



Presentation to the Expert Group Meeting for the 10-Member Group on preparing for the 2017 STI Forum

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The challenges and opportunities of the SDGs and the role of science

- In addressing the SDGs/2030 Agenda, the role of global, regional and domestic policy making will be critical
- Essentially all the SDGs require an evidence-informed approach to policy making at each of these levels
- But what is the relationship between science and policy at both the global and national levels
- My core conclusions: that effective global action requires effective domestic science advisory mechanisms and a much more overt effort to link these to the international system

The science of primary relevance to the SDGs:

- » Better application of existing technologies and knowledge
- » Development of new impactful knowledge
- » Development of disruptive new technologies
- » Integration of disciplines especially across social-natural science boundary
- » The science to be done includes a lot of mission led science/development
- » Technologies must be developed and applied with appropriate recognition of domestic social consensus (acknowledging cultural and national diversity of worldviews; global consensus will be much more complex)
- » The growing challenge of social license
- » Particularly In LMICs
 - » Engagement of local scientists, local knowledge
 - » It must build local capacity and this will require **development of local institutional capacities** (universities, academies, funding systems)
 - » It will require ongoing development of the science - society - policy nexus

Implications for science funding systems

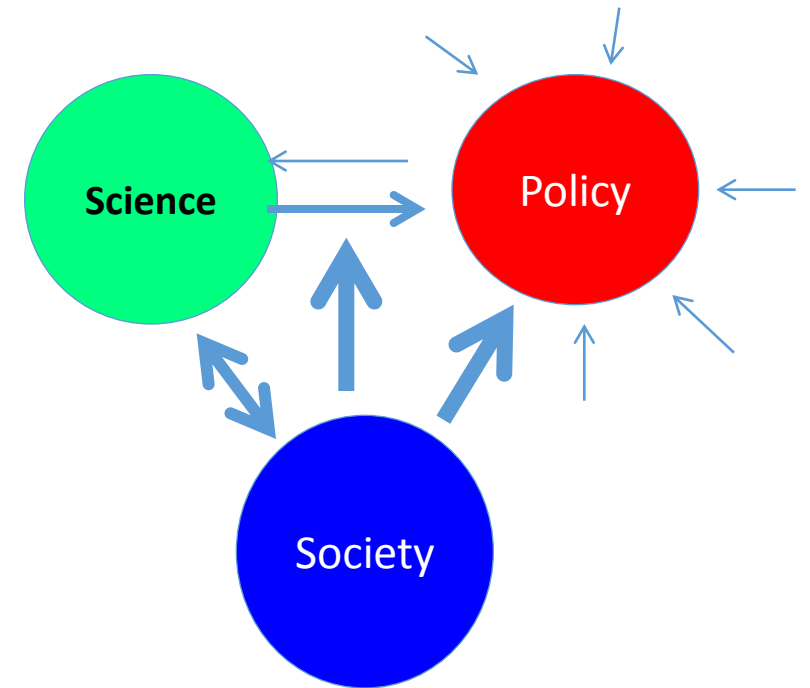
- » The continued general deficiency of transnational strategic and targeted R&D funding systems
- » The issue of jurisdictional based funding
- » The biases of foundation/donor funding
- » The need for new models
 - » eg - the global research alliance on agricultural greenhouse gases (GRA)
 - » www.globalresearchalliance.org
- » The need for greater co-production and co-design approaches
- » Current international discussions on science systems are not inclusive
- » Confused, overlapping, and competing international science, science policy and science system organisational arrangements
- » These structural issues merit more systematic discussion

Evidence informed policy making and implementation

- » Governments are more likely to make better decisions when they use well-developed evidence wisely
- » The nexus between science, society and policy is complex at a national level even in developed countries
- » There are a further set of challenges when considering science and its interaction with policy through an international lens

Science advisory ecosystems

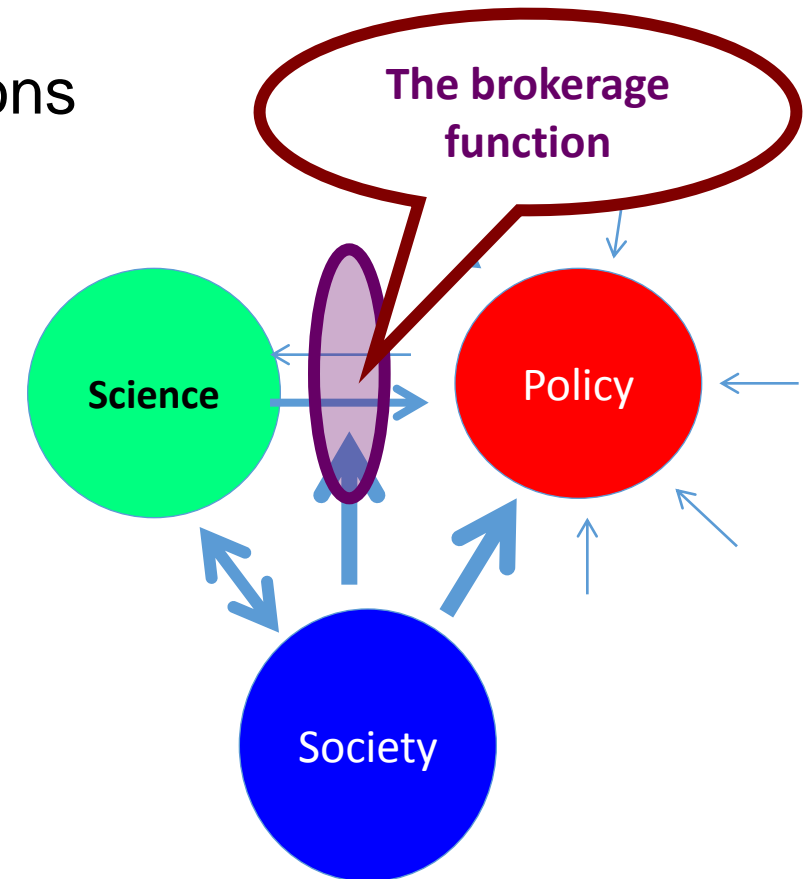
- » This requires the development of a science advisory ecosystem
- » This must include both the social and natural sciences in a fully integrated way
- » 10 member group of TFM 2016 highlighted the essential need for effective national science systems and science advisory mechanisms



Enhancing the uptake of scientifically developed knowledge into public policy

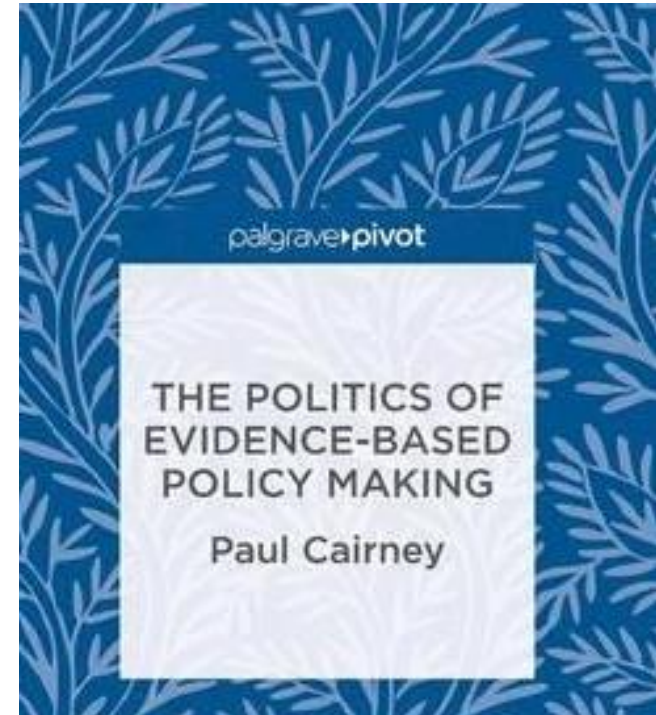
A science advisory ecosystem has multiple dimensions

- Technical, regulatory, policy
- Time scale
- Informal/formal
- Internal/external
- local, national. international



Scientists and policy making

- Scientists are
 - Very good at problem definition
 - Less so at finding workable, scalable and meaningful, contextually applicable solutions



Domestic science advice requires an ecosystem

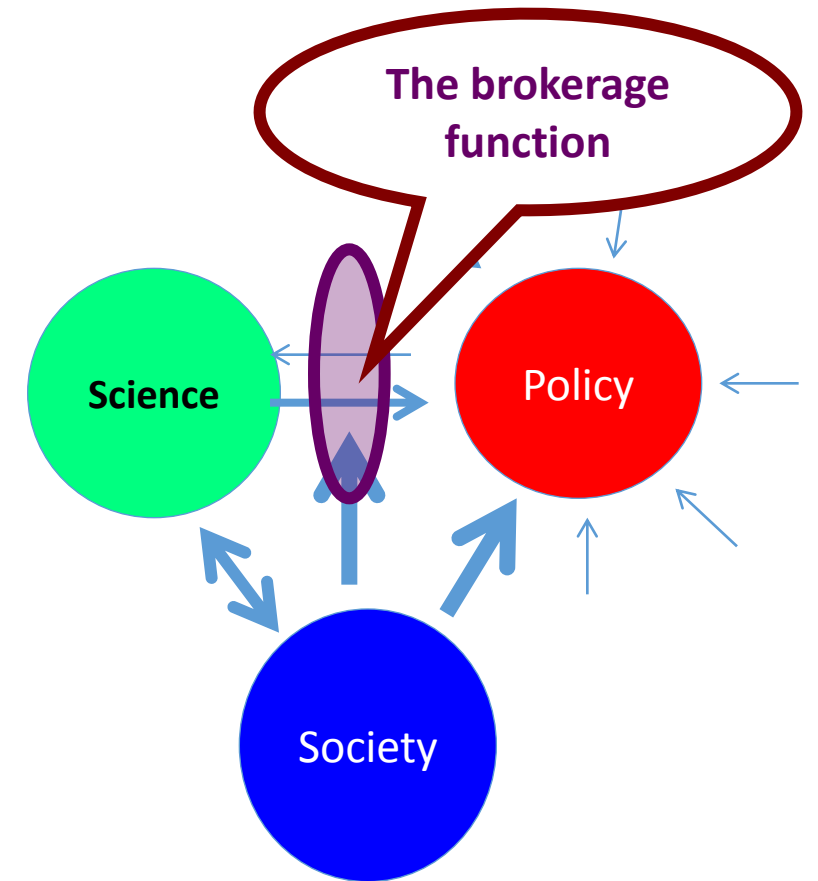
Scientists

Research and a research system

Science capital

Governance institutions

Brokerage structure

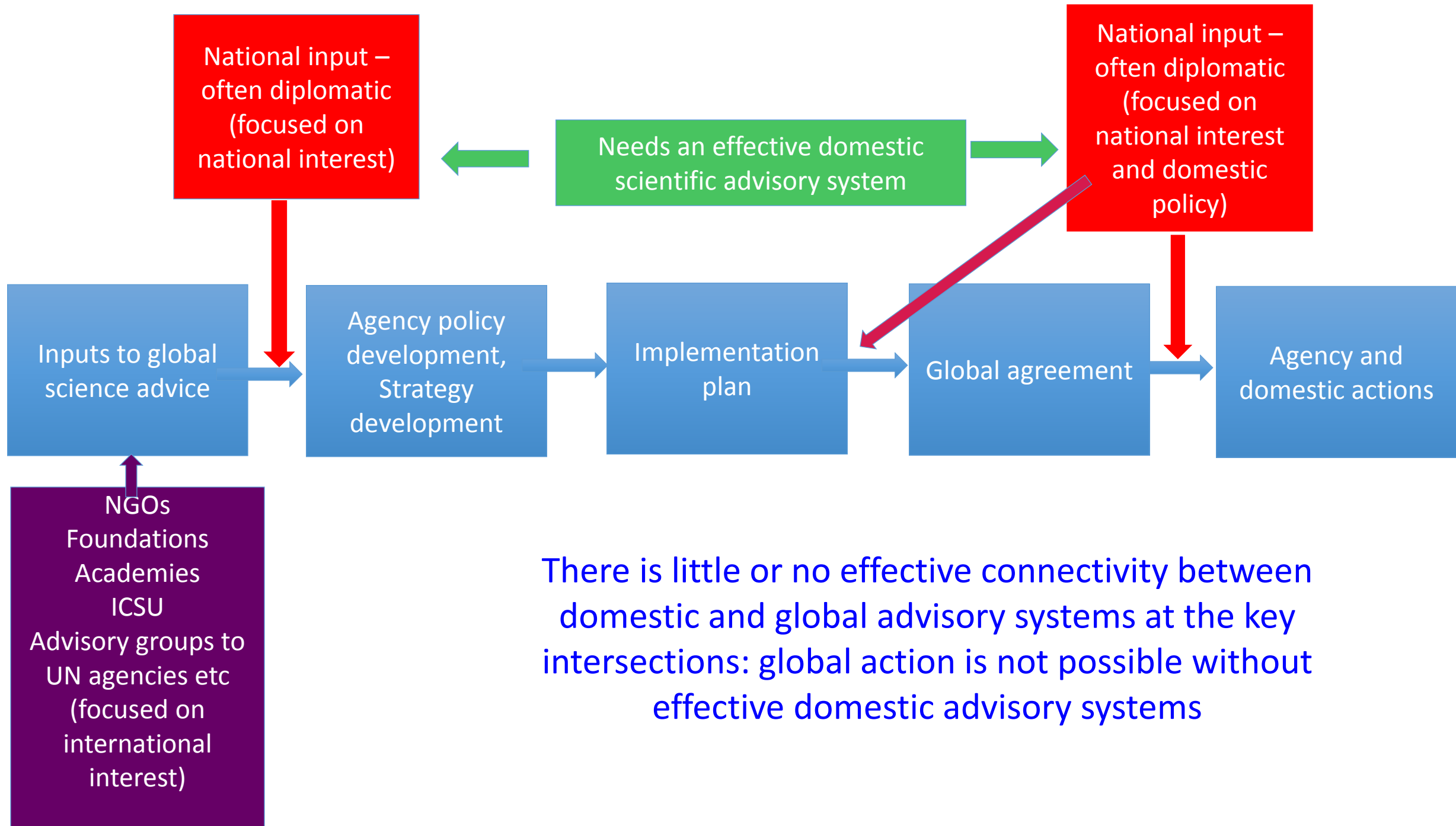


Elements of national science advisory brokerage

- External element
 - For deliberative advice
 - Formally organized and internationally connected
- Internal element
 - For informal advice, brokerage, conduit for commissioning and interpretation of deliberative advice, crisis management, connectivity to policy process
 - *With connections to diplomatic service*

Science in international policy making

- International agencies may have their own science advisory processes – these may be nominal, expert based, internal or external
- But the complexities of the science–policy interaction are far greater in the international arena than in the national arena because the “global agencies” are ultimately responsive to national jurisdictional override.
- But while **science to advance global interests** may be the ambition of many scientists and NGOs, the reality is that global interests are more likely to be achieved when nations support global or regional goals because of **enlightened self interest**
- Hence the importance of domestic science advisory mechanisms for progress on the international agenda



There is little or no effective connectivity between domestic and global advisory systems at the key intersections: global action is not possible without effective domestic advisory systems

International science advice

- However international science advice is formulated in the end it **must** link to domestic advisory mechanisms if there are to be coordinated and appropriate responses.
- Effective action is not possible without it as domestic governments ultimately determine what happens in their jurisdictions and irrespective of global consensus, self interest will be deterministic.
- In general current systems have a virtually total disconnect between the international and domestic science advisory systems even where they exist.
- Academies have very variable link to domestic systems and cannot be assumed to be the point of contact and are often dislocated from domestic policy formation/decision making
- For example
 - Only 50% of countries in Africa have a domestic deliberative system
 - Internal mechanisms are not explicit in most countries
 - Only one African country has an explicit link between science and diplomacy
 - Equity of input therefore demands a focus on developing local science advisory mechanisms
- The value of science advice within foreign ministries

The value of networks

- Internationally linked national science advisory networks can assist
 - Systems that promote international connectedness of internal science advisory mechanisms networks: eg INGSA, FMSTAN, CSAE (APEC)
 - Systems that promote international connectedness of external advisory mechanisms: eg ICSU, IAP
 - Systems that promote international connectedness of both internal and external science advisory systems: INGSA
- But there will be greater impact if there is structured connectivity to international policy agencies and their own science inputs

The challenges and opportunities for the global agenda

- Essentially all the SDGs require an evidence informed approach to coordinated domestic and transnational policy making at each of these levels
- Effective global action requires effective domestic science advisory mechanisms supported by transnational mechanisms
 - Agency advisory boards
 - Liaison between advisory systems
 - Scientific input into diplomatic mechanisms
- Can the TFM/STI Forum act to help integrate these dimensions?
 - Has implications for who should be there and why?
 - The direction and granularity of the dialogue.

INGSA

INGSA founded in 2014 under the aegis of ICSU
Memorandum of understanding with UNESCO
Concerned with all dimensions of science advice

Roles

Networking

Research

Forum, resources, networking

Capacity building workshops

Principles of science advice (WSF 2017)

Integrity

Brokerage

Trustworthy

Membership : academics, practitioners, policy makers

www.ingsa.org

