



Two sides of the same coin?

Integrating resilience and transitions thinking for climate change governance

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1. Problem definition

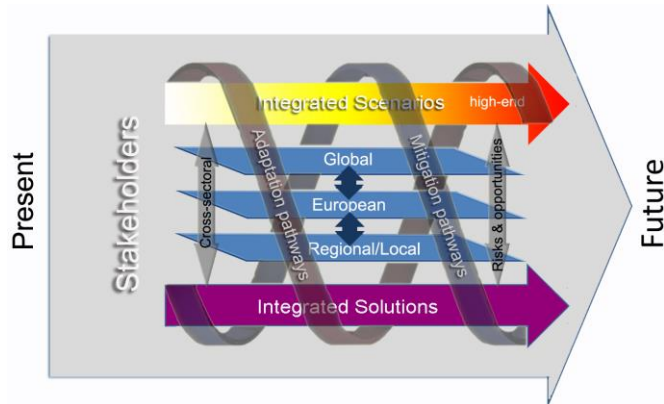
- Climate change: extreme uncertainties; high-end climate change
- Integration of mitigation & adaptation, transformation in governance responses



1. Problem definition

IMPRESSIONS project

Impacts and risks from higher-end scenarios: Strategies for innovative solutions



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1. Problem definition

IMPRESSIONS project: multi-scale

European case study

Global case study



▲ 3 regional/local case studies
(Scotland, 2 Iberian catchments,
2 Hungarian municipalities)

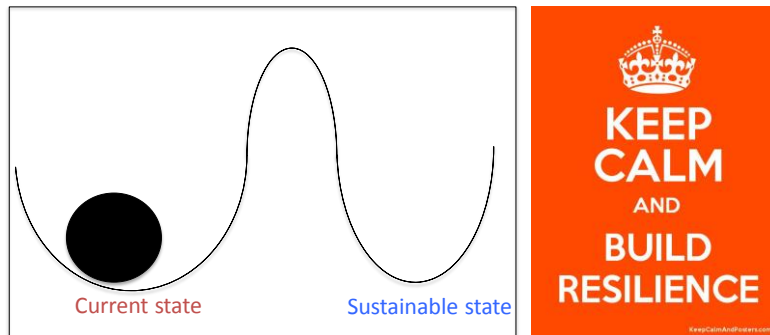


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1. Problem definition

Resilience & transitions thinking – two sides of the same coin?



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1. Problem definition

Research objectives:

- (a) Identify conceptual convergence points of resilience and transitions thinking to increase understanding of system change
- (b) Derive integrated propositions for climate governance.

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2. Convergence points

(1) Direction of system change

- (a) End-goal
- (b) Magnitude of system change

(2) Dynamics of system change

- (c) System change dynamics
- (d) Time-dependent dynamics
- (e) Cross-scale dynamics

(3) Governance of system change

- (f) Agency & structure interactions

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2. *Convergence points:*

(1) direction of system change

(a) End goal

- *Sustainability* = normative direction
- *Resilience & vulnerability* = non-normative system properties for context translation
 - Trade-offs
 - Persistent uncertainties
 - Focusing governance action:
 - Creating, building, breaking-down resilience
 - Reducing, coping with, instrumentalising vulnerability

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2. Convergence points: (1) direction of system change

(b) Magnitude of change

Adaptation	Transformation
Stability; Maintaining & protecting status quo	Fundamental shift; Innovation
Optimisation, reinforcement & reproduction	Destruction, invention & creation
Inward; centripetal	Outward; centrifugal
System processes (structures)	System identity (structures & functions)
(Mostly) short-term; slow change	(Mostly) long-term; fast change

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2. Convergence points: (2) dynamics of system change

(c) Orientation towards change dynamics

- Drivers of system change
 - Transformation: alteration of drivers
 - Adaptation: adjustment of drivers
 - Impacts of system change
 - Transformation: responding to impacts of change
 - Adaptation: responding to impacts of change
- Building, creating,
breaking-down
resilience
&
Reducing, coping
with,
instrumentalising
vulnerability*

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2. Convergence points: (2) dynamics of system change

(d) Time-dependent change dynamics

- Adaptive cycle/Panarchy & multiphase models of transitions
- Different system change phases with different opportunity contexts require different strategies
 - Early phase of system change
 - Mid phase of system change → *Innovation*
 - Late phase of system change → *Stabilisation*
- Trade-offs over time, windows of opportunities, shocks

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2. Convergence points: (2) dynamics of system change

(e) Cross-scale dynamics

- Panarchy & multilevel perspective (MLP)
- Fit of management scales
- Transformation at lower levels is more desirable than transformation at higher levels
- Trade-offs, windows of opportunity, shocks

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2. Convergence points: (3) governance of system change

(f) Agency & structure interactions

- Adaptive capacity & MLP; adaptive management & TM

Adaptive capacity	Transformative capacity	Strategic capacity
Stabilisation	Disruption & creation	Sustainability
Adaptation of drivers and to impacts of change	Transformation of drivers and to impacts of change	Orientating; balancing

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3. Integrated governance propositions

Proposition #1: Sustainability as normative end-goal gives the strategic direction for governance of system change.

Proposition #2: Linked to the normative sustainability concept, resilience and vulnerability provide as non-normative system properties the context and orientation for striving towards sustainability.

Proposition #3: System change unfolds in different magnitudes, depending on time, scale and context. The interplay between adaptation and transformation is audacious, yet necessary.

Proposition #4: Strategic orchestration orientates and balances integrated, timely and scale-dependent adaptation and transformation towards sustainability.

Proposition #5: While governance needs to fit the appropriate scale, cross-scale and cross-time dynamics create shocks, trade-offs and windows of opportunity. Intervention points have to be sought between scales.

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4. Conclusions

- Resilience & transitions thinking enable to build a more comprehensive framework for climate change governance

Contributions:

- Clarity of concepts and interrelations: sustainability, resilience, transformation & adaptation
- New inspirations for (IMPRESSIONS) governance methodology

Need for plenty of further research!

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THANK YOU!

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