

# Joint Research Centre

the Commission's in-house science service



Foresight as an instrument for research priorities identification

Vienna, 7<sup>th</sup> June 2011

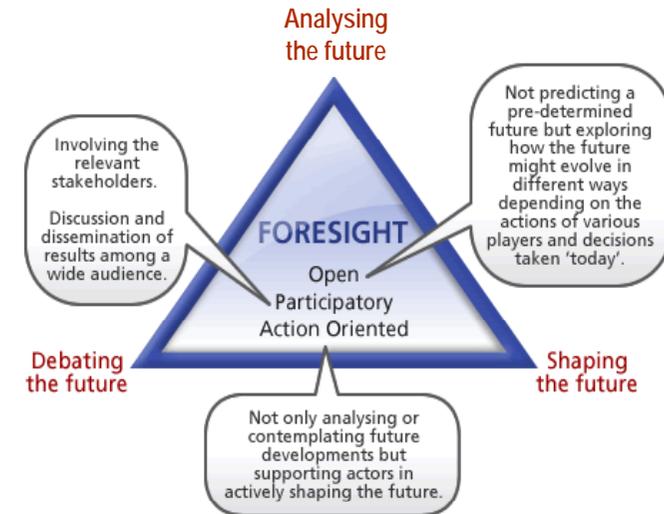
Fabiana Scapolo

*Serving society, stimulating innovation, supporting legislation*



- Foresight in support to policy-making
- Examples on how foresight outcomes were used in Framework Programmes
- Some reflections and lessons learned
- How the JRC uses horizon scanning and foresight for strategic planning

## "Thinking the Future", "Debating the Future" and "Shaping the Future".



- Participatory, inclusive

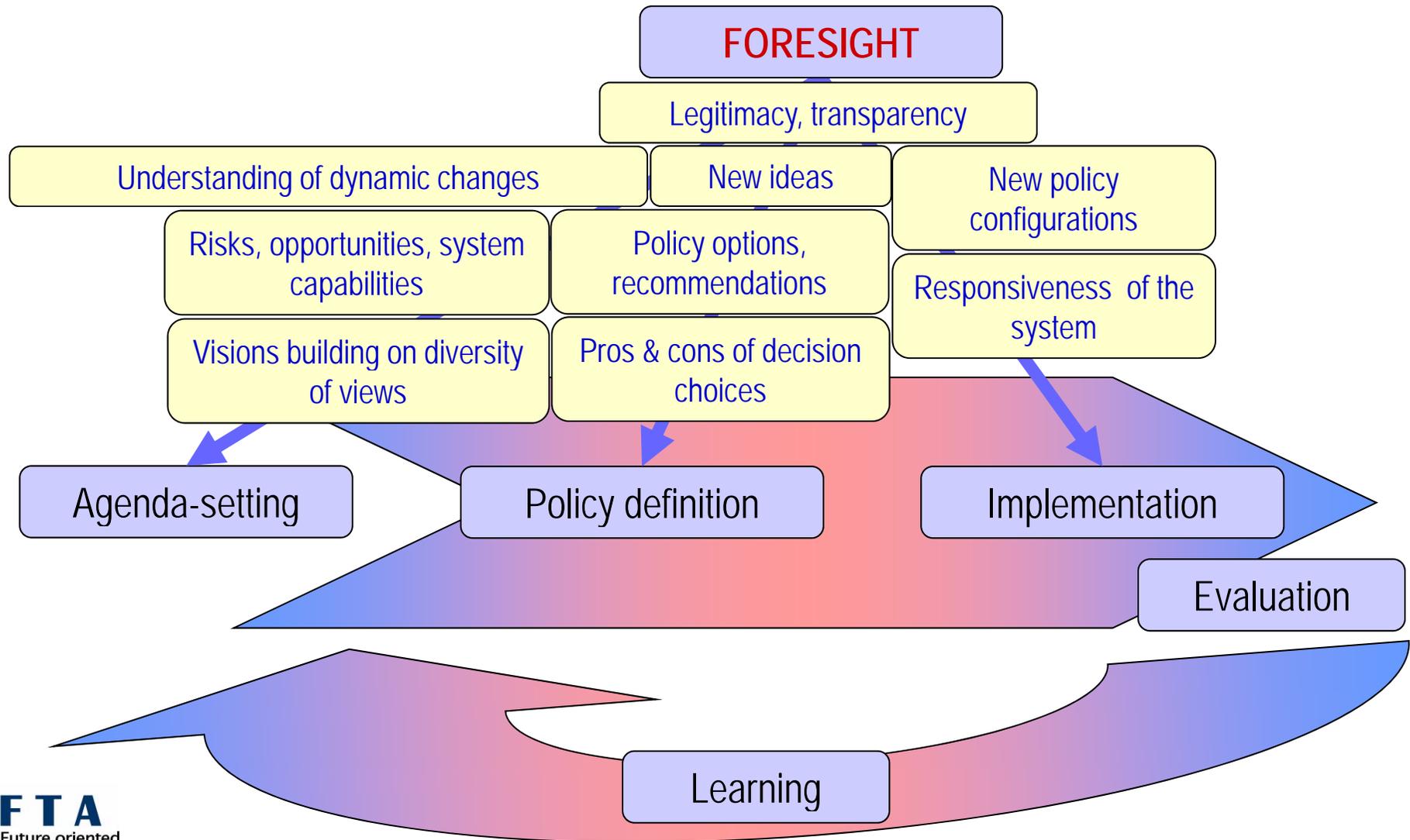
- ✓ Joint systemic understanding of the current situation and how it can evolve in the future

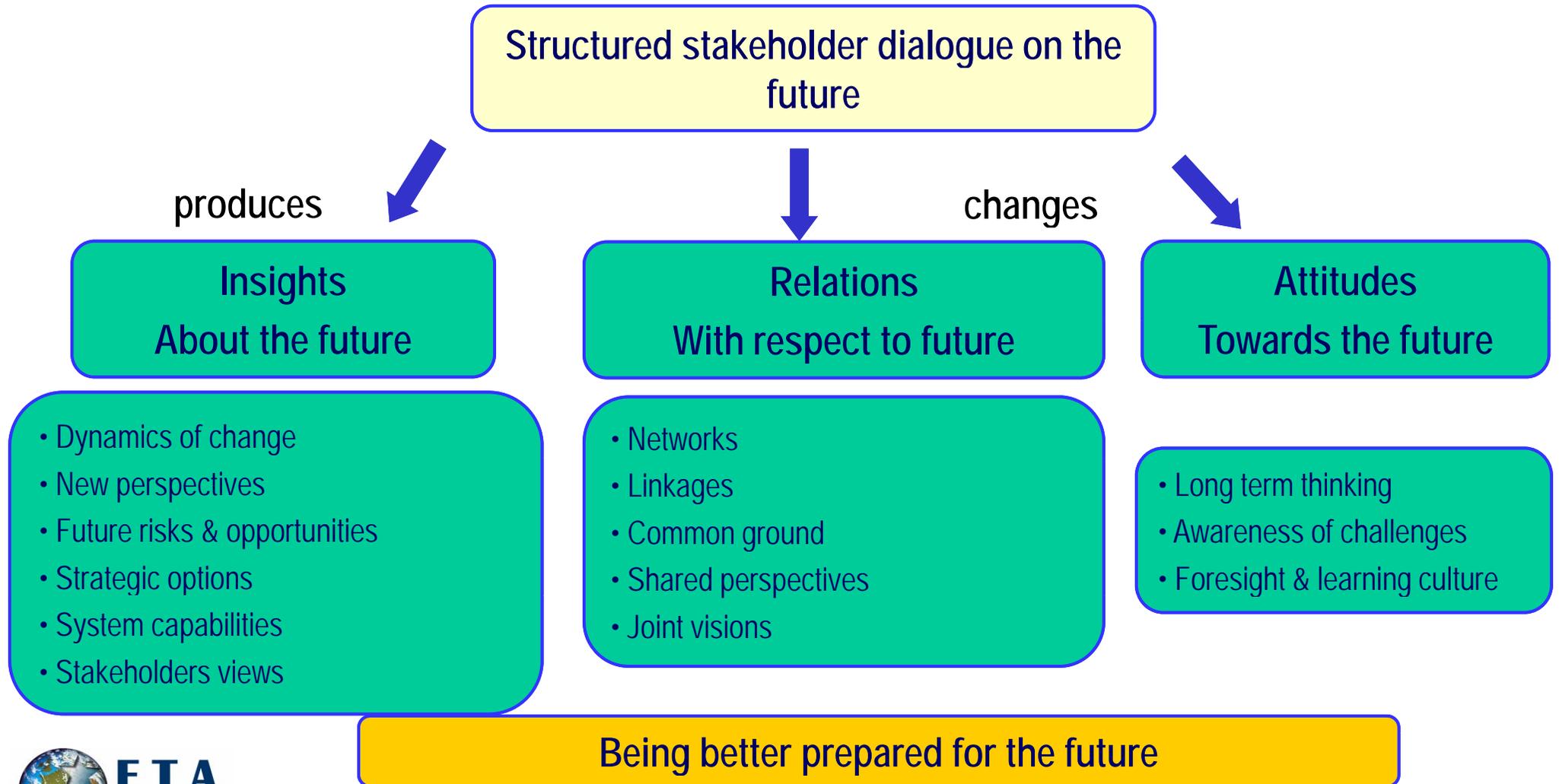
- Alternative futures, medium to long term

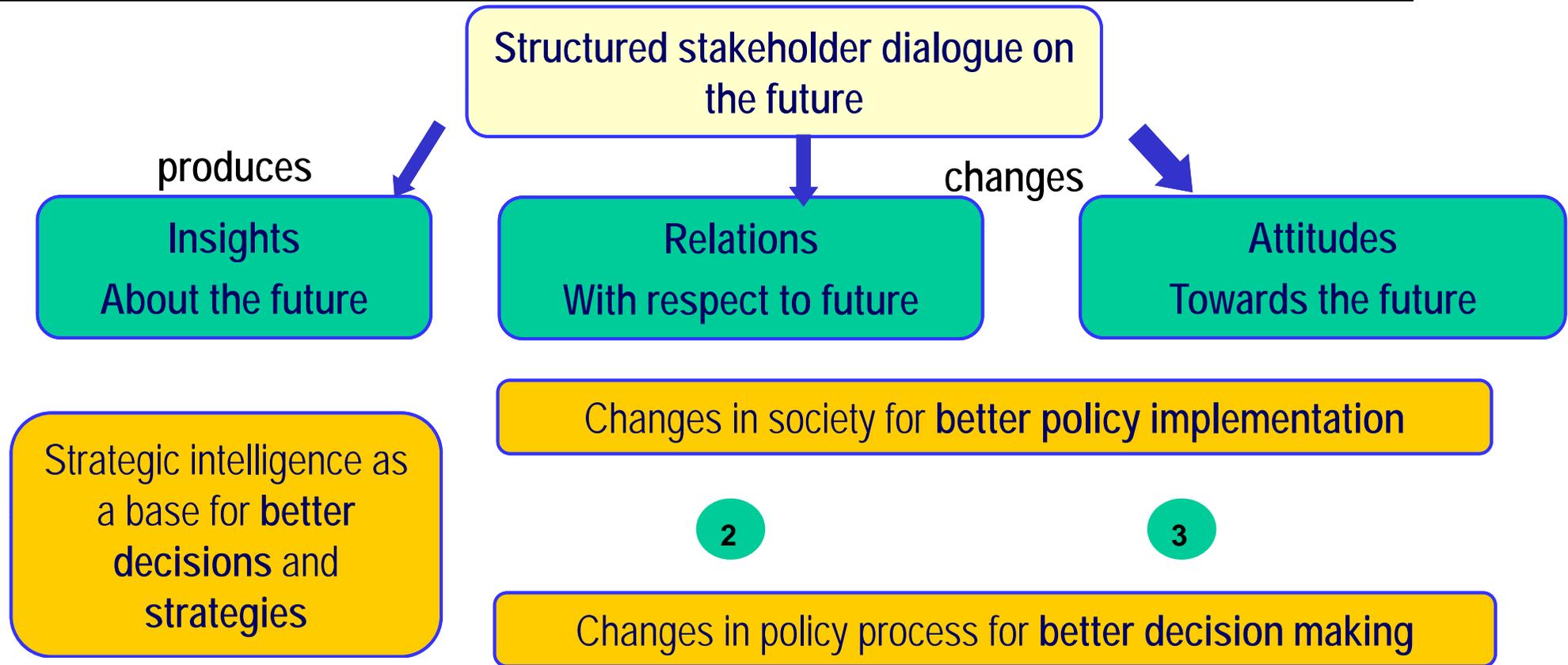
- ✓ Systematic and creative process to enable participants to jointly see what is possible, probable and preferred

- Action-oriented, shaping the future today

- ✓ Vision building process aiming at present day decisions and to mobilise joint actions

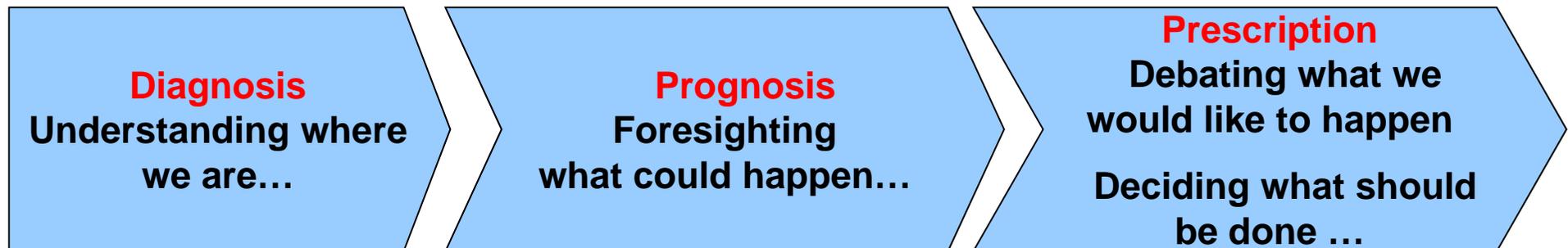






1 Building networks – & bringing together people from different settings involved with shaping and informing policy in the decisions taken by key actors in the commissioning body, the end user or particular to provide direct visibility into their standards, challenges and opportunities and prepare for longer term developments, and how these are liable to interact with current policy decisions

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Each type of dialogue calls for:

- ✓ specific objectives (guiding questions)
- ✓ specific participants in the dialogue (type and level of participation)
- ✓ specific methods structuring the debate

➤ *Need to tailor approach to objectives and intended impacts in each phase*

- There is not a systematic use of Foresight as input for priority-setting of the Framework Programmes
- The EU decision-shaping, consultation and decision making processes makes it difficult to envisage a centralised omni-comprehensive Foresight process for priority-setting
- However, foresight projects and outcomes were used in the past FPs as contribution to the specific programmes, or to define the text of specific FP calls

- Information society
  - Identification of interrelated long term R&D challenges to be addressed in the ICT area (Ambient Intelligence); provision and endorsement of vision
  - Identification of key research requirements and policy challenges (scenarios on ICT for governance and policy modelling)
  
- Sustainable Manufacturing
  - Examination of technological, knowledge and organisational capabilities for future competitive and sustainable European manufacturing
  - Attention both to technological priority areas and to any policy changes required
  - Identification of research roadmaps and supporting actions (for 2011-2013) towards Intelligent Manufacturing Systems by 2020 and beyond

## *Sustainable food consumption and production in a resource-constrained world - 3<sup>rd</sup>* SCAR (Standing committee of Agriculture Research) Foresight

Scope "to update the state of some critical driving forces and to focus on the transition towards an agricultural and food system in a resource-constrained world, given the likely critical importance of those driving forces".

The fundamental aim of this study was "to provide building blocks for longer-term perspectives to prepare a smooth transition towards a world with resource constraints and environmental limits and to guide agricultural research in the EU and its Member States"

- Many of today's food production systems compromise the capacity of Earth to produce food in the future and a drastic change is needed in regard to both food demand and supply.
- The average Western diet [...] represents a risk to individual health, social systems and the environmental life support systems".
- Coherence between food, energy, environmental and health policies and across all levels of governance are prerequisites for a timely transition to sustainable and equitable food systems.
- Research, innovation and agricultural knowledge *schemes* must be fundamentally reorganized.
- *Sufficiency*-oriented research, innovation and communication must become the priority

*Sustainable development considerations still remain under-represented in the policy-making process*

- Regional Foresight in the West Balkans Countries (WBC)
  - Combination of quantitative and qualitative approaches to inform the European Commission on about research topics of relevance for the WBC with a view of integrating these in the framework programmes.
  - Formulation of promising or potential research themes for the region and corresponding resource allocations
    - vision building,
    - networking for mobilising R&D communities and priority setting.
  - Results have been used both to inform national policy making and as input for funding programmes of European policy instruments (e.g. ERA.NET PLUS project)
    - A joint call for RTD proposals focusing on four of the priorities identified has already been launched.

- Across FPs, in some areas, the financing of Foresight projects has contributing to the definition and shaping of priority setting
- Other instruments, such as Joint Programming initiatives, have a Foresight dimension allowing a group of member States to jointly develop common strategic visions and strategic research agenda to tackle major societal challenges
- Involvement and support of the right stakeholders helps generating the right political momentum for hitting the policy agenda
- The design of the Foresight process is crucial
  - Understand the needs of the client to links strategic objectives and operational activities
  - Collaborative and online tools help the participatory aspect of the Foresight process
  - Communication of preliminary results contributes to adoption

# Some reflections

- Foresight through its anticipatory function is instrumental to inform policy-making and to contribute to a better coordination and streamlining of policy initiatives
- Foresight can be institutionalised into a continuous process as a tool for policy making (e.g. as Impact Assessment process in the EC) at European level
- Continuous scanning capabilities allow the anticipation of disruptive innovations and changes
- Foresight contributes to the creation of an anticipatory culture in organisations
- Interdisciplinary nature of challenge-oriented results makes it difficult for traditional governance/department structures to absorb them

## How the JRC uses Foresight for strategic planning

## Science serving society, stimulating innovation, supporting legislation

JRC is the European Commission's in-house science service. It provides the science for policy decisions, with a view to ensuring that the EU achieves its Europe 2020 goals for a productive economy as well as a safe, secure and sustainable future.

The JRC plays a key role in the European Research Area and reinforces its multi-disciplinarity by networking extensively with leading scientific organisations in the Member States, Associated Countries and worldwide.

## 7 Institutes in 5 Member States

**IE** - *Petten, The Netherlands / Ispra, Italy*  
Institute for Energy

**IRMM** - *Geel, Belgium*  
Institute for Reference Materials and Measurements

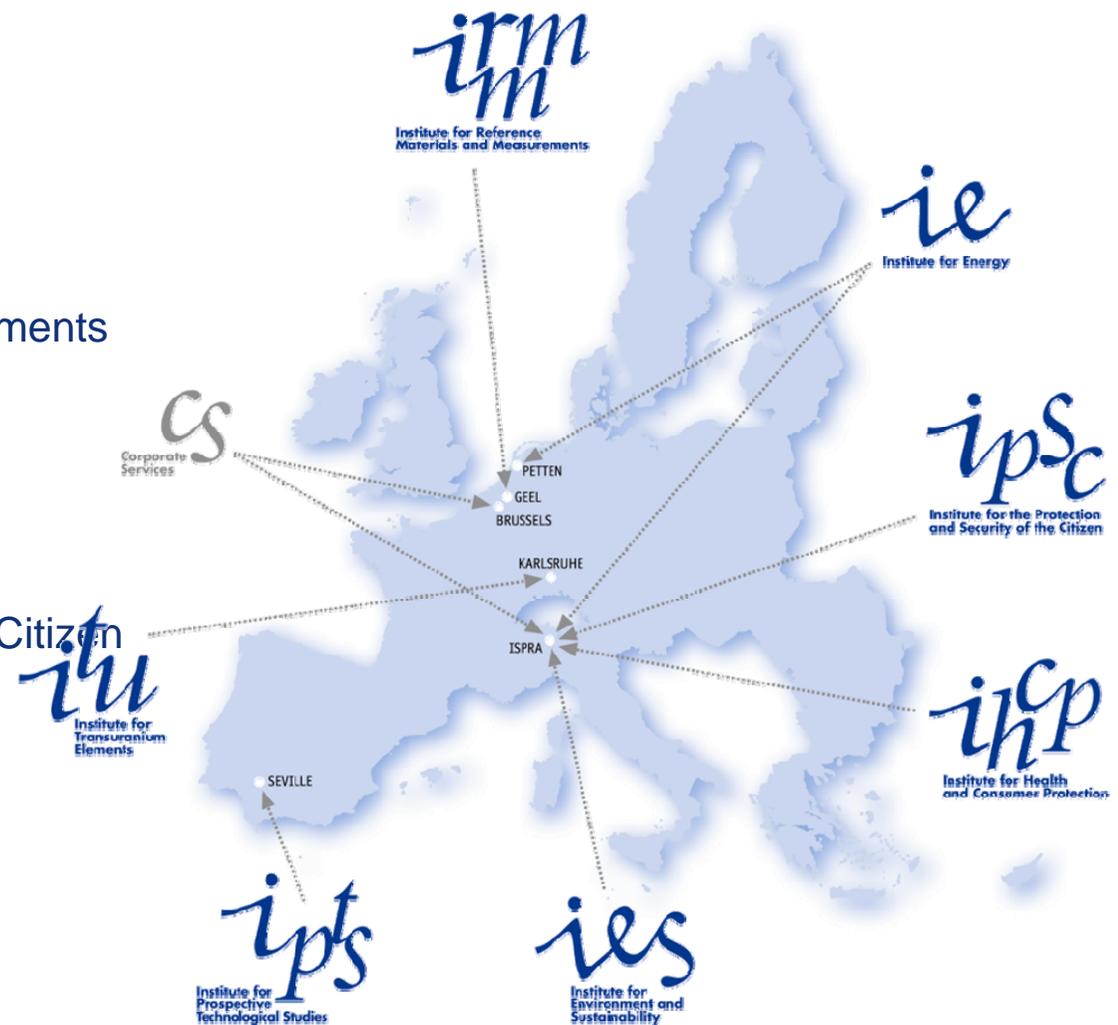
**ITU** - *Karlsruhe, Germany*  
Institute for Transuranium Elements

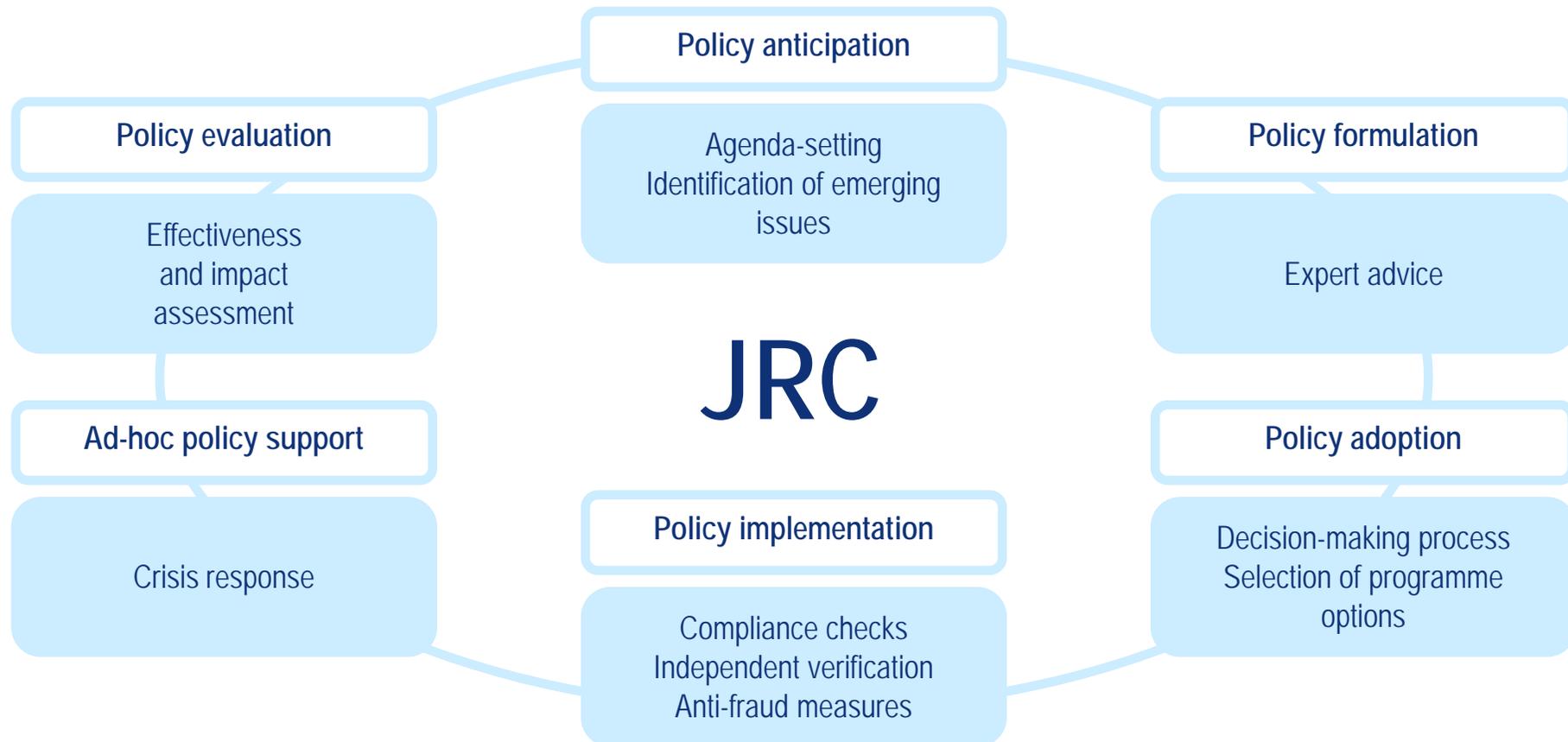
**IPSC** - *Ispra, Italy*  
Institute for the Protection and Security of the Citizen

**IES** - *Ispra, Italy*  
Institute for Environment and Sustainability

**IHCP** - *Ispra, Italy*  
Institute for Health and Consumer Protection

**IPTS** - *Seville, Spain*  
Institute for Prospective Technological Studies





## JRC 2010-2020: New Trends

Providing the European Commission's in-house scientific input essential to the Europe 2020 Strategy, balancing the objectives of sustainability and economic competitiveness:

- Providing evidence-based policy options with a cost-benefit analysis.
- Expanding socio-economic research and modelling capacity.
- **Strengthening anticipation, foresight and horizon scanning.**
- Integrating multi-disciplinary research teams across the JRC to give customers even better service.



As a follow-up of the recommendations of the King Report and of the orientation set up in the JRC strategy 2010-2020, the JRC has established a function dedicated to:

the provision of corporate intelligence related to the study of technological and societal trends and events which may affect public policies with a view to shaping the JRC's scientific strategy development.

# Objectives

As outlined in the Innovation Union flagship a reinforcement of forward-looking capacity (which includes foresight, forecasting, technology assessment and modelling) can help Europe to increase public trust in scientific and technological breakthroughs, provide favourable environment for investments and regulatory frameworks.

The JRC Anticipation function aims to provide strategic intelligence on a regular basis to policy makers in the Commission and other EU Institutions in view of

- drawing attention to emerging issues
- identifying key questions that require further study
- assisting in the shaping of future research programmes

The JRC Anticipation activities are undertaken in the context of EU Policy development

They will be based on:

- The expertise available in the JRC itself (Seven Institutes and corporate services)
- Related work taking place in other DGs and Agencies
- Networks of experts in Member States
- Partnership arrangements with Institutions in Member States conducting similar exercises at national level

- **Horizon scan (*alert*):**
  - in view of informing the Commission and JRC hierarchy (and others) of relevant scientific & technological, and societal developments that may impinge on policy and scientific support
  - reflecting the collective knowledge of the JRC services
- **Anticipatory studies (*emerging issues*):**
  - in view of addressing in more detail a set of specific areas of future scientific and technological relevance (ad hoc, short term)
- **Foresight (analyses):**
  - in view of studying selected topics which deserve in depth analysis.

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## Anticipation at the JRC

# Scanning the Horizon

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 **JRC**  
EUROPEAN COMMISSION

 Anticipation  
at the JRC

# Joint Research Centre (JRC)

Thank you!

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