



EU-MERCI FINAL CONFERENCE

*“The result of the validation
in the agrifood industry”*

Maurizio Notarfonso
FEDERALIMENTARE



London, 23 January 2018

AGENDA

1. **THE SPOT OF ENERGY EFFICIENCY WITHIN THE FOOD&DRINK INDUSTRY ACTIONS**
2. **THE ROLE OF SPES AND THE VALIDATION STRATEGY BUILT UNDER EU-MERCI**
3. **EXTRACTION OF SOME HINTS AND GENERAL CONCLUSIONS**

EUROPEAN FOOD AND DRINK INDUSTRY

Basic figures

- Turnover of 1048 billion €
The first food industry worldwide, first manufacturing sector in EU (14,6%), followed by mechanical and chemical sectors
- Number of employees 4,2 millions
First sector in EU eper number of operators (15,5%), followed by mechanical
- 286.000 companies (99% are SMEs)
highly diversified sector
- Export 86,2 billion €
- Importx 63,2 billion €

SUSTAINABLE FOOD CHAIN DEVELOPMENT: 4 STRATEGIC AREAS OF COMMITMENT

1. Prevention from generation of food losses and food waste.

By-products are valorised for a variety of purposes:

Production of animal fodder (each year, around 85 million tonnes are used to make fodder in the EU);
Production of bioenergy forms;
Production of food ingredients,
Cosmetic and pharmaceutical industry;
Production of fertilisers.

2. The amount of water used in production processes has been halved, improving efficiency without compromising the strict hygiene standards imposed by the EU.

- The water consumed by the food industry fell by around 30-40% between the Nineties and today



3. Energy efficiency has been pursued (-20% in 10 years) as a crucial force for driving industrial competitiveness, but also -and above all- as a factor for reducing greenhouse gases (-30%).

The consumption of electricity which can be attributed to the sector totals around 8% of electricity used for industrial purposes in OECD Countries and 1.5% of overall energy consumed in Europe, whilst the CO2 emissions attributed to the food Industry are estimated at around 1.5% of total greenhouse gas emissions in the EU 15.



3. Packaging has been optimised, cutting amounts of raw materials used (- 40% in 10 years).

- The food Industry alone uses 2/3 of product packaging, and dedicates considerable resources to preventing and reducing the environmental impact of packaging.
- It is dedicated to reducing the materials used for packaging, without sacrificing either the needs of consumers or the integrity, quality or safety of the products.



ENERGY EFFICIENCY IN THE FOOD & DRINK INDUSTRY: MAIN FEATURES



- ✓ Food & Drink industry – except some *energy intensive* sectors – has environmental impacts relatively low in terms of energy consumption and GHG emissions
- ✓ At the same time, energy is one of the main inputs both in the food processing lines and in the agricultural raw materials production
- ✓ The Food industry is suffering higher cost of domestic energy bills than those of major competitors
- ✓ Also in the food & drink industry the good exploitation of potential energy savings combines the environmental targets and the economic sustainability with the mission to reduce the impact of the food-chain

ENERGY EFFICIENCY: THE ACTIONS OF THE FOOD INDUSTRY



The fields of action to increase the energy efficiency concern:

- ✓ diffusion of BAT 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.



OUR MISSION: EUROPEAN FOOD SMEs

Spread European Safety
Gruppo Europeo di Interesse Economico

SPES GEIE is a European Economic Interest Grouping known as “Spread European Safety EEIG” composed by 12 Food and Drink Industries Federations.

More than 34.000 companies may be reached through results dissemination within SPES GEIE network

The Grouping was constituted 15 years ago to facilitate the participation of its members in activities to be carried out in the context of the EU Framework Programme (6th, 7th, Horizon 2020, ERASMUS +, LIFE) such as actions for technological research, development and demonstration as well as promotion and dissemination of research results in close collaboration with the National Technology Platforms Food For LIFE.



Spread European Safety
Gruppo Europeo di Interesse Economico

OUR...EU-MERCI NETWORK

- **France ANIA** – Association Nationale des Industries Alimentaires
- **Italy FEDERALIMENTARE** – Federazione Italiana dell'Industria Alimentare
- **Czech Republic FFDI** –Federation of the Food and Drink Industries
- **Austria LVA** – Lebensmittelversuchsanstalt
- **Spain FIAB** – Federación Española de la Alimentación y Bebidas
- **Portugal FIPA** – Federação das Indústrias Portuguesas Agro-Alimentares
- **Turkey SETBIR** – Union of Dairy, Meat, Food Industrialists and Manufacturers
- **Greece SEVT** – Federation of Hellenic Food Industries
- **Slovenia CCIS-CAFE** - Chamber of Commerce and Industry of Slovenia - Chamber of Agricultural and Food Enterprises

VALIDATION: WHAT?

- **Objectives**

The validation was one of the **three ways of knowledge transfer** from the ENABLERS to the STAKEHOLDERS.

- **Overall Implementation**

SPES as leader for this task organised 5 national workshops from June until to September 2017 in Portugal, Czech Republic, Turkey, France and Spain by involving the corresponding Federations of SPES (FIPA, FFDI, SETBIR, ANIA and FIAB).

- **Content**

The validation consisted of presenting the project, the information summarized in the GP factsheets and to evaluate their technical consistency by using the same format and set of criteria for the assessment

VALIDATION: WHY?

- **Precondition of meaning as “validation”?**

Generally “technical validation” in the industry begins from a “starting point n” which has to be analyzed by making evidence of the KPIs, then introducing a series of changes and finally analyze again it at “final time n+1” in order to do conclusions.

- **Find the right approach**

Thus in the case of EU-MERCI a different way of validation was decided. We did not carry out a validation in “real conditions” but we moved to “virtual conditions” simulating “scenarios” based on the GP factsheets provided as basic document for discussion.

VALIDATION: HOW?

- **Selection of experts**

Entrepreneurs, energy managers (working in the companies or external consultants), ESCOs, public body and private Agencies dealing with EE, banking operators have been invited to participate.

- **1st Phase: preliminary engagement of experts**

Experts have been provided prior with GP factsheets and the common “evaluation grid” document to be already prepared for the meeting

- **2nd Phase: running of validation national workshops**

Experts met and were guided in a “consensus meeting” where the GP have been discussed and the Evaluation Grids, duly filled in, were collected

VALIDATION: HOW?

- **3rd Phase: collection of post-event comments**

Experts were asked to revise their final evaluation grids and to include, if any, additional integrations after the meeting

- **Consolidation of minutes from national workshops**

National Federations SETBIR Turkey, ANIA France, FIPA Portugal, FFDI Czech Rep. and FIAB Spain reported their national minutes to Federalimentare (task leader)

- **Finalization of main conclusions**

Federalimentare finalised the deliverable with conclusions and recommendations

OUR VALIDATION PLAN

- **Selection of key experts**

...by end of May 2017

- **1st Phase: preliminary engagement of experts**

...by end of June 2017

- **2nd Phase: running of validation national round-table(s)**

...during July, August and September 2017

- **3rd Phase: collection of post-event comments**

...1-2^o week of October 2017

- **Consolidation of minutes from national round-tables**

...3-4^o week of October 2017

- **Organisation of Intermediate Conference**

....in Key Energy international Fair in Rimini 6 November 2017

- **Finalisation of D5.2 (Report on the validation...)**

...

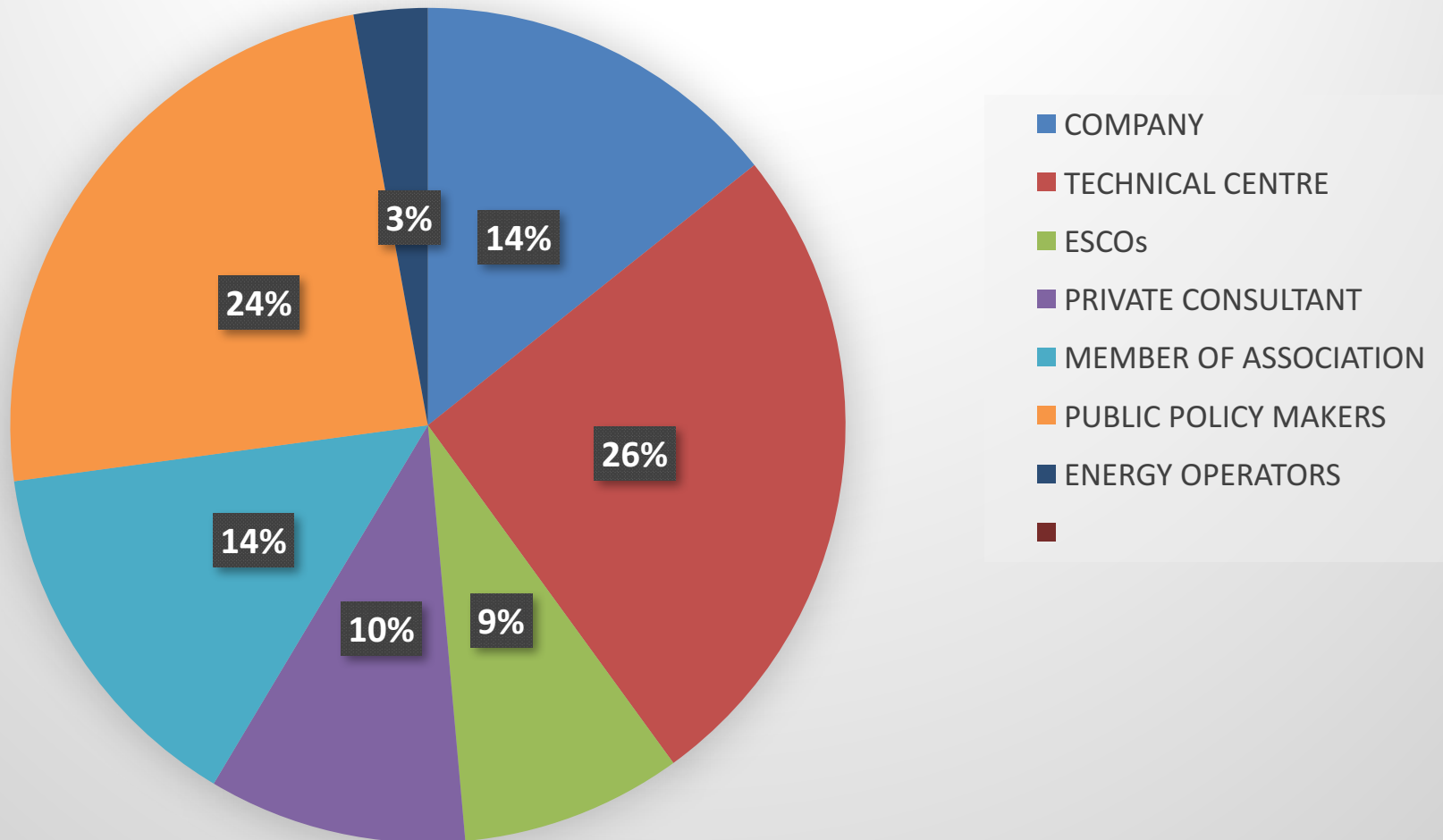
COMMON METHOD... HOMOGENEOUS RESULTS

EVALUATION CRITERIA

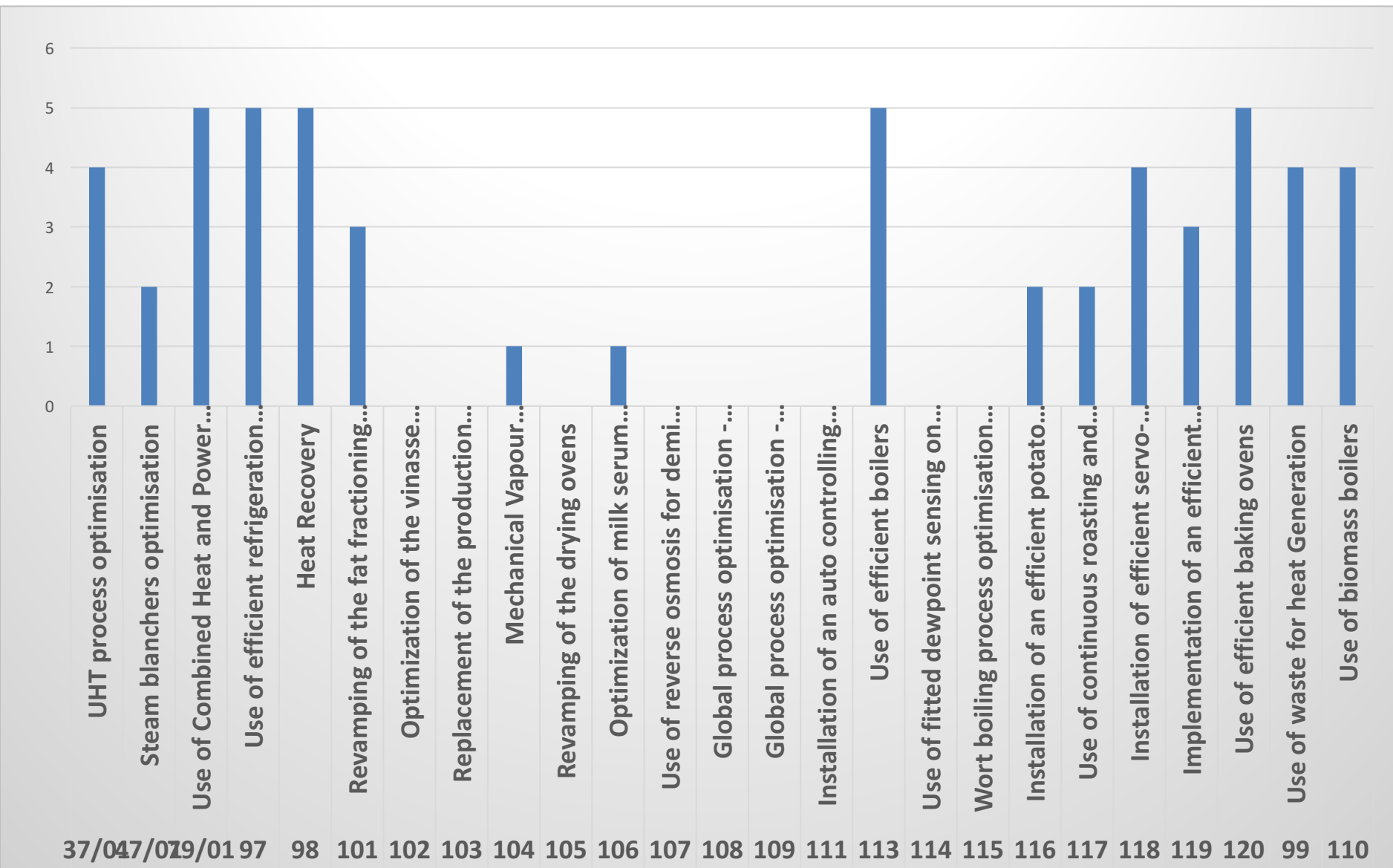
	Low	Moderate	High	No answer
TECHNOLOGY				
Level of technical consistency	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Easiness of performance monitoring	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Significance of the return of economic savings vs energy savings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Level of energy-saving measurements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FEASIBILITY				
Level of exportability to other sectors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Level of adaptability to SMEs context	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rate of acceptability of the solution by relevant people in the industry (ex. energy manager,...)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rate of organizational difficulties or complexity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Need of necessity of sophisticated controls and new competencies and skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Need to have ad hoc training on the use of the technology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SUSTAINABILITY				
Incidence of interventions costs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Incidence of pay-back times	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rate of bankability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Incidence on the better quality of the products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Incidence on productivity and competitiveness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
REGULATORY FRAMEWORK				
Legal applicability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Adequacy of policies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Difficulty in obtaining cofinancing & loans	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Opportunity and amount of subsidies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

It was necessary to choose a common way to assess the GP. The structure of the Evaluation Grid criteria was the following:

MAIN PROVENANCE OF STAKEHOLDERS



FOCUS OF GP VALIDATED



EVALUATION IN PROGRESS

97/01 Use of efficient refrigeration systems			TECHNOLOGY		FEASIBILITY				SUSTAINABILITY					REGULATORY FRAME		
			performance monitoring	referral existing measures existing	reproducibility in other operators	adaptability in SMEs	acceptability from manager in industry	organisational complexity	need for additional training	incidence on innovation needs	incidence on pay-back time	acceptability	incidence on better product quality	incidence on productivity and competitiveness	legal applicability and adequate policy	possibility to get funding
general questions	conventional procedures. If fully applied measures have impact	SPAIN	high	high	moderate	low	moderate	moderate	high	high	high	moderate	moderate	moderate	high	moderate
remarks	from Spain payback probably higher and technological level is moderate	TURKEY	high	moderate	moderate	moderate	moderate	moderate	moderate	high	n.a.	n.a.	n.a.	n.a.	moderate	moderate
		PORTUGAL	high	n.a.	high	moderate	moderate	moderate	high	high	n.a.	n.a.	n.a.	moderate	high	moderate
		FRANCE	high	low	high	high	moderate	moderate	high	high	moderate	moderate	low	moderate	high	moderate
		CZECH REPUBLIC	high	n.a.	high	moderate	moderate	moderate	high	high	n.a.	n.a.	n.a.	moderate	high	moderate
98 Heat Recovery			TECHNOLOGY		FEASIBILITY				SUSTAINABILITY					REGULATORY FRAME		
			performance monitoring	referral existing measures existing	reproducibility in other operators	adaptability in SMEs	acceptability from manager in industry	organisational complexity	need for additional training	incidence on innovation needs	incidence on pay-back time	acceptability	incidence on better product quality	incidence on productivity and competitiveness	legal applicability and adequate policy	possibility to get funding
general questions	measurement shall be applied in the industry at early stage when viable. The tech development is moderate. payback from 4 to 10 years; it should be systematised in all the processes. It is a conventional process that needs to be optimized in every potential technology	SPAIN	high	high	high	moderate	moderate	low	moderate	moderate	moderate	moderate	low	high	high	n.a.
remarks	trigeneration is promising cold and heat	TURKEY	high	moderate	moderate	moderate	n.a.	moderate	moderate	moderate	moderate	moderate	moderate	moderate	moderate	moderate
		PORTUGAL	high	n.a.	high	moderate	moderate	low	moderate	moderate	n.a.	n.a.	n.a.	moderate	high	n.a.
		FRANCE	high	low	high	moderate	low	low	low	moderate	moderate	moderate	moderate	moderate	high	low
		CZECH REPUBLIC	high	low	high	high	high	low	low	moderate	n.a.	n.a.	n.a.	moderate	high	n.a.
101 Revamping of the fat fractioning system			TECHNOLOGY		FEASIBILITY				SUSTAINABILITY					REGULATORY FRAME		
			performance monitoring	referral existing measures existing	reproducibility in other operators	adaptability in SMEs	acceptability from manager in industry	organisational complexity	need for additional training	incidence on innovation needs	incidence on pay-back time	acceptability	incidence on better product quality	incidence on productivity and competitiveness	legal applicability and adequate policy	possibility to get funding
general questions	savings are interesting but investment too high	SPAIN	moderate	low	moderate	low	moderate	low	high	high	high	low	moderate	moderate	high	low
remarks	not applicable in lot of companies	TURKEY														
	moderate payback	PORTUGAL	moderate	n.a.	low	low	n.a.	moderate	high	moderate	n.a.	n.a.	high	high	high	n.a.
		FRANCE														
		CZECH REPUBLIC	moderate	n.a.	moderate	moderate	n.a.	moderate	moderate	moderate	n.a.	n.a.	high	n.a.	high	n.a.

...SOME RANKINGS

TOP 3 GP more exportable to other sectors

- Use of Combined Heat and Power generation (CHP)
- Use of efficient refrigeration systems
- Heat recovery

TOP 3 GP more exportable to SMEs

- Use of efficient boilers
- Use of efficient baking ovens
- Installation of efficient servo-electric molding machine

...SOME RANKINGS

TOP 3 GP with more impact on product quality

- Installation of efficient servo-electric molding machine
- Revamping of the fat fractioning system
- Steam blanchers optimisation

Higher incidence of intervention costs: TOP 5 GP

- Use of efficient refrigeration systems
- Use of combined heat and power generation (CHP)
- UHT process optimisation
- Use of waste for heat generation

...GP FACTSHEETS VS VALIDATION FINDINGS

- Stakeholders had a different indication on the payback time
- Stakeholders commented too high investment costs as a weak point
- Stakeholders indicated, if any, the existence of national tax credit or restrictive measures at national level
- Stakeholders proposed or indicated other GP not described by the available factsheets

...GP MORE APPRECIATED

- **Use of biomass boilers**
- **Use of waste for heat generation**
 - **Use of efficient boilers**

GENERAL CONCLUSIONS

- Energy related production costs reduced
- Competitiveness and profitability improved
- Risk exposure to energy prices and security of supply better managed
- Company greenhouse gas emissions reduced
- Environmental footprint and public image of the company improved in a cost effective way
- Heat destroys enzymes and microorganisms; removes water further prohibiting microorganisms growth; improves quality and added value of food products
- Chill slows down and Freeze halts completely growth of microorganisms since raw materials, intermediate and final products need to be moved around the plant for the production process
- Lighting increases personnel productivity.



THE IMPORTANCE TO HAVE A CLEAR FRAMEWORK



The rationalization of energy consumption can represent an opportunity for the industrial system in order 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)*
- *facilitating access to credit with ad hoc solutions*

The «culture» of the energy efficiency and the barriers

■ Obstacles to the EE approach

- ✓ *Lack of knowledge of the opportunities and already existing tools*
- ✓ *Failure of perception of the EE actions as a priority*
- ✓ “*distrust*” with respect to the plurality of technical options
- ✓ *Resistance* to make investments of which there is no immediate perception of their concrete return

■ Useful initiatives to overcome such bottlenecks

- ✓ To draw Guidelines for the evaluation and the monitoring of the results (benefits) achieved
- ✓ To promote *energy audits* as useful tool (also on a voluntary basis) to realize the diagnosis and the planning of the measures
- ✓ *spread* the knowledge on EE (information/experience)



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Thank you
for your kind attention

EU-MERCI

**Results from the validation of the
“Good Practices”
by industrial stakeholders in Romania**

Grig Moldoveanu, ENERO

- 1.A brief analyse of the “good practices” process validation in Romania
- 2.Romanian stakeholders
- 3.Validation of Good Practices

1. A brief analyse of the “good practices” process validation in Romania

Romania is following the EU legislation in the field of Energy Efficiency (e.g. energy audits in industry are mandatory)	Fulfilment of EE targets is partially due by a decreasing/restructured industrial production
Companies pay more and more attention to the energy efficiency as part of their competitiveness. Absorption of EU funds.	The EE investment projects don't get enough subsidies/resources. ESCO market and regulatory framework not very well developed



2. Romanian stakeholders

Key efforts oriented:

-to involve in the project the most relevant bodies

- *ANRE – The Romanian Energy Regulatory Authority*
- *Known professional bodies: Romanian Renewable Industry Association (SUNE), Romanian Ownership Association for the Industries Electrotechnics, Electronic, Telecommunications and IT (APREL), The Association of Auditors and Energy Managers from Romania (SAMER)*

- to develop a large data base with stakeholders interested in industry EE to whom address info on the project results

Acest proiect a primit finantare de la Proiectul de Cercetare si Inovare al Uniunii Europene – Orizont 2020 in cadrul acordului de finantare nr. 693845

2. Romanian stakeholders: involvement of the Regulatory body in EE

www.anre.ro/ro/presa/comunicate/seminar-privind-eficienta-energetica-in-industrie

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ENERGIE ELECTRICĂ GAZE NATURALE EFICIENȚĂ ENERGETICĂ INFO CONSUMATORI RO EN

Quă în site

Acasă : Presă : Comunicate : Seminar privind EFICIENȚA ENERGETICĂ ÎN INDUSTRIE Caută

Seminar privind EFICIENȚA ENERGETICĂ ÎN INDUSTRIE

23 August 2017

Seminar privind EFICIENȚA ENERGETICĂ ÎN INDUSTRIE

Seminarul este organizat de ANRE împreună cu Centrul pentru Promovarea Energiei Curate și Eficiente în România – ENERO și va avea loc în data **4 octombrie 2017, începând cu ora 9.00**, în București, Clădirea Uzine Export (Mezanin), Sala Jade, Bd. Iancu de Hunedoara nr. 8, sector 1, București (Piața Victoriei, vis-a-vis de Guvern).

Obiectivul seminarului este de a prezenta aspectele actuale privind eficiența energiei în industrie și de a face cunoscute rezultatele proiectului european „Metode și proceduri coordonate la nivelul Uniunii Europene bazate pe cazuri reale pentru implementarea efectivă a politicilor și măsurilor suport privind eficiența energetică în industrie”, acronim **EU-MERCI**.

Fișiere atașate

Invitație Seminar EFICIENȚA ENERGETICĂ ÎN INDUSTRIE Download

Agenda Seminarului Download

0800800410

Linie telefonică gratuită dedicată informării consumatorilor cu privire la schimbarea furnizorului de energie electrică/gaze naturale

Program:
Luni - Joi: 08:00-18:30
Vineri: 08:00-14:00

INFORMAȚII DE INTERES PUBLIC

Energie electrică
Gaze naturale
Eficiența energetică

Informații consumatori de gaze naturale
Informații consumatori de energie electrică

DOCUMENTE RECENTE



AUTORITATEA NAȚIONALĂ DE REGLEMENTARE
ÎN DOMENIUL ENERGIEI

DEPARTAMENTUL PENTRU EFICIENȚĂ ENERGETICĂ



Directia Generală Autorizare, Cooperare și Monitorizare în Domeniul Eficienței Energetice

Nr. 4738J/5.07.2016

Către ENERO,

Domnului Cristian Tintareanu
Director Executiv

Stimate Domnule Director,

Vă mulțumim pentru materialul trimis privind cele două proiecte din programul Orizont 2020, apreciem implicarea organizației dvs. în domeniul eficienței energetice și vă asigurăm de întreaga noastră disponibilitate privind continuarea colaborării noastre pe cele trei teme de interes comun:

- Organizare seminarii dedicate Managerilor energetici

Pe parcursul anului 2016 ANRE a organizat diverse astfel de seminarii unde au fost invitați pe lângă manageri energetici autorizați și companii de consultanță, auditori energetici, companii care furnizează echipamente de eficiență energetică, experți în utilizarea fondurilor europene și alte surse de finanțare, care pot oferi soluții și asistență în realizarea programelor de îmbunătățire a eficienței energetice.

- Comunicarea cu Managerii energetici

ANRE este în permanentă legătură cu managerii energetici având în vedere obligația acestora de a completa Declarația de consum total anual de energie și Chestionarul de analiză energetică a consumatorului de energie

- Participarea ANRE în calitate de stakeholder la seminariile din cadrul celor două proiecte EU-MERCI și START2ACT

Cu stimă,



Director General
Corneliu RADULESCU

Sir. Constantin Năcu nr. 3, sector 2, București, cod 060045, telefon 021/311 39.44, fax 021/312 43.65, mail: anre@anre.ro

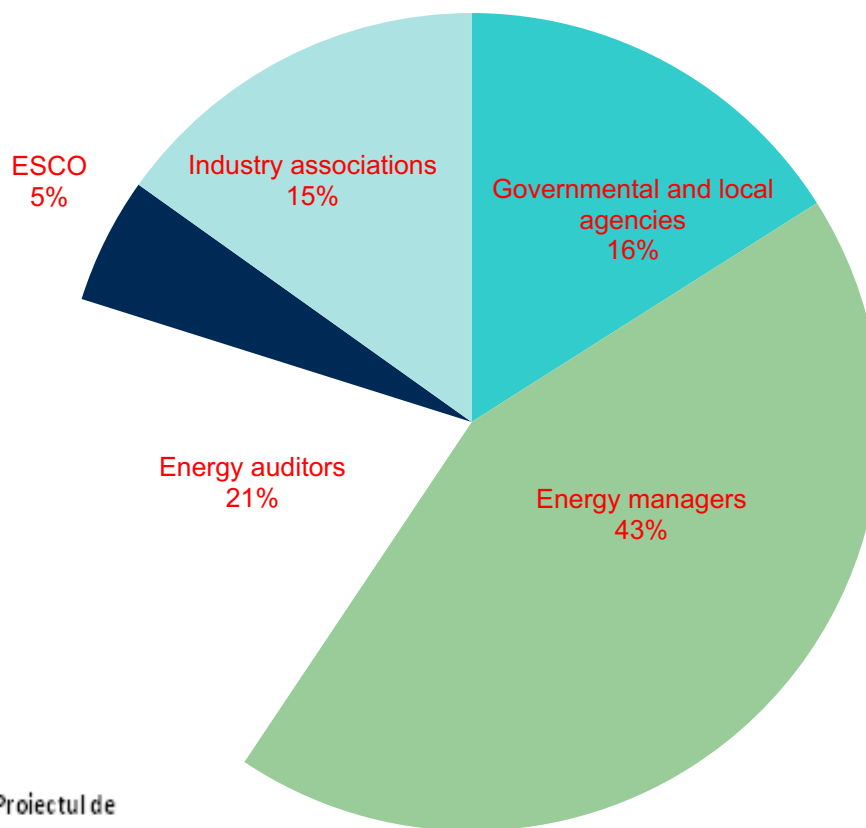
Acest proiect a primit finanțare de la Proiectul de Cercetare și Inovare al Uniunii Europene – Orizont 2020 în cadrul acordului de finanțare nr. 693845



2. Romanian stakeholders: data base

Research
and
building a
large
database
with
Romanian
players:

>500 addresses



Acest proiect a primit finanțare de la Proiectul de Cercetare și Inovare al Uniunii Europene – Orizont 2020 în cadrul acordului de finanțare nr. 693845

3. Validation of Good Practices

- 2 webinars (totaling over 50 participants)
- 1 national workshop in collaboration with ANRE: **60**

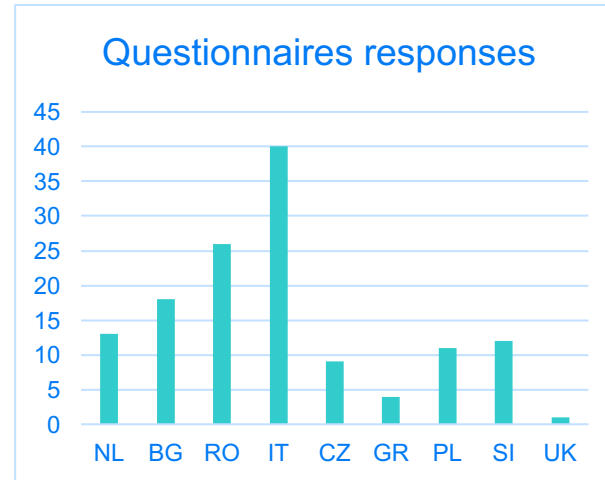
participants



- December 2017): Newsletters to >500 addresses

Good response rate on Questionnaires

2 papers in the Energy Messenger magazine, a well known magazine issued by NRC-WEC (National Romanian Committee – World Energy Council) and distributed to 900 readers



Acest proiect a primit finantare de la Proiectul de Cercetare si Inovare al Uniunii Europene – Orizont 2020 in cadrul acordului de finantare nr. 693845

Thank you for your attention:

Grig Moldoveanu (**ENERO**)

Mail: grig.moldoveanu@enero.ro

Tel: (+4) 021.665.26.05