



European Research Area



FACCEJPI

# **FACCE JPI**

## **Joining Forces in Europe in Agriculture, Food Security and Climate Change**

Conference on Joint Programming  
Vienna, 28 September 2011

[www.faccejpi.com](http://www.faccejpi.com)

# Outline



- Background to FACCE-JPI
- The challenge
- FACCE-JPI remit
- FACCE-JPI state of play
- Work plan 2010 – 2012
- Pilot Action
- Horizon 2020



# Background to FACCE-JPI



- SCAR Foresight 3 key challenges (2009):  
Food Security, Climate Change, Diet & Health
- EURAGRI brought FR and UK plans together to propose Agriculture, Food Security and Climate Change JPI (Sept 09)
- NL proposed Healthy Diet for a Healthy Life JPI
- These 2 (plus Cultural Heritage) adopted Competitiveness Council (December 2009)
- FACCE-JPI GB created (January 2010)  
€5000 entry fee to pay for SAB



# Benefits and impact of FACCE-JPI



The JPI will provide a crucial help to the current and future generations of European **citizens**, by:

- securing vital ecosystem services such as food provision, food security and renewable energies from biomass
- reducing the burden of climatic impacts on Europe's water, soil and biodiversity resources.



It will also strongly contribute to the stabilisation of atmospheric greenhouse gas concentrations,

by:

- reducing emissions both within the European Union,
- through key international cooperation actions in developing countries.



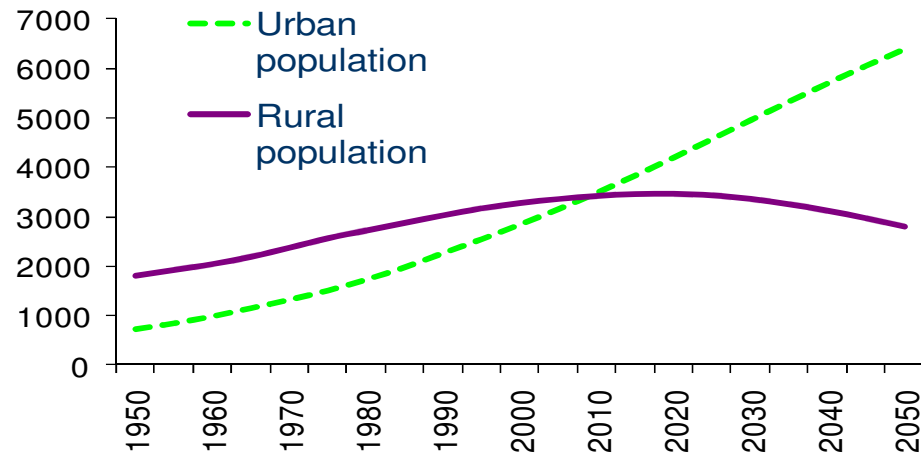
# Food Security: The looming crisis



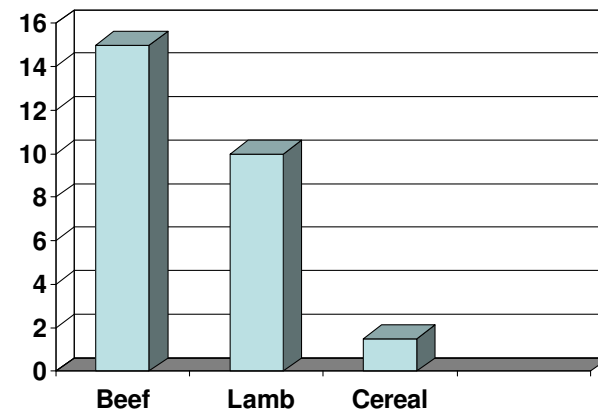
## Rising global population

- from 6 to 9 billion by 2050
- already more people in urban than rural areas
- changing diet: more demand for meat & dairy

For the first time in human history more people now live in towns and cities than in the countryside



Water use in cubic metres per Kg of product



# Food Security: The looming crisis

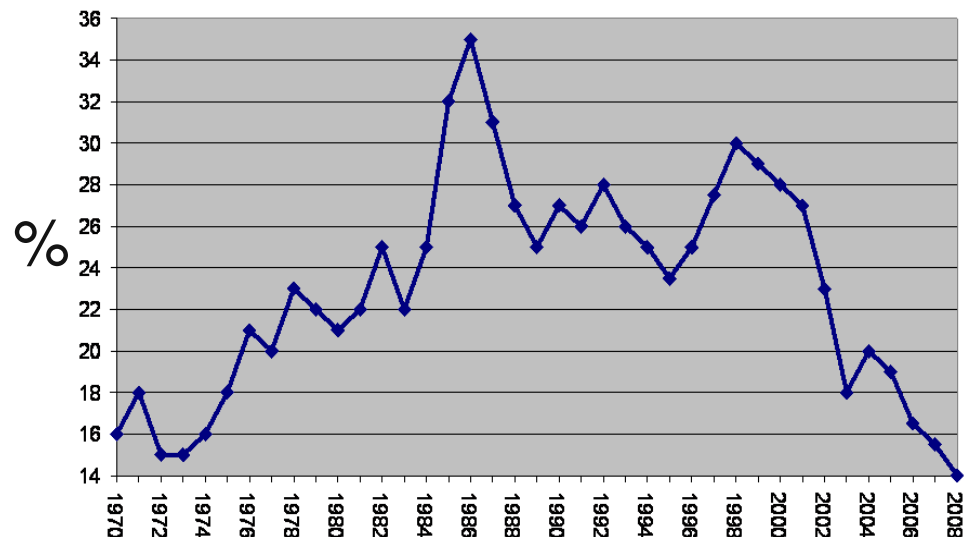


## Global shortage of food, water and energy

“a perfect storm” by 2030 (John Beddington)

- global wheat stocks at lowest since 1970s
- price spikes, food riots in 2007-08

Stock to use ratio, % of all grains and oilseeds



Source: Thirtle, unpublished

### Food price rises in 2007/08

#### Some causes

- Low global stocks
- Increased demand: biofuels
  - Harvest failures

#### Future drivers

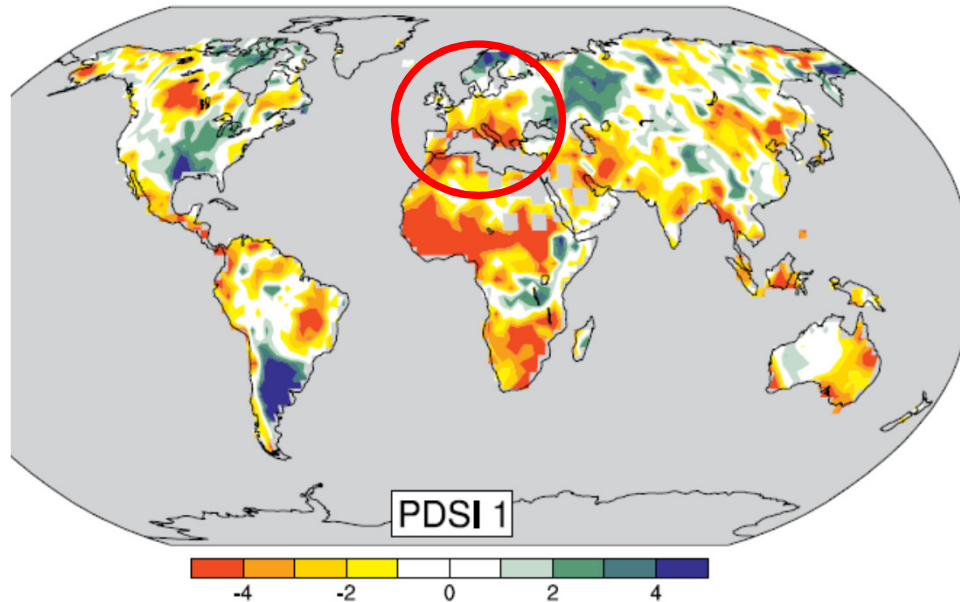
- Increased cost of fuel/ fertiliser
  - Lack of agriculture R&D investment
  - Climate change
- Population and income growth
  - Biofuels

# Drought increase



FACCEJPI

1900 to 2000

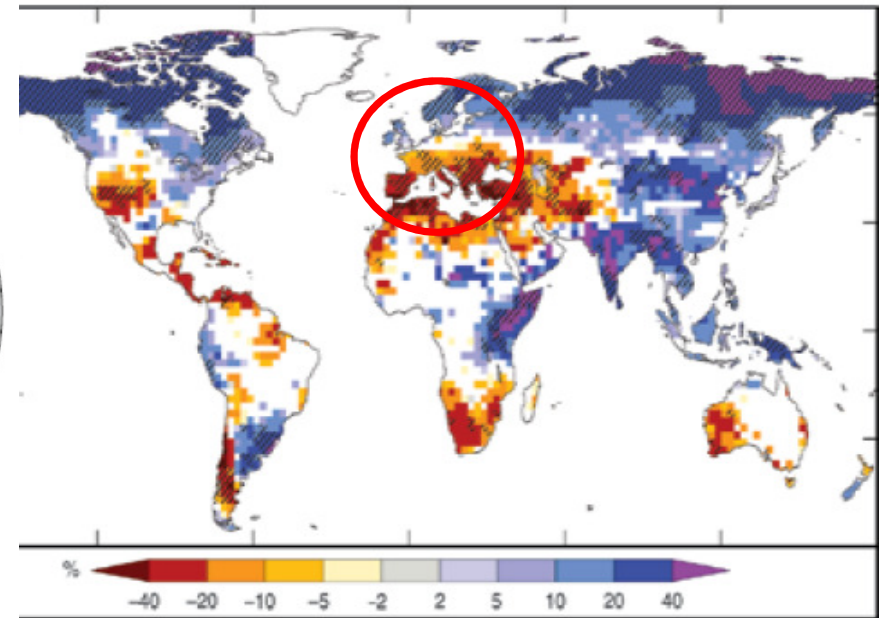


Increased drought

Reduced drought

IPCC, 2008, Special Report on water

2000 to 2100



Increased drought

Reduced drought

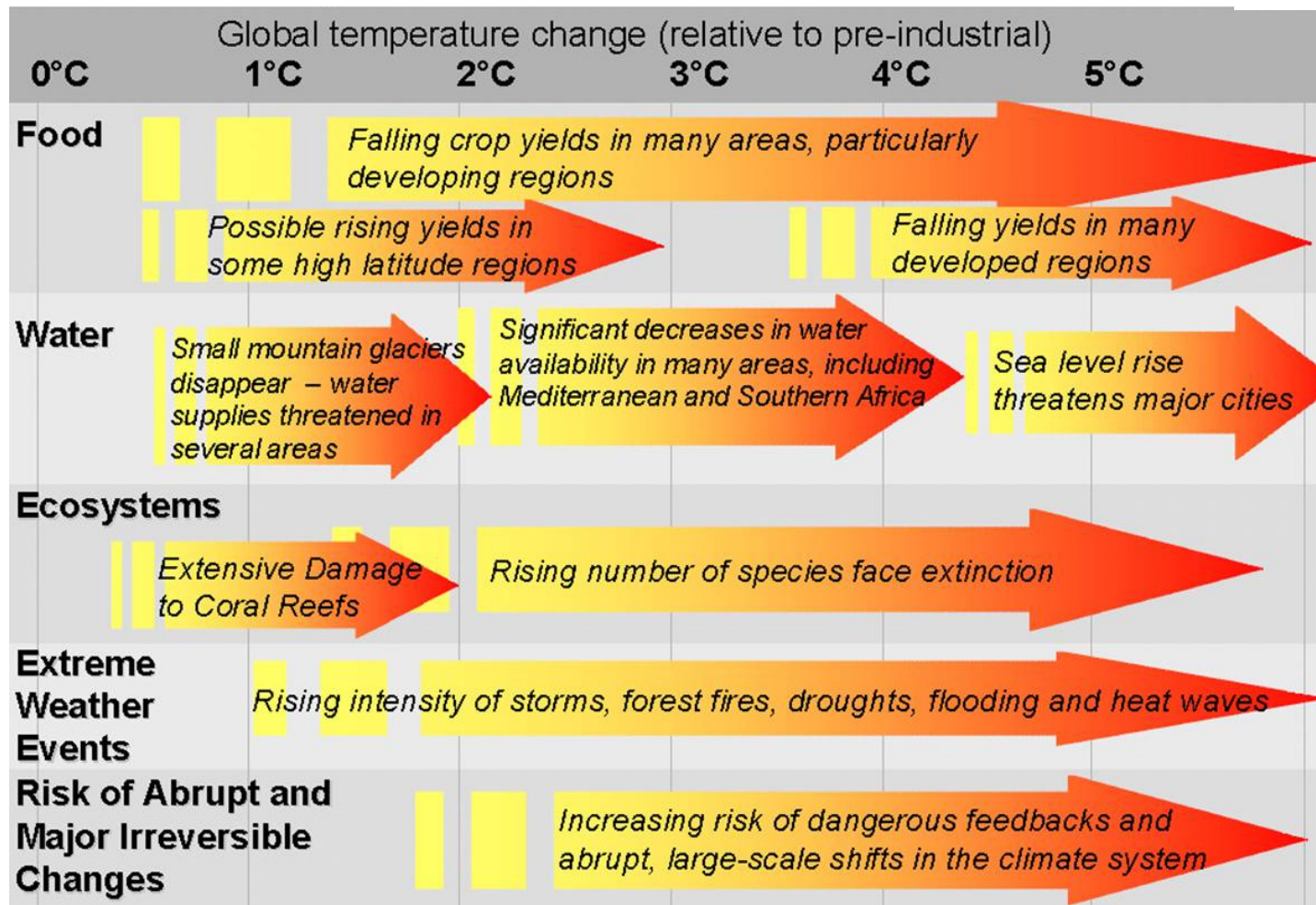
IPCC, 2007, Fourth Assessment Report

Severe summer droughts are projected over South Europe  
and the Mediterranean basin

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# Projected impacts of climate change





# Food Security

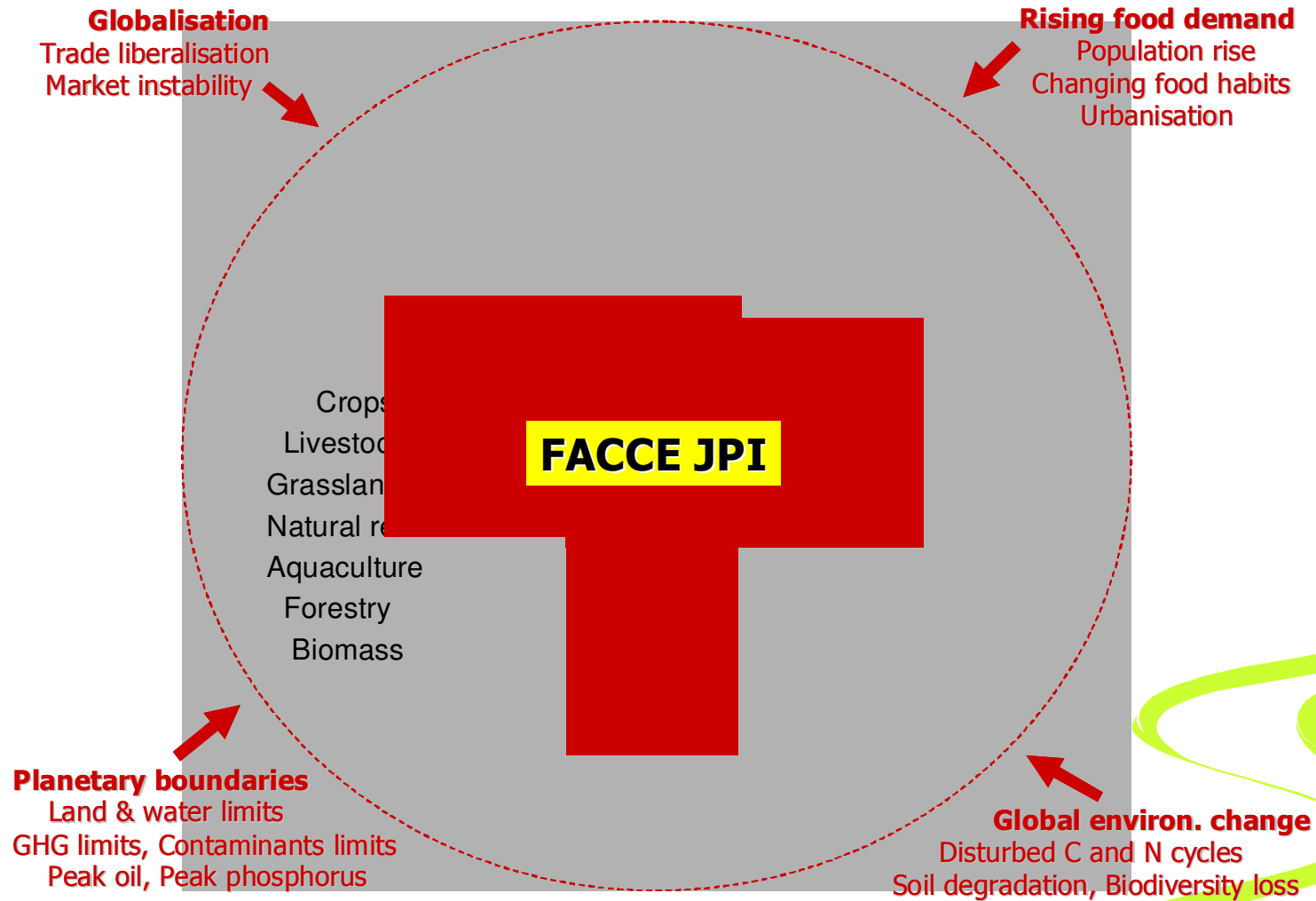


*“Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.”*

[FAO, World Food Summit 1996]

- We are facing a crisis in global food supply
- By 2050, we must double food supply from less land than is available today, with less fertiliser and pesticide and lower GHG emissions
- Major economic and social impact if we fail to respond to the challenge – and we must act now or it will be too late
- Need to bring national funders together to improve coordination, leadership, impact at European level

# FACCE-JPI remit



**Globalisation**

Trade liberalisation  
Market instability

**Rising food demand**

Population rise  
Changing food habits  
Urbanisation

**FACCE JPI**

Crops  
Livestock  
Grassland  
Natural resources  
Aquaculture  
Forestry  
Biomass

**Planetary boundaries**

Land & water limits  
GHG limits, Contaminants limits  
Peak oil, Peak phosphorus

**Global environ. change**

Disturbed C and N cycles  
Soil degradation, Biodiversity loss

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# FACCE-JPI Participants



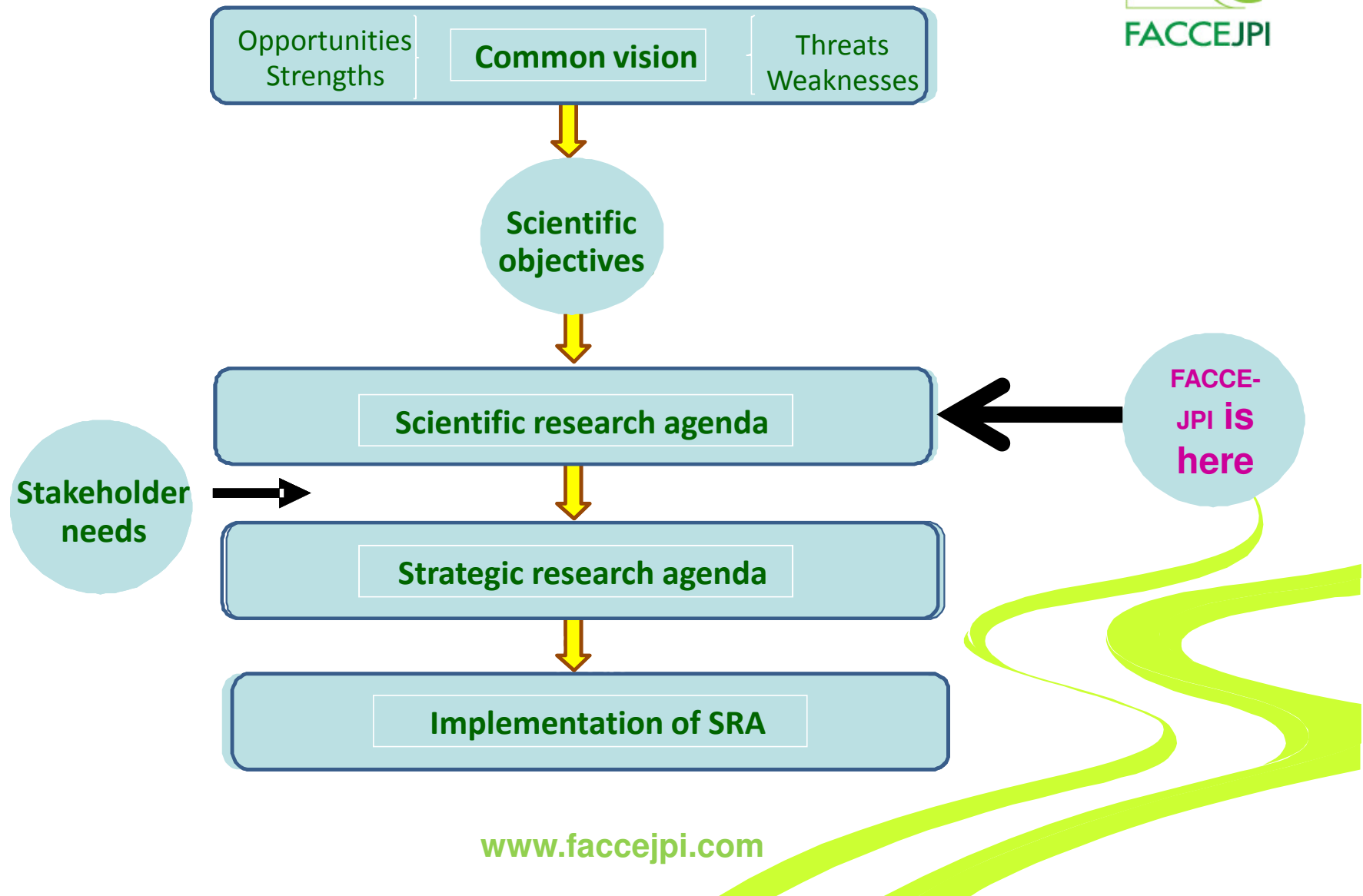
- |   |                |   |                 |
|---|----------------|---|-----------------|
|    | Austria        |    | Italy           |
|    | Belgium        |    | The Netherlands |
|    | Czech Republic |    | Norway          |
|    | Denmark        |    | Poland          |
|    | Estonia        |    | Romania         |
|   | Finland        |    | Spain           |
|  | France         |   | Sweden          |
|  | Germany        |  | Switzerland     |
|  | Ireland        |  | Turkey          |
|  | Israel         |  | UK              |



European Commission  
SCAR (observers)



# The Joint Programming Process



# Scientific Advisory Board



- Elias Fereres
- Steve Long
- Frits Mohren
- Bernd Müller-Röber
- Pirjo Peltonen-Sainio
- John R. Porter
- Thomas Rosswall
- Johan Rockström
- Jean-François Soussana
- Henning Steinfeld
- Joachim von Braun
- Rajul Pandya-Lorch

The members of the SAB (elected by Governing Board) serve in their capacity as independent experts

- Elaborate a scientific research agenda
- Prioritise actions
- Advise on scientific governance
- Advise / participate in peer review and evaluation

# Scientific Research Agenda



1. Integrated food security under climate change, based on an integrated food systems perspective: modelling, benchmarking and policy research perspective.
2. Sustainable intensification of agricultural systems under current and future climate and resource availability.
3. Optimizing trade-offs between food production and the preservation and utilization of biodiversity, ecosystem goods and services.
4. Adaptation to climate change throughout the whole food chain, including market repercussions.
5. Mitigation of N<sub>2</sub>O and CH<sub>4</sub> emissions by the agriculture and forestry sector, carbon sequestration and reducing GHG emissions associated with indirect land use change.

**COMMENTS WELCOME ON THE SCIENTIFIC RESEARCH AGENDA**



# Work plan 2010-2012



- Scientific Research Agenda → Strategic Research Agenda taking on stakeholder input, as iterative process
- Pilot Action launched 13 July to bring EU modellers together
- Mapping of national programmes and foresight for strategic collaboration
- Exploring implementation modalities
- Communication and outreach strategy, implementation
- Strategy for coordination with global initiatives, implementation
- Plan for long-term governance, management structure, financial plan
- **Beginning of joint action implementation**



## Pilot Action:

- One-off, initial action at early stage of FACCE-JPI
- To bring together nationally-funded modellers in the areas of crops, livestock and trade, to look at how climate variability and change impact on these models
- Selected national applicants will be brought to a workshop to develop a Knowledge Hub (network) – October 2011
- Submission of coordinated Knowledge Hub proposal December 2011
- Launch of Knowledge Hub – February 2012

**WE LOOK FORWARD TO AUSTRIAN PARTICIPATION**

# Horizon 2020



- Commission budget proposal June 2011  
€80 billion for Horizon 2020 (2014 – 2020)  
(46% increase compared to FP7 against a flat EU budget)
- Priorities:
  - Excellence in the Science Base – ERC, FET, Marie Curie, Infrastructures
  - Tackling Societal Challenges:
    - Health, demographic change and wellbeing
    - **Food security and bio-based economy (€4.5 billion)**
    - Secure, clean and efficient energy
    - Smart, green and integrated transport
    - Supply of raw materials; resource efficiency and climate
    - Inclusive, innovative and secure societies
  - Creating industrial leadership; competitive frameworks - industrial research, risk finance, SMEs

Commission proposal due end 2011 to be discussed in European Parliament and Council of Ministers etc

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**Agriculture, Food Security**  
**and Climate Change**

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