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ENERGY EFFICIENCY IN THE INDUSTRIES

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Background & Motivations - 1

Reference: Energy Efficiency Directive 2012/27/EU

Article 7 **Energy efficiency obligation schemes**

- Each Member State shall set up an energy efficiency obligation scheme. That scheme shall ensure that energy distributors and/or retail energy sales companies that are designated as obligated parties … achieve a cumulative end-use energy savings target by 31 December 2020…of 1,5 % of the annual energy sales to final customers of all energy distributors or all retail energy sales companies by volume, averaged over the most recent three-year period prior to 1 January 2013.
- As an alternative… Member States may opt to take other policy measures to achieve energy savings among final customers…
- Member States may combine obligation schemes with alternative policy measures, including national energy efficiency programmes.

Background & Motivations - 2

Implementation approach:

- Bulgaria, Denmark, Luxembourg and Poland opted for the sole obligation regime;
- Austria, Belgium, Croatia, Estonia, France, Hungary, Ireland, Italy, Latvia, Lithuania, Malta, Slovenia, Spain, UK opted for a combination of obligatory and alternative measures
- Cyprus, Czech Republic, Finland, Greece, Germany, The Netherlands, Portugal, Romania, Slovakia and Sweden chose the alternative measures solution.

Implementation progress:

- Energy saving objectives were already fixed in some MSs (e.g. Italy, UK, etc.) since 2000, i.e. before the publication of the EED
- "White Certificates" (WC) are typical schemes adopted in some countries (e.g. Italy, Poland, France)
- some MS (e.g. Italy and Poland) have built consolidated mechanisms, after a long "training" period; Other countries (e.g. Austria) are currently completing their implementation process; other countries (e.g. Greece and The Netherlands) are just at their beginning

The General idea

To take advantage from the in depth analysis of a huge number of energy efficiency applications and audits at EU level, and to statistically leverage on them, in order to give answers to the questions:

- What are the **most effective actions** that may improve the efficiency in the production?
- How to specifically implement them, **what technologies** or combination of them are the most appropriate in the particular considered process or industry sector?
- What is the efficiency **improvement attainable** with each action?
- How to measure and how to **monitor, register and report** the savings, as requested in some obligation mechanisms?
- How to establish the **reference baseline** for the estimation of the achievable savings?
- What are the associated costs and the economic profitability of each action?
- What could be the impact of the efficiency improvement on the production objectives?
- Etc…

Main Objectives & Targets

Supporting the targeted industry stakeholders to suitably put in practice effective efficiency improvements:

- identifying best practices of implementation of energy efficiency projects
- helping industry actors to overcome experienced barriers maximizing the technical and economic benefits
- simplifying their burden in the preparation of access-to-incentive demands

Ancillary Objectives & Targets

Support policy makers in the assessment of the effectiveness of the implemented efficiency mechanisms

Provide evaluators with instruments enabling a more linear, uniform and transparent evaluation of the projects

Why Industry?

The final energy consumption of industry decreased in absolute terms from 327 Mtoe in 2005 to 277 Mtoe in 2013 (-15 %). [Residential: -3%]. [COM(2015) 574 final]

Energy efficiency actions in industry wrt residential:

- relatively less in number
- more complex and more difficult to project and implement
- more various and less adaptable to different industrial realities
- normally, more expensive
- with a higher potential of additionality (+innovation std)

SME in EU

- 30% GDP
- 90 Mpeople employee
- 1.1 Mnewjobs/year
- 13 % total energy demand
- 30% of shaving potential (JP+KR consume/y)
- 20% R&D

IEA 2015

Member States should also address their policies towards small- and medium-sized companies to remove market barriers and enable them to exploit any remaining energy efficiency potential. COM(2015) 574 final

Logical sequence of activities

Management & Coordination

Overview of EU-EEOs implement ation

Set-up Repository of real EE projects

Analysis of Data from real EE projects

Assessment and elaboration of Data

Scenarios Validation Impact & Recommen-dations

Communication, Exploitation and Dissemination

18 months

18 months

0

36 months

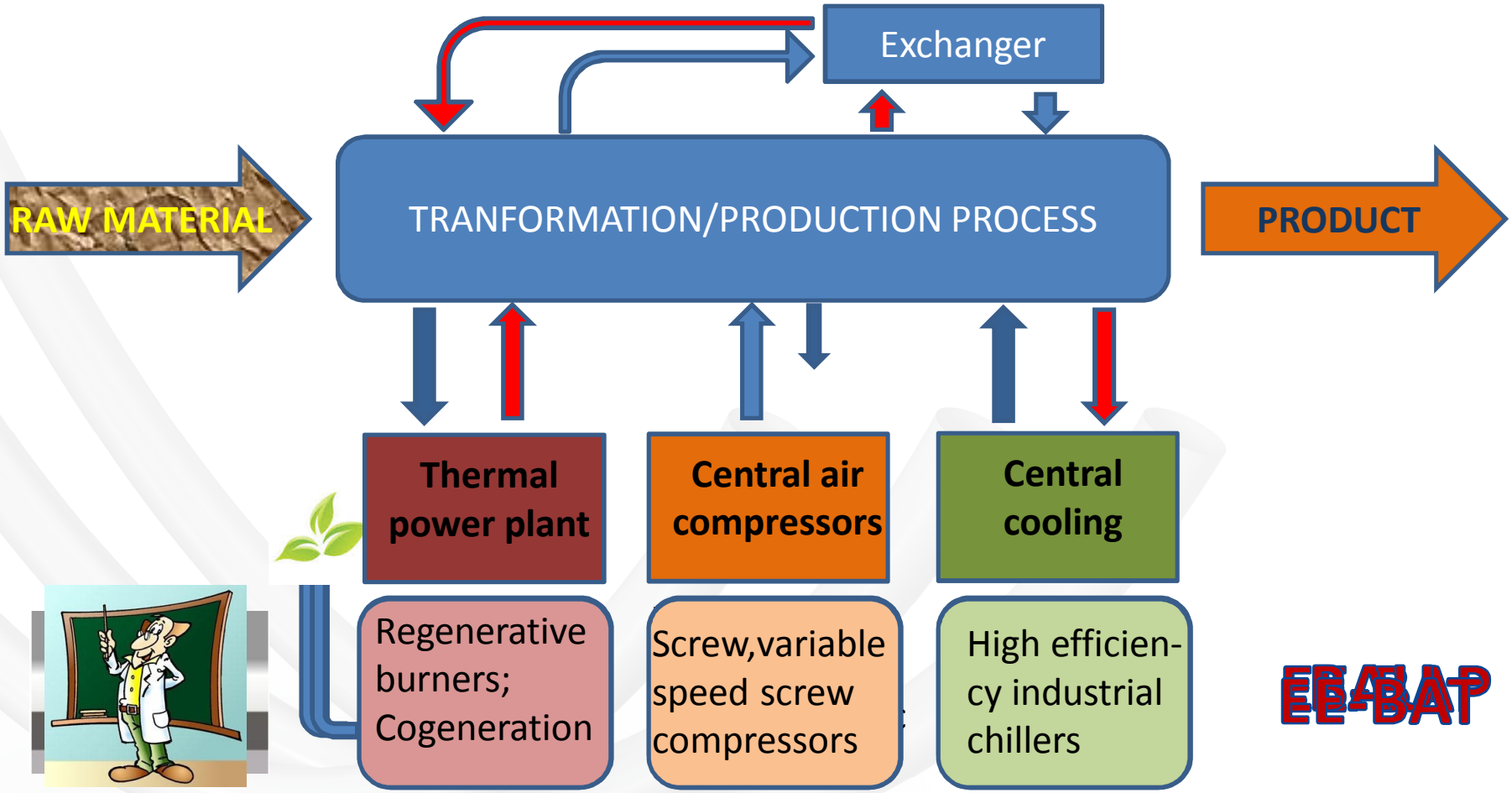
Ricerca sul Sistema Energetico

Best practices
Methods & Schemes
Recommendations

Project outcomes

- **Technological solutions and validated Best Practices of real energy efficiency in industry**
- **Efficiency KPIs for evaluation of EE real projects according to different criteria (technical, environment, productivity and competitiveness, investment and payback, etc.)**
- **Standardized methods (including baselines, algorithms, monitoring requirements and procedures) for evaluation of efficiency**
- **Supporting tools for address, implement and report EE applications**
- **Structured database/repository,** made accessible **via web**
- Bottom-up analysis of EESs effectiveness in EU 28 MSs
- Reasoned scenarios of implementation of EE measures and impact analysis
- Recommendations tailored to different stakeholders to improve and finalize EE targeted mechanisms and to address policy and incentive
- Extended capacity in EU Ms to implement EEs and concrete EE projects => Uptake EE market and job creation

What a best practice is…in practice



Conclusions

NOT purely speculative	**YES** lesson learned from real industry world; practical and usable technological solutions, methods and tools
NOT policy-oriented, although...	**YES** technology-oriented with related energy savings and costs
NOT self-targeted	**YES** validated solutions and methods; constant orientation to stakeholders
NOT self-referential	**YES** widest dissemination fully open attitude and capacity building

Thank you for your attention…

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