

The IIASA-ISC Initiative on

# Bouncing Forward Sustainably: Pathways to a post-COVID World

1. A small window of opportunity to achieve transformative changes
2. Transformative potential of COVID-19
3. Resilience to systemic shocks
4. Transformative green-shoots – some valuable lessons learned to preserve
5. Recovery packages have potential to drive transformation towards a sustainable world
6. Recommendations based on trans- and inter-disciplinary expertise
7. Four key themes: Governance, Science Systems, Energy, Food.

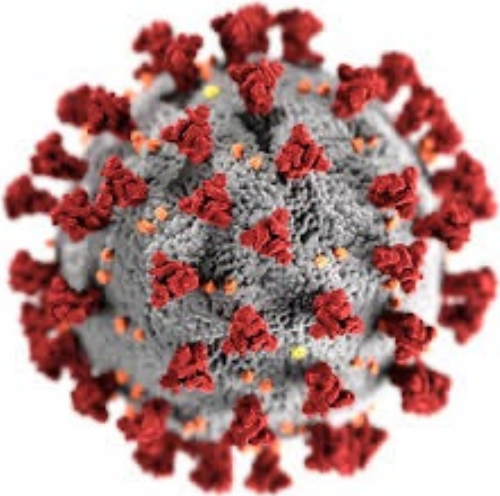
# The International Science Council (ISC)

- Its vision is to advance science as a global public good.
- Its mission is to be the global voice for science .
- It convenes expertise and influence across scientific fields, disciplines, regions and stakeholder communities in order to:
  - Promote international, integrated research on key global challenges
  - Increase evidence-informed understanding and decision making at all levels of public policy, discourse and action
  - Support the continued and equal development of science systems globally
  - Protect scientific freedom and advocate principles for the responsible practice of science



DR RADHIKA PATNALA/SCI ILLUSTRATE/BBC

Illustrators like Dr Radhika Patnala have spent the past year visualising the pandemic.





# Pathways to a post-COVID World - Transformations within reach

Three intensive and representative consultations on each theme to identify and develop the transformations within reach, with participants from Science / academia / research communities, practice communities: private sector, finance, NGOs and Policy and decision-makers / influencers.

A distinguished Advisory Board took an active role regarding the directions in which the initiative was heading and the evolving messages.



Synthesis Report



Enhancing Governance  
for Sustainability



Strengthening  
Science Systems



Rethinking Energy  
Solution



Resilient Food  
Systems

# Build Back Better

# Are we at a major inflection point?



# Transformations within reach

- ✓ The transformative changes recommended represent the low-hanging fruit that require relatively low levels of investment but with power to result in far-reaching impacts.
- ✓ The green shoots in social and economic structures and innovations resulting from the pandemic have to be encouraged to sustain.
- ✓ Building resilience to multi-hazards, and capacity to harvest multiple dividends, based on systemic analysis is an imperative.
- ✓ Identifying "Transformations" has to be a continuous effort, based on robust scientific systems analysis, effective science-policy interactions and must be supported
- ✓ Science that is open, inclusive and accessible, and accountable needs to be central to this continued analysis
- ✓ What is clear is that the design of a sustainable new world needs international collaboration and multi-stake holder partnerships where science, public and private sectors, and civil society play a role.

# Strengthen knowledge base on, and preparedness for, compound and systemic risks



Global risks are becoming increasingly complex and systemic in nature, straining governance systems at multiple levels.

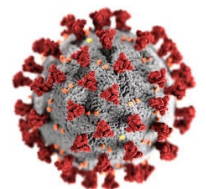


Disaster management institutions must be mandated, and empowered, to address compound and systemic risks systemically based on strong inputs from science



Agility, reliability, and relevance of science are key to effective resilience and responsiveness.

- Risk assessment is weak
- Sendai process and framework agreement emphasized need for proper risk assessment processes across many domains
- The few countries that do undertake risk assessments often diminish or ignore risks



# Advance toward smart, evidence-based, adaptive, good governance arrangements at all levels



The science–policy interface must be strengthened.



Good governance also means more integrated governance with measurable SDG outcomes



"Smart" cities must be accompanied by "smart" governance





# Repurpose and redesign global institutions for the complexities of the 21st century

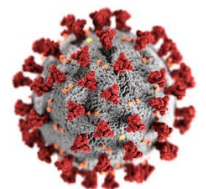


Global institutions and processes must adapt to new and emerging contexts.



Ongoing reform process of the United Nations and other international organizations needs to progress

- Nationalism and political self-interest – seen in early days of pandemic and a year later over vaccine distribution
- Deficiencies in multilateral system – no meetings of UN Security Council or General Assembly to discuss major existential threat
- International law inadequate for effective global cooperation – international health regulations no longer fit for purpose
- No coherence in science inputs into the multilateral system – ad hoc advice, lack of overall coordinated inputs



# Create a pervasive, sustainable knowledge society



Trust in science must be restored and sustained



Science systems must promote systemic understanding – transdisciplinarity



Science must be inclusive and accessible. The conduct of science must evolve



## Misinformation and Anti-science

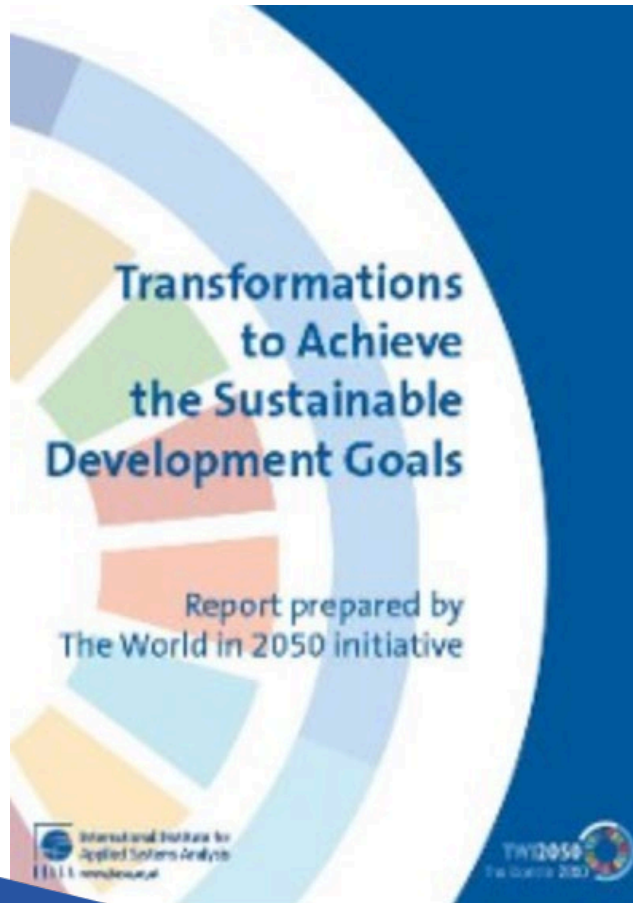
- Emerged long before Covid as real threats
- Covid has catalysed their linkage with political ideology
- Likely to compromise efforts to end the pandemic

# The challenge of ~~Covid~~ Sustainability highlights:

- The need for stronger risk assessment processes
- The critical role of science advisory systems
- The dangers of nationalism and geostrategic tension
- The state of the multilateral system
- Failure of international law
- Incoherent scientific uptake into the multilateral system
- The need for transdisciplinarity
- Misinformation and the rise of anti-scientism

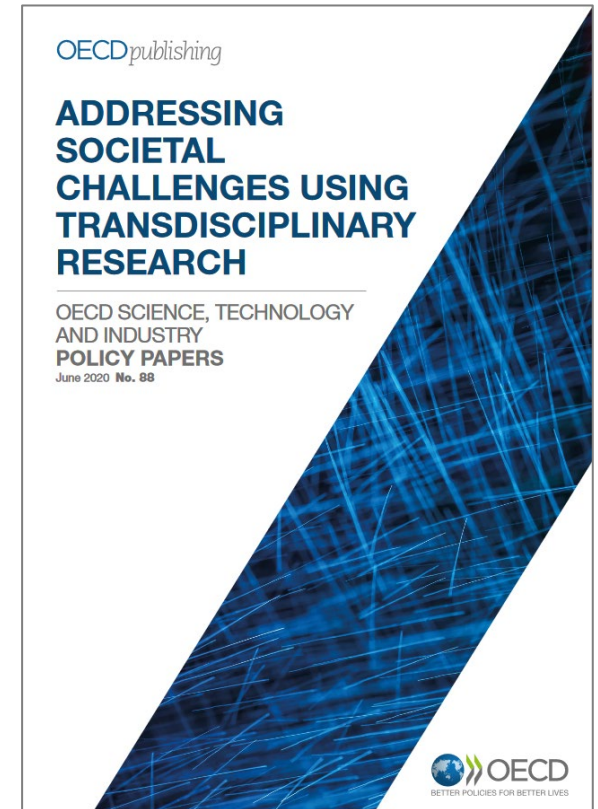


# Systems thinking is needed and requires transdisciplinary thinking and analysis



# Transdisciplinarity

- Two core characteristics:
  - 1. Framing question with multiple perspectives from the outset
  - 2. Ensuring stakeholder engagement from the outset
- Discipline-based organisation of academia poses a great challenge to its uptake, e.g. funding focus on disciplinary excellence, bibliometrics favoring disciplinary depth
- Need for transdisciplinary approaches to ‘wicked problems’ (though not at the expense of disciplinary depth and excellence):



Good information is required for good decision making: Why transdisciplinarity matters

19  
MAY 2020

-INSIGHT-

Matthias Kaiser, Tatjana Buklijas, Kristiann Allen, Anne Bardsley, Cynthia Kiro and Peter Gluckman

[www.informedfutures.org](http://www.informedfutures.org)



# Why policy makers find making risk assessment difficult

- Decision making is often based on short-term rather than long-term outcomes
- Poor collective approach to risk assessment; few countries use it well
- Motivated reasoning
- Accountability avoidance,
- Cognitive biases (amnesia, inertia, anchoring etc)
- Hyperbolic discounting
- Rational ignorance leading to policy and political resistance to evidence informed risk analysis

## **UNCERTAIN BUT INEVITABLE:** THE EXPERT-POLICY- POLITICAL NEXUS AND HIGH-IMPACT RISKS

Sir Peter Gluckman and Dr Anne Bardsley

April 2021  
[www.informedfutures.org](http://www.informedfutures.org)

# Science and policy

- Science alone does not make policy
- Policy making is about choosing between different options (including doing nothing)
- Each option affects different stakeholders in different ways, with predictable and unpredictable spillover effects
- Science merely informs what the evidence base is, what the options are, and the implications of each
- Policy/political community needs to consider values-based dimensions and public opinion



# Dimensions of science advice

**Table 1 Highlights the roles of different actors within science advisory ecosystems.**

**Different roles in a science advisory ecosystem**

|                                             | <b>Knowledge generators</b> | <b>Knowledge synthesizers</b> | <b>Knowledge brokers</b> | <b>Science communication</b> |
|---------------------------------------------|-----------------------------|-------------------------------|--------------------------|------------------------------|
| Individual academics                        | +++                         | ++                            |                          | ++                           |
| Academic societies/professional bodies      |                             | ++                            |                          | ++                           |
| Government employed practicing scientists   | +++                         | +                             |                          |                              |
| Scientist within regulatory agency          | +                           | ++                            | +                        |                              |
| Independent think tanks                     |                             | +++                           | +                        | +                            |
| What works units etc.                       |                             | +++                           | +                        | ++                           |
| National academies                          |                             | +++                           | ++                       | +++                          |
| Government advisory boards/science councils |                             | ++                            | +++                      | ++                           |
| Science advisors to executive of govt       |                             | ++                            | ++++                     | ++                           |
| Science advisors to legislators             |                             | +                             | ++                       |                              |

*Gluckman et al. Humanities and Social Sciences Communication 8: 84 (2021)*



# Science in international policy making



- The multilateral system is weak and performed weakly in Covid
- Science diplomacy: employing science to promote diplomatic goals
- The complexities of the science-policy interaction are amplified in the international arena because most global agencies are ultimately responsive to national governments and jurisdictional override
- Addressing global issues requires an understanding that avoiding a tragedy of the commons is a form of enlightened self interest
- Hence the importance of domestic science advisory mechanisms for progress on the international agenda and their linkage to ministries of foreign affairs
- Foreign Ministries Science and Technology Advisory Network (FMSTAN) formed under INGSA



# “Sustainable and resilient” has to be the new mantra for development

1 We live in a non-linear, complex world of interdependence frequent conflict between natural and human systems.

2 This pandemic is a warning. We need to become better prepared for, and more resilient to, future systemic shocks

3 Policy-makers can act quickly

4 Decisive individual action leading to a new collective consciousness is possible

5 Can lead to “Global Citizenship”, that ensures a just and equitable global society