

Climate change attitudes are reflected on social networks

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People who believe in climate change have more Facebook friends than those who do not consider climate change a problem. Juha Itkonen's dissertation in economics shows that values and social networks are linked to opinions about climate change.

Studies which examine the relationship between [carbon emissions](#) and [economic growth](#) contain methodological flaws, and consequently underestimate the need for [climate policy](#). Meanwhile, conflicting opinions on climate change remain fixed, as social networks keep advocates and opponents separate.

These are just some of the results of Juha Itkonen's dissertation, examined on 8 May at the University of Helsinki, which considers the economics of climate change from the perspective of networks as well as climate change as a market failure.

Economic growth does not automatically reduce emissions

Many studies have sought to place the relationship between carbon emissions and economic growth on a carbon Kuznets curve, which would suggest that economic growth increases emissions in poor countries but reduces them in wealthy ones.

A dozen recent studies have used a new statistical method to determine

such Kuznets curve relationships. Itkonen's dissertation points out a mathematical error inherent in the statistical methods of these studies, resulting in unreliable findings.

The methods also ignore the connection between energy consumption and emissions.

"As a result, research literature often underestimates the need for climate policy," Itkonen says.

Climate change deniers have fewer friends

Itkonen was also interested in the reasons why different groups of people have espoused such radically different opinions despite scientific consensus. To answer this question, a Facebook application was created to survey public opinion and network data about the Facebook friends of its participants. More than 5,000 Finnish Facebook users were surveyed.

The respondents had an average of 262 friends, many of whom shared their opinions. Respondents who did not consider climate change a problem had fewer friends. The structures of social networks contribute to the slow speed of changing opinions.

"The opinion about climate change is not born out of facts and reason alone. Values and social networks also have an impact," Itkonen points out.

Differences in opinion slow down the transfer of information. When communicating scientific findings, polarised opinions in the social network reduce the network's ability to transmit the message.

"For example, talking about carbon taxation in conjunction with scientific research may encourage the audience to question the science as

well if the social environment has negative views about taxes."

Network structure influences climate policy

The third essay in the dissertation examines emissions trading in a situation where local emissions trading systems have linked up to form a network. The results can help politicians to avoid surprises and ensure the impact of their climate policies.

MSocSc Juha Itkonen defended his doctoral dissertation Essays on the economics of [climate change](#) and networks last week at the Faculty of Social Sciences of the University of Helsinki. The dissertation is in the field of economics.

More information: Essays on the economics of climate change and networks: helda.helsinki.fi/handle/10138/153853

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