

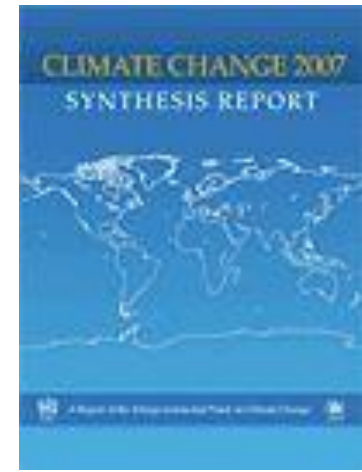
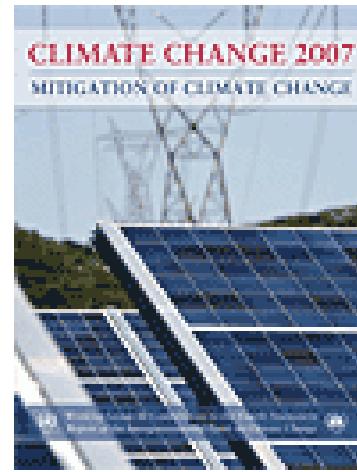
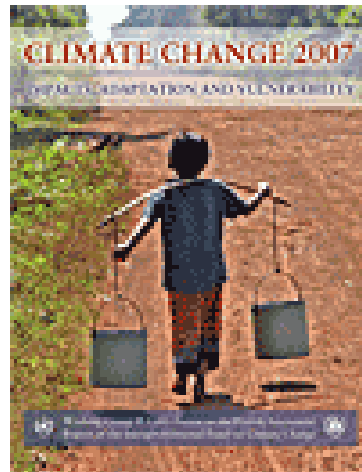
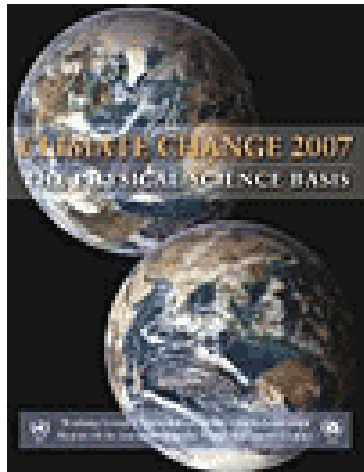
# Why (What) do policy makers need to know about uncertainties?

Dr Nafees Meah

Climate and Energy: Science and Analysis

Circle-2 Workshop – Stockholm, 11-12 November 2010

# The IPCC 4<sup>th</sup> Assessment Report 2007



## Uncertainty

- ❑ not knowing what to do or believe, or not able to decide about something
  - [+ question word] *She's uncertain **whether** to go to New Zealand or not.*
  - *Bridie was uncertain **about** meeting him.*
  
- ❑ not known or fixed, or not completely certain
  - *New arrivals face an uncertain **future**.*
  - *The political outlook is **still** uncertain.*

Uncertainty is....

**Ambivalent**

**Blow hot and cold**

**doubtful**

**Be in two minds**

**CONFLICTED**

**dubious** Fence sitter

**Hum and haw**

indecision

irresolute

**indecisive**

**Insecure**

lack of direction

**limbo**

shilly shally

unsure

**Sit on the fence**

*Jury is still out*

unclear

**Undecided**

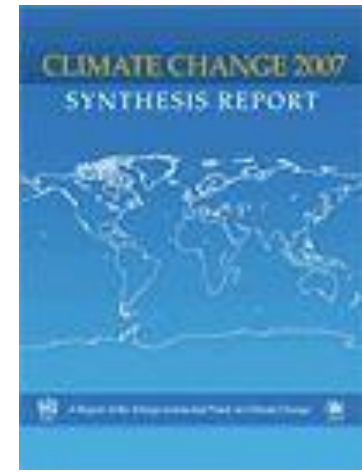
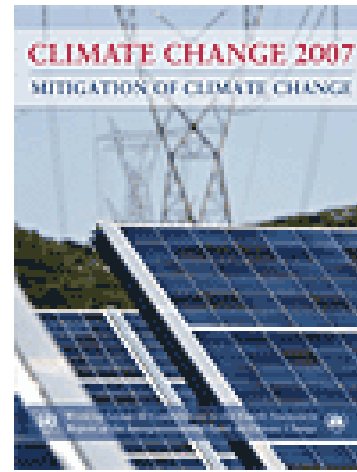
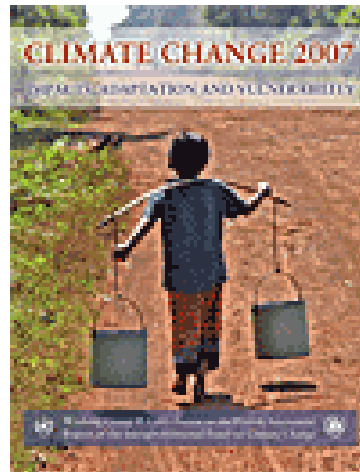
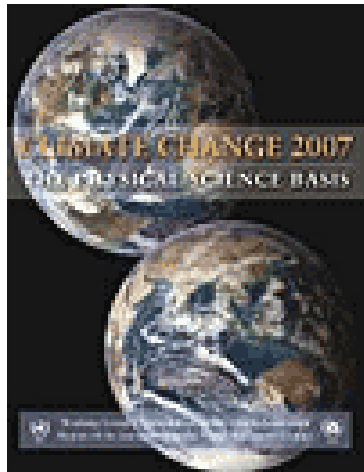
Wish washy

*wobble*

# Climate change in the media



# The IPCC 4<sup>th</sup> Assessment Report 2007



## The Independent Climate Change E-mails Review

July 2010

Chair: Sir Muir Russell

Review team:

- Professor Geoffrey Boulton
- Professor Peter Clarke
- David Eyton
- Professor James Norton

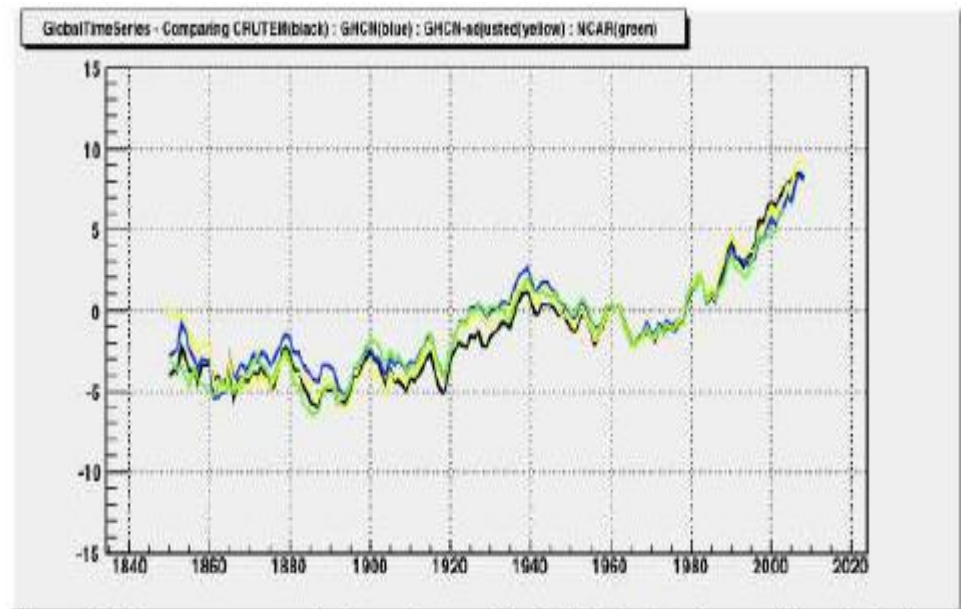
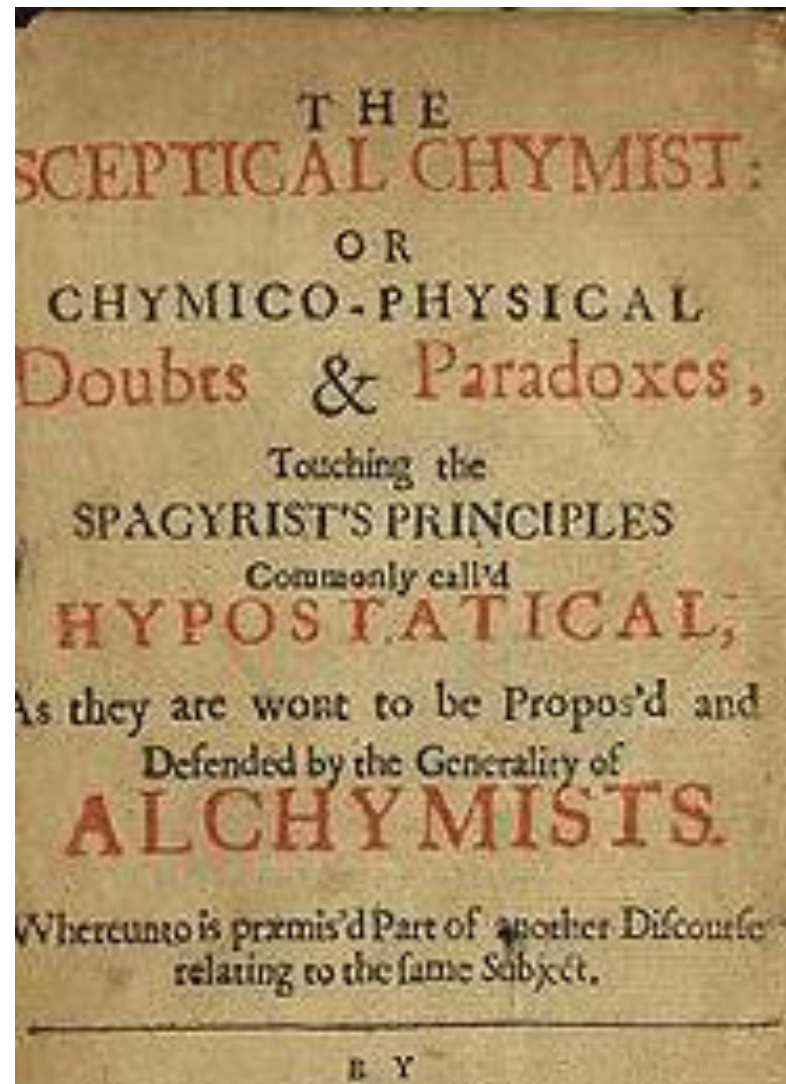


Figure 6.1: Temperature anomaly time series created by the Review Team's own trial analysis using a 5x5 degree grid with 5 year smoothing. Shown are results obtained from GHCN (blue), GHCN-adjusted (yellow) and NCAR (green). Also shown is the CRUTEM3 line (black). The Y-axis is 10 x the anomaly in degrees. The X-axis is year.



# Scientific scepticism

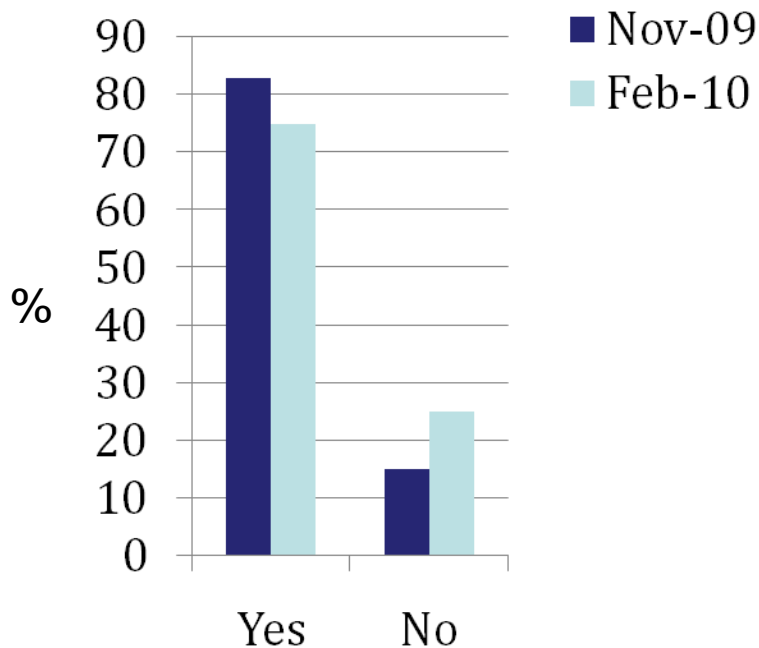




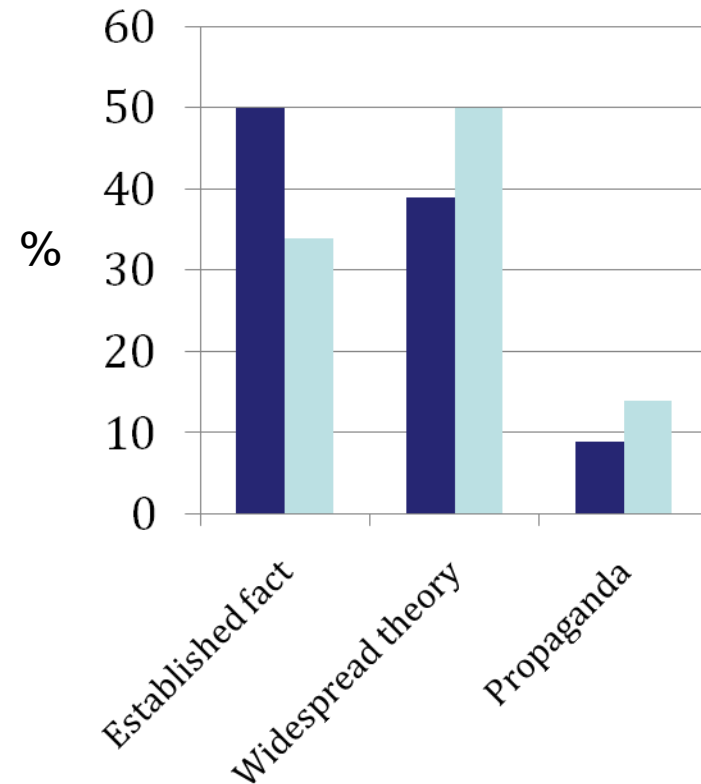
# Polls show declining confidence



## Is climate change happening?



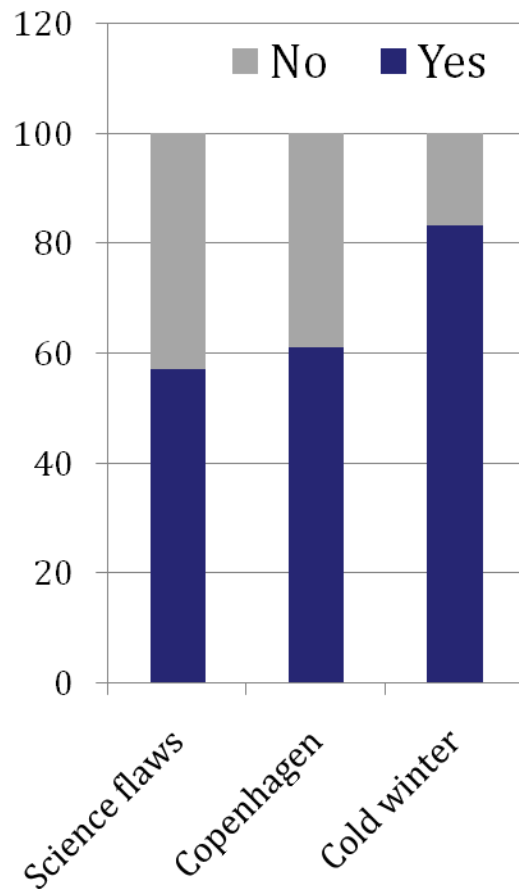
## That climate change is 'largely man made' is...



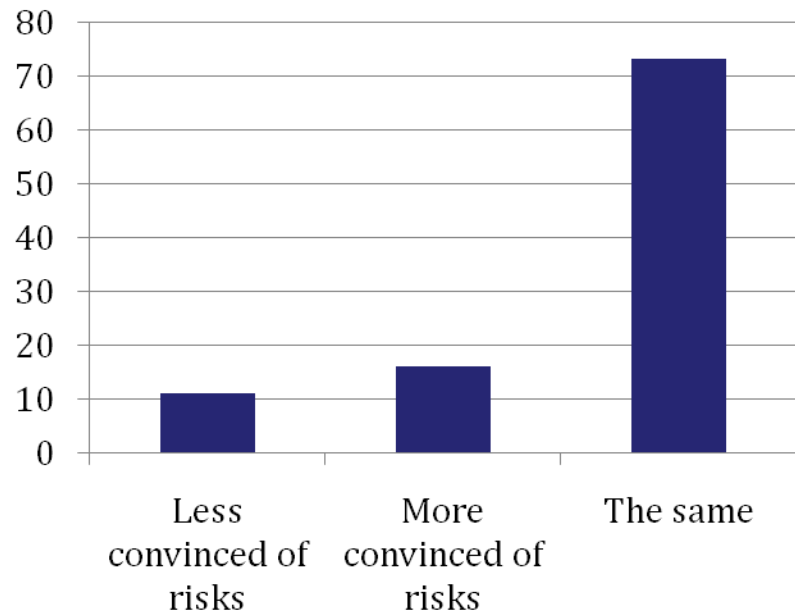
(of those who agree it is happening)

# But not all attributable to 'Climate gate'

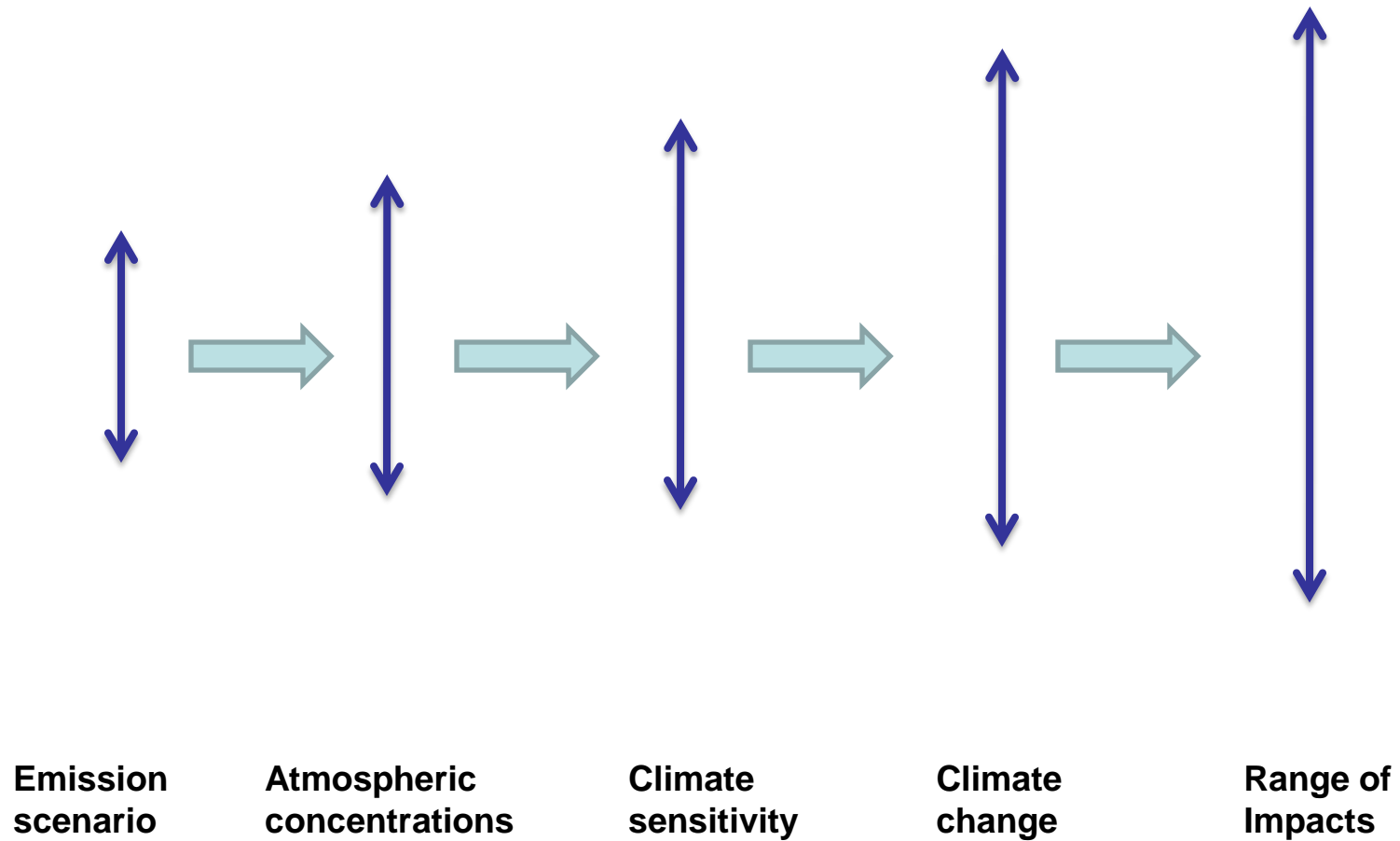
## Have you heard about...?



## How I feel about the risks of climate change (of those who had read about 'flaws or weaknesses in science')



# Cascade of uncertainty

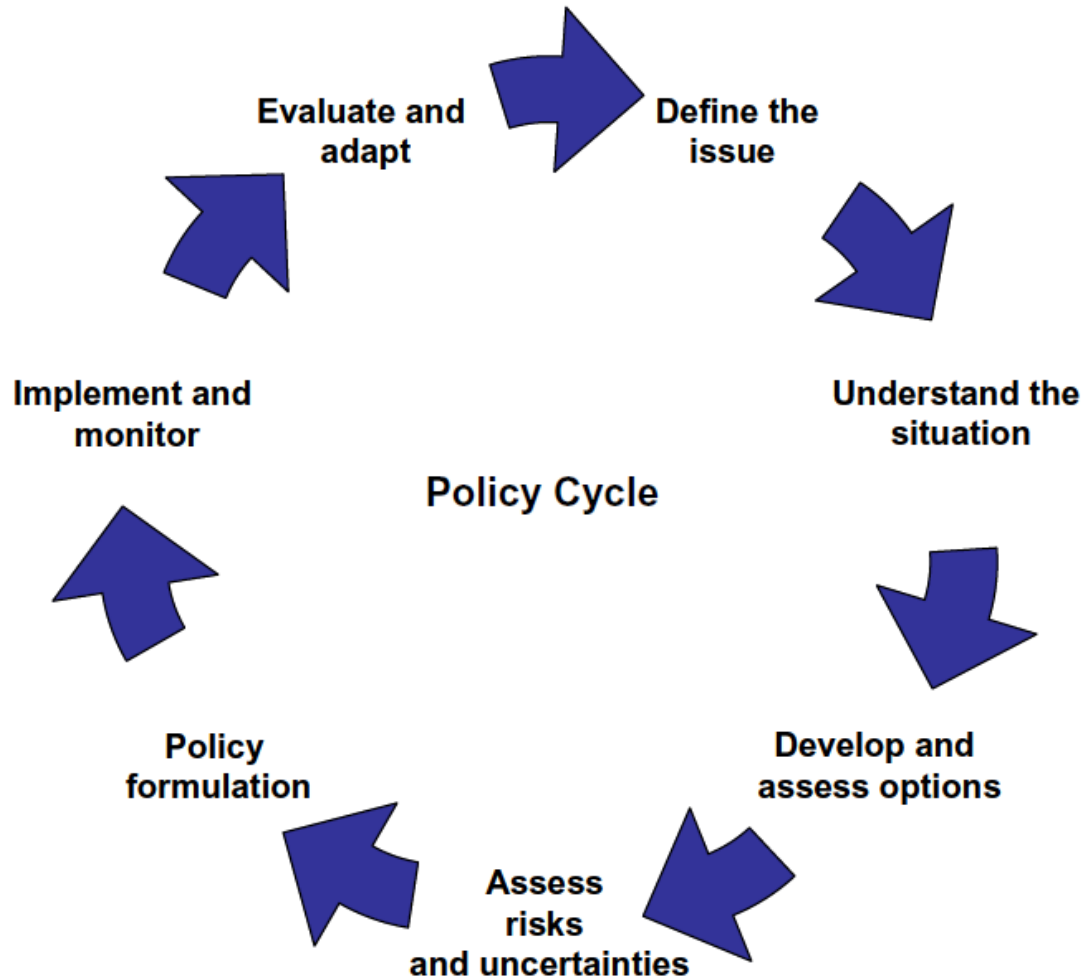


Adapted from Roger Jones (2003)

- *“...there are known knowns; there are things we know we know. We also know there are known unknowns; that is to say we know there are some things we do not know. But there are also unknown unknowns—the ones we don’t know we don’t know.”— Donald Rumsfeld, 2003*

- ❑ Objective of public policy is to reduce risk of harm and/or increase welfare
- ❑ On a specific issue, policy makers
  - ✓ have a predictive mental model of how the world works (If X, then Y)
  - ✓ assess all the evidence
  - ✓ consider all the options
  - ✓ consider costs and benefits of the different options
  - ✓ Choose the optimal alternative
- ❑ The output of the process is usually a legal rule or a tax measure or a subsidy

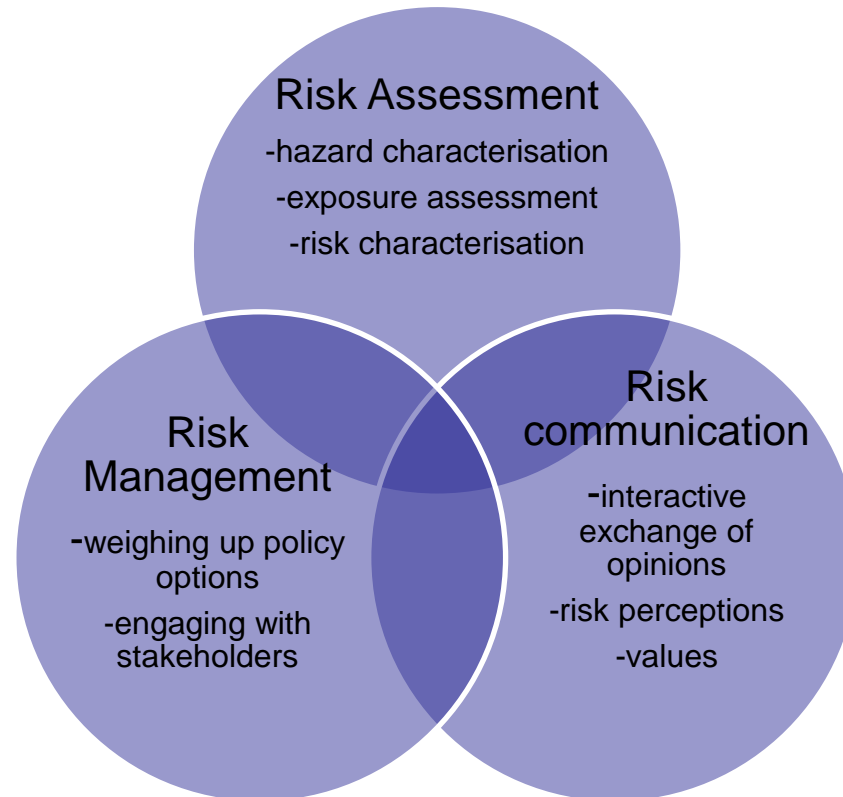
# The policy cycle





- Responding to climate change involves an iterative risk management process that involves both adaptation and mitigation and takes into account climate change damages, co-benefits, sustainability, equity and attitudes to risk

# Risk Analysis Framework



- ❑ We need to move away from promoting the idea of climate science as a body of universal ‘facts’ delivered from upon high by remote authority figures.
- ❑ Where science has a public policy role, then, expect the scientific evidence to be challenged.
- ❑ It is confidence in the big picture inferences boldly stated and drawn from the science as a whole that matters to policy makers.
- ❑ It does not follow that from that confidence expressed by the scientific community on a set of propositions about the state of world (or the future world) that action should necessarily follow. What happens next is an irreducibly social process.

Thank you for your attention

Finally....

