Sharing societal metabolism insights with European Policymakers: uncomfortable encounters and learning for all.

K.L. Blackstock[a], K.B. Matthews[a], K.A. Waylen[a], A. Juarez-Bourke[a], D.G. Miller[a], D. Wardell-Johnson[a], A. Pereira[e], J. Cadillo Benalcazar[b], Z. Kovacic[d], A. Renner[b], M. Ripa[b], M. Giampietro[b,c]
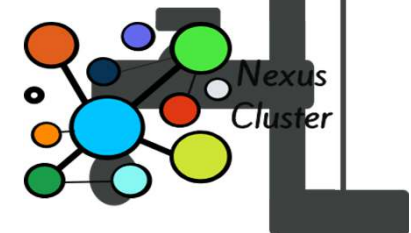
[a] The James Hutton Institute, Aberdeen, Scotland
[b] Institut de Ciència i Tecnologia Ambientals, Universitat Autonoma de Barcelona, Catalunya
[c] Institució Catalana de Recerca i Estudis Avançats (ICREA), Barcelona, Catalunya
[d] Centre for the Study of the Sciences and the Humanities (SVT), University of Bergen
[e] Joint Research Centre, ISPRA, Italy

Paper prepared for presentation at the Nexus Cluster Workshop, Brussels, 29th October 2019
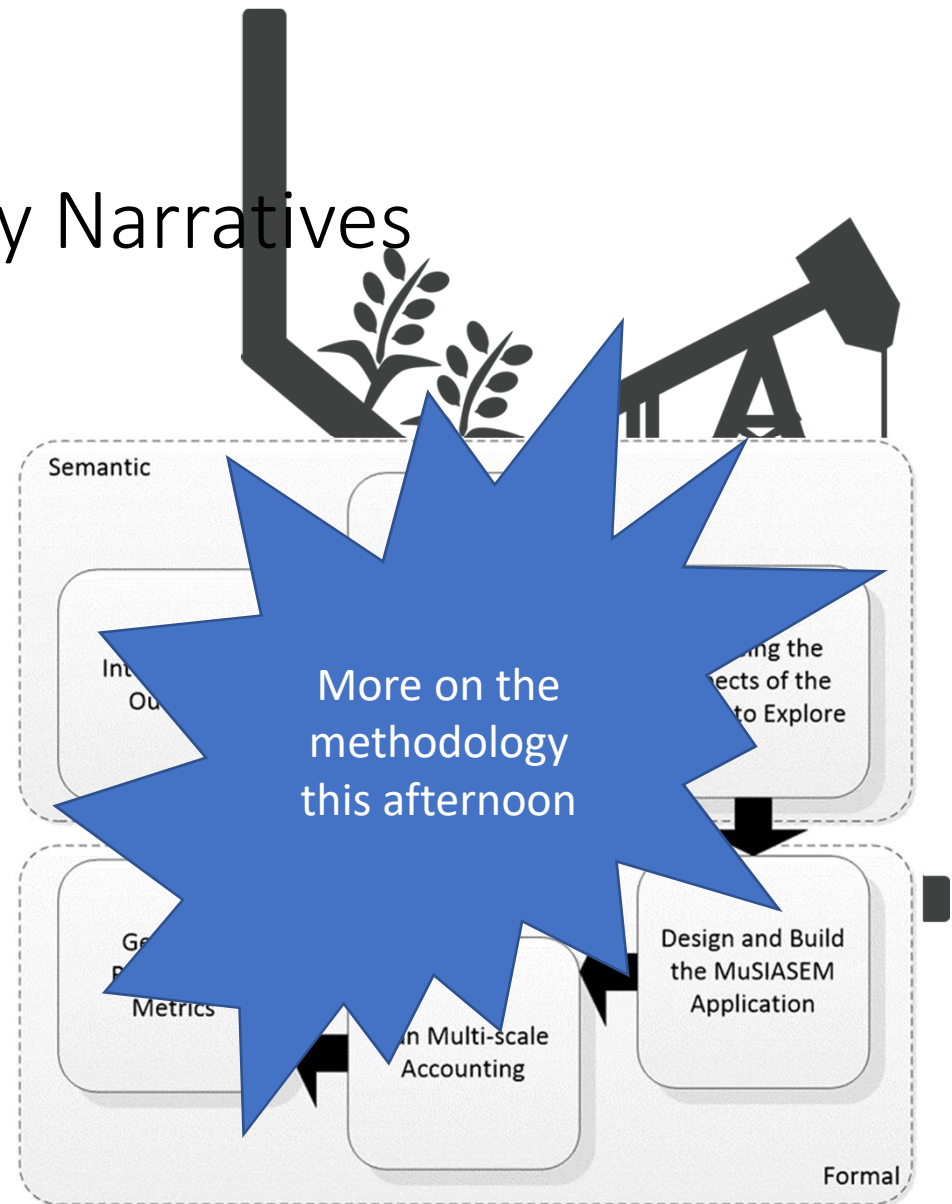
Take home messages

- Nexus is governance challenge

- Attention to social processes of how evidence is understood and debated

- MAGIC generates 'uncomfortable knowledge' that jars with existing policy processes and roles

- Learning how to do this better (and what not to do)

- Next event on 21st November 2019 and potential EEA meeting Jan 2020

Quality Checks on Policy Narratives

- Why is the policy needed? Quality of how problem is framed and understood using narratives-in-use

- What is the solution? Quality of the solution in terms of draw on biosphere (feasible); draw on technosphere (viable) and fit with social norms (desirable)

- How do we proceed? Quality of the knowledge production process in terms of evidence and inclusion

Semantic

Metrics

More on the methodology this afternoon

Design and Build the MuSIASEM Application

Multi-scale Accounting

Formal

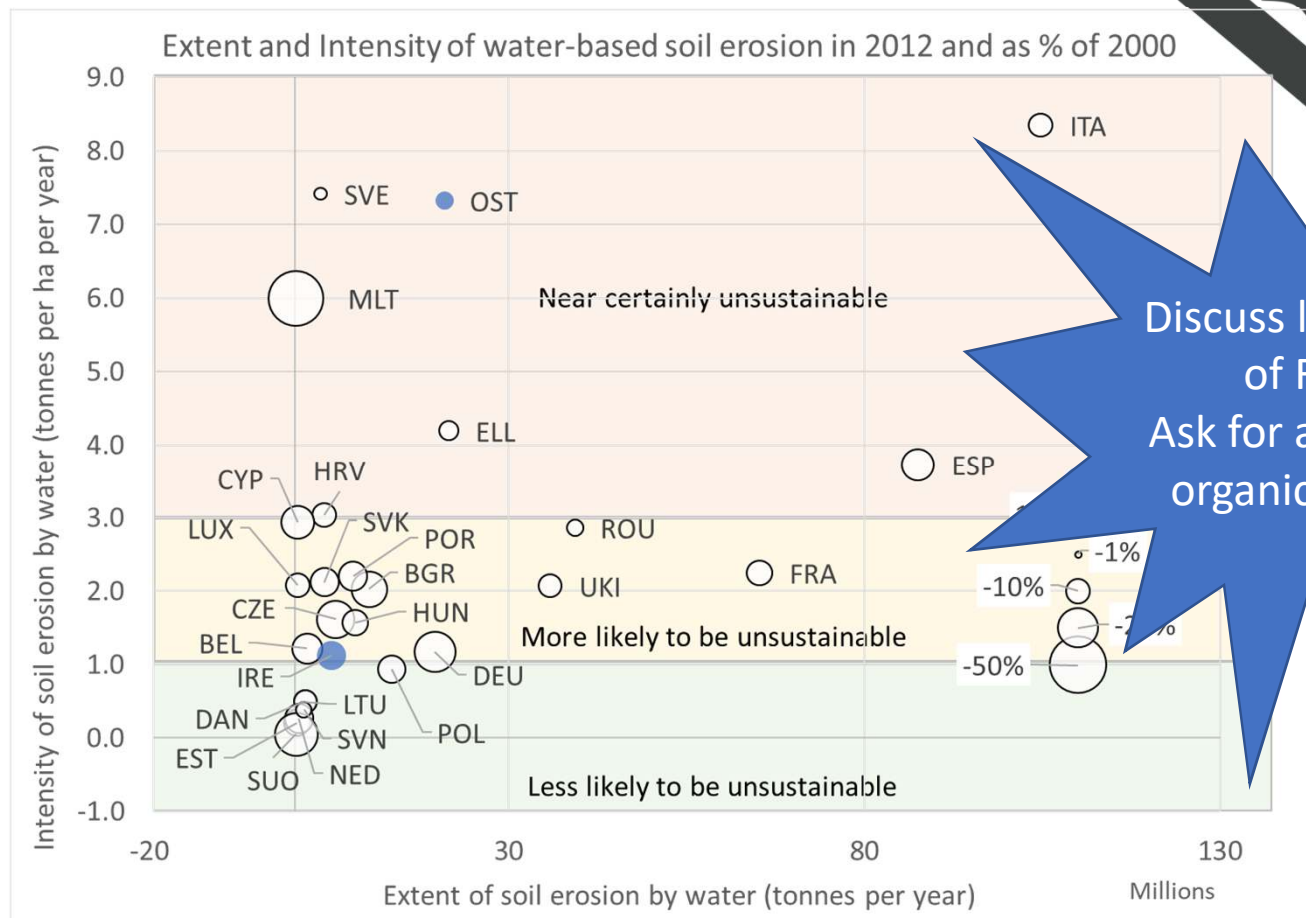MAGIC NEXUS

Policy Engagement to date

- Interviews with individuals from the DGs & their agencies (n =35) in 2017 and 2019

- Document analysis of the policy areas:
  - Common Agricultural Policy; Natura 2000; Circular Economy; Energy Efficiency and Renewable Energy Directives; and Water Framework Directive
  - And of the EU implementation of the UN Sustainable Development Goals

- Explored policy narratives in cross cutting discussion groups held in 2017 (DGs); 2018 (EEA, JRC & Parliament)

- Presentations of societal metabolism accounting results to policy actors in 2017 & 2018 – *next Nov 19 & Jan 20*

MAGIC
NEXUS

CAP Phase 1 Example

- CAP payments not preventing agriculture going beyond "safe operating limits"

"CAP aims to ensure European agricultural competitiveness in the world market and also aims to deliver public goods such as biodiversity conservation, water quality and climate change mitigation. These aims are in opposition."

Extent and Intensity of water-based soil erosion in 2012 and as % of 2000

Intensity of soil erosion by water (tonnes per ha per year)

Near certainly unsustainable

More likely to be unsustainable

Less likely to be unsustainable

ITA
SVE   OST
MLT
ELL
ESP
CYP   HRV
LUX   SVK   POR
CZE   BGR
BEL   HUN
IRE   DEU   ROU
DAN   LTU   UKI   FRA
EST   SVN   POL
SUO   NED

-1%
-10%
-50%

Extent of soil erosion by water (tonnes per year)   Millions

Discuss limitations of FADN
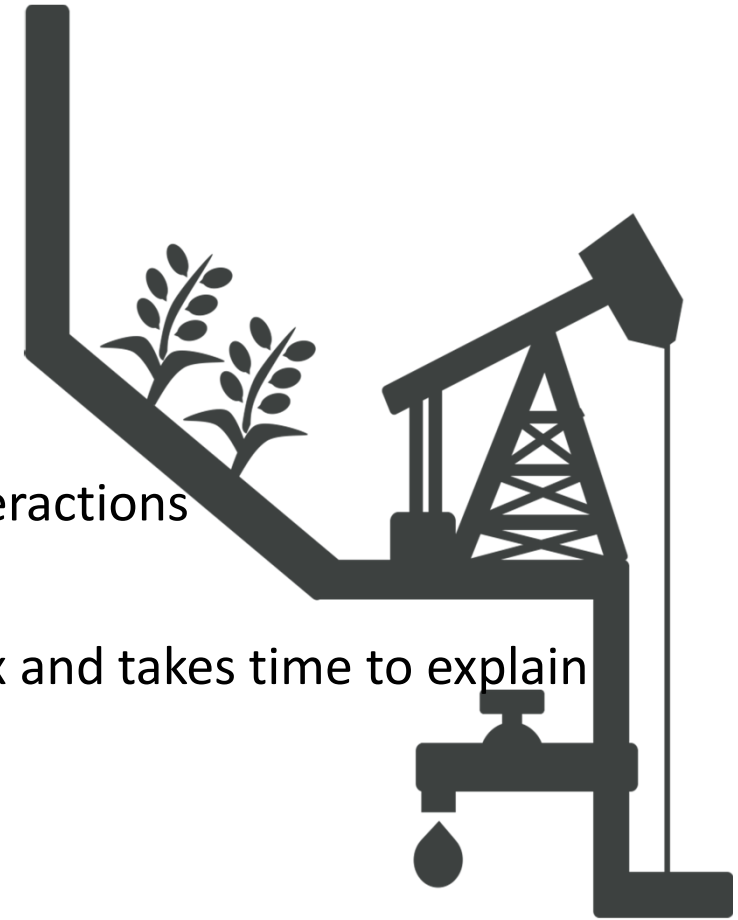Ask for analysis of organic farming

MAGIC NEXUS

What we learnt

- CAP appropriate policy for Nexus analysis
- Using familiar data set (FADN) useful

- No policy champion to enable sustained interactions
- Shifting stakeholders during QST cycle
- Societal Metabolism visualisation is complex and takes time to explain
- DG Agri officials not used to draft science
- Missed CAP policy window

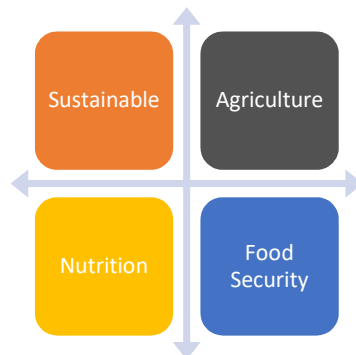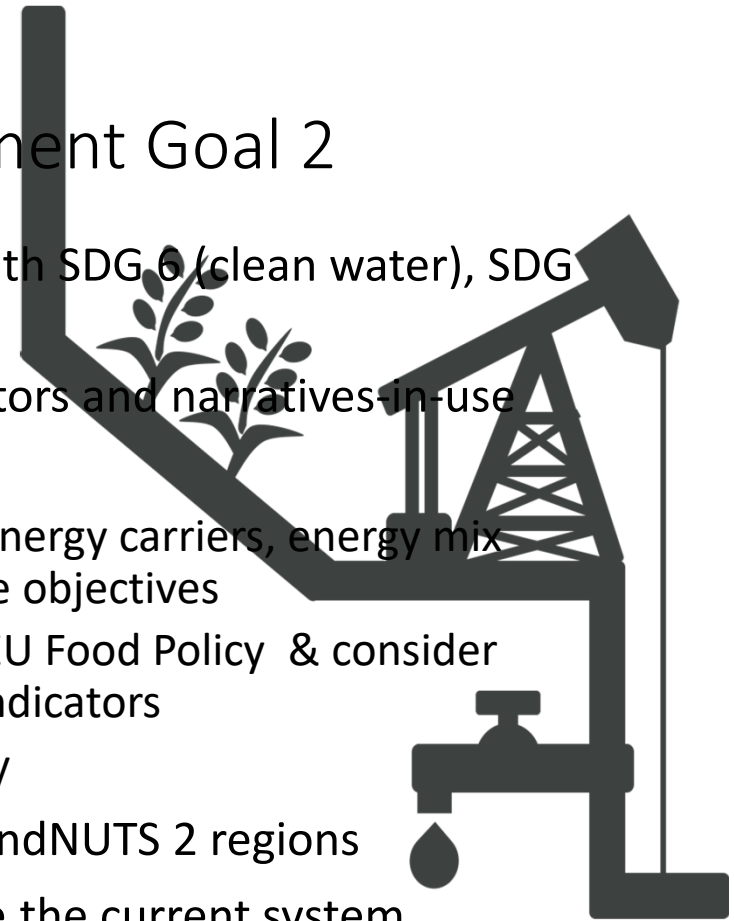- How does this help them do their job?

Who would find this analysis useful?

How do we remain credible and trusted?

Next phase – Sustainable Development Goal 2

- Focus on SDG2 *(End hunger)* and intersections with SDG 6 (clean water), SDG 13 (climate) and 15 (life on land)

- Institutional analysis: policy coherence, policy actors and narratives-in-use

- Qualitative policy check illustrates:
  - Problem framing: CAP need more attention to energy carriers, energy mix and embodied energy to take account of climate objectives
  - Solutions: Combine demand with production - EU Food Policy & consider how EU actions might affect others – spillover indicators
  - Process – need for SDG implementation strategy

- Application of MuSIASEM to FADN across EU28 andNUTS 2 regions

- Share with those who want to change or improve the current system

Sustainable	Agriculture
Nutrition	Food Security

The EC approach to delivering the SDGs is to rely on a mix of existing policies. Eurostat measures progress towards SDG2 and explains the choice of indicators with reference to implementation of policies, principally CAP, WFD, and Natura 2000. The EC use developmental policy coherence to ensure achieving SDGs within the EU does not harm non-EU countries' ability to achieve them.

MAGIC NEXUS

The MAGIC-NEXUS Project

Finding new ways to tackle complex policy issues at the nexus between water, energy and food resources

http://magic-nexus.eu/   https://www.facebook.com/MagicNexusEu/   #MAGIC_NEXUS

Video Series on Uncomfortable Knowledge:
https://www.youtube.com/playlist?list=PLIZrkdjNiMaWa0Gq3RT2NRQHpTkrARVmH