

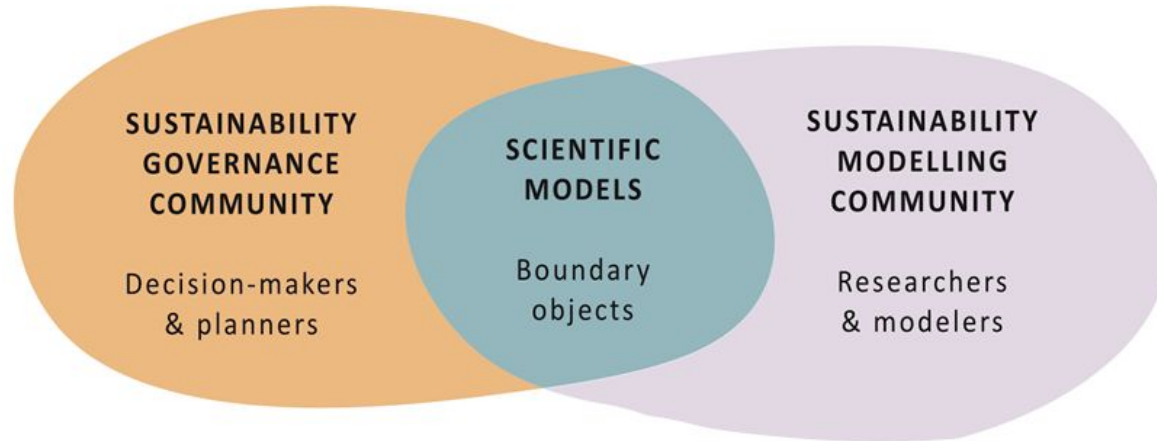


2021 EU Conference on
modelling for policy support
22 - 26 November - *online event*

Co-producing model literacy for sustainability

[Michiru Nagatsu](#), [Tuuli Toivonen](#), [Nina Janasik](#), [Jussi Eronen](#), [Kaisa Korhonen-Kurki](#) (University of Helsinki); [Niko Soininen](#) (University of Eastern Finland); [Tommi Ekholm](#) (Finnish Meteorological Institute); [Riikka Paloniemi](#) (Finnish Environment Institute); [Kirsi-Marja Lonkila](#) (Ministry of the Environment, Finland); [Kaisa Välimäki](#), ([Forum for Environmental Information](#), Finland)

Model-mediated science-policy interface



models as **boundary objects** (e.g. White et al. 2010)

models as **performative objects** (e.g. van Egmond & Zeiss 2010)

Effective research for policy-making?

Common view on the required qualities:

- **CRELE**: Credibility, Relevance, Legitimacy
- Linear view of science-policy interface; problem: science literacy

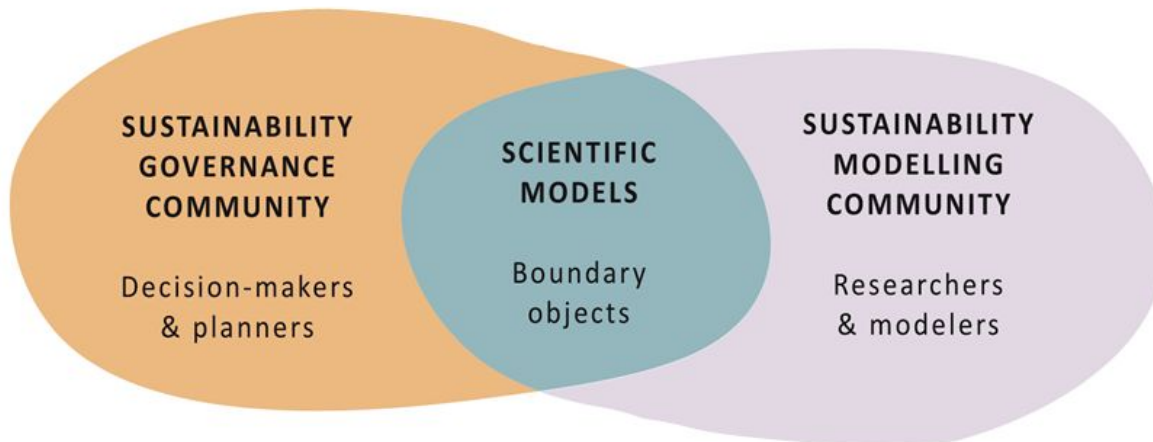
Actual view from policy-makers:

- **ACTA**: Accessibility, Comprehensiveness, Timing, Applicability

(Dunn & Laing, 2017)

Two-way knowledge asymmetry

Policy-makers
don't know
enough about
models and
modeling

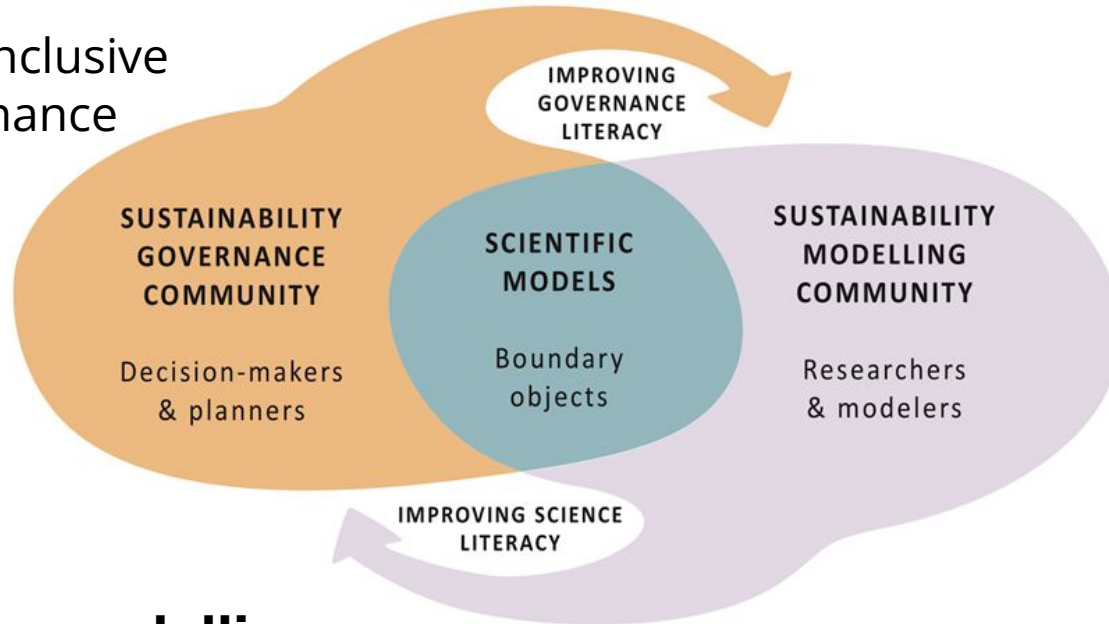


Modelers don't
know enough
about policy
processes and
policy-making

Model literacy: tacit knowledge about models and how they work

Co-producing model literacy

effective and inclusive
science-governance
interactions



participatory modelling
e.g. workshops and forums

model-based
participatory governance

Case: Finnpulp and Supreme Administrative Court

- Supreme Administrative Court of Finland declined an environmental permit to a 1.2 billion-euro biorefinery project in 2019 (Finnpulp).
- The court criticised the hydrological models that were used for evaluating ecological impact, which could not meet the legal standard of certainty.
- Some scientists criticised the decision for demanding unrealistic levels of integration (biodiversity coupled with hydrological and chemical changes) from the models on an unrealistic timespan (40–50 years into the future).
- Modellers would have needed more knowledge about the legal requirements, and the court on what models can produce.
- Example of insufficient, bidirectional model literacy.

Thank you!

Questions or comments?

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