Science to achieve the 2030 Agenda (SDGs) – Global Perspective

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10-12 Billion People (2100)
One Planet
One Ocean
Development needs to respect planetary boundaries
Development needs to respect planetary boundaries

What is the safe and just operating space for humanity?
Global Politics (UN) has set ambitious goals.

What is the safe and just operating space for humanity?
2030 Agenda for Sustainable Development
Advancing Pathways to Sustainable Ocean Prosperity

Sustainable Development Goals

SAFE AND JUST OPERATING SPACE

Sustainable Development Pathways (fisheries, transportation, coastal zones, spatial planning)
2030 Agenda for Sustainable Development
2030 Agenda SDG interaction
## Goal Interactions – Nexus – Policy Coherence

### Goals Scoring

The influence of one Sustainable Development Goal or target on another can be summarized with this simple scale.

<table>
<thead>
<tr>
<th>Interaction</th>
<th>Name</th>
<th>Explanation</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>+3</td>
<td>Indivisible</td>
<td>Inextricably linked to the achievement of another goal.</td>
<td></td>
</tr>
<tr>
<td>+2</td>
<td>Reinforcing</td>
<td>Aids the achievement of another goal.</td>
<td></td>
</tr>
<tr>
<td>+1</td>
<td>Enabling</td>
<td>Creates conditions that further another goal.</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Consistent</td>
<td>No significant positive or negative interactions.</td>
<td></td>
</tr>
<tr>
<td>-1</td>
<td>Constraining</td>
<td>Limits options on another goal.</td>
<td></td>
</tr>
<tr>
<td>-2</td>
<td>Counteracting</td>
<td>Clashes with another goal.</td>
<td></td>
</tr>
<tr>
<td>-3</td>
<td>Cancelling</td>
<td>Makes it impossible to reach another goal.</td>
<td></td>
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</tbody>
</table>

Map the interactions between Sustainable Development Goals

Mina Nilsson, Daws Griggs and Martin Welbeck present a simple way of rating relationships between the targets to highlight priorities for integrated policy.
Six transformations towards global sustainability

**Digital revolution**
Artificial intelligence, big data, biotech, nanotech, autonomous systems

**Smart cities**
Decent housing, mobility, sustainable infrastructure, pollution

**Food, biosphere, & water**
Sustainable intensification, biodiversity, forests, oceans, healthy diets, nutrients

**Human capacity & demography**
Education, health, ageing, labor markets, gender, inequalities

**Consumption & production**
Resource use, circular economy, sufficiency, pollution

**Decarbonization & energy**
Energy access, efficiency, electrification, decent services
From Science to Societal Benefit
Value-Cycle

Societal Benefit
- Observing / Mapping
- Governing / Acting
- Assessing / Informing

Scientific Discovery
- Understanding / Processing
- Predicting / Modeling
The International Science Council (ISC) works at the global level to catalyse and convene scientific expertise, advice and influence on issues of major concern to both science and society.

**Our vision is of science as a global public good**
The ISC’s Four Domains of Impact

Science in Policy and Public Discourse
- Science advice, open science, trans-disciplinarity, the post-truth/post-trust dynamic, science communication, etc.

The 2030 Agenda for Sustainable Development
- Synergies and trade-offs; SDG implementation, transformations to sustainability; etc.

The Digital Revolution
- Big, broad, linked and open data, AI, transformation of the human, reproducibility of scientific results, etc.

The Evolution of Science and Science Systems
- Inequalities in science, the industrialization of science, critical capacities, funding, etc.
High profile international scientific initiatives, many of which are co-sponsored by other international scientific partners, include the United Nations Educational Scientific and Cultural Organization (UNESCO) and other specialized UN agencies.
ISC co-leads UN Major Group for Science and Technology

The ISC is a Lead Coordinator of the UN Major Group for Science and Technology.

In this role the Council works with the World Federation of Engineering Organizations (WFEO) to secure a mandate for science at the UN and to integrate science in major global policy processes, including the 2030 Agenda for Sustainable Development, the Paris Agreement on Climate Change, the New Urban Agenda and the Sendai Framework for Disaster Risk Reduction.
Increased UN engagement of ISC family

1992
S&T Major Group

2015 onwards
Science in multi-stakeholder Partnership ‘Assemblies’

UN Advisory Bodies

Activity-based Agreements with specific UN Agencies

ISC Special Envoy for Science in Global Policy

Dr Flavia Schlegel

Strengthening the demand for and mandate of science in the UN