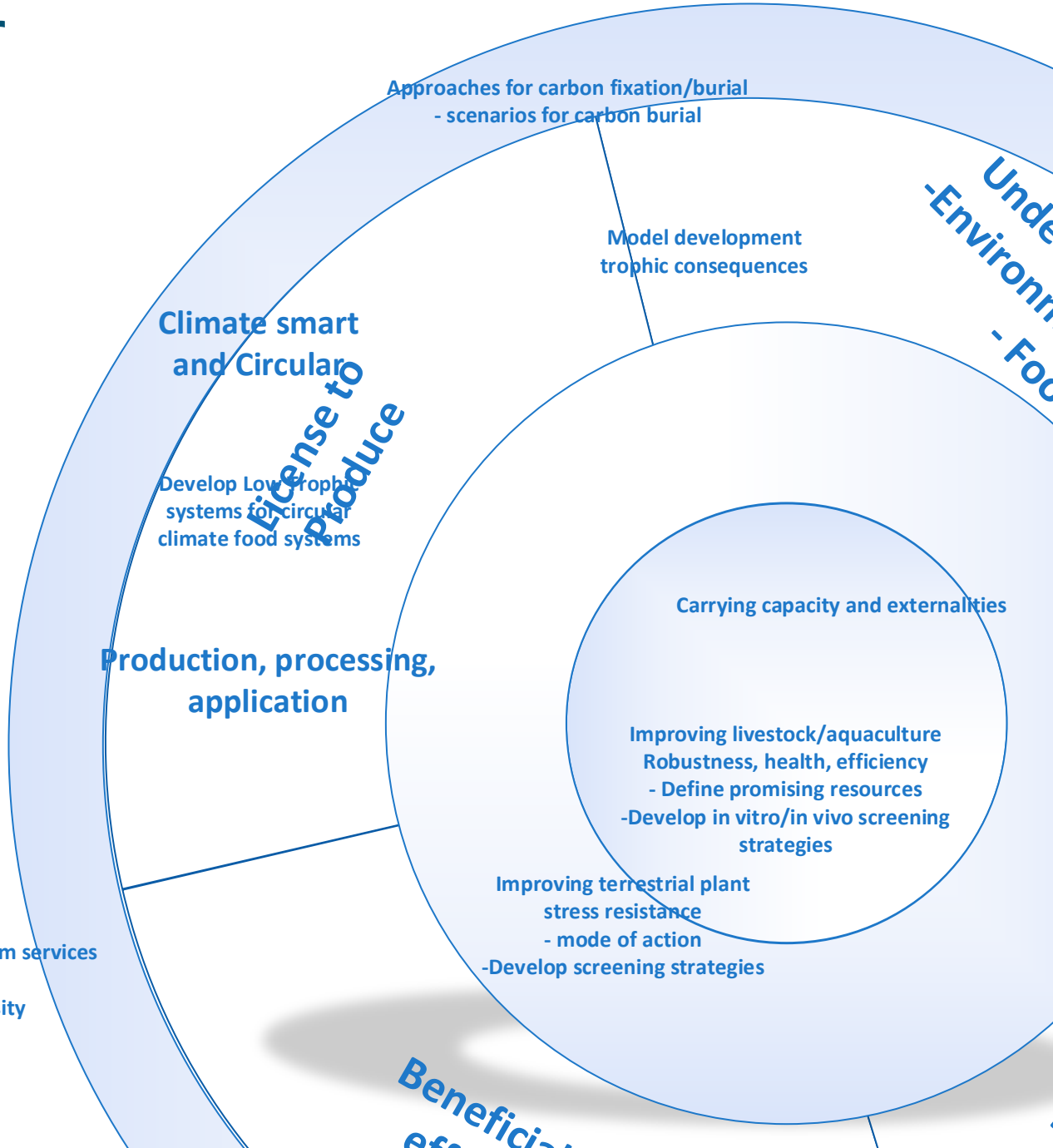
KB34 Circular

Integrated Assessment Framework
- Ecosystem based (towards quantification)
- Safety by design (hotspots for circular chains)

Monitoring tools
eDNA biodiversity, carbon sequestering, ROV, oyster larvae mortality, remote techniques



Method for monetarization ecosystem services
- eg. Carbon sequestering,
nutrient extraction, biodiversity

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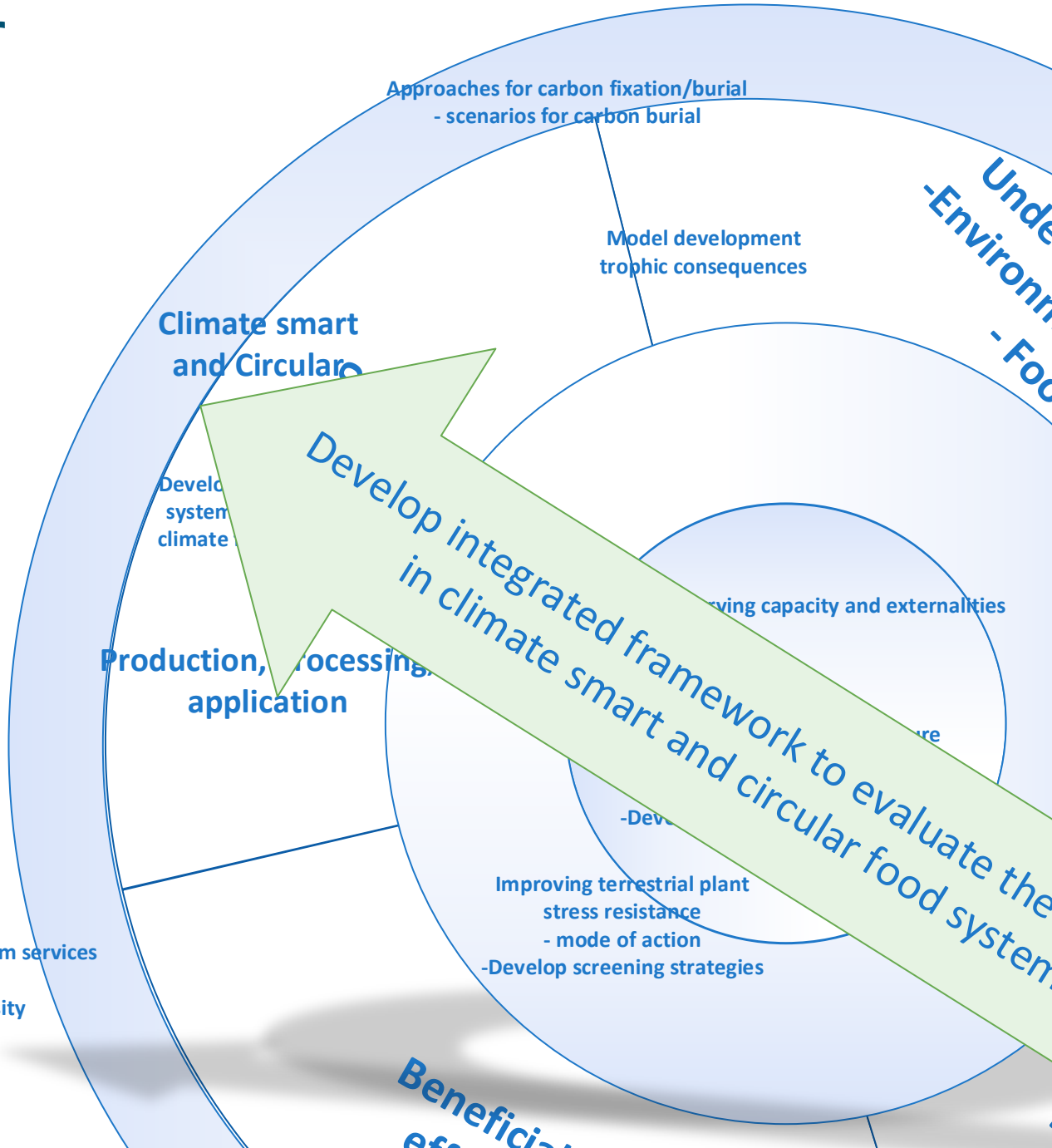

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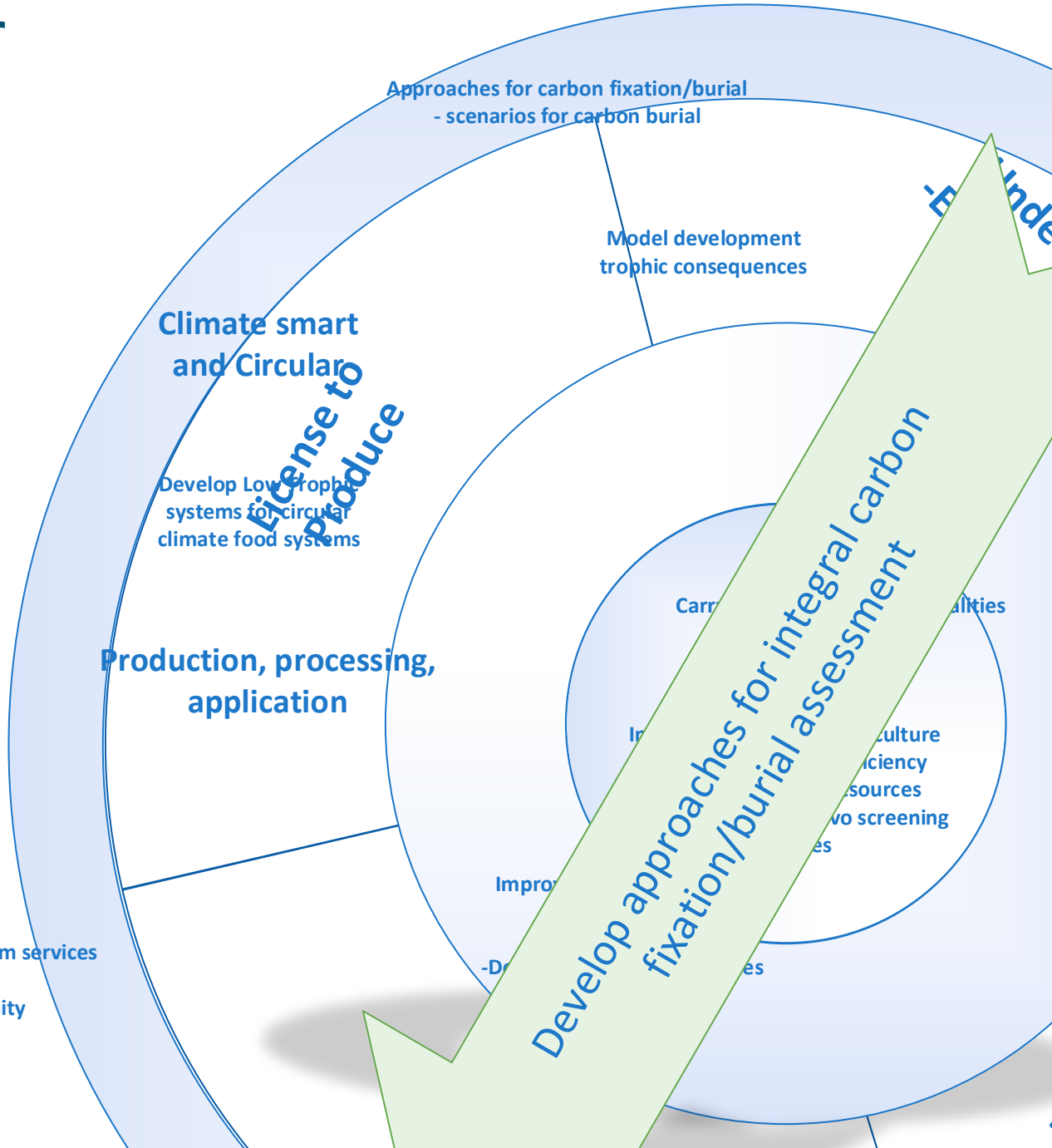

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KB34-2C-4, Marine resources in circular climate smart food systems.

Project team M. Poelman (WMR), S. van den Burg (WEcR), A. van der Werf(WPR), J. Veraart (WEnR), W. Muizelaar (WLR), M. Kootstra (WFBR), M. Klijnstra (WFSR), et al.

Topic

Climate smart and circular strategy development
Energy transition
Climate smart production systems
Circular agriculture vision with inclusion of marine resources

Objectives

To support developments towards low-tropic production (ltp) in the food system and to provide a scientific basis for:

- Proof-of-concept
- License-to-produce
- Positive and negative effects of ltp systems
- Insights in the socio-ecological context.

Contribute to the scientific basis for a transition to a circular ocean view (including marine and land-sea circularity).

Project activities

Proof-of-concept application
- Effect, mechanisms and tools seaweed-plant
- Effect, mechanisms and tools shellfish-animal

License-to-produce
- Integrated effect tools (DIPSR)
- Food Safety by Design (measure and mitigate)
- Develop marine monitoring tools (remote and high-end)

Positive and negative effects of ltp systems
- Carbon and nutrient scenarios and impact

Insights in the socio-ecological context.
- Monetarization of Carbon, nutrients and biodiversity
- Analysis of the macro-economic effects of large-scale seaweed cultivation

Develop a conceptual Integrated Framework / Dashboard for marine circular food systems

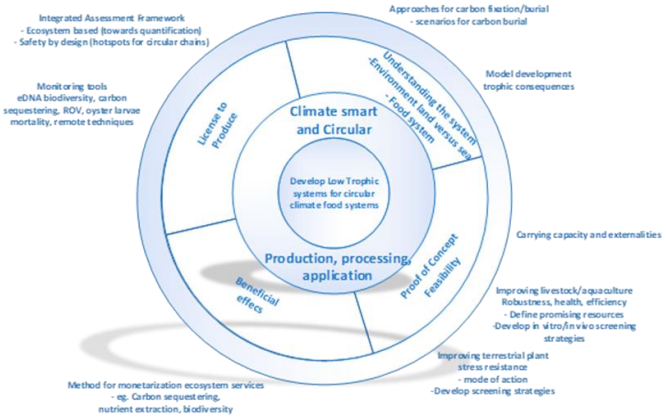
Expected impacts towards a circular and climate neutral society

Our outcomes provide a tool set to prepare for the implementation of marine resources in a circular food system

Understanding the mechanisms behind the benefits of marine applications allow for a more efficient and broader screening of marine resource.

The knowledge base enables us to utilize carbon, nutrient and biodiversity application in climate smart systems.
The product streams, processing and food safety understanding, will be implemented in development of the climate smart low trophic production systems.

Our integrated framework will prepare for marine circular adaptation.



Drivers

Energy, resource, nature transition in a multi-use environment

Climate smart and circular strategy development
Production and utilisation of low trophic marine resources in the food system

Contribution to integration of the marine system in the circular agriculture vision

External actors & actions

Within WUR:
KB program 34 (models and externalities)
Climate change actions
Circularity team (C-team)

Outside WUR:
Ministry of LNV
Community of Practice
Seaweed Industry
Shellfish Industry

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