Workshop scene-setting: What is science advice?

Muscat Global Knowledge Dialogue and Third ISC General Assembly

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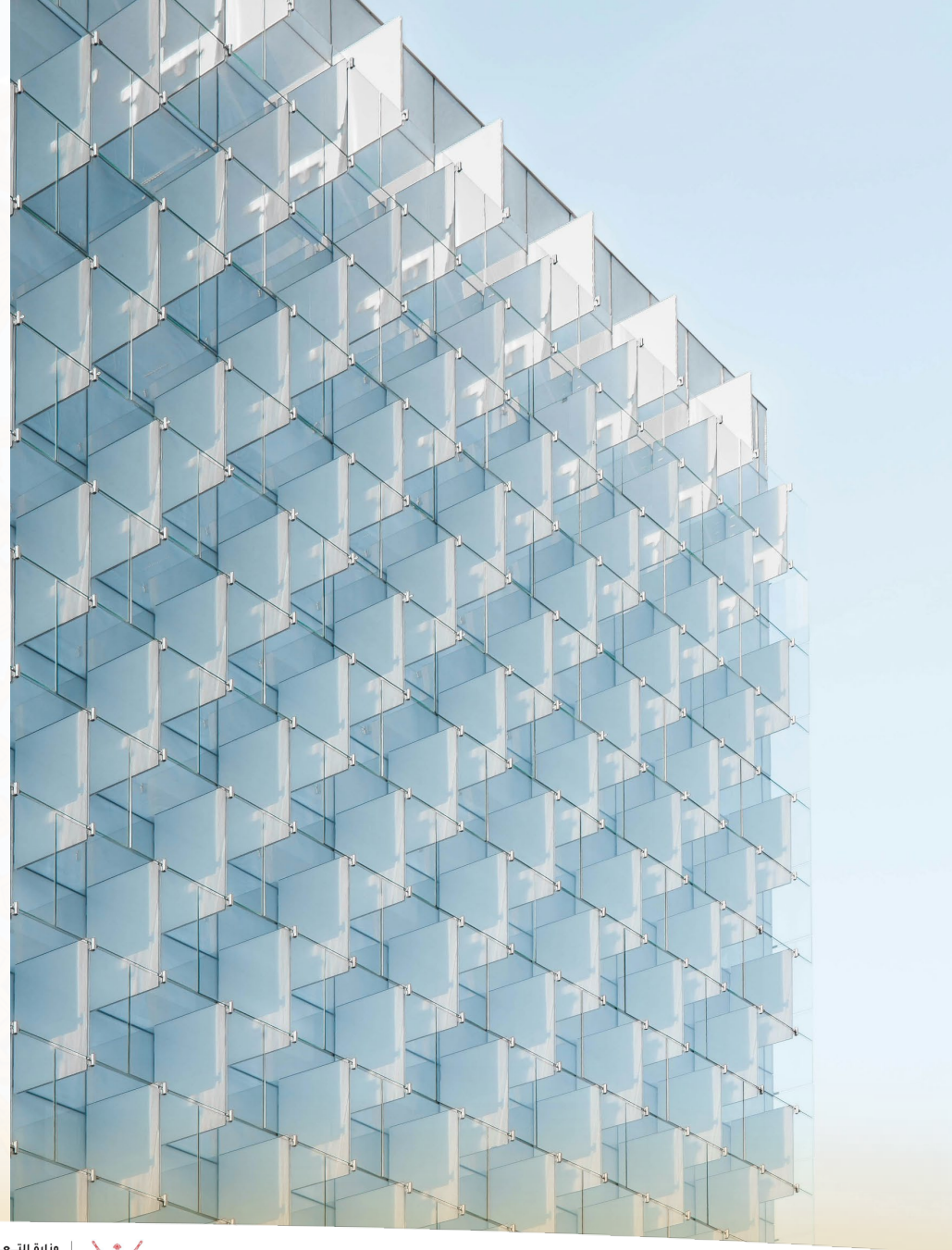
January 2025 | Muscat, Oman

Science advice from WWII to today

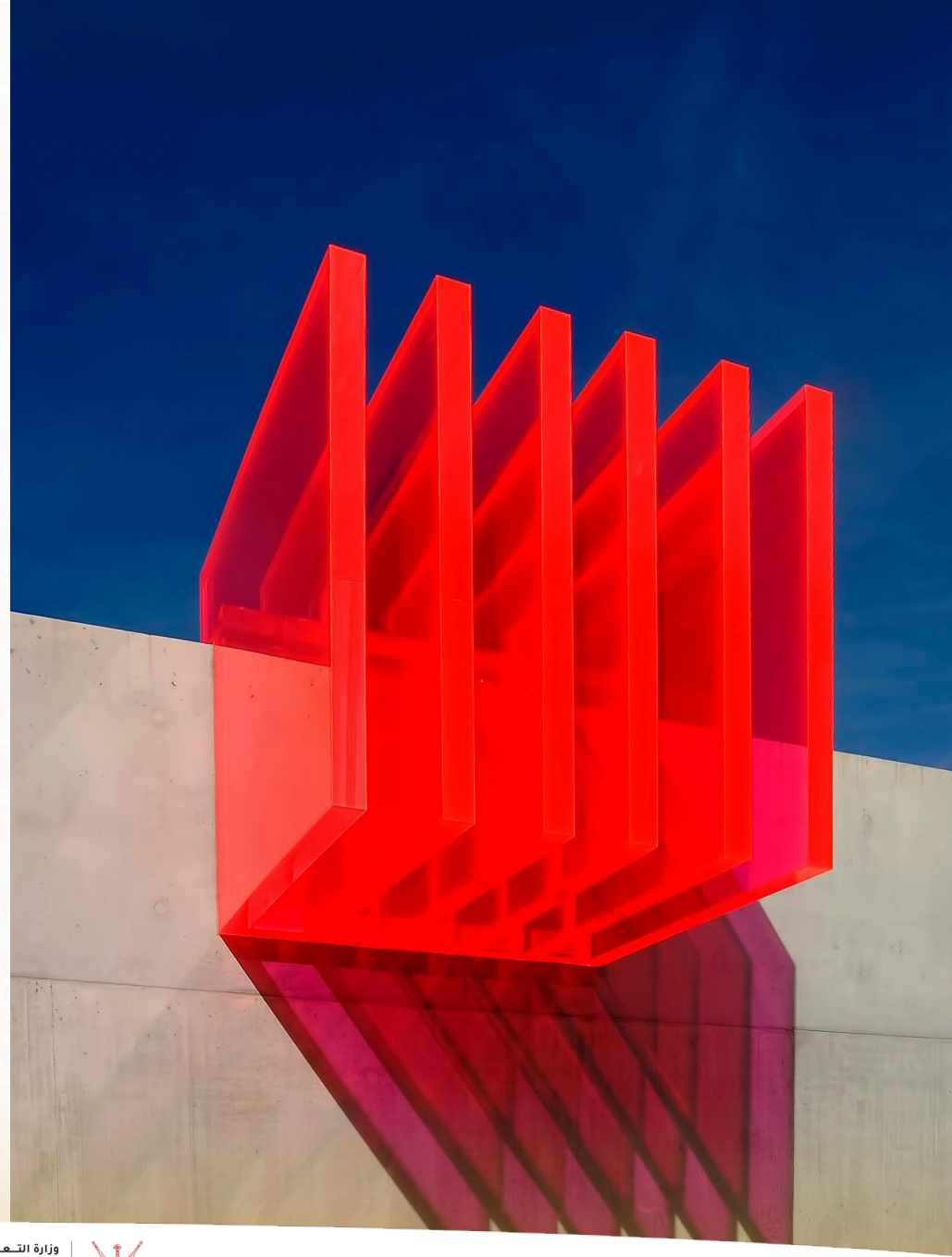
- **Origins in WWII**: Initially focused on national defense and security.
- **Gradual expansion**: Encompassed development and environmental issues over time.
- **Modern recognition**:
  - Growing demand for science advice.
  - Establishment of mechanisms for science-policy interfaces in governments, parliaments, intergovernmental organizations and agreements.



Policy for Science vs. Science for Policy

- **Policy for Science:**
  - Research system, funding, and infrastructure.
  - Open science and policies enabling collaboration.
- **Science for Policy**
  - Providing scientific evidence to inform public policy.
  - Requires trusted, timely, and relevant inputs.

Takeaway: Scientists must act ethically, transparently, and in the public interest.



Engagement at all stages of the policy cycle

- **Early stages:**
  - Recognizing the need for scientific input.
- **Ongoing stages:**
  - Ensuring insights remain relevant, timely, and consistent.
  - Building long-term partnerships with policy-makers.
- **Holistic approach:**
  - Example – plastic pollution negotiations: Beyond extent and sources – impacts on health, environment, governance, marginalized populations, and the economy.

Science advice in practice

- **Evidence synthesis**: Summarizing knowledge across disciplines.
- **Brokerage**: Translating policy needs into actionable scientific questions.
- **Translation & communication**: Explaining implications and limitations in accessible ways.

Shift in approach: From science-based to science-informed decision-making – recognizing science as one input among many.

Challenges in bridging the gap between science and policy

- **Scientists:**
  - Lack of familiarity/clear pathways to engage in policy process.
  - Unclear benefits or “return on investment”
- **Policy-makers:**
  - Societal needs and issues dominate attention.
  - Limited exposure to scientific methods, use of science advice.
- **Structural issues:**
  - Fast-paced policy processes.
  - Need for concise, timely inputs, including policy options.
- **External pressures:**
  - Navigating political, economic, or ideological conflicts.

NEGOTIATIONS ON AN INTERNATIONAL LEGALLY BINDING INSTRUMENT TO END PLASTIC POLLUTION

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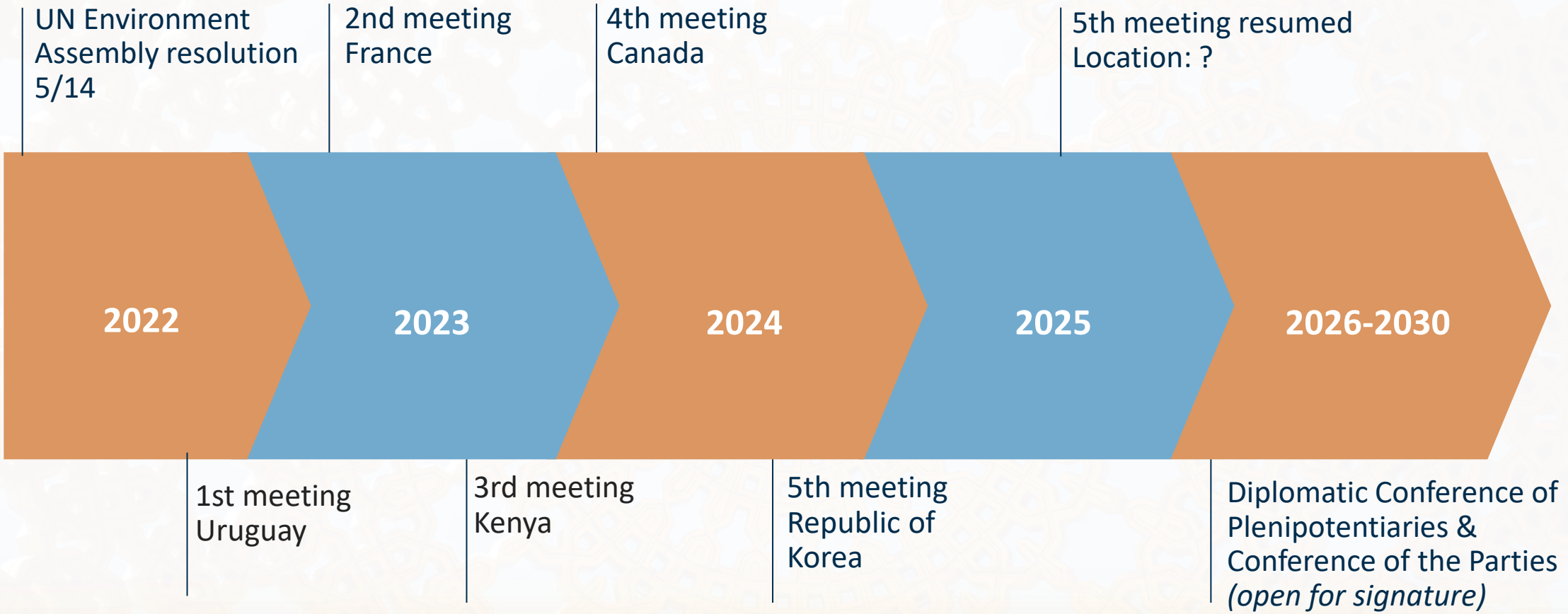
Global Plastic Treaty Negotiations Process



Status of negotiations to date

- **Member State-**led "INC" process; 5 meetings: **INC-1 to INC-5**
- **Procedural disagreement** slowed text negotiations and intersessional technical work until INC-4 in Ottawa.
- **Dec 2024 INC-5**: *More p*rogress in Busan, but time was limited; the same meeting **reconvenes in 2025** (**"INC-5.2"**)
- **Need to address conflict** between groups of Member States:
    - Scope / Plastic production
    - Plastic polymers, products, and chemicals of concern
    - Means of implementation, incl. financial mechanism
- **"Chair's Text"** the basis for negotiations at INC 5.2 this year.
    - *Potential* for science/technical subsidiary body/ies to be established (after entry into force)

This complex topic requires multidisciplinary science advice

- Scientific understanding and public attention are rapidly evolving requiring a **close science-policy engagement**.
    - **Extensive research** on many aspects of plastic pollution over past few decades provides basis for action.
    - **Science gaps remain,** but are under investigation, including on long-term toxicological effects, impacts of micro- and nanoplastics etc.
- Plastic pollution is a **complex societal problem, with multifaceted and unequal effects** requiring:
    - Integrated inputs from a wide range of scientific disciplines.
    - Multistakeholder and cross-sectoral approaches.
    - Inclusion of traditional knowledge, Indigenous practices, and local knowledge systems.

ISC at the negotiations

Objectives

- Promote a **science-based approach** to negotiations, emphasizing the role of independent and diverse scientific contributions across natural and social sciences.
- Support the creation of a **science-policy mechanism** for implementation and contribute to discussions on the structure and functions.

Approach and engagement

- *Mapping expertise within the ISC membership*
- Formed scoping group of experts from ISC members to attend INC-1 to INC-3
- Led to formation of multidisciplinary "Expert Group"
- Developed additional ISC roster of 80+ experts

Approach and engagement (cont'd)

Developing formal and informal outputs on key issues

- **Coordinating scientific contributions and events**: roundtables, thematic side events, policy briefs and other written inputs
- **Representing organized science**: delivering statements to promote a strong role for science
- **Providing informal science advice**: to parties involved, including Member States and other UN agencies

Building partnerships

- Engage directly with Member States and regional groups
- Collaborate with UN partners (e.g., WHO, UNEP, UNDRR)
- Other stakeholders, including ISC members and science coalitions.

Key challenges

- **Science's role as civil society observer** in the INC process limited its potential to contribute meaningfully and led to independent scientists being perceived as advocates (leading to diminished trust, confusion).
- **Member State-led nature of process** limited robust, unified scientific input during negotiations. National science advisory mechanisms did not appear to be engaging most Member States.
- **Lack of a formal mechanism/central scientific leadership** in the process led to:
    - Disconnect between scientific evidence and policy needs during negotiations.
    - Absence of transparency, clear accountability or processes for integrating evidence.
    - Differing strategies and roles across science groups, creating confusion and scattered inputs.
    - Limited or no role for UN science agencies with subject matter expertise.

Key challenges Cont'd

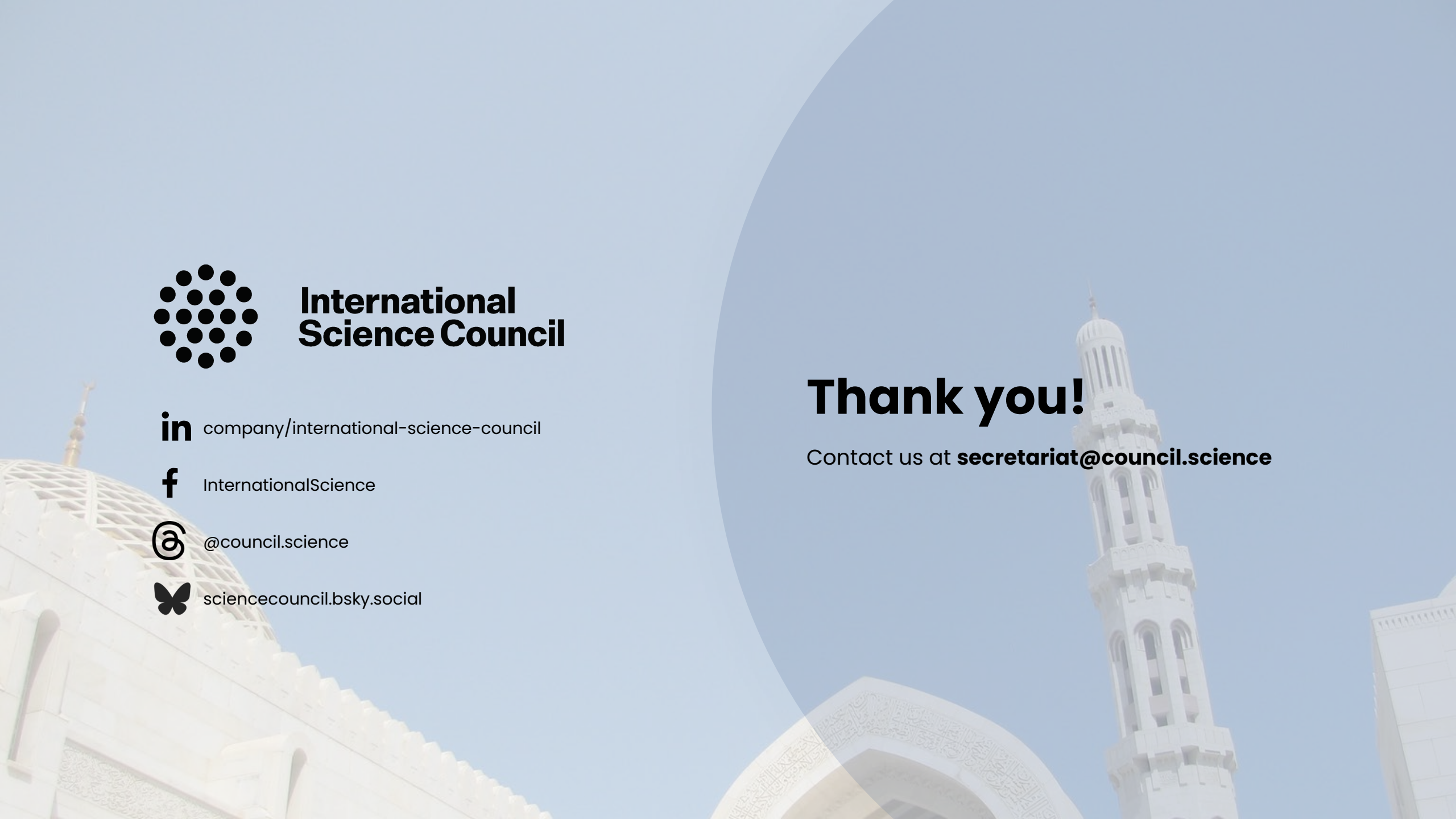
- **Industry actors with greater financial resources and access** overshadowed independent scientific voices, increasingly challenging established scientific evidence.
- **Limited familiarity with the fast-paced political negotiation** environment posed challenges for some scientists.
- **Prolonged intergovernmental negotiations** hindered consistent and sustained engagement from under-resourced scientific organizations.

Lessons Learned

- The **most impactful form of science engagement** here was through Member States – who are interested (but busy at the negotiations)
- **Building trust** between the scientific and policy communities is critical for evidence uptake and designing science mechanisms.
- **Engagement with UN agencies & non-state actors** equally important.
- **Multidisciplinary and geographically diverse scientific inputs** enhance credibility and trust

Lessons Learned Cont'd

- **Science-policy facilitators or knowledge brokers** play a key role.
- **Balance between scientific advice and advocacy** safeguards credibility and fosters evidence uptake.
- **Science communication training** for scientists is key.
- Opportunity to identify options for Member States on a **robust science-policy interface** for Treaty.



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