
The role of science in evidence-based policy making

Perspectives from climate policy

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Changing Arctic Ocean Programme Annual Science Meeting, 15-17 January 2019



Why does policy need science?

'Science without policy is the pursuit of knowledge. But policy without science is the ambition of ignorance'

Grant Allen (Illingworth & Allen, 2016)



By Frits Ahlefeldt

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Talk Outline

1. **Introduction to the BEIS science team**
2. **What do decision makers want?**
 - Tips for translating climate science for policy
 - How to engage with BEIS
3. **How can the NERC CAO programme fill future evidence gaps?**
 - Climate science evidence gaps endorsed by Chief Scientific Advisors
 - Marine science research priorities (GO-Science)

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BEIS Science Team

Support national climate science capability and commission evidence

Provide strategic and responsive scientific advice to BEIS

Act as UK focal point for IPCC and international science diplomacy

Manage the compilation of the official UK Greenhouse Gas Inventory



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BEIS Science Team

Support national climate science capability and commission evidence



- Support Earth Observation Programmes and Met Office Hadley Centre Climate Programme
- Commission evidence, e.g. 1.5 °C and AVOID
- Build links with the research community
- Coordinate with research councils

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BEIS Science Team

Provide strategic and responsive scientific advice to BEIS



- Briefings for policy and ministerial teams
- Advise on UK and EU positions in UNFCCC negotiations
- Parliamentary questions
- Preparation for and response to climate science media coverage

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BEIS Science Team

UK focal point for IPCC and international science diplomacy



- Lead UK engagement with IPCC
- Ensure IPCC products are useful, high quality and policy-relevant
- Nominate experts; review reports; attend approval sessions
- Work closely with other countries

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BEIS Science Team

Manage the compilation of the official UK Greenhouse Gas Inventory



- Compile and report data on UK greenhouse gas emissions annually
- Requirement of 2008 Climate Change Act
- Analysis and communication of UK progress towards Paris Agreement goals

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Tips for translating (climate) science for policy



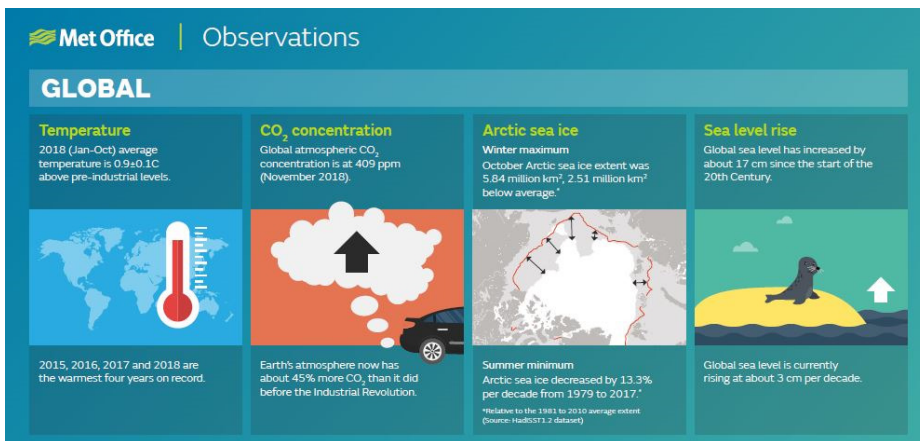
1. Create opportunities for dialogue
2. Tailor clear and concise communication to your audience (avoid technical language)
3. Show the human face – highlight the impacts of climate change on people
4. Clear and transparent communication of uncertainty
5. Put research in context of wider evidence base
6. Engage with the media
7. Attend and host events
8. Have a good website and embrace social media

[Climate Communication in practice](#) (Climate Outreach, 2019).

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Use clear, engaging graphics!



More examples: <https://tyndall.ac.uk/afterparis>; IPCC SR1.5°C SPM

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How to engage with BEIS



1. Make yourself known to us!
2. Be aware of the policy landscape: [Clean Growth Strategy](#), [Industrial Strategy](#), [Foresight Future of the Sea report](#) (2018), International Ocean Strategy, Maritime 2050 strategy, Marine Science Strategy refresh (2019)
3. Engage with the IPCC
4. **Cross-government CAO policy briefing: late 2019/2020?**

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How can the NERC CAO programme inform future policy?

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CSA climate science evidence gaps



- Present **weather and climate risks globally** and within the **UK**.
- **Future climate** over this century **under different emissions scenarios** globally and within the UK, including extreme weather events.
- **Climate risks and impacts** from future climate variability and change
- **Emission pathways compatible with different levels of warming** including timing of achieving net-zero emissions.
- **Impacts and opportunities of mitigation and adaptation.**
- **The case for early action:** implications of delaying mitigation actions.

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GO Science marine science priorities

- Reducing **uncertainty around regional sea level rise (UK)**
- **Interactions between different stressors,** and their **cumulative impact** on the environment, e.g. ocean warming and acidification
- **Tipping points** – will marine ecosystems be able to recover?
- **Value of marine ecosystems and assets**
- **Environmental impact of emerging sectors**



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Questions?

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Importance of the IPCC in policy-making

1990: 'emissions resulting from human activities will enhance the greenhouse effect, resulting in **additional warming** of the Earth's surface'



1995: 'the balance of evidence suggests that there is a **discernible** human influence on global climate'



2001: 'most of the observed warming over the last 50 years is **likely** to have been due to the increase in greenhouse gas concentrations'



2007: 'there is **very high confidence** that the net effect of human activities since 1750 has been one of warming'



2013/14: 'warming of the climate system is **unequivocal**...it is **extremely likely** that human activities are the dominant driver of warming since the mid-20th century.'



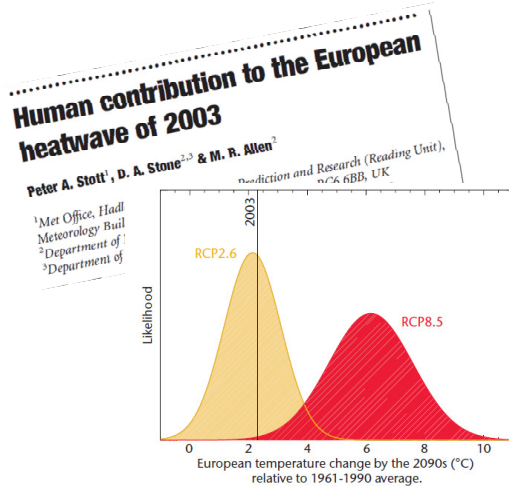
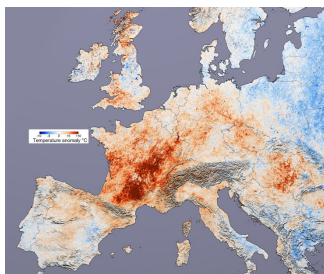
The importance of the IPCC

- An assessment of the current literature
- Policy relevant, not policy prescriptive
- Clear, succinct summaries for policy makers
- 195 parties signed up to the findings
- Scientists have the final word



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Example: extreme event attribution



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