



# Leveraging SDG interlinkages for transformative actions through evidence-based partnerships

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Speaker: Dr David Horan  
Stakeholder Forum for a Sustainable Future and UCD

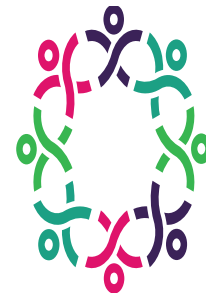
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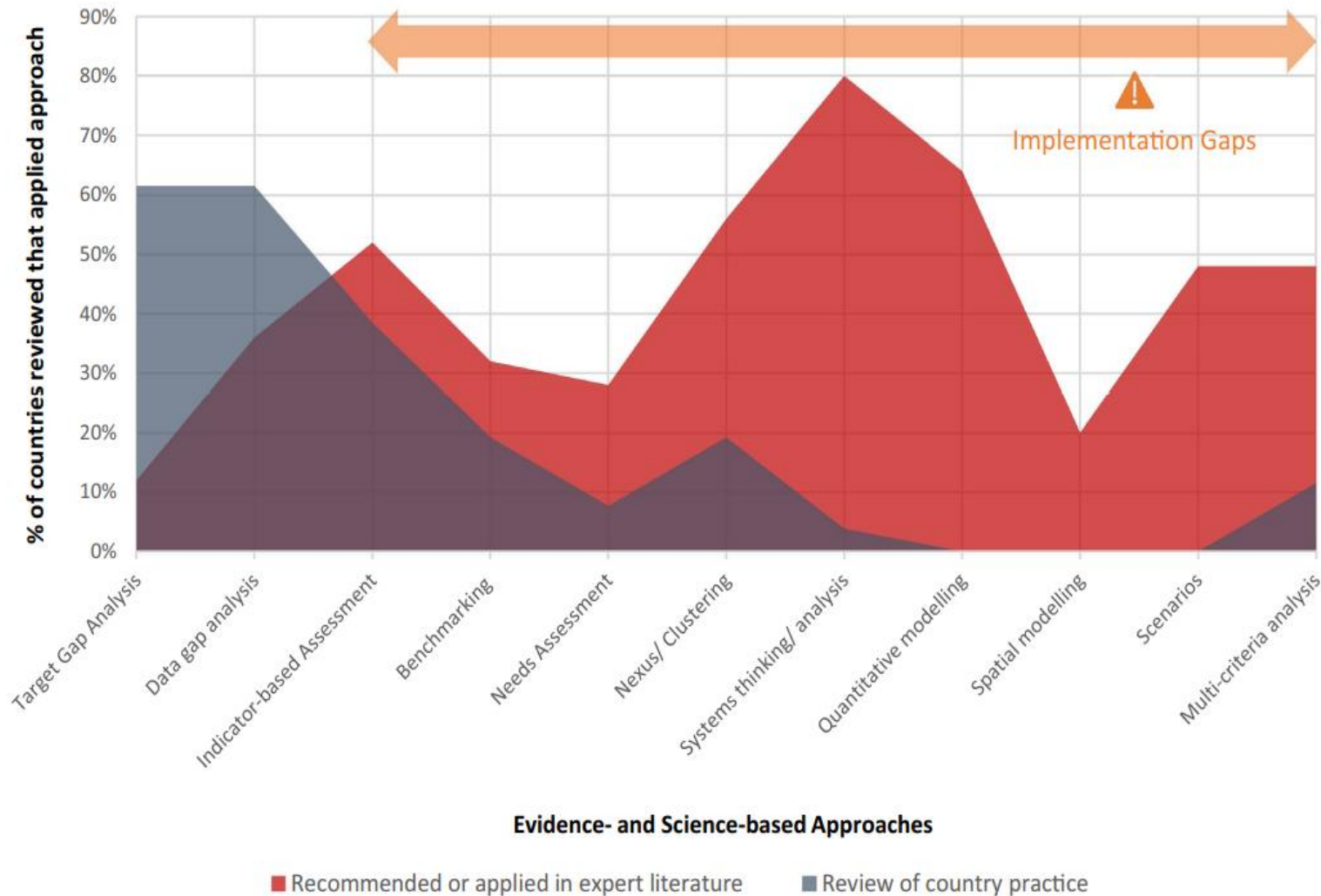
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# Introduction

- How to enable integrated approaches to SDG implementation?
- Lack of progress on implementation attributed to inadequate understanding and addressing of synergies and trade offs (Allen 2021, Nilsson 2016)
- Need for technical tools *and* institutional arrangements to support the delivery of coherent actions (Bennich 2020, Weitz 2017)

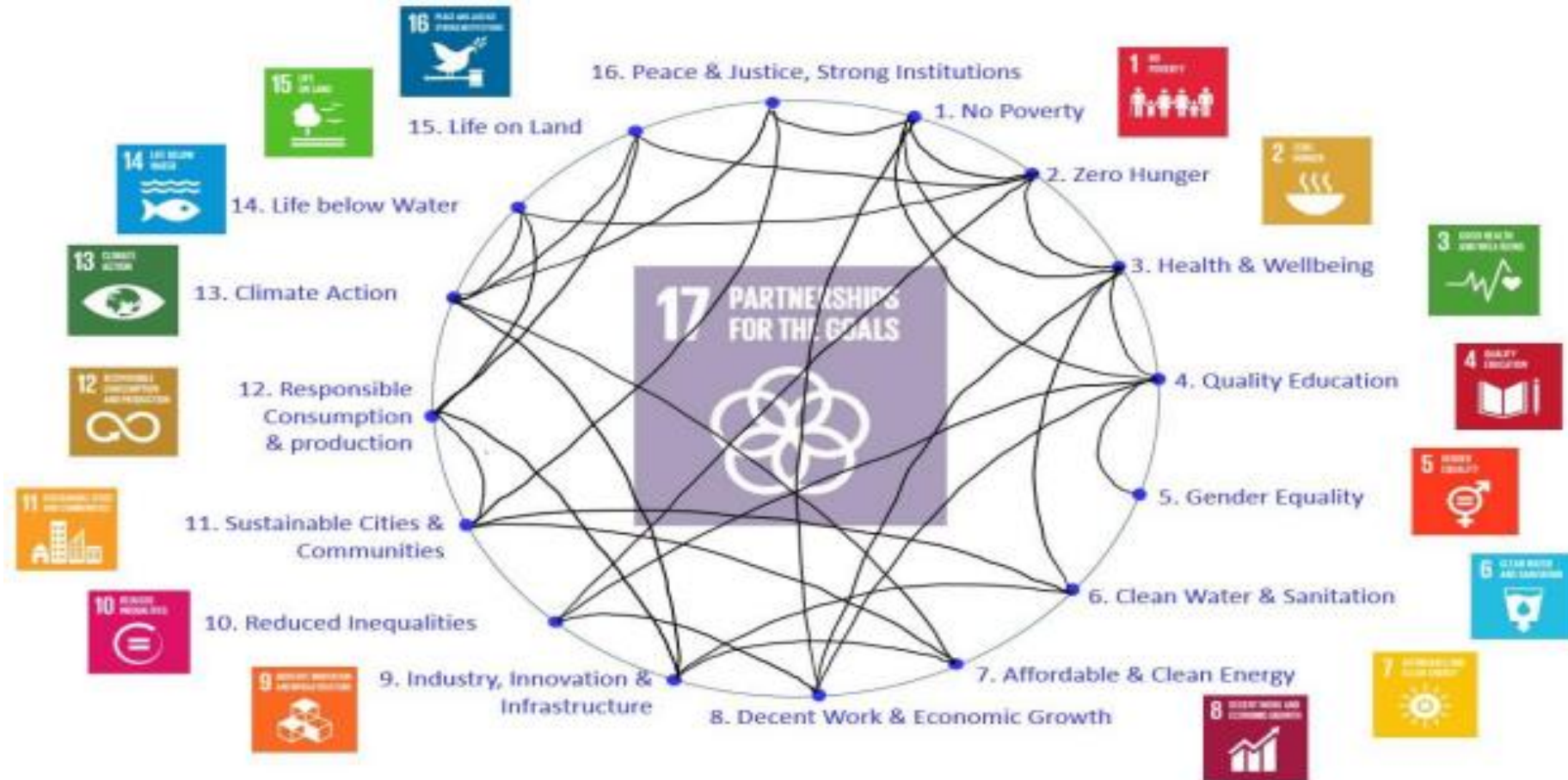
# Cross fertilization problem in 2017 (Allen 2018)



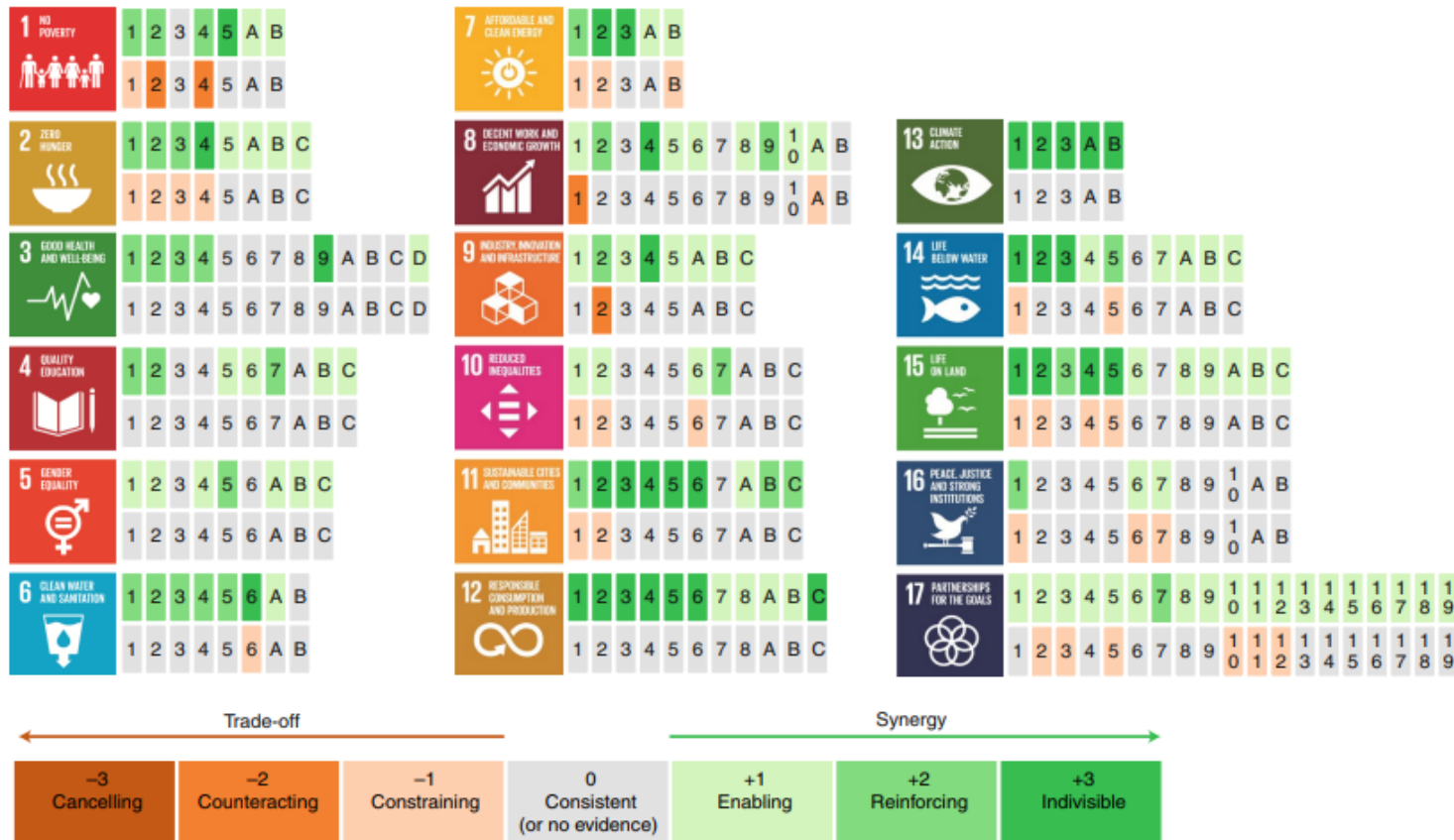
*“While some cross-fertilization in the science-policy interface of national SDG implementation, particularly in monitoring and evaluation, methods for evaluating interlinkages between the SDGs and understanding governance frameworks for transformative change are not yet a feature of the VNRs.” (Allen 2021)*

Fig. 4 Comparison of SDG implementation steps: expert literature versus country practice

# Need for partnerships to leverage SDGs interlinkages (Weitz 2017)



# Translating linkages into effective partnerships



**Fig. 2 | Synergies and trade-offs between climate action and the SDGs.** Each rectangle to the right of the relevant SDG represents a Target. The highlighting represents the strength of an interaction (the scale<sup>4,5</sup> is explained in detail in the Supplementary Methods). The absence of highlighting indicates the absence of identified evidence. Absence of identified evidence does not necessarily imply the absence of an interlinkage. Figure adapted from refs. <sup>4,5</sup>, Springer Nature Ltd. Credit: United Nations.

Source: Nerini et al (2019)

Approach to implementation  
(Alcamo 2018)

1. Single entry Goal

2. Main (first order) interlinkages across all of the SDGs

1 & 2 align well with sectoral policymaking and the principle of indivisibility

# Institutional arrangement: What type of partnership(s)?

Partnership	Partner Organizations	Coproduced Initiatives	Start date	Status	Primary Function
GPPSD	270	70 partnerships	2015	Active	Data innovation
SUN	2300	Initiatives in 40+ countries	2012	Active	Service delivery
GAVI	28 board members	Initiatives in 73+ countries	2000	Active	Finance mobilization
DEA	40+	160+ measures and actions	2013	Active	Policy formulation

GPPSD: Global Partnership for Sustainable Development Data

SUN: Scaling Up Nutrition Alliance

GAVI: Global Alliance for Vaccine Immunization

DEA: Dutch Energy Agreement

# Technical tool: How to build integrated partnerships?

Synthesize three types of evidence:

1. SDG interlinkages (Le Blanc 2015, Nilsson 2016, Pradhan 2017)
2. Mapping stakeholders (Abbot 2012, Widerberg 2016, Sanderlink 2018, Zelli 2020)
3. Performance analysis, e.g., SDG indicators (UN 2015, Sachs 2020)



# Partnership of partnerships approach (to integrated partnerships)

- **First step:** build a multi-stakeholder coalition that mirrors the Goal's linkages with other goals.
- **Second step,** negotiate joint actions to raise synergies and manage trade offs across SDGs.

Sustainability Science  
<https://doi.org/10.1007/s11625-021-01070-2>



SPECIAL FEATURE: ORIGINAL ARTICLE

Synergies and Trade-offs between Sustainable Development Goals and Targets

## A framework to harness effective partnerships for the sustainable development goals

David Horan<sup>1</sup>

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### Abstract

The sustainable development goals (SDGs) offer a broad, holistic framework of interdependent economic, social, and environmental objectives to enable integrated and collaborative approaches to their implementation. A key obstacle for operationalizing such an approach is knowing the right actors to engage on specific challenges. It is acknowledged that linkages across sectors, scales, and actors could provide an evidence base to assess and forge participation in multistakeholder partnerships for implementation. However, technical tools that could help to identify relevant actors and discussions of institutional arrangements to bring these actors on board are notably lacking in the extant literature. To support an evidence-based and systematic approach to coalition building that accounts for synergies and trade-offs across goals and targets, this paper proposes broad-based partnerships and a framework that lead actors can use to help harness collaborative SDG implementation: (1) define the partnership's scope, (2) identify the main interlinkages, (3) assign responsibilities, (4) select the best available indicators, (5) assess the challenges, and (6) forge a broad-based partnership. After describing key decisions at each step, the article discusses applications of the proposed analytic partnership-building framework to problems that warrant the approach at global, regional, and national levels covering issues such as policy coordination across line ministries, global partnerships for SDG13 implementation in SIDS, energy compacts for SDG7 implementation, and integrated multilateral responses to crises.

**Keywords** Sustainable development goals (SDGs) · SDG implementation · Multistakeholder partnerships · Interlinkages · Actors' responsibilities · Dashboards of indicators

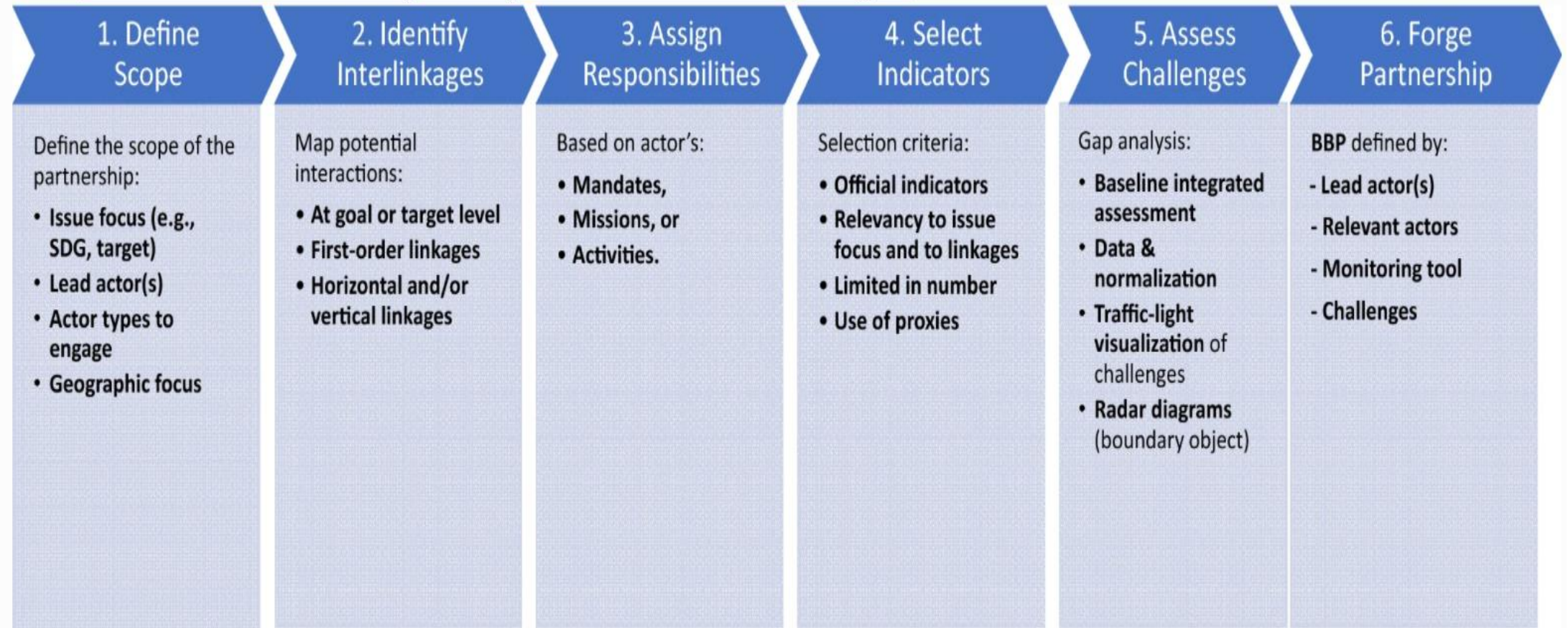
### SDG implementation and partnerships

The 2030 Agenda with its 17 Goals, 169 targets and 232 indicators covers a wide range of global challenges that all actors at all levels can align with up to 2030 (United Nations 2015). With just 9 years left and no country currently on track to achieve all 17 SDGs (SDSN 2020, 2021), the UN Secretary General has called for coalitions of leadership to harness more concerted action in the SDGs Decade of Action (Beisheim and Fritzsche 2021; United Nations

2019a, 2021). One important challenge for implementation, however, concerns the integrated nature of the SDGs and the need to capitalize on synergies and manage trade-offs between goals and targets to ensure efficient and equitable implementation (Alcamo 2019; Nilsson et al. 2016). In addition, substantive progress will require transformative action which means moving beyond incremental policy changes and siloed actions to cross-sectoral policy mixes, joined up actions and portfolios of coordinated interventions (United Nations 2019a, b; OECD 2019; Sachs et al. 2019; IIASA

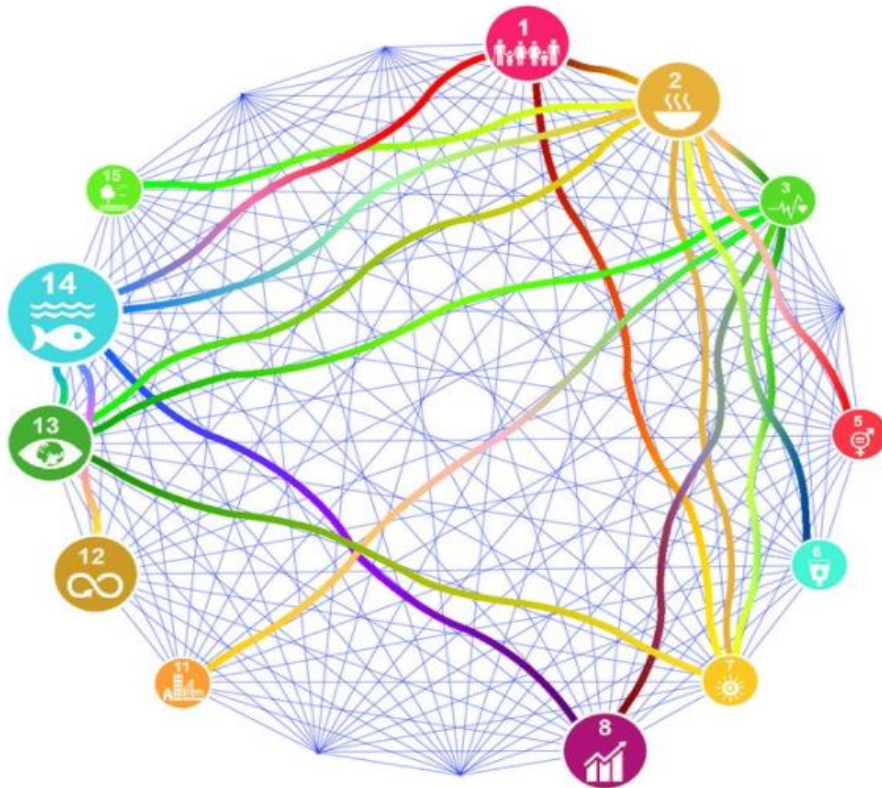
# Broad-based partnerships (Horan 2022)

From: [A framework to harness effective partnerships for the sustainable development goals](#)



Forging a broad-based partnership (BBP) for collaborative SDG implementation

# Example: Integrated SDG14 implementation in Ireland



- ICSU (2017) identifies 97 target level interactions between SDG14 and other SDGs. Strongest interactions with SDGs 1, 2, 3, 8, 12, 13.
- Despite clear connections, responsibility for these Goals rests primarily with
  - Employment and Social Protection (DES)
  - Agriculture, Food, and Marine (DAFM)
  - Health (DOH)
  - Finance (DFIN)
  - Business, Enterprise, and Innovation (DBEI)
  - Communications, Climate Action & Environment (DCCAE)

Which ministries should collaborate and in what issue areas?

# Step 1: Define scope

- To start, the department and targets of interest need to be defined.

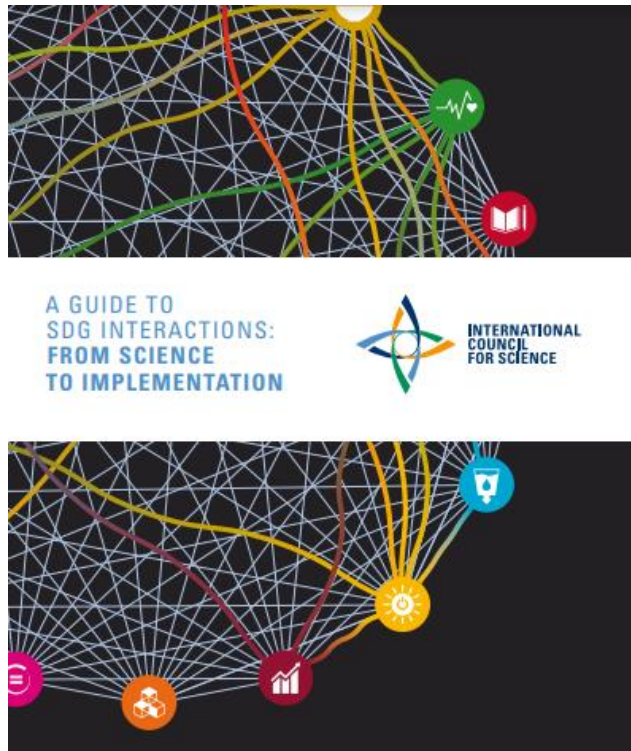
SDG Target	Short Description	Official Description	Lead Dept.
14.1	Marine Pollution	By 2025, prevent & significantly reduce marine pollution of all kinds in particular of land-based activities, including marine debris & nutrient pollution.	DHPLG
14.4	Sustainable Fisheries	By 2020, effectively regulate harvesting and end overfishing, illegal, unreported & unregulated fishing, and destructive fishing practices & implement science-based management plans, to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristic.	DAFM
14.5	Marine Protection	By 2020, conserve at least 10% of coastal & marine areas, consistent with national & international law, based on best available scientific information.	DHPLG
14.7	Economic Benefits	By 2030, increase economic benefits from sustainable use of marine resources, through sustainable management of fisheries, aquaculture, and tourism.	DFAT

*Sources:* UN 2015, SDG National Implementation Plan 2018-2020. DHPLG: Dept. of Housing Planning & Local Government; DAFM: Dept. of Agriculture, Food & the Marine; DFAT: Dept. of Foreign Affairs & Trade.

## Step 2. Choose method for assessing challenges

- To assess Ireland's performance on SDG14, a comparative and stand alone integrated baseline assessment were conducted.

## Step 3: Identify interlinkages



- Next step is the identification of linkages between the targets of interest and other SDGs.
- ICSU 2017 analysis of SDG14 linkages was used to identify *potential* interactions.
- Analysis focused on first-order interactions at goal level.

# SDG14 interlinkages based on ICSU (2017)

**Table 1.** Sustainable Development Goal 14 (SDG14) Interlinkages.

Influence of Focal SDG14 Targets on other SDGs (i.e., from Y to X).																
Target\SDG	1	2	3	4	5	6	7	8	9	10	11	12	13	15	16	17
14.1: Marine Pollution	+/-	+	+					+/-		+	+/-		+	+		
14.4. Sustainable Fisheries	+/-	+/-		+	+			+/-							+	+
14.5: Marine Protection	+/-	+/-		+	+			+/-		+/-	+/-		+	+	+	+
14.7: Economic Benefits	+/-	+						+/-	+	+	+					+
Influence of Other SDGs on Focal SDG14 Targets (i.e., from X to Y).																
Target\SDG	1	2	3	4	5	6	7	8	9	10	11	12	13	15	16	17
14.1. Marine Pollution	+/-	-		+		+	+	+/-	+/-		+/-	+	+	+	+	+
14.4. Sustainable Fishing	+/-			+			+/-	+/-	+				+		+	+
14.5 Marine Protection	+/-			+			+/-	+/-	+/-		+/-				+	+
14.7. Economic Benefits	+/-			+			+/-	+/-	+		+		+		+	+

Source: [24]. + (-) indicate potential synergy (trade-off), blank: = neutral. SDG1 Poverty. SDG2 Nutrition and agriculture. SDG3 Health. SDG4 Education. SDG5 Gender equality. SDG6 Water. SDG7 Affordable and clean energy. SDG8 Decent jobs and economic growth. SDG9 Industrialization, innovation and infrastructure. SDG10 Reduce inequalities. SDG11 Sustainable urbanization. SDG12 Sustainable consumption and production. SDG13 Climate action. SDG15 Biodiversity. SDG16 Justice. SDG17 Partnership. Full descriptions of goals and targets are available at [1].

## Step 4. Select indicators



- Four criteria:
  1. Coverage of official SDG indicators
  2. Relevancy to the targets of interest
  3. Relevancy to the linkages
  4. Be limited in number
- To broaden the scope of assessment, proxy indicators were used.

# Example: Relevancy to Linkages

<b>SDG</b>	<b>Linkage</b>	<b>Closest UN Official Indicator</b>	<b>UN Tier</b>	<b>Proxy Indicator Selected</b>	<b>Source</b>
<b>16</b>	Quality of institutions	16.6.2 Proportion of pop. satisfied with last experience of public services	Tier II	Freedom of the Press Index (0 = Best to 100 = Worst)	Reporters Sans Frontiers
<b>16</b>	Inclusive Decision Making	16.7.1 Proportions of positions in national & local institutions by sex, age, persons with disabilities & pop. Groups	Tier II	Seats held by women in national parliaments (%)	IPU
<b>17</b>	Mobilize finance	17.3.1 FDI, ODA & cooperation as a proportion of gross national income	Tier I	Government spending on health and education (% GDP)	World Bank

## Step 5. Assign responsibilities



- The fifth step assigns SDG responsibilities.
- For each selected indicator, identify the lead department with responsibility for implementing SDG target related to that indicator.
- Identification based on lead departments reported for each target in NIP 2018-2020 .

# Integrated SDG14 Dashboard

Dimensions	Component	Policy Area	SDG/Target	Indicator	Lead Dept. *	Target Value	Data Source
Focal SDG	SDG14	Marine	14.1	Ocean Health Index: Clean Waters (0–100)	DHPLG	100	OHI
			14.4	Fish Stocks Overexploited/Collapsed in EEZ (%)	DAFM	0	FAO/Sea Around Us
			14.5	Marine Protected Areas (% of EEZ)	DHPLG	10	UNEP
			14.7	Fisheries Revenue (US\$ p. km <sup>2</sup> of EEZ)	DFAT	3500	Sea Around Us
	Pressures	Poverty	1	Poverty Headcount Ratio at \$3.20/day (%)	DEASP	0	World Bank
		Agriculture	2	Sustainable Nitrogen Management Index	DAFM	0	EPI
		Water	5	Anthropogenic wastewater that receives treatment (%)	DHPLG	100	EPI
		Energy	7	Renewable Energy Consumption (as % of Total Energy Consumption)	DCCAE	51.7	World Bank
		Economy	8	Adjusted Growth Rate (%)	DFIN	5	SDSN
		Infrastructure	9	Logistics performance index: Quality of trade and transport-related infrastructure (1 = Low to 5 = High)	DPER	4.25	UNU-IAS
		Urbanization	11	Annual mean concentration of particulate matter of <2.5 microns of diameter (PM2.5) in urban areas (µg/m <sup>3</sup> )	DHPLG	6.3	IHME
		Waste	12	Municipal solid waste (kg/day/per capita)	DCCAE	0.1	ILO
		Climate	13	Energy-related CO2 emissions per capita (tCO2/capita)	DCCAE	0	EPI
		Biodiversity	15	Imported biodiversity threats (per million population)	DCHG	0	EPI

# Integrated SDG14 Dashboard (Continued)

Dimensions	Component	Policy Area	SDG/Target	Indicator	Lead Dept. *	Target Value	Data Source
Linked SDGs	Impacts	Poverty	1	Poverty Headcount Ratio at \$3.20/day (%)	DEASP	0	World Bank
		Nutrition	2	Prevalence of undernourishment (% pop.)	DoH	0	WHO
			2	Prevalence of obesity BMI $\geq$ 30 (% of adult population)	DoH	2.8	WHO
		Health	3	Subjective well-being (10 = High to 0 = Low)	DoH	7.6	Gallup
		Gender	5	Female to male labour force participation rate (% female-to-male ratio)	DJE	100	ILO
		Economy	8	Adjusted Growth Rate (%)	DFIN	5	SDSN
			8	Unemployment Rate (%)	DBEI	0.5	ILO
		Inequality	10	Gini Coefficient for Income (0–100)	DFIN	27.5	SDSN
		Urbanization	11	Annual mean concentration of particulate matter of <2.5 microns of diameter (PM2.5) in urban areas ( $\mu\text{g}/\text{m}^3$ )	DHPLG	6.3	IHME
		Climate	13	People affected by climate-related disasters (per 100,000)	DCCAE	0	SDSN
		Biodiversity	15	Red List Index of species survival (0 = Worst to 1 = Best)	DCHG	1	IUCN
	Responses	Education	4	Lower Secondary Completion Rate (%)	DES	100	UNESCO
		Science & Technology	9	Number of scientific and technical journal articles (per 1000 population)	DBEI	2.2	NSF
		Biodiversity	15	Mean area protected in freshwater sites important to biodiversity (%)	DAFM	100	IUCN
		Justice	16	Corruption Perception Index (0 = Low to 100 = High)	DJE	88.6	Transparency Int.
			16	Freedom of the Press Index (0 = Best to 100 = Worst)	DPER	10	Reporters sans frontiers
			16	Seats held by women in national parliaments (%)	DPER	50	IPU
		Partnership	17	Government spending on health and education, proportion of GDP (% GDP)	DFIN	15	World Bank
			17	Population using the internet (%)	DFAT	100	ITU

# Framework for integrated assessment

- 29 indicators linked to SDG14 were divided into three components:
  - 10 Pressures (e.g., poverty rate, nitrogen use in agriculture, wastewater treatment)
  - 11 Impacts (e.g., poverty rate, prevalence of obesity, subjective well-being)
  - 8 Responses (e.g., educational attainment, journal publications, corruption)
- “Packaging” indicators in this manner helps to provide an accessible, holistic assessment.

# Baseline analysis

- To measure Ireland's current performance on each indicator,

$$y = \left( \frac{x - a}{b - a} \right) 100$$

$y$  normalized value

$x$  observed value

$a$  “minimum” value

$b$  target value.

- Data collected from SDSN (2019) for the year 2018 (or most recent available).

# Traffic light visualization of performance

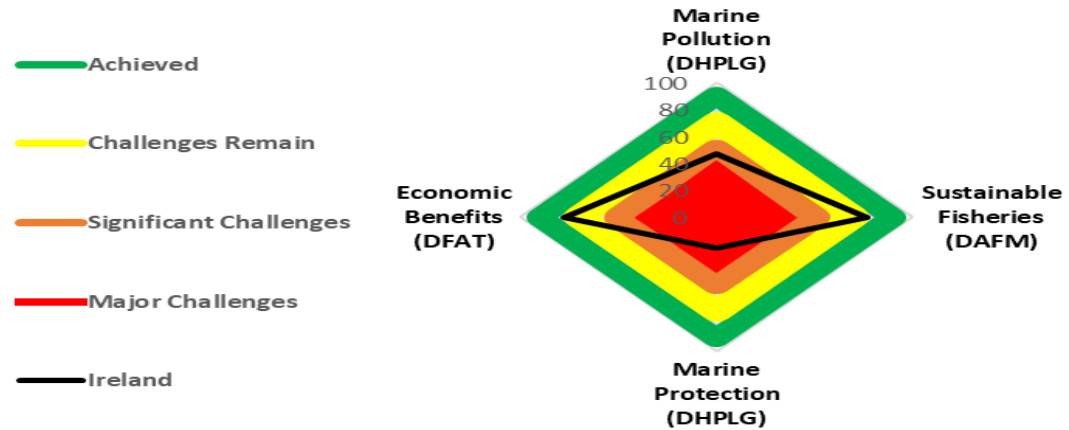
- To help identify strengths and challenges,

**Table 3.** Baseline Assessment

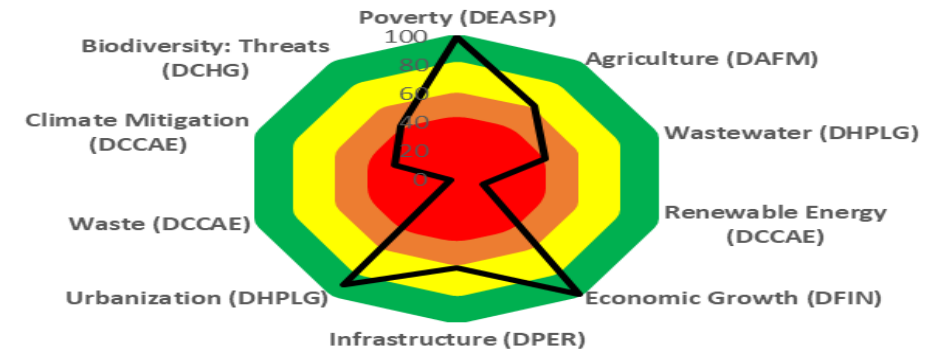
Traffic Light System	Green	Yellow	Orange	Red
Min-max score $y$	$y \geq 80$	$80 > y \geq 60$	$60 > y \geq 40$	$y < 40$
Interpretation	Target  Achieved	Challenges  Remain	Significant  Challenges	Major  Challenges

# Integrated assessment of SDG14: Ireland's baseline in 2018

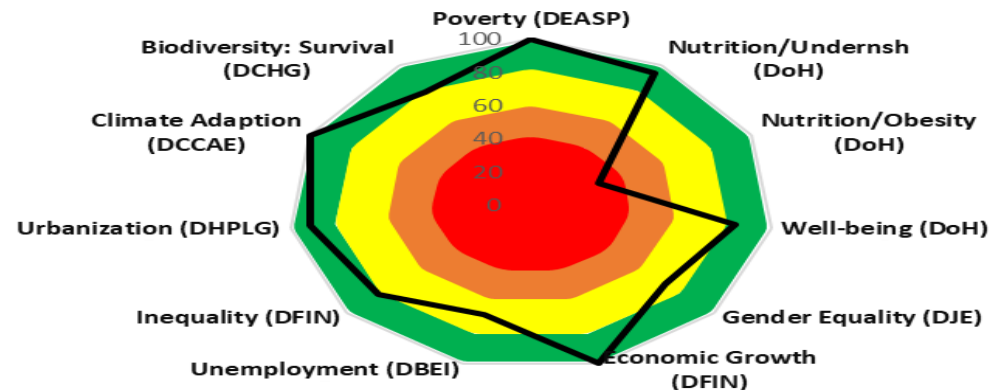
## Marine Performance (SDG14)



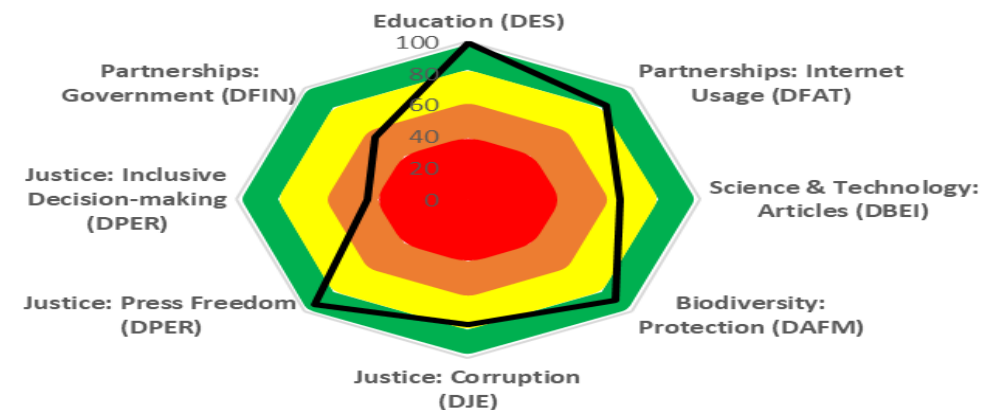
## Pressures



## Impacts



## Responses



## Step 6: Multistakeholder coalition and priorities for integrated implementation

Departments	Marine Performance	Pressures	Impacts	Responses
DAFM	Sustainable Fisheries	Sustainable Agriculture		
DBEI			Employment	Innovation
DCCAE		Climate Mitigation		
		Renewable Energy		
		Household Waste		
DCHG		Biodiversity Threats		
DFIN				Finance
DFAT	Economic Benefits			
DoH			Nutrition: Obesity	
DHPLG	Marine Protection	Wastewater Treatment		
	Marine Pollution			
DJE			Gender Equality	Corruption
DPER		Sustainable Infrastructure		Inclusive Decision Making

**Figure 3.** Priorities for Integrated Marine Policymaking in Ireland

Note. Yellow = “considerable challenges”. orange = “significant challenges” and red = “major challenges”.

# Conclusion

- Main recommendation: Ireland's lead department for SDG14 achievement should collaborate with 9 other departments on 15 policy issues.
- Research demonstrates how the SDGs could be use in Ireland to enable policy coordination across line ministries for SDG14.

# Issues/Future Work

## **On the governance side:**

1. How priorities/entry points are selected?
2. Institutionalizing/incentivizing participation, ensuring a balance of power/political economy.
3. Manage overlapping responsibilities

## **Extending the approach:**

1. International development contexts and multilateral responses to crises
2. Include vertical interactions, non-government stakeholders, other SDGs.

## **On the technical side:**

1. Improving the accuracy of the assessment: recent data, disaggregated data, indicator relevancy, contextual linkages
2. Feasibility/data availability
3. Measuring interactions and weighting linkages

# Recommendations (1)

- Rather than appearing as a separate policy area, the SDGs should be integrated into sectoral policy areas and used as a holistic framework to enable an integrated approach.
- SDGs should be seen as an evidence-based framework to identify relevant stakeholders, forge integrated partnerships and assess participation therein.
- Partnerships offer an institutional arrangement to bring together stakeholders and negotiate joint actions that can be flexibly incorporated into different governance frameworks, e.g., national sectoral, international level.

# Recommendations (2)

- Tool offers simple way to enable integrated approaches and exploit the transformative potential of the SDGs based on principles of the 2030 Agenda.
- To bring this approach up to scale, funding streams (donors, foundations), in addition to transdisciplinary research between ministries (e.g., SDG units), statistical offices, research institutes (e.g., IGES, SEI) are required.
- SDG units with the help of UN agencies/offices and regional commissions should build technical capacities for enabling integrated partnerships and use it to integrate the SDGs framework into sectoral policy areas.

# Open access journal articles

Sustainability Science  
<https://doi.org/10.1007/s11625-021-01070-2>

SPECIAL FEATURE: ORIGINAL ARTICLE

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**Keywords** Sustainable development goals (SDGs) · SDG implementation · Multistakeholder partnerships · Interlinkages · Actors' responsibilities · Dashboards of indicators

### SDG implementation and partnerships

The 2030 Agenda with its 17 Goals, 169 targets and 232 indicators covers a wide range of global challenges that all actors at all levels can align with up to 2030 (United Nations 2015). With just 9 years left and no country currently on track to achieve all 17 SDGs (SDSN 2020, 2021), the UN Secretary General has called for coalitions of leadership to harness more concerted action in the SDGs Decade of Action (Beisheim and Fritzsche 2021; United Nations

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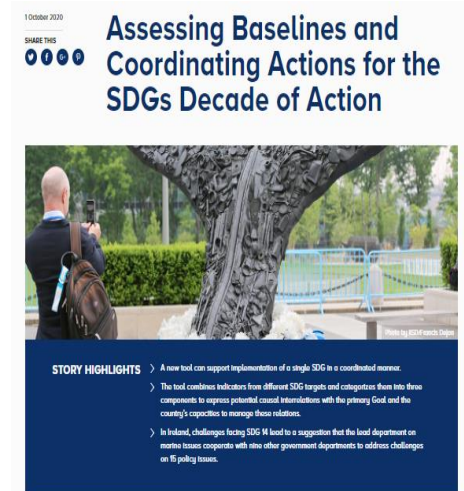
### 1. Introduction

In official documents, guideline reports, and academic literature, policy makers are called to implement sustainable development in a coherent way [1–4]. In addition to aligning national policies with international commitments, such as the 2030 Agenda for Sustainable Development, and promoting policy coordination across countries, policy coherence also requires balancing economic, social, and environmental effects of different policies within a country [2,3]. However, the integration of policies across sectors or line ministries (i.e., so called “horizontal policy integration” [3]) is complicated, not least, because governments are not effectively organized to deal with interactions between different policy areas [3,5–11].

To assist with integrated policymaking, the United Nations Sustainable Development Goals (UN SDGs) offer a broad framework of 17 SDGs and 169 targets covering a wide range of interlinked

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[www.mdpi.com/journal/sustainability](https://www.mdpi.com/journal/sustainability)



- STORY HIGHLIGHTS**
- A new tool can support implementation of a single SDG in a coordinated manner.
  - The tool combines indicators from different SDG targets and categorizes them into three components to express potential causal interactions with the primary goal and the country's capacity to manage these relations.
  - In Ireland, challenges facing SDG 14 lead to a suggestion that the lead department on marine issues cooperate with nine other government departments to address challenges on 15 policy issues.

By David Horan

Despite no country currently being on track to achieve the 17 SDGs and an ongoing global pandemic, the 2030 Agenda remains a vital blueprint for a more sustainable inclusive future and a framework to “build back better, together.” The UN has called for a Decade of Action on the SDGs that will ultimately combat poverty and hunger.

SDGs

14 LIPS-BLUM-WINTER

12 PARTNERSHIPS FOR THE GOALS

ISSUES



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# Thank you!

Email: [david.horan@stakeholderforum.com](mailto:david.horan@stakeholderforum.com)