Collaborative approaches to e-mobility transitions in cities

How can stakeholders work better together for e-mobility transitions?

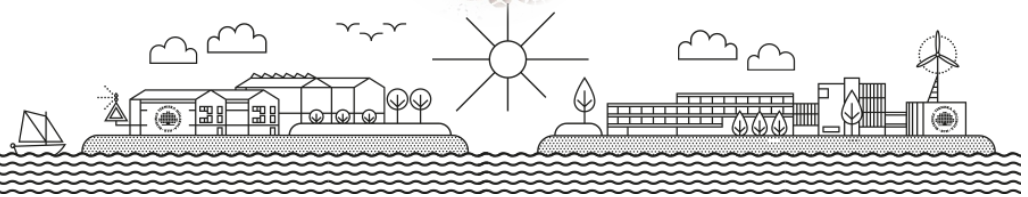
30th November, 2020. 13:00-14:30 hrs (CET), Join us here: SolutionsPlus Living Lab Workshop

Varvara Nikulina
Ph.D. candidate.
Focus: Stakeholder engagement in planning for sustainable urban mobility transitions

Peter Schlyter
Professor, Ph.D.
Focus: Group modelling for deliberative planning and conflict resolution

Sven Borén
Researcher, Ph.D.
Focus: Planning models towards full sustainability with a focus on electric vehicles and public transport

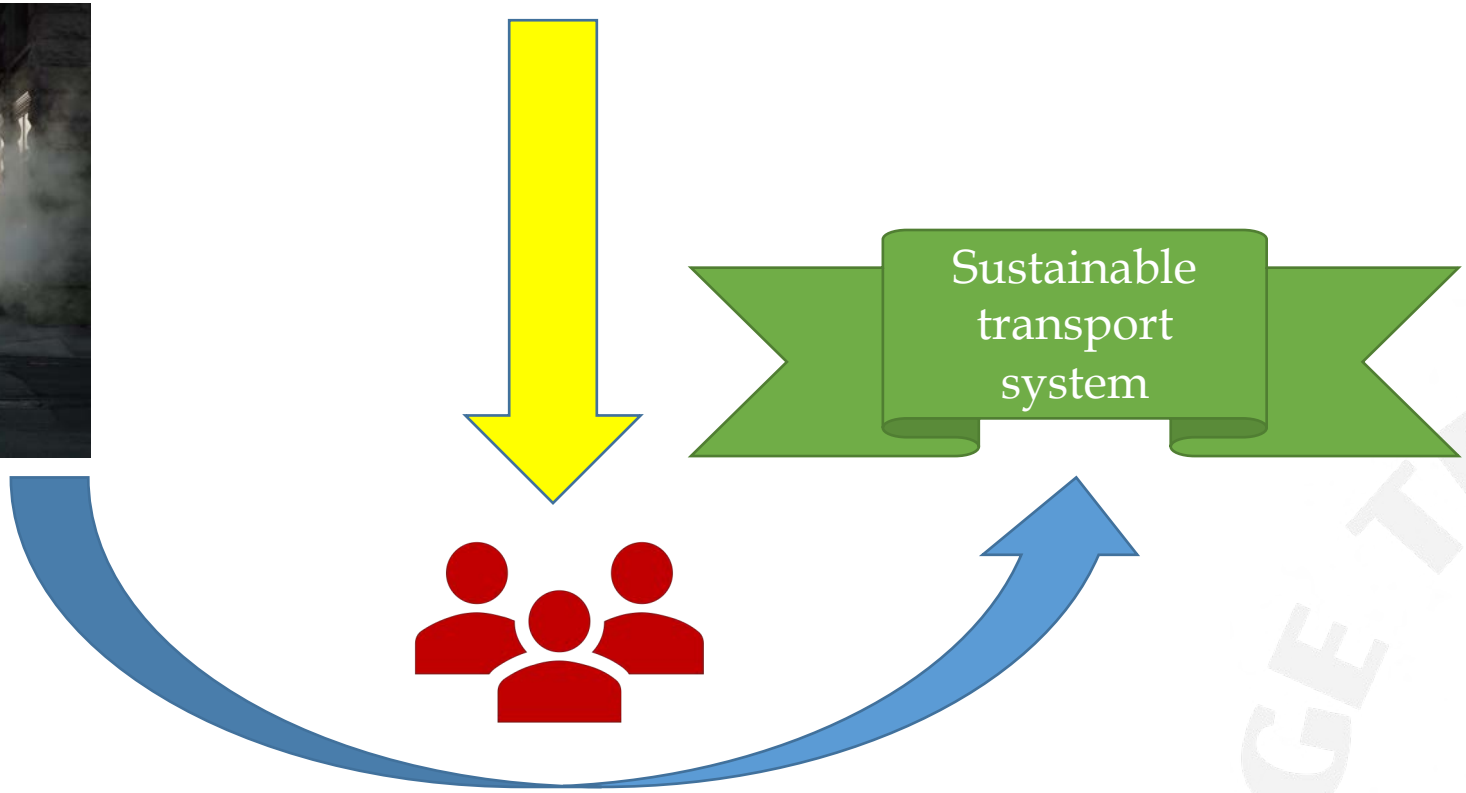
Judith Oginga-Martins
Ph.D. candidate, MSc
Focus: research on Sustainable Mobility for East African cities
Moderator



STAKEHOLDER ENGAGEMENT IN URBAN TRANSPORT TRANSITIONS

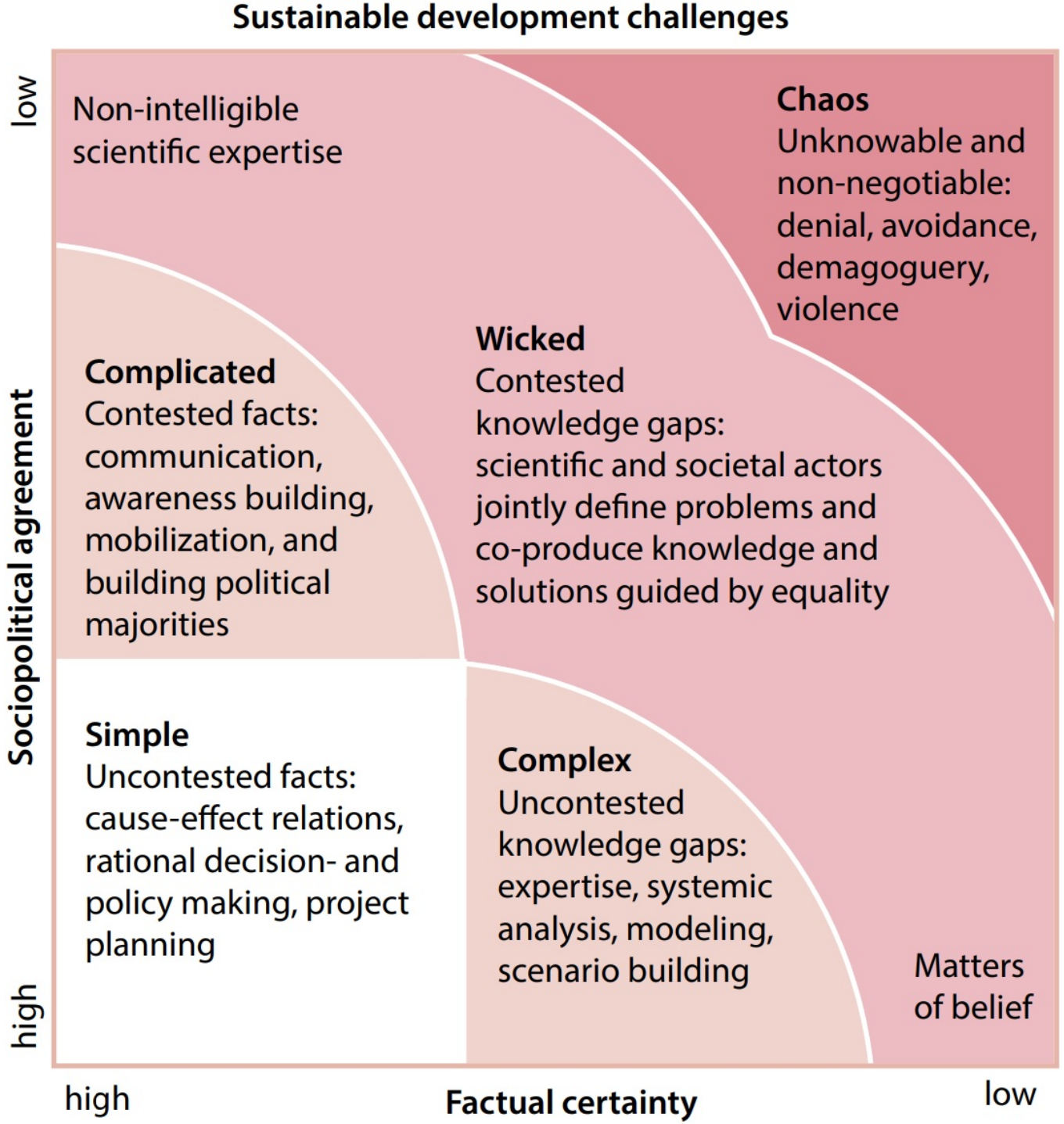
Varvara Nikulina

Stakeholder engagement in urban transport transitions



Varvara Nikulina
PhD candidate
Strategic Sustainable Development department
Blekinge Institute of Technology
30 November 2020

Source: https://www.un-page.org/page-and-sustainable-development-goals

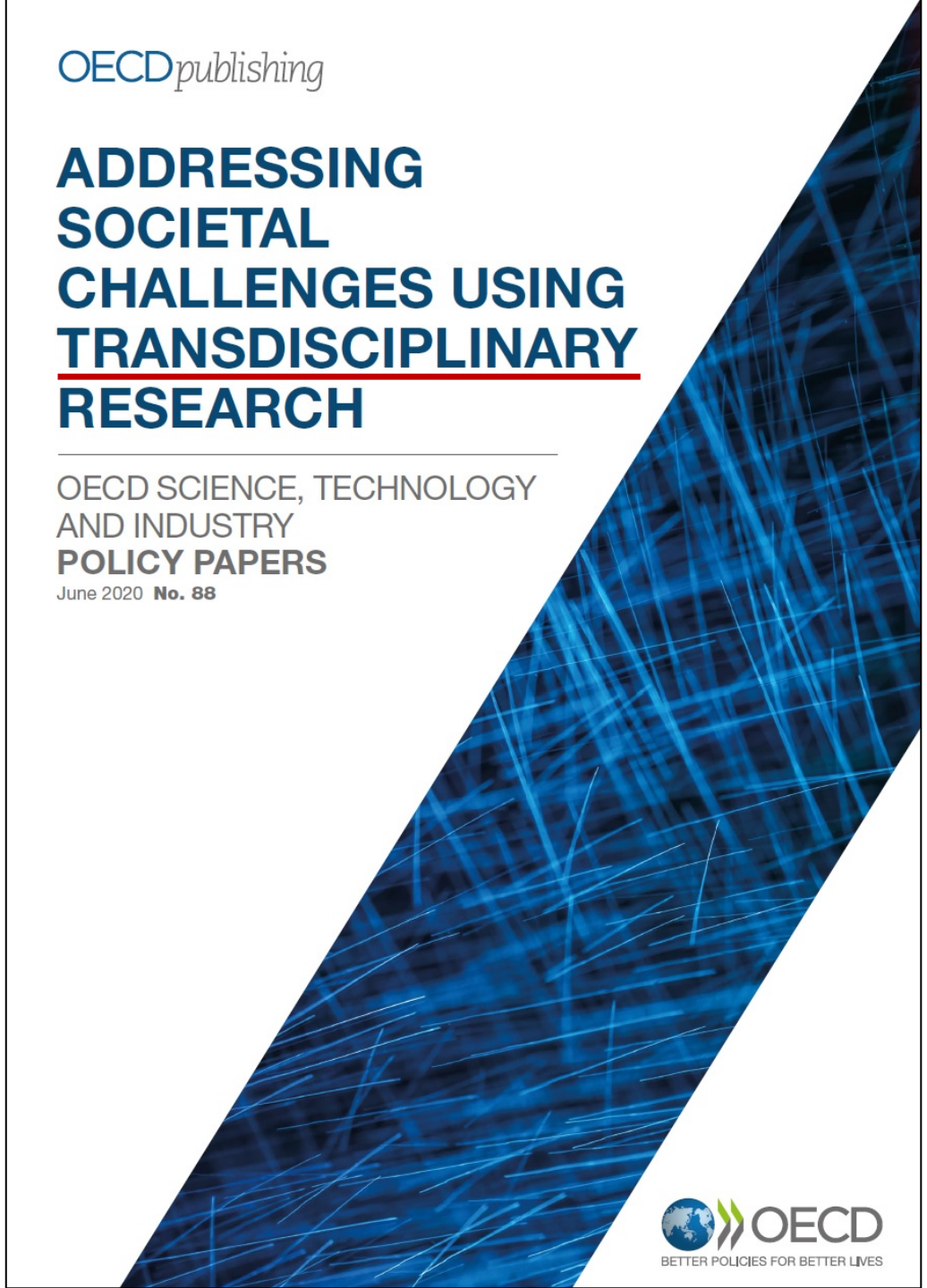


Source: United Nations, 2019. The future is now: Science for achieving sustainable development (Global sustainable development report). United Nations. p. 112.

Co-production

Co-creation

United Nations, 2019. The future is now: Science for achieving sustainable development (Global sustainable development report). United Nations.



Source: OECD, 2020. Addressing societal challenges using transdisciplinary research (OECD Science, Technology and Industry Policy Papers No. 88), OECD Science, Technology and Industry Policy Papers. https://doi.org/10.1787/0ca0ca45-en

This is an apple… and it looks appetising

DISCIPLINARY

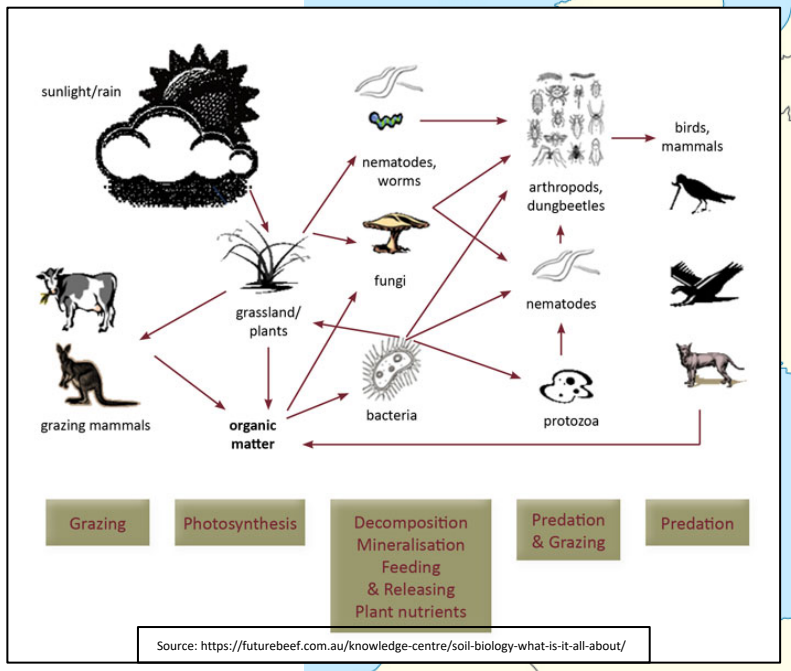
The apple is appetising… is Ingrid Marie sort and grows in this area

The apple is appetising… and responds to the weather and seasonality

MULTIDISCIPLINARY

The apple is appetising… but what is it good for?

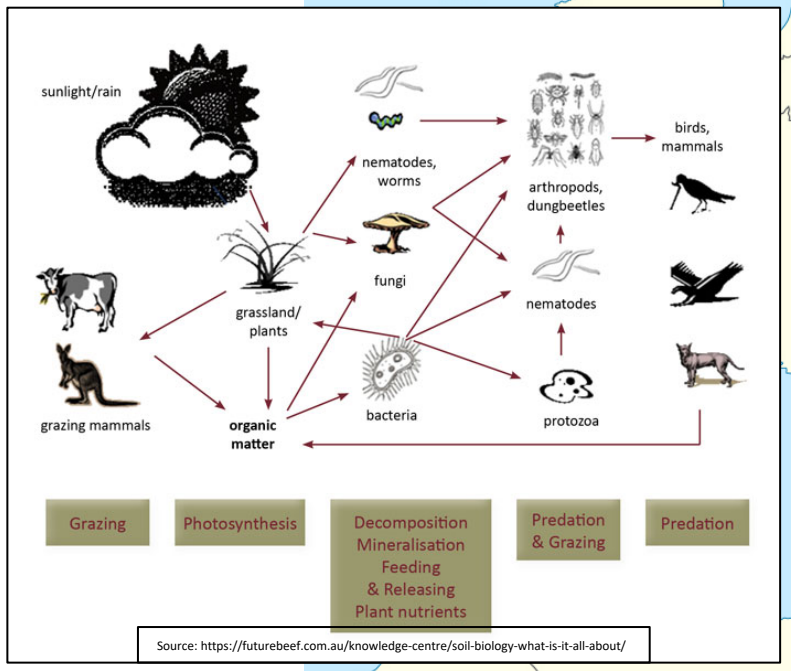
INTERDISCIPLINARY



Source: https://futurebeef.com.au/knowledge-centre/soil-biology-what-is-it-all-about/

What can be learnt from interaction of apples and honey bees to support sustainable food production?

TRANSDISCIPLINARY (co-production of knowledge)



Source: https://futurebeef.com.au/knowledge-centre/soil-biology-what-is-it-all-about/

Co-creation vs co-production

Conceptualisation
Design
Production
Analysis of research

Production
Analysis of research

Source: Simon, D., Palmer, H., Riise, J., Smit, W., Valencia, S., 2018. The challenges of transdisciplinary knowledge production: from unilocal to comparative research. Environment and Urbanization, p. 482. https://doi.org/10.1177/0956247818787177

Some aspects of transdisciplinarity to focus on:

Concept / Category	Epistemic standpoint	Linguistic diversity	Culture

Source: Nikulina, V., Lindal, J., Baumann, H., Simon, D., Ny, H. 2019. 'Lost in Translation: A Framework for Analysing Complexity of Co-Production Settings in Relation to Epistemic Communities, Linguistic Diversities and Culture'. *Futures* 113 (October): https://doi.org/10.1016/j.futures.2019.102442.

Some aspects of transdisciplinarity to focus on:

Concept / Category	Epistemic standpoint	Linguistic diversity	Culture

Standpoint from the networks of experts that share a common knowledge-base

Source: Nikulina, V., Lindal, J., Baumann, H., Simon, D., Ny, H. 2019. 'Lost in Translation: A Framework for Analysing Complexity of Co-Production Settings in Relation to Epistemic Communities, Linguistic Diversities and Culture'. *Futures* 113 (October): https://doi.org/10.1016/j.futures.2019.102442.

Some aspects of transdisciplinarity to focus on:

Concept / Category	Epistemic standpoint	Linguistic diversity	Culture

A concentration of unique languages in one context

Source: Nikulina, V., Lindal, J., Baumann, H., Simon, D., Ny, H. 2019. 'Lost in Translation: A Framework for Analysing Complexity of Co-Production Settings in Relation to Epistemic Communities, Linguistic Diversities and Culture'. *Futures* 113 (October): https://doi.org/10.1016/j.futures.2019.102442.

Some aspects of transdisciplinarity to focus on:

Concept / Category	Epistemic standpoint	Linguistic diversity	Culture

Practice, traditions, values and norms

Source: Nikulina, V., Lindal, J., Baumann, H., Simon, D., Ny, H. 2019. 'Lost in Translation: A Framework for Analysing Complexity of Co-Production Settings in Relation to Epistemic Communities, Linguistic Diversities and Culture'. *Futures* 113 (October): https://doi.org/10.1016/j.futures.2019.102442.

Transdisciplinary processes can be characterised as:

- Complex
- Messy
- Unpredictable
- With conflicting rationalities

Sustainability challenges

A European Green Deal

Striving to be the first climate-neutral continent

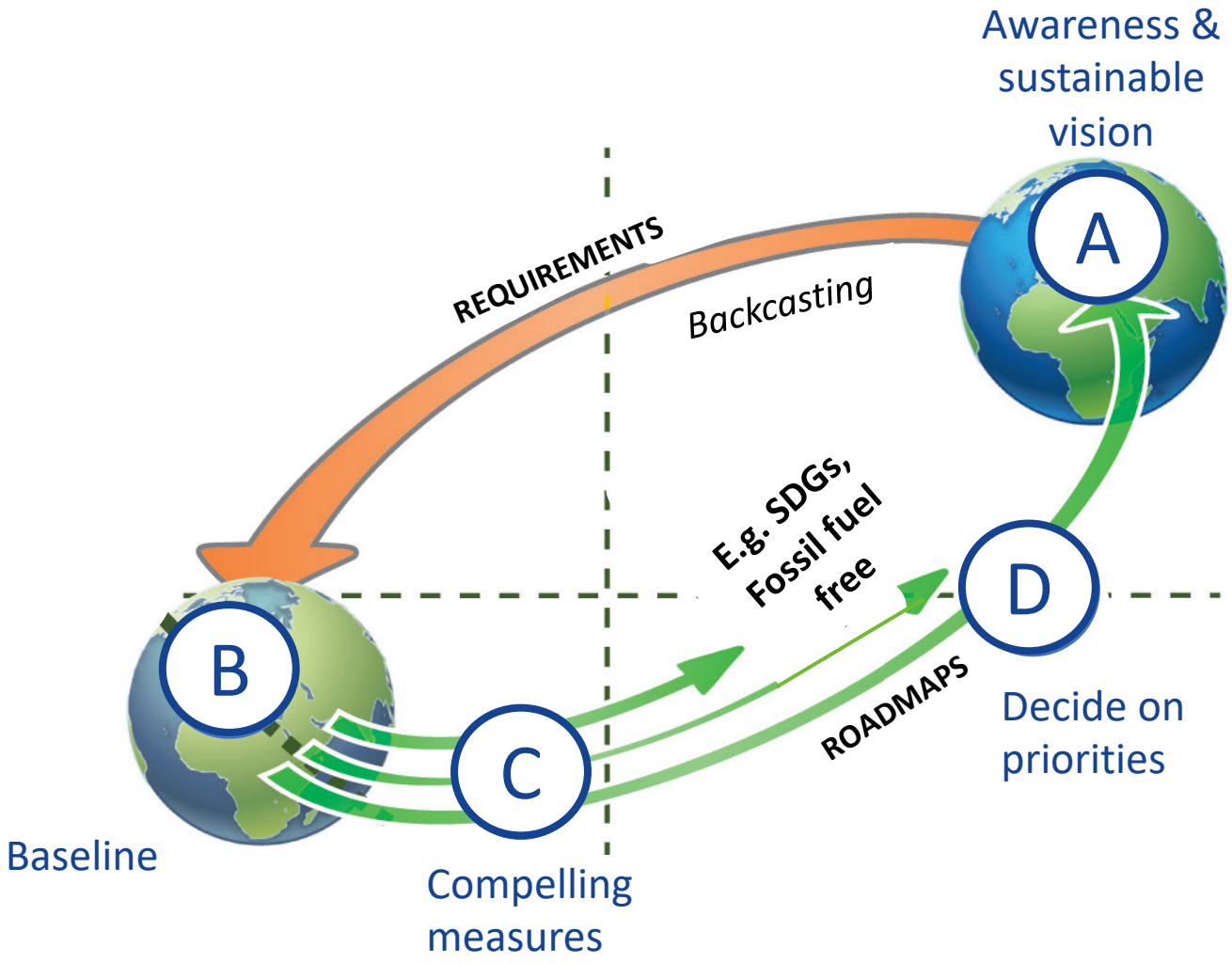
Wicked problems

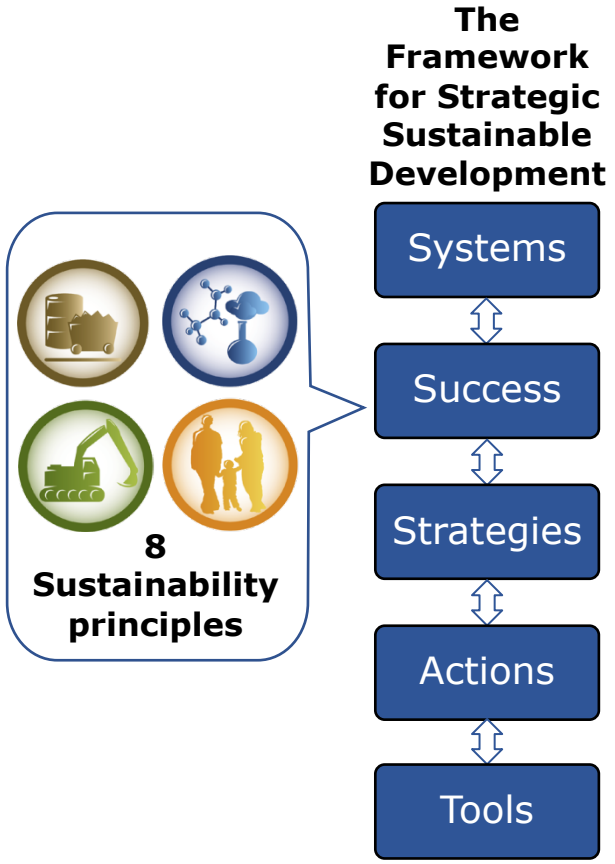
Disciplinary + Trans-disciplinary

PLANNING MODELS TOWARDS FULL SUSTAINABILITY - FOCUS ON ELECTRIC VEHICLES AND PUBLIC TRANSPORT

SVEN BORÉN

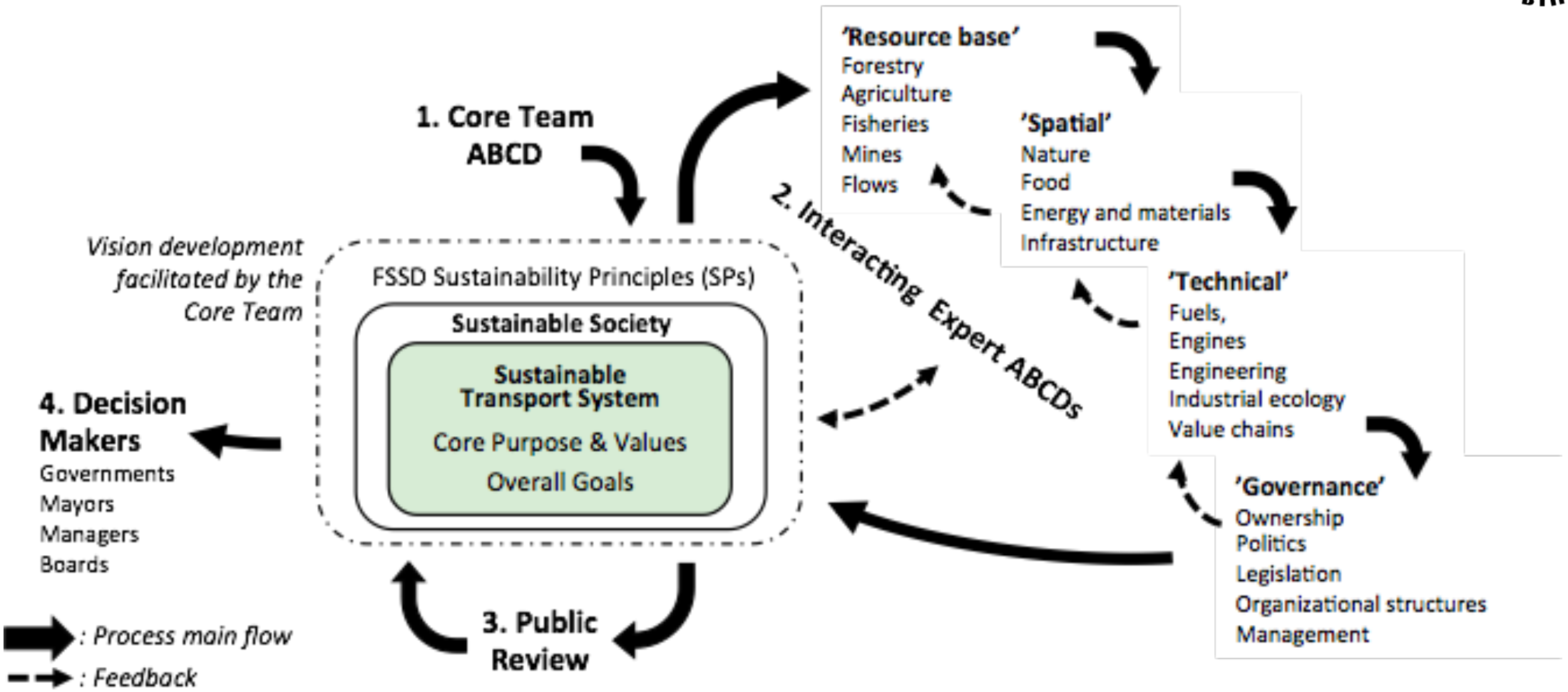
Strategic Sustainable Development





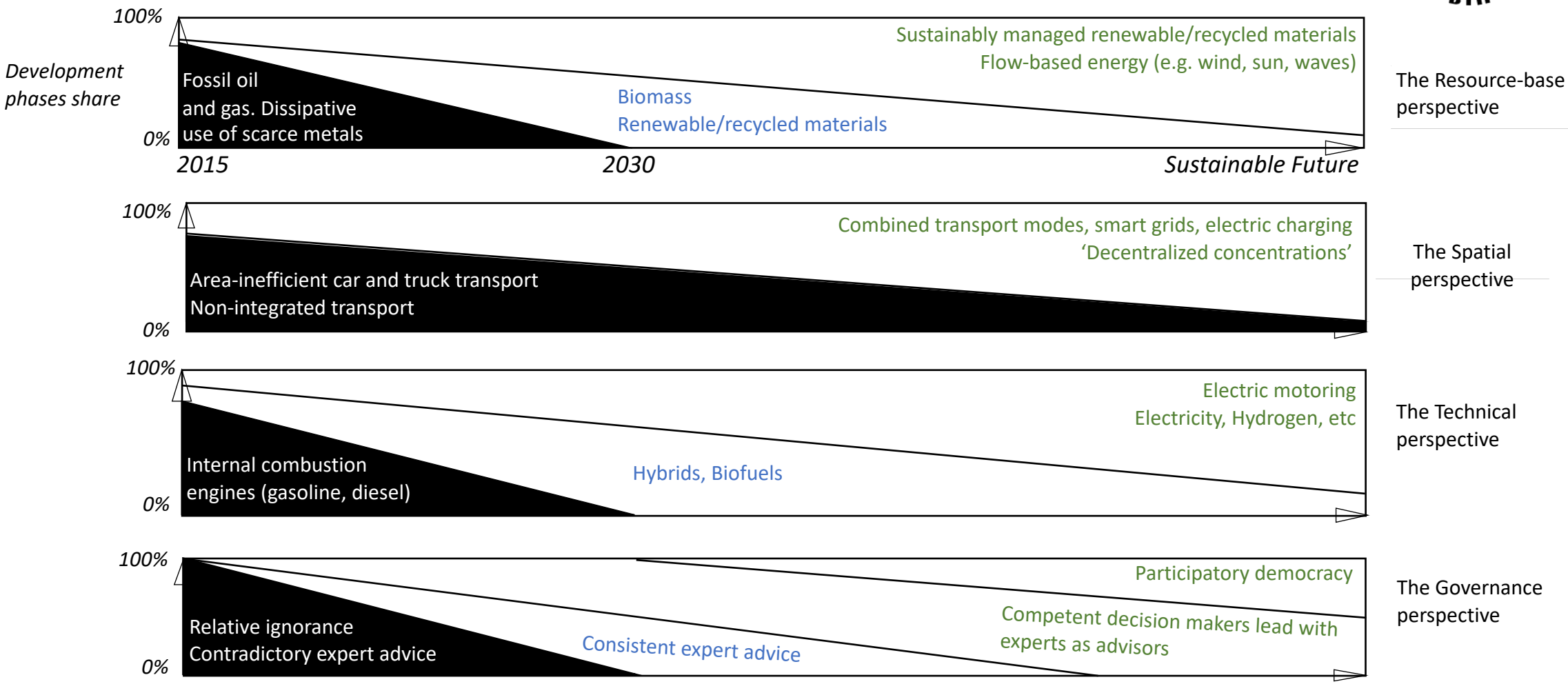
Source: Broman & Robert, 2017

Initial multi-stakeholder collaboration model for planning -> SSD



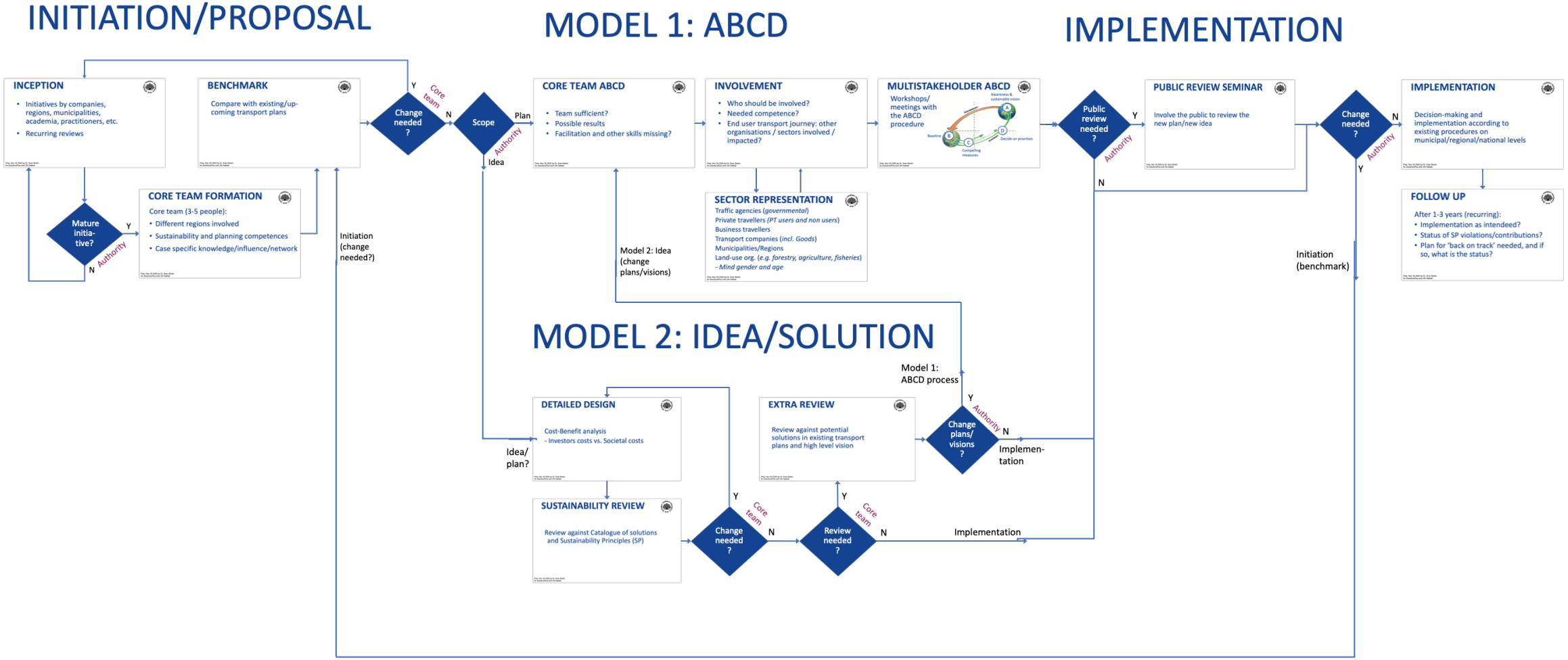
Source: Robèrt, K-H, Borén, S., Nurhadi, L., Ny, H.., Broman, G., 2017

-> transport sector towards (full) sustainability

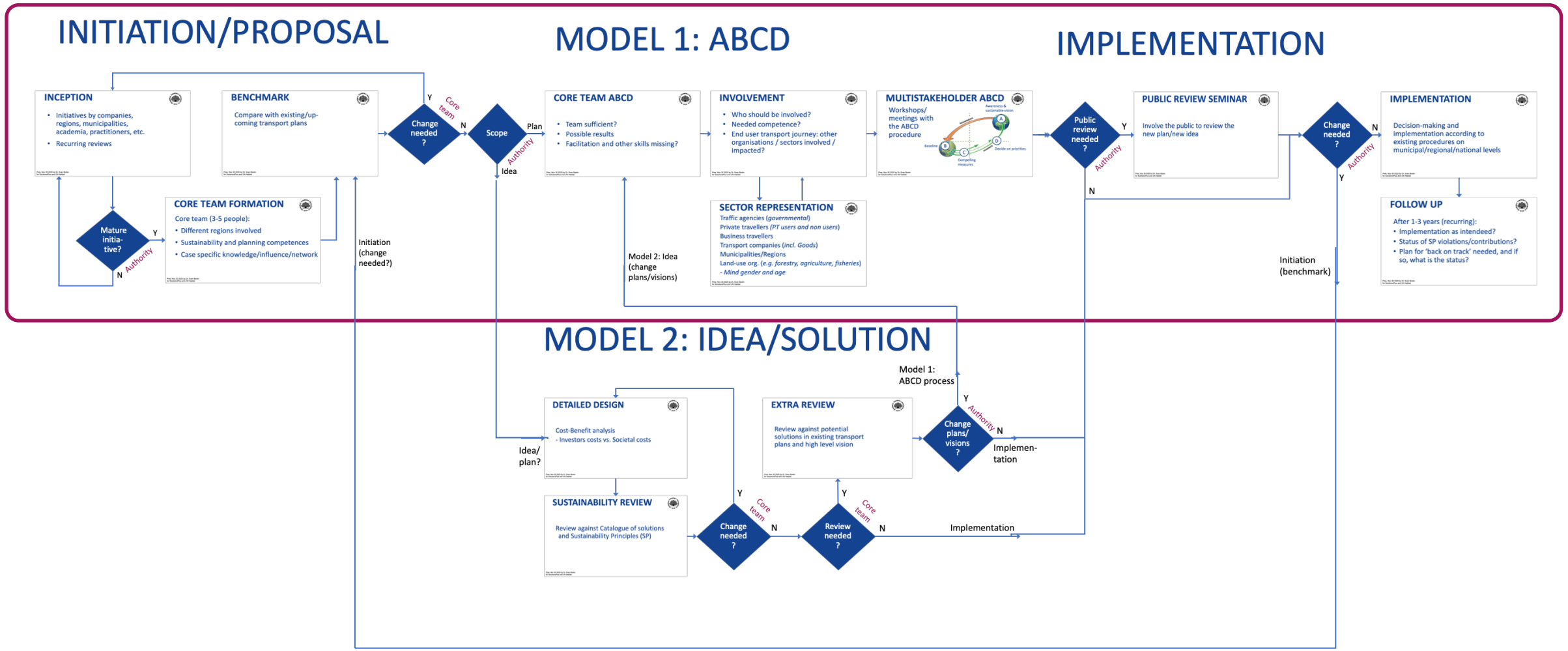


Source: Borén, S., Nurhadi, L., Ny, H., Robèrt, K-H., Broman, G., 2017

Planning model for sustainable Cross-border/Regional PT



Planning model ‘ABCD’: Building a Roadmap



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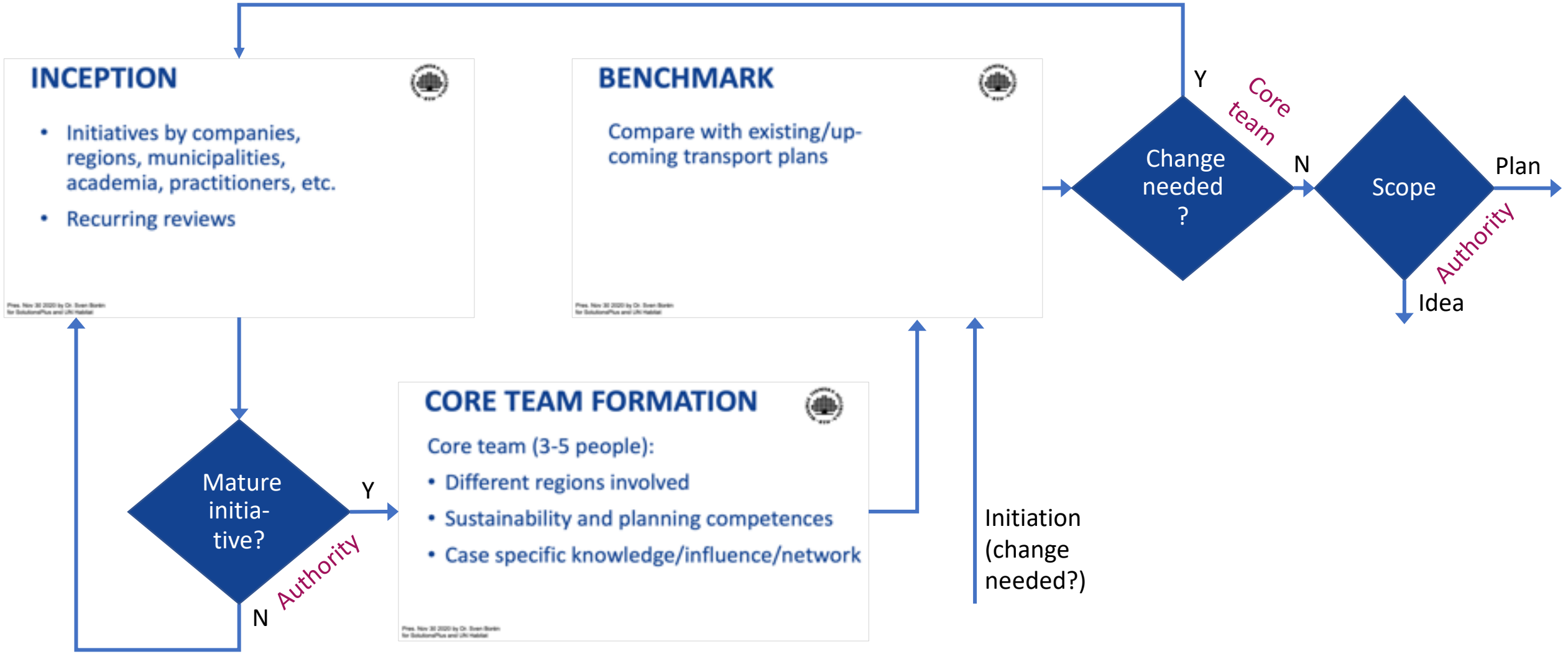
INITIATION/PROPOSAL



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MODEL 1: ABCD

CORE TEAM ABCD

- Team sufficient?
- Possible results
- Facilitation and other skills missing?

INVOLVEMENT

- Who should be involved?
- Needed competence?
- End user transport journey: other organisations / sectors involved / impacted?

MULTISTAKEHOLDER ABCD

Workshops/ meetings with the ABCD procedure

SECTOR REPRESENTATION

Traffic agencies (*governmental*)
Private travellers *(PT users and non users)*
Business travellers
Transport companies (*incl. Goods*)
Municipalities/Regions
Land-use org. (*e.g. forestry, agriculture, fisheries*)
- Mind gender and age

Model 2: Idea (change plans/visions)

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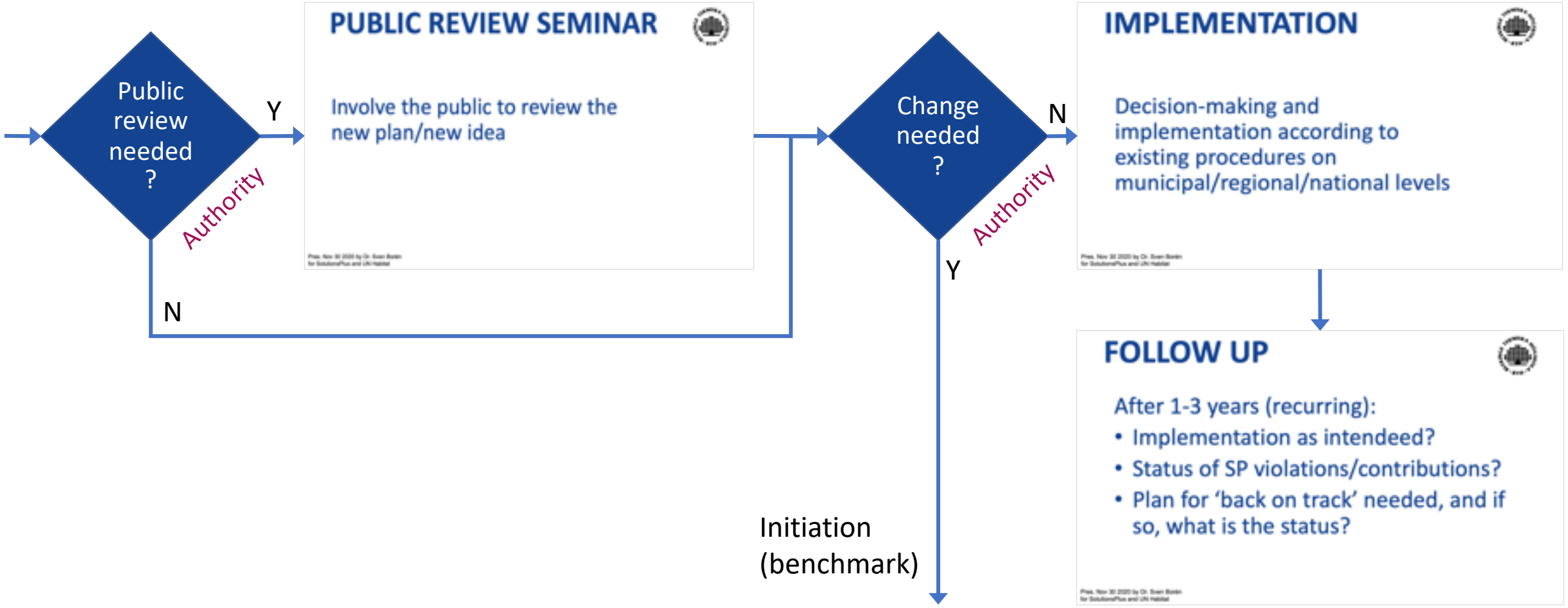
IMPLEMENTATION



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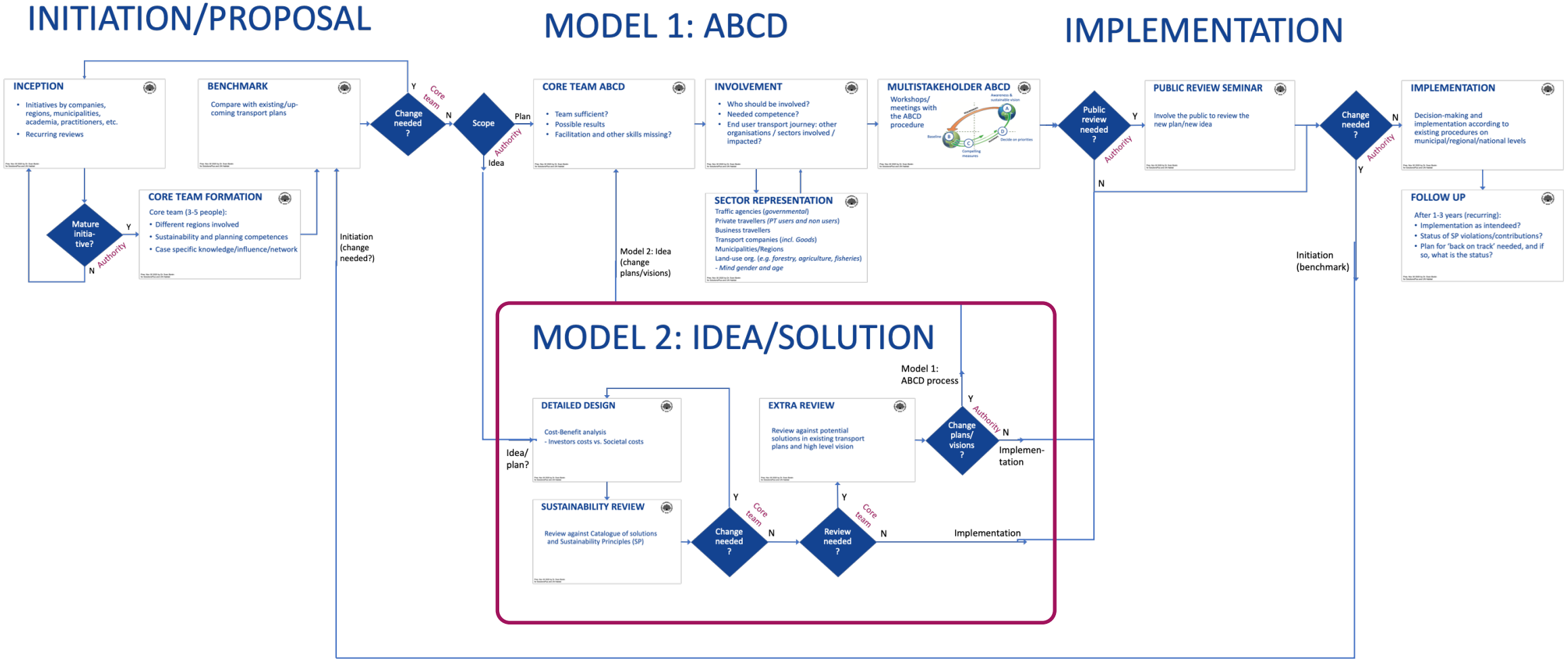
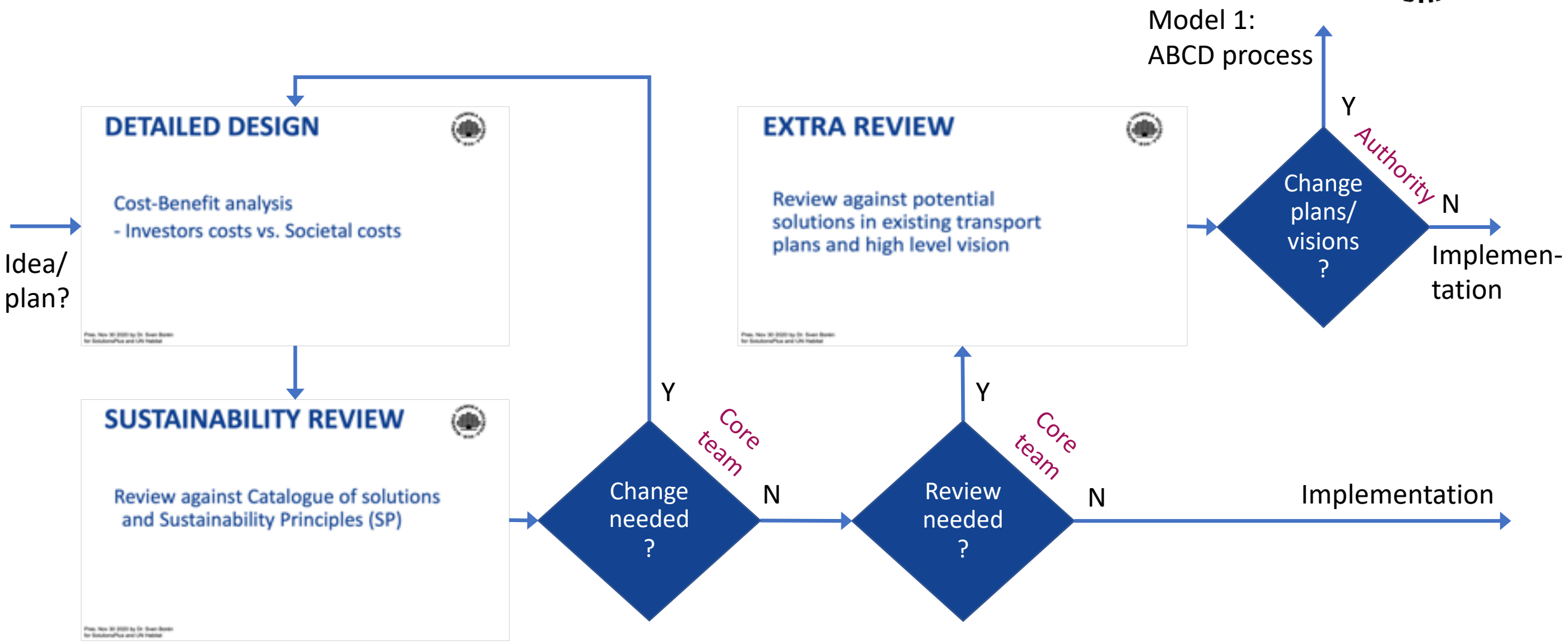
Planning model 2: Idea/solution for Sustainable C-B & R PT



MODEL 2: IDEA/SOLUTION



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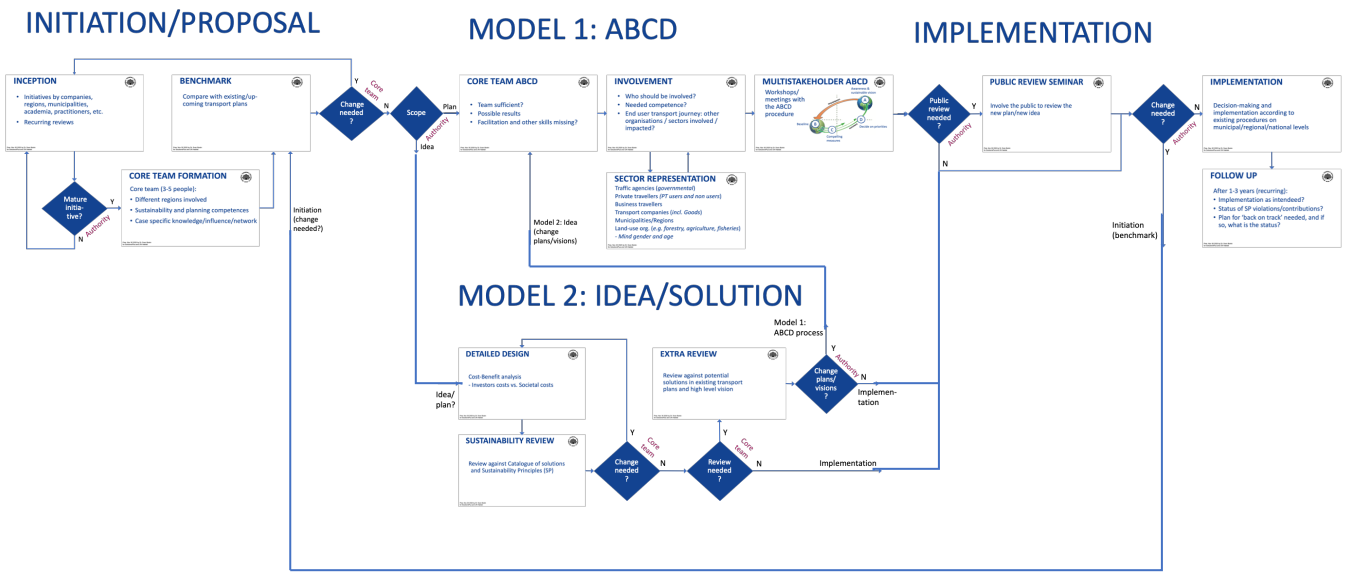
Summary & next steps

Two models for sustainable Cross-Border & Regional PT that:

- ✓ Embeds SSD into planning
- ✓ Enables a simplified path
- ✓ Possibility to be used for other planning purposes towards (full) sustainability



Next steps:

- ➢ Testing in larger transport planning context
- ➢ Merge with Lisa Wälitalo's PhD Project about SSD in municipal planning
- ➢ …

Thanks for watching and listening

References

Borén, S., Nurhadi, L., Ny, H., Robèrt, K.H., Broman, G., Trygg, L., 2017. A strategic approach to sustainable transport system development - Part 2: the case of a vision for electric vehicle systems in southeast Sweden. J. Clean. Prod. 140, 62–71. https://doi.org/10.1016/j.jclepro.2016.02.055

Broman, G.I., Robèrt, K.H., 2017. A framework for strategic sustainable development. J. Clean. Prod. 140, 17–31. https://doi.org/10.1016/j.jclepro.2015.10.121

Robèrt, K.H., Borén, S., Ny, H., Broman, G., 2017. A strategic approach to sustainable transport system development - Part 1: attempting a generic community planning process model. J. Clean. Prod. 140, 53–61. https://doi.org/10.1016/j.jclepro.2016.02.054

Group modeling for deliberative planning and conflict resolution

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Major sustainability challenges are characterised by requiring systems change, e.g. energy systems, transport systems, natural resource use, …

To plan for the future…

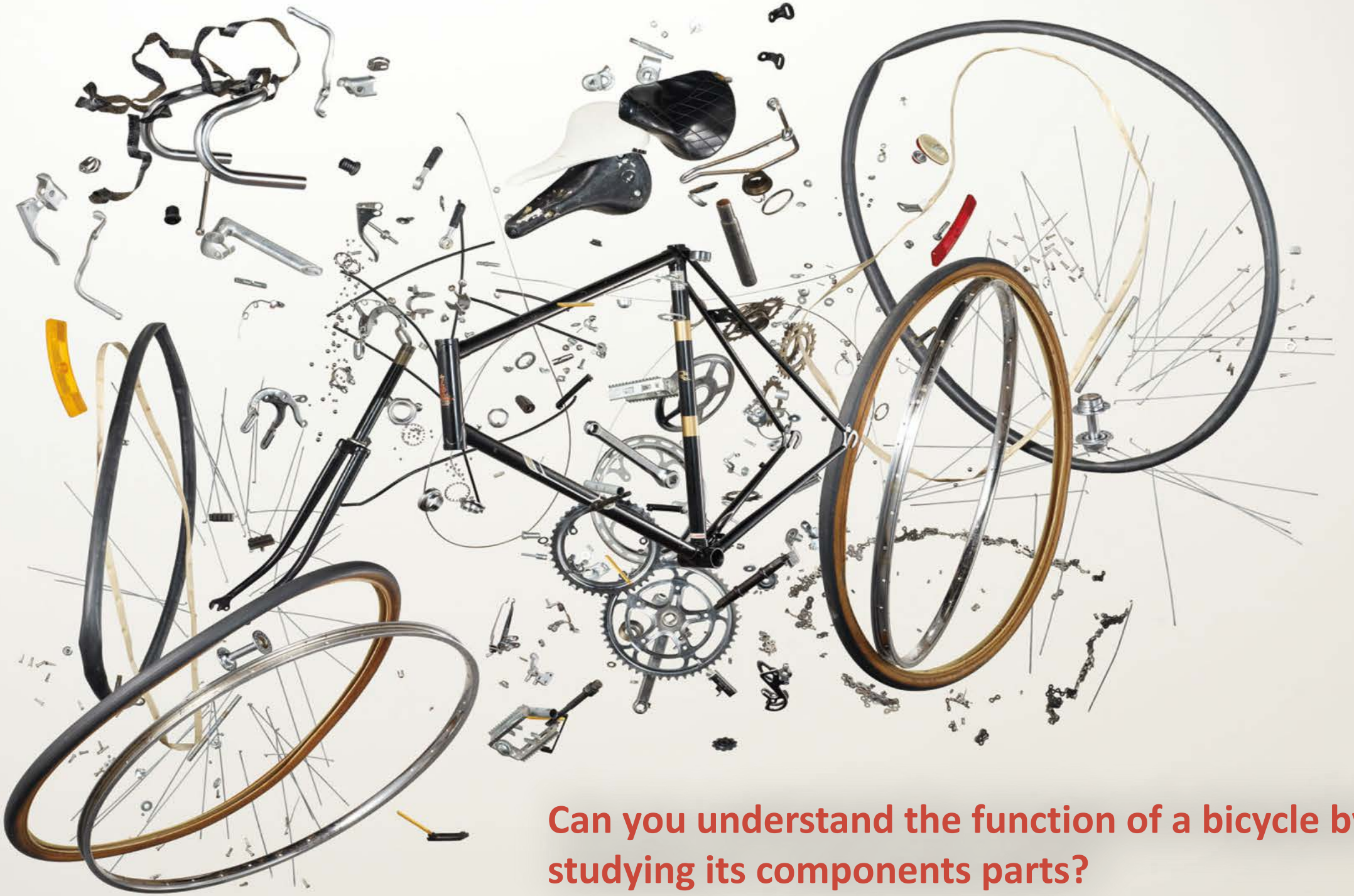
… you need to understand your problem, incl. feed-backs, in order to design useful solutions

Sustainability issues are complex systems problems

- Often conflicts between actors about what constitutes a problem
- Often conflict about costs and benefits of action/inaction
- Often conflicts about the boundaries of the system to be managed

Understanding complexity is a challenge in it self

- We experience problems via *symptoms*
- We are *not* seeing the problem….
- The problems are “hidden” in the system’s structure and dynamics



Can you understand the function of a bicycle by studying its components parts?

A system is more than it’s component parts…

Systems thinking…

- Gives you a tool to disentangle complex issues
- Forces you to reflect critically…

Systems thinking requires…

- A point of view – ”simple solutions are rarely useful”
- An attitude – ”can do”
- An openness – ”for others arguments”
- A will to communicate – “include others”

Group modeling

- Includes broad expertise and different stakeholders
- Ideally with inbuilt conflicts —> better peer review
- Creates joint understanding and trust
- Goes beyond controversies towards workable consensus
- Identifies potential solutions and trade-offs
- Helps visualise understanding and knowledge gaps

Mapping a system through causal loop diagrams (CLDs)

- A *simplification* of a complex system
- The CLD helps us to *structure* and understand major relationships and linked causalities!
- An explanation of underlying *feedbacks*
- A common language to help us describe system logic and others to scrutinise and improve our model

Steps to create a model

1. Define the question you need to answer
2. Sort understanding in:
   - causes
   - effects
   - driving factors
   - mechanisms
   - *the important from the not needed*
3. Test and adjust

Case: Planning conflicts over environmental objectives in the Swedish mountains

- Analyse reasons for poor delivery towards official Environmental Objectives
- Analyse conflicts
- Make an assessment of future challenges
- Propose a research programme

Approaches

A trans-disciplinary ambition to include ”all” stake-holders

CLD-based group modelling

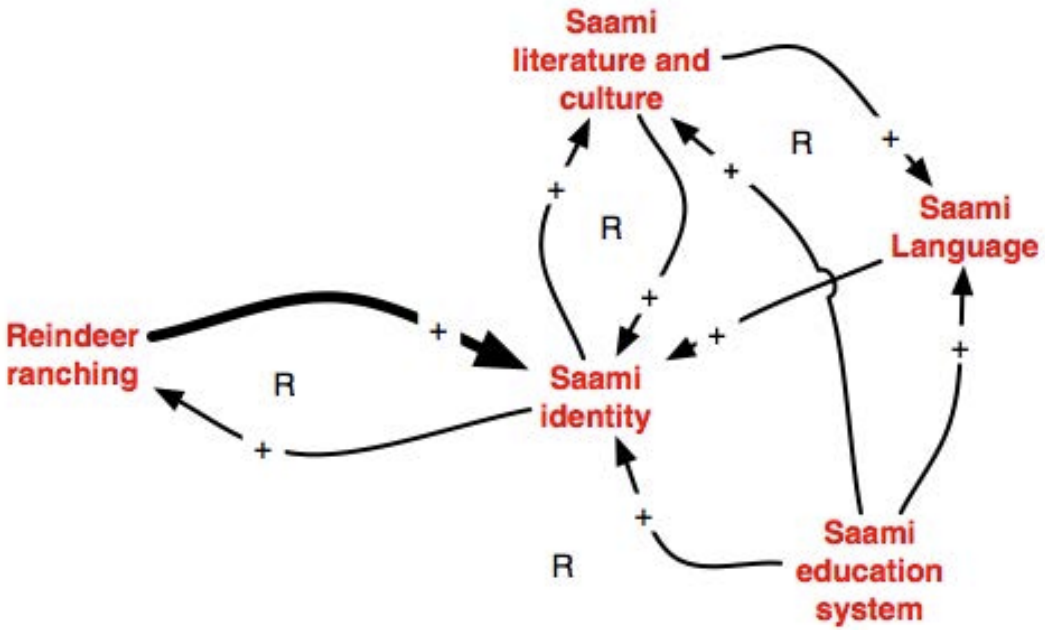
Proceed with continuos concurrent open peer review as the project developed

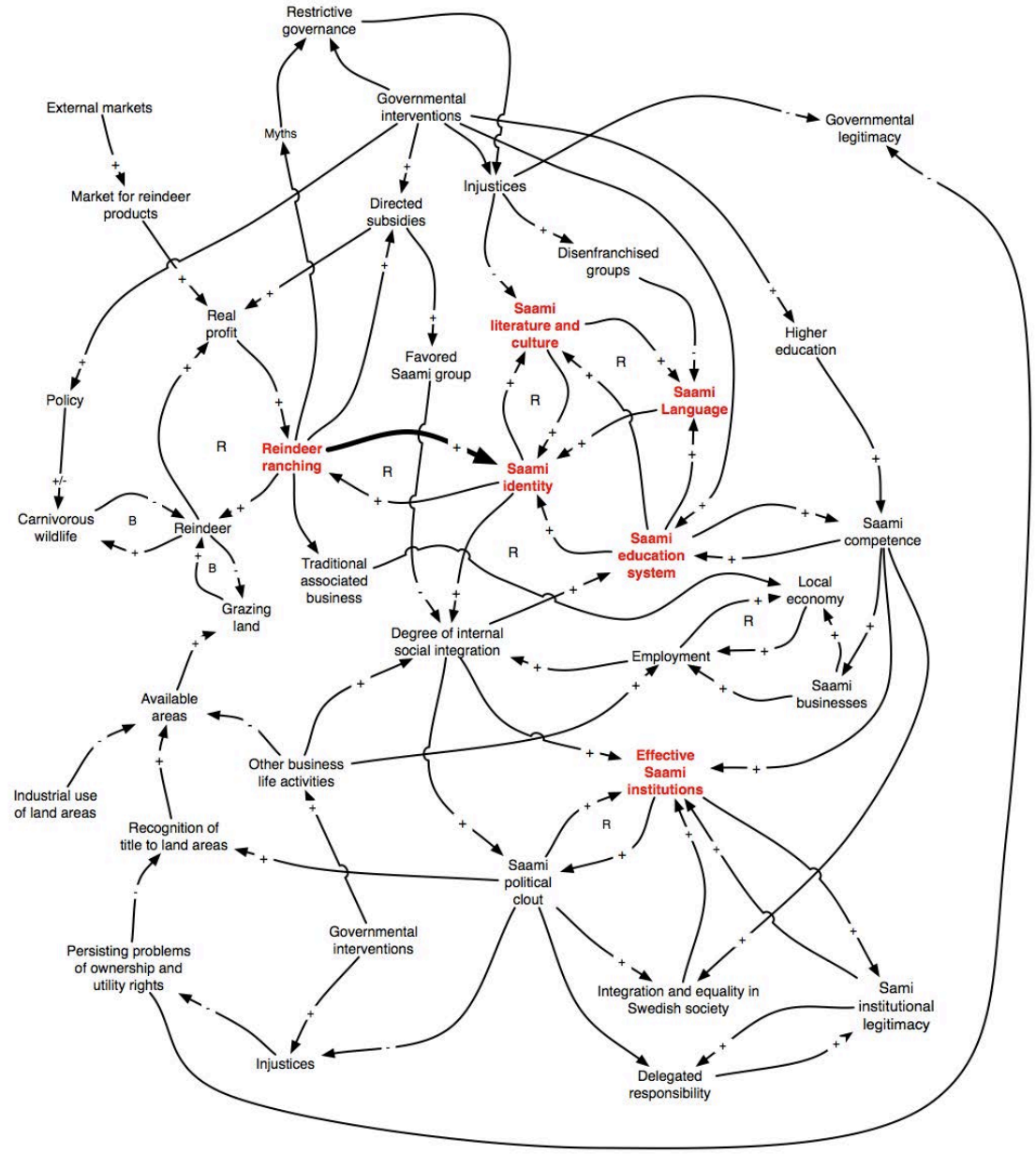
Trust the group to solve the issues

Stakeholders

Rovdjursföreningen, Krister Persson
Polarforskningssekretariatet, Olle Melander
Naturskyddsföreningen, Bengt-Göran Carlsson
Länsstyrelsen Norrbotten Ren/Markförvaltning, Erik Gustavsson, Gunilla Manbré
Länsstyrelsen i Norrbotten Kultur/Miljö Gunilla Edbom
Länsstyrelsen Västerbotten, Markförvaltning Torleif Eriksson
Länsstyrelsen Västerbotten, Miljöskydd Peter Vennman
Länsstyrelsen Västerbotten, Kultur/Miljö Jeanette Joelsson
Länsstyrelsen Jämtland Naturvård, Ruben Johansson
Länsstyrelsen Jämtland Ren/Markförvaltning, Jens Andersson
LRF (Lantbrukarnas riksförbund), Eilert Apelqvist
Jordbruksverket , Svante Nilsson
Försvarsmakten, Lars Moe, Mikael Köhler
Fastighetsverket, Sven Hagström
Föreningen Sveriges Fäbodbrukare, Kristian Olofsson, Pauline Palmkrantz
Energimyndigheten, Fredrik Dahlström
Ekoturismföreningen, Maria Kjellström
Dorotea kommun, Nicke Grahn
Bergsstaten, Jan-Olof Hedström
Ajtte, Svenskt fjäll- och samemuseum , Kjell-Åke Aronsson
Malung-Sälens kommun, Ingemar Kyhlberg
Destination Funäsdalen, Hans-Ola Törnberg
Norra Dalarnas Turistråd, Joacim Johansson
Vägverket, GunnBritt Mariedahl
Tillväxtverket, Kerstin Lindblad
Rikspolisen/Fjällräddning, Bengt-Göran Wiik
Nätverket Norden, Östen Stenlund
SNOFED/Snöskoter, Elisabet Jonsson, Pär Persson
Sametinget, Ingrid Rehnfeldt
Sveriges Geologiska Undersökning (SGU) Christina Lundmark
Svenska Turistföreningen, Pelle Andersson
Svenska Kraftnät, Katrin Seuss
Svenska Jägareförbundet, Hans Geibrink
SSR (Svenska samers Riksförbund) Jörgen Jonsson, Helen Larsson
SSCO/Snöskoter, Jan Sund
SLAO samt Svensk Turism, Hans Gerremo
Riksantikvarieämbetet. Rikard Sohlenius
Naturvårdsverket, Per-Olov Wikberg, Lena Sundin Rådström, Hördur Haraldsson, Bo Nilsson, Anna Von Sydow, Kristian Skånberg, Nils Hallberg
SKISTAR , Anders Aspholm

An Example: The Saami Identity




Restrictive governance
External markets
Governmental interventions
Governmental legitimacy
Myths
Market for reindeer products
Directed subsidies
Injustices
Disenfranchised groups
Real profit
Saami literature and culture
Higher education
Favored Saami group
Policy
Saami Language
Reindeer ranching
Saami identity
Carnivorous wildlife
Reindeer
Saami competence
Saami education system
Traditional associated business
Local economy
Grazing land
Degree of internal social integration
Employment
Saami businesses
Available areas
Other business life activities
Effective Saami institutions
Industrial use of land areas
Recognition of title to land areas
Saami political clout
Governmental interventions
Persisting problems of ownership and utility rights
Integration and equality in Swedish society
Sami institutional legitimacy
Injustices
Delegated responsibility
R
B

Conclusions

- The approach reduced conflicts over discourse
- *All* stakeholders could sign off on the developed sustainability models
- Poor environmental policy performance was owing to an over-emphasis the environment by the EPA !!
- Many stakeholders regard themselves as marginalised and manipulated in current planning and found group modeling empowering

Group modeling and planning

- Efficient in handling complexity and increasing understanding
- Creates a deliberative and collaborative setting – reduces discourse conflicts
- Allows stakeholders to *jointly* “solve” complex problems – while conflicts over values may still remain

Group modeling and planning

- Identifies leverage points and alternative solutions
- Unsurpassed for strategy and policy development
- Strong communications tool

Overall

- We need systems understanding to efficiently “solve” complex sustainability issues
- Complex and wicked problems need stakeholder input for real world solutions
- Analytically, a good group always outperforms individuals – trust the group
- The ability to find alternative leverage points/interventions may yield positive outcomes at lower economic or political costs