Climate science and technology: what about values?

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http://www.sgr.org.uk/

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• SGR is UK organisation of about 900 scientists, engineers and professionals in related areas concerned about the use and misuse of science and technology
• One foot in science and technology and one foot in values (or ethics)
• Why? Because poor value judgements related to science and technology have led to the rise of major problems like climate change
Values and the application of climate science

• Different values lead to different priorities in policy responses
  – e.g. environmentalist or pro-business?

• Climate change
  – Technological v political v economic
  – Kevin Anderson or James Hansen?

• Different values will lead to different priorities given to specific policy responses to scientific information
  • Greater value given to environmental concerns often leads to greater focus on political options (e.g. regulation), national economic options (e.g. taxes, reforms) or simpler technological options
  • Greater value given to business concerns often leads to greater focus on high technology options (e.g. new technologies) or market-based economic options

• General examples in climate change:
  • Environmental – tend to favour carbon emissions targets, carbon taxes and renewable energy
  • Business – tend to favour nuclear power, geo-engineering and carbon trading
  • Although generally more complicated than this

• Specific examples in climate change:
  • Kevin Anderson (Tyndall Centre) and colleagues – arguing that carbon emissions of the wealthy need to be curbed
  • Jim Hansen (NASA) and colleagues – arguing that new nuclear power technologies need to be aggressively pursued
Values and climate science research

• Different values affect research
  – Priorities for research agenda
  – Collaborators for research
  – Research can be biased by funding source
  – Communication of research can be biased

• Examples in climate change
  – Exxon-funded climate change sceptics
  – NERC memorandum with Shell
  – Military carbon emissions

• Different values will affect research as well
  • Priorities for research agenda, e.g. climate impacts on developing countries or industrialised countries
  • Collaborators for research, e.g. business
  • Research can be biased, e.g. sponsorship bias documented in pharmaceuticals sector
  • Communication of research can be biased, e.g. tobacco industry funded health-messaging

• Examples in climate change
  • Exxon-funded climate change sceptics
  • NERC memorandum with Shell – bias towards Shell concerns?
  • Military carbon emissions largely undocumented in IPCC reports
Values and the communication of climate change

• Be aware of value judgements related to your own area of science
• Values can help create empathy with an audience
• Values can switch off an audience
• Personal behaviour reflects values and can undermine credibility
  – e.g. lots of flying to climate conferences
• Humility?

• Important to be aware of value judgements related to your own area of science
  • are you presenting value judgements as ‘scientific truths’?
• Values can help create empathy with an audience
  • e.g. broad concern about our children
• Values can switch off an audience
  • e.g. claiming nuclear power is safer than coal power (as this viewpoint depends on values as well as evidence)
• Personal behaviour reflects values and can undermine credibility
  • e.g. lots of flying to climate conferences
• Humility can help with difficult audiences