

# SPEEDIER

## SME PROGRAM FOR ENERGY EFFICIENCY THROUGH DELIVERY AND IMPLEMENTATION OF ENERGY AUDITS

### D4.6 – REVISED TRAINING CONTENT FOR SPEEDIER EXPERTS AND SPEEDIER TRAINERS

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## ABBREVIATIONS

ECM	Energy Conservation Measure.
SME	Small Medium sized Enterprise.
WP2	Literature review and needs analysis.
WP3	Needs and opportunities for SMEs.
WP4	Development of content for SPEEDIER Training material.
WP5	Implementation of SPEEDIER Service in SMEs and large enterprises in 4 pilot regions.
WP6	Training of SPEEDIER Experts and future Trainers on SPEEDIER guidelines.

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# 1 Executive summary

## 1.1 Introduction

SPEEDIER ([www.speedierproject.eu](http://www.speedierproject.eu)) is a highly innovative *one-stop-shop solution* that applies an integrated approach to energy management, providing information, advice, capacity building, energy auditing, financing, as well as implementation of energy efficiency solutions and monitoring of impacts. Work Package 4, which is led by partner Limerick Institute of Technology (LIT), aims to develop the content for the training materials that will be used by the SPEEDIER Experts to deliver the SPEEDIER Service for SMEs, initially in each of the pilot regions (i.e., Spain, Italy, Romania, Ireland). In order to verify the effectiveness of this training, the SPEEDIER team is also developing a number of indicators that show whether or not the implemented training has been successful.

## 1.2 Purpose of the document

In Work Package 2 (WP2), the current state of the energy assessment market for Small and Medium Enterprises (SMEs) was determined through a combination of online surveys, focus group discussions and desk-based research. This provided intelligence on the main barriers that prevent SMEs from undertaking energy assessments and implementing energy efficiency measures in each of the pilot countries. In WP3, the type of SMEs that will be targeted in each pilot region and the Energy Conservation Measures (ECMs) that could be suitable for businesses and buildings of different types were categorized. However, in WP4, the key steps in the SPEEDIER Service have been identified. To this extent, the Service definition and its characteristics ensure that the format of the SPEEDIER Service removes the barriers that were identified in WP2 and captures the key recommendations that were made in Deliverable (D2.5) - Recommendations for the SPEEDIER Service.

The objective of WP4 is the development of content for SPEEDIER training materials. This Deliverable, D4.6, is the revised training content of Deliverable D4.5 (Draft training content) for knowledge transfer to the SPEEDIER Trainers and SPEEDIER Experts. The training material developed in this task will focus mainly on training SPEEDIER Experts on how to successfully implement the SPEEDIER Service, why the topics of energy management and energy efficiency are relevant for SMEs, case studies and use of interactive tools.

Trainers will already have undertaken the SPEEDIER Expert Training, so the content of the training for SPEEDIER Trainers will focus also on how to deliver the SPEEDIER Expert Training using pedagogical methods and techniques.

Section 2 of this document identifies the training topics that have been chosen to properly prepare the SPEEDIER Experts for the implementation of the SPEEDIER Service and to enable SPEEDIER Trainers to effectively train future SPEEDIER Experts.

Section 3 provides a recap on the SPEEDIER Service Definition (D4.1), showing the 5-stage process to be implemented by the SPEEDIER Expert.

Section 4 takes individually the first 7 training topics, targeted at both SPEEDIER Trainers and SPEEDIER Experts, and defines the expected learning outcomes and training structure & content to be used.

## 2 Training topics

In this context, six training content topics have been chosen and will be delivered to the SPEEDIER Experts and Trainers:

1. Introduction to Energy Efficiency
2. Energy efficiency technologies
3. Regulatory framework
4. Energy efficiency value chain
5. Energy Service Companies (ESCO)
6. Sustainability
7. Funding Options for Energy Efficiency in the 4 pilot countries.

Moreover, the second training event will include 3 more sessions (described in other deliverables) dealing with:

- SPEEDIER Energy Expert support tool
- SPEEDIER Mobile App
- SPEEDIER Impact analysis.

The training delivered to the SPEEDIER Experts in these stages will help the SPEEDIER Expert to deliver and spread the SPEEDIER Service. In particular, the role of the SPEEDIER Expert is key to the coordinated delivery of the most appropriate interactions with the SMEs, which generally do not place energy efficiency at the top of their list of priorities.

The role of SPEEDIER Trainers is also key to the undertaking. SPEEDIER Trainers will be expected to continue to train further SPEEDIER Experts after the end of the project. Indeed, the SPEEDIER Trainer oversees effectively delivering to the SPEEDIER Experts competences related not only to the energy assessment market but also to the implementation of the SPEEDIER Service. Consequently, one training topic in addition to the six previously mentioned, will be delivered solely to the SPEEDIER Trainers to train them on how to effectively deliver the content material to SPEEDIER Experts once the project is finished:

- “Education kit”: some teaching notes on the communication skills that help in manage and therefore replicate the train-the-trainer program for SPEEDIER.

## 3 SPEEDIER Service

The SPEEDIER Service brings together several facets of the energy efficiency agenda for delivery to individual SMEs under the supervision of the SPEEDIER Expert. Other project deliverables deal with topics such as the SPEEDIER Tool, the SPEEDIER Mobile App and SPEEDIER financing contracting options.

SPEEDIER is an innovative one-stop-shop service that takes an integrated approach to energy management. SMEs will outsource the energy management of their business to a SPEEDIER Expert who should provide information, advice, energy auditing and assistance to implement energy efficiency solutions. Moreover, SPEEDIER follows a self-financing mechanism. Indeed, savings from low-cost measures can be ring-fenced and reinvested in medium cost measures and, in turn, in higher cost measures.

Therefore, a fundamental aspect of the SPEEDIER Service is that it removes the hassle from energy management and ensures the SME receives tailored advice that suits their business.

Following, the description of the 5 main steps of the SPEEDIER Service: Engage, Identify, Implement, Review and Repeat.

### 3.1 SPEEDIER Service Definition – Recap

Step	Speedier Service Activity	Activity definition
1	Engage	<ul style="list-style-type: none"> <li>• SPEEDIER Expert contacts the SME directly to advertise the service.</li> <li>• Presentations at public events attended by SMEs.</li> <li>• Adverts in trade and professional publications.</li> <li>• Social media posts by SPEEDIER account and partners.</li> <li>• Promotion of the wider benefits of energy assessment and energy management.</li> <li>• Introduce the idea of <i>ring-fencing savings</i> and <i>making provision in budgets</i> for spending on energy projects. Introduce concept of a staged energy assessment process so that the SME doesn't feel they are entering into a very big commitment. Breaking the process into stages that allows them to take the initial step forward, implement what they are comfortable with, then review before deciding whether or not they wish to take another step in the process.</li> <li>• <u>Obtain commitment</u> from senior management at this stage. If possible, SME could nominate an employee to take on the role of SPEEDIER Champion, a person with in-depth knowledge of the business. With guidance from the SPEEDIER Expert, the champion would lessen the workload of the Expert and thus, the cost to the SME. The champion could perform tasks such as gathering data on energy consumption, provide a register of equipment, organize training events and manage the implementation of ECMs.</li> <li>• SPEEDIER Expert provides SME with quotation for initial site visit.</li> </ul>

2	Identify	<ul style="list-style-type: none"> <li>• Typically, a one-day site visit by the SPEEDIER Expert.</li> <li>• Prior to the visit, the SME (via the SPEEDIER champion if one has been nominated) is requested to assemble all energy related bills.</li> <li>• On the day of the visit, the SME make key personnel available (e.g. SPEEDIER Champion) to assist the Expert to review bills, discuss business/production processes and energy uses.</li> <li>• Baselineing of energy consumption in accordance with best practice for energy assessment.</li> <li>• Gather the data outlined in D9.2 Impact Analysis methodology to ensure impact can be measured.</li> <li>• Using the SPEEDIER Tool for Experts, prepare a high-level list of ECMs.</li> <li>• Present and discuss the proposed energy saving and the cost saving for the second stage of energy assessment with decision making authority of the organization.</li> <li>• Decide on the next step of the SPEEDIER process and the next involvement of the SPEEDIER Expert – training/further analysis/ECM implementation.</li> <li>• Plan the implementation of next step including duration, monitoring requirements and reporting plan.</li> <li>• As required, the SPEEDIER Expert aids regarding the accessing of finance or government supports.</li> <li>• Expert provides quotation for involvement in next step (implementation and review).</li> </ul>
3	Implement	<ul style="list-style-type: none"> <li>• Expert and SME organize training or ECM implementation.</li> <li>• Training can be carried out by the SPEEDIER Expert or by others.</li> <li>• Expert to provide advice on ECM savings, monitoring and re-use of savings.</li> <li>• To maintain independence, Expert shall not be directly involved in the implementation of capital projects but will provide advice where necessary (e.g. reviewing quotes from suppliers and advising if they will achieve the predicted energy savings).</li> <li>• Expert shall be fully independent of any product or service used in the implementation of ECMs.</li> <li>• On conclusion of this phase, complete a report on the implementation, measured savings, commitment to re-invest savings, options for actions in the next phase of SPEEDIER activity.</li> </ul>
4	Review	<ul style="list-style-type: none"> <li>• SPEEDIER Expert meets with Decision makers to review progress and plan the next steps.</li> <li>• Explicit discussion about how savings will be ring-fenced.</li> <li>• Expert provides quotation for involvement in next step (implementation and review).</li> </ul>
5	Repeat	<ul style="list-style-type: none"> <li>• Repeat steps 2, 3 &amp; 4.</li> <li>• Continue to repeat this process moving through the list of ECMs from no- cost right through to high-cost.</li> <li>• Before each implementation/review cycle, the expert provides a quotation for their input indicating when payment is expected.</li> </ul>

## 4 Modules

This Section individually takes the first 7 training topics, targeted at both SPEEDIER Trainers and SPEEDIER Experts, and it defines the expected learning outcomes, training structure & content to be used and the typology of assessment that will be delivered after the training event. Moreover, the module regarding the Education Kit, which targets SPEEDIER Trainers, will be detailed with the same structure. The following modules have been chosen to properly describe the concepts, the importance and the opportunities related to the Energy Efficiency solutions, which SMEs should consider improving their energy consumption.

### 4.1 Introduction to Energy Efficiency

Training delivered to:	SPEEDIER Experts	SPEEDIER Trainers
<b>Learning Outcomes</b>	Understand: <ul style="list-style-type: none"> <li>• The concept of Energy Efficiency and Energy Conservation, which is at the basis of the ECMs.</li> <li>• Hard and soft benefits of Energy Efficiency and Energy Management.</li> <li>• Main barriers inhibiting the implementation of ECMs.</li> </ul>	Understand: <ul style="list-style-type: none"> <li>• The concept of Energy Efficiency and Energy Conservation, which is at the basis of the ECMs.</li> <li>• Hard and soft benefits of Energy Efficiency and Energy Management.</li> <li>• Main barriers inhibiting the implementation of ECMs.</li> </ul>
<b>Structure &amp; Content</b>	<p>The content will be delivered in a dedicated event through a slideshow presentation to both Experts and Trainers.</p> <p>The event will take place remotely due to the contingent pandemic situation.</p> <p>The training content will be available after the training event in the SPEEDIER website in four languages (i.e., English, Spanish, Romanian and Italian).</p>	<p>The content will be delivered in a dedicated event through a slideshow presentation to both Experts and Trainers.</p> <p>The event will take place remotely due to the contingent pandemic situation.</p> <p>The training content will be available after the training event in the SPEEDIER website in four languages (i.e., English, Spanish, Romanian and Italian).</p>
<b>Assessment</b>	<p>At the end of the training event, the Experts are asked to complete a questionnaire to assess their understanding and level of commitment.</p> <p>Multiple choice questions.</p>	<p>At the end of the training event, the Trainers are asked to complete a questionnaire to assess their understanding and level of commitment.</p> <p>Multiple choice questions.</p>

## 4.2 Energy efficiency technologies

Training delivered to:	SPEEDIER Experts	SPEEDIER Trainers
<b>Learning Outcomes</b>	Understand: <ul style="list-style-type: none"> <li>• Multiple solutions of Energy Efficiency technologies available both in the industrial process and in buildings.</li> <li>• Level of maturity of the technologies identifies.</li> <li>• Methodology to evaluate economic sustainability of the solutions identified (e.g., payback time, average cost of saved energy).</li> </ul>	Understand: <ul style="list-style-type: none"> <li>• Multiple solutions of Energy Efficiency technologies available both in the industrial process and in buildings.</li> <li>• Level of maturity of the technologies identifies.</li> <li>• Methodology to evaluate economic sustainability of the solutions identified (e.g., payback time, average cost of saved energy).</li> </ul>
<b>Structure &amp; Content</b>	<p>The content will be delivered in a dedicated event through a slideshow presentation to both Experts and Trainers.</p> <p>The event will take place remotely due to the contingent pandemic situation.</p> <p>The training content will be available after the training event in the SPEEDIER website in four languages (i.e., English, Spanish, Romanian and Italian).</p>	<p>The content will be delivered in a dedicated event through a slideshow presentation to both Experts and Trainers.</p> <p>The event will take place remotely due to the contingent pandemic situation.</p> <p>The training content will be available after the training event in the SPEEDIER website in four languages (i.e., English, Spanish, Romanian and Italian).</p>
<b>Assessment</b>	<p>At the end of the training event, the Experts are asked to complete a questionnaire to assess understanding and level of commitment.</p> <p>Multiple choice questions.</p>	<p>At the end of the training event, the Trainers are asked to complete a questionnaire to assess understanding and level of commitment.</p> <p>Multiple choice questions.</p>

### 4.3 Energy efficiency regulatory framework

Training delivered to:	SPEEDIER Experts	SPEEDIER Trainers
<b>Learning Outcomes</b>	Understand: <ul style="list-style-type: none"> <li>• The Energy Efficiency Directive</li> <li>• Certifications available for Companies, ESCo and Experts.</li> <li>• 2020 Targets in terms of Energy Efficiency. 2050 Roadmap towards a low carbon economy.</li> </ul>	Understand: <ul style="list-style-type: none"> <li>• The Energy Efficiency Directive</li> <li>• Certifications available for Companies, ESCo and Experts.</li> <li>• 2020 Targets in terms of Energy Efficiency. 2050 Roadmap towards a low carbon economy.</li> </ul>
<b>Structure &amp; Content</b>	<p>The content will be delivered in a dedicated event through a slideshow presentation to both Experts and Trainers.</p> <p>The event will take place remotely due to the contingent pandemic situation.</p> <p>The training content will be available after the training event in the SPEEDIER website in four languages (i.e., English, Spanish, Romanian and Italian).</p>	<p>The content will be delivered in a dedicated event through a slideshow presentation to both Experts and Trainers.</p> <p>The event will take place remotely due to the contingent pandemic situation.</p> <p>The training content will be available after the training event in the SPEEDIER website in four languages (i.e., English, Spanish, Romanian and Italian).</p>
<b>Assessment</b>	<p>At the end of the training event, the Experts are asked to complete a questionnaire to assess their understanding and level of commitment.</p> <p>Multiple choice questions.</p>	<p>At the end of the training event, the Trainers are asked to complete a questionnaire to assess their understanding and level of commitment.</p> <p>Multiple choice questions.</p>

## 4.4 Energy efficiency value chain

Training delivered to:	SPEEDIER Experts	SPEEDIER Trainers
<b>Learning Outcomes</b>	Understand: <ul style="list-style-type: none"> <li>• Main macro-phases of Energy Efficiency value chain.</li> <li>• The different type of firm involved and their specific role in Energy Efficiency value chain, considering different possible configurations.</li> </ul>	Understand: <ul style="list-style-type: none"> <li>• Main macro-phases of Energy Efficiency value chain. The different type of firm involved and their specific role in Energy Efficiency value chain, considering different possible configurations.</li> </ul>
<b>Structure &amp; Content</b>	<p>The content will be delivered in a dedicated event through a slideshow presentation to both Experts and Trainers.</p> <p>The event will take place remotely due to the contingent pandemic situation.</p> <p>The training content will be available after the training event in the SPEEDIER website in four languages (i.e., English, Spanish, Romanian and Italian).</p>	<p>The content will be delivered in a dedicated event through a slideshow presentation to both Experts and Trainers.</p> <p>The event will take place remotely due to the contingent pandemic situation.</p> <p>The training content will be available after the training event in the SPEEDIER website in four languages (i.e., English, Spanish, Romanian and Italian).</p>
<b>Assessment</b>	<p>At the end of the training event, the Experts are asked to complete a questionnaire to assess their understanding and level of commitment.</p> <p>Multiple choice questions.</p>	<p>At the end of the training event, the Trainers are asked to complete a questionnaire to assess their understanding and level of commitment.</p> <p>Multiple choice questions.</p>

## 4.5 Energy Service Companies (ESCO)

Training delivered to:	SPEEDIER Experts	SPEEDIER Trainers
<b>Learning Outcomes</b>	<p>Understand:</p> <ul style="list-style-type: none"> <li>• The role of Energy Service Companies (ESCO.)</li> <li>• The different phases of Energy Efficiency projects where ESCO are involved.</li> <li>• Phenomenon of M&amp;A deals involving ESCO.</li> </ul>	<p>Understand:</p> <ul style="list-style-type: none"> <li>• The role of Energy Service Companies (ESCO).</li> <li>• The different phases of Energy Efficiency projects where ESCO are involved.</li> <li>• Phenomenon of M&amp;A deals involving ESCO.</li> </ul>
<b>Structure &amp; Content</b>	<p>The content will be delivered in a dedicated event through a slideshow presentation to both Experts and Trainers.</p> <p>The event will take place remotely due to the contingent pandemic situation.</p> <p>The training content will be available after the training event in the SPEEDIER website in four languages (i.e., English, Spanish, Romanian and Italian).</p>	<p>The content will be delivered in a dedicated event through a slideshow presentation to both Experts and Trainers.</p> <p>The event will take place remotely due to the contingent pandemic situation.</p> <p>The training content will be available after the training event in the SPEEDIER website in four languages (i.e., English, Spanish, Romanian and Italian).</p>
<b>Assessment</b>	<p>At the end of the training event, the Experts are asked to complete a questionnaire to assess their understanding and level of commitment.</p> <p>Multiple choice questions.</p>	<p>At the end of the training event, the Trainers are asked to complete a questionnaire to assess their understanding and level of commitment.</p> <p>Multiple choice questions.</p>

## 4.6 Sustainability

Training delivered to:	SPEEDIER Experts	SPEEDIER Trainers
<b>Learning Outcomes</b>	<p>Understand:</p> <ul style="list-style-type: none"> <li>• The concept of Sustainability.</li> <li>• The three dimensions characterizing Sustainability: Economic, Environmental and Social.</li> <li>• The Sustainability milestones (e.g., Kyoto Protocol 1997, Paris Conference 2015, etc.)</li> <li>• The European Energy Policy including targets for Energy Efficiency.</li> </ul>	<p>Understand:</p> <ul style="list-style-type: none"> <li>• The concept of Sustainability.</li> <li>• The three dimensions characterizing Sustainability: Economic, Environmental and Social.</li> <li>• The Sustainability milestones (e.g., Kyoto Protocol 1997, Paris Conference 2015, etc.)</li> <li>• The European Energy Policy including targets for Energy Efficiency.</li> </ul>
<b>Structure &amp; Content</b>	<p>The content will be delivered in a dedicated event through a slideshow presentation to both Experts and Trainers.</p> <p>The event will take place remotely due to the contingent pandemic situation.</p> <p>The training content will be available after the training event in the SPEEDIER website in four languages (i.e., English, Spanish, Romanian and Italian).</p>	<p>The content will be delivered in a dedicated event through a slideshow presentation to both Experts and Trainers.</p> <p>The event will take place remotely due to the contingent pandemic situation.</p> <p>The training content will be available after the training event in the SPEEDIER website in four languages (i.e., English, Spanish, Romanian and Italian).</p>
<b>Assessment</b>	<p>At the end of the training event, the Experts are asked to complete a questionnaire to assess their understanding and level of commitment.</p> <p>Multiple choice questions.</p>	<p>At the end of the training event, the Trainers are asked to complete a questionnaire to assess their understanding and level of commitment.</p> <p>Multiple choice questions.</p>

## 4.7 Funding options

Training delivered to:	SPEEDIER Experts	SPEEDIER Trainers
<b>Learning Outcomes</b>	<p>Understand:</p> <ul style="list-style-type: none"> <li>Existing financing support in each country such as tax benefits, available public grants scheme, funding options, etc.</li> <li>The countries considered will be the 4 pilot countries, namely Ireland, Italy, Romania and Spain</li> </ul>	<p>Understand:</p> <ul style="list-style-type: none"> <li>Existing financing support in each country such as tax benefits, available public grants scheme, funding options, etc.</li> <li>The countries considered will be the 4 pilot countries, namely Ireland, Italy, Romania and Spain</li> </ul>
<b>Structure &amp; Content</b>	<p>The content will be delivered in a dedicated event through a slideshow presentation to both Experts and Trainers.</p> <p>The event will take place remotely due to the contingent pandemic situation.</p> <p>The training content will be available after the training event in the SPEEDIER website in four languages (i.e., English, Spanish, Romanian and Italian).</p>	<p>The content will be delivered in a dedicated event through a slideshow presentation to both Experts and Trainers.</p> <p>The event will take place remotely due to the contingent pandemic situation.</p> <p>The training content will be available after the training event in the SPEEDIER website in four languages (i.e., English, Spanish, Romanian and Italian).</p>
<b>Assessment</b>	<p>At the end of the training event, the Experts are asked to complete a questionnaire to assess their understanding and level of commitment.</p> <p>Multiple choice questions.</p>	<p>At the end of the training event, the Trainers are asked to complete a questionnaire to assess their understanding and level of commitment.</p> <p>Multiple choice questions.</p>

## 4.8 Education Kit

Training delivered to:	SPEEDIER Experts	SPEEDIER Trainers
<b>Learning Outcomes</b>	N/A	Understand: <ul style="list-style-type: none"> <li>• Effective communication characteristics.</li> <li>• Effective communication key skills.</li> <li>• Detailed description of main communication key skills.</li> </ul>
<b>Structure &amp; Content</b>	N/A	<p>The content will be delivered in a dedicated event through a slideshow presentation to both Experts and Trainers.</p> <p>The event will take place remotely due to the contingent pandemic situation.</p> <p>The training content will be available after the training event in the SPEEDIER website in four languages (i.e., English, Spanish, Romanian and Italian)</p>
<b>Assessment</b>	N/A	<p>At the end of the training event, the Trainers are asked to complete a questionnaire to assess their understanding and level of commitment.</p> <p>Multiple choice questions.</p>

## 5 Training sessions

With the First Training event (which ended in December 2020) a Second training session will be held under the activities performed for WP5 - Implementation of SPEEDIER Service in SMEs and large enterprises in 4 pilot regions.

During the second training session, the SPEEDIER partners will support the already trained SPEEDIER Trainers in delivering the training content to other SPEEDIER Experts.

The Gantt chart below (*Figure 1*) represents when the two training sessions will be held.

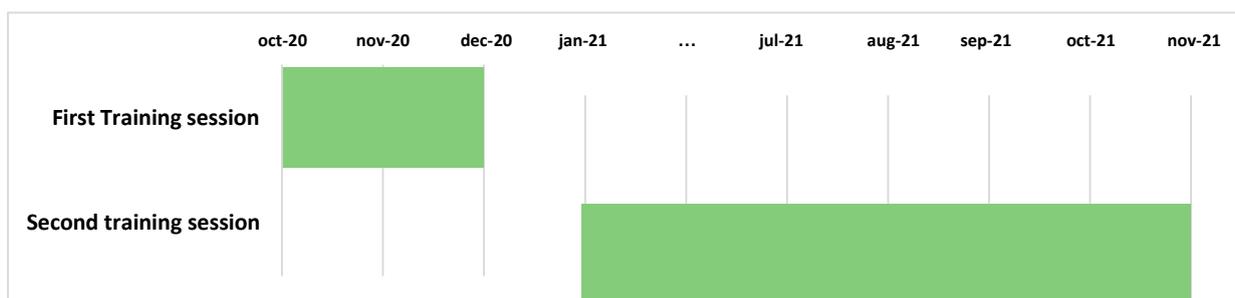


FIGURE 1 – TRAINING SESSIONS GANTT CHART

## 6 Conclusion

Energy efficiency has not been a priority for Irish, Romanian, Spanish and Italian SMEs to date. Indeed, previous research has identified several barriers to the implementation of energy efficiency measures in SMEs. Hence, there is a need to effectively explain the potential benefits for the implementation of energy efficiency measures to the staff and managers of SMEs. These benefits include both hard and soft benefits, such as the monetary savings that can be achieved from reducing site energy consumption, but also wider benefits such as higher employee productivity because of the improved working environment conditions and greater thermal comfort.

Consequently, Deliverable D4.6 points out the competences and the knowledge regarding Energy Efficiency that the SPEEDIER Expert and Trainers must develop and consolidate to effectively engage with both the staff and managers of SMEs in implementing the SPEEDIER Service and energy efficiency measures. These required competences vary and range from the typical barriers, drivers and technologies of energy efficiency in SMEs to the SPEEDIER tool functionality and usage.

The SPEEDIER Trainers need not to only master the energy efficiency barriers, drivers and benefits but also need to effectively deliver the training material to the SPEEDIER Expert with proper pedagogical methods and techniques, learning what are the most important communication skills and characteristics to be developed.

These key points are the focus of this training content for SPEEDIER Trainers and SPEEDIER Experts. This training material has been refined starting from some topics described into Deliverable D4.5 - Draft training content for SPEEDIER Experts and SPEEDIER Trainers.

## 7 Annex



# SPEEDIER

Training modules –  
**SESSION 3**

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## Agenda



- **Introduction to Energy Efficiency**
- Energy efficiency technologies
- Regulatory framework
- Energy efficiency value chain
- Energy Service Companies (ESCO)
- Sustainability



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## A definition of Energy Efficiency



- The “Energy efficiency” concept refers to the use of a lower amount of energy to provide the same service / achieve the same objective.
- It is different from “Energy conservation” concept, referred to the saving of energy as the consequence of people behaviour.

Examples:  
Turning off a light is energy conservation.  
Replacing an incandescent lamp with a LED one (which uses much less energy to produce the same amount of light) is energy efficiency.



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## The benefits of Energy Efficiency



- reducing dependence on foreign energy
- reducing dependence on fossil fuels
- emission reduction
- reducing energy bill
- creation of new jobs and new businesses

**«The cleanest energy is the saved one»**



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## The benefits of energy management



With the right energy culture and proper energy management, multiple benefits can be achieved by the company.

**Hard benefit**

- Benefits of quantitative nature

**Soft benefit**

- Benefits of a qualitative nature



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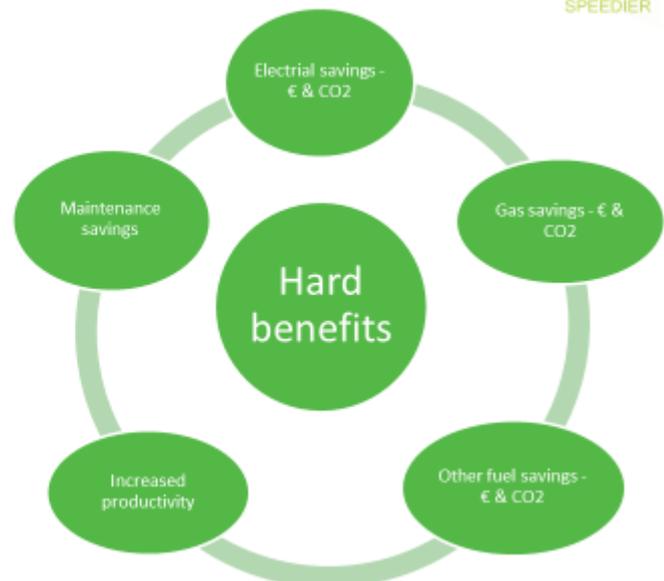
## The benefits of energy management

### Hard benefits



### Hard or quantitative benefits can help:

- Reduce operating costs and increase profitability.
- Justify investment which further aids hard and soft benefits.



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## The benefits of energy management

### Soft benefits



#### Soft or qualitative benefits can help:

- Company is seen to take action to reduce environmental impact.
- SPEEDIER participation/certification.
- Increased website visit length leading to increased sales.
- Improved working environment leading to improved productivity and happier staff.



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## Energy Efficiency: significant diffusion



Global energy saving worth at least \$310bn a year

A surge in LED lighting, cleaner car engines and smarter fridges round the world has helped create an energy saving market worth at least \$310bn a year, new figures suggest.

The greener products are also starting to have a measurable impact on the amount of energy used in many countries, according to a report by the International Energy Agency.



"Energy efficiency is moving from a niche interest to an established market segment," said IEA executive director, Maria van der Hoeven.

#### More

ON THIS TOPIC:  
FT View: China takes global climate change lead  
Diverses east coast of China

Among 18 countries studied in the report, including the US, Japan, Korea and the UK, final energy use fell 5 per cent between 2001 and 2011, mostly because of investments in energy efficiency.

Source: Financial Times



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## Energy Efficiency: significant diffusion



### GE spins up a new \$1 billion business to promote energy efficiency

GE plans to create a new business to help governments, industrial and utility clients become more energy efficient, according to GE ( **GE + 2.65%** ) CEO Jeff Immelt who is speaking at the conglomerate's Minds+Machines event in San Francisco. The business will start out will \$1 billion in revenue and will combine GE's existing Predix assets with available financing provided by the new company. The company, which currently doesn't have a name, will have an undisclosed amount in available capital for financing activities.

Source: Fortune



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## Energy Efficiency: barriers to EE diffusion



Barriers
Lack of finance / Bank support
Lack of time
Lack of knowledge
Low priority
Perceived risk
No control of building
Payback time
User awareness
Evolution of all the actors of the supply chain (including electricians, thermo-hydro operators who are often the «real» decision-makers)



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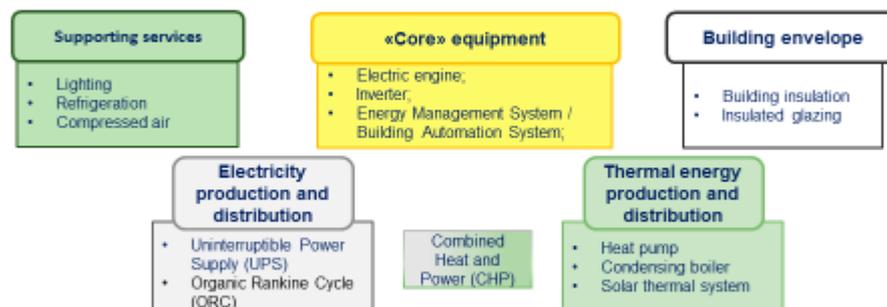


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## Technological solutions for energy efficiency in industrial process



- The "energy efficiency" concept refers to the use of a lower amount of energy to provide the same service / achieve the same objective.

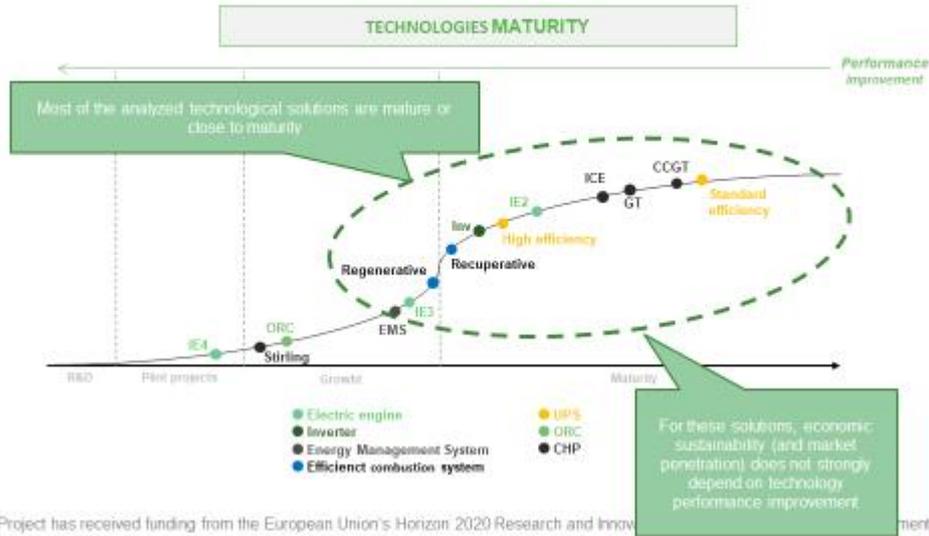


- Energy efficiency deals with technological substitution, i.e. the adoption of more efficient technological solutions which allow to reduce the energy consumption, but also to change behaviours that affects energy consumption.



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# Technological solutions for energy efficiency in industrial process



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# Why Energy efficiency in industry?



- Impact of energy costs on margins

Industry	Energy costs/ Sales		Energy costs/ EBITDA	
	2010	2007	2007	2010
Building Materials	8.2%	63%	220%	220%
Glass & Pottery	6.2%	38%	51%	51%
Metallurgy	5.9%	54%	204%	204%
Forestry & Paper	5.5%	63%	151%	151%
Chemical and petrochemical	2.2%	26%	27%	27%
Food & beverage	2.1%	26%	28%	28%
Textiles	1.9%	19%	36%	36%
Mechanical	1.3%	54%	204%	204%
Average	2.4%	24%	34%	34%

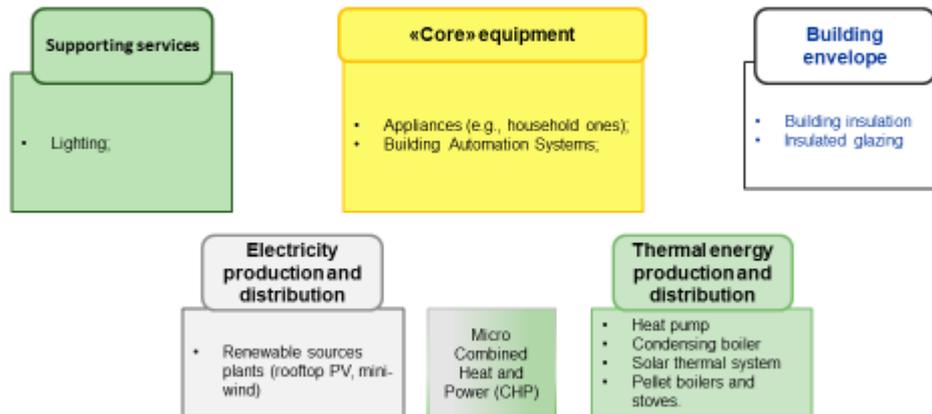
Source: IRISE, ISTAT

Energy cost reduction has relevant impact on margins  
 (-10% energy cost => + 2%+6% EBITDA)



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## Technological solutions for energy efficiency in buildings



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## The methodology to evaluate economic sustainability



### Scenario analysis:

- "Voluntary" replacement of still operating technology with a more efficient one => Investment = purchasing cost of the solution with greater efficiency
- "Forced" replacement of an end-of-life technology with a more efficient one => Investment = difference between the purchasing cost of technology with a greater efficiency and the traditional one

Scenario typically considered in industry, where the adoption of an efficient technology is typically considered when the previously deployed technology reaches the end of its useful life



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## The methodology to evaluate economic sustainability



To evaluate the economic sustainability of each solution, two different indicators are considered:

- Pay-Back Time (year)
  - With/without incentives

Typically taken into account by investors

Sector	Pay-Back Time threshold
Industrial	1-2 years
Tertiary	2-3,5 years
Residential	4-6 years

- Average cost of saved or produced energy (€cents/kWh)

It allows to evaluate the profitability of the investment throughout its lifetime

Sector	Electricity purchase cost from grid	Thermal energy production cost
Industrial	10 c€/kWh - 13 c€/kWh	4,7 c€/kWh
Tertiary	16 c€/kWh	7 c€/kWh
Residential	19 c€/kWh	9 c€/kWh



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## Example: electric engine («forced replacement»)



Data	Value
Electric engines stock	4.8 MW <sub>e</sub>
Yearly utilization	7,680 h
Efficiency of «IE2» electric engine	0.949
Efficiency of «IE3» electric engine	0.958
Electricity cost	0.10 €/kWh
Expected life	15 years
Investment cost of «IE3» electric engines	440,000 €
Investment cost of «IE2» electric engines	295,000 €
Maintenance cost	Unchanged

Year	0	1-5	6-15
Investment cost of «IE3» electric engines.	440,000	-	-
Investment cost of «IE2» electric engines	295,000	-	-
Δ Investment	145,000	-	-
Δ Amortization	-	9,636	9,636
Electric consumption with «IE3» engines.	-	3,848,017	3,848,017
Electric consumption with «IE2» engines.	-	3,884,510	3,884,510
White Certificates gained	-	13,888	-
Δ cash flows	-	50,381	36,493
Δ taxes (30%)	-	12,224	8,057
Net Cash Flow	-145,000	38,157	28,436
<b>Net Present Value</b>		<b>154,000</b>	
<b>Pay-Back Time</b>		<b>3.8</b>	
<b>Cost of saved kWh</b>		<b>0.026</b>	



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## Agenda



- Introduction to Energy Efficiency
- Energy efficiency technologies
- **Regulatory framework**
- Energy efficiency value chain
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- Sustainability



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## The Energy Efficiency Directive



The Directive indicates to Member State how to achieve the 20% target on energy efficiency in 2020.

The main aspects within the Directive are:

- to require energy distributors or retail energy sales companies to reduce their energy sales to businesses, industries and households of at least 1,5% per year;
- 3% of the total floor area of heated and/or cooled buildings owned and occupied by central governments is renovated each year;
- Member States shall establish a long-term strategy for mobilizing investment in the renovation of the national stock of residential and commercial buildings, both public and private;
- specific measures for energy audits and energy management systems involving large enterprises.



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## The Energy Efficiency Directive



Energy audits and Energy Management Systems	Big company	MS shall ensure that <b>enterprises that are not SMEs</b> are subject to an <b>energy audit</b> carried out in an <b>independent and cost-effective manner</b> by <b>qualified and/or accredited experts</b> or implemented and supervised by independent authorities under national legislation by 5 December 2015 and <b>at least every four years from the date of the previous energy audit.</b> (firms that are implementing a certified energy or environmental management system <b>shall be exempted from that Requirement</b> )
	SMEs	<ul style="list-style-type: none"> <li>MS shall develop programs to encourage SMEs to undergo energy audits and the subsequent implementation of the recommendations from these audits.</li> <li>MS may set up support schemes for SMEs to cover costs of an energy audit and of the implementation of highly cost-effective recommendations.</li> <li>Member States shall bring to the attention of SMEs concrete examples of how energy management systems could help their businesses.</li> </ul>



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## The Energy Efficiency Directive



Information availability	<ul style="list-style-type: none"> <li>MS shall promote the <b>public availability of a list of qualified energy service providers</b></li> <li>MS shall encourage the <b>provision of information to banks and other financial institutions on possibilities of participating in the financing of energy efficiency improvement measures</b></li> </ul>
Promotion of CHP	<ul style="list-style-type: none"> <li>Initiatives to spread the <b>diffusion of CHP</b></li> <li><b>cost-benefit analysis</b> in order to evaluate the thermal electricity plants (&gt; 20 MW) <b>upgrade to CHP plants</b></li> <li><b>cost-benefit analysis</b> in order to evaluate the feasibility of <b>utilising the waste heat to satisfy economically justified demand</b>, including through cogeneration, and of the connection of that installation to a district heating and cooling network</li> </ul>



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# Certifications



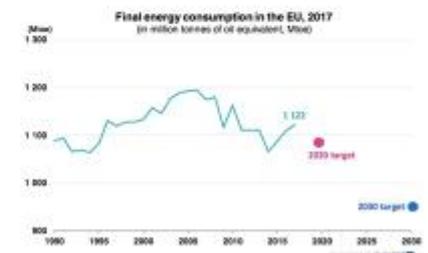
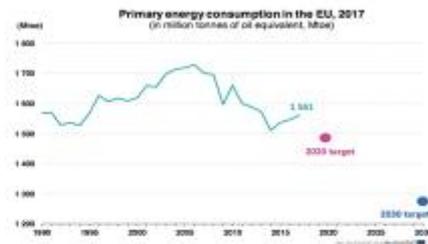
Subject	Certification	Description	Impact	Open Issues
Companies	ISO 50001	It specifies requirements for establishing, implementing, maintaining and improving an energy management system, whose purpose is to enable an organization to follow a systematic approach in achieving continual improvement of energy performance, including energy efficiency, energy use and consumption.	Direct access to incentives  "Signalling" effect towards customers, investors and stakeholders	Poor knowledge (especially among SMEs)
ESCo	UNI CEI 11352	It specifies requirements for Energy Service Companies: to provide an integrated energy efficiency service, to offer a contractual guarantee of energy efficiency improvement, to link the remuneration to energy savings achieved.	Access to incentives  "Signalling" effect towards customers, investors and stakeholders	Absence of public list of qualified ESCo by national authorities
Energy Management Expert («EME»)	UNI CEI 11339	It specifies general requirements for the qualification of Energy Management Experts. There are two type of certifications: industrial EGE and civil EGE	Energy managers have to be certified EME  "Sinergy" with qualified ESCo	

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# Energy efficiency and 2020 targets



- Europe is moving further and further away from the 2020 targets for energy efficiency. The latest statistics from Eurostat show that in 2017 (for the third year in a row) energy consumption has increased: about +1% compared to the previous twelve months.
- More in detail, primary energy consumption in the European Union rose to 1,561 million tons of oil equivalent (Mtoe) so a level 5.3% higher than the target set in 2020, as summarized in the chart below.
- While final energy consumption in the 28 Member States reached 1,122 Mtoe, +3.3% compared to the target set for 2020.



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## The 2050 Roadmap toward a low carbon economy



- The **2050 Roadmap** recommends an emission reduction objective of 80% by 2050 (below 1990 levels) through domestic measures:
  - 25% emission reduction in 2020
  - 40% emission reduction in 2030
  - 60% emission reduction in 2040
  - 80% emission reduction in 2050
- **Strengthening the ETS and improving energy efficiency** are the main tools to implement the Roadmap
- The European Commission has recently approved the targets to be achieved by 2030:
  - Renewable sources 32%
  - CO<sub>2</sub> reduction 40%
  - Energy Efficiency 32.5%



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## Agenda



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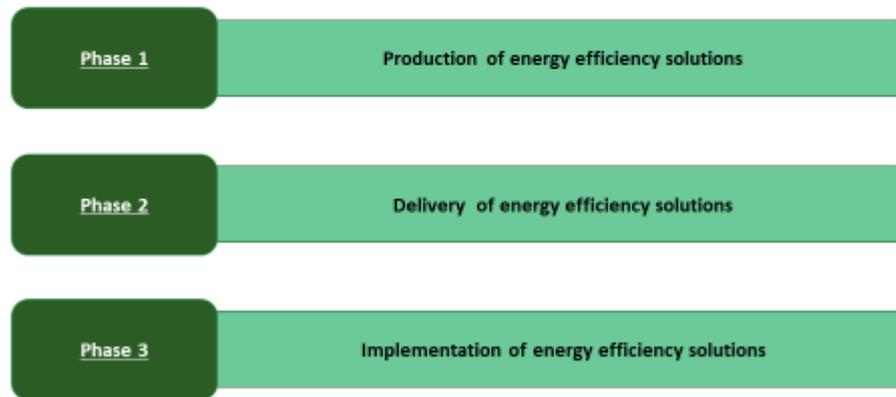


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## Energy Efficiency value chain: phases



- 3 macro-phases of Energy efficiency value chain



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## Energy Efficiency value chain: players involved

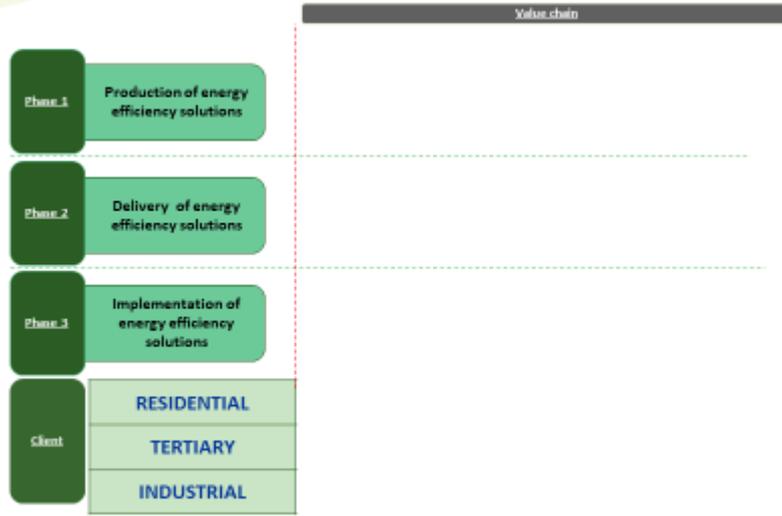


Type of firm	Description
OEM	Firms that produce energy efficiency equipment and solutions
Wholesalers (W)	Intermediary firms that deal with the distribution of energy efficiency solutions
Energy Service Companies (ESCO)	Firms in charge of the implementation and subsequent management of the energy efficiency, but without production capacity
Energy Efficiency Manufacturers (EEM)	Firms in charge of the implementation and subsequent management of the energy efficiency solutions, producing and supplying energy efficiency solutions as well



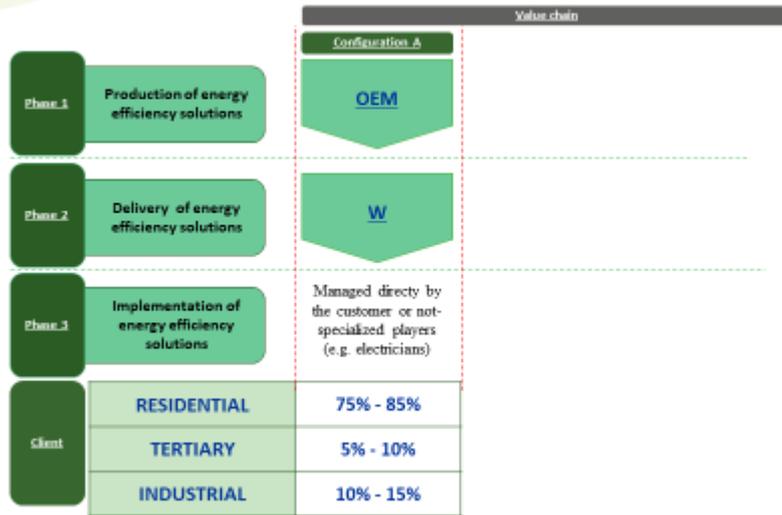
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# Energy Efficiency value chain: «typical» configurations



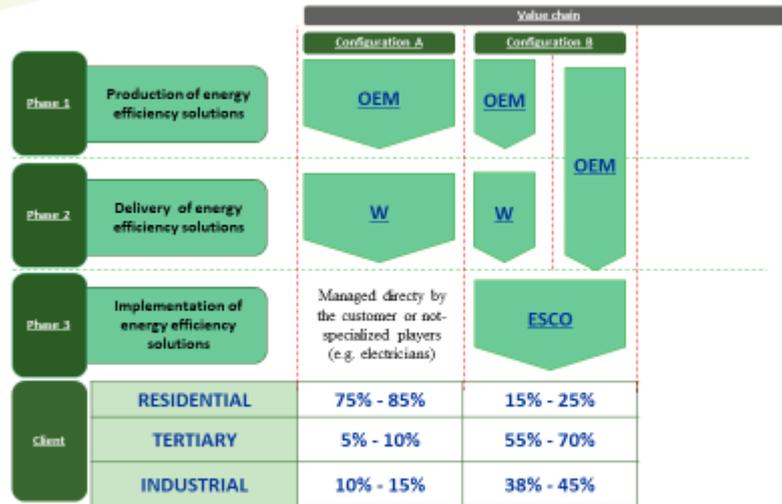
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# Energy Efficiency value chain: «typical» configurations



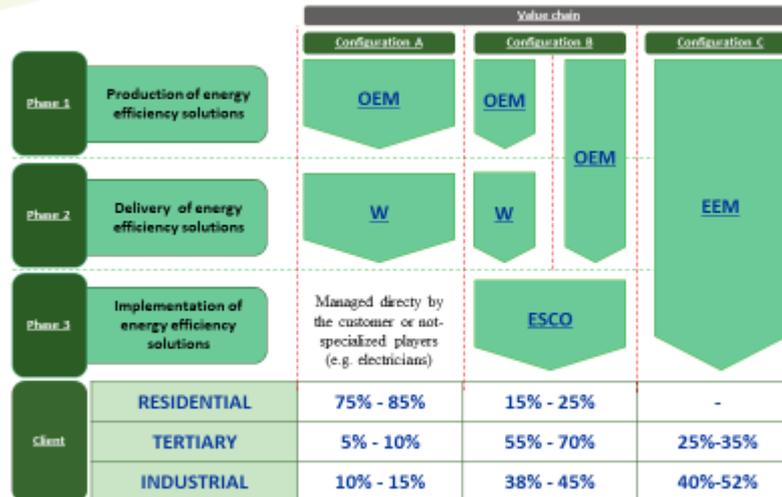
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# Energy Efficiency value chain: «typical» configurations



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# Energy Efficiency value chain: «typical» configurations



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## The ESCo: definition



- The Energy Service Company (ESCo) is:

*"a legal entity that delivers energy services and/or other energy efficiency improvement measures in a user's facility or premises, and accepts some degree of financial risk in so doing. The payment for the services delivered is based (either wholly or in part) on the achievement of energy efficiency improvements and on the meeting of the other agreed performance criteria"*

Directive 2006/32/EC of the European Parliament



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## The ESCo: definition



- There is a technical standard (UNI CEI 11352) that defines the general requirements and a checklist for the compliance of requirements of companies offering energy efficiency services with guaranteed results .
- The UNI CEI 11352 was first published on April 8<sup>th</sup>, 2010, identifying a set of requirements that an ESCo has to comply with in order to obtain the certification:
  - offer an "energy efficiency service," i.e. a service aimed at improving the energy efficiency of a system. This service should include the identification , selection and implementation of actions and verification of improvement for a period defined by the contract and through agreed methodologies;
  - offer an "integrated energy service ", i.e. covering all activities from energy audit to the design, implementation and control of the interventions
  - offer a "guarantee" of energy efficiency improvement
  - connect the payment of the services provided to the actual achieved savings.



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## Phases of an energy efficiency project and players involved



### Players (typically) involved:

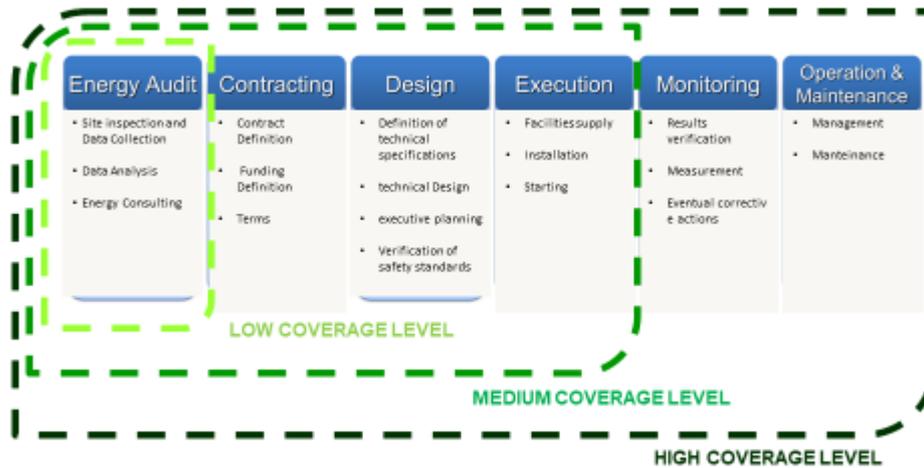
- Energy user
- Technology provider(s)
- ESCo
- Bank/Financial institution

Energy Audit	Contracting	Design	Execution	Monitoring	Operation & Maintenance
<ul style="list-style-type: none"> <li>• Site inspection and Data Collection</li> <li>• Data Analysis</li> <li>• Energy Consulting</li> </ul>	<ul style="list-style-type: none"> <li>• Contract Definition</li> <li>• Funding Definition</li> <li>• Terms</li> </ul>	<ul style="list-style-type: none"> <li>• Definition of technical specifications</li> <li>• technical Design</li> <li>• executive planning</li> <li>• Verification of safety standards</li> </ul>	<ul style="list-style-type: none"> <li>• Facilities supply</li> <li>• Installation</li> <li>• Start</li> </ul>	<ul style="list-style-type: none"> <li>• Results verification</li> <li>• Measurement</li> <li>• Eventual corrective actions</li> </ul>	<ul style="list-style-type: none"> <li>• Management</li> <li>• Maintenance</li> </ul>



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## ESCo: classification by activity



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## The problem of bankability



- The financial market fails to recognize the right premium to fund energy efficiency: the banking system does not have the ability to adequately assess the guarantees provided by the customer and is reluctant to grant agreements with small companies, substantially without significant asset
- The extreme variety of projects and the difficult and uncertain certification of savings actually achieved are the major barriers to the bankability of energy efficiency projects.
- The market must focus on these two points:
  - profitable energy efficiency projects presented by highly qualified ESCo
  - actual availability of banks to work from a financial standpoint to achieve them.

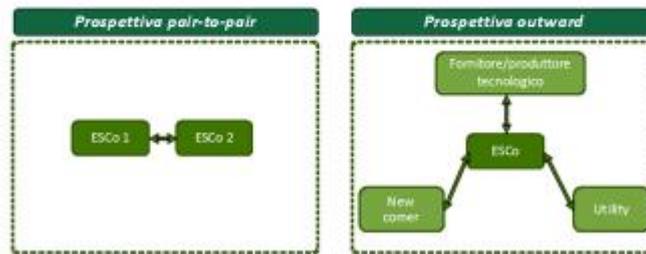


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## M&A deals involving ESCOs



- Two main perspectives:
  - «pair-to-pair»: an ESCo acquires another ESCo, to exploit synergies/compelemtarities (in terms of technical competences or market positioning),
  - «outward»: an ESCo is acquired by another company (e.g., OEM, utility o newcomers in the energy sector).



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# Sustainability



• "...development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

• (Brundtland commission, 1987)



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# Sustainability



## ECONOMIC dimension:

- enterprise level (financial stability, economic value, growth, R&D investments);
- country level (trade balance).

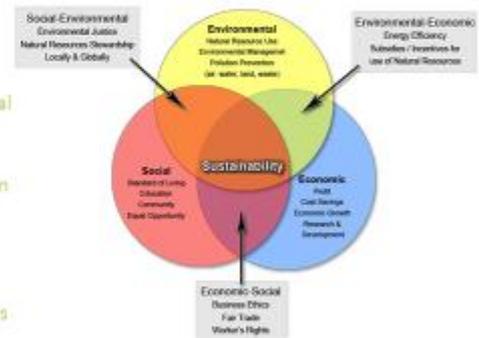
## SOCIAL dimension:

- enterprise level (inside - employees - and outside - local community, national and international level);
- country level (population control, orientation towards a policy that meets basic needs, focus on environmental issues in production activities, pollution control, reduction of non-renewable raw materials usage, price stability).

## ENVIRONMENTAL dimension:

- enterprise level (performance measurement systems on the use of resources by manufacturing activities based on "Impact Assessments" instruments);
- country level (key resources - air, water, land and mineral resources).

*The Three Spheres of Sustainability*



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## The Sustainability milestones



### 1972: ROME, CLUB "Development's Limits Report" (also known as "Meadows Report")

- Limited natural resources availability, especially oil, and limited capacity to absorb pollutants of the planet puts limits to Economic Growth.

### 1987: BRUNDTLAND COMMISSION, "Our Common Future"

- Concept of *sustainable development*:

"Sustainable development can only be pursued if population size and growth are in harmony with the changing productive potential of the ecosystem."

### 1992: RIO CONFERENCE on issues of United Nations Environment and Development, "Earth Summit"

- United Nations Framework Convention on Climate Change - entered into force March 24, 1994. Obligation for governments to pursue the non-binding target of reducing atmospheric concentrations of greenhouse gases.
- Agenda 21, Action Plan for Sustainable Development, to be implemented on a global, national and local levels with the widest possible involvement of all stakeholders in a particular territory. The adoption by Member States is **voluntary**.



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## The Sustainability milestones



### 1997: KYOTO PROTOCOL

#### Objective

(defined for the period 2008-2012)

**5.2% reduction of greenhouse gas emission** levels of 1990 by 2008-2012.  
For EU-15 countries there is a greater reduction of **8%** overall.



- In October 2009 there were 184 signatory nations. The United States signed, but refused to ratify the Paper



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## The Sustainability milestones



### 1997: KYOTO PROTOCOL

The Kyoto Protocol provides the use of market mechanisms, the so-called **Flexible Mechanisms** (strongly promoted by the United States). The objective of these methods is to **reduce emissions at minimum cost**, maximizing the reductions obtainable with a given investment.

- **Clean Development Mechanism (CDM)**

It allows industrialized countries to carry out projects in Developing Countries, which produce benefits in terms of reducing greenhouse gas emissions and economic and social development of host countries and at the same time generate Emission Credits (also known as Carbon Credits) for countries that promote interventions.

- **Joint Implementation (JI)**

It allows industrialized countries to carry out projects to reduce greenhouse gas emissions in another country within the same group and use credits, together with the host country.

- **Emissions Trading (ET)**

Enables the exchange of emission credits among industrialized countries; a country that achieve a greater greenhouse gas emissions reduction on its targets, can sell (using ET) these "credits" to a country that is not able to meet its target.



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## The Sustainability milestones



### 2015: PARIS CONFERENCE (COP 21)

#### Output

- **Differentiation principle: responsibilities are shared but differentiated**
- **Ambition principle: limit to the global warming**
- **Commitment to the achievement of the stated objectives for each country (not mandatory)**
- **Financial support to developing countries**
- **Minimum requirements of transparency in reporting and inspection**
- **Three key issues:**
  - **Global warming below 2 °C above pre-industrial levels**
  - **Exit from fossil fuels**
  - **Revision every five years of the objectives and activities of each country to reduce emissions**



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# The EUROPEAN Energy Policy



Action Plan of the European Commission  
"An Energy Policy for Europe" adopted on 8 and 9 March 2007



- **Objective: to solve the Energy Trilemma**
  - increase of energy supply security;
  - strengthening the competitiveness of European economies through the availability of affordable energy prices;
  - promoting environmental sustainability and fighting climate change.



Declined in the Climate-energy package (known as "20-20-20") approved in 2008.



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# The package "20-20-20"



1. •Reduce, by 2020, at least 20% of greenhouse gas emissions resulting from energy consumption in the EU-27 compared to 1990 levels (**mandatory target**).
2. Achieve a 20% share of energy from renewable sources (RES) of total energy consumed by 2020 (**mandatory target**).  
In addition, reaching a minimum of 10% for biofuels in the total consumption of petrol and diesel in the EU by 2020 (**mandatory target**).
3. 20% improvement in energy efficiency (reduction of energy consumption) of the EU, compared to projections for 2020.



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## 1. Greenhouse gas emissions (-20%)



1.

Reduce, by 2020, at least 20% of greenhouse gas emissions resulting from energy consumption in the EU-27 compared to 1990 levels (**mandatory target**).

### Implementing measures

- Greater use of clean energy and lower energy consumption (point 2 and 3).
- Development of carbon sequestration and storage policy that is consistent with the environment.
- Strengthening of the EU trading scheme for greenhouse gas emission (Emission Trading Scheme EU-ETS).



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## 2. FER (20%) e Biofuels (10%)

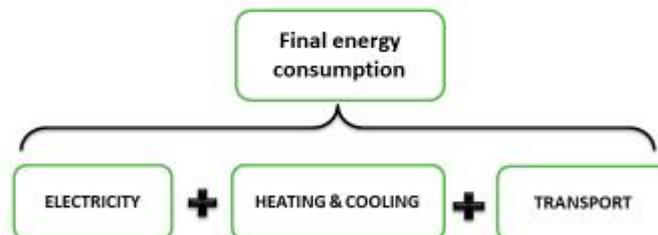


2.

Achieve a 20% share of energy from renewable sources (RES) of total energy consumed by 2020 (**mandatory target**).

In addition, reaching a minimum of 10% for biofuels (\*) in the total consumption of petrol and diesel in the EU by 2020 (**mandatory target**).

*(Directive 2009/28/UE on "Promotion of energy from renewable sources")*



(\*) **biofuels**: liquid or gaseous fuel for transport produced from biomass.



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### 3. Energy efficiency (+20%)



#### Implementing Measures (Action Plan for Energy Efficiency 2007-12)

- IMPROVING ENERGY EFFICIENCY
  - Adoption of minimum ecodesign requirements for 14 groups of products (including boilers, televisions and lighting systems), strengthening of **rules on labeling**, development of **minimum efficiency requirements for new or renovated buildings** and the promotion of so-called "passive" houses.
- IMPROVING THE ENERGY CONVERSION
  - Opportunities for improvement are considerable and make it possible to **significantly reduce the energy losses both in energy generation and transmission and distribution.**
- CHANGING BEHAVIOUR
  - Raise public awareness on the importance of energy efficiency;
  - Create a best practices exchange network among cities on energy efficiency in urban areas.



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### The European Green Deal



Presented in 2020, it provides an action plan to:

- **boost the efficient use of resources** by moving to a **clean, circular economy**
- **restore biodiversity and cut pollution**

The plan outlines investments needed and financing tools available.

The EU aims to be climate neutral in 2050. A European Climate Law has been proposed to **turn this political commitment into a legal obligation.**

Reaching this target will require **action by all sectors of our economy**, including

- **investing in environmentally-friendly technologies**
- **supporting industry to innovate**
- **rolling out cleaner, cheaper and healthier forms of private and public transport**
- **decarbonising the energy sector**
- **ensuring buildings are more energy efficient**



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# SPEEDIER

Funding Options –  
**SESSION 6**

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# SPEEDIER

Italy

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## Funding options: Conto Termico 2.0



- The new Conto Termico, in force since May 31, 2016, strengthens and simplifies the support mechanism already introduced by Decree 28/12/2012, which provides incentives for interventions to increase energy efficiency and the production of thermal energy from renewable sources.
- The beneficiaries are public administrations, companies and private individuals who will have access to funds for 900 million euros per year, of which 200 are allocated to the PA. Responsible for the management of the mechanism and the disbursement of incentives is the Manager of Energy Services.
- In addition to a widening of the methods of access and of the subjects admitted (in-house companies and residents' cooperatives are now also included), new energy efficiency interventions have been introduced. The most significant changes also concern the size of the eligible plants, which has been increased, while the procedure for direct access for catalog appliances has been streamlined.
- Other changes concern the incentives themselves: in fact, there is an increase in the limit for their disbursement in a single installment (from the previous 600 to the current 5,000 euros), as well as a reduction in payment times that, in the new mechanism, go from 6 to 2 months.



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## Funding options: Conto Termico 2.0



- The subjects that can apply for the incentives of the new Conto Termico are:
  - Public Administrations, including the autonomous institutes for public housing, inhabitant cooperatives registered in the National Register of housing cooperatives and their consortia established at the Ministry of Economic Development, as well as companies with entirely public assets and social cooperative companies registered in the respective regional registers;
  - Private parties.
- Access to the incentive mechanisms can be requested directly by the subjects admitted or through an ESCO: for Public Administrations through the signing of an energy performance contract, for private subjects also through an energy service contract provided for by Legislative Decree 115/2008.



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## Funding options: Conto Termico 2.0



- From the launch of the mechanism to January 1, 2021, about 361,000 requests have been admitted to the incentive, for a total of about € 866 million of incentives committed.
- The commitment of annual expenditure in 2020 for the promotion of interventions carried out by private individuals amounts to 228 million incentives against an annual expenditure limit of € 700 million.
- The commitment of annual expenditure in 2020 for the promotion of interventions carried out and to be carried out by the Public Administration amounts to 74 million incentives against an annual spending limit of € 200 million.



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## Funding options: Tax deductions for the energy requalification of buildings



The Budget Law 2020, confirms the mechanism of tax deductions for the energy requalification of buildings and defines an extension of the deductions until December 31, 2020.

- The maximum deductible amount changes according to the type of work carried out and is equal to:
  - 100,000 euros for energy requalification interventions;
  - 60,000 euros for interventions on the building envelope;
  - 30,000 euros for the replacement of winter air conditioning systems
  - 60,000 euros for the installation of solar panels useful for the production of hot water.

**Important:** due to the new Budget Law 2020 the deduction rate is equal to:

- 50% for interventions of replacement of windows, solar screens, biomass boilers and condensing boilers (at least class A)
- 65% for interventions of insulation of the opaque envelope, installation of building automation systems and for the replacement of winter air conditioning systems with:
  - class A condensing boiler equipped with advanced thermostatic system
  - heat pump
  - solar collectors for the production of DHW (hot sanitary water)
  - hybrid generators
- 70-75% interventions of insulation of the envelope of common parts condominium. If the buildings belong to seismic zones 1, 2 or 3, the rate rises to 80% with the reduction of a risk class and 85% with the reduction of 2 or more classes of seismic risk.



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## Funding options: Superbonus 110%



- The Superbonus 110% is an incentive measure introduced by the "Relaunch" Decree Law May 19, 2020, n. 34, drafted in order to improve the efficiency of the Italian housing stock and to support the construction sector, which was severely affected during the pandemic crisis.
- The incentive consists of a 110% deduction that applies to expenses incurred from July 1, 2020 to June 30, 2022 to be divided into five annual installments and, for the portion of expenses incurred in the year 2022, in four annual installments of equal amount.
- In order to enjoy the increased rate it is necessary to carry out at least one intervention "driving", namely:
  - thermal insulation of the building envelope
  - replacement of heating systems with centralized systems
  - substitution of thermal systems on single-family buildings or on the real estate units functionally independent.



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## Funding options: Superbonus 110%



- The beneficiary may also decide to carry out interventions "towed", such as the replacement of windows, sunscreens, the installation of photovoltaic systems, storage systems, columns for recharging electric vehicles, home automation systems and the elimination of architectural barriers for people with disabilities and people over 65 years. The deduction rate increased to 110% also applies to towed interventions.
- Access to the Superbonus is allowed provided that the combination of these interventions ("driving" and "towed") must result in a minimum improvement of at least two energy classes of the building.



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# SPEEDIER

Spain

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## Spain: National Funding Options I



- Grants for renewable energy investments. **Open.**
- Installations thermal energy production from renewable energy sources.
- Installations of electricity generation with energy from biomass, wind and solar photovoltaic.



- Energy rehabilitation of existing buildings in Andalusia. **Open until 30<sup>th</sup> June, 2021. Call for proposals.**
- Package of measures for energy efficiency in industry in Andalusia. **Open until 30<sup>th</sup> June, 2021. Call for proposals.**
- **MOVES II. Open.** Tipology of projects:
  - Acquisition of alternative energy vehicles (electric, gas or fuel cell).
  - Installation of electric vehicle charging infrastructures.
  - Bicycle loan systems.
  - Implementation of sustainable mobility to work measures.



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## Spain: National Funding Options II



- Grants for renewable energy investments: <https://www.idae.es/ayudas-y-financiacion/para-la-rehabilitacion-de-edificios/programa-pree-rehabilitacion-energetica-de>
- Installations thermal energy production from renewable energy sources: <https://sede.idae.gob.es/lang/modulo?refbol=tramites-servicios&refsec=ayudas-inversion-instalaciones-produccion-energia-termica&idarticulo=146900>
- Installations of electricity generation with energy from biomass, wind and solar photovoltaic: <https://sede.idae.gob.es/lang/modulo?refbol=tramites-servicios&refsec=ayudas-inversion-instalaciones-generacion-energia-electrica&idarticulo=146897>



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## Spain: National Funding Options III



- Energy rehabilitation of existing buildings in Andalusia: <https://www.agenciaandaluzadelaenergia.es/es/ayudas-la-financiacion/incentivos-2017-2021/programa-de-rehabilitacion-energetica-de-edificios-pree-en-andalucia>
- Package of measures for energy efficiency in industry in Andalusia: <https://www.agenciaandaluzadelaenergia.es/es/financiacion/incentivos-2017-2020/paquete-de-medidas-para-la-eficiencia-energetica-de-la-industria-en-andalucia>
- MOVES II: <https://www.agenciaandaluzadelaenergia.es/es/financiacion/incentivos-2017-2020/paquete-de-medidas-de-mejora-energetica-para-un-transporte-sostenible-en-andalucia>



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# SPEEDIER

Ireland

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## Ireland: National Funding Options



SEAI

- EEOS
- Energy Upgrade Grant Funding
- Energy Driven

Enterprise  
Ireland

- SME Funding
- Production Driven

Local Enterprise  
Office

- SME Funding
- Production Driven



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## SEAI Funding Options



**Energy Efficiency Obligation Scheme (EEOS):** Energy Suppliers pay for your energy upgrades and the savings from this upgrade will be used by the Supplier to get energy credits.

Details: <https://www.seai.ie/business-and-public-sector/business-grants-and-supports/energy-efficiency-obligation-scheme/>

**EXCEED:** From Design stage to implementation, help is given by SEAI.

Tools and Details at: <https://www.seai.ie/business-and-public-sector/business-grants-and-supports/exeed-certified-grant/>

**Project Assistance Grants:** Can provide you with a feasibility study and an Energy Project or Final business case and project delivery support grant.

Details: <https://www.seai.ie/business-and-public-sector/business-grants-and-supports/project-assistance-grants/>



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## SEAI Funding Options



**Accelerated Capital Allowance:** Based on Triple E register of equipment, company that pays corporation tax in Ireland to deduct the full cost of the equipment from their profits in the year of purchase.

Details: <https://www.seai.ie/business-and-public-sector/business-grants-and-supports/accelerated-capital-allowance/>

**Support Scheme for Renewable Heat:** Incentivise the development and supply of renewable heat. Installation costs and operating support is available.

Details: <https://www.seai.ie/business-and-public-sector/business-grants-and-supports/support-scheme-renewable-heat/>

**Energy Contracting:** is a 'pay for performance' approach to installing and operating energy technologies in your business. 50% of cost up to €7,500.

Details: <https://www.seai.ie/business-and-public-sector/business-grants-and-supports/energy-contracting/>



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# SPEEDIER

Romania

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## Romania: Funding options



- FREE – Fondul Roman pentru Eficienta Energetica

<https://free.org.ro/instrumente/>



- POC – Programul Operational Competitivitate

<https://mfe.gov.ro>



- Programul Operational Regional

<https://www.inforegio.ro/ro/>



- Granturile SEE și Norvegiene

<https://www.eeagrants.ro/>



- Administratia Fondului pentru Mediu

[https://www.afm.ro/programe\\_finantate.php](https://www.afm.ro/programe_finantate.php)



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# SPEEDIER

Education Kit –  
**SESSION 2**

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## What is effective communication?



### Effective communication

- It is a process of exchanging ideas, thoughts, knowledge and information in order to fulfill the purpose/intention in the best possible manner. It is nothing but the presentation of views by the sender in a way best understood by the receiver.



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## Effective communication Characteristics



- Just delivering a message is not enough, it must meet the purpose of the sender. The elements which make communication effective are represented here.



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## Effective communication Key skills



- Conveying a message effectively is an art as well as a skill developed after continuous practice and experience. The set of skills required for an influential communication process represented here.



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## Effective communication

### Key skills



- In the followings some key skills to effective communication will be deepened.



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## Effective communication

### Listening and understanding



- In the following, the skill related to listening and understanding will be deepened.

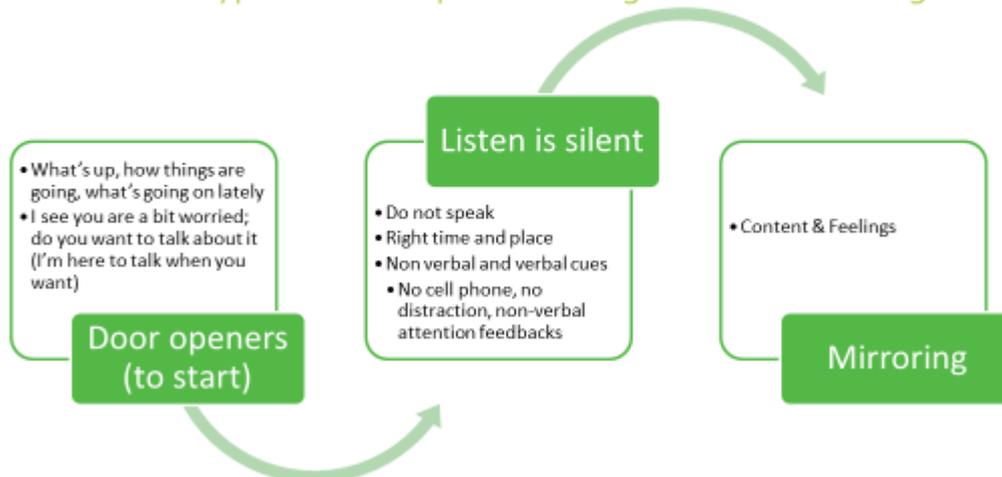


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## Listening and understanding The three main steps



- There are three typical main steps to listening and understanding:

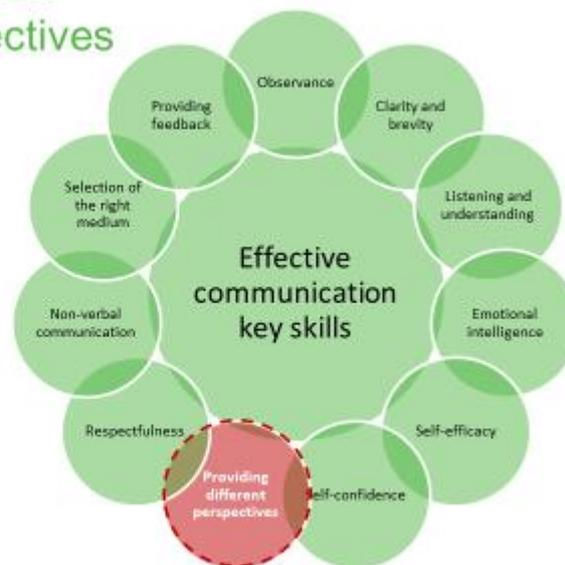


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## Effective communication Providing different perspectives



- In the following, the skill related to providing different perspectives will be deepened.

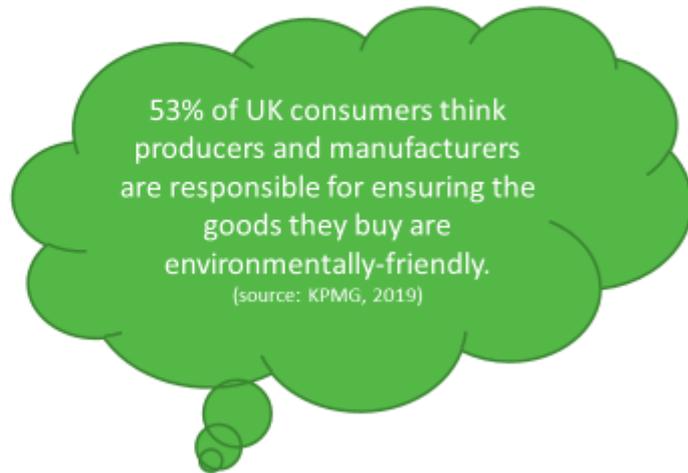


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## Providing different perspectives Consumers' perspective



- It is important to show evidence of different perspectives (e.g. consumers' perspective) to company decision makers, who can be used to stick to their company perspective other than assuming other point of views.

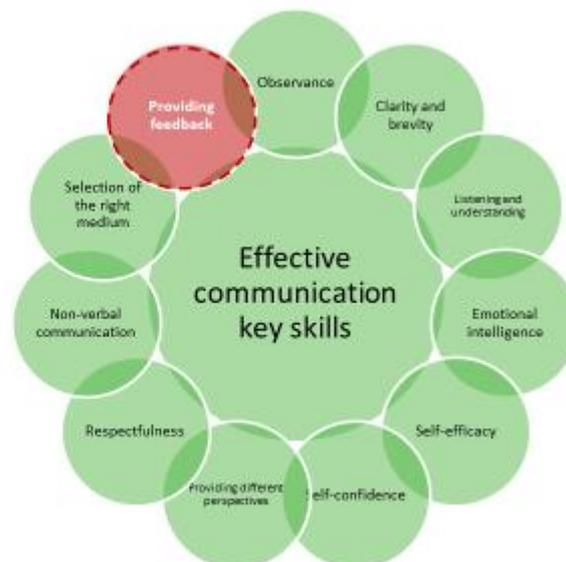


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## Effective communication Providing feedback



- In the following, the skill related to providing feedback will be deepened.



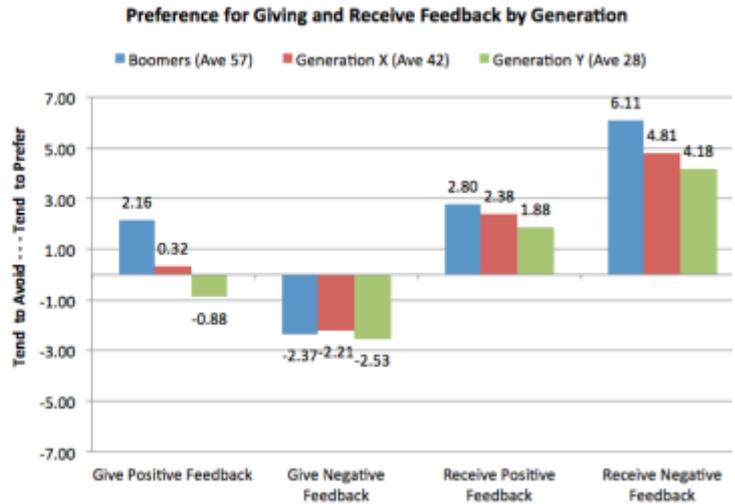
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# Providing feedback

## The importance of providing feedback



- Builds self-confidence and self-efficacy through both disclosure and feedback.
- Feedbacks lead to a greater understanding of yourself, plus a greater understanding of others.



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