

I finanziamenti europei per l'energia

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ENERGY UNION

The goal of a resilient Energy Union with an ambitious climate policy at its core is to give EU consumers - households and businesses - secure, sustainable, competitive and affordable energy. Achieving this goal will require a fundamental transformation of Europe's energy system.

The Energy Union strategy has five mutually-reinforcing and closely interrelated *dimensions* designed to bring greater energy security, sustainability and competitiveness:

- Energy security, solidarity and trust;
- A fully integrated European energy market;
- Energy efficiency contributing to moderation of demand;
- Decarbonising the economy, and
- Research, Innovation and Competitiveness

VISION

Most importantly, our vision is of an Energy Union with citizens at its core, where citizens take ownership of the energy transition, benefit from new technologies to reduce their bills, participate actively in the market, and where vulnerable consumers are protected.



The Energy Union in fifteen action points

2. The EU needs to diversify its supply of gas and make it more resilient to supply disruptions.
 - The Commission will propose a resilience and diversification package for gas in 2015-2016 by revising the existing security of gas supply Regulation.
 - The Commission will prepare a comprehensive strategy for liquid natural gas (LNG) and its storage, and
 - The Commission will work with Member States to develop access to alternative suppliers, including from the Southern Gas Corridor route, the Mediterranean and Algeria, in order to decrease existing dependencies on individual suppliers.



Strategic Energy Technology Plan 2010 - 2020

Risposta strategica alle grandi sfide del clima e dell'energia che l'Europa intende perseguire attraverso lo sviluppo accelerato delle tecnologie energetiche.

**Uno strumento per guidare la
transizione verso un futuro carbon free.**



STRUTTURA del SET Plan

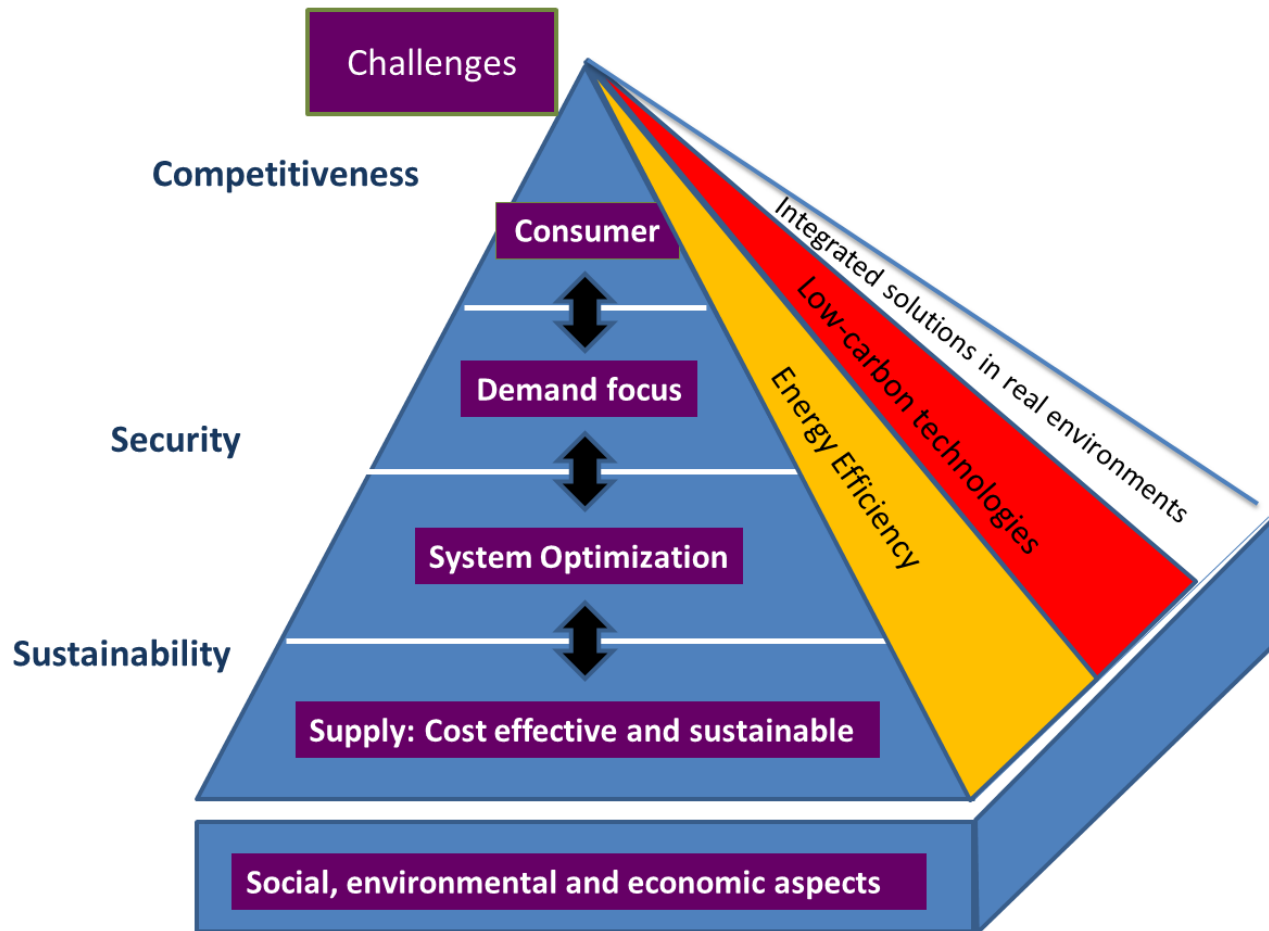
- **Steering Group** : costituito dai delegati nazionali e coordina le politiche nazionali.
- **European Industrial Initiatives (EII)** : piattaforme di coordinamento su temi come solare, eolico, smart grids, ecc.
- **European Energy Resaerch Alliance (EERA)** : coordinamento a livello europeo di strutture di R&S nazionali.
- **SETIS (Strategic Energy Technologies Information System)** : struttura in capo al JRC di supporto per l'archiviazione e l'informazione sui progetti di ricerca.

The Communication of the European Commission COM (2013) 253 on Energy Technologies and Innovation confirmed the strategic role of the **SET Plan** and the development of an

integrated roadmap

SET Plan Integrated Roadmap

Energy system holistic approach



Challenges of the Energy System

- Empowering consumers and increasing Energy Efficiency
- Optimizing the Energy System
- Secure, cost effective, clean and competitive supply

On the basis of the roadmap, **the MS and the Commission** will draw up an **Action Plan** dedicated to mobilize **public (EU and national/regional) and private investment in R&D** on the basis of a principle of "joint co-operation".

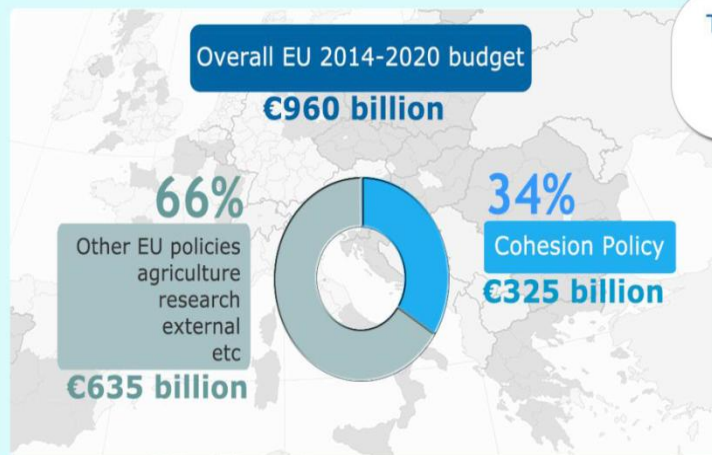
EU Funding for Sustainable Energy 2014-2020

- Cohesion Policy to allocate some **23 billion** € (estimate!) to investments in energy efficiency, renewable energy, smart distribution grids and urban mobility, including research and innovation in those areas in complementarity with Horizon 2020
- Horizon 2020: Some **5.9 billion** € to be allocated to research and innovation in "Secure, clean and efficient energy"
- Connecting Europe Facility: Some **5.9 billion** € to be allocated to investments in TEN-E infrastructure of highest European added value
- Other European Structural and Investment (ESI) Funds: European Agricultural Fund for Rural Development and European Maritime and Fisheries Fund

COHESION POLICY

A reformed Cohesion Policy for Europe

The main investment policy for jobs and growth



The reforms agreed for the 2014-2020 period are designed to maximise the impact of the available EU funding.





Smart Specialisation in the field of Sustainable Energy

- R&I in these areas also entails important **opportunities for regional development**. The objective of Cohesion Policy is to improve the regional economy in terms of **competitiveness, growth and jobs**. Therefore, it can only support research projects contributing to this objective. **It cannot support projects for "purely" scientific purposes.**
- In assessing their position and assets in the context of the development and implementation of their smart specialisation strategies ("RIS3"), **MS and regions are invited to make full use of the knowledge developed in the framework of the SET Plan.**

European Regional Development Fund

Investing in Growth

-  Research and Innovation
-  Information and communication technologies
-  Competitiveness of SMEs
-  Low-carbon economy

through

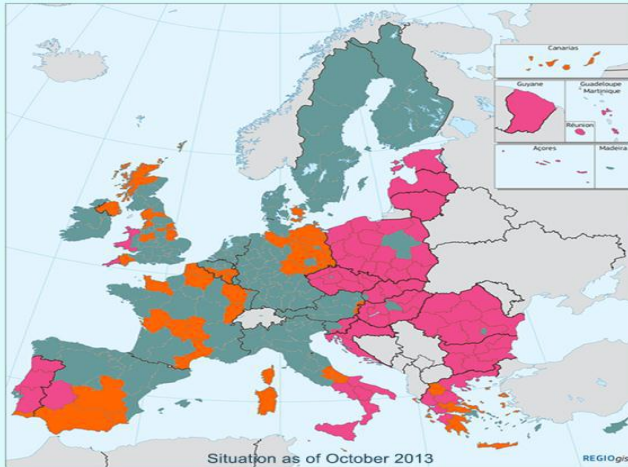
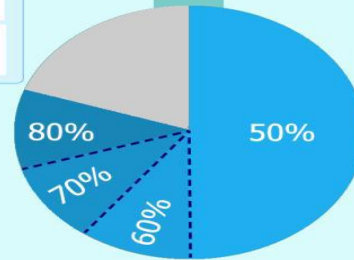
European Social Fund

Investing in People

-  Employment and Mobility
-  Better education
-  Social inclusion
-  Better public administration

Between 50% and 80% of investments focused on

these priorities



Level of investment adapted to level of development

All EU regions benefit

€164 billion for less developed regions

GDP < 75% of EU-27 average
 27% of EU pop.

€32bn for transition regions

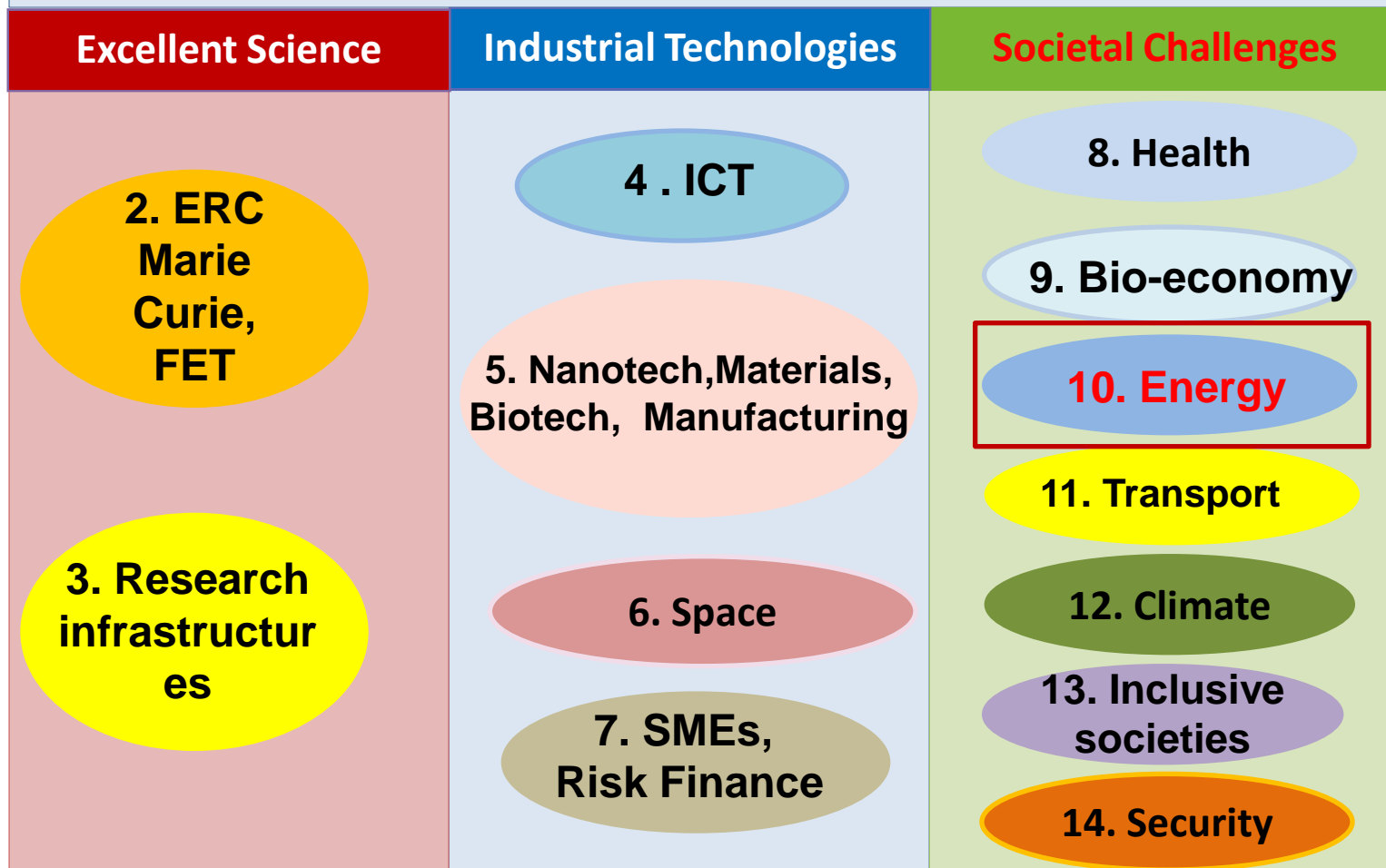
GDP 75-90% of EU-27 average
 12% of EU pop.

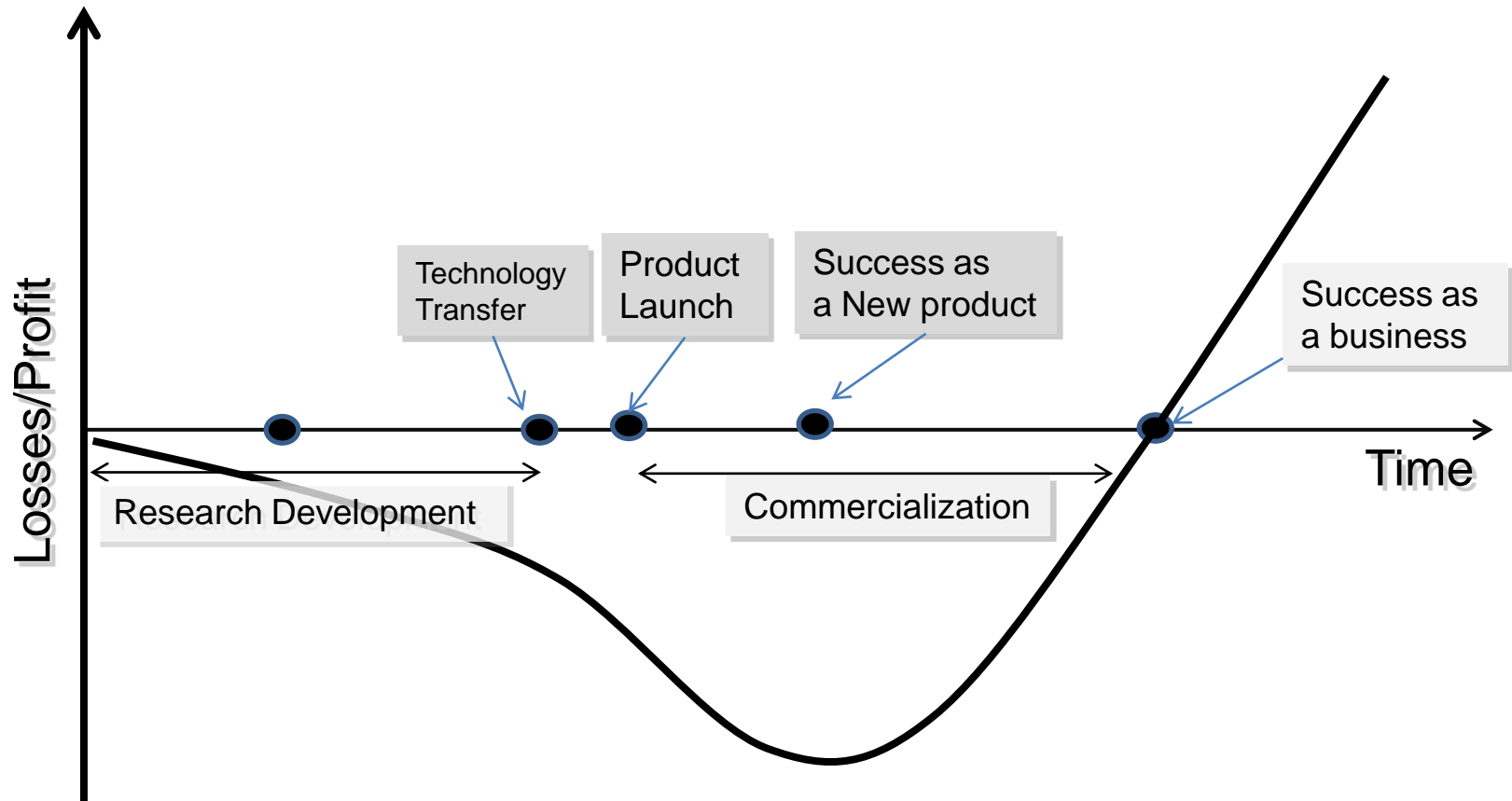
€49bn for more developed regions

GDP > 90% of EU-27 average
 61% of EU pop.

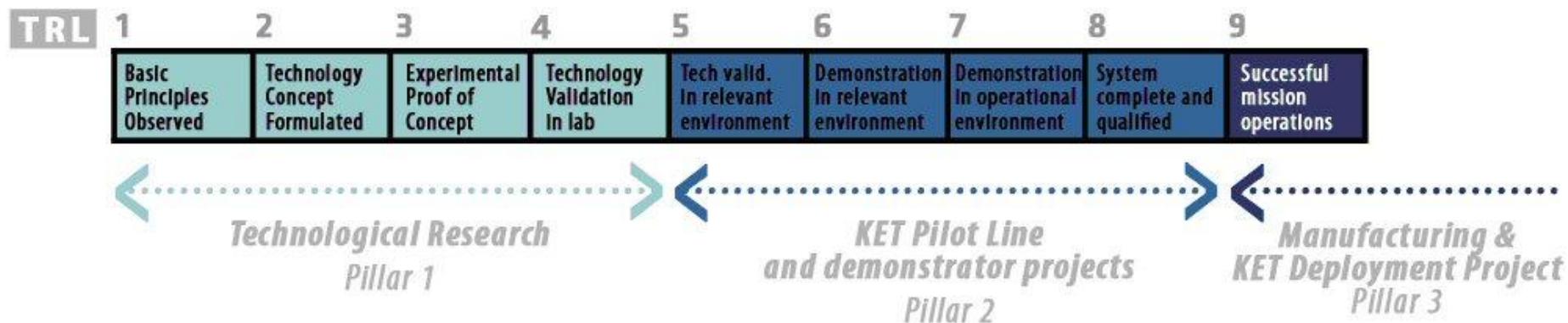
Horizon 2020

1. HORIZONTAL CONFIGURATION





Technology Readiness Levels (TRLs) – a useful tool in development and deployment of KETs



- in FP7: TRLs 1 – 4;
up to 5-6 in 2012-13 (pilots and demonstrators)
- KETs: TRLs 3/4 – 8; centre at TRLs 5-7

TRL 4: Small Scale Prototype Development Unit (PDU)

The components of the technology have been identified. A PDU has been built a laboratory and controlled environment. Operations have provided data to identify potential up scaling and operational issues. Measurements validate analytical predictions of the separate elements of the technology. Simulation of the processes has been validated. **Preliminary LCA and economy assessment models have been developed.**

TRL 5: Large Scale Prototype Development Unit

The technology has been qualified through testing in intended environment, simulated or actual. The new hardware is ready for first use. Process modelling (technical and economic) is refined. **LCA and economy assessment models have been validated.** Where it is relevant for further up scaling the following issues have been identified: Health & safety, environmental constraints, regulation, and resources availability.

TRL 6: Prototype System

The components and the process have been up scaled to prove the industrial potential and its integration within the energy system. Hardware has been modified and up scaled. Most of the issues identified earlier have been resolved. Full commercial scale system has been identified and modelled. **LCA and economic assessments have been refined.**

TRL 7: Demonstration System

The technology has been proven to work and operate a pre-commercial scale. Final operational and manufacturing issues have been identified. Minor technology issues have been solved. **LCA and economic assessments have been refined.**

**Scoping Paper
(non binding)**

- 29/10/2014 – CE issue the text to MS representatives
- 9/12/2014 – Deadline for MS comments
- 13/1/2015 – CE release the Scoping paper final draft

Outline WP 16-17

- 30/1/2015 – CE issue the text to MS representatives
- 13/2/2015 – Deadline for MS comments

**First draft
WP 16-17**

**Second draft
WP 16-17**

- 15/4/2015 - CE issue the text to MS representatives
- 8/5/2015 - Deadline for MS comments

**Final approval
WP 16-17**

- **Maggio 2015 – Text finalization by CE**
- **Giugno 2015 – Review by other CE divisions and approval by MS Committee**
- **30/9/2015 – CE Adoption and Calls launch**

The same of WP 14-15

1. Energy Efficiency (EE)
2. Competitive low-carbon energy (LCE)
3. Smart Cities and Communities– with nature-based solutions (SCC)
4. Stimulating the innovation potential of SMEs for a low carbon and efficient energy system (SIE)

- 1. Heating and cooling**
- 2. Engaging consumers towards sustainable energy**
- 3. Buildings**
- 4. Industry, products and services**
- 5. Innovative financing for energy efficiency**



- **design of manufacturing processes,**
- **energy recovery,**
- **energy audits and energy management systems,**
- **re-use of industrial waste**
- **optimisation of the value chain**
- **development and market uptake of innovative highly efficient energy-related products, systems and services**



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