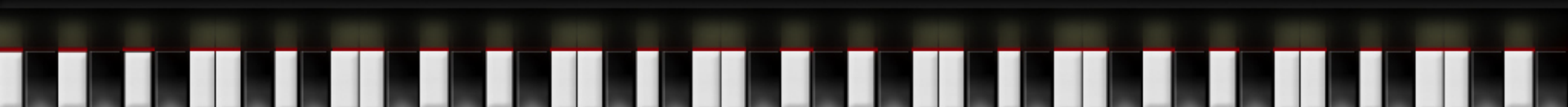


Not my problem?

**Do transportation energy analysts
have a responsibility for explaining
about climate change to the public?**

David L. Greene
2011 Asilomar Conference

Lee Schipper & Jack Johnston: friends, colleagues, sources of inspiration.



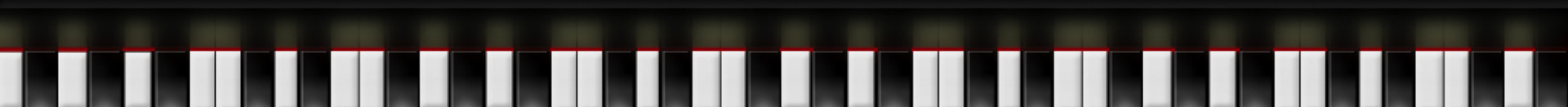
I have an opinion on this. But what's yours?

- # What is public opinion on climate change?
- # Is there a scientific consensus?
- # Do we have a responsibility?
- # If not, why not? If so, what is it?
 - # Individually
 - # Collectively (e.g., as TRB Committees)
- # What now?

“When it comes to global warming and a host of other technical issues, “there is a disconnect between what science says and how people perceive what science says,” said Barbara A. Schaal, a biologist and vice president of the National Academy of Sciences. “We need to interact with the public for our good and the public good.”

“Groups Call for Scientists to Engage the Body Politic”, Cornelia Dean, The New York Times, August 8, 2011.

Lee Schipper & Jack Johnston: friends, colleagues, sources of inspiration.



Scientific societies have made official statements about climate change on several occasions.

What do they say?

American Meteorological Society, 2003:

"The nature of science is such that there is rarely total agreement among scientists. Individual scientific statements and papers—the validity of some of which has yet to be assessed adequately—can be exploited in the policy debate and can leave the impression that the scientific community is sharply divided on issues where there is, in reality, a strong scientific consensus... IPCC assessment reports are prepared at approximately five-year intervals by a large international group of experts who represent the broad range of expertise and perspectives relevant to the issues. The reports strive to reflect a consensus evaluation of the results of the full body of peer-reviewed research... They provide an analysis of what is known and not known, the degree of consensus, and some indication of the degree of confidence that can be placed on the various statements and conclusions." [113]

<http://www.ametsoc.org/policy/2007climatechange.html> (more recent, extended statement)

In 2005 the heads of 11 National Academies endorsed the IPCC's statements on global climate change.

“Climate change is real”

“There will always be uncertainty in understanding a system as complex as the world's climate. However there is now strong evidence that significant global warming is occurring. The evidence comes from direct measurements of rising surface air temperatures and subsurface ocean temperatures and from phenomena such as increases in average global sea levels, retreating glaciers, and changes to many physical and biological systems. It is likely that most of the warming in recent decades can be attributed to human activities (IPCC 2001). This warming has already led to changes in the Earth's climate.”

Joint statement of the National Academies of Sciences of Brazil, Canada, China, France, Germany, India, Italy, Japan, Russia, United Kingdom and United States of America (a.k.a. G8+5), 2005.

Lee Schipper & Jack Johnston: friends, colleagues, sources of inspiration.

The American Association for the Advancement of Science has spoken unequivocally on the subject.

“The scientific evidence is clear: global climate change caused by human activities is occurring now, and it is a growing threat to society. Accumulating data from across the globe reveal a wide array of effects: rapidly melting glaciers, destabilization of major ice sheets, increases in extreme weather, rising sea level, shifts in species ranges, and more. The pace of change and the evidence of harm have increased markedly over the last five years. The time to control greenhouse gas emissions is now.”

Board of Directors, American Association for the Advancement of Science,
December 9, 2006.

Lee Schipper & Jack Johnston: friends, colleagues, sources of inspiration.

The most recent joint statement by the National Academies of the G8+5 is strongly worded and endorses a 50% reduction in global emissions over 1990 levels by 2050.

"The IPCC 2007 Fourth Assessment of climate change science concluded that large reductions in the emissions of greenhouse gases, principally CO₂, are needed soon to slow the increase of atmospheric concentrations, and avoid reaching unacceptable levels. However, *climate change is happening even faster than previously estimated*; global CO₂ emissions since 2000 have been higher than even the highest predictions, Arctic sea ice has been melting at rates much faster than predicted, and the rise in the sea level has become more rapid. Feedbacks in the climate system might lead to much more rapid climate changes. *The need for urgent action to address climate change is now indisputable.* For example, limiting global warming to 2° C would require a very rapid worldwide implementation of all currently available low carbon technologies." (May 2009)

Emphasis added.

Lee Schipper & Jack Johnston: friends, colleagues, sources of inspiration.

Climategate?

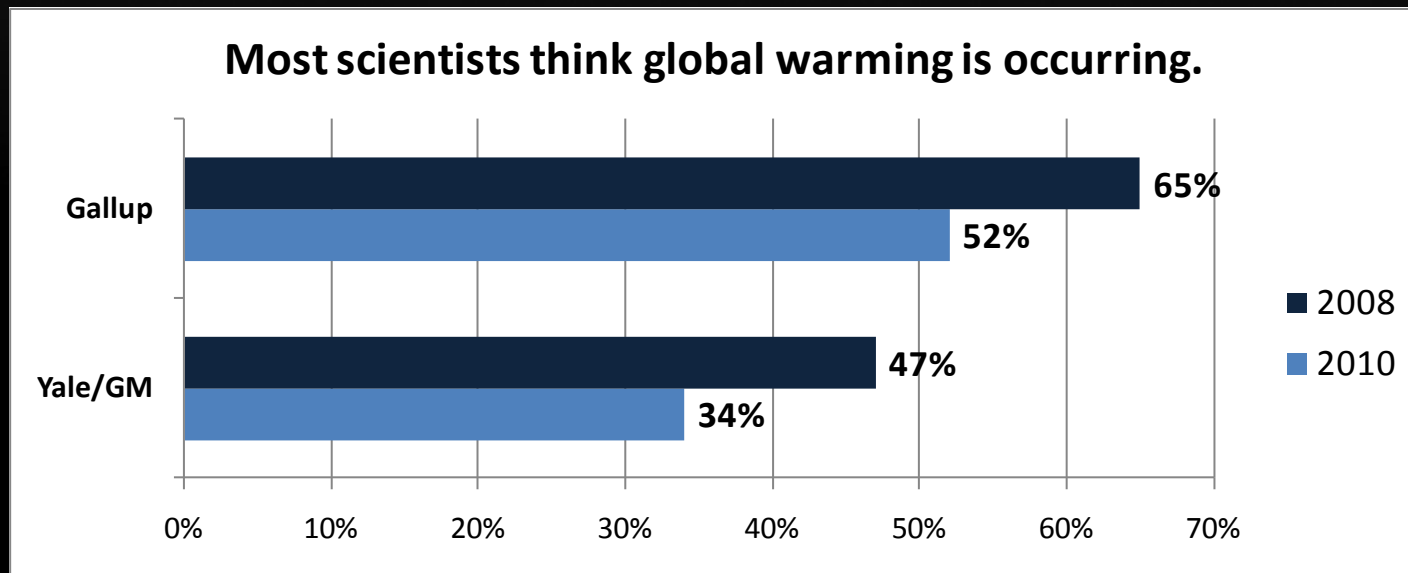
There were six independent investigations, every one cleared the climate scientists of any wrongdoing.

- # House of Commons Science and Technology Committee (UK)
- # Independent Climate Change Review (UK)
- # International Science Assessment Panel (UK)
- # Pennsylvania State University (US)
- # United States Environmental Protection Agency (US)
- # Department of Commerce (US).

Is there a scientific consensus?

“Most significantly, while scientists may still be a trusted source of information on climate issues for the most part, the public is now less sure than at any time in more than a decade as to whether scientists agree on the issue.”

Pike and Herr, 2011.

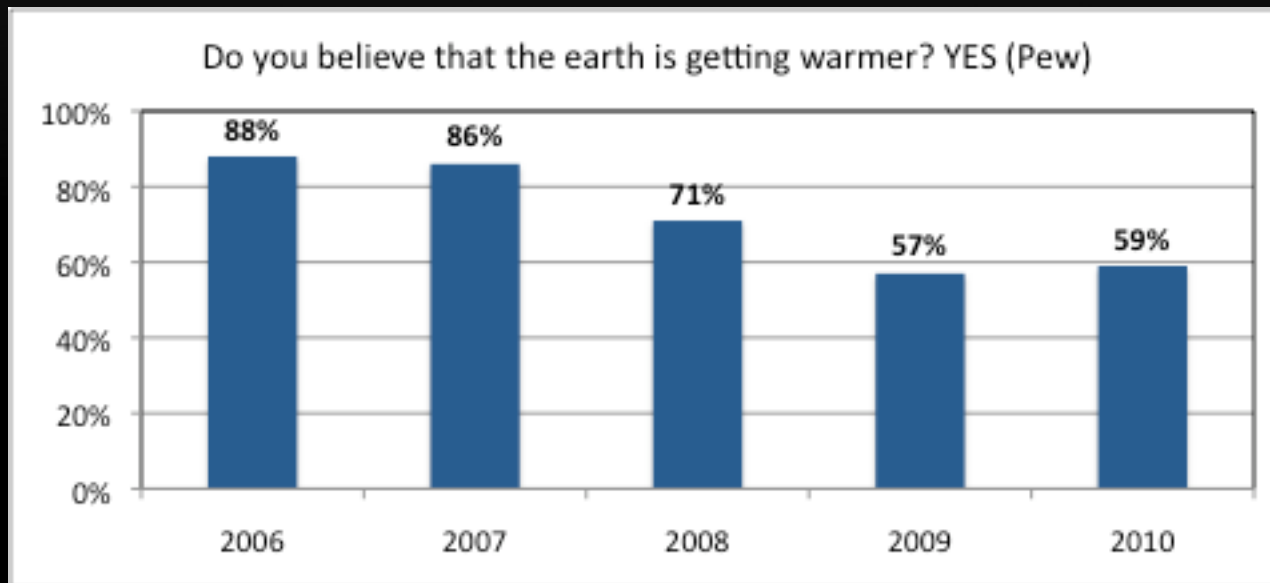


Lee Schipper & Jack Johnston: friends, colleagues, sources of inspiration.

Yes, but I'm not a climate scientist.

“Despite growing scientific evidence that points the finger squarely at humans, polls show that the number of Americans who believe in anthropogenic global warming has declined in recent years.”

Pike and Herr, 2011, “American Climate Attitudes”,
www.theresourceinnovationgroup.org.



Lee Schipper & Jack Johnston: friends, colleagues, sources of inspiration.

Do WE have a responsibility?

“The effective communication of scientific results and viewpoints to the public is an important responsibility of the scientific community. This is particularly so for science that has been publicly funded.”

“Guidelines and responsibilities of scientists

“

•

•

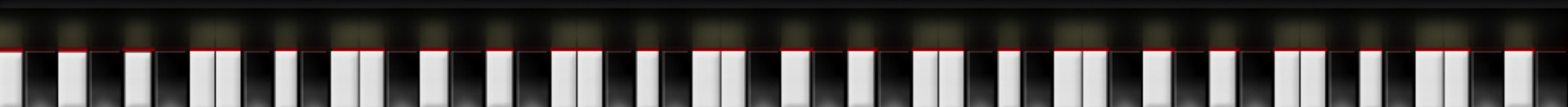
5. Scientists have a special duty to communicate findings that have implications for human survival or well being, including threats to the environment.

•

7. Scientists should be transparent in communicating the limits of their own personal expertise and make the distinction between those areas of science in which they might reasonably be considered by their peers to have expertise and other areas in which they may express views.”

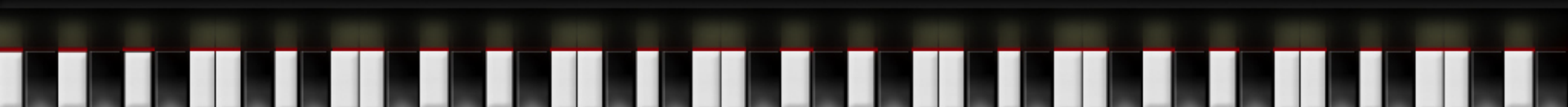
Advisory note on science communication, International Council for Science, Dec. 2010.

Lee Schipper & Jack Johnston: friends, colleagues, sources of inspiration.



But we're not climate scientists.

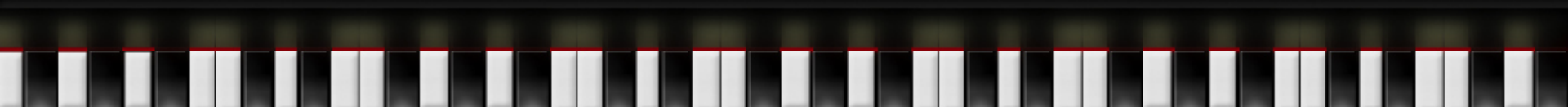
“Some good news is that research indicates that spokespersons in addition to scientists could play beneficial roles in communicating with the public about climate, such as television weather reporters and religious leaders.”
Pike and Herr, 2011.



Is there a science of solutions to climate change?

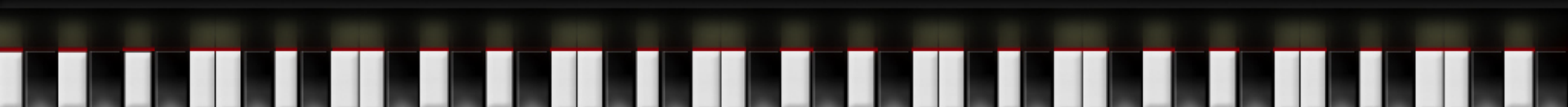
“To the extent people can’t solve a problem, they tend to ignore that problem. The public is not given credit for its inherent competence. Most Americans are, in fact, worried about climate change, but don’t know what to do about it.”

Zax, 2010, as quoted in Pike and Herr, 2011.



What are our professional and personal responsibilities?

- # We may not be climate scientists but we know whom we trust and why.
- # We *are* the experts who know the most about mitigating GHG emissions from transportation.
- # What is our responsibility to communicate with the public?
- # How should we do it?



Thanks Lee.
Thanks Jack.

Lee Schipper & Jack Johnston: friends, colleagues, sources of inspiration.

