

# Knowledge for Transformation?

Using, framing and communicating transformative climate knowledge in Spain in the face of High-End Climate Change (HECC).

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## Outline

**Research question:**  
What kind of knowledge & communication processes are needed to cope with high-end climate change?



**Context:**

Spain / Portugal

**Theoretical underpinning:**

*Open knowledge systems*  
(e.g., against the knowledge deficit model)  
*Transformation theory*  
...

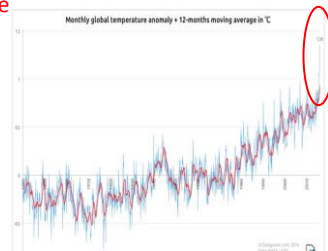


Figure 1. Monthly global surface temperatures (land and ocean) from NASA for the period 1880 to February 2016, expressed in departures from the 1951-1980 average. The red line shows the 12-month running average. Image

**Methods:**

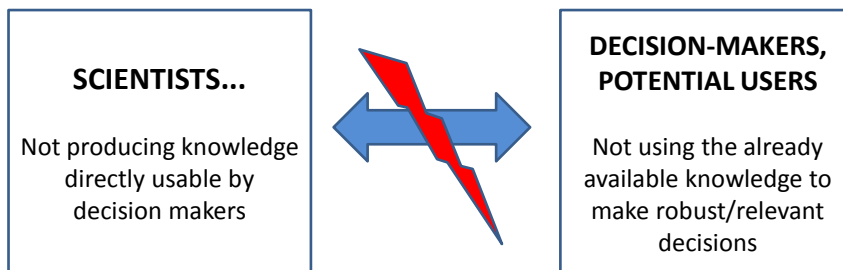
Interviews (26+10)  
Questionnaire (N=20)  
News media coverage  
Stakeholder workshop  
...

## How to improve climate knowledge production and communication to...

- take robust (and urgent) policy **decisions**
- implement innovative (system) **solutions** &
- build transformative & engaging **capacities**  
*to cope with High-End Climate Change (HECC)?*



## On science-policy-society knowledge interactions...

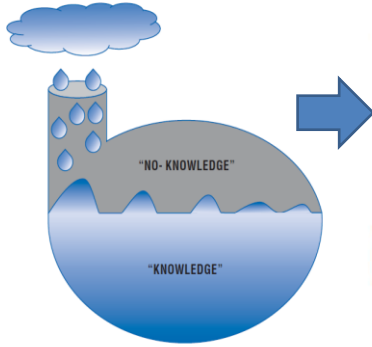


(After: Weichselgartner and Kaspersen 2010)

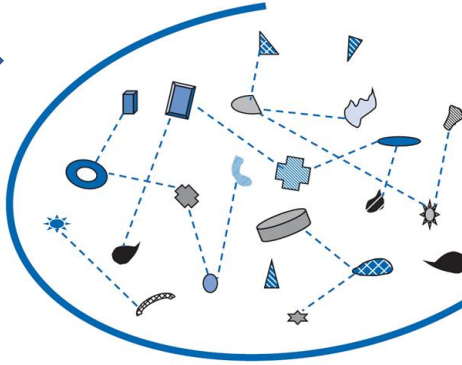
- The knowledge-deficit model does not work!...
- Alternative model: Open Knowledge Systems (Tàbara & Chabay 2013)

## Knowledge: not just 'filling gaps'...

Knowledge from a single type of source poured into a closed container



Knowledge from many sources, all organised around concrete needs and practices, operating in a social-ecologically coupled open space



World Social Science Report 2013  
Changing Global Environments  
© ISSC, UNESCO 2013

A new vision of open knowledge  
systems for sustainability:

by  
J. David Tabara

### Case study: knowledge needs to support Iberian cross-border climate cooperation (1)

Purpose:

- Analyse role and the **capacities of Iberian Euroregions** (AAA and EUROACE) to promote transformative cooperative responses in the Guadiana and Tagus river basins.
- Focus: examination of organisational capacities of the secretariats; establishment of **horizontal and vertical collaborative institutional networks and information use**. Assess the level of **integration of climate change knowledge** and adaptive water management objectives into development goals taking into account high-end climate scenarios.



## Case study: knowledge needs to support Iberian cross-border climate cooperation (2)

Some results:

- **Climate change scenarios and IPCC results were not incorporated for the development of any of the cross- border territorial strategies.**
- While cooperation on water governance mechanisms at the river basin level promoted by the WFD and the Euroregion EUROACE are functional, **cross-border cooperation in other areas including climate change**, nature protection and agriculture **remains elusive**.
- There is **lack of specific financial and capacity-building mechanisms to foster knowledge integration, (transformative) cross-border cooperation & institutional coordination on climate change issues.**



## On transformative knowledge & solutions... (1)

*General assumption:*

*Conventional strategies and solutions are not enough to cope with high-end climate change*

- **Need to move from ‘additive’ effects, policies and actions** (e.g. ‘wedging’) **to multiplicative, synergetic/disruptive ones** (non-linear trajectories).
- **Resolve multiple** (escalating, interconnected) **problems at the same time** in concrete social-ecological contexts (‘systems of interlinked solutions’; ‘SES coupled clusters of knowledge’)
- Dynamically implemented as **social learning processes**

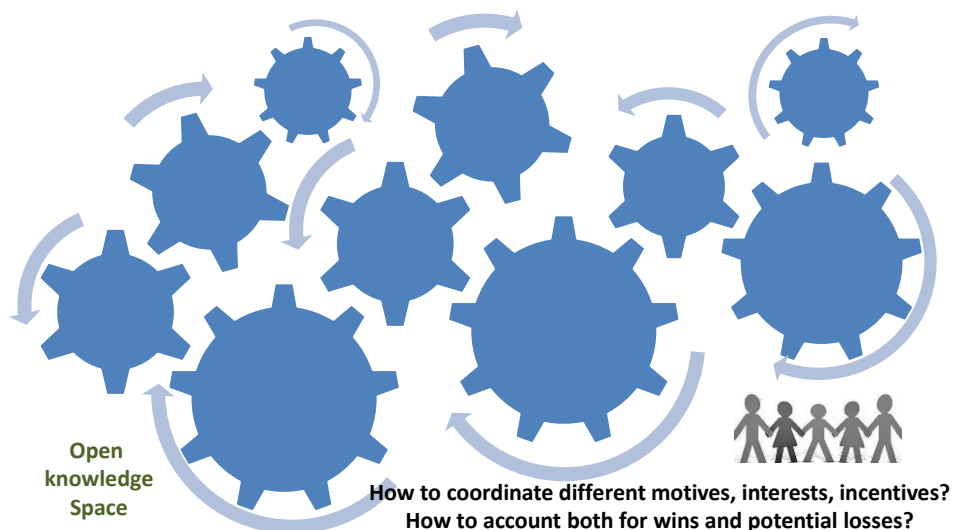
## On transformative solutions...(2)

- Integrate different kinds of strategies and measures.
- Successfully **combine adaptation, mitigation and sustainable development** (climate change as a symptom of unsustainability)
- Fundamentally **change agents social-ecological interactions** (including those of scientists and experts...).

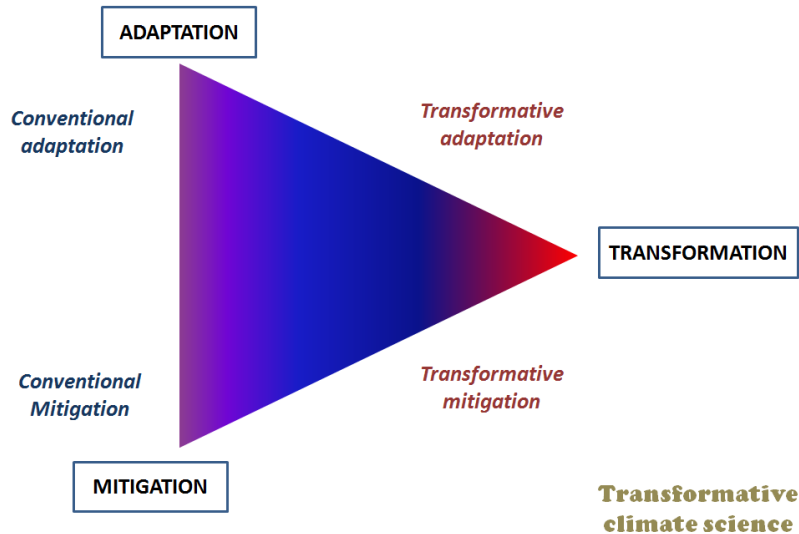
*To a large extent the coordination and implementation of transformative solutions to HECC is a communication and social engagement challenge*

## Interlinking 'systems of solutions'

From 'what is the problem' to 'who is the solution'



## Transformative knowledge is different...



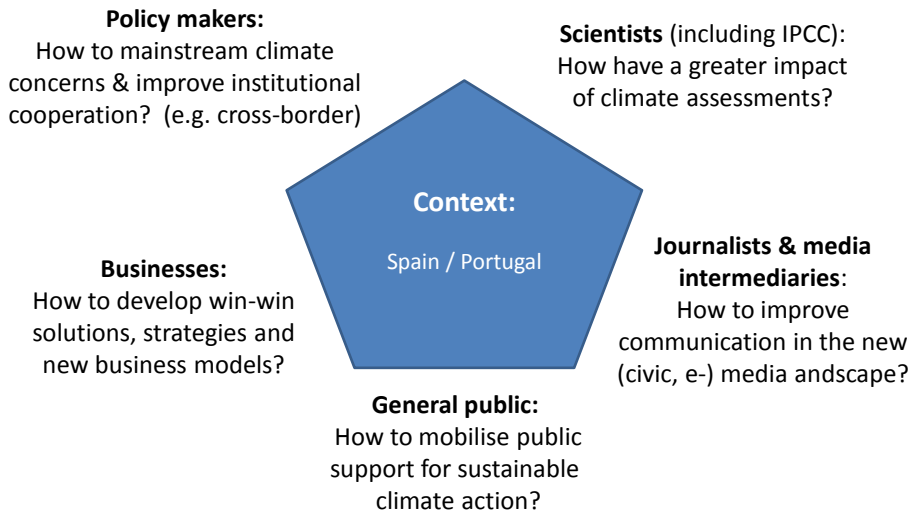
## Some communication challenges

- **Move** to just giving ‘more information’ (e.g., ‘train schedules’, wikis) to boosting **agents capacities to implement transformative change**
- **Embrace complexity** (e.g. in economic assessments of climate solutions).
- Dealing with **equity, power and distributional issues**
- Avoiding false hopes in techno-fixes –hence **focusing on institutional changes**
- **Integrate identity, emotional and cultural aspects.**
- Dealing with **multiple audiences** with very different **interests and values at the same time**
- ...



AR5 in Europe

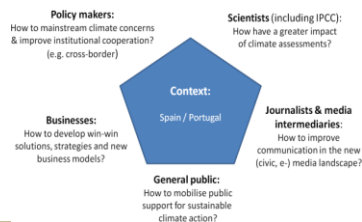
## Knowledge-holders and communication agents...



## Some recommendations

- **Scientists dissemination:** greater use video, short but rigorous professionally produced, 'knowledge snippets' ('mobile actionable knowledge').
- **General public:** Improve translation, attractiveness and make climate a daily business - to trigger collective action & public support for climate policies.
- **Journalists:** Support human professional communicators and companies. Towards a 'civic science journalism'? Quality mass media at risk?
- **Businesses:** support R&D in climate products and services. Produce very targeted short business briefs in their own terms
- **Policy makers:** focus on developing knowledge to support institutional cooperation (e.g. cross-border), cooperation and transformation.

➔ **Support boundary & intermediary organisations (largely absent in Spain) specifically focused on transformation**



## Final remarks (1):

### Knowledge usability, influence and impact

- Global Assessments can be **of little use at local and regional** (or even national) / corporate **level** if only focusing on impacts.
- **Different kinds of audiences** need different kinds of knowledge (and reports) suited to their own needs (targeted/tailored messages).
- Different kinds of purposes use **different kinds of criteria** to assess knowledge (e.g. rigour, credibility, mobilisation...)
- Key role of **intermediary agents to structure, stabilise and legitimise knowledge interactions**. Need for transformation-oriented **boundary organisations**.
- Good **timing is crucial**: to feed with the needed knowledge at the right time when pressing decision
- ...

## Final remarks (2):

### Frames and framing in communication

- **Language, framing and translation** (other than English...) are crucial. Need for use of 'situated language of motives': use the **metrics and time-frames** agents expect, use and understand to make decisions : e.g. 'jobs', 'growth', 'profit', 'votes', 'next year/five years' (e.g., the world in 2100 does not mean much within the corporate world...)
- **'Simple positive stories'** of what works in practice can help.
- Overcome the framing of climate change as 'an environmental problem'; rather a **as a social, economic, and health problem or 'threat'**.
- Important role of the **opportunity framework\***: for **business, efficiency and jobs** but also for improving **equity**.
- Move from only focusing on impacts and problems produce actionable tested knowledge **on options and solutions**.

\* Spain is the EU country (EU29) where people most believe that 'fighting climate change and using energy more efficiently can boost the economy and jobs in the EU' (EC2014a)