

Evidence-based policy or policy-based evidence ?

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Principal grounds for decision-making

- Intuition (Kahnemann "Fast thinking")
- Value judgments
- Economic realities
- Political considerations
- Public opinion:
 - Opinion polls
 - Social media
- Experience ("I feel...")
- Scientific knowledge:
 - Empirical/experimental, repeated to verify, peer-reviewed, yet always an element of uncertainty

One model – evidence-based medicine

- First systematic review (“Effective Care in Pregnancy and Childbirth”) 1989
- Cochrane Collaboration – global effort (over 120 countries) 1992
- Efficacy and safety of therapeutic/diagnostic methods
- Systematic reviews of scientific evidence
 - Collection of published literature
 - Quality assessment of each study (bias?)
 - Guidelines based on best available evidence
 - Updating
- Intended to help, not dictate individual decisions
- Rapid expansion of systematic reviews (eg. G-I-N Network)

Evidence-based bandwagon

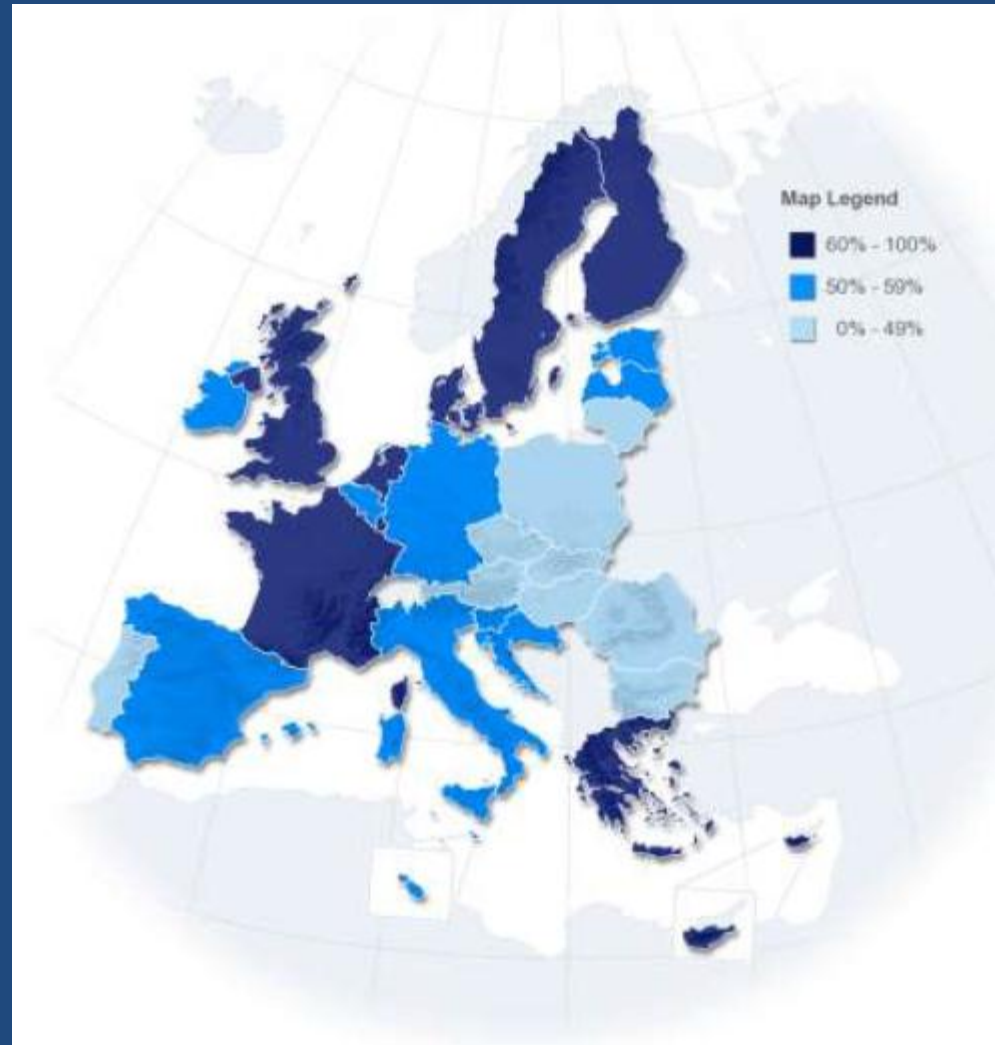
- Google "evidence-based*" – 360 million hits!
- From medicine to education, social work, environment, management, design, public policy etc.
- Complex multidisciplinary issues (wicked problems, Grand Challenges)
- Few public policy issues DO NOT have a scientific dimension
- International examples/experiences in the policy arena
 - Anglo-Saxon countries
 - Scientific advice to EU, UN
- "Governments for the Future" – one of three key themes
- Evaluation of the Academy of Finland (2013)
 - "The MEC should strengthen its efforts to foster an independent 'science academy' function outside the Academy of Finland" – science for policy

Science for policy - stakeholders

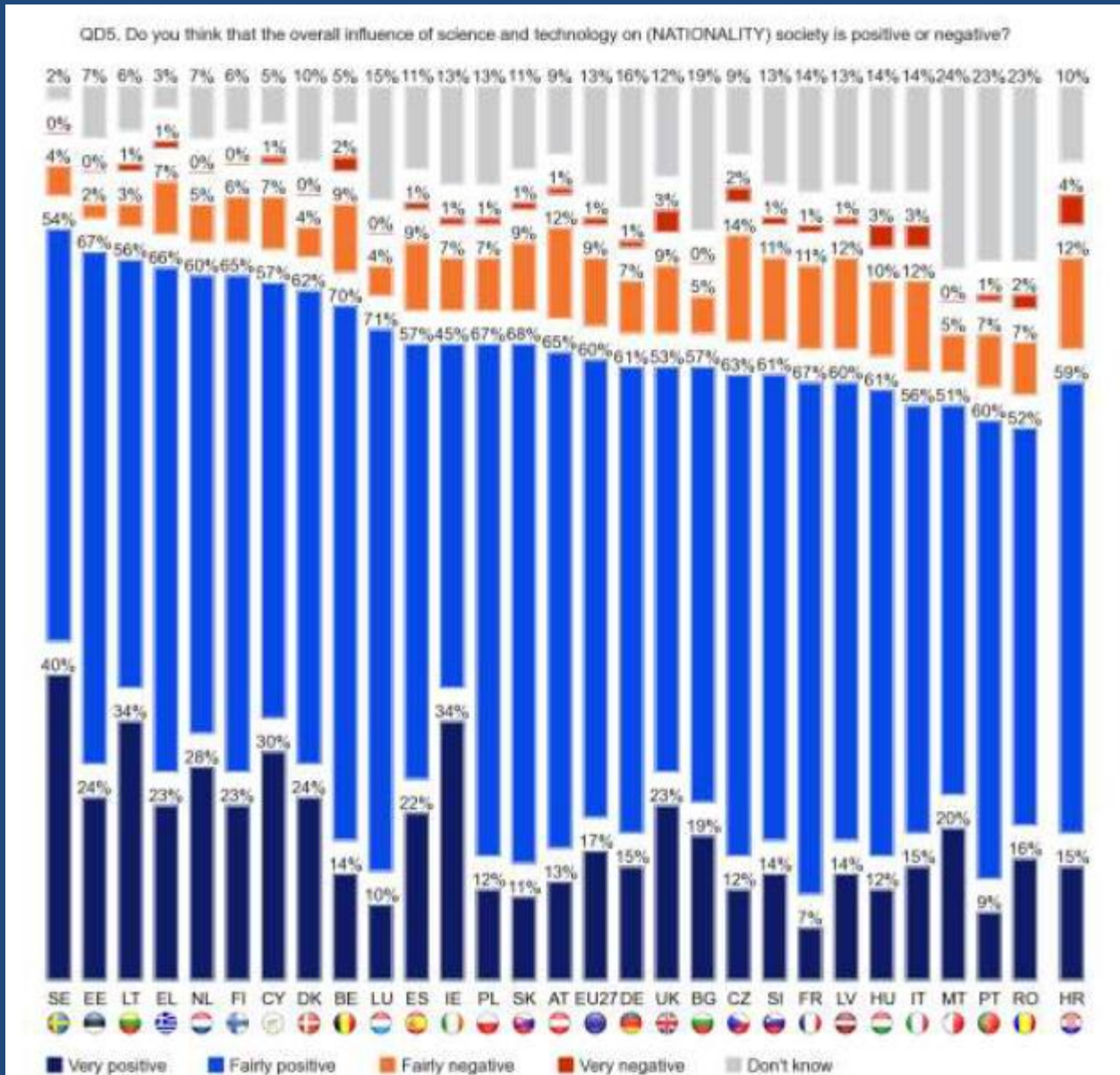
- Producers:
 - Universities, research institutes (Finland 0.5 % of global)
 - Scientific societies, academies of science
- Consumers, processors:
 - Consultants, think tanks, advisory boards, lobbying organizations
 - Public and private enterprise
- "End users":
 - Decision-makers (parliaments, municipal bodies)
 - Domestic policies, drafting of laws (ministries, civil servants)
 - International negotiations (EU, UN)
 - **CITIZENS**

”How interested are you in developments in science and technology?”

(Eurobarometer 2013)



Science – positive or negative? (Eurobarometer 2013)

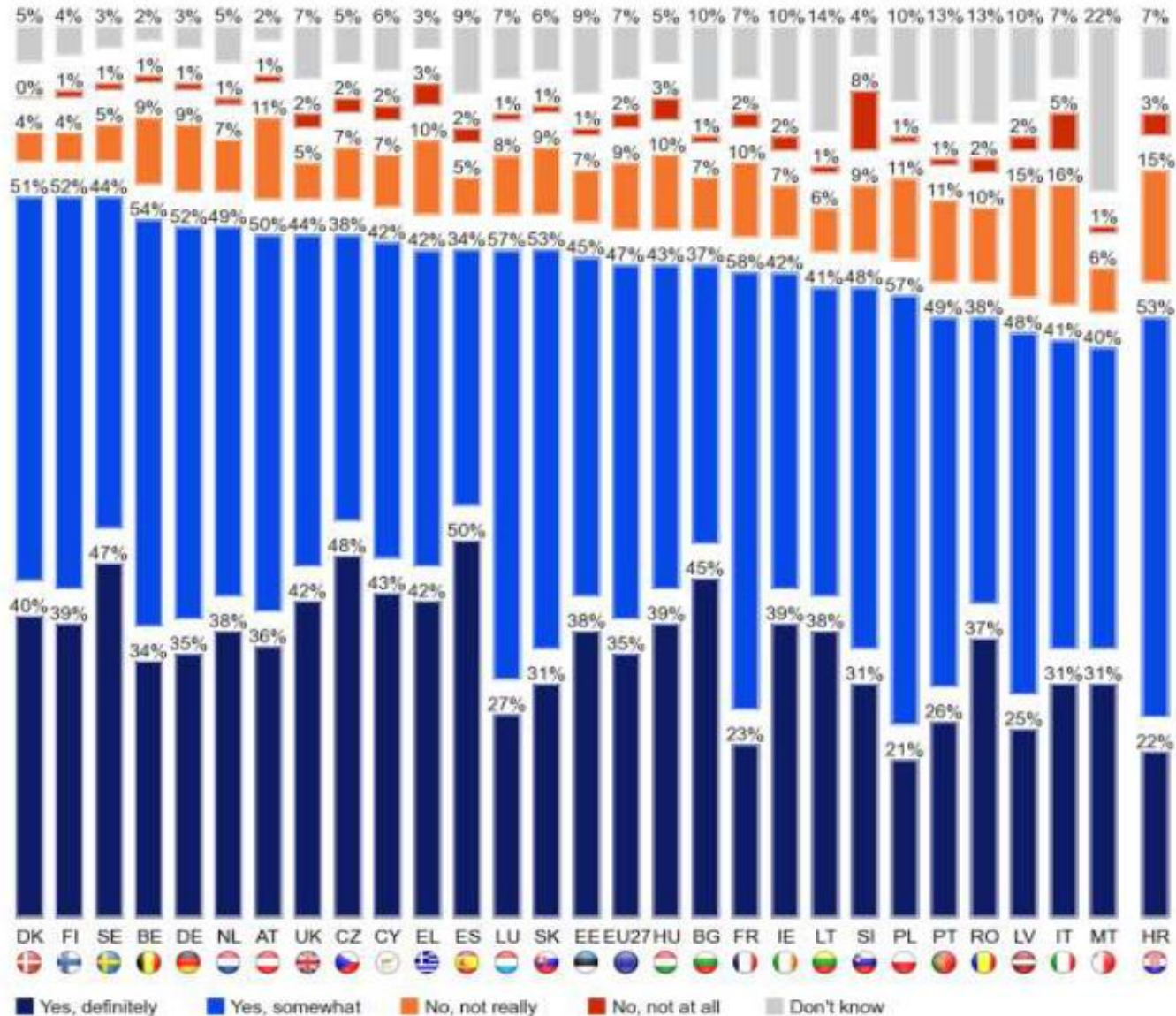


Do scientists behave responsibly towards society?

(Eurobarometer 2013)

QD8.1. For each of the following categories of people and organisations working in (OUR COUNTRY), do you think that they try to behave responsibly towards society by paying attention to the impact of their science and technology related activities?

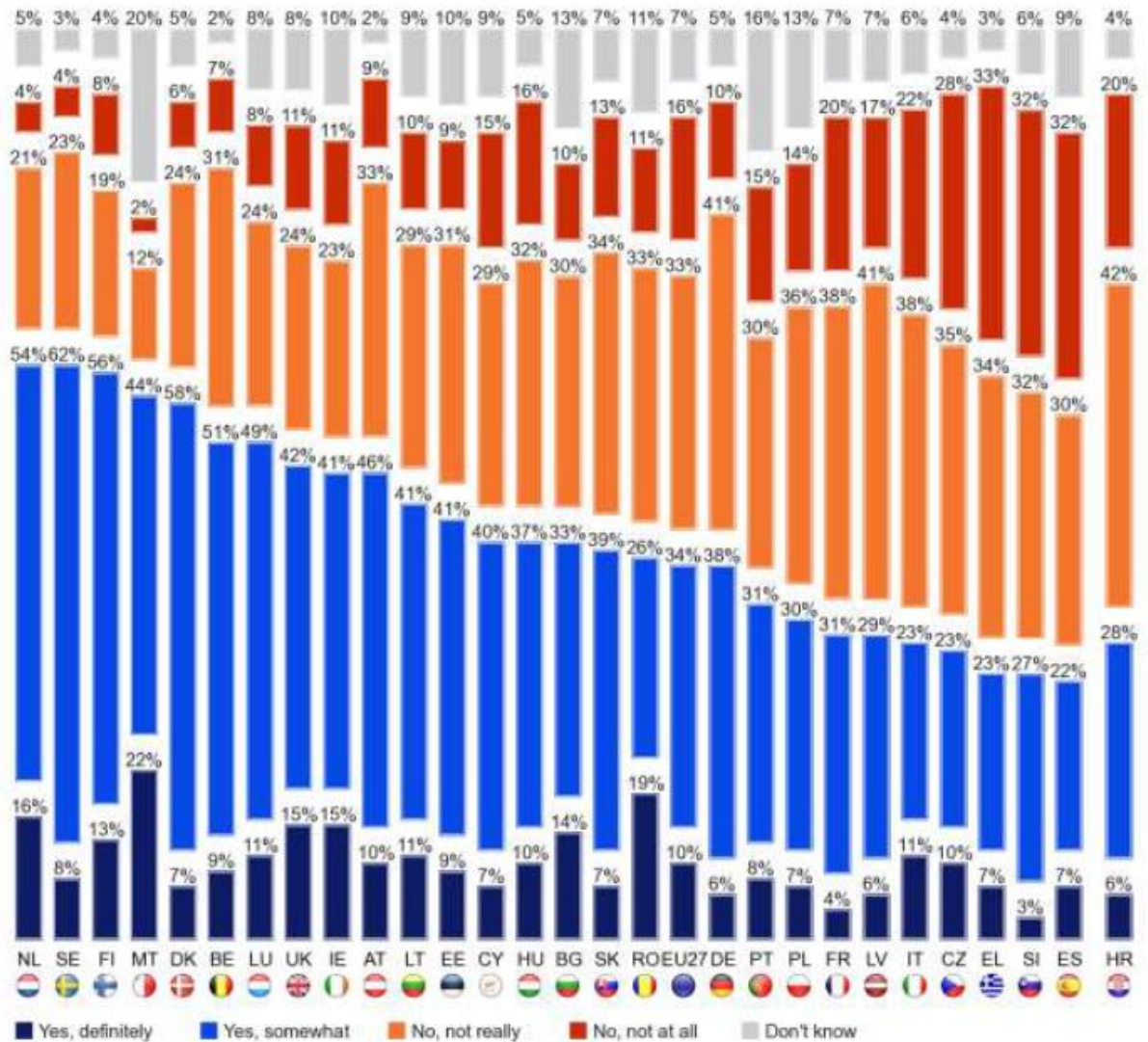
Scientists working at a university or government laboratories



Do government representatives behave responsibly towards society?

(Eurobarometer 2013)

QD8.6: For each of the following categories of people and organisations working in (OUR COUNTRY), do you think that they try to behave responsibly towards society by paying attention to the impact of their science and technology related activities?
Government representatives



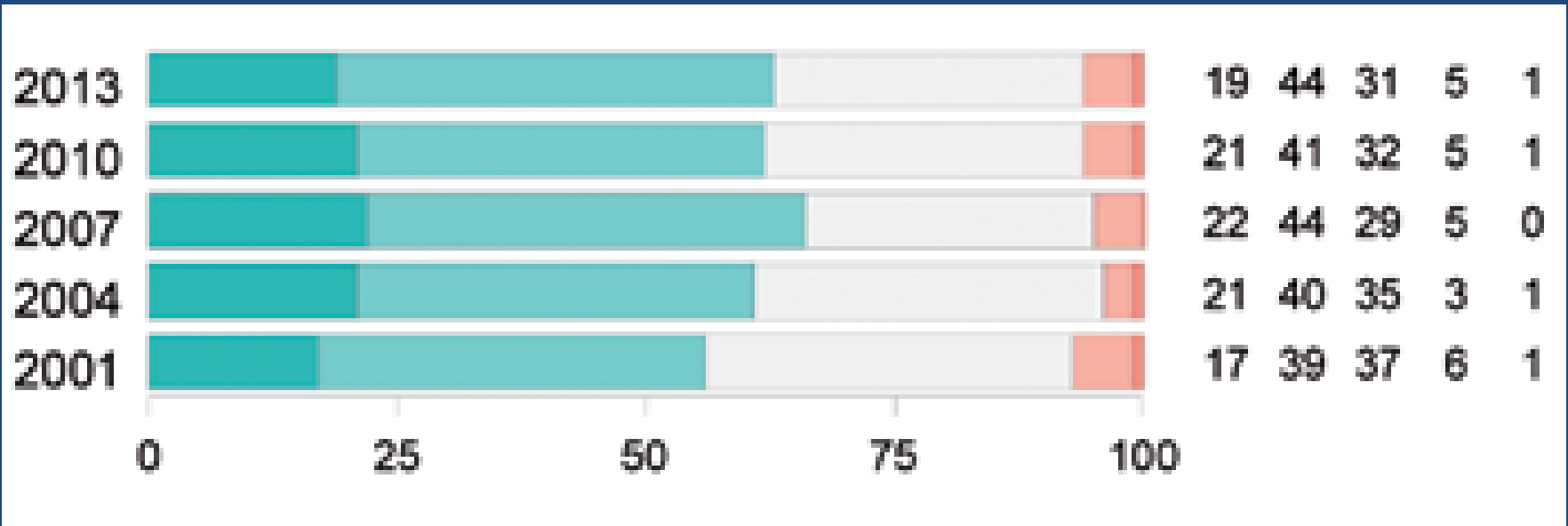
Degree of trust towards institutions in society

(Tiedebarometri 2013)

| | • Great/very great | Small/very small |
|------------------------------|--------------------|------------------|
| • Police | 86 | 7 |
| • Defence forces | 74 | 11 |
| • Universities | 72 | 8 |
| • Judiciary/courts | 64 | 15 |
| • Research/science community | 61 | 13 |
| • Academy of Finland | 47 | 11 |
| • Media | 42 | 26 |
| • Parliament | 34 | 43 |
| • Church | 29 | 47 |
| • European Union | 19 | 51 |
| • Political parties | 8 | 66 |

“Scientific knowledge is not sufficiently utilized in political decision-making”

(Science barometer, Finland 2013)



Green: agree, Red: disagree

Which are the best qualified to explain the impact of S & T developments on society?

(Eurobarometer 2013)

| | Finland | EU27 |
|-----------------------------------|---------|------|
| • Scientists at uni/govt labs | 62 % | 66 % |
| • Scientists at private companies | 31 % | 35 % |
| • Environmental protection assoc. | 21 % | 21 % |
| • TV-journalists | 20 % | 20 % |
| • Consumer organizations | 19 % | 20 % |
| • Medical doctors | 22 % | 19 % |
| • Newspaper journalists | 23 % | 15 % |
| • Industry | 15 % | 9 % |
| • Government representatives | 7 % | 6 % |
| • Politicians | 7 % | 4 % |

- Voters would like more science for policy!

Scientific advice

- Requirements :
 - Reliable knowledge relevant to the issue at hand
 - Independent, impartial source
 - Compact, understandable format
- Sources of scientific information:
 - Google
 - Civil servants, assistants, own scientific contacts
 - Universities, research institutes
 - "Scientific community"? – Academies of Science
- Responses at varying time scales
 - Rapid consultations
 - Systematic reviews

Dilemmas of policymakers

- Scientific basis not considered important
- Overload of fragmented unverified information
- Poor communications with scientific sources
- Advice too slow for acute policy decisions
- Lack of common language
- Failure to communicate uncertainty/ignorance
- Arrogant/uncooperative scientists

”Policy-based evidence”

- Policy decision first – scientific justification later
 - Selective use of available evidence (cherry-picking)
 - Suppression/silencing of ”inconvenient” science
 - Undermines trust between decision-makers and scientific community
 - Endangers citizen’s trust in policymaking
-
- Duty of the scientific community: Never allow a politician to offer ”I did not know” as an excuse!

Would a modified Anglo-Saxon model work in Finland?

- Chief Scientific Advisor:
 - High-profile civil servant, limited term
 - Credibility in the scientific community
 - Stationed at the Prime Minister's office, reports directly to PM
 - Independent status, term not coincident with the political cycle
 - Transparency, open communications
 - Small office but extensive networks
 - Links to scientific community (rapid and/or thorough consultation)
 - Links to ministries through R-F-E-groups

Anglo-Saxon model – Council of Science Academies

- Current role: International science relations
- Possible role: Science advice
 - Systematic reviews of current scientific knowledge on a specified issue
 - Requests from PM's office, ministries
 - Proactive reviews on frontline science with policy implications
 - Panels on important areas (eg. climate, health), *ad hoc* as needed
 - Most competent experts (not only academy members)
 - Adequate staffing but mainly voluntary peer-review work
 - Funding from academies of science plus ministries requesting reviews

Challenges

- What do decision-makers really want?
- Compatibility of two cultures (civil service vs. science)
- Appointment of Chief Scientific Adviser
- Role of existing bodies (Council for Research and Innovation, Coordinating group for Research, Foresight and Evaluation)
- Role of state research institutes (after reforms)
- Resources for new advisory functions?
- Rational use of new financing instruments?
- Can the science academies be resuscitated and harnessed to science advice?
- **Science to be used to give advice, not make policy!**