

KIC Innoenergy and the energie challenge

**EUREC Agency workshop on Horizon 2020
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KIC InnoEnergy Colocation Alps Valleys**



KIC InnoEnergy

The leading engine for innovation and entrepreneurship in sustainable energy

KIC InnoEnergy : one of the three “Knowledge and Innovation communities” selected by the European Institute of Technology in 2009, in order to boost European competitiveness in the field of energy.

KIC InnoEnergy: a commercial company, incorporated as Societas Europea, with 29 shareholders, all of them key players in the energy field, with top rank industries, research centres and universities.

KIC InnoEnergy is profit oriented, but has a “not for dividend” financial strategy since we will reinvest our profits in our activities.



What are the objectives of a KIC?

- To address long-term challenges in strategic domains for Europe and tackle new opportunities for innovation in Europe
- To transfer higher education, research and innovation activities to the business context (stimulating innovation in large firms as well as creating spin-offs and start-ups and supporting SMEs)
- To develop entrepreneurial people and bring them to business
- To maximize the share of financial contribution from the private sector

SET Plan

The three "20"
for 2020

- 20% GHG reduction / 1990
- 20% consumption reduction
- 20% renewables in the mix

- First and foremost, energy efficiency
- 2050 vision: develop new generation of technologies through breakthroughs

"Grenelle de l'environnement"

Energy efficiency

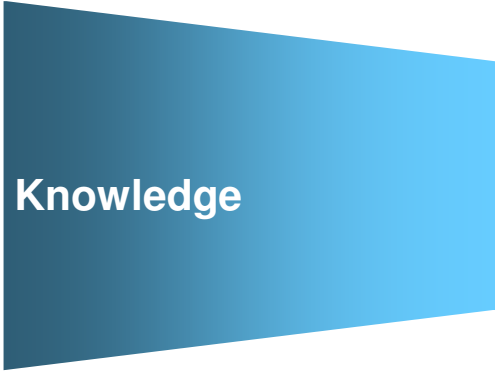
Transportation

Reduction of carbon emission

Biodiversity

Risks minimization

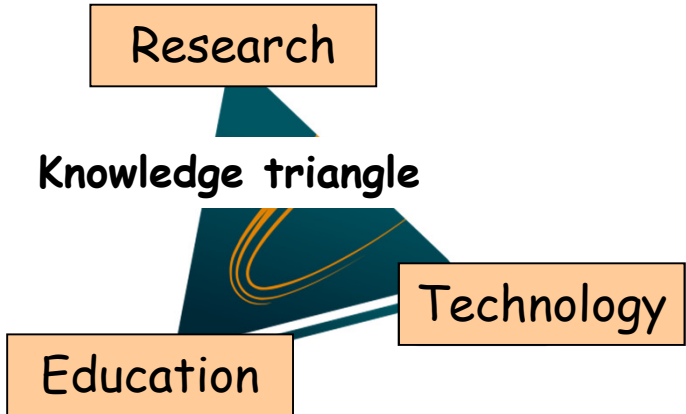
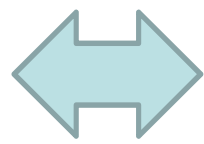
Waste reduction



Knowledge

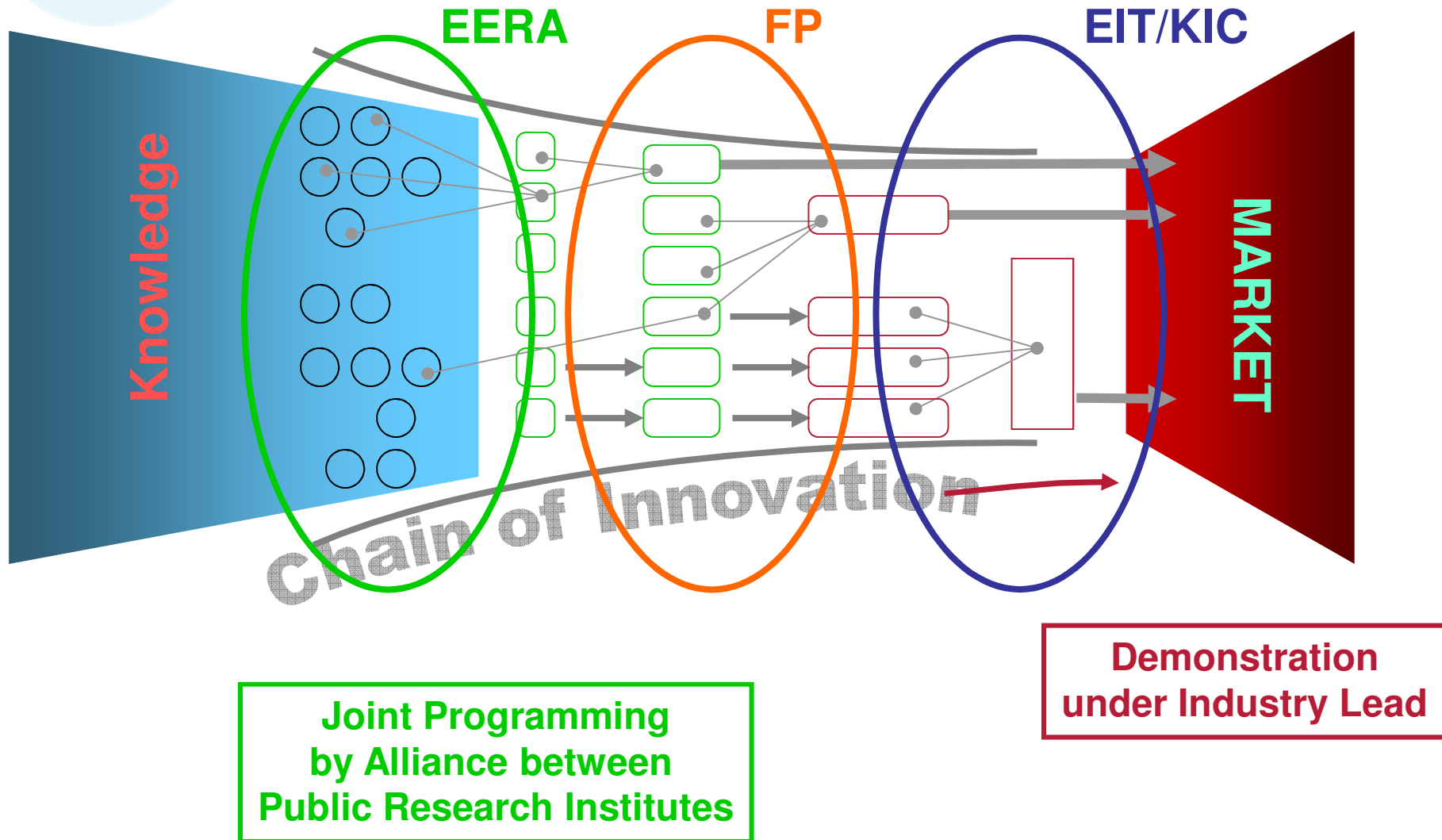
Market

Fill the Gap





The chain of innovation: from knowledge to the market...





Where is innovation ?

Industrial companies



SME's



Research and
Technology
Organizations



Universities



Market knowledge



Reactive
Market oriented

Multidisciplinarity
Key Enabling
Technologies

Great potential



Too heavy to move ?

Innovation = risk
They buy R&D

No cash
Narrow skills

Scope sometimes
too large

Far away
from the market
Splitted skills



KIC Innoenergy is committed to change the European energy system through innovation

WHY ?

- Challenge of sustainable and low carbon energy supply

Contributing to 20-20-20 agenda

- Renewables as 20% energy mix
- Energy efficiency +20%
- GHG emission -20%

WHAT ?

- Whole energy-mix solution coherent with SET Plan

- Objectifs:

1. Decrease energy cost(€) [*In all the value chain*]
2. Increase Security [*Autonomy, Operational*]
3. Reduce green house gas emissions

HOW ?

- Business-like organization

- Lean and effective governance structure
- Sound and monitored business plan with specified goals (KPIs)

WHO?

- Team in place
- Agreements signed



Specificities of energy field



Long time to market

National regulations



Large investments

KIC Innoenergy has to be ambitious (budgets, strategy, demonstrators,...)



KIC Innoenergy : A world class alliance of top european players

- Some of the most important key research players in Europe
- Covering the whole energy mix
- Knowledge triangle balanced along all dimensions
- Strong connection with local governments



	Shareholders Formal Partners	Associated & Network Partners	Total Partners
Industries	9	35	44
Research Centers	7	8	15
Universities *	11	17	28
Business Schools	2	0	2
Total partners	29	60	89

*

KIC InnoEnergy is output oriented

Three integrated workstreams in 6 thematic fields, delivering 3 type of “products”

Education => MSc, PhD & LLL specialized in thematic fields, entrepreneurship & management

Innovation Projects => Marketable technology product and services

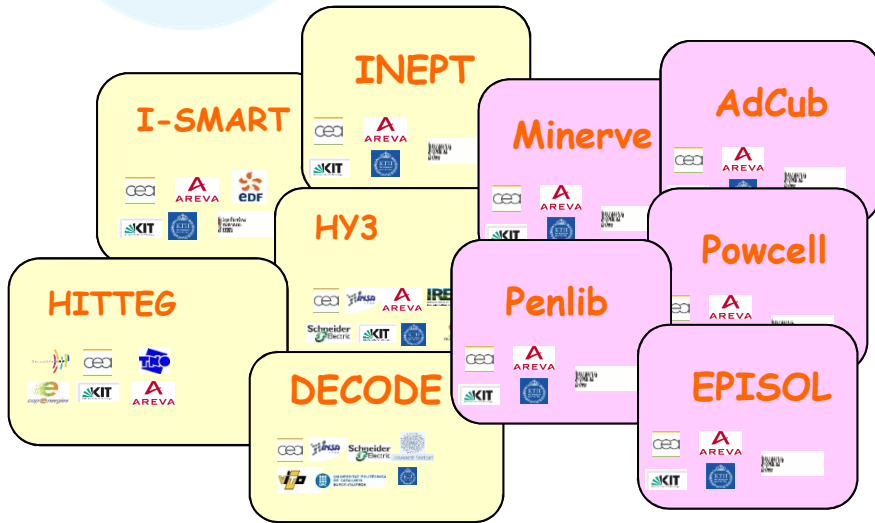
Business Creation => Nurturing entrepreneurship (start-ups, ...) to become business



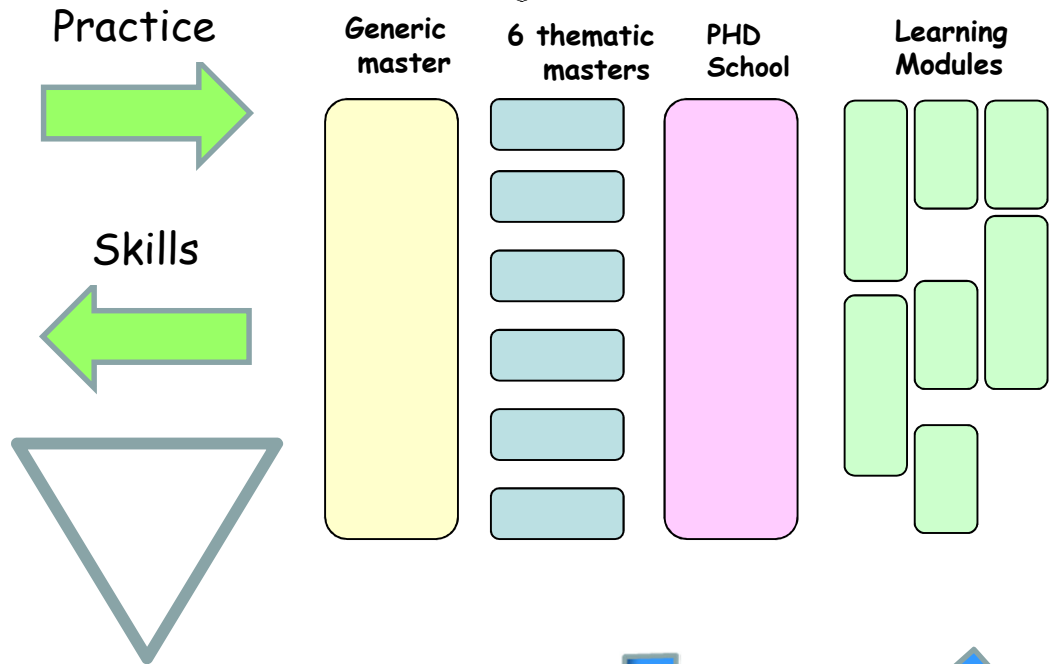
KIC InnoEnergy's « products »



Innovation



Education



Market Knowledge



Technical relevance
Consortium



Business creation

Idea exploration
Technology transfer
Services

Entrepreneurship



Needs





KIC InnoEnergy Requirements of an innovation project

Industrials involved

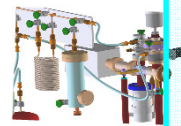
Innovation identified

At least two different CC involved

Products or services identified



Disa Solar



ENTIHPV project: products

• Produce a barrier film corresponding to organic and thin film PV requirements (M18, Amcor):

- barrier properties in the range of 10-3 g.m-2.d-1 (Water vapor transmission rate).
- Less than 10% of barrier properties loss after 1000h under continuous irradiation @65°C/85%RH.

• Produce OPV cells and thin film cells (CIGS) on flexible substrate with high performance

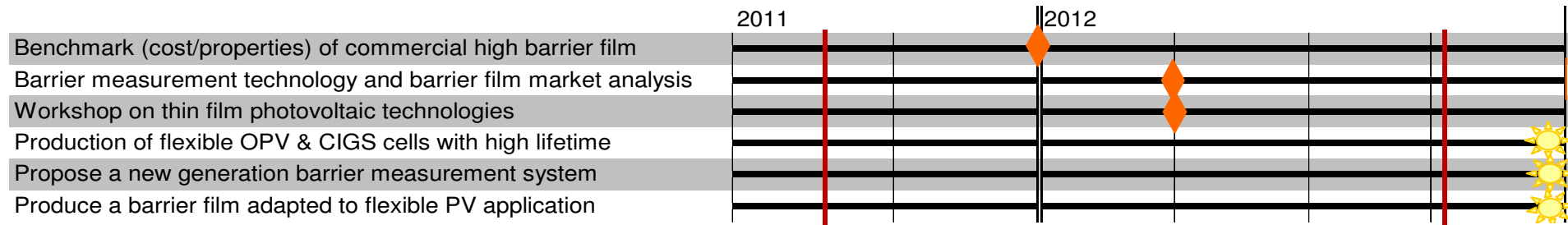
encapsulation properties offering an ageing above 5 years for OPV and 10 years for CIGS (M18, DisaSolar)

• Propose a reliable instrument to characterize the barrier performances

(high sensitivity, easy to use: reliability (<10%), sensitivity (10-5 g.m-2.d-1) and automated measurement. (M18, CEA)

Innovative content of the project

- Barrier film and barrier measurement instrumentation market study
- Round robin test with different barrier measurement methods and different highly performant barrier film
- New barrier film adapted to flexible PV applications : low cost, adapted barrier performances, photochemical stability
- Innovative barrier measurement instrumentation enabling automated measurements for high barrier foils (daily control for industrial production line of barrier films and high sensitivity)
- Encapsulation of 2 flexible PV technologies (organic and CIGS) with barrier film. Ageing experiments and demonstration of important lifetimes in accelerated and real conditions





How performance is evaluated? The **K**ey **P**erformance **I**ndicators

Publications

Number of
Students

Patents

Start-ups

Jobs

Energy changes

Proofs of
concept

Prototypes

Demonstrators

What KIC has
to deliver

Education

Products or
services

High Level people
Entrepreneurs
Multi D brains

Number of **CCs**
involved

Number of **Companies**
involved (**SMEs**)

Economic
impact



KIC InnoEnergy Achievements 2011

•Education:

- 4 MSc running
- 2 Ph D Tracks
- A total of 187 students

•Innovation projects:

- 34 output oriented innovation projects: some of them industry driven, industrial involvement is mandatory
- 56 patents pre-identified and 7 patents filled.
- IP agreement reached: 10% of foreground licensing goes to KIC.

•Business creation services:

- A unique selling proposition « KIC InnoEnergy Highway » © defined, first entrepreneurs on the pipe.



KIC InnoEnergy Objectives 2012

Activities 2012	Consolidate & grow ongoing activities	Launch new ones
Education	1 Generic Master	
	3 Thematic Masters	2 Thematic (Clean Coal & Smart Grids)
	7 Learning Modules	6 Learning Modules
	PHD School (2 tracks)	PhD School (All 6 tracks)
	Education Support activities	
Innovation Projects	5 lighthouse projects	
	Energy from Chemical fuels (8 projects)	2 new projects
	Convergence Nuclear-Renewable (4 proj)	5 new projects
	Renewables (5 projects)	3 new projects
	Clean Coal (4 projects)	3 new projects
	Smart Cities (3 projects)	5 new projects
	Smart Grids (5 programs)	Split current programs
	Innovation project support activities (IP, competence mapping, ..)	
Business Creation	Screen ventures, retain those that will make it. Step increase of deal flow	
	INDU & Business Creation support activities	



Improvements for 2012

A continuous improvement of our management process

- ▶ - Definition of our strategy: our strengths and weaknesses, competences mapping, competences lacking . Define thematics that are priority to focus in.
- ▶ - Improvement of the whole process :
 - cross-CC project emergence,
 - better connexion innovation/education/business creation,
 - better process of evaluation and selection (professional, clear and transparent)
- ▶ - Increase the involvement of industrial groups (good knowledge of the market).
- ▶ - Increase the involvement of SMEs, (innovation and reactivity).
- ▶ - Consolidate teams in order to implement activities

KIC InnoEnergy

HORIZON 2020: the perspectives

Horizon 2020 will gather in one programme all EU financing for research & innovation.

The EIT will be fully integrated in the Horizon 2020 programme because it is fully aligned with Horizon 2020 objectives

The Commission has decided to significantly increase its support to the EIT by proposing a budget of € 2.8 billion for the period 2014-2020 (against 309 million euros since the creation of the EIT in 2008).

3 more KIC will be launched from 2014

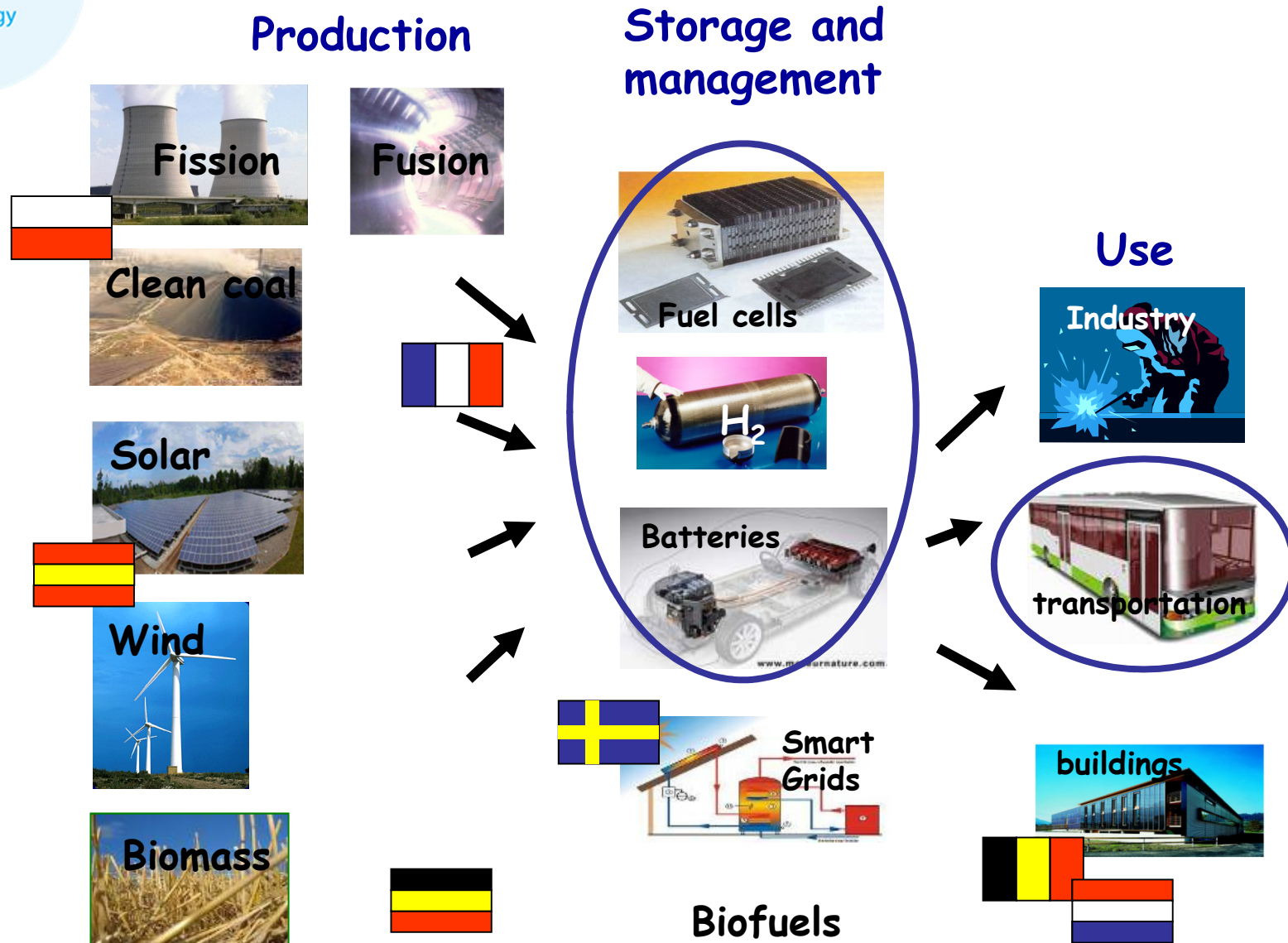


KIC InnoEnergy

**THANK YOU FOR YOUR
ATTENTION**



Our thematic : Nuclear an renewable energy convergence





State of play : The partners

