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Science Council**
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POLICY BRIEF

Transformation from science to decision-making¹

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Transformation from science to decision making.

“We can’t solve problems by using the same kind of thinking we used when we created them”

Albert Einstein

WHAT IS TRANSFORMATION AND WHY IS IT NEEDED?

The IPCC² understands Transformations as systemic changes that enable more ambitious, i.e., significant and rapid, advances in mitigation and adaptation than currently being observed, while also pursuing the Sustainable Development Goals of Agenda 2030. While challenging, deep and difficult transformational change is seen as an opportunity to improve human and natural conditions. Mitigation, adaptation and sustainability should thus be seen as complementary, not competing goals.

Transformation means going beyond the familiar in policy- and decision-making, with actors in all sectors focused on shifting the conditions that hold damaging systems in place.

Transformational change requires:

- › planning and acting today to address challenges in the short term, while preparing for and enacting even deeper changes in the long term,
- › changing inhibiting mindsets, opening spaces to imagine the unimaginable, thinking outside of the box,
- › more than technological and/or policy changes, but also deep economic, behavioral and social changes to bring rapid change at greater scale.

Transformation is complex, uncertain and inevitable, but it is also imperative as:

- › serious negative impacts of climate change, interacting with social inequalities and unsustainability are already observable, and far more severe impacts are expected absent action,
- › adaptation limits are emerging,
- › there is a pressing need to move quickly and globally onto a pathway that sustains life for all (humans and non-humans) and that ensures a safe, dignified and feasible way of life on Earth.

Depending on human actions, transformation could take:

- › a positive trajectory where society acts rapidly to avoid deepening vulnerability, uncontrollable impacts and extensive, even existential losses, or
- › a negative trajectory characterized by continued and accelerating unsustainability and greenhouse gas emissions driving damaging climate and environmental changes to human and natural systems.

Transformational mitigation and adaptation will open up a space for hope

1 This document was written with input from the Transformations 2019 Conference participants; we are grateful to their valuable contributions and to the support of Conference sponsors. Further Knowledge Briefs about transformations are available at <https://transformationstosustainability.org/document-type/briefs/>. This work was undertaken with the support of the COP25 Scientific Committee and the Ministry of Science, Technology, Knowledge and Innovation of Chile, the Economic Commission for Latin America and the Caribbean, the European Union, the Inter-American Development Bank, and the International Science Council. The views expressed in this brief do not necessarily represent the views of these institutions.

2 IPCC 2018. Global Warming of 1.5°C. An IPCC Special Report. WMO, IPCC, Geneva. <https://www.ipcc.ch/sr15/>

WHAT DOES TRANSFORMATION MEAN IN PRACTICE?

Transformative actions can be taken at all levels and in ways that address the root causes of climate change, social vulnerability and societal challenges, helping to achieve mitigation and adaptation goals as well as the SDGs. Some examples include:

LEVEL	EXAMPLE	Adaptation	Mitigation	SDG
@ global level COP25	Redesigning the multilateral approach to decision-making by consensus of all Parties, because it has resulted in slow/delayed decisions to address climate change	●	●	
	Grassroots having the space and power to meaningfully influence global negotiations; resistance typically is a sign of key concerns being not heard/ignored	●	●	▲
	Not neglecting top-down approaches (e.g., for goal-setting and enabling purposes), but giving space for bottom-up approaches and for articulating both	●	●	▲
	Explicit and meaningful call for “transformational” approaches in key UNFCCC, SDG and related international documents and processes	●	●	▲
@ national level	National planning frameworks for land use to reduce vulnerability, e.g. (1) government incentives to move agricultural production sites to more suitable regions; (2) large-scale reforestation of native, climate-adapted tree species	●	●	
	Economic policies with a strong emphasis on reducing poverty and the wealth gap, fostering human well-being and environmental/ climate justice (i.e., several SDGs)	●	●	▲
	Strategies in all sectors that solve immediate problems with non-emitting, adaptive solutions, while committing to and embarking on long-term pathways toward just transformation where and when required	●	●	▲
	Deep dialogue with the transportation, energy, agricultural/food, forest, urban and labor sectors to develop deep decarbonization pathways		●	
	Significant and accelerated rate of electrification and replacement of fossil fuels with renewable sources of energy for electricity generation		●	
@ (local) level of implementation	Learning how to facilitate the Transformation Labs (T-Labs) where stakeholders listen, learn, vision, identify shared values, and explore transformative pathways	●	●	
	Strategic, context-sensitive territorial planning at subnational levels to enable integrated implementation of mitigation, adaptation and other sustainability actions	●	●	▲
	Diversification of livelihoods, e.g., coastal communities reducing dependence on just one sector, such as fisheries, and adding others such as tourism, manufacturing etc. to reduce economic vulnerability and avoid forced migration	●		▲
	Giving self-organized associations at the local level, e.g., agricultural or fishermen’s organizations, decision-making authority to design transformative pathways	●	●	▲
@ cross-cutting to all levels	Holding dialogic spaces for stakeholders to identify shared values to guide all interactions, procedures and decisions	●	●	▲
	Redefining national “self interest” through the lens of justice, equity, dignity etc. (see values figure above)	●	●	▲
	Learning about innovative examples of “multi-solving”	●	●	▲
	Fostering dialogue across social divides to aid reconciliation and justice	●	●	▲
	Bringing groups to the discussion that had no meaningful participation in political debates and negotiations yet, such as youth councils, to advise government	●	●	▲
	Courageous leadership, involving truth-telling, listening, transparency, commitment, and generating hope and engagement from all ages, sectors and segments of society	●	●	▲