

# Integrating transition theory into evaluation designs

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# The starting point

- The world is not sustainable
- A transition is needed
  - Consumption, production & lifestyles
  - Policies + research & development
- Knowledge is needed to facilitate the transition
- New types of evaluations



# Conceptualising transitions: What could be integrated

F.W. Geels / *Research Policy* 33 (2004) 897–920

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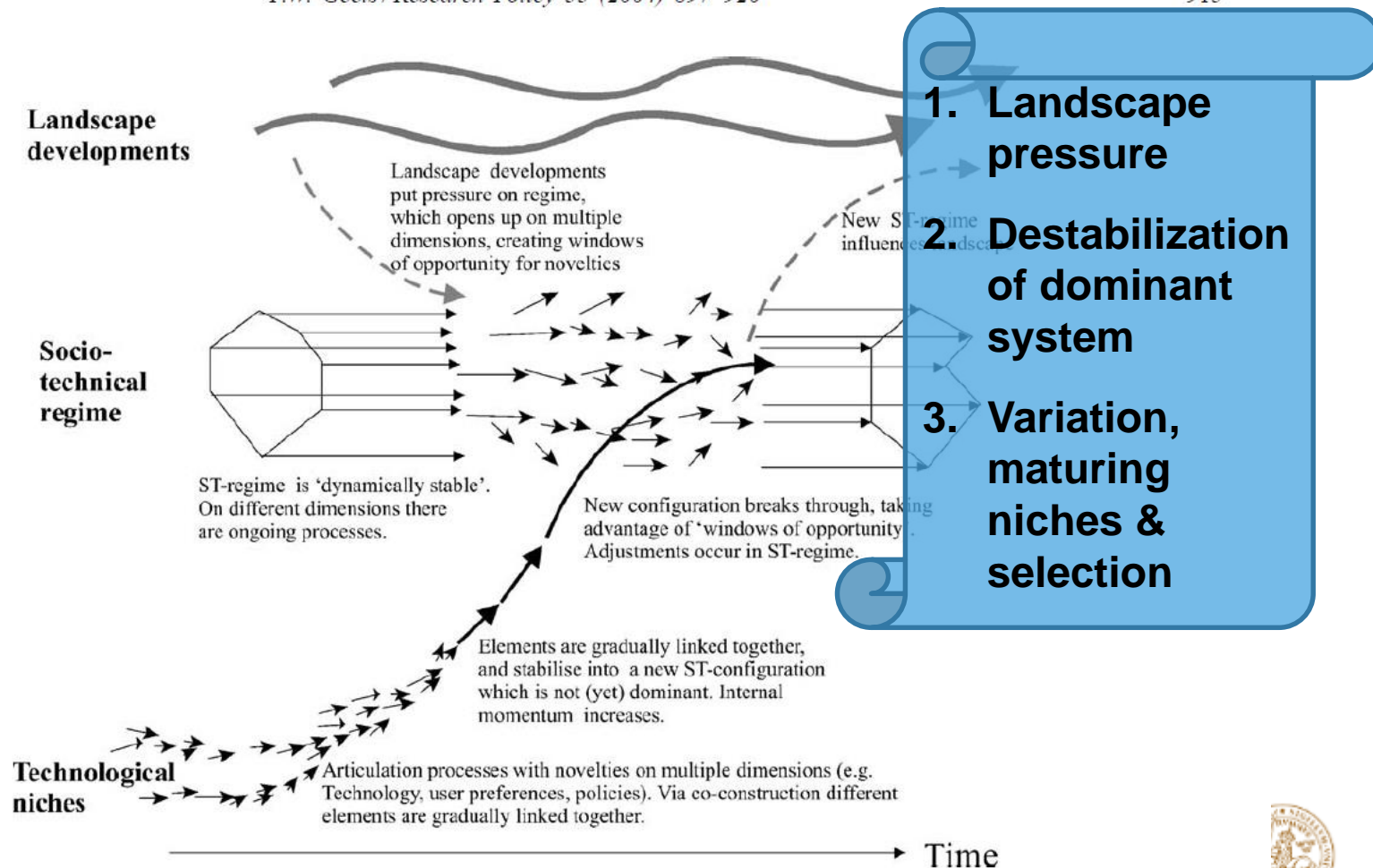
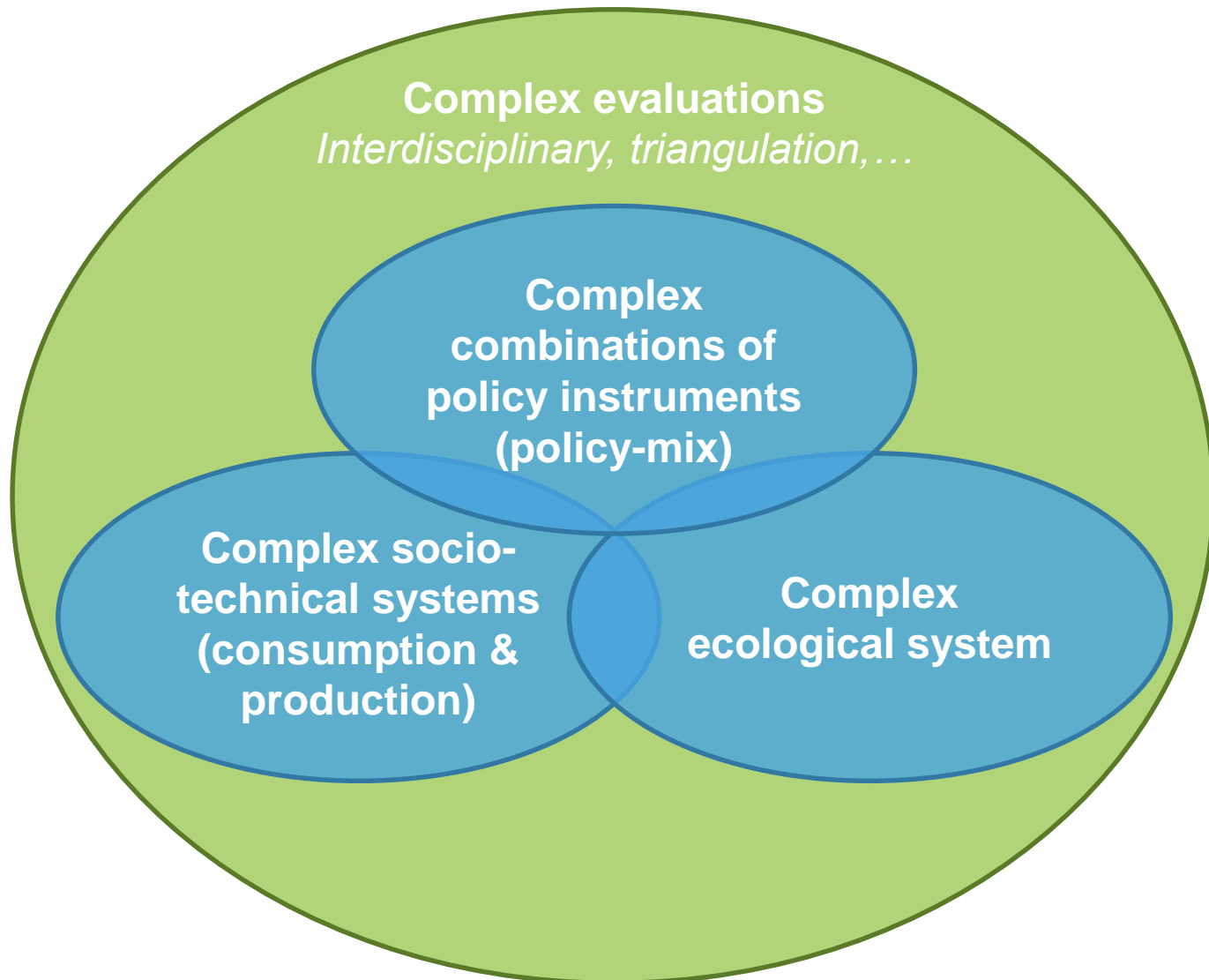


Fig. 9. A dynamic multi-level perspective on system innovations (Geels, 2002b, p. 110).

# The complexity of evaluating transitions in a complex world



# Main aspects of an evaluation design: where to integrate

Theory of  
Evaluation  
Context

## Main aspect

The context of the evaluation (A)

The focus of the evaluation (B)

The design, methods and data used to assess impacts (C)

The criteria used for valuing (D)

The approaches to facilitate use (E)

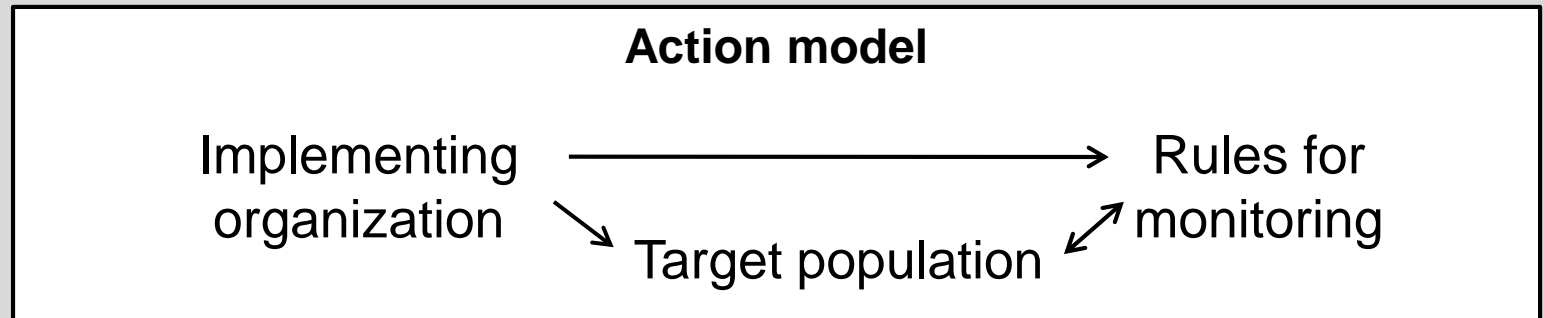
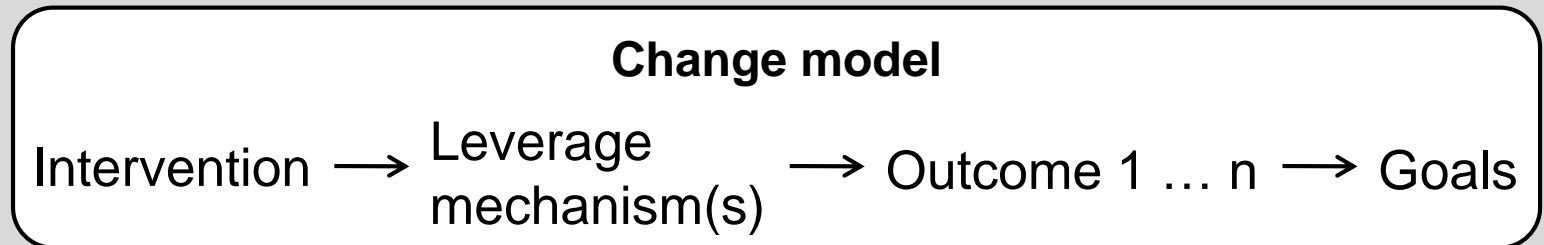
Mickwitz et al. 2016 EEEN

# Examples of “easy” (but important) transition aspects to integrate in evaluations

- System perspective
  - Visioning
  - Time scale
  - Rebound-effects
- These aspects are “easy” in the sense that they do not require that much detailed theoretical knowledge

# Intervention theories: The “Huey-Tsyh Chen theory (2005)”

## Context



# An empirical example of an evaluation combining intervention theory with a systems perspective

From: Christianne Maroun & Roberto Schaeffer  
2012. Emulating new policy goals into past successes: Greenhouse gas emissions mitigation as a side effect of biofuels programmes in Brazil, *Climate and Development* 4(3): 187-198.





# Key aspects of the change model of Proalcool

Goals	<ul style="list-style-type: none"><li>• To increase the net supply of foreign exchange</li><li>• To reduce income disparities among regions and individuals</li><li>• To increase national income through the deployment of under-utilized resources</li><li>• To increase the growth of the domestic capital goods sector</li><li>• To avoid bankruptcy of the sugarcane industry</li><li>• To reduce energy dependence from abroad</li></ul>
Some interventions	<ul style="list-style-type: none"><li>• <u>Guaranteed lower prices</u> for ethanol versus gasoline at gas stations</li><li>• <u>Guaranteed minimal prices</u> for ethanol producers</li><li>• Creation of <u>credit lines</u> for sugar mills to expand Capacity</li><li>• <u>Mandatory availability</u> of ethanol at gas stations</li><li>• <u>Maintenance stocks</u> to stabilize supply</li><li>• Establishment of several policies to push ethanol based car production</li></ul>

# Proalco: long-term (1975-) & system perspective

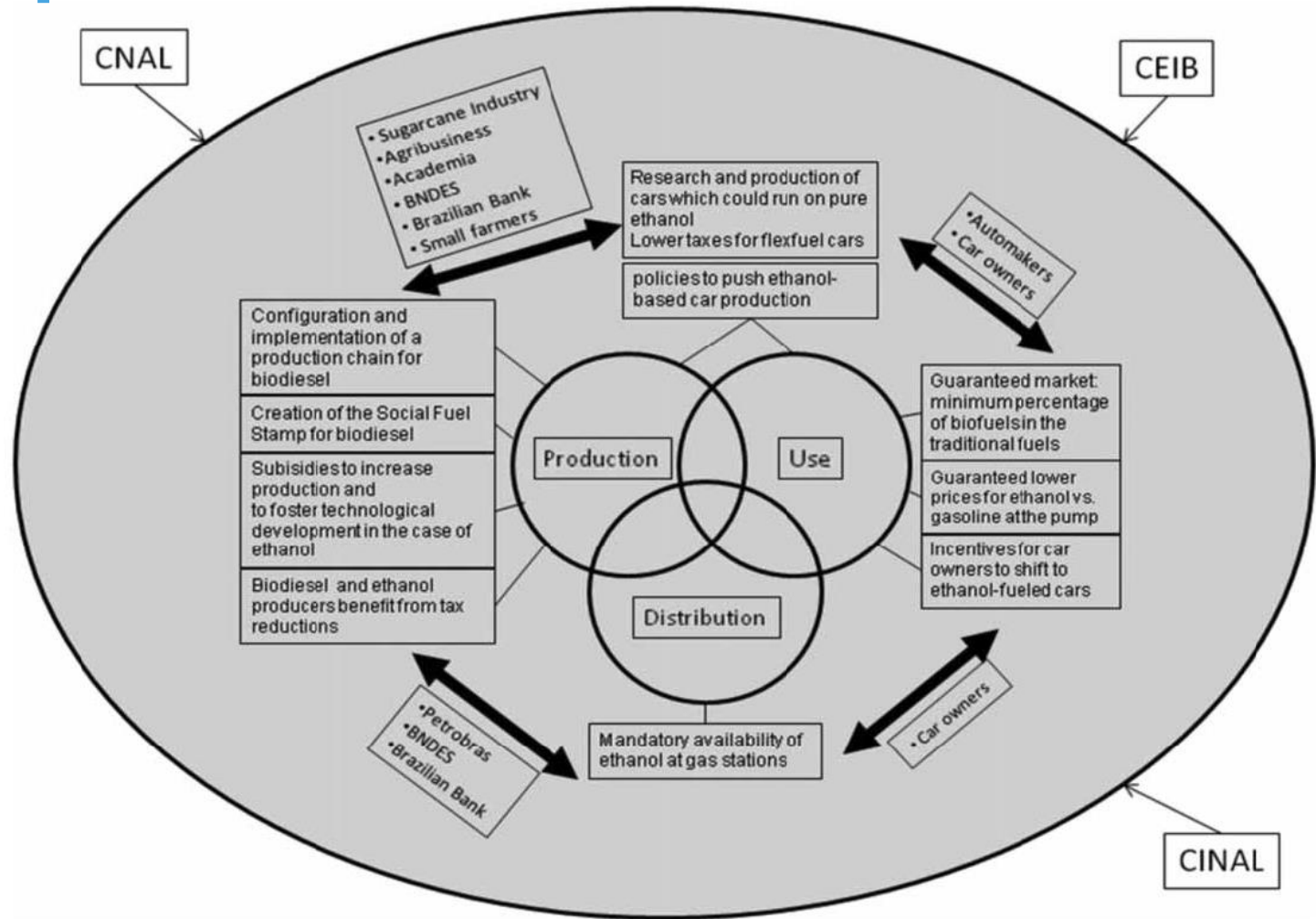


Figure 1. Interaction of the different components of the value system in the implementation of Proalco and PNPB.

# Key aspects of the action model of Proalcool

Target population	<ul style="list-style-type: none"><li>• Sugarcane industry</li><li>• Automakers</li><li>• State companies (e.g. Petrobras)</li><li>• Governmental institutions (BNDES, Banco do Brasil, others)</li><li>• Academia</li><li>• Car owners</li></ul>
Implementing organizations	<ul style="list-style-type: none"><li>• CNAL</li><li>• Inter-ministerial Commission for Alcohol (CINAL)</li><li>• Banco do Brasil</li><li>• BNDES</li><li>• Petrobras ...</li></ul>
Context	<ul style="list-style-type: none"><li>• Oil crisis in the middle and late 1970s, when oil prices reached record levels</li><li>• Fuel demand was increasing as the economy was growing at a fast pace</li><li>• Nationalist military government which saw energy related matters as national security ones</li></ul>

# Examples of more challenging transition aspects

- Landscape pressures
- Path dependence and destabilization
- Experimentation, niche protection and scaling up

# Example: niche protection Foundation

*“Path-breaking sustainable innovations are at a structural disadvantage within these contexts, because they are too demanding in terms of their socio-technical implications for the regime.” (Smith & Raven 2012)*

- they do not fit with existing industry structures and decision making processes
- through articulated technical standards and infrastructural arrangements
- socio-cognitive processes are geared towards incremental knowledge development ...

*“path-breaking innovations tend to develop in niches that shield those innovations from mainstream selection pressures” (Smith & Raven 2012)*

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# Example: niche protection

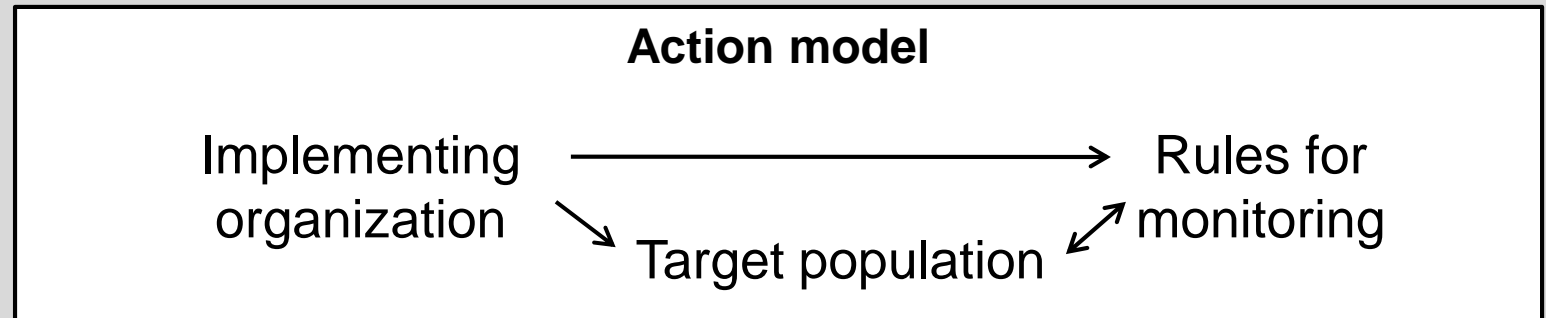
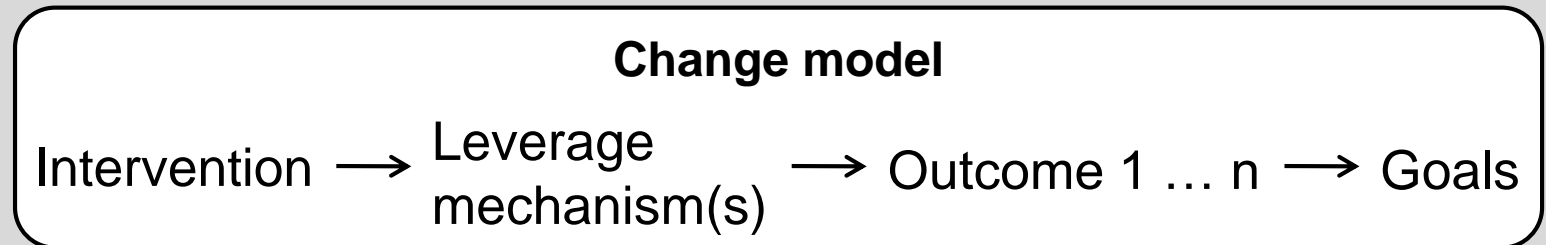
## Shielding approaches

	Passive shielding	Active Shielding
Industry structure		Establishment of incubator units
Technologies and infrastructures	places outside existing infrastructures, like rural areas or islands	
Knowledge base		technology-specific R&D support
Users relations and markets	Identifying environmentalists willing to pay higher prices	
Public policies and political power		Explicit political support
Cultural significance and associations of the regime	Referring to prevailing environmental values of dedicated social groups	

(Smith & Raven 2012)

# The “Huey-Tsyh Chen theory (2005)”

## Context





# Example: niche protection Intervention theory

- In order to be able to evaluate contribution of policies to active and passive shielding, theoretical knowledge of these concepts is needed to even start looking for contribution.
- Change theories requires more specific niche theory insights
  - E.g. Could making the Aaland islands a demonstration region for carbon neutrality provide shielding, i.e. hold off selection pressures, nurturing, support the development of path-breaking innovation within passive and active shielded spaces or empowering, i.e. make niche innovations competitive

# Example: niche protection

## Facilitating use of evaluations

- Incumbents often have better access to evaluation processes and results as well as more resources both to participate and to utilize evaluation results.
- Identify niches and take special action to facilitate use by actors in these protected niches.
- Search for and actively link evaluation processes and evaluation results to active shielding efforts.
- Take extra efforts to promote openness and transparency in order to facilitate “*unintended use by unintended users*”.

# Transition theory in the main aspects of an evaluation design

Main aspect	Transition theory
The context of the evaluation (A)	Is someone with transition knowledge part of the team?
The focus of the evaluation (B)	Are system and multi-actor focuses as well and long term perspective used?
The design, methods and data used to assess impacts (C)	Is transition theory part of the design? Is it used in the intervention theories?
The criteria used for valuing (D)	Does the valuing reflect a need for sustainability transitions?
The approaches to facilitate use (E)	Is use by actors not part of the dominant regime facilitated?

# Conclusions

- Transition theory should influence almost all aspects of evaluation designs if the aim is to produce knowledge for transitions.
- Some aspects are rather easy to integrate
- Other aspects requires detailed and specific knowledge on particular transition theories
  - Influences intervention theories
  - Also influences who should do the evaluation (composition of the evaluation theme)