



A systemic approach to developing responses to climate change



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JRC
*Serving society
Stimulating innovation
Supporting legislation*



Who we are

- JRC – The science DG of the EC
- EU Policy Lab
- Scientific evidence for policy
- Innovative approaches





Context (1)

- Not just climate change:
 - **GLOBAL ENVIRONMENTAL CHANGE!**
- Long-range, systemic, long-term
- Many unknowns, high uncertainty
- Must think the un(think)able...
- ...while remaining practical and concrete



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Context (2)

Forecasting such complex phenomena is impossible, but...

WE NEED TO GET A GRASP ON WHAT COULD HAPPEN!



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The power of foresight (1)

- Structured reflection about the future
 - Broadly applicable
 - Inclusive, multi-disciplinary
 - Identifies drivers of change
 - Explore how systems could evolve
- e.g. Delphi, scenarios

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The power of foresight (2)

- Many methodologies available
- Helps develop systemic thinking
- Helps discover the range of the plausible
- A mind opener for participants
- Raises awareness → range of possible futures

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BUT...

- Scenarios often broad
- Provide context, describe imaginary worlds
- The question is...
 - **What do they mean for me?**
 - **What do they mean for you?**



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The challenge: from foresight to action...

- **Put people in future real life conditions**
- Help them imagine what future contexts mean for them
- Make them believe in a future for themselves
- Create ownership & conviction about this future
 - **Need to empower people now!**
- Make them see the future they want to build



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Our solution...

Make them act in the future
through an open, forward looking
simulator

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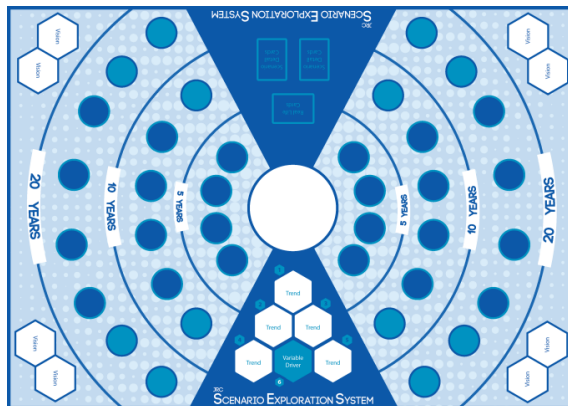


The JRC Scenario Exploration System

1 Game Master

A serious gaming
platform

5 players



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Three types of actors



Business



**Civil Society
Organisation**



Policy maker

Free to define their
roles and to act



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What they do

- Pursue their long-term objectives
- Interact with each other
- With their own scenario-dependent resources
- Subjected to foreseen and unforeseen events



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Under the close watch of the public...

A Public Voice vets the actions

→ **Potential future impact of the actions**

→ **It has its own, transparent bias**

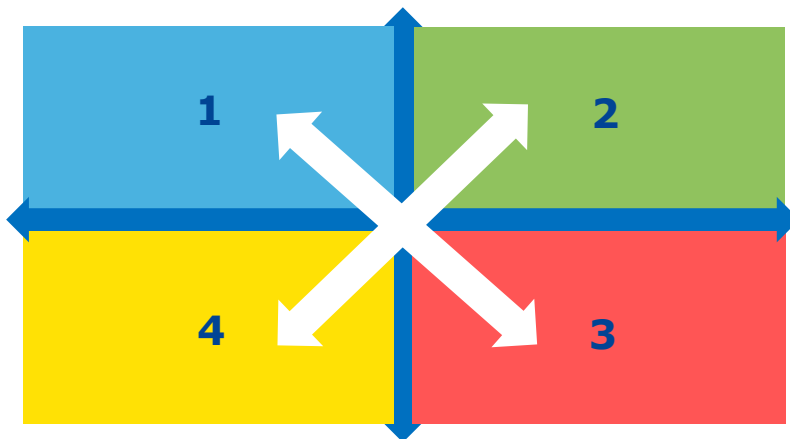
Real Life cards reduce its influence

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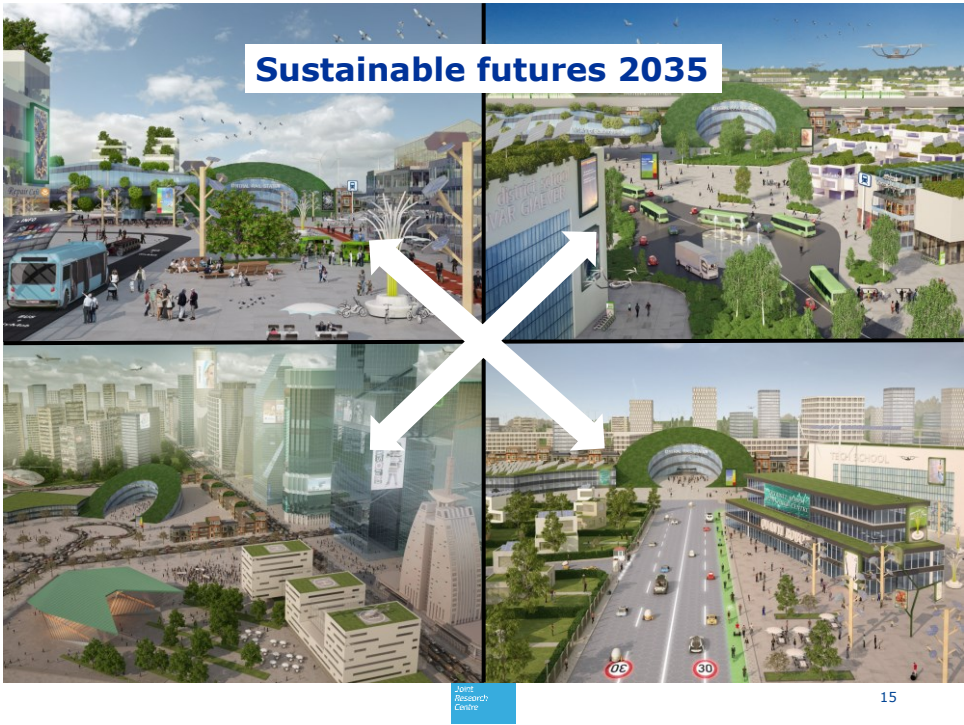


In two contrasting scenarios



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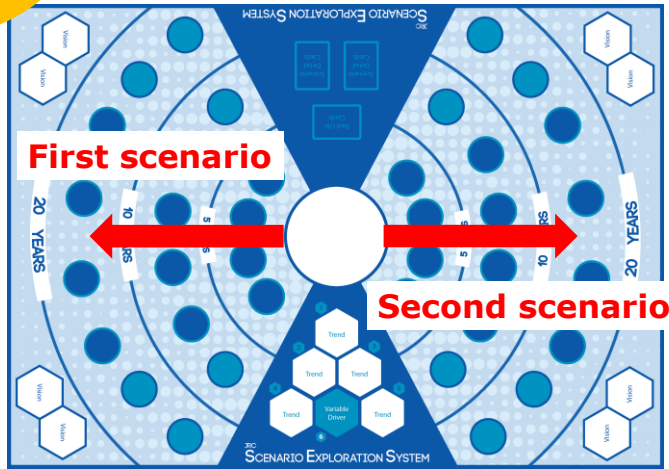


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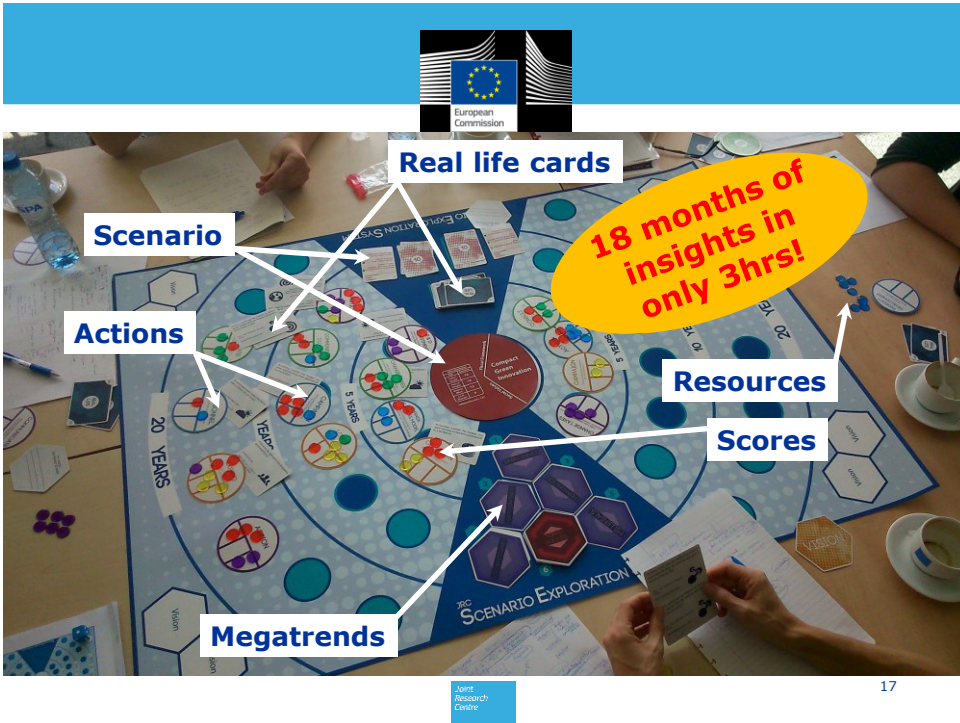


2x3 rounds

On the JRC SES board



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Harvesting the exploration

- **Player record sheets**
- Note takers
- Observers
- **Post-game discussion**
- **Feed-back forms**

PLAYER RECORD SHEET	
SCENARIO TITLE: _____	
PLAYER ROLE:	EU Policy Maker Other Policy Maker Business Civil Society Organisation
NAME OF ORGANISATION: _____	
DESCRIPTION OF THE ACTIVITY: _____	
LONG TERM VISION: _____	
ROUND 1	
VARIABLE DRIVER IN THIS ROUND: _____	
ACTION: _____	
SCORE = RESOURCES TOKENS SPENT + FUTURE IMPACT TOKENS RECEIVED: _____	
ROUND 2	
VARIABLE DRIVER IN THIS ROUND: _____	
ACTION: _____	
SCORE from own action: _____ + SCORE from collaborations: _____	
ROUND 3	
VARIABLE DRIVER IN THIS ROUND: _____	
ACTION: _____	
SCORE from own action: _____ + SCORE from collaborations: _____	
JRC SCENARIO EXPLORATION SYSTEM	

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A versatile simulator: two game modes

➤ Scenario exploration

- Discover possible futures
- Experience being in another role

➤ Simulation

- Yourself in the future, exercise your freedom
- Discover the unexpected, feel the constraints



For climate change adaptation

➤ Select relevant scenarios

- e.g. JRC 2035 scenarios

➤ Choose a specific issue

- e.g. sea level rise in Rotterdam

➤ Define relevant roles

- e.g. city mayor, logistics company, neighbourhood association

➤ Explore



Facts and figures

- About 30 games/150 players since March 2015
- Tested on all types of participants:
 - 17-65 years old, M/F
 - All professional/educational backgrounds
- Already adapted to different scenarios
- Many issues explored and stories recorded



Explorer feedback

- *"Game acts as 'big tent' to facilitate conversation on multiple interesting global issues"*
- 80% of players agree that the game helped them take a strategic and future oriented perspective
- *"Fun to hear other people that are very knowledgeable"*
- Strong surprise/learning elements
- Typical 'fun' score 7-8/10



Past user feedback

Director Policy, Science and R&D of F&D Europe:

"...this event was the most forward looking..."

Response from EC policy colleague:

"This is to a large extent thanks to the [foresight/gaming] contribution of JRC... Not only have we recognised the challenges, but were we able to consider how we can deal with them as regulator, taking into account the point of view of all stakeholders including consumers and governmental experts. Many thanks for your support."



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Planned future applications

- **Migration at OECD**
- **Climate change at the KIC Climate**
- **Mobility and logistics at the VUB (Brussels)**
- **Local sustainable development (Walloon gov.)**
- **Teaching the future (Houston, USA)**
- **Stakeholder engagement on nanotechnologies**
- ...



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THANK YOU FOR YOUR ATTENTION

We want to engage with you!

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