<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:00 –</td>
<td>Introduction</td>
<td>Adrian PERES (European Commission, EASME)</td>
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<td>11:05</td>
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<tr>
<td>11:05 –</td>
<td>Industrial Energy Efficiency policy</td>
<td>Eva HOOS (European Commission, DG ENERGY)</td>
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<td>11:15</td>
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<td>11:15 –</td>
<td>Presentation EE-15</td>
<td>Céline TOUGERON (European Commission, EASME)</td>
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<td>11:25</td>
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<tr>
<td>11:25 –</td>
<td>Presentation EE-18</td>
<td>Bianca LEPSA (European Commission, EASME)</td>
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<td>11:35</td>
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<tr>
<td>11:35 –</td>
<td>Q&amp;A (EE-15 &amp; EE-18)</td>
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<td>11:50</td>
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<td>11:50 -</td>
<td>Introduction to SPIRE PPP</td>
<td>Cristina FERNANDEZ RAMOS (European Commission, DG RTD)</td>
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<td>12:00</td>
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<td>12:00 –</td>
<td>Presentation EE-17</td>
<td>Silvia VIVARELLI (European Commission, EASME)</td>
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<td>12:10</td>
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<td>Q&amp;A (EE-17)</td>
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<td>12:25</td>
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<tr>
<td>12:25 -</td>
<td>Conclusion</td>
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<td>12:30</td>
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</tbody>
</table>
EE-15 Increasing capacities for actual implementation of energy efficiency measures in industry and services

Céline Tougeron
Project Advisor EASME B1
celine.tougeron@ec.europa.eu

Horizon 2020 Info Day
19 September 2016, Brussels
The challenge

• Ensure that energy audit recommendations lead to actual implementation,
• Ensure that the results of energy audits provide the relevant financial data and can be addressed at board level

• Energy efficiency also relies on people behaviour and improvement of the energy culture of enterprises and their supply-chain.
The scope (1/2)

Proposals should focus on one of the following topics:

1. **Capacity building programmes** for qualified and/or accredited experts carrying out energy audits to ensure that they **include the necessary financial and technical data which allows decision-makers and financiers to make informed decisions** on implementing the energy saving measures identified; this could include the integration of LCCA (Life Cycle Cost Analysis) or NPV (Net Present Value) in energy audits.
The scope (2/2)

2. **Staff trainings and capacity building programmes** to enhance corporate policy towards energy efficiency, **energy culture** (motivations, behaviour change, mitigation of perceived risks and barriers) and **sustainable supply-chain initiatives**. All actors (from decision makers/corporate board members to employees in each department including purchase) should be targeted.

*Proposals should demonstrate how the proposed activities will be continued commercially beyond the project lifetime. Involvement of relevant multiplier organisations is encouraged.*
The impact and EU contribution

- **Primary energy savings** triggered by the project within its duration (in GWh/year per million Euro of EU funding);
- **Market stakeholders with increased skills/capability/competencies** and long-lasting training tools;
- **Number of people/enterprises** with enhanced energy culture documenting why and how changes are an effect of particular measures taken, as well in terms of the sustainability of the behavioural change.

Recommended *contribution from the EU of between EUR 1 and 2 million*
Lessons learnt from evaluations of previous Calls

Main weaknesses identified:
- **Methodology** issues
- Limited **actual implementation**
- **Impacts**
EE-18 Energy efficiency of industrial parks through energy cooperation and mutualised energy services

Bianca-Nicole Lepsa
Project Advisor EASME B1
Bianca-Nicole.Lepsa@ec.europa.eu

Horizon 2020 Info Day
19 September 2016, Brussels
The challenge

- **Energy** represents an *important* part of enterprises' **production costs** even for non-energy intensive industries.

- In **industrial parks** **optimising** energy efficiency can be obtained by **stimulating and facilitating energy cooperation** among businesses.
  - Physical clustering (buildings and processes, energy exchange, collective production) and service clustering (joint contracting).
  - Addressing organisational, financial, legal, social and technical barriers.
The scope

Unlocking the market potential and supporting the demand and offer of high-quality energy services by addressing at least one of the following:

• The development and testing of instruments facilitating the actual implementation of energy cooperation

• The development and testing of replicable business models and service concepts provided by ESCO or other relevant 3rd party
The scope

Proposals should include related capacity building issues
Proposals should address legal issues in order to adapt regulatory and legal frameworks
Proposals should also have a cross-cutting perspective

Strong communication and dissemination component to reach as many industries, industrial parks managers and ESCOs
The impact and EU contribution

- Deployment of *replicable energy concept* for increased competitiveness of enterprises
- Deployment of *replicable business models* for joint contracting energy services for industrial parks
- **Number** of companies/ ESCOs/ energy managers and other market *stakeholders* with increased capacity
- **Policies and legal frameworks** created/ adapted to facilitate energy cooperation

Recommended *contribution from the EU of between EUR 1 and 2 million*
EASME
Executive Agency for Small and Medium-sized Enterprises

THANK YOU FOR YOUR ATTENTION

Céline Tougeron - celine.tougeron@ec.europa.eu
Bianca-Nicole Lepsa - Bianca-Nicole.Lepsa@ec.europa.eu
Project Advisors EASME B1
EE-17 Valorisation of waste heat in industrial systems (SPIRE PPP)

Silvia Vivarelli
Project Advisor EASME B1
silvia.vivarelli@ec.europa.eu

Horizon 2020 Energy Efficiency Info Day
19 September 2016, Brussels
EE17-Valorisation of waste heat in industrial systems

Specific challenge

• Improve energy efficiency of large industrial systems, responding to process industry needs as identified in SPIRE Roadmap

• Design, build, test & demonstrate new processes/components or innovative adaptation of existing solutions for waste heat recovery in large industrial system

➢ Losses occur because: i) energy losses are difficult to recover and re-use or ii) required equipment too costly
EE17-Valorisation of waste heat in industrial systems

Scope (1/2)

Actions should either propose:

• **Innovative technologies** for **efficient recovery of waste heat** in large industrial systems

• **Innovative solutions of energy symbiosis between industries or plants** inside industrial parks for valorisation of waste heat

Specific issues to be addressed for each of them
EE17-Valorisation of waste heat in industrial systems

Scope (2/2)

Solutions should:

• be adaptable to various types of industrial process

AND

• validated by full scale demonstration in real production conditions in industrial facilities
EE17-Valorisation of waste heat in industrial systems

Impact

Common impacts for the two different actions:

• **Recovery** of at least 40% heat

• **Measurable substantial primary energy savings**, clearly quantified and substantiated and consequent **reduction of CO2 emissions**

Specific impacts:

• For actions proposing innovative technologies for waste heat recovery: **Reduction of energy cost** expected to lead to a **demonstrated advancement in competitiveness**

• For actions proposing innovative solutions of energy symbiosis: **Cost-saving optimisations** of energy and resources supply and demand
EE17-Valorisation of waste heat in industrial systems

Main differences with Call 2016

- Specific budget for the topic: **11 EUR million**
- Difference in requested EU contribution considered appropriate to address challenges:
  - EUR 4-5 million for actions proposing innovative technologies for waste heat recovery
  - EUR 5-6 million for actions proposing innovative solutions for energy symbiosis between industries or plants inside

**Deadline: 19 January 2017**
EE17-Valorisation of waste heat in industrial systems

*Lessons learned from Call 2016*

- Focus on one sub-topic
- Involve relevant industries
- TRL level as requested for topic, solution to be demonstrated in real production conditions in industrial facilities
- Substantiate proposed impacts with adequate baselines and calculations
- Define exploitation strategies
THANK YOU FOR YOUR ATTENTION

Silvia Vivarelli- silvia.vivarelli@ec.europa.eu
Project Advisor, EASME B.1
The SPIRE cPPP in Horizon 2020

Cristina Fernández-Ramos
DG Research and Innovation
Dir. Industrial Technologies
Unit D2 Advanced Manufacturing Systems and Biotechnologies

HORIZON 2020 INFO DAY
Secure, Clean and Efficient Energy
Call 2017
September 19th 2016, Brussels
<table>
<thead>
<tr>
<th>Horizon 2020 WP 2016-2017</th>
<th>Call 2016-2017</th>
<th>Area</th>
<th>Topic</th>
<th>Topic Title</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Engaging Consumers Towards Sustainable Energy</td>
<td>EE-16-2016-2017</td>
<td>Effective implementation of EU product efficient legislation</td>
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<td>Buildings</td>
<td>EE-17-2016-2017</td>
<td>Valorisation of waste heat in industrial systems <em>(SPIRE cPPP)</em></td>
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<td></td>
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<td>Industry, Services and Products</td>
<td>EE-18-2017</td>
<td>Energy efficiency of industrial parks through energy cooperation and mutualised energy services</td>
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<td>EE-19-2017</td>
<td>Public procurement of innovative solutions for energy efficiency</td>
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<td>EE-20-2017</td>
<td>Bringing to market more energy efficient and integrated and data services</td>
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<td>EE-21-2016</td>
<td>ERANET Cofund actions supporting Joint Actions towards increasing energy efficiency in industry and services</td>
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<tr>
<td></td>
<td></td>
<td>Innovative Financing for Energy Efficiency Investments</td>
<td>(6 different areas)</td>
<td></td>
</tr>
</tbody>
</table>

*SPIRE in the Horizon 2020 EE call 2016-2017*
What/Why Public-Private Partnerships in Horizon 2020?

- Partnership between a Public body and a Private association joining resources in order to achieve common goals
- R&D investments are essential for generating growth and high quality jobs
- EU business under-invests in R&D compared to other world regions
- Increasing international competition for leadership in strategic technologies
- Partnerships create stable frameworks for joint R&I investments in industrial domains
- To facilitate prioritisation of R&I in line with the Europe 2020 objectives and industry needs
- To leverage research and innovation efforts
## PPPs in Horizon 2020

<table>
<thead>
<tr>
<th>Institutionalised PPPs</th>
<th>Contractual PPPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Innovative Medicines (IMI)</td>
<td>• Factory of the Future (FoF)</td>
</tr>
<tr>
<td>• Clean Sky</td>
<td>• Energy-efficient Buildings (EeB)</td>
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<tr>
<td>• Single European Sky ATM Research (SESAR)</td>
<td>• Green Vehicles (EGVI)</td>
</tr>
<tr>
<td>• Fuel Cells and Hydrogen (FCH)</td>
<td>• Future internet (5G)</td>
</tr>
<tr>
<td>• Electronic Components and Systems (ECSEL - old ARTEMIS + ENIAC)</td>
<td>New:</td>
</tr>
<tr>
<td>New:</td>
<td>• Sustainable Process Industry (SPIRE)</td>
</tr>
<tr>
<td>• Bio-based Industries (BBI)</td>
<td>• Robotics</td>
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<tr>
<td>• Shift2Rail</td>
<td>• Photonics</td>
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<td>• High Performance Computing</td>
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<td>• Big Data</td>
</tr>
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<td>• Cibersecurity</td>
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</tbody>
</table>

* All announced in the Communication on PPPs in H2020 (July 2013) except Big Data and Cibersecurity*
The contractual PPP approach

- **What is the same as in normal Horizon 2020:**
  - The financial rules are those of Horizon 2020
  - Final responsibility for the Work Programme stays with the European Commission
  - Implementation remains with the Commission: selection of proposals, grant preparation, review of progress and payments
  - Calls are open to non-members (~ 75% of funded participants are non-members)

- **What is different from normal Horizon 2020:**
  - Long-term commitment by Commission to support the field
  - Long-term commitment by industry to invest, with a need to demonstrate its fulfilment (monitoring & KPIs)
  - Roadmap-based strategy. Close interaction in the Partnership Board to prepare the content of the calls.
The cPPPs Governance

- Discuss priorities
- Form consortia
- Apply to calls

Private Partner Association

Advice

Feedback

Partnership Board

- Discuss priorities & call topics
- Assess progress

Feedback

Proposal

European Commission

- Develop work programme
- Publish open calls
### The cPPPs budget in Horizon 2020

<table>
<thead>
<tr>
<th>Contractual Public Private Partnerships in Horizon 2020</th>
<th>EU indicative funding 2014-2020 (€)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factories of the Future (FoF)</td>
<td>1150</td>
</tr>
<tr>
<td>Energy-efficient Buildings (EeB)</td>
<td>600</td>
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<tr>
<td>European Green Vehicles Initiative (EGVI)</td>
<td>750</td>
</tr>
<tr>
<td><strong>Sustainable Process Industry</strong></td>
<td><strong>900</strong></td>
</tr>
<tr>
<td>Advanced 5G network infrastructure for the Future Internet (5G)</td>
<td>700</td>
</tr>
<tr>
<td>High Performance Computing (HPC)</td>
<td>700</td>
</tr>
<tr>
<td>Robotics</td>
<td>700</td>
</tr>
<tr>
<td>Big Data</td>
<td>534</td>
</tr>
<tr>
<td>Photonics</td>
<td>700</td>
</tr>
<tr>
<td><strong>TOTAL:</strong></td>
<td><strong>6734</strong>*</td>
</tr>
</tbody>
</table>

Industry has committed to complement these amounts with private investment in the order of 3 to 10 times the level of public funding in addition to the in-kind contribution in the cPPP projects under Horizon 2020.

*Cibersecurity not included*
Sustainable Process Industry through Resources and Energy Efficiency (SPIRE) cPPP
Rationale of the SPIRE cPPP

- Eight world-leading sectors (cement, ceramics, chemicals, engineering, minerals and ores, non-ferrous metals, steel and water)
- At the core of most industrial value chains
- Highly dependent on resources, interested in improved efficiency
- 20% of total energy and resources, 20% of CO$_2$ emissions
- Key part of the manufacturing base in Europe, >450000 enterprises, 6.8 million employees
Specific Objectives of SPIRE

R+I to integrate and demonstrate at least 40 innovative systems and technologies:

- 7 in Adaptable processes able to use different feedstocks
- 6 in Reduction and re-use of waste with ambition to close the loop
- 9 in Innovative processes leading to CO₂ reduction
- 8 in Green technologies to develop novel materials for new and existing markets
- 6 in Industrial processes reducing water use
- 4 using Technology uptake within/between sectors to enable industrial symbiosis

... and capable of achieving across process industry (by 2030):

- A reduction in fossil energy intensity of up to 30%
- A reduction in non-renewable, primary raw material intensity of up to 20%
- Increase in renewables, reduction and re-use of waste (even cross-sectorial) with ambition to achieve a close loop
- Reduction of the water footprint of industrial processes
- Efficiency improvement of CO₂-equivalent footprints of up to 40%
- 10 new types of high-skilled jobs
The SPIRE Research Roadmap

Structured around 6 Key Components, comprising Key Actions (KA):

- **FEED (4)**
  Optimal valorisation of feedstock

- **PROCESSES (5)**
  More efficient processing solutions

- **APPLICATIONS (2)**
  New processes to produce materials for market applications

- **WASTE2RESOURCES (4)**
  Management of waste streams

- **HORIZONTAL (4)**
  Skills, tools, knowledge-sharing, best practices

- **OUTREACH (2)**
  Reach out activities
SPIRE PPP in Horizon 2020
Calls 2017
Where are the SPIRE 2017 call topics in Horizon 2020 WP 2016-17?

Societal Challenge “Secure, Clean and Efficient Energy” - (part 10)

- **Energy Efficiency call (1 topic)**
  EE-17-2016-2017

*Cross-Cutting Activities (Focus areas) – (part 17)*

- **SPIRE call (7 topics)**

- **Circular Economy call (1 topic)**
  CIRC-01-2016-2017
<table>
<thead>
<tr>
<th>SPIRE Topics</th>
<th>Type</th>
<th>TRL</th>
<th>Expected Deadline</th>
<th>Budget (M€)</th>
</tr>
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<tbody>
<tr>
<td>SPIRE 07-2017 Integrated approach to process optimisation for raw materials efficiency, excluding recovery technologies of waste streams</td>
<td>IA</td>
<td>5-7</td>
<td></td>
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</tr>
<tr>
<td>SPIRE 08-2017 Carbon dioxide utilisation to produce added value chemicals</td>
<td>RIA</td>
<td>4-6</td>
<td></td>
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<tr>
<td>SPIRE 09-2017 Pilot lines based on more flexible and down-scaled high performance processing</td>
<td>IA</td>
<td>5-7</td>
<td></td>
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<tr>
<td>SPIRE 10-2017 New electrochemical solutions for industrial processing, which contribute to a reduction of CO₂ emissions</td>
<td>RIA</td>
<td>4-6</td>
<td>19/01/2017</td>
<td>82.11</td>
</tr>
<tr>
<td>SPIRE 11-2017 (*) Support for the enhancement of the impact of SPIRE PPP projects</td>
<td>CSA</td>
<td>-</td>
<td></td>
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<tr>
<td>SPIRE 12-2017 (*) Assessment of standardisation needs and ways to overcome regulatory bottlenecks in the process industry</td>
<td>CSA</td>
<td>-</td>
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<tr>
<td>SPIRE 13-2017 (*) Potential of Industrial Symbiosis in Europe</td>
<td>CSA</td>
<td>-</td>
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<tr>
<td>EE 17 -2016-2017 Valorisation of waste heat in industrial systems</td>
<td>IA</td>
<td>5-7</td>
<td></td>
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<tr>
<td>CIRC 01 -2016-2017 Systemic, eco-innovative approaches for the circular economy: large-scale demonstration projects</td>
<td>IA</td>
<td>5-7</td>
<td>2 stages: 07/03/2017 05/09/2017</td>
<td>44</td>
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</table>

(*) only one action can be funded

This presentation is based on the WP Always check legal documents
The Research PPPs INFODAY

14th October 2016 Brussels

FoF EeB EGVI SPIRE

www.spire2030.eu

More information:

HORIZON 2020:

Contractual Public-Private Partnerships in research and innovation:
EU Energy Efficiency Framework for Industry

1. Cornerstones of EU policy:
   • European Energy Union
   • 2020 and 2030 frameworks
   • 2015 Paris Agreement (UNFCCC)

2. EU Heating & Cooling Strategy

3. Energy Efficiency framework


5. Next steps
The way towards:
The Energy Union

Where we want to go:
A secure, sustainable, competitive, affordable energy for every European

What this means:
Energy security, solidarity and trust
A fully integrated internal energy market
Energy efficiency first
Transition to a long-lasting low-carbon society
An Energy Union for Research, Innovation and Competitiveness

How we want to reach it:

5 GUIDING DIMENSIONS
15 CONCRETE ACTIONS
43 INITIATIVES
1 Secure supplies
2 Internal energy market
3 Energy efficiency
4 Emissions reduction
5 Research & Innovation

Source: Directorate-General for Energy
1 Secure supplies

We have to become less dependent on energy from outside the EU

This means increasing transparency on gas supply; diversifying sources, supplies and routes; working together on security of supply and developing a stronger European role in global energy markets.
Energy should flow freely across the EU – without any technical or regulatory barriers

This means connecting markets through interconnections and implementing and upgrading the internal market's software while enhancing regional cooperation and empowering consumers.
Rethink energy efficiency as an energy source in its own right

This means increasing energy efficiency, in particular in the building sector, and promoting an energy-efficient and decarbonized transport sector as well as efficient products.
An **ambitious climate policy is an integral part of our Energy Union**

The next challenge will be to enforce the 2030 energy and climate framework, while becoming the number one in renewables.
Developing EU technological leadership in low carbon technologies

This will reduce energy consumption, empower consumers, create huge industrial opportunities and boost growth and jobs.
Delivering the Energy Union: A dynamic governance

The Commission will launch a dynamic governance process for the European Energy Union.

Successful implementation depends on the political commitment of all actors concerned, including EU institutions and Member States!
Agreed headline targets
2030 Framework for Climate and Energy

2020

-20 %
Greenhouse Gas Emissions

20 %
Renewable Energy

20 %
Energy Efficiency

10 %
Interconnection

2030

≤ - 40 %
Greenhouse Gas Emissions

≥ 27 %
Renewable Energy

≥ 27 %*
Energy Efficiency

15 %
Interconnection

* To be reviewed by 2020, having in mind an EU level of 30%

New governance system + indicators
Energy efficiency is a key climate change action and an essential dimension of the Energy Union Strategy.
2016 - the year of delivery for energy policy to implement the Energy Union Strategy and fulfil the commitments under the COP21

February
Heating and cooling strategy
Security of gas supply

July
LULUCF, Transport Effort Sharing Decision

October
Energy Efficiency Package (EED, EPBD) +
Smart Finance for Smart Buildings

December
Renewables +biomass sustainability
Market Design
Energy Union Governance
Concrete actions

• **Strengthen regulatory framework:**
  - Revised Emissions Trading Scheme, Effort Sharing Decision ✓
  - New Renewable Energy Directive and bio-sustainability policy
  - New Electricity Market design

• **Aims:**
  - Carbon markets and carbon price
  - EE targets and extending Energy Efficiency Obligation Schemes
  - Stronger integration of EE and renewable energy
  - Facilitate demand response
A EU strategy for heating and cooling

Heating and cooling: 50% of the EU final energy consumption (546 Mtoe in 2012); it will remain the largest end-use sector on the long term (by 2050)

- **Buildings** (residential, tertiary) → renovation and deployment of efficient, sustainable supply (renewables, waste heat/cold)

- **Industry** (energy intensive sectors, all enterprises, SMEs) → energy efficiency and renewable energy, recovery of waste heat & cold

- **3 key synergies** (comprehensive integrated approach)
  - Linking energy savings with the deployment of sustainable (renewable-based, low carbon) supply
  - Linking heating & cooling with the electricity systems
  - Linking heating & cooling of buildings with industry for the use of waste heat and waste cold
Heating and Cooling Strategy

- One of the key actions under the Energy Union Framework and Roadmap of 25 February 2015.

- Aim: integrate heating and cooling (half of energy consumption) into EU energy policies.

- Focus: address the challenges and barriers to energy efficiency and renewables in buildings, industry and tertiary, and the synergies with the electricity system.

- **Communication**: to set out key facts and issues, and directions for follow-up actions, including under upcoming legislative reviews.

- **Staff Working Document**: to set out evidence, good practices.

- **Public Consultation** with extended participation from stakeholders and Member States, including Consultation Forum in September 2015.

- **Adoption** foreseen for the first quarter of 2016 (Security of Supply package).
Heating and cooling in industry - background

Key facts:

37% of the EU heating and cooling demand is by industry;

73% of the energy consumed in industry is used for heating and cooling (process heating at different temperature levels);

75% of this 73% is supplied by fossil fuels.

Source: DG ENER
Heating and cooling in industry – challenges identified

- Waste and cold recovery and reuse;
- R&D&I;
- Need for increasing the awareness on efficiency and renewable technologies;
- Need for an enhanced dialogue on energy efficiency and renewable solutions with EC.

Figure: Heating and cooling fuel mix in the industry sector (2012). Source DG ENER
Follow-up actions will be taken forward by:

- intensified implementation of the current legislation (e.g. Article 19 of the EED on split incentives)
- new non-legislative actions (e.g. industrial round tables for energy industries)
- intensification of current non-legislative actions (e.g. BUILD UP Skills, SET plan, Covenant of Mayors, etc.)
EE package – two legislative proposals

EED

Main objectives:
- Optimal level of energy savings target for 2030 (at least 27% target, having in mind 30% EU target)
- Review of Art. 6 and 7
- Coordinate with Market Design and Governance Initiatives

EPBD

Main objectives:
- General review in light of the experience gained
- Additional measures needed for 2030-2050
- Tap untapped potentials:
  - Exist. buildings (renovation rate, reliable consumer info.)
  - Enforcement/compliance
  - Progress in smart technologies
Review of the Energy Efficiency Directive

- Articles 1 and 3:
  - Optimal energy efficiency target for 2030

- Article 7 on energy savings obligations and alternative measures:
  - Extension of the obligation period post 2020;
  - Ambition level;
  - Clarification and streamlining of the existing requirements

- Articles 9-11 on metering and billing

- Articles 15 and 24:
  - adapting to the new Governance and Market Design Initiatives

- Ensure that it remains fit for purpose with a 2030 perspective
- Intensified implementation efforts combined with targeted amendments, focused on:
  1. Modernising the Directive in the light of:
     - Technological progress in smart technologies and electro-mobility
     - Need to increase building renovation and support decarbonised building stocks by 2050
  2. Fine tuning existing provisions, linking them better to financial support
Review of the Energy Labelling Directive

- Ensure that it remains fit for purpose by:
  - Improving the effectiveness of the label (e.g. back to the A to G scale, including rescaling; consumer testing)
  - Strengthening compliance (e.g. through better market surveillance and product registration)
  - Simplification by moving from a Directive to a Regulation (e.g. no national transposition)

- Ecodesign still broadly fit for purpose
  - New working plan to be published in the autumn
Forthcoming EE Package: Smart Finance For Smart Buildings Initiative

De-risking

Aggregation

*e.g.* Project development assistance

Market-based culture

*e.g.* financial instruments, better use of public finance
Legislative Framework for Energy Efficiency

Energy Efficiency Directive 2012/27/EU

Delivering the 2020 goals


Ecodesign Directive 2009/125/EC

Energy Labelling Directive 2010/30/EU
Energy Efficiency Directive 2012/27/EU

Transposition deadline was 5 June 2014

http://ec.europa.eu/energy/en/topics/energy-efficiency
Energy Efficiency Directive 2012/27/EU

Article 3: National energy efficiency targets
Article 4: Long term building renovation strategies
Article 5: Renovation of central government buildings
Article 6: Public procurement
Article 7: Energy efficiency obligations (or alternatives)

**Article 8: Energy audits and energy management systems**

Articles 9-11: Smart metering and billing

**Article 14: CHP and district heating and cooling**

Article 15: Energy efficiency in grids and demand response

Article 16-17: Qualification, training and information

Article 18: Energy service markets
Persisting challenges in Industry

1. Energy saving potentials are not realised
2. EE is not the mainstreamed in business operations
3. Information and expertise
4. Internal barriers
5. Regulatory barriers and business models
6. Financial instruments
7. Innovation, R&D, capacity building
1. Energy audits and energy management system (EED; Article 8)
2. Waste heat recovery and cogeneration (EED; Article 14)
3. Energy Efficiency Obligation schemes (EED; Article 7)
4. Demand response, decentralised generation (EED; Article 15)
Next steps under the Energy Union & to achieve the 2030 targets

1. Review of the products framework
2. Review of certain elements of the EED
3. Review of certain elements of the EPBD
5. New energy marker design
6. New Governance framework
7. Junker's €300bn investment package: work on-going
8. Industrial Round Tables
Thank you!

Contact:
Niels.Ladefoged@ec.europa.eu