The renewables energies in Europe

The EU Technology Platforms ETPs
&
The Strategic Energy Technologies Plan (SET Plan)

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EU Technology Platforms backgroung

- In **March 2003**, the European Council called for a strengthening of the European research and innovation area by '… creating **European technology platforms** bringing together **technological know-how, industry, regulators and financial institutions** to develop a **strategic agenda for leading technologies**'.

- European Technology Platforms (ETPs) were set up **botton-up** as **industry-led initiatives through stakeholder forums** with the aim of **defining medium to long-term research and technological objectives** and **developing roadmaps to achieve them**. Their aim was to contribute to **increasing synergies between different research actors**, ultimately enhancing European competitiveness.

EU Technology Platforms ETPs

- **Individual ETPs**

Bio-based economy	Energy	Environment	ICT	Production and process	Transport
EATIP	Biofuels	WssTP	ARTEMIS	ECTP	ACARE
ETPGAH	EU PV TP		EUROP	ESTEP	ERRAC
Food for Life	TPWind		ETP4HPC	EuMaT	ERTRAC
Forest-based	RHC		ENIAC	FTC	Logistics
Plants	SmartGrids		EPoSS	SusChem	Waterborne
FABRE TP	SNETP		ISI	Nanomedicine	
TP Organics	ZEP		Net!Works	ETP-SMR	
			NEM	Manufuture	
			NESSI		
			Photonics 21		

- **Cross ETP Initiatives**

Nanofutures
Industrial Safety

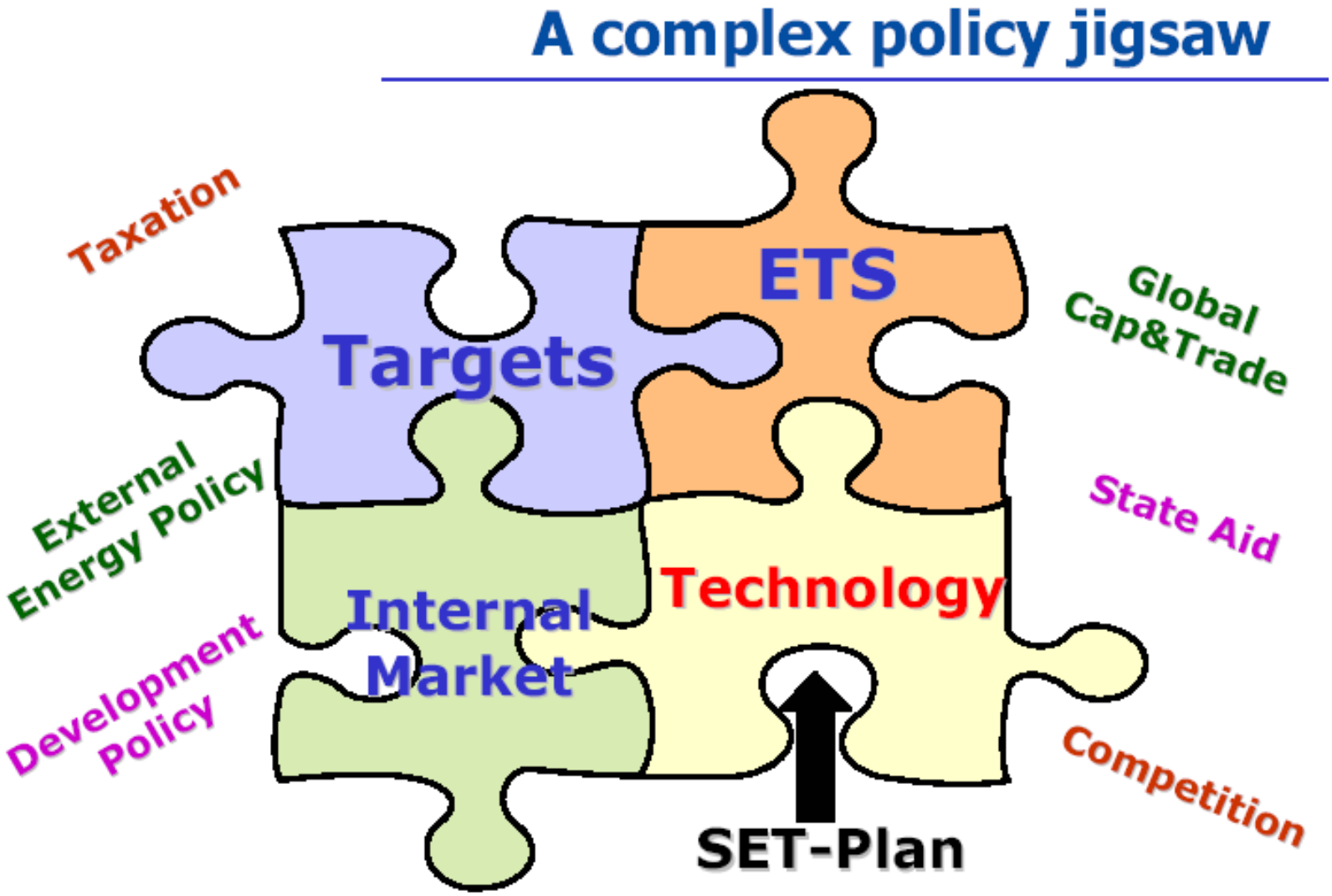
http://cordis.europa.eu/technology-platforms/individual_en.html
http://ec.europa.eu/energy/renewables/platforms_en.htm

EU Technology Platforms ETPs on Energy

- **European Wind Energy Technology Platform. (TPWind)** www.windplatform.eu
- **European Photovoltaic Technology Platform. (EU PV TP)** www.eupvplatform.org
- **European Biofuels Technology Platform. (Biofuels)** www.biofuelstp.eu
- European Technology Platform for the Electricity Networks of the Future. (SmartGrids) www.smartgrids.eu
- **European Technology Platform on Renewable Heating and Cooling. (RHC)** www.rhc-platform.org
- Zero Emissions Fossil Fuel Power Plants. (ZEP) www.zeroemissionsplatform.eu
- Sustainable Nuclear Technology Platforms. (SNETP) www.snetp.eu
- The Fuel Cells And Hydrogen Joint Technology Initiative (FCH-JTI)

SET-Plan

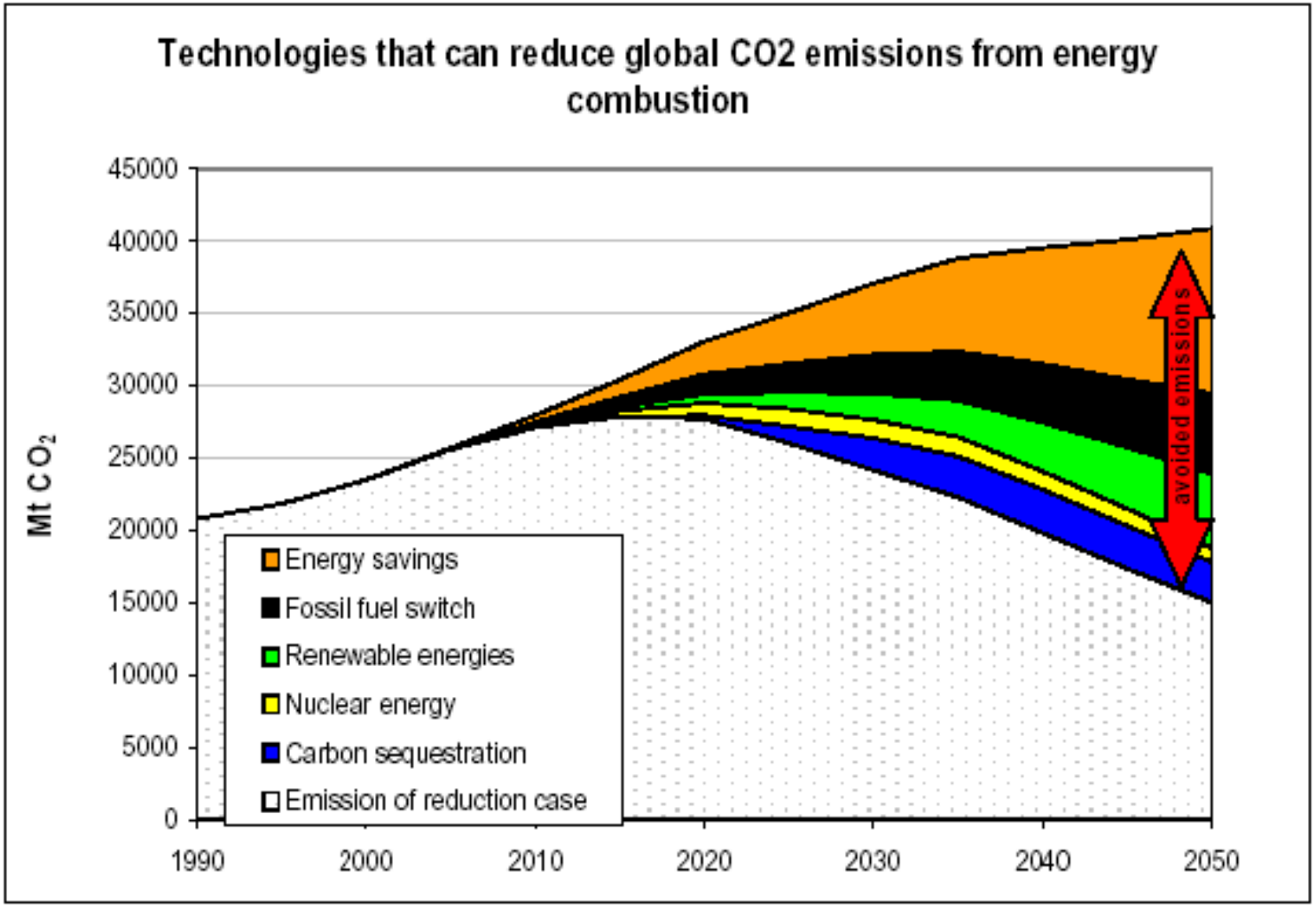
European Strategic Energy Technology Plan



Why we need a SET Plan?

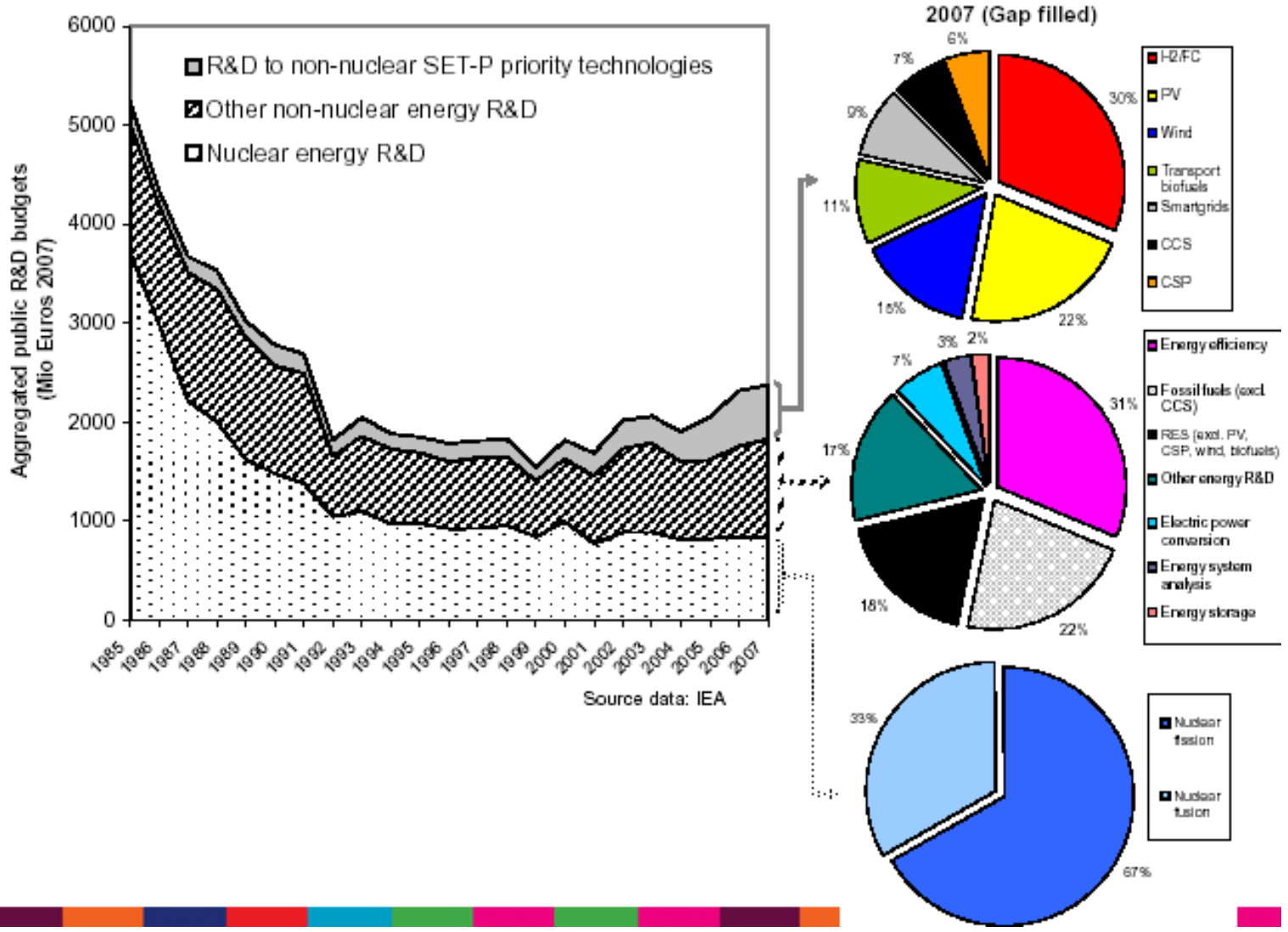
- Technology is vital to achieve our policy objectives
- Today we are falling short
  - not on a pathway to meet our policy objectives
  - lack of innovation drivers for the industry
  - insufficient energy research budgets in the EU
- Intrinsic weakness in energy innovation
  - long lead times, incumbent technologies, system inertia
  - no natural market appetite for new energy technologies
  - social acceptance issues and up-front integration costs

Possible, in theory…



Source: JRC-IPTS

Investment trends….



Key EU technology challenges for the next 10 years…

2020

- 2nd generation biofuels
- Commercialisation CCS
- Larger wind turbines
- Large scale PV and CSP
- Enable a single, smart grid
- Market energy efficiency devices
- Long-term waste management

2050

- Next generation of renewables
- Breakthroughs in energy storage
- Hydrogen fuel cell vehicles
- Gen-IV
- Complete ITER
- Alternative vision TEN-E and systems
- Breakthroughs in materials, nano-science, ICT, bio-science, …

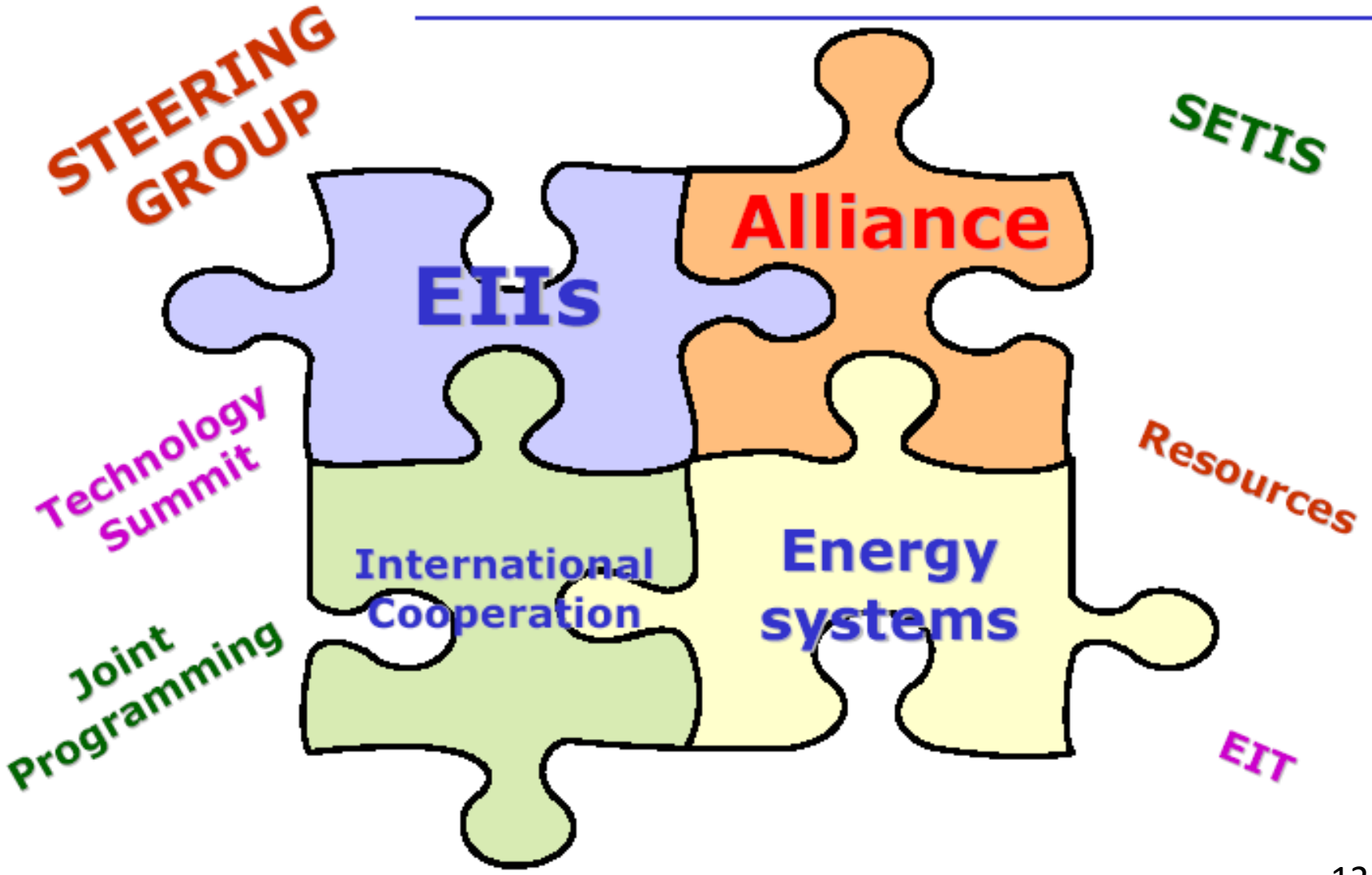
Existing instruments in 2010

- EU RTD Framework Programmes (EC and EURATOM) – energy research and demonstration.
- Intelligent Energy-Europe (part of the Competitiveness and Innovation Programme).
- European Technology Platforms – bringing stakeholders together on research agendas.
- ERA-Net scheme – encouraging MSs to coordinate R&D programmes.
- Networks of Excellence – giving research centres the opportunity to work together.
- Art. 171 (JTIs) and Art. 169 initiatives.

SET Plan measures

- Joint strategic planning – Steering Group SG and information system SETIS
- **Effective implementation:**
  - EII European Industrial Initiatives: strategic technology
  - **EERA European Energy Research Alliance**
  - Trans-European Energy Networks and Systems of the Future – transition planning
- **Increase in resources, both financial and human**
- **Reinforce international cooperation**

The SET-Plan


STEERING GROUP
SETIS
EIIs
Alliance
Technology Summit
Resources
International Cooperation
Energy systems
Joint Programming
EIT

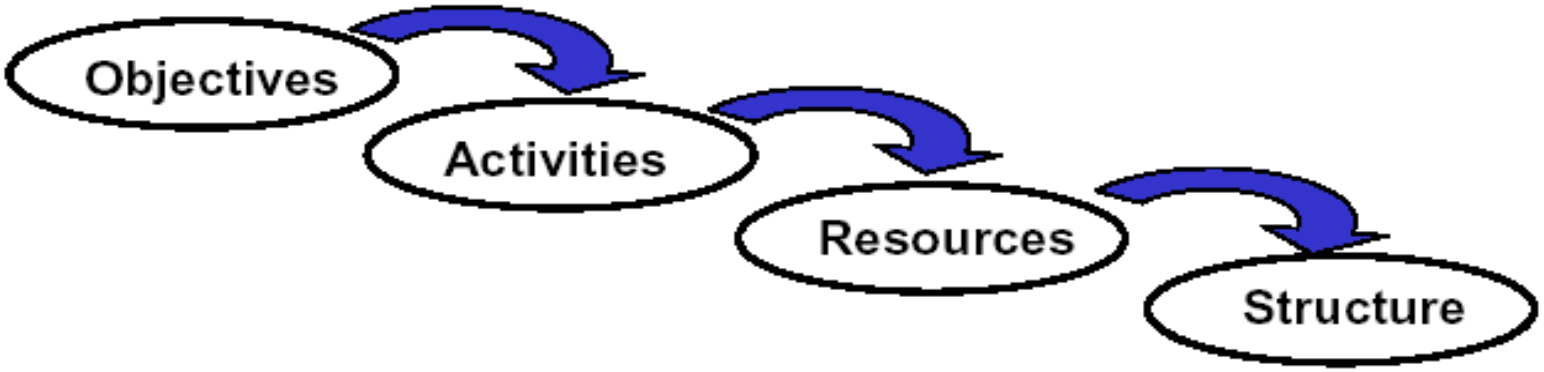
SET Plan Steering Group

- **Joint strategic planning – Steering Group Progress**
  - **The Steering Group was established in June 2008**
  - **The SG agreed to press ahead with the proposed different work plan**
  - **The SG emphasised the need to rationalise coordination efforts in energy research:** Mirror Groups and ERA-Nets
  - **The SG agreed on working modalities on EIIs:** workshops will be organised to engage Member States in the definition and development of the EIIs based on variable geometry.

European Industrial Initiatives EII

- Core idea: Make low-carbon technologies affordable and competitive.
- Approach:
  - Strengthen industrial participation in energy research and demonstration.
  - Accelerate deployment of low carbon technologies
- European Industrial Technologies:
  - **SEII Solar (PV and CSP)**
  - **EWI Wind**
  - **Electricity grids (EIGI)**
  - **Carbon sequestration (CCS)**
  - **Biomass (EIBI)**
  - **Nuclear**
  - **Smart Cities**

EII workflow



- First decide on the objectives and activities
- Finance & structure based on the objectives and activities.
- Monitoring the progress – Key Performance Indicators.
- No single, pre-determined model and structure of implementation.

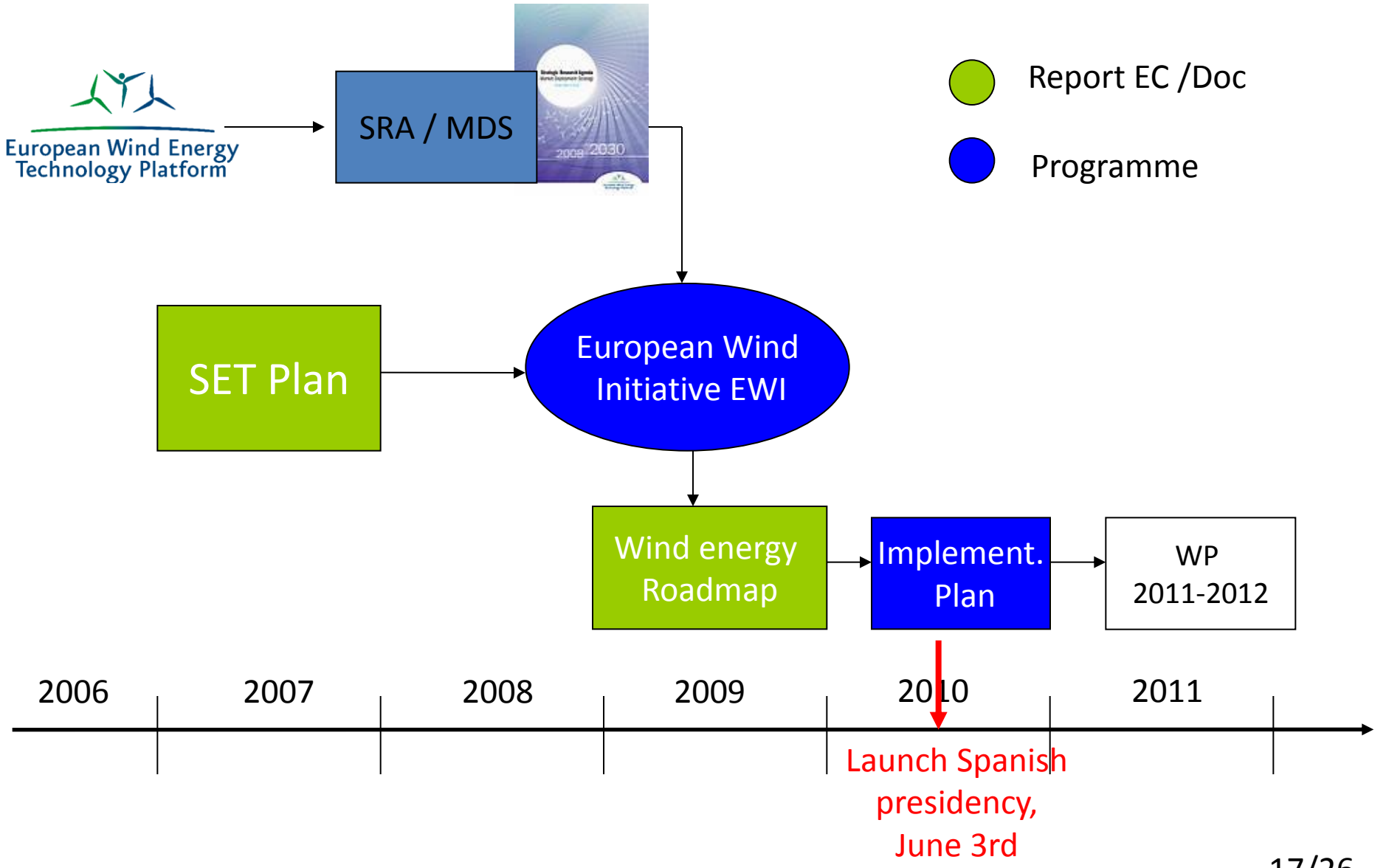
Technology roadmaps

Implementation Plans

EII Process

- Industry proposal developed by Technology Platforms with the aid of CE.
- Workshop with Member States – agree objectives and main activities.
- Decisions on MS participation and modalities: concept of Joint Programing.
- Definition of model and structure of implementation.

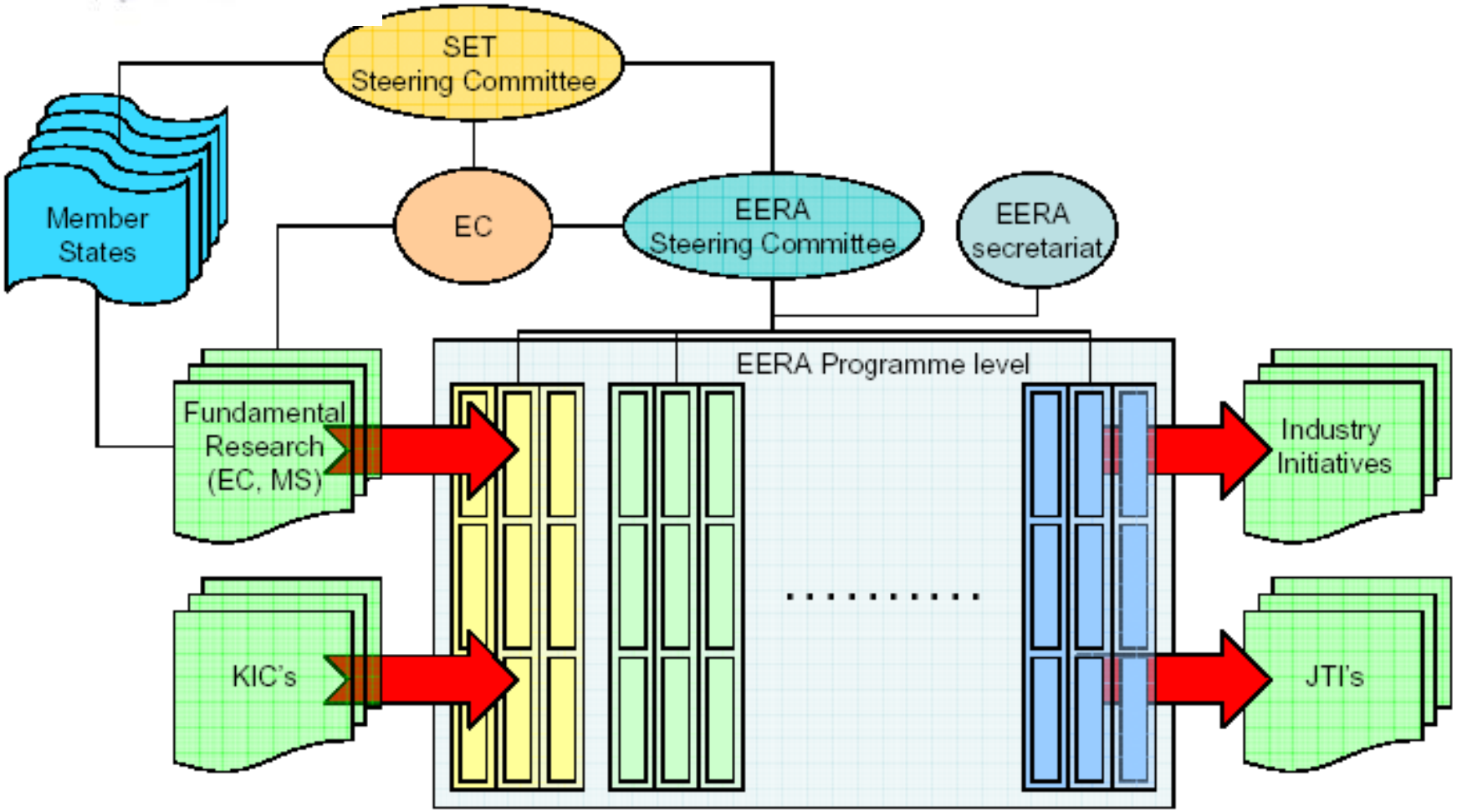
SET Plan – Example of EWI deployment Process



EERA European Energy Research Alliance

- **EERA key objectives:**
  - **To conceive and implement Joint Programmes of research in support of the SET-Plan priorities.**
  - **To work towards a long term, durable integration of excellent but dispersed research capacities across the EU.**
  - **To develop links and sustained partnerships with industry.**
  - **To develop training, education and outreach activities.**

EERA positioning

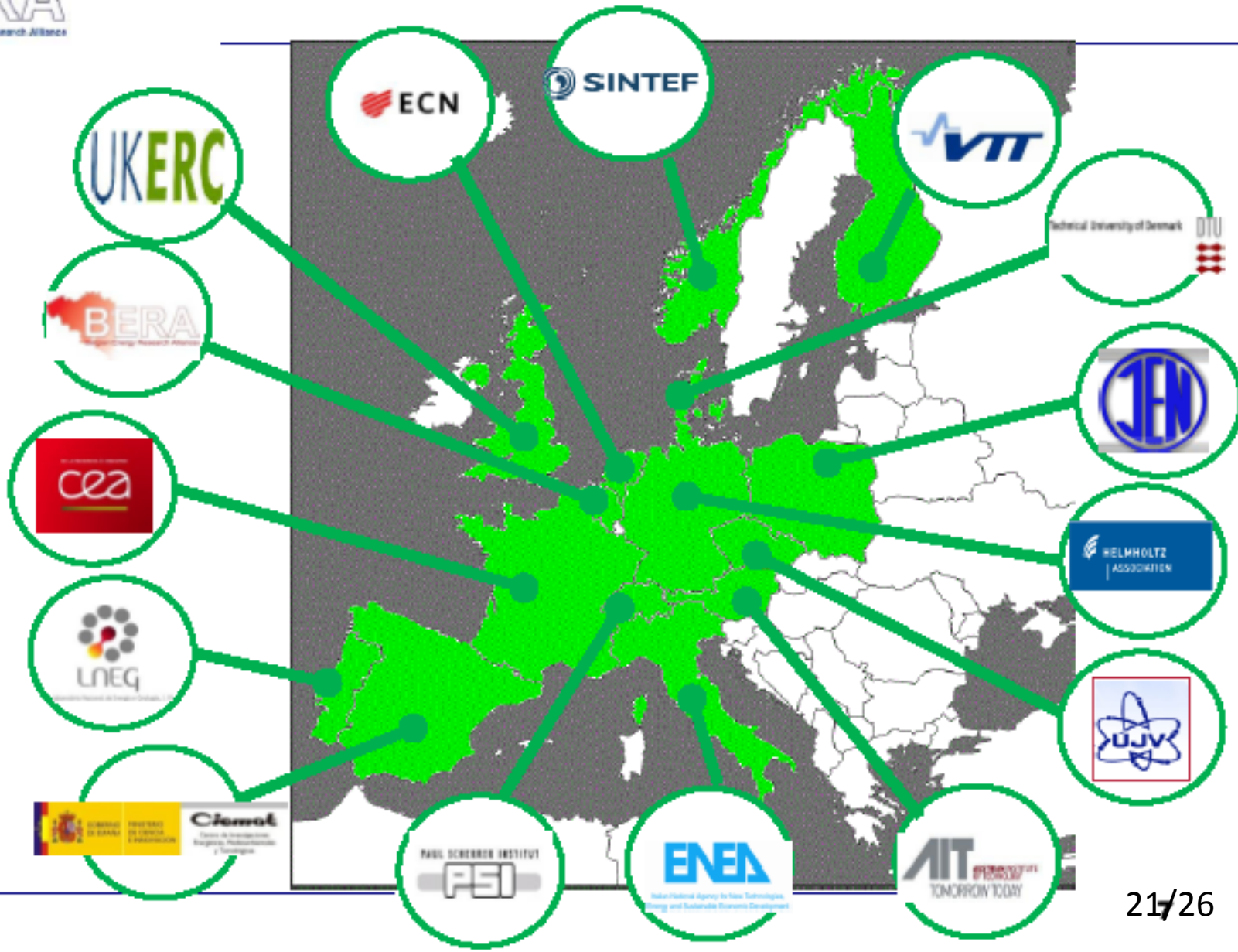


But what is EERA?

- Cooperation of Energy Research Organisations
  - Accelerate development of new energy technologies
  - Improve coordination and cooperation
  - Reduce fragmentation and duplication
  - Increase efficiency and effectiveness
  - Concentrate national efforts while maintaining comprehensive programme at European level
- Now 7 launched Joint Programmes.
  - Started in October 2008 lead by 10 EU leading Institutes
  - More than 70 Participating organisations
  - More than 1000 professionals full time equivalent

Executive Members, April 2012

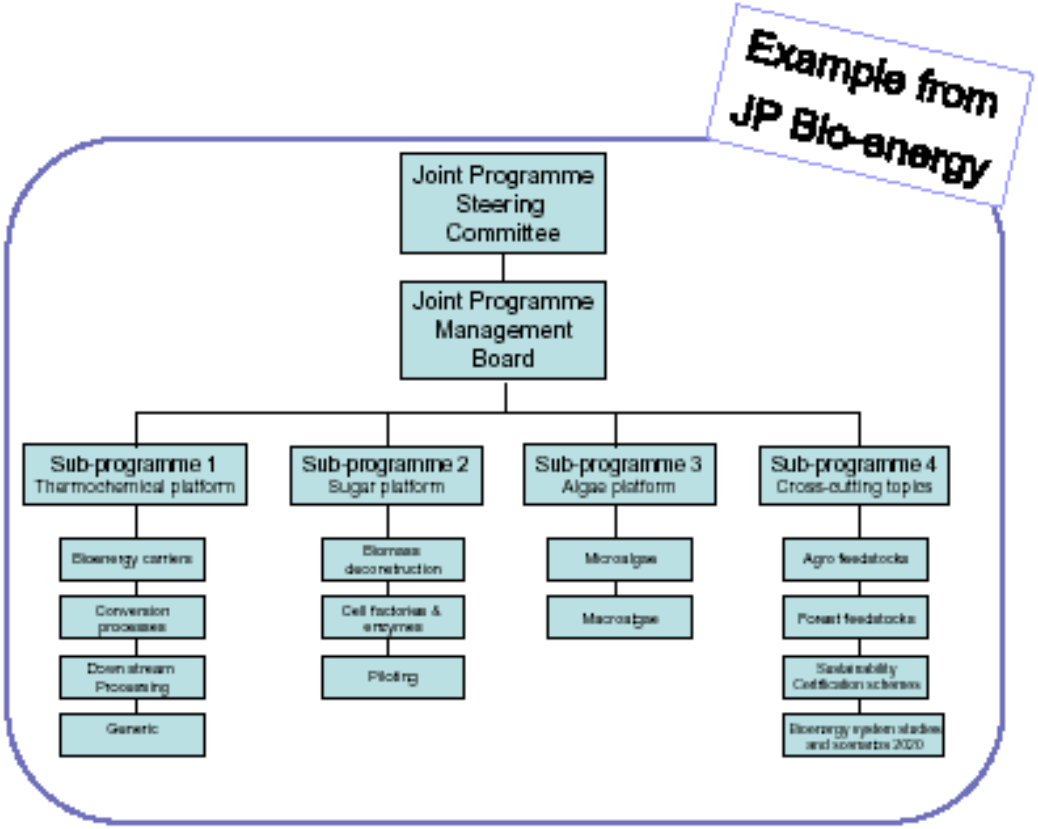
Supported by :



EERA Joint Programmes, Basics

Long-term strategy and work plan

- Agreed Description of Work
- Agreed Objectives and Milestones
- Agreed Division of Tasks and Responsibilities



EERA Joint Pogrammes

- **Joint Programs launched in 2010**
  - Bioenergy
  - CCS
  - Geothermal
  - Mat. For Nuc.
  - PV
  - Smart Grid
  - Wind

- **Joint Programs launched in 2011**
  - AMPEA
  - CSP
  - Energy Storage
  - FC & H2
  - Ocean Energy
  - Smart Cities

New JP Currently under discussion to start in 2013:
JP on socioeconomic impact and JP on shale gas

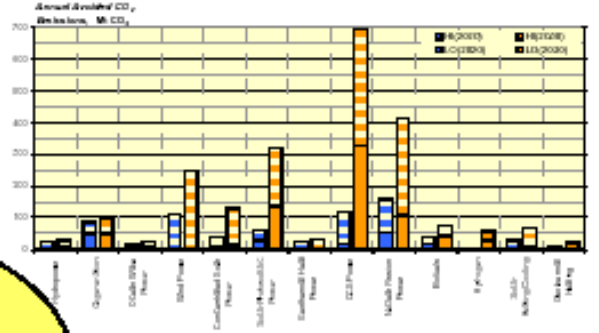
International cooperation

- Developed countries – safety, public acceptance, longer-term frontier research
- Developing and emerging economies – helping sustainable development and creating opportunities for EU industry.
- EIIs and EERA will help rationalise our INCO activities.
- EU ‘speaks with one voice’ in international fora

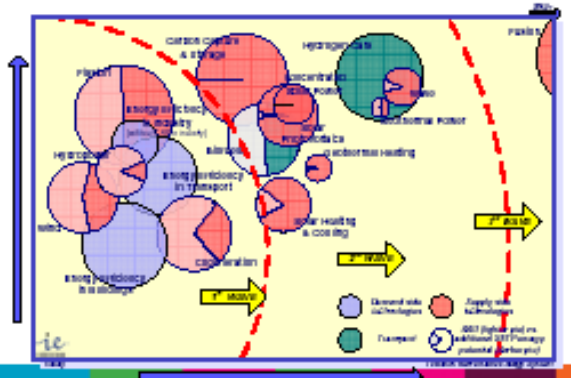
Information system - SETIS

Market Information

Common Assessment Framework



SET-Plan Information System -SETIS-



Roadmapping & Implementation

Knowledge for Decision Making


Thank You for
your attention