

Communicating the scientific consensus on climate change



For many centuries, Climate change has been one of the most complicated problems around the world. It is a very difficult phenomenon to avoid, yet it can be manageable with the help of proper initiatives. All aspects of community life, including; Agriculture, economy, transportation, energy, culture and also construction are impacted by such climatic changes. (Schneider, 2009; Bode, Monroe & Megalos, 2014). As members of society, with our daily lifestyle choices and motivation by a sequence of values, beliefs, norms and interpretation of the world, make us key players of climate change. Unfortunately, all of these are now challenged by global warming, and it is not surprising to see that people around the world are forming different trends in opinion and different perceptions about anthropogenic climate change (Nature Climate Change, 2013).

The 2013 IPCC report on climate change stated that there is a 95 % assurance that climate change is happening because it is caused by humans (IPCC 2013), moreover, this is not the only report that came to this conclusion. In fact, there are recent reviews done on different scientific abstracts with regards to this subject and have found out that most of these papers have accepted the scientific consensus on humans causing global warming (Cook et al. 2013) (Van der Linden et. al, 2014). Furthermore, there are scientists, some of which are considered to be of a high-profile that still put forward other possible reasons for observed changes of climate around the world (Abraham et. al, 2014).

Understanding the Scientific Consensus:

The development of a scientific understanding is often distinguished by a number of studies that suggest new and alternative reasons of why certain behaviors exist in the natural world. These, then, may or may not be acknowledged by other scientists; however, one could possibly consider investigating and testing furthermore the suggested ideas. More than 100 years ago, the first studies on greenhouse gases and their effect on the Earth's climate were published (Fourier, 1824; Tyndall 1861; Arrhenius, 1896). Moreover, during the next following years, ways to improve the concept of AGW (Anthropogenic Global Warming) were suggested, yet the basic standards of it were already set. Unfortunately, the general public has continued to be hesitant on whether or not to dismiss the idea of Anthropogenic Global Warming in general or dismiss the concept of the scientific consensus (Zimmerman, 2008; Doran and Zimmerman, 2009; Leiserowitz et al., 2011; Leiserowitz et al., 2012; Pew, 2012). In order to establish the degree of both of these ideas, a number of different approaches have been followed (Abraham et. al, 2014).

Political scientists, sociologists and psychologists, have concentrated their studies on distinctive aspects that can influence the views of the public on global warming, yet they still argue the role of the scientific information and the idea of scientific consensus on climate change (Nature Climate Change, 2013). Now in the case of climate change, as mentioned in the previous text, multiple data show that greenhouse gases, produced by humans, are being captured inside the atmospheric zone, causing the surrounding area to warm. In his Skeptical Science paper, John Cook suggests that people are accepting more the fact that climate change is induced by humans, therefore

a number of initiatives are being taken into consideration in order to tackle this phenomenon. Even though studies have shown that most scientists agree on the causes of climate change, people are still not sure what to believe. Why? In the past, scholars have claimed that scientists disagree amongst themselves on the causes of climate change. Other studies have also suggested that there is a 'false balance' in the media, where journalists introduce a point in question (in this case; Climate change) as being more about how people feel and think than the actual evidence provided (Donald & Pidcock, 2013).

The current Situation:

There is the need to correct such misunderstandings about the scientific consensus. Public engagement with climate change has been taken for granted due to the fact that there is a huge gap in knowledge or public understanding. The "knowledge-deficit model"; coined by social scientists studying the public communication of science in the 1980s, has unfortunately been put into question (Moser and Dilling 2011; Sturgis and Allum 2004). In 2012, Kahan et al. have argued that conflicts over climate change have little to do with the public's understanding of the scientific evidence. Yet, other recent research has repeatedly shown that the perceived level of scientific agreement on human-caused climate change actually functions as a critical "gateway belief" (Ding et al. 2011; Lewandowsky et al. 2013; McCright et al. 2013) (Van der Linden et. al, 2014)

The public's view of the scientific consensus is important on several aspects, especially when creating views and opinions on complicated scientific topics.

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The public depends on available sources of information to form their opinion, and trust that these sources are reliable. Their perception of scientific consensus also complements with a number of important beliefs and approaches towards serious interests on climate change and support ideas of mitigation (Ding et al., 2011; McCright et al., 2013). As found by Malka et al. (2009), the perception of scientific consensus brings about an agreement between the connection on climate concern and climate knowledge. This means that when one learns more about climate change and how it is produced, it automatically increases the attention and concern. These findings give boost to others by increasing people's perceptive that climate change is happening, through the communication of the scientific consensus (Lewandowsky et al., 2012; Bolsen et al., 2014). If people keep on thinking that there is a disagreement amongst scientists, especially about Anthropogenic Global Warming, then it will definitely take longer to find action support. This controversy between the perception of the public and the overwhelming agreements amongst scientists, especially when there is a particular scientific topic being discussed, is defined by the " consensus gap". This gap is causing strong effects on our society (Abraham et. al, 2014).

The effect of the media:

Given that most people get their awareness from mass media, one has to make sure that such information is given at best quality, so as to be more affective. Two main sources of mass media that impose great limitations when it comes to the scientific communication are the newspapers and television. The main reasons are that television news stories, often have less <https://assignbuster.com/communicating-the-scientific-consensus-on-climate-change/>

than a minute of air time, therefore these can't be very detailed and informative, whilst newspaper articles are longer, but then again, they are not explained in scientific terms, so people still won't truly understand the true meaning of climate change and what contributes to it. Scientists also need to understand more the journalistic norms and how journalism works, whilst on the other hand, communicators should make an effort in increasing the scientific literacy of their mass audience in their articles/ segments and also explain how scientists have become more confident on different knowledge claims, especially when it comes to using probability statements. Furthermore, communicators should also make it more clear to the public that just because there are different conclusions on specific scientific data/ findings, which may or may not be questionable to some groups in society, it might not mean that the real scientific methods, theories and bodies of evidence are at issue within the scientific community (Schneider, 2009)

How to improve the public's perception on climate change:

Media communicators should continually promote and reveal the numerous ambitions, goals and strategies of climate change to those people who have an opposing view on this topic and who believe or claim that it is falsely presented by the scientific community. Right or wrong, such people do not follow a valid scientific method, therefore they lack evidence and scientific support, and they cannot be reliable- their beliefs lack scientific status (Moser & Dilling, 2011).

In addition to communicating the scientific consensus, experts have agreed that certain messages would definitely make a difference. Climate change is

real and that people are the main reason of its cause. Climate change is harmful to people, and people need to find ways to reduce it (Maibach et. al., 2014). Oversimplifying such messages can definitely lead to misunderstanding. Moreover, it is not that difficult to reduce the scientific consensus down to a few key sentences. In fact these might encourage people to search and point out reliable sources (Bode, Monroe & Megalos, 2014)

Communicators have concluded that the reason for lack of public engagement is due to the fact that there has been lack of information and understanding, therefore this issue needs to improve in order to encourage more people to be inspired and take action. They also concluded that if people have fear on potential disasters because no action has been taken yet, than it would motivate them to take action. Mass communication is by far the best way to reach the public with regards to this issue (Moser & Dilling, 2011). Communicators have the possibility to use different ways, represent different values, and promote political, cultural, social, and economic frameworks of climate change, through a national discussion (Schneider, 2009)

An experiment conducted by Sander van der Linden, Anthony Leiserowitz, Geoffrey Feinberg and Edward W. in 2014, tested three popular ways to communicating the scientific consensus. In the first try, a simple message was shown to a number of participants stating that: *“ 97% of climate scientists have concluded that human-caused climate change is happening”*. In the second try, the same participants were shown a pie chart describing the scientific consensus in a more visual way. For the third attempt, different <https://assignbuster.com/communicating-the-scientific-consensus-on-climate-change/>

metaphors were used to describe the consensus. At the end of this experiment, the participants were asked to express what they thought about the scientific consensus before and after participating in this experiment. This concluded that all of the three approaches; the descriptive text, the pie chart and the metaphors, made the public understand more on what the scientific consensus is about. Both the pie chart and the descriptive text were the most effective on the participants than the metaphors. The pie chart was then more efficient with people that had political backgrounds. To conclude results show that in order to improve the public's knowledge on the scientific consensus on climate change; one has to find a way to ensure that the individual is not defined by political persuasion. Scientists, policy makers and even NGO's have shown to respond more to using short, simple declarative sentences or simple pie charts to communicate the scientific consensus to the public. Since, metaphors were proven less effective; however they still can be very beneficial in explaining difficult scientific concepts. At the end of the day, in order to help improve the state of communication on the issue of climate change, every possible approach is better than nothing. It is important to help people gain knowledge, shape their way of thinking and help them understand more the purpose of a scientific consensus (Van der Linden et. al, 2014)

Improving from climate change

It will take a huge global effort to create and implement new ways to reduce climate change instances. There is the need to design and embrace new technologies that are aimed to reduce emissions caused by green-house gases so that damaging consequences to human health may be avoided. <https://assignbuster.com/communicating-the-scientific-consensus-on-climate-change/>

Moreover, the ability to adjust to such changes depends extensively across different nations. (Schneider, 2009) Poor nations are more exposed to the effects of global warming because they cannot cope with the social and economic situations that are likely to arise due to sea levels changes and severe weather changes (Tierney, 2009).

Reducing green-house gas emissions is possible with the help of different types of practices and technologies that can be supplied by the industrial sectors, especially by the waste and land management sectors. Other sectors, including the economy sector needs to be also involved in improving climate change mitigations since green-house gas emissions are commonly present during economic activities. It is also quite important for countries to find ways to increase funding for research and development (Schneider, 2009).

To conclude

After many years of practice but without any solid basis of research, communicating climate change is now an intense interest to those who wants to increasing public participation. As mentioned before, there have been many different studies that have measured public opinions, attitudes and level of understanding with regards to scientific topics. Moreover, most of the studies have tested different approaches to identify the most effective ways to communicate the scientific consensus. Much of what is known or assume about climate change communication is influenced by studies in other fields such as; Advertising, social marketing and mass media communication. One has to keep in mind the following aims for future

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research and practice:- Create communication models and technologies, find more effective ways to communicate mitigations, identify ways to adapt to new strategies. Last but not least, one had to make sure to encourage deeper engagement and promote the importance of mass mobilization (Moser, 2011)

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