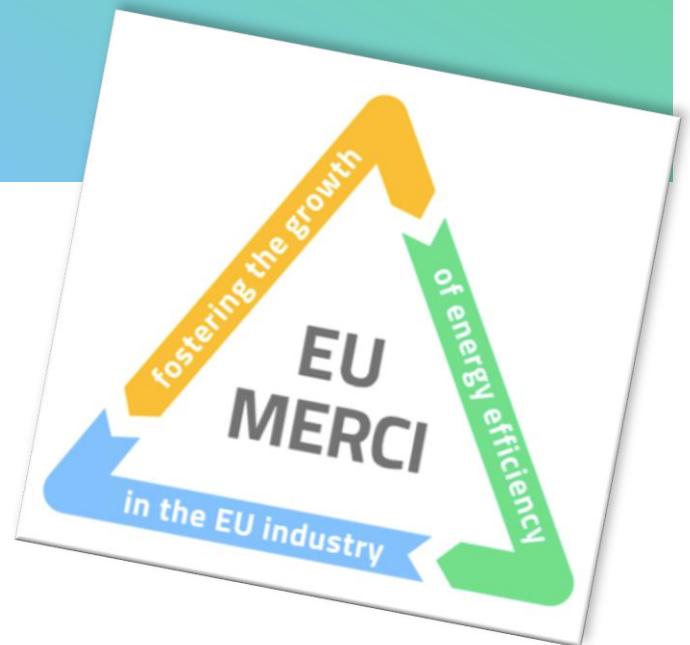


# EU-MERCI Newsletter

n° 3, July 2017

## Summary

- Visit the EU-MERCI Database: the industrial “Good Practices” are on line!
- The extraction of energy efficiency “Good practices” in industry
- Validation of best practices, methods and tools by the agrifood industry
- New webinar: *“Energy Efficiency Implementation in National targeted industries: approach for “Good Practices”*
- EU-MERCI international workshop at Ecomondo Key Energy Rimini Fair



### Visit the EU-MERCI Database: the industrial “Good Practices” are on line!

EU-MERCI launched a platform dedicated to the energy efficiency “Good Practices” available in the main industrial sectors. The main goal is to facilitate the investments in energy efficiency projects among industrial stakeholders, with benefits in terms of competitiveness, environment and social impact. The web platform offers both a library of solution divided by process phase and a searchable database easy to navigate and based on real project data.



[www.eumerci.eu](http://www.eumerci.eu)

*This project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement N° 693845.*

The European project developed a Web Database of the implementation of energy efficiency projects in industry. Thanks to the database, the most promising projects in the field of energy efficiency can be evaluated and replicated by the companies interested in.



#### EU-MERCI Database

Are you interested in data from real Energy Efficiency projects in Industry in Europe? Visit our Database



#### EU-MERCI Library

Find out more about the "Good Practices" in the manufacturing sectors

The Database contains aggregated data from implemented energy efficiency projects in industry, provided by EU-MERCI "Enablers" partners with access to their national databases of energy efficiency projects that benefitted from incentive schemes.

The "Good Practices" were primarily selected through the analysis of thousands of real projects at European level in several industrial sectors (Aluminium, Ammonia, Cement, Ceramic, Coke & Petroleum, Copper, Food & Beverage, Glass, Iron & Steel, Machinery, Pulp & Paper).

Then, EU-MERCI created a document library, containing the schematics of the processes and the reports describing the EU-MERCI selected "Good Practices" and the "Best practices"

extracted from literature for each specific sector and process.

On the EU-MERCI platform, the documents about technical and statistical analysis of each sector can also be downloaded.



#### Sector reports

Download the documents about technical and statistical analysis of each sectors



#### Country analysis

View the country statistics.

This platform aims at creating conditions to facilitate the implementation of energy efficiency projects in industry.

Thanks to the EU-MERCI database and library, every energy manager, expert, practitioner, and manager dealing with industrial competitiveness can easily find available solutions to improve the production processes of their industrial companies, thus enjoying the multiple benefits (economic, energetic, environmental, productive, etc.) related to the proposed "Good Practices".

*Explore our Database of the implemented energy efficiency projects in industry and download the good practice!*

[www.eumerci-portal.eu](http://www.eumerci-portal.eu)

## The extraction of energy efficiency “Good Practices” in industry – Anna Realini, Simone Maggiore (RSE)

In EU-MERCI project, a “Good Practice” (GP) is defined as “a technique or a methodology that, through experience and research, has been proven to reliably lead to a desired result with the minimum use of resources”. This is based on the strong support of a database of about 3,000 records describing Energy Efficiency measures and projects put in place and incentivised in different EU Member States.

Each proposed “Good Practice” shall satisfy the following criteria at the same time:

- It is efficient;
- It is technically feasible;
- It is economically affordable.

Additional criteria of a EU-MERCI GP in a sector are its replication potential in different MSs and its exportability to other sectors.

In order to identify which projects in the EU-MERCI Database could be eligible as “Good Practices”, three complementary approaches have been chosen:

- Statistical analysis of the database, e.g. the number of occurrences for each type of intervention in one sector or in different sectors;
- Engineering Expertise, in order to assess the real added value of the practice;
- Use of Key Performance Indicators (KPIs), to objectively quantify the benefits of the practice. They are applied separately, and then combined in order to assign a total score to each “Good Practice” and thus obtain a final list for every sector.

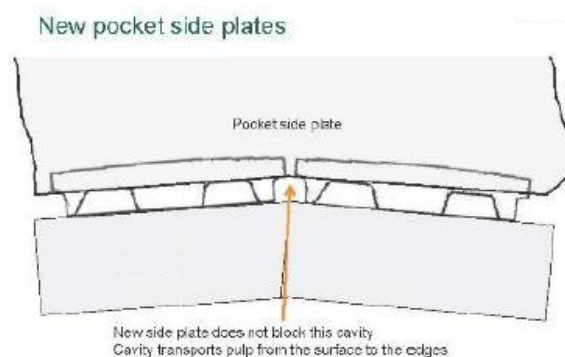
Statistical analysis is strictly dependent on the available data, as well as Engineering Expertise. KPIs take into account different aspects: energy performances, environmental performances and economic performances and are independent from the project. More details about the KPIs are available in Deliverable D4.1.

Some preliminary results from Pulp and Paper sector will be presented.

1) Mechanical pulping grinding plate teeth  
This efficiency improvement is applied to the mechanical pulping process. The intervention consists in the realization of a new grinding plate with teathed surface, with improved cutting qualities, thanks to a new geometry that allows the pulp to be distributed on the sides of the grinder. The reduction of electricity consumption is linked to the reduction in re-grinding phenomenon, that is the permanence of the pulp on the surface of the grinder. The main parameters characterizing the measure (recurring once in the database) are:

- Baseline (process specific): 5,883 toe/y
- Primary Energy Savings: 1,150 toe/y
- Energy Consumption Improvement (ECI): 20%
- Cost of Carbon Savings (CCS): 110 €/tonCO<sub>2</sub>
- Payback Time (PBT): 0.5 years

This measure is an example of a technically simple

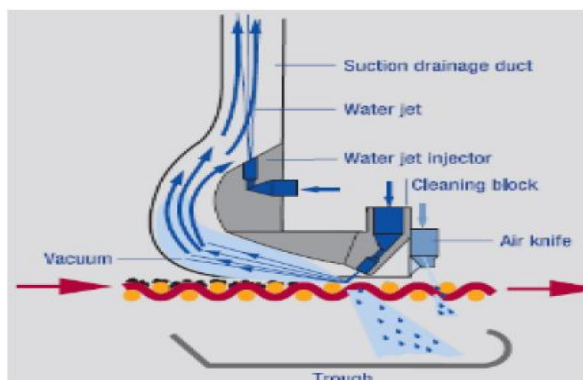


project, allowing to obtain very high PES and ECI, with a very low investment cost (around 300 k€), that can be paid back in less than one year. This case is the typical example of an efficient technology with such a level of

maturity that might make the incentives support not-decisive.

## 2) Dual cleaner on paper-making machine drying section

This efficiency improvement is applied to the drying section of the paper-making machine. It consists in the installation of a dual cleaner, that allows to avoid contamination of the paper sheet by impurities in the transport system, while improving the cleanliness of the paper transport frame. The removal of dirt improves the heat exchange on the paper surface, so reducing the load of the dryers and, as a consequence, natural gas consumption.



The average parameters characterizing the measure (recurring 3 times in the database) are:

- Baseline (process specific): 10,311 toe/y
- Primary Energy Savings: 661 toe/y
- Energy Consumption Improvement (ECI): 6.5%

## Validation of “Good Practices”, methods and tools by the agrifood industry – Maurizio Notarfonso - Federalimentare

In the food & drink industry the successful exploitation of potential energy savings combines the environmental targets and the economic sustainability with the mission to reduce the impact of the food-chain. The fields of action in the agrifood industry to increase the energy

- Cost of Carbon Savings (CCS): 799 €/tonCO<sub>2</sub>

- Payback Time (PBT): 5 years

- Share of Project Cost Subsidized (SPCS): 27%

This is a case where the PBT is aligned to an average investment in industry. PES is quite high, although the ECI is lower than in the previous case, due to the high energy consumption of the drying phase. This measure, however, is simple to implement, with low installation times, so not influencing the production rate in the long run. It can be considered at “average” maturity, still requiring incentives to make it more attractive, but presumably applicable also with lower or no incentives.

The “Good Practices” presented in 1) and 2) have, respectively, a score of 63 and 51 in the ranking of “Single Case” measures (involving only one technology), with a maximum score for the sector equal to 72, so confirming both their technical interest and good KPI results.

The three-ways approach is rather complex to apply and requires an in-depth analysis of each measure that can be very time-consuming. However, it is deemed very reliable to achieve valuable and validated results, assuring both technical originality and high performances of the selected “Good Practices”.

efficiency concern:

- diffusion of Best Available Technologies on the management of energy resources;
- participation in national energy efficiency schemes;
- evaluation of co-generation, tri-generation and

poly-generation potential;

- moving to refrigeration technologies less harmful to the ozone;
- diversification of the energy mix with the use of the renewable energies, in order to increase the share of self-produced energy, mainly from biomasses and bioliquids of animal and vegetal origin.

At this regard under Task 5.2 it is foreseen that five Food & Drink Federations (belonging to SPES GEIE) will be responsible to run a validation, within the food industry members and stakeholders, of the EU-MERCI “Good Practices” on Energy Efficiency”.

This task aims at the validation of the outputs of EU-MERCI, specifically in the Agrifood industry sector. It is a fact that this sector is strategic all over Europe and susceptible of rapid growth in the next years. The importance of the relevant topics is clearly demonstrated by the success of the EXPO event, ran in Milan in 2015. It is also a fact that the sector offers wide opportunities for the efficiency improvement of its technological processes, often fractioned in many different sub-processes for the treatment and conservation of food. Eventually, agrifood industry is one of the most often represented in the implementation of energy efficiency obligations, according with art. 7 of the EED: e.g. in Italy the sector accounts for 15% of the demands to access the White Certificate mechanism. Moreover, agrifood industry is a transversal sector, in the sense that methods and technologies for efficiency improvements are in common with many other industry sectors. Finally, the sector accounts for large industries nearby SMEs. In conclusion, agrifood is a really representative sector suitable for the validation of EU-MERCI.

The validation will consist in survey, dissemination and interactive actions aimed to assess:

- The technical consistency of the “Good Practices” proposed by EU-MERCI specifically for the agrifood sector (WP4).

The technical replicability and exportability of such outputs in different reality of the agrifood industries mainly in the countries represented by SPES.

Federalimentare (the Italian F&D Federation) has elaborated a common validation plan which includes different steps as follows:

- Selection of experts: company entrepreneur, energy manager (working in the companies or external consultants), ESCOs, public body and/or private Agency dealing with EE, banks.

- 1st Phase: preliminary engagement of experts. Experts will be provided prior with documentation about “Good Practices” and an “evaluation grid” sheet in order to be prepared for the meeting.

- 2nd Phase: running of validation national round-tables.

Experts will be guided in a “consensus meeting” where the “Good Practice” will be discussed and also the different evaluation grids.

- 3rd Phase: collection of post-event comments. Experts will be asked to review their final evaluation grids and to include, if any, some hints or integrations.

- Consolidation of minutes from national round-tables: National Federations SETBIR Turkey, ANIA France, FIPA Portugal, FFDI Czech Republic and FIAB Spain will report their national minutes and send to Federalimentare.

- Finalisation of D5.2 (Report on the validation...): Federalimentare will finalise the deliverable and include recommendations at EU level thanks to the support of RSE, JIN and KAPE. The rationalization of energy consumption can represent an opportunity for the industrial system to reduce costs in the production process and the competitiveness gaps, but requires a stable regulatory framework, a

strategy of incentives covering medium-long period (i.e. white certificates, tax deductions) and structural co-funding to R&D (in coherence with EU strategy under this topic), a wide penetration on the market of technologies for energy savings, more integration of the

environmental sustainability policies with those for energy purpose (efficiency and renewables) and an easy access to credit with ad hoc solutions. All these items will be analyzed during the validation steps under EU-MERCI.

### **Webinar EU-MERCI on energy efficiency implementation in national target industries**

It will take place in autumn the webinar EU-MERCI: "*Energy Efficiency Implementation in National targeted industries: approach for "Good Practices"*".

During the web appointment, EU-MERCI partners will illustrate sector-specific analysis of trends and needs of efficiency in the most energy intensive sectors, with presentation of related "Good Practices" of efficiency projects selected by EU-MERCI.

It is targeted to National Sector specific Industry Associations and Companies.



[www.eumerci.eu](http://www.eumerci.eu)

### **SAVE-THE-DATE 8 November 2017: EU-MERCI international workshop at Ecomondo Key Energy Rimini Fair**

It is announced that the international validation of the "Good Practices" will be also part of a European workshop on EU-MERCI progresses at Ecomondo Key Energy Fair in Rimini. The conference will outline the main project results and some "Good Practices" and is aimed at food business operators and energy managers and other operators (eg. ESCO, consultants, etc.) who will be involved and will also be required to provide a "validation " of proposed "Good Practices".

[www.keyenergy.it](http://www.keyenergy.it)

## Follow EU-MERCI



## Events and milestones

- Did not you follow the webinar Energy efficiency implementation in industries: the EU-MERCI approach to “Good Practices” for multi-sector companies? [Here are the proceedings!](#)

[www.eumerci.eu](http://www.eumerci.eu)



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