

# Introducing the Magic Project

Using Quantitative Story Telling to address the challenges of conducting science for policy in the EU land, water and energy nexus.

## RESOURCE NEXUS POLICY & CLUSTER WORKSHOP

27 November 2018

EASME, Covent Garden Building, ROOM COV2 00/SDR2

Place Rogier 16, Brussels



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# MAGIC project context

- **MAGIC - Moving towards Adaptive Governance in Complexity: Informing Nexus Security**
- EU Horizon 2020 project
- **Call: Water Innovation: Boosting its value for Europe (H2020-WATER-2014/2015)**
- **Topic: Integrated approaches to food security, low-carbon energy, sustainable water management and climate change mitigation**
- **Funding: 7.5 M€ (81FTE)**
- **Duration: 4 years (2016-06-01 to 2020-05-31)**
- **Partners: 9**
- **Countries: 6**



Issue # ISSUE 8 EFFICIENCY PARADOX (September 2017) Open



**Why focus on efficiency?**  
By The Magic Nexus team

Efficiency has become a popular measure in many of the policy areas of the European Union, including energy policy, the circular economy and climate policy. However, despite its ubiquitous use, the term efficiency is surrounded by considerable confusion. Indeed, in some cases improvements in efficiency may lead to increased consumption.



**VIDEO: The paradox of energy efficiency**  
By Tessa Dunlop

Increasing energy efficiency helps to use resources more economically. But what if greater efficiency in a complex system actually uses up more energy resources overall? This video explains this paradox of energy efficiency, also known as the Jevons Paradox.



**The paradox of efficiency: Can uncertainty be governed?**  
By Zora Kovacic, Louisa Jane Di Felice and Tessa Dunlop

In a world of limited resources and increasing human impact on the environment, using resources more efficiently seems sensible. Many policies see efficiency as an important instrument to achieve their goals. In the case of energy policy, the EU has published in 2012 a directive on energy efficiency and in June EU energy ministers agreed to support...



**Paradox or Paradigm? A deeper discussion about societal goals**  
By Jan Sindt

The Jevons Paradox and rebound effect can be seen as one of the same thing as both observe higher consumption levels due to increased efficiency. But the real public policy question we should be asking is: do we want to live in a consumption-driven society?



**Is renewable energy efficient?**  
By Louisa Jane Di Felice

Renewable energy and efficiency are both essential to meet the EU's sustainability goals, but synergies and trade-offs between the two measures are understudied.

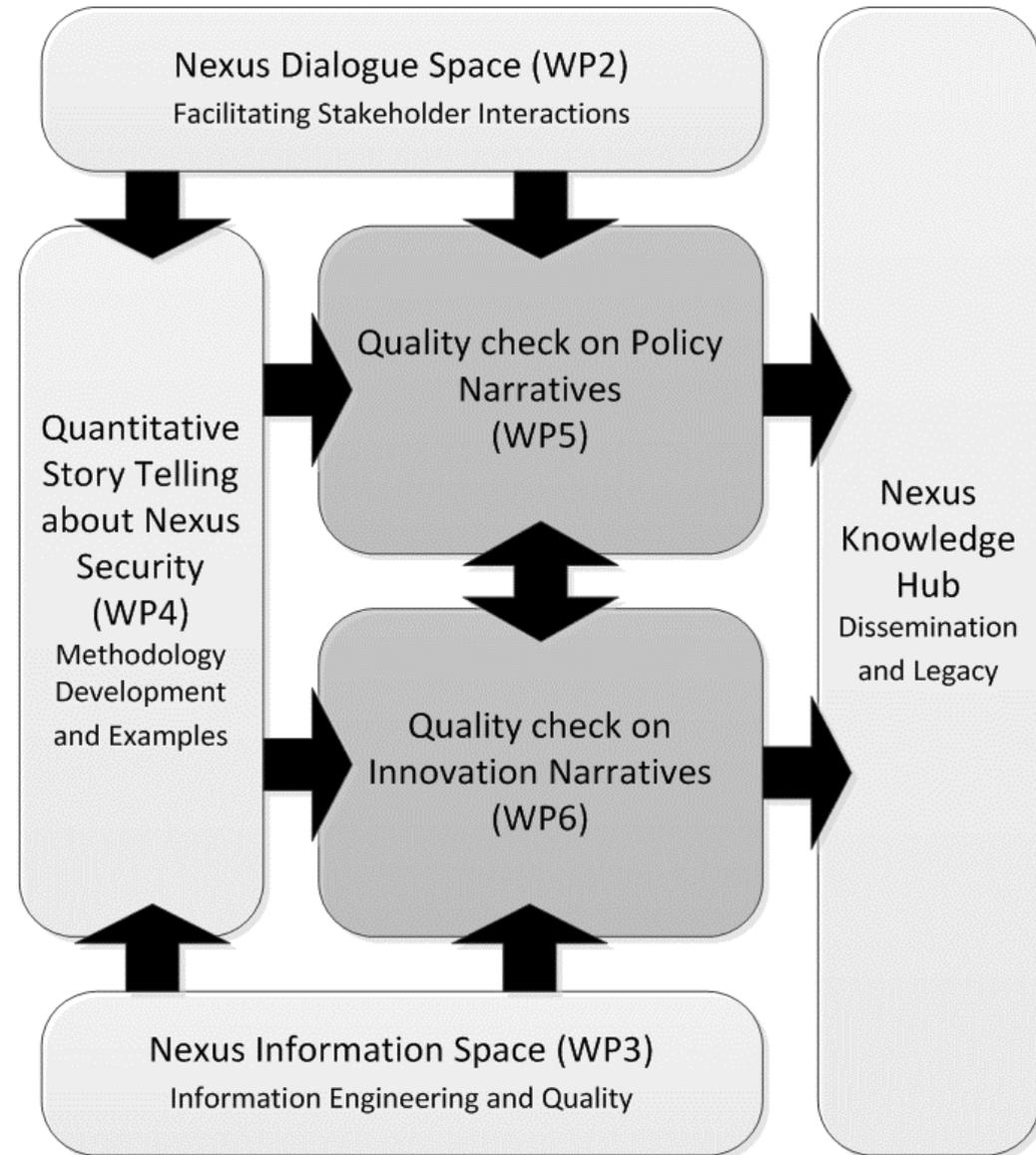


**From religious concept to industrial tool**  
By Tessa Dunlop

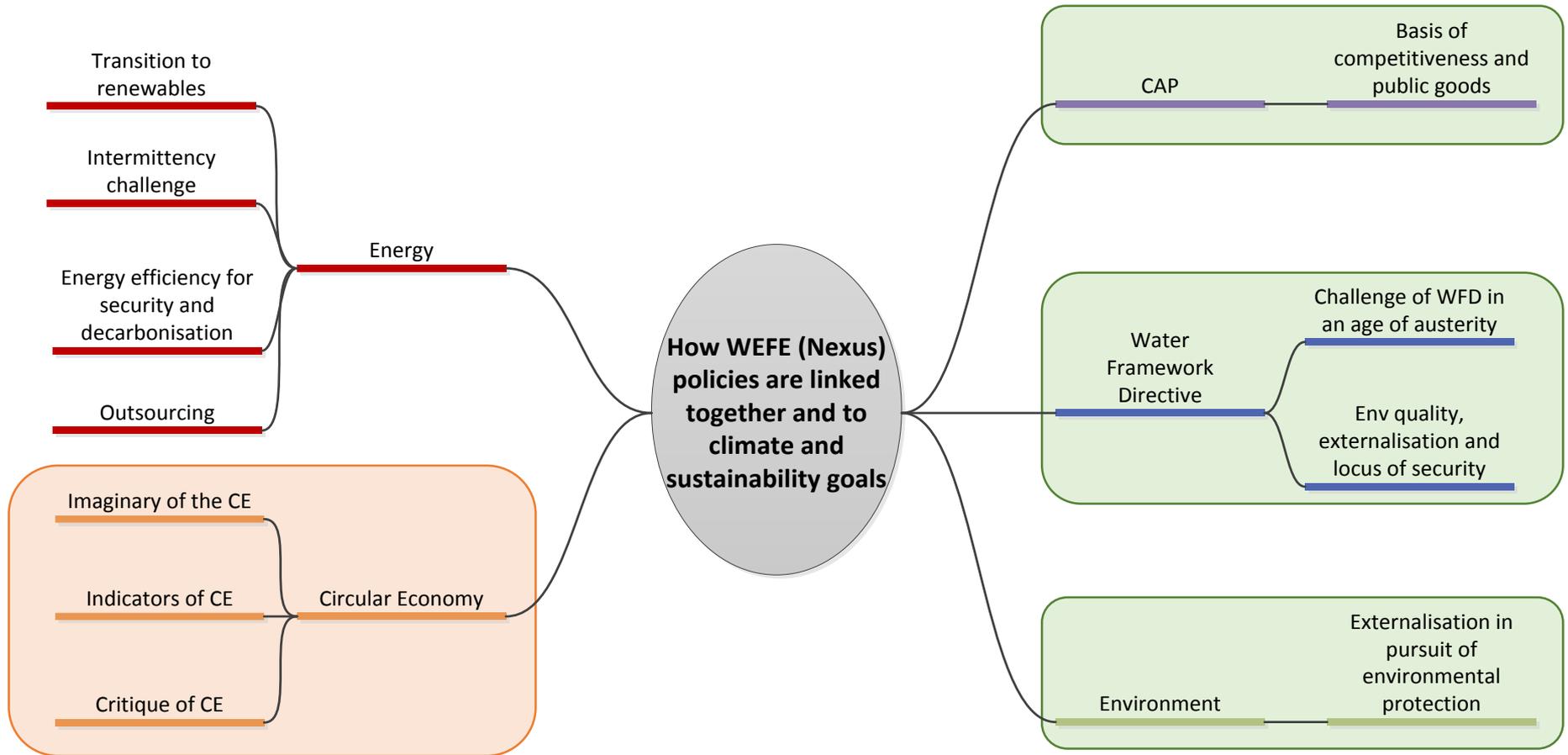
Far from having a straightforward definition, the term 'efficiency' has taken on many different meanings throughout history, showing that its meaning is highly contextual, writes Tessa Dunlop.

# MAGIC - doing things differently?

- Arguing that the answers we get to policy questions are the product of the way we carry out analysis
- Using ideas of Societal Metabolism to make a “Quality Check” using the **Multi-scale Integrated Analysis of Societal and Ecosystem Metabolism** approach (MuSIASEM)
- Transdisciplinary research
- Ideas from post-normal science
- **Quantitative Story Telling**



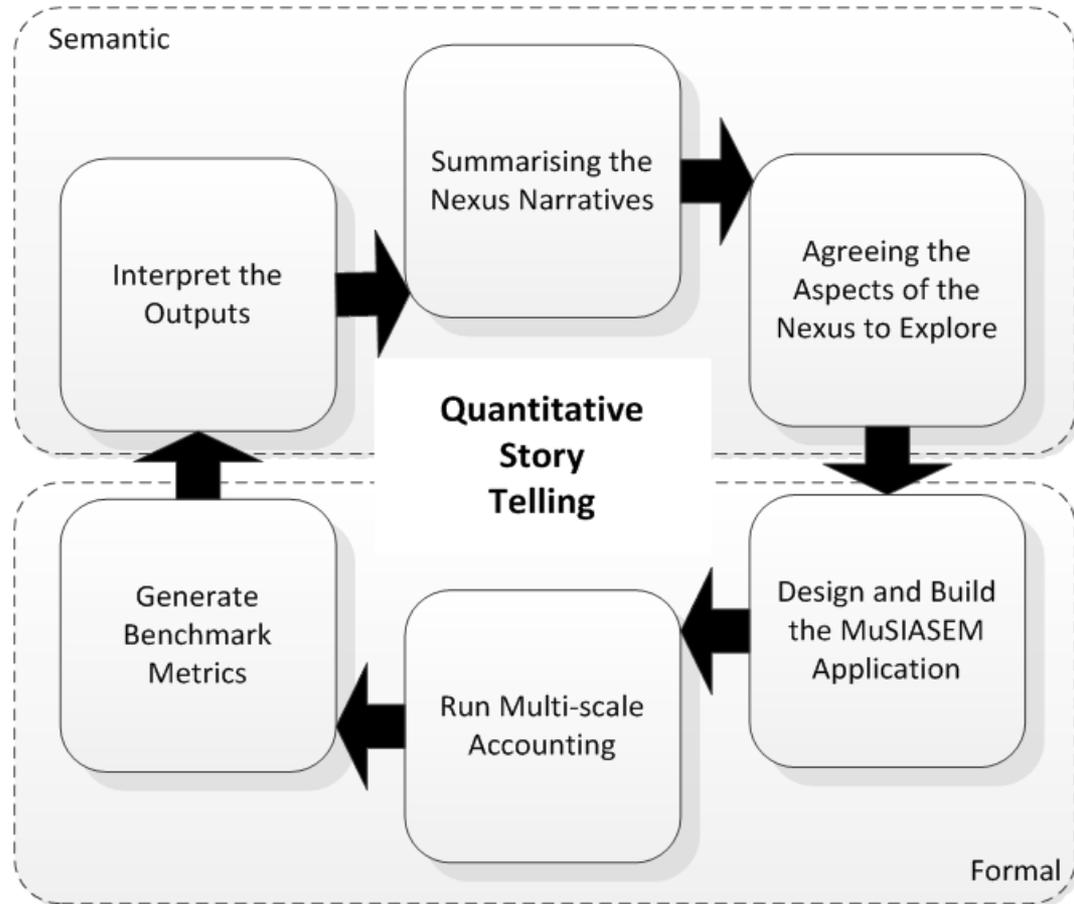
# Policy domains and narrative analyses



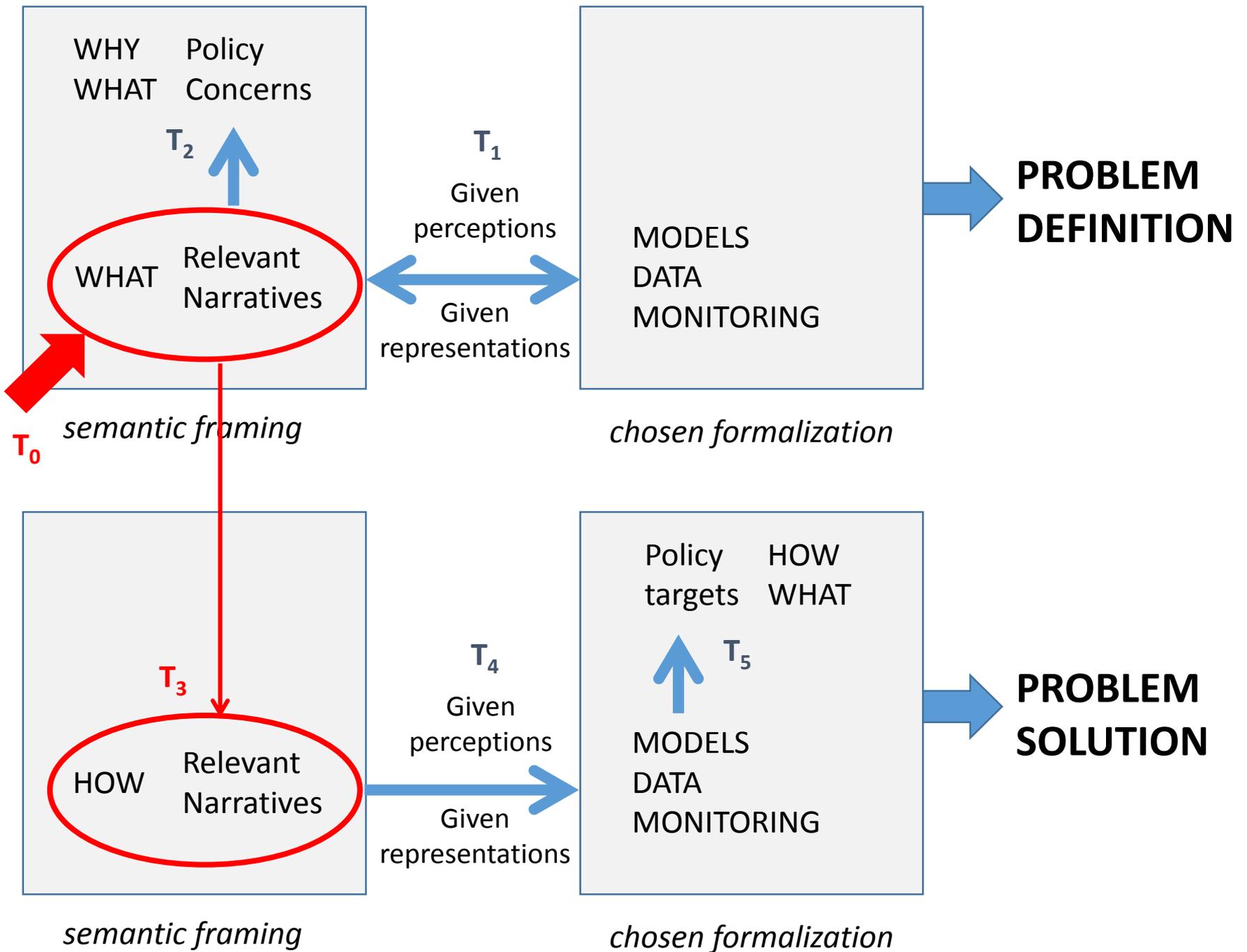
- For full document on narratives see MS10 @ <http://www.magic-nexus.eu/documents/milestone-10-definition-policy-case-studies>

# Process of - Quantitative Story Telling

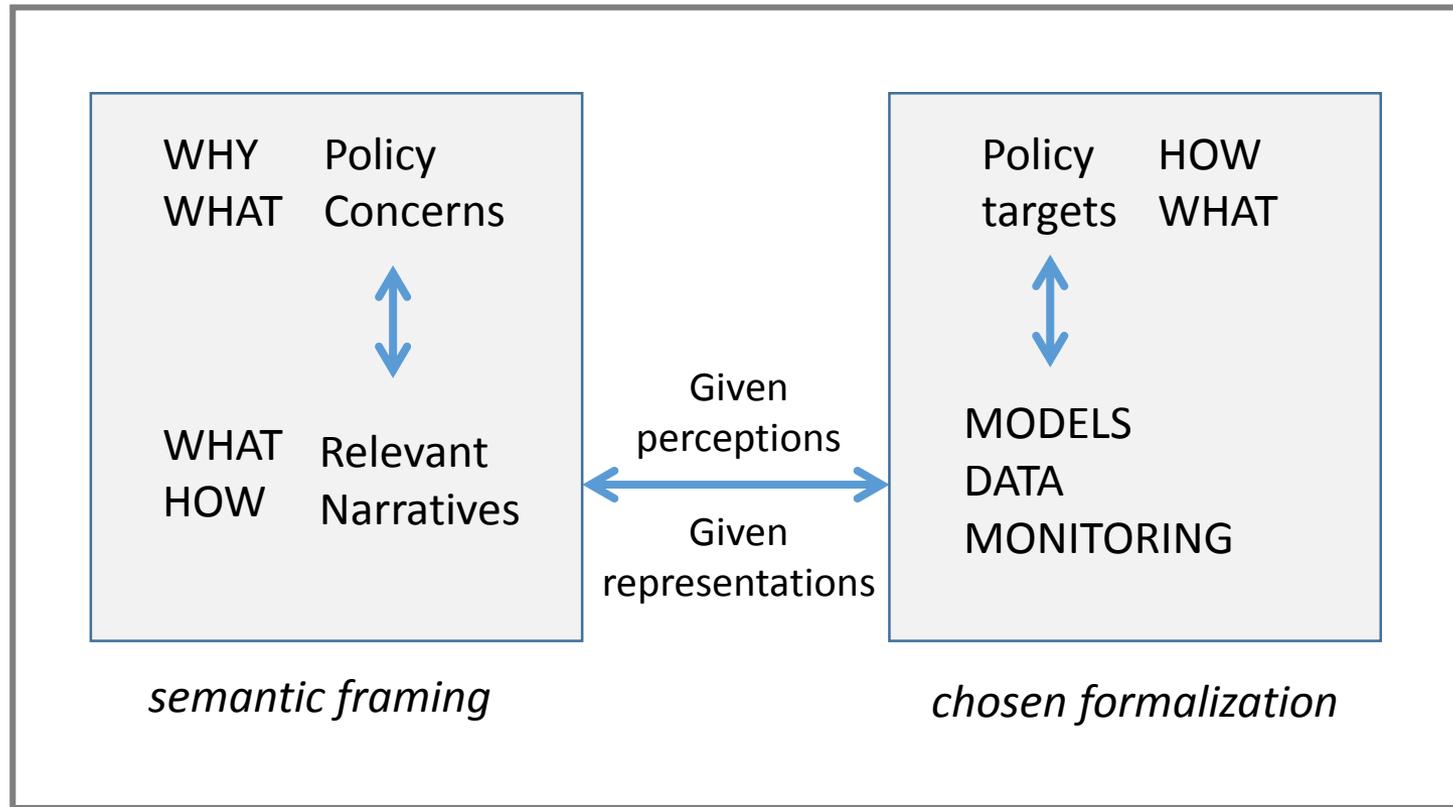
- Checking robustness of the storytelling that shapes policy and other decision making
- Including the spectrum of actors and institutions in the nexus
- Operationalising transdisciplinary working at the science policy interface
- Issue definition and problem structuring
- Integrating non-equivalent quantitative assessment
- Avoidance of hypo-cognition



*“Models by their nature are like blinders. In leaving out certain things, they focus our attention on other things. They provide a frame through which we see the world” (Stiglitz, 2011).*

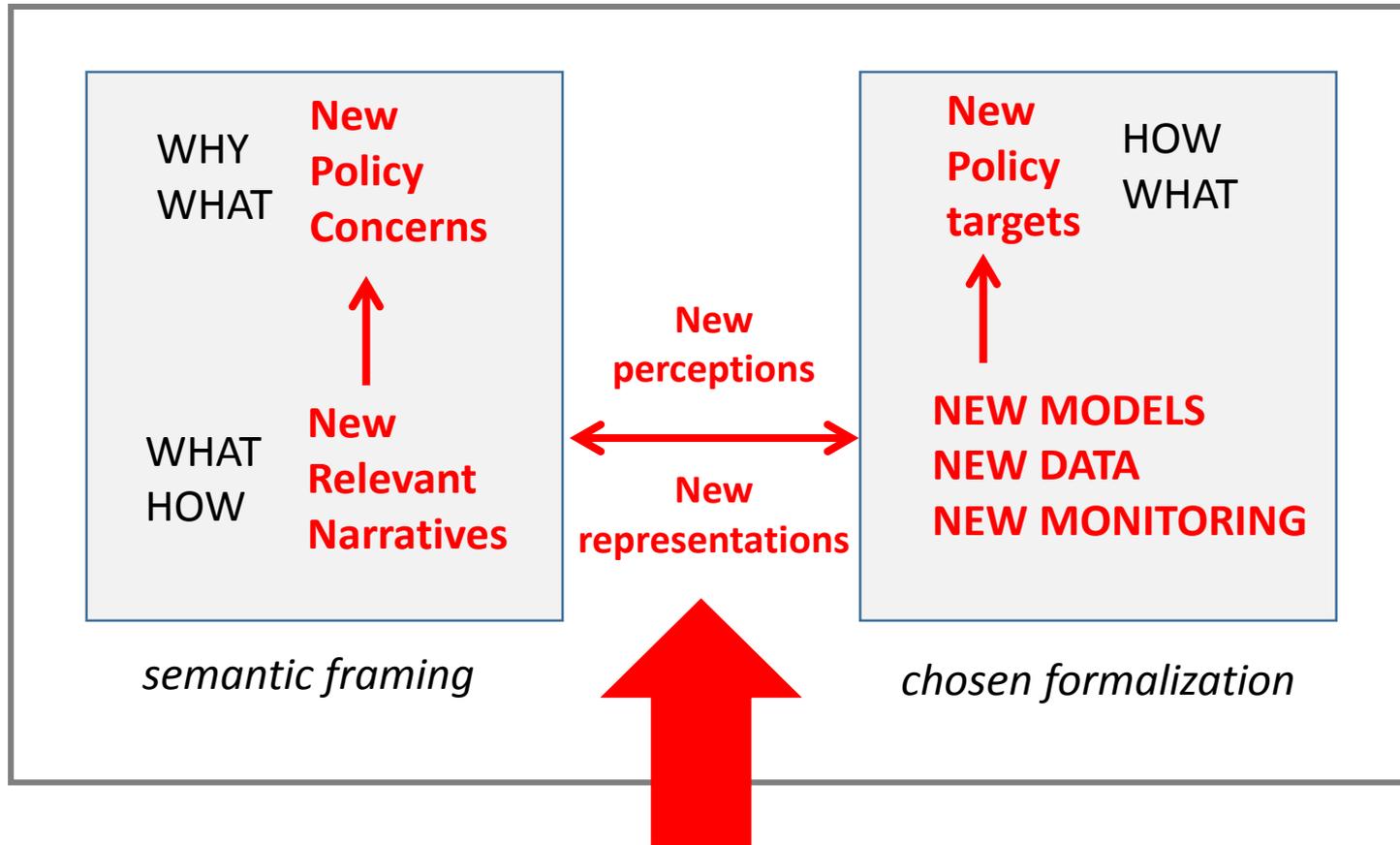


# The semantic lock-in generated by the formation of an epistemic box



The selection of models, data, monitoring (*the chosen quantitative representations used to generate “scientific evidence”*) is a by-product of the original choice of a relevant narrative, that determines a lock-in into an “epistemic box” because it defines also the choice of the scientific evidence used to: (i) confirm policy concerns; and (ii) define indicators to monitor success and policy targets.

# Improving the quality of the information informin policy by using simultaneously diferent epistemic boxes . . .



## Quantitative Story-Telling

adding new perceptions and representations to the existing set  
bringing in INPUTS coming from other epistemic boxes

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# Thank you for your attention!

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