Transitions Pathways and Risk Analysis for Climate Change Mitigation and Adaptation Strategies

TRANSrisk
TRANSITION PATHWAYS AND RISK ANALYSIS FOR CLIMATE CHANGE POLICIES

TRANSrisk: capacity building at the local level

COP 24

December 6th , Katowice

Presented by: Dr. Jenny Lieu, TRANSrisk Principal Investigator
SPRU, Science Policy Research Unit
ETH Zurich, TDLab

TRANSRISK PARTNERSHIP: WHO WE ARE

12 partners

70+ researchers

Interdisciplinary team

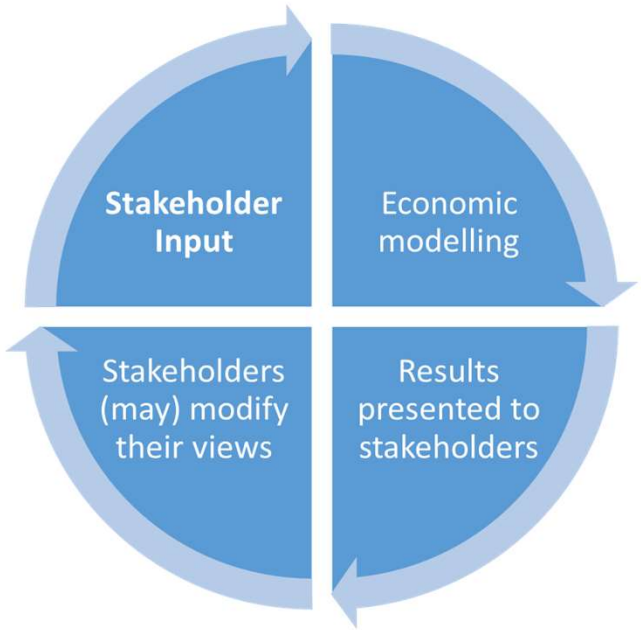
RESEARCH QUESTIONS

Overarching Question:

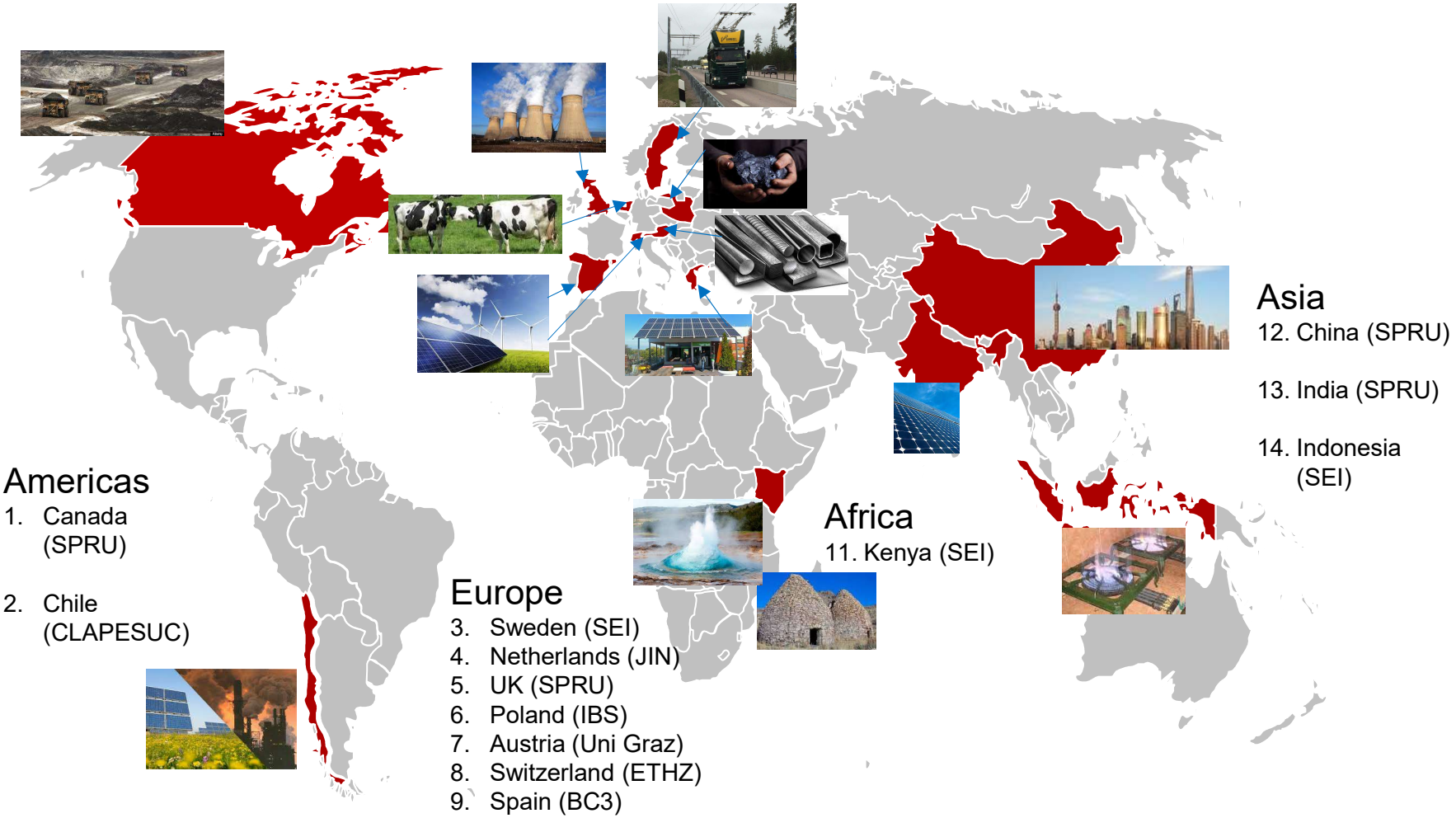
How can we build capacity at the community, sectoral and policy level to support climate action?

Approach:

Why combine models and stakeholders to support capacity building?



CASE STUDY COUNTRIES: AREAS STUDIED



Americas

1. Canada (SPRU)
2. Chile (CLAPESUC)

Europe

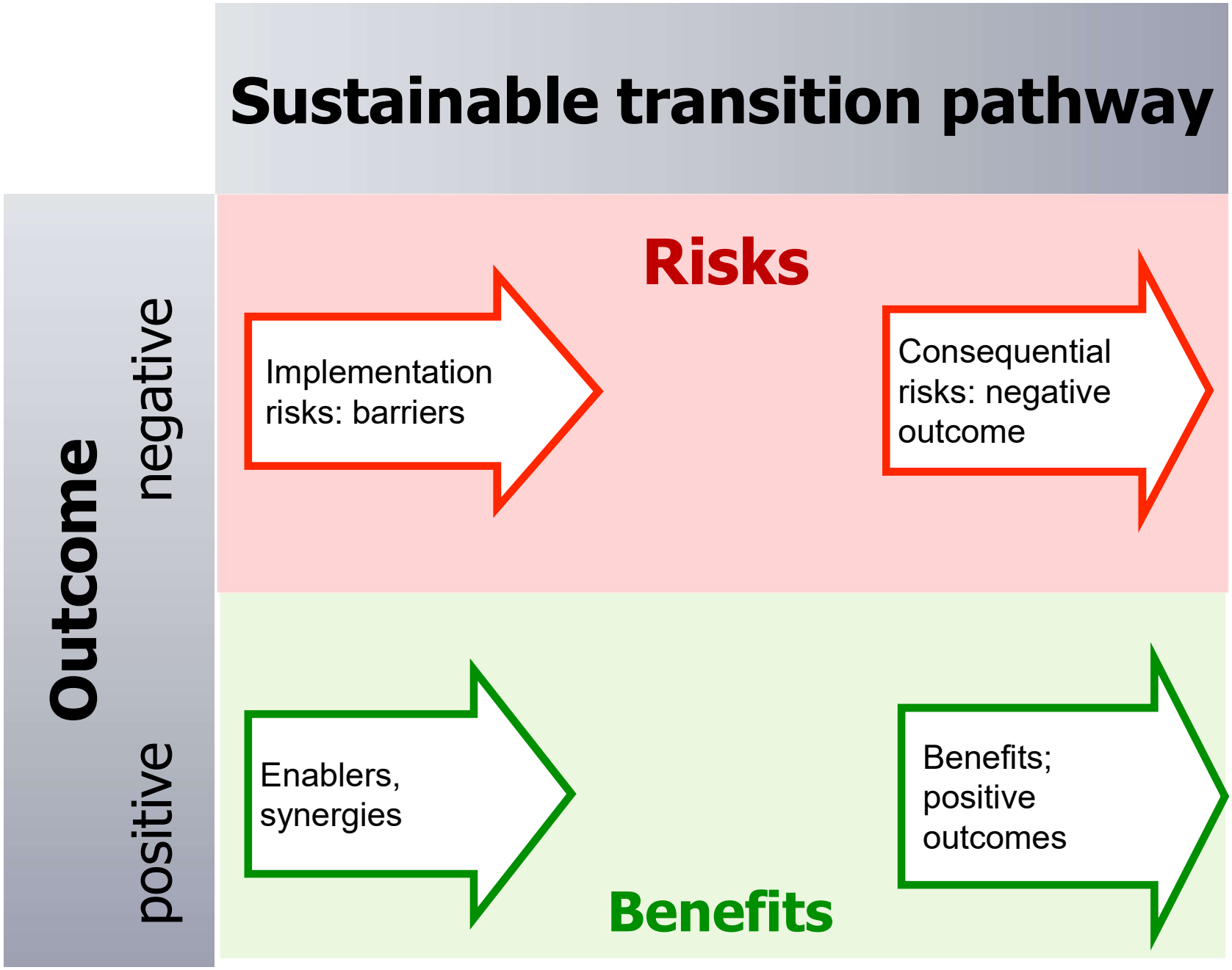
3. Sweden (SEI)
4. Netherlands (JIN)
5. UK (SPRU)
6. Poland (IBS)
7. Austria (Uni Graz)
8. Switzerland (ETHZ)
9. Spain (BC3)
10. Greece (NTUA/ UPRC)

Africa

11. Kenya (SEI)

Asia

12. China (SPRU)
13. India (SPRU)
14. Indonesia (SEI)



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TRANSITION PATHWAYS: WHAT CAPACITIES NEED TO BE BUILT?

Stakeholder inputs

Quantitative inputs

1. Narratives (details)

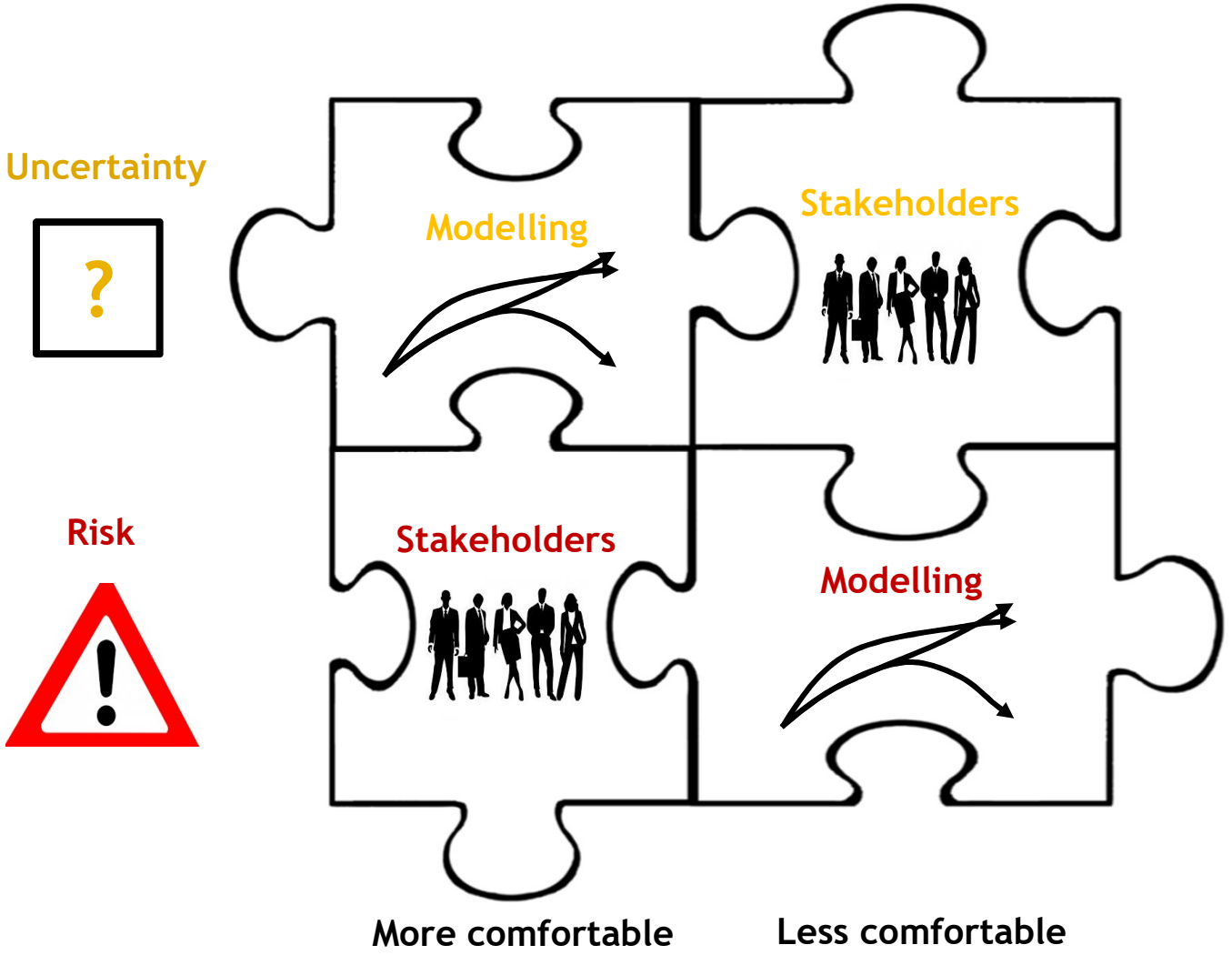
- Where do we want to go?
- What *preferred* actions are needed to get there?
  - (e.g. technology, behavioral change, policies)

2. Model Scenarios (generalisations)

- What resources are needed to get to the desire future?
  - (e.g. optimization models)
- How might the future look like if the changes and actions are to take place?
  - (e.g. simulation model)

see: https://www.camecon.com/blog/what-is-macroeconomic-modelling-and-why-do-we-do-it/

2. We don't have a complete picture on transition pathways



TRANSITION TOWARDS BUILDING CAPACITY FOR TRANSITIONS PATHWAYS

- **Multi-stakeholder approach:** inclusive engagement including most vulnerable groups *inclusion* of their knowledge, interest and priorities
- **Multi-sector approach**: Climate change objectives need to be integrated with a boarder mix of other sectoral priorities, (sub)national socio-economic development priorities
- **Multi-governance approach**: improve institutional coordination at the national and local level to streamline climate change objectives into local needs and priorities

FINDINGS: OPEN SOURCE PUBLICATIONS

Methods: Book with Springer

"Understanding risks and uncertainties in energy and climate policy: Multidisciplinary methods and tools towards a low carbon society"

Editors: Doukas, H., Flamos A, and Lieu, J,

To be published by end of 2018

Narratives: Book with Routledge

"Transitions narratives towards a Low-Carbon Future: Assessing Risks & Uncertainties"

Editors: Hanger-Kopp S, Lieu, J, and Nikas A.

To be published beginning of 2019

Integration of stakeholder and models: Special issue in Environmental Innovation and Societal Transitions. Elsevier.

"Assessing risks and uncertainties of low-carbon transition pathways".

Guest editors: Lieu J., Hanger-Kopp S, Sorman A., and van Vliet O.

To be published by end of 2018-beginning of 2019

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The Role of Modelling in Policy Assessment

The clean, the dirty and the unwanted: capacity building for energy transitions

Hector Pollitt
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cambridge econometrics
clarity from complexity

06/12/2018

Why use models?

- Provide a theoretical framework:
  - including indirect impacts
  - consistency over time
  - can be used as an educational tool for capacity building
- Can provide quantitative results:
  - and at least a direction and order of magnitude of impacts
- Can identify key challenges and resource requirements

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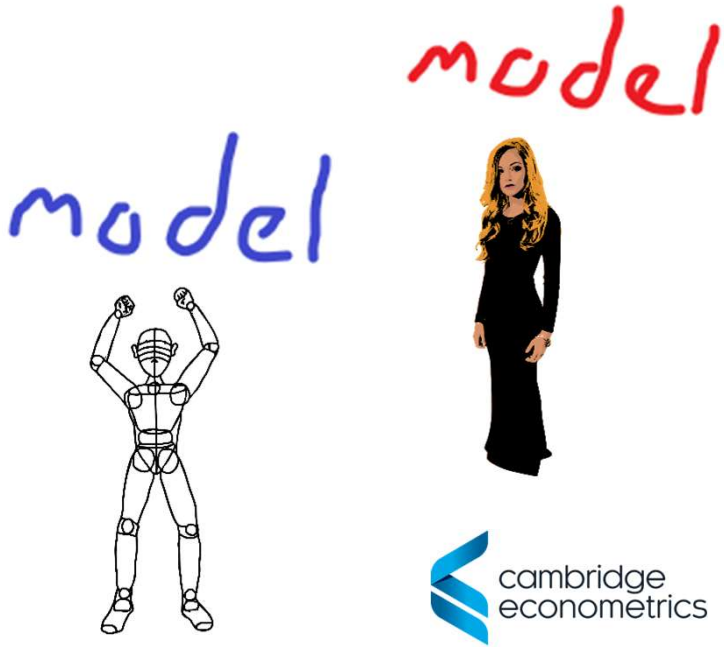
Mixing models and people

- The models should be adapted to human input, not vice versa
  - models rarely include much local context
- But there are constraints on how much models can be changed:
  - theoretical considerations
  - practical considerations, e.g. data
- Common ways are:
  - overall direction
  - scenario design
  - parameterisation
  - selection of key results



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Using models to assess risk

- Models often present point estimates
  - potentially leading to a false degree of confidence
- Multiple scenarios/sensitivities can give an indication of risk
- But communicating it is not easy

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