



Evidence for action

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*The role of the Sustainable Development Goals
in shaping the transformation of multiple social
and technological options*

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Introduction

Research aim

To analyse the *potential of **EIT-Climate Kic*** as a key enabler to implement the Sustainable Development Goals (SDGs)

1. To increase transformative potential of EIT-Climate Kic through adding reflexive layer to be used for navigation and profiling (PROPORTION, MOTION)
2. To stimulate the development of knowledge and innovation that consider symbiotic interactions across multiple sustainable options
3. To identify the underlying institutional mechanisms behind these interactions

A systemic view of scientific developments (New Missions)

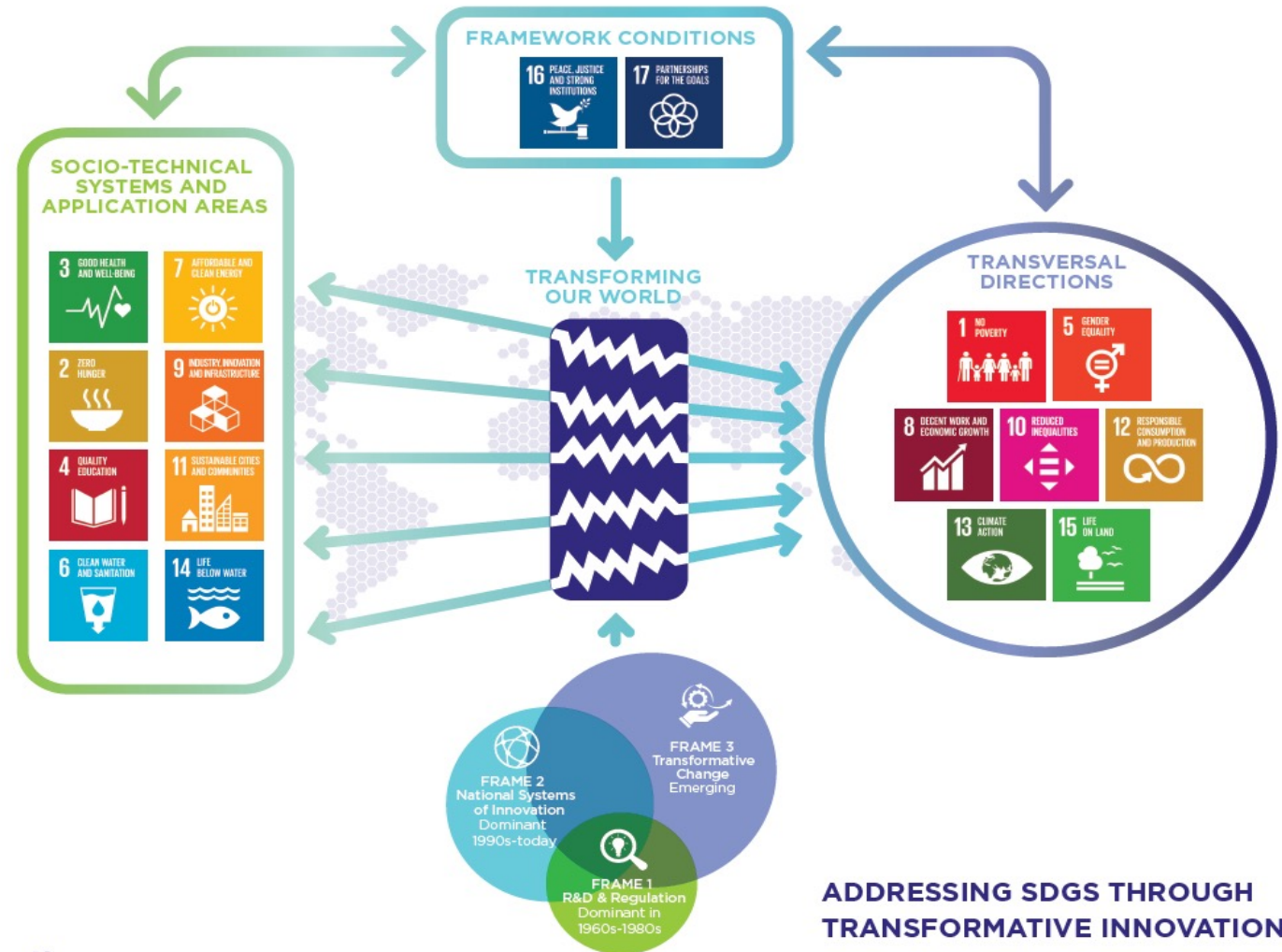
Addressing SDGs requires transformation of existing institutions governing the development of science and technology; transforming science from 'research that informs' towards 'research that transforms' (Tilbury, 2011).

Knowledge production addressing SDGs is fundamentally different from knowledge production in other areas in a number of ways;

- introduces an element of directionality in research;
- addresses global goals (but from different local contexts);
- needs new approaches related to the **complexity and wickedness of SDGs**;
- requires understanding interactions between the SDGs, both negative ones ("trade-offs") and positive ones ("co-benefits") (Nilsson 2018)

Transformative framework

- Transformative potential of SDG research at UU
 - Relies in the cognitive and social integration of multiple SDGs
- Three categories of SDGs:
 - Sociotechnical systems
 - Transversal directionalities
 - Framework conditions
- Development of knowledge trajectories that combine two, and ultimately three, categories



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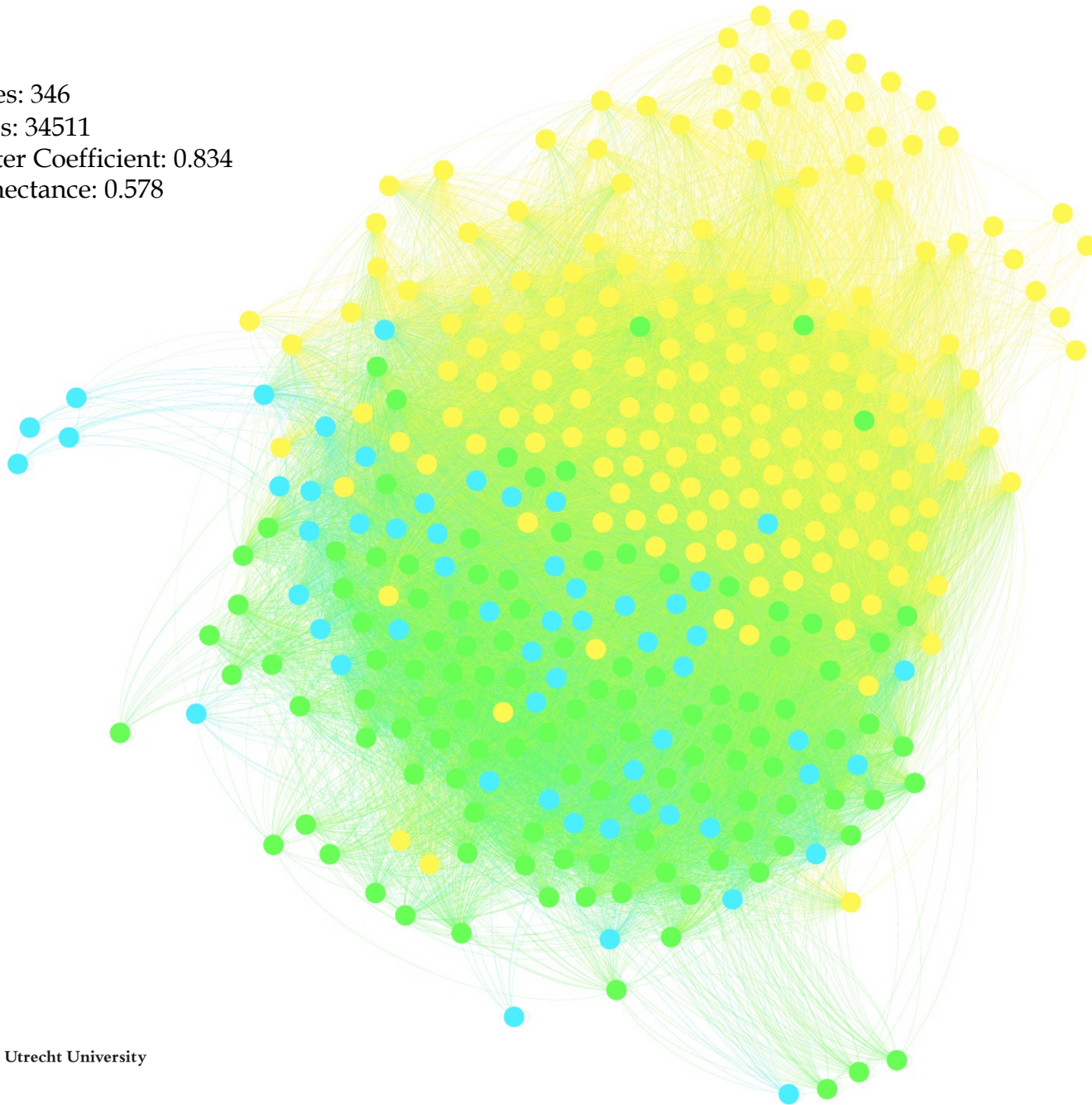
ADDRESSING SDGS THROUGH TRANSFORMATIVE INNOVATION POLICY
Schot, Boni, Ramirez, Steward 2018

Mapping SDG knowledge development at EIT-Climate KIC (2016-2020)

- Three sustainable options: Sustainable food (SDG2), Clean Water (6) and Clean Energy (7) and their interactions-
- EIT-CK Portfolio 346 projects (2016-2020)
- EIT-CK 223 Funded publications (WoS) (2016-2020)
- Cognitive and social interactions within and between these three sustainable option
 - **Connectance of projects OR Scientific Publications**
 - Specialization
- Thesaurus: keyword search
 - SDG-related publications

Results – Cognitive dimension

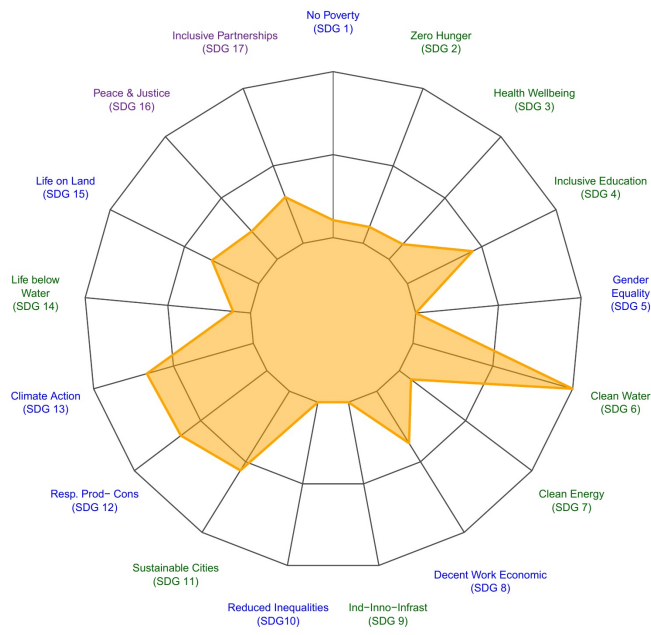
Nodes: 346
Edges: 34511
Cluster Coefficient: 0.834
Connectance: 0.578



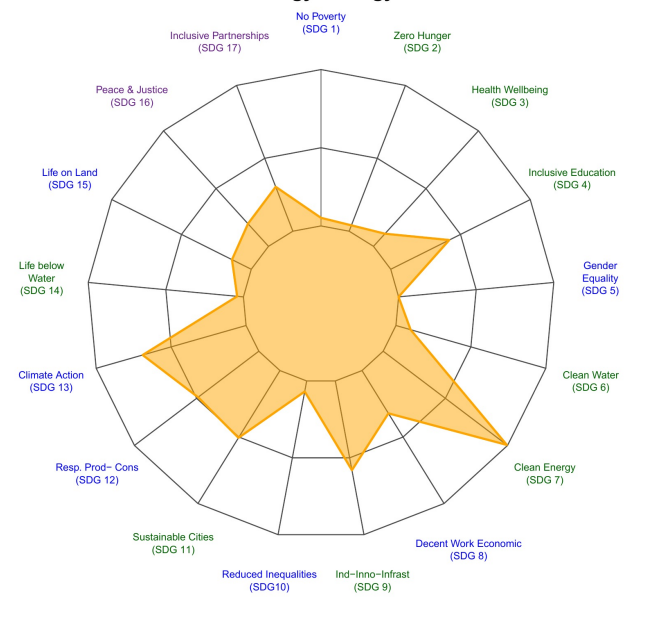
Climate Kic- SDGs cognitive interactions (e.g., Portfolio)

- Each node represents a project
- Each edge represents a common key word between two projects
- Yellow nodes: Clean Energy
- Green nodes: Sustainable Food
- Blue nodes: Clean Water

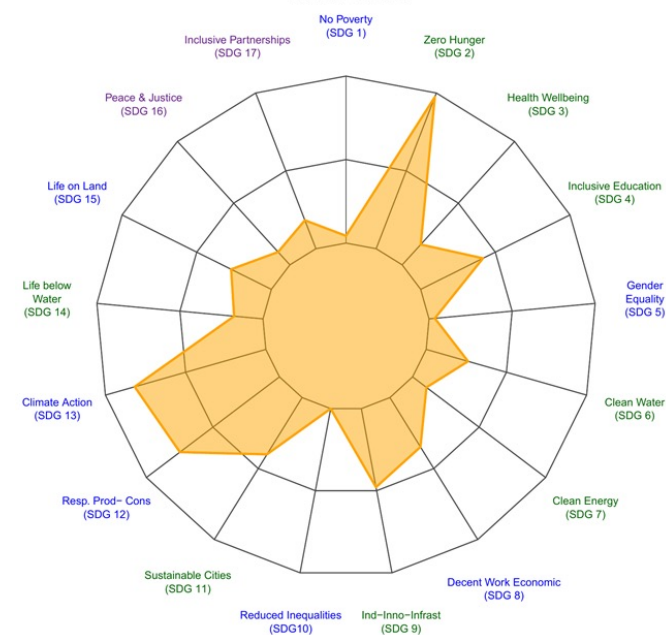
Water-Water



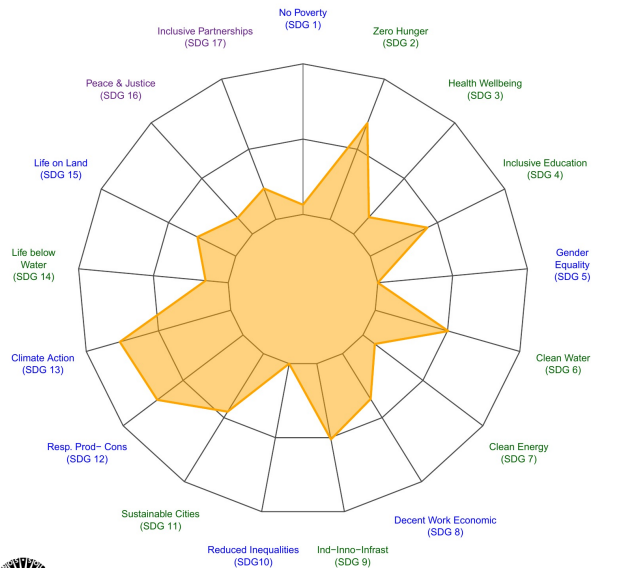
Energy-Energy



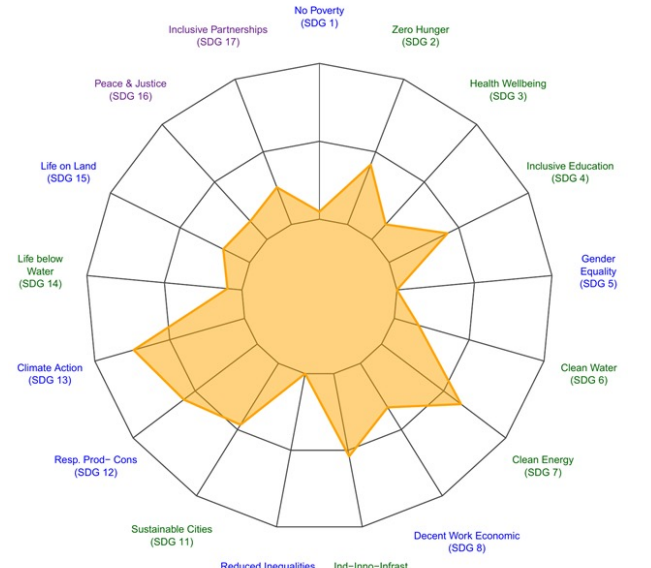
Food-Food



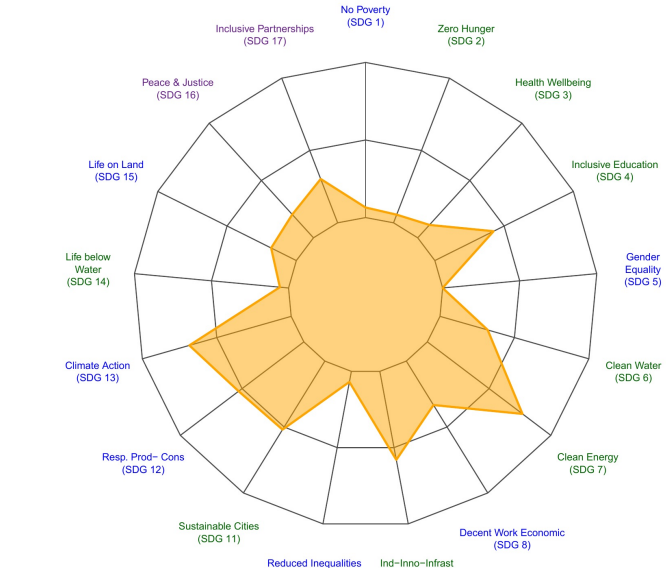
Food-Water



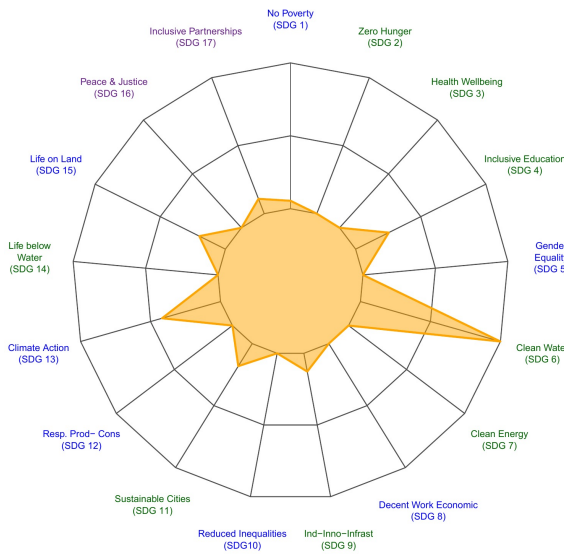
Food-Energy



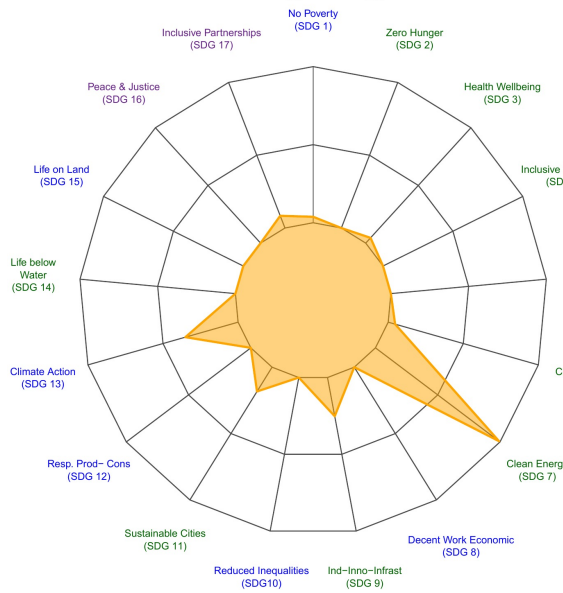
Water-Energy



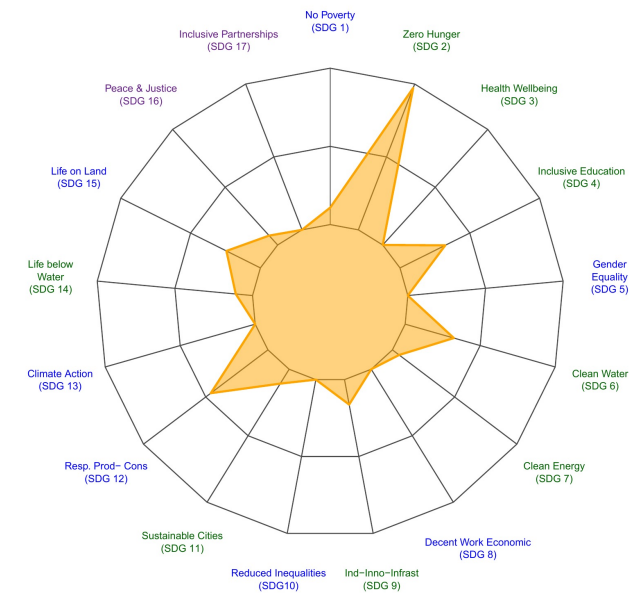
Water-Water



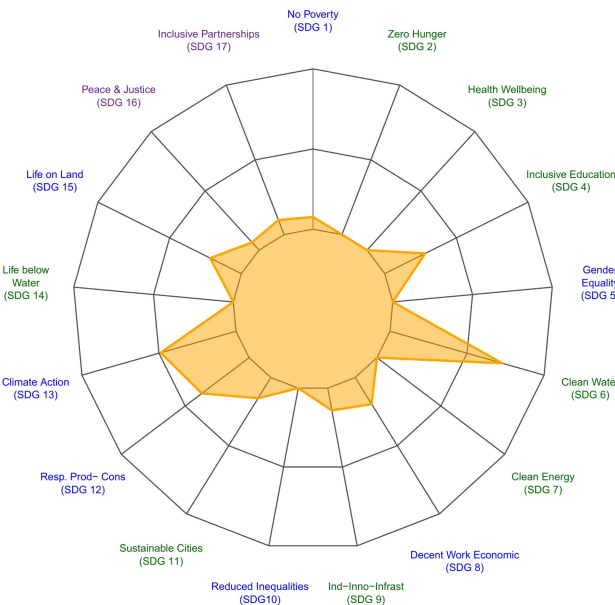
Energy-Energy



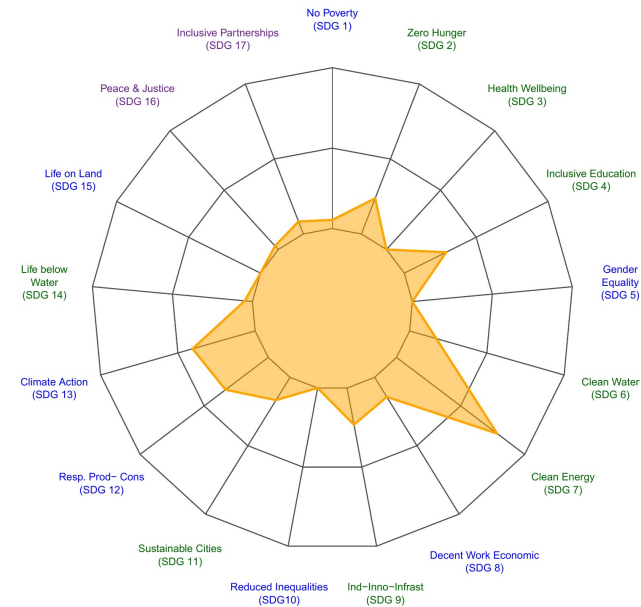
Food-Food



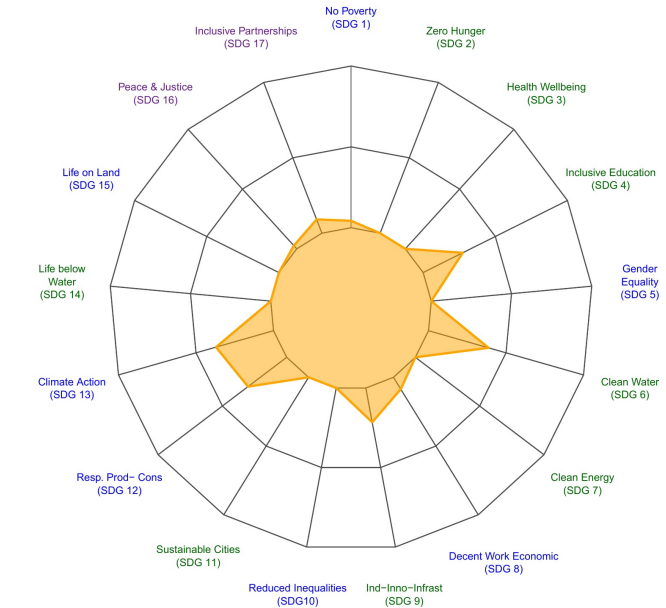
Food-water



Food-Energy



Water-Energy



Preliminary Conclusion (Cognitive)

Projects and Scientific publications keep interconnected mainly by topics within each sustainable option (water-energy-food). Besides, Sustainable Consumption and Production (SDG 12) and Climate Change (SDG 13) contribute to generating a cohesive language across EIT-Climate Kic projects. However, scientific publications have specialized in each sustainable option lacking in integrating other SDGs. Lastly, Transversal directionalities related to social justice and framework conditions are not integrated either in the portfolio and scientific publications

Thanks

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