our <i>climate and have more favourable temperatures</i>

6.2.5 | Policy Support

Participants' agreement with the message was measured using the same single item used in Study 1. In addition to this, agreement with the proposed policy was also measured with a single item ("Thinking about the proposal to switch from fossil fuels to renewable energy sources, to what extent do you agree with this policy?"), using the same 7-point scale. As the two item scores were highly correlated, $r(272)=0.511$, $p<0.001$, they were later averaged into a single index of policy support.

6.2.6 | Socio-Demographic Variables

Participants' gender, age, education level and occupation were recorded.

6.3 | Results

6.3.1 | Beliefs and Concerns About Climate Change Depending on Political Orientation

Table 4 shows the correlations between beliefs and concerns about climate change, political orientation and socio-demographic variables. Consistent with the results of Study 1, we found a correlation between participants' political orientation and their climate change beliefs, with a negative gradient along the left-right political spectrum in belief in climate change, $r(240)=-0.304$, $p<0.001$, and attribution to human causes, $r(240)=-0.159$, $p=0.013$, and concern for the issue, $r(240)=-0.126$, $p=0.050$. These results again confirmed our H1.

6.3.2 | Effects of Political Orientation, Message Focus and Message Source on Policy Support

To test our hypotheses, we ran a multiple regression model (PROCESS model 3; Hayes, 2022), with political orientation, message focus and message source as predictors and support for the proposed policy as the dependent variable. Because there were three experimental conditions in the source manipulation, two dummy variables were included as moderators in the regression, representing the source conditions of industry association representatives and university researchers, with the environmental activist source serving as the reference condition. We used

environmental activists as a comparison term in the analyses because our objective (RQ2) was to examine whether right-wing participants' scepticism towards messages calling for climate action decreases when the message comes from an atypical source, such as industry representatives or researchers.

As in Study 1, there was a main effect of political orientation, $B=-0.40$, $t=2.88$, $p=0.004$, 95% C.I. [-0.67; -0.13], suggesting that participants on the left side of the political spectrum were generally more supportive of the policy than participants on the right side, confirming our H2b. This effect was moderated by the predicted interaction effect between political orientation and message focus, $B=0.25$, $t=2.82$, $p=0.005$, 95% C.I. [0.08; 0.42]. Follow-up simple slope analyses showed that the effect of political orientation was significant and negative for the environment-focused message, $B=-0.13$, $t=3.19$, $p=0.002$, 95% C.I. [-0.22; -0.05], with left-wing participants agreeing with the message more than right-wing participants (confirming our H3b). In contrast, this effect was not significant for the economy-focused message, $B=-0.02$, $t=0.55$, $p=0.585$, 95% C.I. [-0.09; 0.05], fully supporting our H3d (Figure 3). As in Study 1, a further examination of the significance range of the effect of message focus using the Johnson-Neyman technique showed that participants on the left side of the political orientation continuum not only had greater overall support for politics but also preferred the message focusing on the environment over the message focusing on the economy. This was especially true for participants with a self-reported score between 1 and 4 on the political orientation scale, $B=0.28$, $t=2.02$, $p=0.045$, 95% C.I. [-0.54; -0.01].

As for our RQ2, we found no significant main effect of message source, as support did not differ when the sources were industrial associations' representatives, $B=-0.02$, $t=0.04$, $p=0.966$, 95% C.I. [-1.07; 1.02], or university researchers, $B=-0.38$, $t=0.75$, $p=0.457$, 95% C.I. [-1.37; 0.62]. However, we found a significant three-way interaction effect among political orientation, message focus and one of the two dummy variables for message source, namely, the university researcher source condition, $B=-0.31$, $t=2.40$, $p=0.017$, 95% C.I. [-0.57; 0.06]. When examining the conditional effects for each message source condition (see Figure 3), we found that in the environmental activist condition, both political orientation, $B=-0.40$, $t=2.86$, $p=0.005$, 95% C.I. [-0.68; -0.12], message focus, $B=-1.54$, $t=3.27$, $p=0.002$, 95% C.I. [-2.47; -0.60] and their interaction, $B=-0.25$, $t=2.80$, $p=0.006$, 95% C.I. [0.07; 0.43], were particularly strong and significant, suggesting that participants on

TABLE 4 | Zero-order correlations among environmental beliefs and concerns and socio-demographic variables (Study 2).

	1	2	3	4	5	6	7
1. Political orientation	—						
2. Climate change belief	-0.304**	—					
3. Climate change concern	-0.126*	0.649**	—				
4. Attrib. to human activity	-0.127**	0.241**	0.282**	—			
5. Age	0.137*	-0.032	-0.004	-0.117*	0.048	—	
6. Education	-0.066	0.062	0.092	0.051	-0.004	-0.265**	—

* $p<0.05$.

** $p<0.01$.

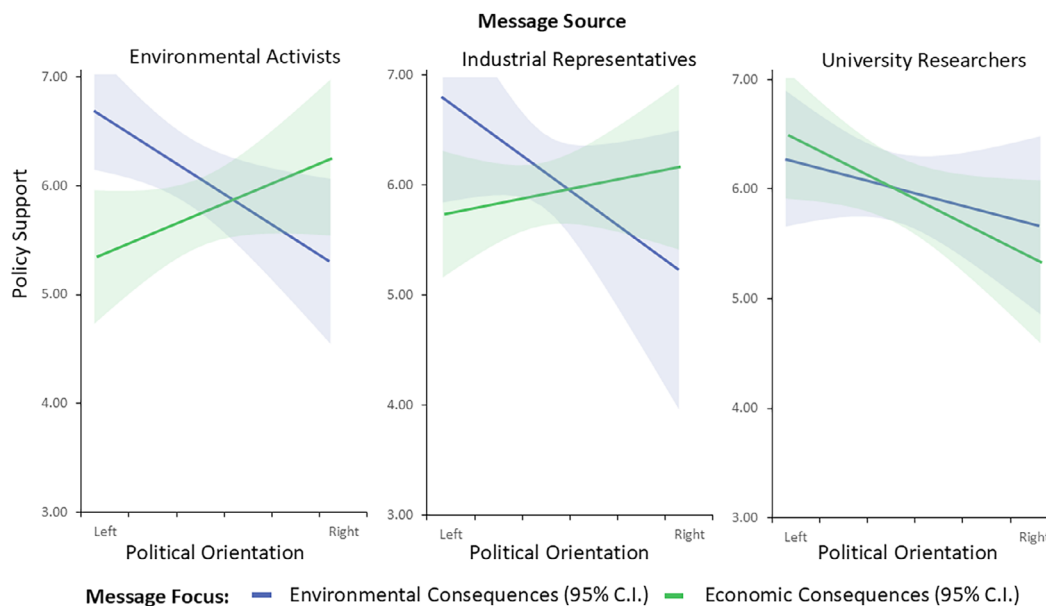


FIGURE 3 | Support for the policy as a function of message source, message focus and political orientation (Study 2).

the left had greater support for the policy overall and especially when the focus of the message was on environmental consequences, whereas participants on the right had lower support overall but slightly higher support when the focus of the message was on economic consequences. This was not the case in the condition with the representatives of industry associations, $B=0.22$, $F(1,230)=2.53$, $p=0.113$, nor in the condition with the university researchers, $B=-0.06$, $F(1,230)=0.42$, $p=0.518$, where the effect of political orientation was also completely absent, $B=-0.01$, $t=0.04$, $p=0.972$, 95% C.I. $[-0.32; 0.31]$.

To summarise, our results replicated the findings of Study 1 in terms of right-leaning participants' lower concern about climate change. They also showed that right-leaning participants were less supportive of climate policy than left-leaning participants. However, this polarisation was only evident when the political message focused on the environmental consequences of the policy. It was even reversed when the political message focused on the economic consequences of the policy, as was already evident in Study 1. Interestingly, both the political polarisation and the differential effects of messages focused on the environment and the economy were particularly pronounced when environmental activists were the source of the message. In contrast, these effects were less pronounced when the message came from sources that might be perceived as more neutral on the issue, such as representatives of industry associations or university researchers.

7 | General Discussion

In our study, we investigated the political polarisation of beliefs and concerns about climate change and whether communication that focuses on the economic consequences of climate change policies (the transition from fossil fuels to renewable energy sources) rather than the environmental consequences can reduce this polarisation. Our results fully confirmed our expectations. On the one hand, we found that the attitudes of a large, representative sample of Italian voters towards climate

change and measures to mitigate it were in line with their political views. Right-wing participants were significantly more sceptical and less willing to agree with messages in support of climate policy than left-wing participants (polarisation effect). On the other hand, messages that focused on the economic consequences of climate policy (economic growth and savings on electricity bills) successfully appealed to right-wing participants and narrowed and to some extent reversed the political divide with left-wing participants in terms of support for climate policy. Finally, we found that for pro-environmental messages, the effect of political polarisation was particularly strong when the message came from environmentalists rather than representatives of industry associations or university researchers. Our findings complement previous research on the conditions under which communication can increase the polarisation or depolarisation of attitudes towards climate policy.

7.1 | Mapping the Divide: Beliefs, Concerns and Policy Support

In terms of polarisation, while our studies confirm previous international research showing that right-wing and left-wing citizens differ in their attitudes towards climate change (Crawley, Coffé, and Chapman 2020; ESS 2016; Gregersen et al. 2020; McCright, Dunlap, and Marquart-Pyatt 2016), they also show that this difference extends to several dimensions of the issue. These dimensions include belief in the existence of climate change, attribution of climate change to human or natural causes, concern about its consequences and support for public policies proposed to combat it (i.e., switching energy production from fossil fuels to renewable energy sources). While previous studies had examined these dimensions separately (e.g., Bamberg and Möser 2007; Smith and Leiserowitz 2014), our study showed that the ideological divide is consistent across all these dimensions. This could be related to the long-term association of environmental consciousness with the political left (Hoffarth and Hodson 2016) and thus a result of political

socialisation. In other words, our findings suggest that there is a general ‘dislike’ of anything related with the climate change concern among right-wing and conservative citizens. In our studies, this polarisation was particularly evident when the message about the policy focused on the environmental consequences of the policy and when it came from environmentalists, the most common source of advocacy for climate change action, and likely the most disliked by right-leaning individuals, as well.

7.2 | Bridging the Divide: The Effects of Communication Focus and Source

Perhaps, the most innovative contribution of our research concerns the conditions under which climate policy communication can facilitate the depolarisation of attitudes among right-leaning voters. We found that communication aimed at persuading people on the right of the political spectrum can be more persuasive if it focuses on a purely economic dimension. This focus appears to prevent right-leaning individuals from making motivated arguments (Kunda 1990; Kahan 2016; Tannenbaum et al. 2015) and viewing climate change policies as ideologically ‘suspect’ programs based on the beliefs, concerns and even values (Milfont, Davies, and Wilson 2019; Wolsko, Ariceaga, and Seiden 2016) of a despised out-group (Hoffarth and Hodson 2016). More generally, the focus on the economic dimension of climate policy appears to address one of the well-known pitfalls of public discourse on climate change, namely, the perception of climate change as a distant problem with distant consequences (Spence, Poortinga, and Pidgeon 2012). The economic benefits of acting on climate change can be fairly well categorised temporally and geographically.

Interestingly, we also found evidence in both our studies that left-wing participants were more convinced by the environment-oriented message than those of the economy-oriented message. This suggests that focusing on the economic dimension to appeal to right-wing voters could potentially undermine support on the other side of the political spectrum. This effect could be due to two well-known factors affecting political attitudes, namely, familiarity with the issue (Baden and Lecheler 2012), and social identity (Fielding and Hornsey 2016; Iyengar, Sood, and Lelkes 2012). People with a left-wing political orientation are more likely to be exposed to information about the negative consequences of climate change (Feldman and Hart 2018) and are more familiar with it. As a result, communication presenting policies that address such environmental consequences is perceived as already known and therefore more likely to be accepted (although recent research suggests that the effects of mere exposure are not linear; see Montoya et al. 2017).

Alternatively, individuals with a left-wing political orientation, especially voters and supporters of green or pro-environmental parties, might perceive environment-related arguments as more representative of their own concerns and identity (Fritsche et al. 2018) than economy-related arguments and therefore be more willing to support them and promote the associated policies. This could also explain why, in Study 2, the preference for

the environment-oriented message over the economy-oriented message was particularly pronounced among left-wing participants when this message came from environmental activists, i.e., from a source they were likely to consider part of their political ingroup and therefore expected to use typical ingroup arguments. In terms of the practical implications of this finding, the potential left-wing backlash of economy-focused communication on climate policy could be prevented by selecting arguments that address economic concerns that are both familiar and meaningful to people who identify with the political left, such as the positive effects of the energy transition on employment and savings on energy and fuel bills.

7.3 | Limitations and Future Directions

Our research has some limitations that could be considered in future studies. The first limitation is that it was conducted in a single national context (Italy) and in a limited time span (end of 2022). This means that there are several relevant political and communication-related factors that we could not control for. These include the current global and national economic outlook and the extent of media coverage of climate change and its respective dimensions (Carmichael, Brulle, and Huxster 2017). Interestingly, some of the findings we observed in the Italian context, such as greater belief and concern about climate change among men than women, diverge from previous findings in international research (see Hornsey et al. 2016 for a meta-analysis). Further research could seek to replicate our experimental design in other national, cultural and economic contexts. The second major limitation is that our design aimed to directly compare the effects of messages with different emphases and did not include a ‘neutral’ or ‘baseline’ condition (e.g., a message advocating only for climate policy without addressing its effects on any particular dimension). Moreover, our experimental stimuli—short messages in support of a briefly defined policy—were only a simplified version of the communication that citizens often encounter in political discourse on climate change. The consequences of climate policy are often discussed in richer and more complex ways, typically encompassing multiple dimensions of environmental impact, economic impact, technical feasibility, etc. Future research could explore more realistic communication, starting from actual discourse on climate change in political speeches (Guber, Bohr, and Dunlap 2021) and online interactions between citizens (Dahal, Kumar, and Li 2019). Finally, it remains to be seen whether the positive, forward-looking economic messages in support of climate policy that we have explored in our studies can also be used to effectively counter economic arguments against these policies while appealing to a broad political spectrum.

7.4 | Conclusion

To summarise, our research provides new insights into how communication about climate policy can help promote climate policies to politically hostile audiences. Messages that emphasise the economic rationale for adopting such policies may appeal to conservative and right-leaning citizens who otherwise have little interest or concern about climate change.

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Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

The data supporting the findings of Study 1 are publicly available upon request to the ITANES group, <https://www.cattaneo.org/itanes/>. The data supporting the findings of Study 2 are available upon request to the authors.

Endnotes

¹The ITANES group has been analysing voting behaviour in Italy since the beginning of 1990s. Readers interested in more details regarding the ITANES research program can visit the website <https://www.cattaneo.org/itanes/>.

²Excluded participants did not differ significantly from included ones in terms of age, $t(385)=1.74$, $p=0.082$, education level, $t(386)=1.88$, $p=0.061$, or gender distribution, $\chi^2(2, N=387)=3.64$, $p=0.162$.

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