

Oxford Research Encyclopedia of Climate Science

Climate Change Communication in Italy

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Subject: Climate Change Communication Online Publication Date: Apr 2017

DOI: 10.1093/acrefore/9780190228620.013.462

Summary and Keywords

Climate change communication in Italy is preeminently “commonsensical” and pragmatic. Italian mass media represent climate change as an undisputable fact scaled to the everyday domestic and local experience of common people. While the causes of climate change are rarely discussed, its consequences are instead presented in very practical terms (from environmental catastrophes to weather anomalies) and the issue is framed as something linking, embedding, and drawing together multiple social dimensions (the economy, politics, science and technology, and everyday life). Mass media discourse has contradictory effects on public perceptions of the issue. Review of existing studies and use of available social survey data show that the Italian public is largely aware of the seriousness of climate change, but climate change is considered less urgent than other matters of concern related to the economic situation. In developing their environmental awareness, Italian citizens rely mainly on information provided by traditional mass media, while environmental organizations’ claims and public communication by scientists play a marginal role. Finally, perceptions of climate change in Italy are prevalently built on the direct experiences of anomalies in seasonal temperatures rather than on evidence-based scientific communication.

Keywords: climate change, communication, media coverage, public perceptions, attitudes, Italy

Introduction

It is widely recognized by scholars that “among environmental risks of global scope, climate change is probably the one receiving the most attention at present,” and, since it is no longer restricted to scientific and political discourse, “climate change has become something of a symbol of global environmental risks” (Olausson, 2009, p. 422). Italy is not an exception. Notwithstanding the scarcity of systematic analysis of media coverage, communication, and public perceptions of climate change in Italy, it is clear that the issue

of climate has attracted wide public attention and media salience. Indeed, available studies have detected that climate change enjoys a considerable level of salience and is framed as an undisputable issue in mass media coverage (Beltrame, Bucchi, & Mattè, 2013). These features have turned climate change into a sort of shared narrative, a pervasive and powerful rhetorical resource able to reshape mass media discourses about “the global” and being largely used by different actors to support and legitimize a wide range of claims and positions as well as sometimes distant topics.

This is reflected in public perceptions in contradictory ways. Existing available data show that while Italians recognize the relevance of climate change as a social and political issue, they give more prominence to other matters of concern. And while they perceive some lack of information about the topic, they rely more on mass media sources than on information provided by scientists and environmental organizations. As a result, Italian public opinion is more influenced by direct experience of climate change effects, and by the mass media representation of them, than by scientific findings deployed by mass media discourse or communicated directly by scientist and environmentalists.

Here, the issue of climate change first is addressed in the context of environmental awareness in Italy, then the outcomes of existing research on climate change communication and public perceptions in Italy are reported. Thereafter, these questions are explored using original data from mass media content analysis and survey data.

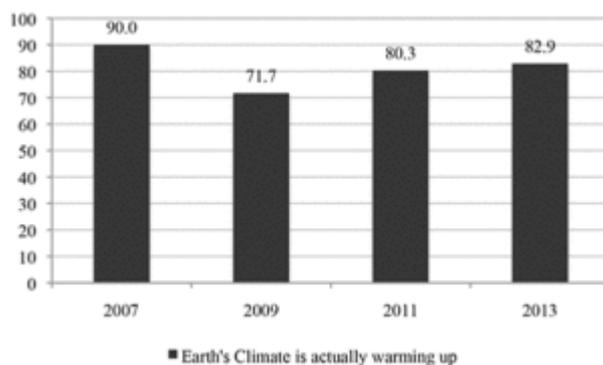
The Emergence of Climate Change in the Context of Environmental Awareness in Italy

Environmental awareness has had a peculiar trajectory in Italian public opinion and policymaking compared to other contexts. Studies have highlighted, among other things, the early mobilization and significant international networking activity of Italian elites and social movements. Examples include the role played by the entrepreneur Aurelio Peccei in the establishment of the Club of Rome (1968), with its influential reports; the relevance of environmental issues in terms of social movements’ engagement (Della Porta, 1995; Diani, 1995); the role of culture, identity, and meaning construction in environmental collective action (Melucci, 1996); the impact of specific events like the Seveso accident (1976) and the nuclear disaster in Chernobyl (1986) in mobilizing and sensitizing Italian public opinion (Mela, 2009; Tellone, 2012).

In the wake of the Chernobyl disaster, in particular, the great majority of Italians voted in a referendum to suspend investment in, and building of, nuclear power plants that had already been planned (1987). This referendum also marked a great success for the Federazione delle Liste Verdi (Federation of the Italian Green Parties) that had been formally put in place as a political organization just the year before. In 1986, for the first time a Ministry of Environment was established, replacing the Department of Ecology

that since 1983 had been part of the Prime Minister's office. In the same year, Greenpeace officially began activities in Italy (Della Valentina, 2011). Growing awareness of environmental issues initially matched increasing consensus for Green parties and organizations. During the following decades, however, while environmental issues gradually became part of the general policy agenda for most political actors and institutions, the political relevance of Green parties and organizations remarkably diminished (due also to internal fights and fragmentation), with their representatives failing to be elected to Parliament during the last few rounds of elections.

According to available data, the emergence of climate change awareness in Italian public opinion can be traced back to the second half of the 2000s, when international discussions and meetings about climate change started to receive significant attention in Italy. In 2007, the main periodical survey of public perception and attitudes in Italy, *Observe Science in Society Monitor*, found that 90% of Italians agreed that the earth's climate was actually becoming warmer (Arzenton & Bucchi, 2008). However, this percentage declined to 71.7% in 2009, only to increase again in 2011 and 2013 to 80.3% and 82.9%, respectively (Figure 1). The 2007 peak probably marked the initial and remarkable emergence of the issue in the public and media agenda.



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Figure 1. Percentages of Italians who believe that the earth's climate is actually warming up. 2007, $N = 998$; 2009, $N = 1,020$; 2011, $N = 1,001$; 2013, $N = 1,005$.

Source: *Observe Science in Society Monitor* (www.observa.it).

Key Sources of Information About the Environment and Climate Change

We now briefly consider the sources used in Italy to acquire information about the environment, how the information provided is assessed, and which communication media are considered the most reliable. Such information gathering and data analysis is

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necessary to inform key challenges and barriers to climate change communication and efforts at climate mitigation and adaptation (Moser & Ekstrom, 2010).

The data collected by the National Institute of Statistics (ISTAT, 1998 and 2012) show that Italians acquire information about the environment mainly through television, which in 2012 was used by almost four out of ten respondents (39.2%, Table 1), compared with around one in three in 1998 (33.9%). In second place are newspapers (cited by just under a quarter of respondents in both 2012 and 1998). Unfortunately, the options did not include the Internet, even though this medium has certainly increased in importance in recent decades.

Table 1. How do you inform yourself about environmental issues?

	1998	2012	
	% cited	% cited	Difference
I follow television and radio programs on the subject	33.9	39.2	5.3
I read environmental news reports in the newspapers	23.9	24.3	0.4
I read magazines and books specialized in the environment	6.1	5.5	-0.6
I attend lectures	2.1	2.4	0.3
I take part in the initiatives of environmental associations	1.1	1.3	0.2
I belong to an environmental association	1.2	0.9	-0.3
I donate money to initiatives to protect the environment	1.2	0.8	-0.4
<i>N</i>	67,009	40,530	

Source: ISTAT (1998, 2012).

In order to understand the role of the Internet, we must turn to Eurobarometer surveys (European Commission, 2002, 2004, 2007, 2011A, 2014B). Notwithstanding some changes in the list of items, available data show that television remains the main source of information

about the environment for Italian respondents (it is cited by percentages ranging between 62% and 75%; Table 2). Far fewer name print media (newspapers and magazines). The quarter of Italians who report relying on print media is well below the EU average. The scant importance of print media contrasts with the fact that, between 2010 and 2012, the environment and the climate were jointly among the ten scientific topics to which Italian newspapers devoted most attention (Di Buccio, Lorenzet, & Neresini, 2014, pp. 55-68).

In turn, the Internet is a growing source of information about the environment: it was cited as a source by 24% of Italians in 2011 and 33.6% in 2104. The growing relevance of the Internet is consistent both with data produced by Observa (Bucchi & Saracino, 2014, pp. 15-54, 2015, pp. 15-20)—according to which, between 2007 and 2014, the propensity of Italians to search the Internet to gain scientific information has increased—and with the observation that the Internet can play a role in enhancing people's environmental concern (Nistor, 2010).

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Table 2. Main Sources of Information About the Environment

Eurobarometer 81.3-2014			
QA5. From the following list, which are your three main sources of information about the environment?			
	Italy	EU 15	Difference Italy-EU 15
Television	62.6	64.9	-2.3
Internet	33.6	34.5	-0.9
Films and documentaries	30.0	31.5	-1.5
Newspapers	24.0	39.2	-15.2
N = 15,537			
Eurobarometer 75.2-2011			
QB6. From the following list, which are your three main sources of information about the environment?			
	Italy	EU 15	Difference Italy-EU 15
Television news	71.8	72.4	-0.6
Newspapers	34.2	44.0	-9.8
Internet and social media	23.9	30.5	-6.6
Films and documentaries on television	23.2	28.4	-5.2
N = 15,645			
Eurobarometer 68.2-2007			
QF6. From the following list, which are your three main sources of information about the environment?			
	Italy	EU 15	Difference Italy-EU 15

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Television news	62.7	68.1	-5.4
Newspapers	27.5	43.8	-16.3
Films and documentaries on television	26.0	31.6	-5.6
Magazines	23.1	16.2	6.9
<i>N</i> = 15,456			
Eurobarometer 62.1-2004			
QD12. From the following list, which are your three main sources of information about the environment?			
	Italy	EU 15	Difference Italy-EU 15
Television news	64.7	71.3	-6.6
Newspapers	35.7	51.3	-15.6
Films and documentaries on television	32.2	35.0	-2.8
Magazines	22.9	17.3	5.6
<i>N</i> = 15,529			
Eurobarometer 58.0-2002			
Q44. Which are your three main sources of information about the environment?			
	Italy	EU 15	Difference Italy-EU 15
Television	75.7	81.2	-5.5
Films and documentaries	38.8	25.3	13.5
Newspapers	38.2	51.9	-13.7
Magazines	31.5	21.4	10.1
<i>N</i> = 16,067			

Source: European Commission, Eurobarometer (2002, 2004, 2007, 2011A, 2014B).

Regarding the quality of the information provided by the media, Italians evaluate it as unsatisfactory (ISTAT, 1998, 2012). In fact, only 35% believe that it is very or fairly satisfactory, compared with more than half (51.1%) who are not very or not at all satisfied. It is also possible to analyse the level of trust placed in the sources of information on environmental issues—since trust is pivotal in conveying information about risk (Eiser et al., 2012). The Eurobarometer surveys provide an overview from 2002 to 2014. Specifically, from 2002 to 2011, environmental protection organizations were indicated by Italians as the most reliable source of information on the environment. Another interesting point is that, while Europeans have always placed greater trust in scientists than in television as a source of information, among Italians, television is regarded as a more trustworthy source than scientists (Table 3).

Table 3. Trusted Sources of Information About the Environment								
Year	Italy			EU 15			First choice	
	TV	Scientists	Difference	TV	Scientists	Difference	Italy	EU 15
2014	41.9	29.9	12.0	31.4	41.7	-10.3	Television (41.9%)	Scientists (41.7%)
2011	33.3	31.7	1.6	27.1	40.7	-13.6	Environmental protection associations (39.1%)	Scientists (40.7%)
2007	18.9	19.9	-1.0	21.2	36.7	-15.5	Environmental protection associations (34.0%)	Environmental protection associations (37.0%)
2004	31.7	19.1	12.6	25.5	32.1	-6.6	Environmental protection associations (36.1%)	Environmental protection associations (41.9%)

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2002	7.1	32.7	-25.6	17.6	34.5	-16.9	Environmental protection associations (54.9%)	Environmental protection associations (48.0%)
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Source: European Commission, Eurobarometer (2002, 2004, 2007, 2011A, 2014B); *N* = 16,067, 15,529, 15,456, 15,645, and 15,537, respectively.

Mass Media Framing of Climate Change in Italy

Although mass media may not affect public opinion strongly and directly, media discourse shapes the conversation around many issues (Marks et al., 2007; Ten Eyck & Williment, 2003). According to “agenda setting” theory (McCombs & Shaw, 1972), the greater the emphasis and the amount of media coverage on an issue, the more the public will give salience and priority to it. In turning an event into a news item, journalists employ frames, drawing on their own understanding, professional routines, medium specificity, editorial policies, and so on, which can structure what the public thinks about an issue (Entman, 1991, 1993; Hornig, 1990, 1993). Mass media are indeed recognized as key actors in the identification and interpretation of environmental issues (Schoenfeld, Meier, & Griffin, 1979), and the ways in which climate change is framed in mass media discourse shape its salience in the imagery of the lay public (Nisbet, 2009, 2014). Moreover, it is recognized that public discourse and media coverage of environmental issues are often studied in terms of their potential to convey expert knowledge to a broader public or as a setting in which key stakeholders (e.g., environmental movements and organizations, business actors) can state their positions (Hansen, 1993).

As a powerful attractor of public attention and media salience, climate change has become a readily available (and in certain cases, indisputable) narrative, which almost any actor seeking to justify a position or action can resort to as a background and justification. Corporations use climate change to promote their image and market their products; scientists working in several research fields use it to support their claims and research proposals; politicians use it to back up their strategies (Beltrame, Bucchi, & Mattè, 2013). Therefore, in order to account for perceptions of climate change in Italian public opinion and its place in public discussion and the political agenda, mass media coverage and discourse on this issue must be examined.

Pasquarè and Oppizzi (2012) applied a qualitative approach to explore the media construction of climate change and geohazards between 2007 and 2010. The research considered 819 articles dealing with climate change and 434 articles regarding geohazards published in two major Italian newspapers, *Repubblica* and *Il Corriere della Sera*. Focusing on the conflict frame (articles that highlight conflicts between parties/ individuals and emphasize divergences), the research labeled most of the articles under the frame of *catastrophists* (i.e., reporting the viewpoints of “catastrophists,” including the Intergovernmental Panel on Climate Change representatives, politicians, scientists, and personalities like Al Gore). However, over the years, *Corriere della Sera* has increasingly reported the positions of “skeptical” scientists and politicians, until it reached a “balanced” coverage of the viewpoints of negationists and catastrophists

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(Pasquarè & Oppizzi, 2012, p. 156). On the other hand, *La Repubblica* showed a tendency to give more attention to the catastrophists' views and this may have led its readership to believe there is only one possible scientific explanation to account for climate change.

The authors note that the two newspapers appear to have different agendas that:

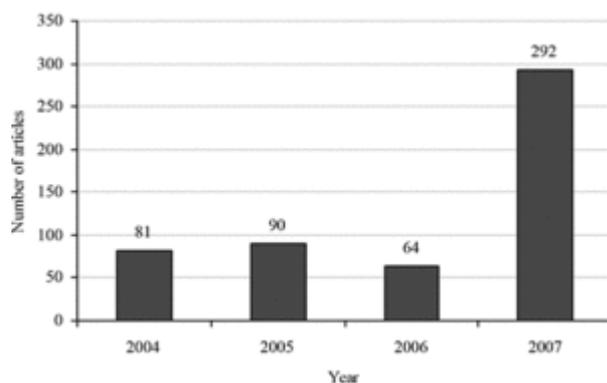
Might have different impacts on their readerships: the readers of the *La Repubblica* might develop a sense of urgency toward addressing climate change and supporting actions (especially at the international and “political” level) aimed at tackling this problem. On the contrary, the readers of the *Corriere della Sera* might develop a more attenuated perception of the risks associated to climate change, and therefore be less willing to support policies aimed at addressing them in the short term.

(Pasquarè & Oppizzi, 2012, p. 157).

According to Science in the Media Monitor, for example, one-third of the Italian daily press coverage of science and technology in the period 2010 to 2012 broadly referred to environmental and climate issues (Di Buccio, Lorenzet & Neresini, 2014).

An analysis of mass media framing of climate change is thus necessary for the understanding of how the issue is constructed and presented to the public and therefore how it can shape public opinion.

A total of 592 articles were selected from the leading Italian newspaper *Il Corriere della Sera*. Using keywords like “global warming” and “climate change,” articles were first selected from the newspaper’s online database for the period January 1, 2004, to December 31, 2007. Initial quantitative exploration showed a clear trend of increasing coverage between 2004 and 2007 (see Figure 2).



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Figure 2. Trend in coverage of climate change in *Il Corriere della Sera*, 2004–2007 (number of articles per year).

A more in-depth qualitative analysis was then conducted on year 2007, a year in which coverage of climate change made a remarkable “quantum leap” compared with previous years.

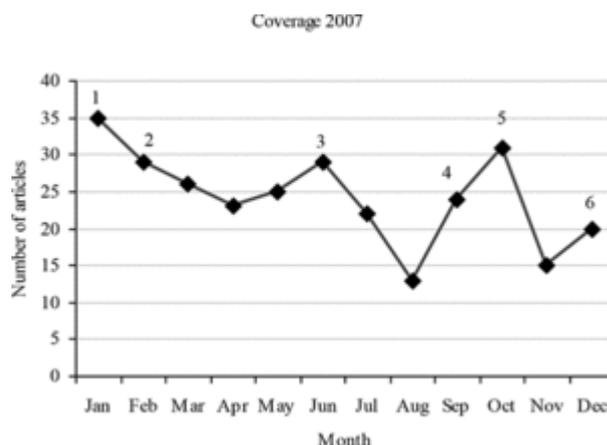
The selected articles have been analyzed for the main frames used to represent the issue of global warming. Following the

classic study by Gamson and Modigliani (1989), our aim was to reconstruct the media discourse on climate change by detecting the different “interpretive packages” shaping it.

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In particular, the focus was on “diagnostic framing”—problem identification and responsibility attribution—and “prognostic framing”—the proposal of solutions to the problem (Benford & Snow, 2000). Each frame or interpretive package is constituted by its main discursive components: causes, consequences, implications, responsibilities for, and solutions to the problem. These components have been then aggregated into more general discursive elements,¹ with which we have thus reconstructed the main mass media frames used in the coverage.

A first feature of the coverage is that it largely coincides with specific events: the Italian release of the film documentary *An Inconvenient Truth* featuring former U.S. Vice-President and climate change advocate Al Gore (January 2007), the publication of the Fourth International Panel on Climate Change Report (February 2007), the United Nations Framework Convention on Climate Change (UNFCCC) in Washington, Rome, and Bali (September and December 2007), and the announcement of, and ceremony for, the joint Nobel Peace Prize awarded to Gore and the IPCC (October and December 2007). These specific and identifiable events provided effective and newsworthy anchorage for media coverage of the issue of climate change (Figure 3), a long-term, ongoing process that would otherwise hardly fit within a media coverage scheme oriented to immediacy and short-term daily news (Weingart, Engels, & Pansegrau, 2000).



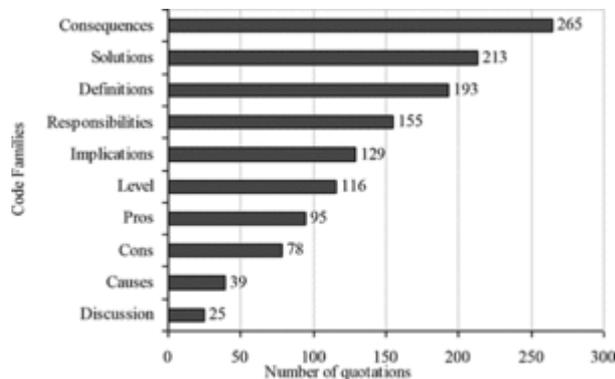
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Figure 3. Coverage of climate change in 2007 and most relevant events (number of articles per month). 1: Italian release of *An Uncomfortable Truth*; 2: Fourth International Panel on Climate Change Report; 3: Heiligendam (DE) G8 meeting; 4: Washington and Rome Conference; 5: Announcement of Nobel Prize awarded to Gore and IPCC; 6: Bali conference and Nobel Prize ceremony.

A second feature is that the articles feature very limited discussion of the causes of climate change, which are largely taken for granted. For example, only 13.7% of articles specified that CO₂ emission is the cause of global warming. Similarly, diagnostic framing gives scant emphasis to causes and their discussion, while more space was devoted to consequences, implications, and responsibilities (see Figure 4). Likewise, prognostic

framing centers more on solutions and factors that hinder/foster such solutions than on discussions, uncertainties, and controversies. Effects, implications, and consequences (on health and nature, but also on the economy), on the one hand, and possible solutions on the other, attract most of the attention and discussion in the newspaper. As a result, climate change emerges as an indisputable fact, a well-known reality. Accordingly, scientific uncertainty is very rarely addressed or even mentioned, and expert knowledge

is mostly invoked in very practical terms concerning the effects of climate change and possible solutions. This is in line with other studies on climate-change communication that show that mass media consider controversies and debates on climate change as newsworthy, while scientific uncertainty in itself is regarded as an obstacle against extensive news coverage (Boykoff & Boykoff, 2004; Brossard, Shanahan, & McComas, 2004; Olausson, 2009; Weingart, Engels, & Pansegrau, 2000; Zehr, 2000).



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Figure 4. Frequency of main discursive components of frames in *Il Corriere della Sera* coverage, 2007 (number of quotations).

In more qualitative terms, climate change is presented through a definitional work based on the semantics of catastrophe, disaster, and drama (“Political action must be rapid to prevent what could be the *true disaster* of the twenty-first century,” *Corriere della Sera*, March 14, 2007), or on imagery of confusion and disorder (“The

destruction of local sustainable and biodiversity-based economies is at the core of *climatic chaos*,” *Corriere della Sera*, June 5, 2007). Another recurring semantic in defining climate change was that of threat, alarm, crisis, and risk (“We are in the *most critical period* in the history of humankind,” *Corriere della Sera*, January 17, 2007). But climate change has been also defined as a global “issue,” or even with metaphors echoing military or security contexts, such as when a “war,” “struggle,” “fight,” “resistance,” and “defense” against climate change are mentioned or invoked. In other words, climate change has become not only an indisputable fact, but also a global problem and a battleground for international politics and humankind. The use of suggestive metaphors taken from the semantics of war has also been detected by other scholars in the study of climate-change communication. Ungar (2000), for example, has pointed out that the resonance of an issue with easy-to-understand metaphors drawn from popular culture is a powerful device with which to frame public understanding and concern.

Climate change is linked to everyday experience not only through popular metaphors or shared semantics, but also by presenting the consequences of it through practical examples. These include the absence of snow during the winter, general temperature rise and extraordinary summer heat, the decline in rainfall, and so on. Such everyday phenomena were associated with catastrophic events—such as devastating hurricanes, desertification of entire regions, the flooding of seaboard, and so on—with high potential to capture the public imagination.

Besides drawing together ordinary experiences, catastrophic natural events, suggestive metaphors, and neglecting uncertainties and controversies on global warming, mass media discourse locates climate change within specific social domains—the economy, international politics, everyday life, science, and technology—in which the issue is articulated.

In the *everyday life dimension*, responsibility for climate change is attributed to the habits of people, such as the use of cars and household practices (especially the thoughtless use of heating systems and air conditioning). Climate change is thus framed as a “duty of everybody” since “relying on supranational organizations that establish protocols and rules is not sufficient” (*Corriere della Sera*, January 14, 2007). Accordingly, the behavior of ordinary people is framed as a potential solution to the problem of climate change: more responsible conduct in consumption and the adoption of sustainable lifestyles could mitigate greenhouse gas emissions. Studies on public perceptions of climate change have recognized that one of the main obstacles against active public engagement in solving environmental problems is the difficulty of framing climate change “in terms of their local surroundings” and “of visualizing the consequence of their current activities” (Lorenzoni, Nicholson-Cole, & Whitmarsh, 2007, p. 452). Therefore, this media framing in everyday life gives a *local* salience to very *global* issue and makes it less distant from the daily concerns of the lay public, thereby increasing public awareness.

In the *economic dimension* frame, the industrial and capitalist model of development is seen as responsible for global warming, and economic competitiveness is seen as a factor that hinders possible solutions for climate change. On the other hand, the economy is framed also in positive terms: the rise of a “green economy” and the resulting market for alternative and energy-saving devices (e.g., solar panels, energy-saving light bulbs, insulating boards, and so on) are presented as solutions for climate change that promise economic profits to offset the costs of reducing emissions.

Climate change is also linked to science and technology through the *energy and research dimension* frame. Research and development activities were described as both solutions and factors fostering solutions to climate change by providing novel energy devices (renewable energy technologies and energy-saving devices) and genetic engineering technologies (genetically modified bacteria that consume CO₂-producing fuels). The world of scientific innovation is also connected with everyday life since it helps to develop technologies like hybrid cars, hydrogen fuel cells, and ecologically sound building materials that can be used by common people to mitigate emissions.

Finally, the *political dimension* frame locates the discourse on climate change in political terms. Climate change not only is presented as a central issue on the international political agenda, but also is seen as having important political implications that deserve common and global policy actions. But politics is also described as being responsible for global warming: the lack of an international agreement (e.g., on the Kyoto protocol) and inefficiency in implementing policies to reduce emission ceilings. Political action is presented as a solution to climate change, but also as a factor hindering it. In general, the

role of politics in mass media coverage was framed in terms that alternate between blame and hope. This tendency to “politicization” of the issue has been detected by other scholars (Beltrame, Bucchi, & Mattè, 2013; Olausson, 2009).

The *Corriere della Sera* coverage, using the semantics of catastrophe and disaster, frames climate change as an undisputed fact and a real threat to mankind that is anchored through its effects, consequences, and responsibilities to everyday life. The salience of the issue is obtained both by turning a global and distant phenomenon into something closer to ordinary experience (from extraordinarily hot summers to emissions from cars and heating systems) and by linking it with every aspect of social life: from everyday habits to industrial production, from a simple energy-saving bulb to complex technological devices, from fishing to synthetic biology. As noted by Beltrame and colleagues (2013), this pervasiveness has transformed climate change from a specific issue into a “masterframe,” a common and largely undisputed discursive ground for social actors to meet on (Eder, 1996; Snow et al., 1986), enabling different actors and stakeholders to project and legitimize claims, initiatives, and positions. Through these articulations, the mass media discourse on climate change partakes in creating a sense of “globalness” in which “the global” not only embeds multiple “locals” but also prompts a thoroughly collective reflection on our ways of living in a global natural and social world.

Public Perception of Climate Change in Italy

One of the original empirical studies of public perception of climate change in Italy was carried out in the context of a comparison with the United Kingdom in the early 2000s (Lorenzoni & Hulme, 2009). Individuals’ views on climate change were elicited through a quantitative survey and by way of qualitative discussion groups in 2000 (Norwich) and 2001 (Rome). Analysis defined four types of people’s views on climate change (pp. 389–390):

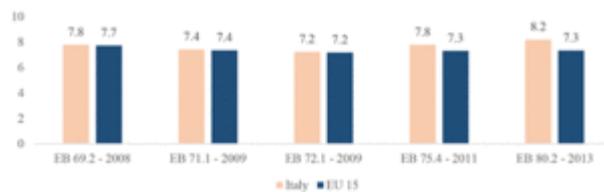
- **Denying:** views of individuals for whom climate change is no threat to their existence or, as far as they are concerned, to the life of others. Their stance is that humans do not affect the climate and climate change is unimportant.
- **Doubting:** views of those people who do not think climate change is a human-made problem, although they still consider the issue important.
- **Uninterested:** views of individuals who acknowledge there is an issue (they recognize that human beings affect the climate) but have no desire to engage with it (it is unimportant).
- **Engaging:** views of those who are worried and concerned about climate change, who feel climate change is something to face up to and to take action on. They generally believe humans affect the climate and that climate change is important.

The typology was confirmed in the group discussions, with similarities among the Norwich and Rome participants. As a result, participants found it difficult to estimate the effect of human activities on climate. For two of the Roman groups (Doubting and Engaging) any future world could only derive from modifications to the current capitalist paradigm (being the only economic and political system that had endured, given that history had proven communism and socialism impracticable). Both the Norwich and Roman groups, after some debate, attributed responsibility for climate change to all societal actors. Finally, unlike the Norwich discussants, Roman participants evaluated the climate scenarios presented during the discussion as very plausible. Nevertheless, the Denying and Uninterested still commented on the uncertainty concerning scientific forecasts, arguing that predictions proved wrong by actual events can generate confusion and incredulity among laypeople (Lorenzoni & Hulme, 2009, p. 394).

However, given the qualitative nature of this research, it is unable to provide extensive data about perceptions, knowledge, understandings, and attitudes among the Italian population. Such data, on the other hand, have been produced by national (ISTAT, Observa) and international surveys (Eurobarometer and PEW).

A first element of public perception is related to the salience and importance attributed to climate change in comparison with other issues that directly affect people in the present (Lorenzoni & Hulme, 2009, p. 385). This aspect is of great importance because perception of the consequences for the immediate future is one of the intervening factors in pro-environmental behavior (Arnocky, Milfont, & Nicol, 2014). In order to explore this aspect, one may compare survey questions that measure the importance given to climate change vis-à-vis other issues affecting the life of respondents. It could also be useful to compare the salience attributed to climate change by Italian citizens in comparison with other European nationals.

Several editions of the Eurobarometer series have surveyed the importance given to climate change. In particular, between 2008 and 2013 (European Commission: Eurobarometer 2008, 2009A, 2009B, 2011B, 2013) respondents were asked to assess the seriousness of climate change on a scale between 1 (“Not at all serious”) and 10 (“Extremely serious”). Although the series are not directly comparable because the text of the question was slightly altered between surveys, the perceived seriousness for Italians remained aligned with, or slightly above, the average of the other EU-15 countries.² In the latest survey available—2013—the perceived seriousness increased, exceeding the continental average by almost one point (8.2 for Italy compared with 7.3 for the EU; Figure 5), showing that the issue is a great concern for Italians.



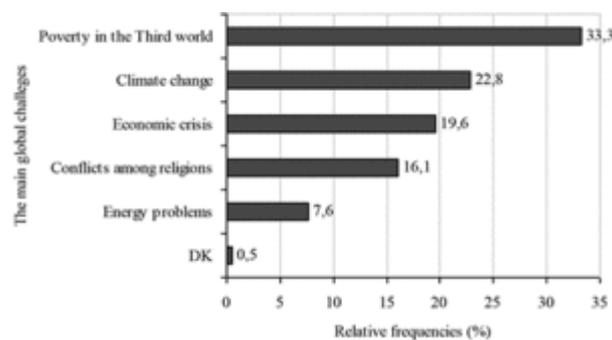
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Figure 5. Perceived seriousness of climate change (1 to 10 scale, European Commission: Eurobarometer).

Other surveys confirm the sensitivity of Italians to this problem. For example, according to the PEW (2015) data,³ 91% of Italian respondents considered climate change to be a “very” or “somewhat

serious” problem, which was slightly less than the French respondents (93%), but more than the Spanish (89%), British (78%), German (87%), and American (72%) participants. In 2012, according to the national data (ISTAT, 2012⁴), climate change instead took second place among the environmental problems causing most concern (cited by 47.0%), after air pollution (50.0%) and before waste production and disposal (46.9%).

Observe Science in Society Monitor data (Figure 6) show Italians as highly concerned by climate change: in 2007 they ranked it as the second global challenge after poverty in the Third World (but 23% of interviewees ranked it as the top challenge worldwide, and another 8% considered energy issues to be the world’s greatest problem). This finding resonates with other studies in the literature on the public perception of global warming, which have found that the (albeit significant) level of concern for climate change⁵ is subordinate to concerns about other environmental and social issues (Bord, Fischer, & O’Connor, 1998; Poortinga & Pidgeon, 2003; Seacrest, Kuzelka, & Leonard, 2000).



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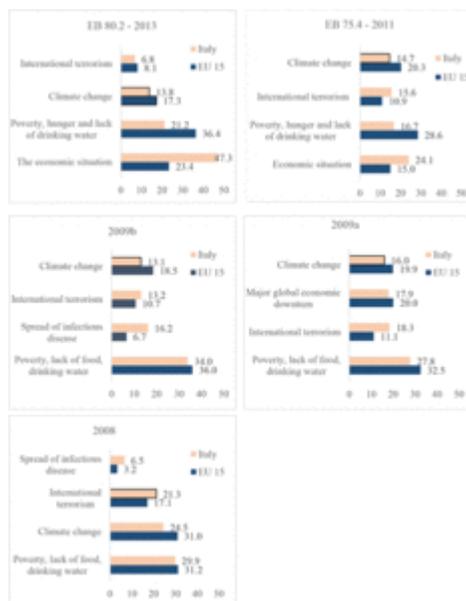
Figure 6. The main global challenges, according to Italian citizens (N = 988). Source: Observe Science in Society Monitor (2007, www.observa.it).

To gain a more precise idea of the extent to which climate change worries Italians, it is useful to observe the assessment made by respondents when asked to rate its importance in relation to other problems. Between 2008 and 2013, the Eurobarometer series asked respondents to indicate the most serious

problem for the world on a list including climate change, the economic situation, international terrorism, and poverty. Although it is not possible to analyze the trend because the options were altered in the various surveys,⁶ differences were apparent with respect to both the European Union countries and between one survey and the next (Figure 7). In the former case, in all the surveys, Italians cited climate change as a major problem to a lesser extent than other Europeans did.⁷ This applies to all the Eurobarometer surveys, even though the gap was narrower in 2013 (3.5%).

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In 2008, climate change was considered the main global problem by one out four Italians (24.5%); but from 2009 to 2013, the percentages diminished, varying between 13% and 16%. Correspondingly, the percentages of Italians who considered the economic situation to be the principal problem has doubled from 2011 to 2013, showing that the economic recession had reshaped the rank of priorities among Italians. This phenomenon is well described in the existing literature, which has stressed how the worsening of the economic situation since 2007 has influenced beliefs about the urgency of climate change (see Lo, 2016, or Dalton, 2015, with regard to environmental activism, or Çarkoğlu & Kentmen-Çin, 2015, on the effect in developing countries).⁸ These data therefore support the contention that, although climate change and environmental issues in general are considered serious matters, they are often perceived as events whose likelihood is more distant (in space and time) than that of other issues (Lorenzoni & Hulme, 2009).



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Figure 7. Which of the following do you consider to be the single most serious problem facing the world as a whole? (First choice.) The graphics represent the four problems indicated most often by respondents in each survey (European Commission: Eurobarometer).

The Eurobarometer survey of 2015 (European Commission, 2015) was carried out in the year when the international crisis had perhaps its most severe effects. The survey contained some questions that enable understanding of the peculiarity of the Italian case. In particular, respondents were asked to indicate “the two most important issues” for the country, for them personally, and for the EU, from a long list, including: climate change, crime, economic situation, rising prices, taxation, immigration, terrorism,

housing, the education system, working conditions, living conditions, health and social security, pensions, and the financial situation. Regarding the main problem for the country, more than one Italian out of two considered it to be unemployment (50.7%, compared with 41.1% as the EU average), followed by immigration (31.3% in Italy and 26.6% for the EU), the economic situation (27.9% Italy and 20.2% EU), and taxes (19.2% in Italy and 8.3% for the EU). As for personal circumstances, most worrying for Italians were taxes (34.4% for Italy and 15.5% for the EU-15 countries), followed by unemployment (23.8% versus 16.3%) and rising prices/cost of living (21.7% against 26.2% in Europe, the only result in which Italy recorded a lower percentage, probably because the survey was carried out in a period of deflation). Finally, in regard to

problems for the EU, Italians indicated the principal one as immigration (43.3%, compared with 39.7% for EU-15), followed by unemployment (32.3% against 25.9% for the EU) and the economic situation (28.5% in Italy compared with 28.4% for the EU). In all three contexts (personal, for the country, and for the European Union), climate change was cited by a very small proportion of Italians—just over 2%, compared with 6% of Europeans. Finally, it can be noted that, when the question deals with a context closer to them (their own situation and that of the country), Italians concentrate their concerns mainly on economic problems. Other issues, such as immigration, which impact strongly on public opinion, are delegated to the EU level and only thereafter to the national government.

Relying on Common Sense Over Science in Forming Opinions

According to Mazur and Lee (1993), the level of public concern about environmental issues tends to follow the amount of media attention devoted to them. However, the impact of the substantive content of news reports on the public perception of climate change is more elusive and difficult to define (Lowe et al., 2006). According to Stamm and colleagues (2000), the more people are aware of global warming, the more they use several mass media sources of information. Consequently, increasing exposure to mass media content (and interpersonal communication as well) heightens awareness of global warming's causes, effects, and solutions.

Survey data on the public perception of climate change in Italy provides interesting elements with which to integrate the level of media representation, particularly because both sets of data were collected during the same time (Arzenton & Bucchi, 2008).

In 2007 there seemed to be little doubt—at the public level—that the climate is indeed changing: 90% of respondents were convinced that earth's temperature is warming up (Table 4). The remaining 10% were split, almost equally, between those who were skeptical of climate change and those who did not know. This finding seems perfectly resonant with the scant discussion and uncertainty to be found in media coverage. But on what basis does this overwhelming perception of global warming rest? Perhaps surprisingly, not so much on scientific expertise and research findings. The majority of Italians (60.5%) appear to rely on their common sense perception that “summers are getting hotter and winters less cold” with regard to global warming. Only 17% of respondents cited science as the basis for their conviction, and even less (13%) said that they had been persuaded by the long-standing campaign efforts of environmental groups. This “commonsensical” pragmatic perception of climate change based on everyday experience of the weather should not automatically be interpreted as indicative of misinformation. For in terms of factual information, Italian citizens do not seem to fare

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too badly: about half of them, for instance, can correctly identify the nature of the Kyoto agreement (Arzenton & Bucchi, 2008).

Table 4. Opinions on Climate Change

Is the Earth's Climate Actually Warming Up?	%	On which basis:	% of total
Yes	90.0	Summers are hotter and hotter, winters are less and less cold	60.5
		Research by scientists proves it	16.9
		Environmental groups have been claiming this for long time	12.6
No	5.9	A hotter summer does not mean anything	2.9
		Environmental organizations always exaggerate	1.6
		There is no scientific research proving it	1.4
Don't know	4.1	I am not well informed on this matter	2.1
		Scientists do not agree	1.6
		I am not interested	0.4
<i>Total</i>	<i>100.0</i>		

N = 988. *Source*: Observa Science in Society Monitor (2007, www.observa.it).

These data align with several features that emerged from research reported above. First, they confirm the decline in visibility and influence of environmental organizations in Italy. As mentioned in the first section, in the last decades the Italian Green Party has remarkably diminished its political relevance (since 2008 it has no representatives elected in Parliament) and scholars have reported a generalized downturn in the ability of environmental organizations to influence public opinion (Della Porta & Diani, 2004; Della Valentina, 2011). Italians have greater trust in other sources of information and in their direct experience rather than the environmental organizations' conclusions and claims.

Second, data testify to the scientific community's relatively low degree of influence in shaping perceptions of climate change—data reported above indicate that Italians regard television programs to be more trustworthy than scientists as source of information (see Table 3 above).

Table 5. Belief in Climate Change by Gender, Age and Educational Level

Is the earth's climate actually warming up?				
	Yes	No	Don't know	Row Total (n)
<i>Gender</i>				
Male	87.4	8.4	4.2	100.0 (452)
Female	92.2	3.7	4.1	100.0 (536)
<i>Age</i>				
15-19	82.6	13.0	4.3	100.0 (46)
20-29	93.2	4.1	2.7	100.0 (147)
30-44	91.8	4.3	3.9	100.0 (231)
45-64	87.3	7.9	4.9	100.0 (369)
65 and over	91.9	3.5	4.5	100.0 (198)
<i>Educational level</i>				

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<Middle school	95.0	2.9	2.1	100.0 (280)
Middle school	88.7	5.6	5.6	100.0 (372)
High school	89.9	7.4	2.7	100.0 (257)
University degree	79.5	11.5	9.0	100.0 (78)
Total (<i>n</i>)	90.0 (899)	5.9 (58)	4.1 (41)	100.0 (998)

N = 988. Source: Observa Science in Society Monitor (2007, www.observa.it).

The effect of educational level on perceptions of climate change is one of the most interesting findings of the survey (Table 5). In fact, “belief” in climate change diminishes with the increase in educational level: among the least-educated portion of the sample, those convinced of global warming amounted to 95%, while the proportion among respondents with a university degree was 79.5%.

Apparently, respondents with higher educations were more sensitive to the elements of uncertainty that feature very moderately in general media coverage. However, the proportion of those who reported science as the main source of their belief in climate change increases quite sharply with educational level: while among the least educated only 10% cited research findings as the basis for their conviction, this percentage rises to 40% among those with a university degree (Table 6). In short, the more educated are slightly more skeptical about climate change than the average, but much more inclined to rely on scientific expertise. In this case, too, educational level explains the difference between gender and age.

Table 6. Reasons for Believing in Climate Change by Gender, Age, and Educational Level

	Reasons for believing in climate change			Row Total (n)
	Research by scientists proves it	Summers are hotter and hotter	Environmental groups have been claiming this for a long time	
<i>Gender</i>				
Male	23.0	65.6	11.5	100.0 (392)
Female	15.4	68.7	15.8	100.0 (486)
<i>Age</i>				
15-19	36.8	50.0	13.2	100.0 (38)
20-29	21.6	66.4	11.9	100.0 (134)
30-44	20.8	67.0	12.3	100.0 (212)
45-64	18.6	66.0	15.4	100.0 (318)
65 and over	11.3	73.4	15.3	100.0 (177)

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<i>Educational level</i>				
<Middle school	10.1	72.9	17.1	100.0 (258)
Middle school	17.7	68.0	14.3	100.0 (328)
High school	23.9	65.2	10.9	100.0 (230)
University degree	40.3	48.4	11.3	100.0 (62)
Total (n)	18.7 (165)	67.3 (591)	13.9 (122)	100.0 (878)

N = 988. *Source*: Observa Science in Society Monitor (2007, www.observa.it).

As mentioned earlier, data from *Observa Science in Society Monitor* (2015) have detected a decrease in the perception of climate change in 2009 (from 90.0% to 71.7%).

Interestingly, the relevance of scientific expertise doubled among those who recognize an actual change in climate (from 18.7% in 2007 to 38.0% in 2009). However, personal, commonsensical pragmatic experience remains the main reason to believe that the climate is warming up.

Concluding Remarks

According to the available studies, climate change is represented by Italian mass media as an indisputable fact and a very serious global issue that affects the everyday life of citizens. Even if limited, these studies agree that Italian mass media construct a pervasive discourse in which climate change is located in a multiplicity of social domains, with particular attention to its political dimension and its consequences, causes, and possible solutions relative to everyday life. This positioning of a global issue in a more mundane dimension helps the public understand an otherwise distant and abstract issue.

This mass media framing resonates with the main public perception of the issue. As shown using data from *Observa Science in Society Monitor*, the majority of Italians believe that the climate is actually warming up, but their conviction relies more on their commonsensical pragmatic perceptions of anomalies in seasons' temperatures than on information provided by scientists. Moreover, as shown using ISTAT and Eurobarometer data, the preferred source of information about environmental matters remains television programs, while environmental organizations' claims and research by scientists are considered less trustworthy by Italian citizens. If, on the one hand, this could be seen as effect of a particular mass media discourse, on the other hand, it testifies to the weakness on the part of environmental organizations and the scientific community in shaping public opinion.

The dominance of mass media discourse has some contradictory effects on public perceptions. Even if television programs and other mass media are the main sources of information, Italians consider themselves not very informed about the issue. Therefore, the mass media framing of climate change as an indisputable fact and a global issue makes it considered, by the public, a relevant social problem, but less urgent than other matters of concern related to the economic situation.

By integrating existing available survey data with an original analysis of mass media framing of the issue, we have detected the existence of tensions and contradictions between mass media communication and public perceptions of climate change. The fact that Italians rely mainly on information channelled by traditional mass media and they are more sensitive to their everyday practical perceptions than to evidence-based scientific communication has significant implications for the public communication of

climate change. In order to increase environmental awareness, it seems that climate-change communication should pay even more attention to the everyday dimension. Public understanding of climate change could be improved by further emphasizing its link with currently experienced climatic and weather anomalies, as well as by highlighting human responsibility in terms of everyday consumption habits. In other words, the general politicization of the issue should be reframed into a “micropolitics” of everyday actions to mitigate climate change.

Furthermore, in order to provide insights for more effective communication on the part of scientists and related organizations, more research is needed for understanding the way in which the public constructs its perception of climate change. Data reported about the relationship between level of education and beliefs about climate change show interesting dynamics in the formation of public opinion and about the trustworthiness of different sources. What is needed is an in-depth analysis of how different segments of the public form and articulate their views on the issue in order to develop effective communication strategies customized according to these differences.

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Notes:

(1.) For example, “implications: increasing rate of insect-borne diseases” and “implications: increase in HIV infection rate” were aggregated into the family “implications: health.”

(2.) The comparison was made with the 15 member states of the European Union on December 31, 2003: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom. The Eurobarometer data were collected by interviewing a representative sample of around 1,000 persons 15 years old and older.

(3.) The survey was conducted in 2015 in 40 countries. In Italy, 1,000 interviews were carried out with persons 18 years old or older.

(4.) The sample was representative of the national data. The analysis was performed by selecting respondents 14 years old or older.

(5.) Although the literature has for several years been reporting an increasing concern with climate change among the public (Dunlap & Scarce, 1991; Kempton, 1991), a number of studies have detected scant public awareness of the causes, effects, and implications of climate change, as well as extensive confusion among greenhouse effect, global warming, and stratospheric ozone depletion (Berk & Fovell, 1999; Bord, Fischer, & O'Connor, 1998; Bostrom et al., 1994; Lorenzoni, Nicholson, Cole, & Whitmarsh, 2007).

(6.) In particular, the options remained unchanged in Eurobarometers 69.2, 71.1, and 72.1 (armed conflicts, climate change, increasing world population, international terrorism, major global economic downturn, poverty, lack of food, drinking water, proliferation of nuclear weapons, spread of infectious disease). In Eurobarometer 75.4

the options were: armed conflicts, availability of energy, climate change, economic situation, international terrorism, poverty, hunger and lack of drinking water, spread of infectious diseases, the increasing world population, and the proliferation of nuclear weapons. In Eurobarometer 80.2 they again changed, to: armed conflicts, climate change, international terrorism, poverty, hunger and lack of drinking water, proliferation of nuclear weapons, spread of infectious diseases, the economic situation, and the increasing global population.

(7.) Used for this analysis was the first option selected as the main problem. The data concerned Italians 14 years old and older.

(8.) However, the relationship between environmental concern and income should be further specified, as suggested, for example, by Fairbrother (2013), although it would fall outside the scope of this study.

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