Sustainable Development Goals Think-Piece

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Outline of Presentation

- Brief overview of the SDGs
- Run through components of Think-Piece
  - Outlining the state of play of the SDGs in New Zealand (‘who’ is doing what)
  - Summary of literature review
  - Alignments between NSCs and SDGs
  - Case study examples
  - Research roadmap recommendations

What are the SDGs?

The SDGs and targets adopted by the UN General Assembly (Agenda 2030) drive the post-2015 global sustainable development agenda of action.

SDGs move beyond the development agenda of the Millennium Development Goals (MDGs) by linking human development goals and environmental sustainability, and by integrating social, economic and environmental goals and including targets for both developed and developing countries.

Implementation of the SDGs relies on member states taking ownership of the goals and establishing a national framework to guide policies, plans and programmes.

The 17 SDGs

17 Goals, 169 Targets, 229 Indicators

Take urgent action to combat climate change and its impacts

Targets:

1. Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries
2. Integrate climate change measures into national policies, strategies and planning
3. Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning
4. Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly $100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible
5. Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities

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Take urgent action to combat climate change and its impacts

Targets linked to Indicators:

TARGETS		INDICATORS	
13.2	Integrate climate change measures into national policies, strategies and planning	13.2.1	Number of countries that have communicated the establishment or operationalization of an integrated policy/strategy/plan which increases their ability to adapt to the adverse impacts of climate change, and foster climate resilience and low greenhouse gas emissions development in a manner that does not threaten food production (including a national adaptation plan, nationally determined contribution, national communication, biennial update report or other)
13.3	Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning	13.3.1	Number of countries that have integrated mitigation, adaptation, impact reduction and early warning into primary, secondary and tertiary curricula
		13.3.2	Number of countries that have communicated the strengthening of institutional, systemic and individual capacity-building to implement adaptation, mitigation and technology transfer, and development actions

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Conserve and sustainably use the oceans, seas and marine resources

Targets linked to indictors:

TARGETS		INDICATORS	
14.1	By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution	14.1.1	Index of coastal eutrophication and floating plastic debris density
14.2	By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans	14.2.1	Proportion of national exclusive economic zones managed using ecosystem-based approaches
14.3	Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels	14.3.1	Average marine acidity (pH) measured at agreed suite of representative sampling stations

SDG Think-Piece

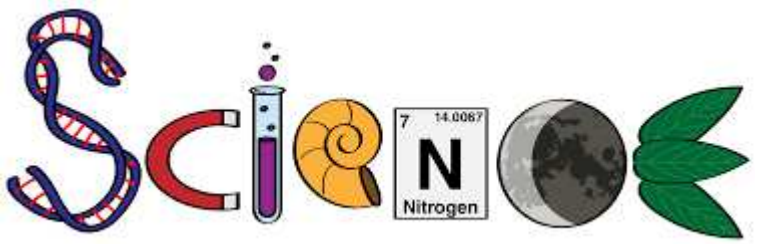
- Product of a OLW Request for Proposal (RFP) prepared in Sept 2017
- The OLW RFP was supported by five additional NSCs:
  - Sustainable Seas,
  - New Zealand's Biological Heritage,
  - Science for Technological Innovation,
  - Building Better Homes, Towns and Cities,
  - Resilience to Nature's Challenges.
- Think-Piece overarching research question:

  "*To what extent, and in what ways, are the missions and objectives of the National Science Challenges aligned to the outcomes sought from the UN SDGs, and how might knowledge generated by the Challenges support the attainment of the SDGs in New Zealand?*"

Literature Review and State of Play Summary

- Science's contribution to the SDGs
- Country comparison
- State of play of the SDGs in New Zealand by 'sector'.

Literature Review and State of Play Summary



Science's contribution to the SDGs

Five key interventions from science towards the SDGs:

1. Devising metrics;
2. Establishing monitoring mechanisms;
3. Evaluating progress;
4. Enhancing infrastructure; and
5. Standardising and verifying data

Literature Review and State of Play Summary

Country comparison

Using Sachs et al (2017) SDG index and dashboard

New Zealand is ranked 30th in achieving SDGs

This compares with Finland (3rd), Australia (26th),

Canada (17th), Germany (6th)

and the United Kingdom (16th)

Literature Review and State of Play Summary

State of Play

- Very little public information available.
- Government departments have very little, if any, information on the SDGs.
- NZ businesses have limited public information on their work towards the SDGs. However, several large New Zealand businesses such as Z Energy, Vector and Air New Zealand aligned business goals to a variety of SDGs.

Literature Review and State of Play Summary

State of Play

- NZ universities and research organisations have more information about their work towards achievement of the SDGs.
- Most NZ Crown Research Institutes do not explicitly link their work to the SDGs (with the exception of Scion and NIWA); however, all are conducting research to help New Zealand achieve them.
- Several NZ universities (Otago, Victoria, Auckland and AUT) have programmes and projects in place to work towards the SDGs.
- Multiple New Zealand civil society organisations are working towards achieving SDGs in their particular spheres of interest.

Alignment Between NSCs and SDGs

Determining which SDG goals (and in some cases targets and indicators) most closely align with each of the NSCs

Based on a workshop with (9 of the 11) National Science Challenge Directors and independent research team assessment

National SCIENCE Challenges

SUSTAINABLE DEVELOPMENT GOALS

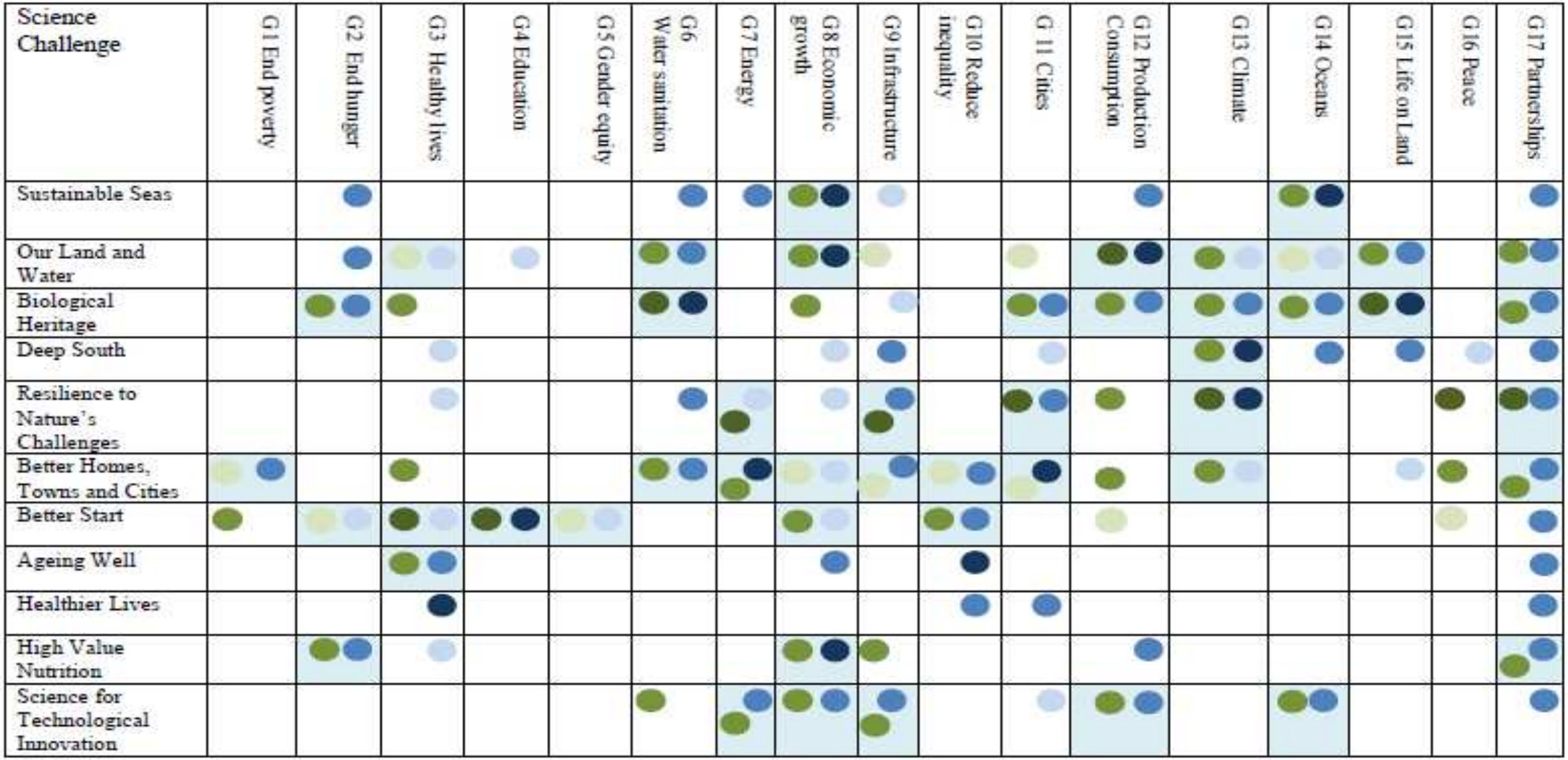


Figure 3. Combination of Directors and Reviewers identified links between SDGs and NSCs. Researchers: Blue (light, medium, and dark indicate strength of link), Directors: Green (light, medium, and dark indicate strength of link). Teal coloured shading of cell to highlight agreement between Researchers and Directors.

NSC SDG Matrix Summary

- Merge of Challenge Directors and Researchers alignment between NSCs and SDGs
- Strong alignment between both groups

  (96 of the 143 total connections are in agreement)
- Largest number of paired connections:
  - Better Homes, Towns and Cities (9)
  - New Zealand's Biological Heritage (8)
  - Our Land and Water (8)
  - Better Start (6)
  - Resilience to Nature's Challenges (5)
  - Science for Technological Innovation (5)

NSC SDG Matrix Summary

SDGs and number of connections ranked

1. SDG17 (Partnerships) – 16 connections
2. SDG8 (Economic growth) – 16 connections
3. SDG3 (Healthy lives) – 12 connections
4. SDG12 (Responsible Production and consumption) – 11 connections
4. SDG9 (Infrastructure) – 11 connections
5. SDG11 (Cities) – 10 connections
6. SDG6 (Water and Sanitation) – 9 connections
7. SDG2 (End hunger) – 8 connections
8. SDG7 (Energy) – 7 connections
9. SDG15 (Life on land) – 6 connections
9. SDG10 (Reduce inequality) – 6 connections
10. SDG16 (Peace) – 4 connections
11. SDG1 (End poverty) – 3 connections

Case Studies

- Selected case studies demonstrating where synergies could be found between existing science outputs and the NSCs and SDGs:
  - Sustainable Seas
  - Building Better Towns, Houses and Cities
  - New Zealand's Biological Heritage

- These three selected as they represent a wide range of science and are selected from the six Challenges self-identified as having a particular interest in the project.

Case Study Example – NZ Biological Heritage

Target 11.4 *– Strengthen efforts to protect and safeguard the world's cultural and natural heritage.*

NZBH IMPACT 1: Protect and Restore The diversity of New Zealand's natural and cultural heritage is restored and maintained. Iwi, hapū, and whanau are enabled to give effect to kaitiakitanga.

Research programmes/projects Customary approaches to ecosystem resilience. Engaging with Māori customary approaches and practises contribute to protecting and restoring ecosystem resilience, where humans are an integral part of that ecosystem.

Case Study Example – NZ Biological Heritage

Target 15.2 – *By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally.*

NZBH IMPACT 2: Eliminate threats: weeds, pests, mammal predators, and pathogens System wide responsiveness to changes in risks from pests, weeds, and pathogen threats is improved.

Research programmes/projects Citizens combating kauri dieback, collaboration between social and biophysical scientists, community leaders, Iwi/hapū and landowners; Stopping kauri dieback; and, Māori biosecurity solutions (Myrtle rust).

SDG Think-Piece Recommendations

Recommendations are suggested to address six specific questions provided in the OLW RFP

SDG Think-Piece Recommendations

1. What needs to happen to give effect to the goals?

- Leadership and direction from central government - ideally in the form of a Cabinet Paper with clear recommendations including:
  - A lead government department
  - An implementation and monitoring strategy
  - Associated programmes of work

SDG Think-Piece Recommendations

1. What needs to happen to give effect to the goals?

- Identifying the linkages between the Government's current priorities and the SDGs will highlight the research needed to help New Zealand give effect to the goals.
  - Government currently developing its wellbeing policy priorities (across economy, environment and social sectors).
  - Once Government has released information about its wellbeing policies, it would be useful to review the NSCs against both the new Government's policy priorities and the SDGs most relevant to these.
  - This would help inform a conversation about how NSCs are placed to support progress toward achieving the SDGs.

SDG Think-Piece Recommendations

2. Who should hold responsibility for the goals in a NZ context?

- Government to provide overarching guidance but leadership to appear from a range of players.
  - Responsibility will need to be dispersed across CRIs, Gov, Universities, NGOs, industry, communities, etc.
  - The NSCs have a strong potential role to play with their collaborative, interdisciplinary, integrated approach to science and research, and focus on complex problems that transcend a single domain.

SDG Think-Piece Recommendations

3. How might existing science inform and help measure progress towards the goals?

- Crucial to utilising existing information will be data access and interoperability.
  - These are two issues that the science system has recognised as weaknesses that need addressing for a better understanding of our natural assets.
  - Government is interested in how the NSCs are working across their host organisations/Challenge partners to allow for a systems-based utilisation of information produced.

SDG Think-Piece Recommendations

4. What, if any, gaps exist in the science portfolio and in implementation to achieve goals after 2019?

- Given that the land domain is the nexus of pressures on the wider environmental system, a better understanding of our land environment will be crucial for the success of an evidence-based approach to achieving the environmental SDGs.

SDG Think-Piece Recommendations

4. What, if any, gaps exist in the science portfolio and in implementation to achieve goals after 2019?

- Also noted that there is no mention of the SDGs in the National Statement of Science Investment, the Strategic Science Investment Funds, nor the Conservation and Environment Science Roadmap around future research actions. This coverage represents a significant gap in the science portfolios with respect to the SDGs.
  - SDGs are mentioned briefly in the Primary Sector Science Roadmap.

SDG Think-Piece Recommendations

5. What is the benefit of pan-Challenge collaboration?

- Interoperability of data which interacts within a system and across systems (e.g. linking land, water, and climate data) is a specific identified benefit.
  - This will allow the information produced to tell a story not just about one environmental domain, but link into the wider system.
  - As the SDGs are interlinked and broad, having research that spans the linkages within/across systems and assesses broad questions of human and environmental wellbeing is a valuable function the NSCs can fulfil.

SDG Think-Piece Recommendations

6. What role might the Challenges play in advancing implementation?

- The Challenges can help with establishing where the greatest potential payoff is available from intervention by improving the evidence base and improving knowledge of the causal mechanisms involved.
  - They can help policymakers identify what is lacking or under threat across the domains encompassed by the SDGs, and make choices based on which interventions will provide the best bang per buck (net social benefit).

SDG Think-Piece Recommendations

6. What role might the Challenges play in advancing implementation?

- The NSCs could play a role in informing some of the big, long-term policy questions in support of helping NZ achieve the SDGs.
  - The NSCs could use a combination of their local knowledge and international connections to develop information to inform NZ's context, barriers, and opportunities to achieving goals.

Thanks

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UN SDG Website: http://www.un.org/sustainabledevelopment/

Research question:

To what extent, and in what ways, are the missions and objectives of national science systems aligned to the outcomes sought from the UN SDGs, and how might knowledge generated by science systems support the attainment of the SDGs?

The 17 SDGs


SUSTAINABLE DEVELOPMENT GOALS
1 NO POVERTY
2 ZERO HUNGER
3 GOOD HEALTH AND WEL - ING
4 QUALITY EDUCATION
5 GENDER EQUALITY
6 CLEAN WATER AND SANITATION
7 AFFORDABLE AND CLEAN ENERGY
8 DECENT WORK AND ECONOMIC GROWTH
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
10 REDUCED INEQUALITIES
11 SUSTAINABLE CITIES AND COMMUNITIES
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION
14 LIFE BELOW WATER
15 LIFE ON LAND
16 PEACE, JUSTICE AND STRONG INSTITUTIONS
17 PARTNERSHIPS FOR THE GOALS
SUSTAINABLE DEVELOPMENT GOALS