

# SPEEDIER

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

### D9.4 – FINAL IMPACT REPORT

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Date: 21 December 2021

This document is the deliverable associated with Task 9.2 – Impact Analysis. The aim of this task is to measure the impact of SPEEDIER including those outlined in the dissemination and communication plan. Led by LIT and supported primarily by the pilot partners, this deliverable, reports on the data from each of the pilot sites and observers to measure the impact of the SPEEDIER Service and verify whether the project has met the targeted measures per region. The presented measures were also addressed in conjunction with the members of the external Advisory Board.

*This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 847034.*

Project details			
<b>Project acronym</b>	SPEEDIER	<b>Start / Duration</b>	June 2019/ 30 Months
<b>Topic</b>	LC-SC3-EE-8-2018-2019 Capacity Building programmes to support implementation of energy audits	<b>Call identifier</b>	H2020-LC-SC3-EE-2018
<b>Type of Action</b>	CSA	<b>Coordinator</b>	Padraig Lyons (IERC)
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Deliverable details			
<b>Number</b>	D9.4		
<b>Title</b>	Final Impact Report		
<b>Work Package</b>	9		
<b>Dissemination level</b>	PU	<b>Nature</b>	PUBLIC
<b>Due date (M)</b>	30 November 2021	<b>Submission date (M)</b>	21 December 2021
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<b>Document History</b>			
<b>Date</b>	<b>Version</b>	<b>Name</b>	<b>Changes</b>
15/10/2021	0.1	Stephen Murphy	Initial impact definition.
<b>19/10/2021</b>	0.2	Stephen Murphy	First document version.
<b>20/10/2021</b>	0.3	Stephen Murphy / Padraic O'Reilly	First review.
<b>22/10/2021</b>	0.4	Padraic O'Reilly	Second Review.
<b>22/10/2021</b>	0.5	Stephen Murphy	Conclusion & final update.
<b>04/11/2021</b>	0.6	Stephen Murphy	Updated figures.
<b>10/11/2021</b>	0.7	Stephen Murphy	Updated Conclusion.
<b>11/11/2021</b>	0.8	Padraic O'Reilly	Final internal review.
<b>11/11/2021</b>	0.8.1	Tom Flynn	Review and QA.
<b>15/11/2021</b>	0.9	Stephen Murphy	Additional Sections added
<b>17/11/2021</b>	0.10	Padraic O'Reilly	Review of additional sections
<b>17/11/2021</b>	0.11	Stephen Murphy	Final changes
<b>21/12/2021</b>	1.0	Pádraig Lyons	Approved release and update to EC portal.

# Abbreviations

Abbreviation	Description
CAPEX	Capital Expenditure.
ECM	Energy Conservation Measure.
EE	Energy Efficiency.
EED-A8	Article 8 of the Energy Efficiency Directive.
EnPI	Energy Performance Indicator.
IERC	Institute Energy Research Centre.
ISO50001	Energy Management Systems (2018).
ISO50002	Energy audit – Requirement with guidance use (2014).
KPI	Key Performance Indicator.
LIT	Limerick Institute of Technology.
MACC	Marginal Abatement Carbon Curve.
M&V	Measurement and Verification.
PECF	Primary Energy Conversion Factor.
RFM	Ring Fencing Mechanism.
SME	Small or Medium sized Enterprise.

# Executive Summary

Primarily due to COVID-19, the impact targets for the SPEEDIER project were revised in M18 relative to those in the project grant agreement. This deliverable reports on the impacts achieved in each pilot region and overall. The pilot regions are Spain, Romania, Italy, and Ireland. The targets are SMEs.

Against this challenging background, it is evident that the performance of each pilot region was excellent and notifiable with regard to the following Key Performance Indicators (KPIs):

- Number of participating SMEs
- Staff trained
- Expert & Trainers trained
- Energy savings (GWh/year),
- Carbon savings (tCO<sub>2</sub>),
- Investment (€)

Due to delays to implementation of Energy Conservation Measures (ECMs) primarily associated with COVID-19 along with other factors affecting implementation (e.g., Health and Safety, ring fencing, production), a written commitment by SMEs to implement measures has been approved by the Project Officer as a being quantifiable impact of the SPEEDIER Service.

The following provides a summary of performance with respect to KPIs across the 4 pilot regions:

Indicator	Project Revised Target	Project Actual*
Primary Energy Saving Triggered (MWh/yr)	6,501	9,563
Investment Triggered (€ 000s)	14-63	1,436
Cost Savings (€/year)	-	290k
Carbon Saved tCO <sub>2</sub> / year	941	2,850
No. of SPEEDIER Expert Trained	50	53
No. of SPEEDIER Trainers Trained	40	40
No. of participating SMEs	85	97
No. of SME staff trained Staff	305	471
Number of national or EU SPEEDIER workshops attended by policy makers	2	2
Number of reports or guidelines targeted at policy makers	2	2
Number of tools to support energy auditing and energy awareness	2	2

\*Figures as of revision date, November 11<sup>th</sup>, 2021

As can be seen from the above table, the project's overall revised targets were met, although some pilot countries did not reach a small number of specific targets, other pilot countries outperformed their targets.

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# 1 Introduction

This deliverable presents a summary of the impact analysis that was carried out within Work Package 9. The initial and final agreed targets that were agreed in terms of impact are initially presented. In section 2 the impact analysis is presented as well as a summary SPEEDIER Expert Training. A summary of the key SPEEDIER innovations that were developed, demonstrated and evaluated as part of the SPEEDIER pilots and stakeholder engagement is presented in Section 3 and finally conclusions from the analysis is presented.

Annexes presenting the detailed data on ECMs implemented etc. that was collected as part of the pilots in each of the four pilot jurisdictions are also included.

## 1.1 What is an impact?

In the context of this deliverable the range of relevant impacts measured are defined as follows:

1. The number of SMEs that have been involved in the SPEEDIER Service;
2. The number of SME staff trained by the SPEEDIER Service;
3. The number of SPEEDIER Experts trained by the SPEEDIER Service;
4. The number of SPEEDIER Trainers trained by the SPEEDIER Service.
5. A monetary saving as a result of the SPEEDIER Service;
6. An energy saving in the form of MWh as a result of the SPEEDIER Service;
7. Tonnes of carbon saved as a result of the SPEEDIER Service;
8. A monetary investment into Energy Conservation, Energy Efficiency or Renewable Energy as a result of the SPEEDIER Service.

COVID-19 had a big impact on the delivery of pilot activities in the 4 regions. Nevertheless, as the situation evolved and countries came to terms with the pandemic, engagement increased so that impacts 1-4 from the list above were measured by actual numbers of participants. SMEs were brought into the project and energy assessments were carried out, by remote methods initially, but as time went on, it became possible for our experts to conduct more site visits. Training events were carried out in-person and virtually.

In addition to a delayed engagement process, when eventually it became possible to conduct pilots and implement the SPEEDIER Service and thereby generate registers of opportunity, another hurdle was encountered. There was significantly greater difficulty in convincing SMEs to invest in the proposed ECMs than originally anticipated. Some of this hesitancy was expected pre-COVID, but with businesses struggling to survive, they had become more risk averse thus making it became more difficult to convince them to begin the process of investment in measures and re-investment of savings in further measures.

That said, the process of engaging with SMEs where the project was in a position to fund the involvement of a SPEEDIER Energy Expert proved to be very revealing. It became clear that a very involved process of facilitation and handholding was required for SME management to gain confidence in the process and the proposed measures. The SMEs were willing to make a commitment that once their situation allowed it, they would begin investing in the ECMs that had been developed by the SPEEDIER Energy Expert and so this commitment is used as

validation of the measures in the absence of measured energy savings and other related metrics from the list above. This approach was discussed a number of times among the project team and accepted as an approach by the SPEEDIER Project Officer.

## 1.2 Grant Agreement Impact Scope

The Grant Agreement stated that SPEEDIER will contribute to all of the expected impacts outlined in Article 8 of the Energy Efficiency Directive (EED-A8) through its project duration:

- **Primary energy savings, CO<sub>2</sub> savings & investments in sustainable energy:**  
110 participating organisations will be supported through SPEEDIER to undertake an energy audit and to implement a range of no-cost, low cost, and medium cost energy efficiency measures that the audit identifies. These actions will result in an average primary energy saving 8 GWh/year and 1,280 tCO<sub>2</sub>/year. Through the self-financing mechanism, €1M of investment in energy efficiency measures will be leveraged in total. (N.B. In all cases these figures refer to the average of the minimum & maximum values stated in Table 1).
- **Enhancing energy culture:**  
The 110 participating organisations will each receive energy awareness training targeted at both general operational staff and senior managers/decision makers. During WP5, 650 staff at all levels will be trained using the training and capacity building materials developed in WP4 and the materials developed for the e-Learning suite. This includes a mobile app, aimed at raising awareness and enabling simple gamification techniques to be applied.
- **Building capacity:**  
SPEEDIER will train 50 SPEEDIER Energy Experts (energy auditors or energy experts) from the pilot regions and beyond in how to successfully deliver the SPEEDIER Service. To ensure the longevity of this training scheme 40 SPEEDIER Trainers will also be trained to learn how to successfully train more SPEEDIER Energy Experts in their own location and are expected to train a further 5 SPEEDIER Energy Experts per year. This creates a multiplier impact.

A register of SPEEDIER Energy Experts will be developed, listing all the individuals who are qualified to deliver SPEEDIER. The SPEEDIER Trainers will add to this list during and after the project to enable SMEs wishing to participate after the end of the project to find a qualified SPEEDIER Energy Expert in their region.

- **Enabling policy:**  
SPEEDIER provides a direct means for Member States to comply with the provision in Article 8 of the EED to develop programmes to encourage SMEs to undergo energy audits and implement the subsequent recommendations.

SPEEDIER creates a framework that allows SMEs to access the technical assistance and information they need to increase their energy efficiency. A Best Practice Guide, a Roadmap for Implementation of SPEEDIER and a series of action plans showing how this initiative can be rolled out across Member States will be developed as part of the project.

The train-the-trainer scheme lays the foundations for training further SPEEDIER Trainers and for them in turn to train further SPEEDIER Energy Experts, thus, expanding the Register of SPEEDIER Experts and ensuring the long-term sustainability of the SPEEDIER Service.

### 1.3 Periodic Report Impact Scope

As described in the first periodic report, SPEEDIER has been severely impacted by the Covid-19 pandemic. Table 1 presents the expected impacts outlined in the Description of Action.

TABLE 1 GRANT AGREEMENT QUANTIFIED IMPACT WITHIN SPEEDIER DURATION

Indicator	Minimum	Maximum	Target
Number of SMEs attending engagement events			225
Number of participating businesses:			
Ireland	-	-	15
Spain	-	-	40
Romania	-	-	35
Italy	-	-	20
Number of staff taking part in capacity building activities:	-	-	650
Ireland	-	-	150
Spain	-	-	200
Romania	-	-	200
Italy	-	-	100

Indicator	Minimum	Maximum	Target
Primary energy saving (GWh/yr):	3.795	12.133	7.95
Ireland	0.516	1.650	1.084
Spain	0.308	0.986	0.648
Romania	2.212	7.072	4.645
Italy	0.758	2.425	1.593
Greenhouse gas savings (tCO <sub>2</sub> /yr):	604	1,930	1,268
Ireland	109	347	228
Spain	54	171	112
Romania	323	1,032	678
Italy	119	380	250

Indicator	Minimum	Maximum	Target
<b>Investment in energy efficiency measures per business ('M €):</b>	0.438	1.660	1.049
Ireland	0.097	0.375	0.236
Spain	0.040	0.200	0.120
Romania	0.140	0.525	0.3325
Italy	0.160	0.560	0.360
<b>Number of people receiving SPEEDIER Expert Training</b>	-	-	50
<b>Number of people receiving SPEEDIER Trainer Training</b>	-	-	40
<b>Number of national or EU SPEEDIER workshops attended by policy makers</b>	-	-	2
<b>Number of reports or guidelines targeted at policy makers</b>	-	-	2
<b>Number of SMEs supported to have an energy audit</b>	-	-	110
<b>Number of tools to support energy auditing and energy awareness</b>	-	-	2

As a result of the pandemic, business closures and travel restrictions, SMEs/business were less willing to engage with the SPEEDIER Expert, as their focus shifted to resume their day-to-day business activities.

The consortium considered the practicality of reaching the Grant Agreement targets and determined that they were unrealistic in the remaining time available and proposed a set of revised targets, shown in Table 2. These revised targets still enable demonstration of the key SPEEDIER concepts and were agreed with the EC Project Officer.

It should be noted that the Grant Agreement states a minimum and maximum expected impact for primary energy savings and reduction in greenhouse gas emissions. These assumed that in the worst-case SMEs would reduce energy consumption by 5% at each level of investment (no-cost, low-cost, and medium-cost measures) and in the best case would reduce energy consumption by 20% at each level of investment. The figures in the 'Target' column in Table 2 shows the average of these minimum and maximum figures. It is expected that as a result of Covid-19, the actual impacts will be closer to the minimum figures described in the Grant Agreement and this is reflected in the 'Revised' column in Table 2.

TABLE 2 GRANT AGREEMENT TARGETS AND REVISED TARGETS

Impact	Target	Revised
Number of SMEs attending engagement events	225	225
Number of participating businesses:		
Ireland	15	10
Spain	40	30
Romania	35	35
Italy	20	10
Number of staff taking part in capacity building activities:		
Ireland	150	65
Spain	200	150
Romania	200	40
Italy	100	50
Primary energy saving (MWh/yr):		
Ireland	1,084	720
Spain	648	486
Romania	4645	4645
Italy	1593	650
Greenhouse gas savings (tCO <sub>2</sub> /yr):		
Ireland	228	99
Spain	112	84
Romania	678	648
Italy	250	110
Investment in energy efficiency measures per business ('000 €):		
Ireland	6.5-25	1-15
Spain	1-5	1-5
Romania	4-15	4-15
Italy	8-28	8-28
Number of people receiving SPEEDIER Expert Training	50	50
Number of people receiving SPEEDIER Trainer Training	40	40
Number of national or EU SPEEDIER workshops attended by policy makers	2	2
Number of reports or guidelines targeted at policy makers	2	2
Number of SMEs supported to have an energy audit	110	85
Number of tools to support energy auditing and energy awareness	2	2



## 2 SPEEDIER Project Impacts (M1-M30)

This section outlines the impacts by the SPEEDIER Project. As stated in the introduction, an energy saving impact is when an SME has made a commitment to the SPEEDIER Energy Expert about their intent to follow through with an ECM that was originated and developed as a result of the SPEEDIER project. The commitment sign-off for each pilot region can be viewed in each of the enclosed 4 Annexes.

### 2.1 SPEEDIER Expert Role

The role of the SPEEDIER Energy Experts in relation to impacts is to support the development of a strong business case for each ECM they support the development of, incorporating energy monitoring, energy savings, cost savings and carbon savings, to justify a commitment from the SME.

In Italy, ESCOs were chosen to be the SPEEDIER Experts for the pilot activities, while the other pilot region leaders of Ireland, Romania and Spain opted to pursue the pilot activities internally as SPEEDIER Energy Experts. In Ireland, an internal team of experts within LIT worked on the 11 active pilot sites, as SPEEDIER Expert recruitment was severely affected by the Covid-19 pandemic. A similar situation occurred in Romania with its 42 pilot sites and in Spain with its 32 pilot sites.

### 2.2 Project Targets Dashboard

As the savings from ECMs are not static figures and are instead dynamic, a centralised dashboard, using updated data from monitoring/new information, was developed to enable quick and accurate monitoring of each pilot region's progress and the track overall project progress.

An overview of the aggregate performance of the entire project with respect to KPIs is presented in Table 3.

TABLE 3 AGGREGATE PROJECT IMPACT

Indicator	Revised Target	Actual*
Primary Energy Saving Triggered (MWh/yr)	6,501	9,480
Investment Triggered (€000s)	14-63	1,449
Cost Savings (€/year)	-	596k
tCO <sub>2</sub> Saved / year	941	2,190
No. of SPEEDIER Expert Trained	50	53
No. of SPEEDIER Trainers Trained	40	40
No. of participating SMEs	85	97
No. of SME Staff trained	305	476

\*Figures as of revision date, November 11<sup>th</sup>, 2021

## 2.2.1 Ireland Pilot Region

Below is a summary of the Irish pilot impact as of November 2021 (M30). For more details on the ECMs and SMEs please see Annex 1 Ireland Pilot Region.

TABLE 4 IRISH PILOT IMPACT

Indicator	Revised Target	Actual *
Primary Energy Saving Triggered (MWh/yr)	720	2,739
Investment Triggered (€ 000s)	1-15	624
Cost Savings (€/year)	-	209k
tCO <sub>2</sub> Saved / year	99	496
No. of participating SMEs	10	12
No. of SME Staff trained	65	67

\* Figures as of revision date, November 11<sup>th</sup>, 2021

## 2.2.2 Italy Pilot Region

Below is the Italian pilot impact as of November 2021 (M30). For more details on the ECMs and SMEs please see Annex 2 Italy Pilot Region.

TABLE 5 ITALIAN PILOT IMPACT

Indicator	Revised Target	Actual *
Primary Energy Saving Triggered (MWh/yr)	650	1,215
Investment Triggered (€ 000s)	8-28	47
Cost Savings (€/year)	-	74k
tCO <sub>2</sub> Saved / year	110	301
No. of participating SMEs	10	10
No. of SME Staff trained	50	45

\* Figures as of revision date, November 11<sup>th</sup>, 2021

## 2.2.3 Romania Pilot Region

Below is the Romanian pilot impact as of November 2021 (M30). For more details on the ECMs and SMEs please see Annex 3 Romania Pilot Region.

TABLE 6 ROMANIAN PILOT IMPACT

Indicator	Revised Target	Actual *
Primary Energy Saving Triggered (MWh/yr)	4,645	4,723
Investment Triggered (€ 000s)	4-15	745
Cost Savings (€/year)	-	306k
tCO <sub>2</sub> Saved / year	648	1,143
No. of participating SMEs	35	41
No. of SME Staff trained	40	266

\* Figures as of revision date, November 11<sup>th</sup>, 2021



## 2.2.4 Spain Pilot Region

Below is the Spanish pilot impact as of November 2021 (M30). For more details on the ECMs and SMEs please see Annex 4 Spain Pilot Region.

TABLE 7 SPANISH PILOT IMPACT

Indicator	Revised Target	Actual *
Primary Energy Saving Triggered (MWh/yr)	486	1,203
Investment Triggered (€ 000s)	1-5	33
Cost Savings (€/year)	-	6.7k
tCO <sub>2</sub> Saved / year	84	363
No. of participating SMEs	30	34
No. of SME Staff trained	150	98

\* Figures as of revision date, November 11<sup>th</sup>, 2021

## 2.3 Dissemination & Communication targets

Four Dissemination & Communication Plans (DCP) (D8.2, D8.3, D8.4 & D8.5) outlining the project's target audiences, strategies for engaging the target audience and activities were produced. The first DCP was produced in M3 of the project, the second updated version followed in M12. The third DCP was originally expected to be submitted in M21 but, after final validation by the European Commission, it was agreed to postpone it until M24, as a summary of the communication and dissemination actions was already included in M20 during the intermediate review of the project. The final version reflecting the work and aims for dissemination and communication has been produced at M30.

## 2.4 SPEEDIER Expert Training & Events targets

The SPEEDIER project organised two training events for energy experts to train them as SPEEDIER Experts and SPEEDIER Trainers. The first event was organised on 2<sup>nd</sup> – 3<sup>rd</sup> December 2020 and second training event was organised on 29<sup>th</sup> – 30<sup>th</sup> September 2021. Both events were organised as two half day online events and was attended by more than 200 participants in total. Both the 1<sup>st</sup> and 2<sup>nd</sup> SPEEDIER training received positive responses by attendees. There was also a final SPEEDIER event held on 17<sup>th</sup> November 2021. The revised targets for SPEEDIER training and events were met.

TABLE 8 SPEEDIER EXPERT TRAINING AND EVENTS SUMMARY

Indicator	Project Revised Target	Project Actual*
Expert Trained	50	53
Trainers Trained	40	40
Number of national or EU SPEEDIER workshops attended by policy makers	2	2

The first SPEEDIER Expert training event was organised on December 2<sup>nd</sup> and 3<sup>rd</sup> 2020 (10:00 CET to 12:30 CET) and the event included 9 sessions on various topics. The Event was attended by 128 participants from all across the globe.

 <b>Wednesday, 2nd December 2020</b>	 <b>Thursday, 3rd December 2020</b>
10:00 - 10:05   Event opening & welcome	10:00 - 10:05   Event opening & welcome
10:05- 10:35   Session 1: Overview of the SPEEDIER Service	10:05- 10:35   Session 5: SPEEDIER Tool
10:35- 11:05   Session 2: Barriers & Drivers of Energy Efficiency in SMEs	10:35- 10:55   Session 6: SPEEDIER Mobile App
11:05- 11:20   Conference / Colloquium / Questions from the participants	10:55- 11:15   Session 7: Capacity Building Training for General Staff and Decision Makers in SMEs
11:20- 11:50   Session 3: Case Studies	11:15- 11:30   Conference / Colloquium / Questions from the participants
11:50- 12:10   Session 4: Impact Assessment EU EED and its relevancy to SPEEDIER Project	11:30- 11:50   Session 8: Financial Investment Strategies
12:10- 12:25   Conference / Colloquium / Questions from the participants	11:50- 12:10   Session 9: Training in Pedagogical Methods & Techniques
12:25- 12:30   Event closing & Conclusions	12:10- 12:25   Conference / Colloquium / Questions from the participants
	12:25- 12:30   Event closing & Conclusions

FIGURE 1 FIRST SPEEDIER TRAINING EVENT AGENDA

The second SPEEDIER Expert training event was organised on September 29<sup>th</sup> and 30<sup>th</sup> 2021 (10:00 CET to 12:30 CET) and the event included 8 sessions on various topics with Q&A sections. The Event was attended by 82 participants from all across the globe.



FIGURE 2 SECOND SPEEDIER EXPERT TRAINING EVENT AGENDA



Horizon 2020  
European Union Funding  
for Research & Innovation

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 847034

## 3 Demonstration of Key SPEEDIER Innovations

As part of the SPEEDIER project programme a number of innovative approaches and concepts have been developed, demonstrated and evaluated. A number of these were envisaged at the proposal stage but throughout the individual pilots, across the four regions, a number of additional innovations were developed which have been demonstrated and have also supported the implementation of the SPEEDIER concept in these regions. Below is some of key pilot innovations, which have been demonstrated within the project and summarises some of the key learnings from their individual implementations.

### 3.1 Ring-Fencing Approach

The ECMs implemented at all pilot sites were evaluated to understand what and how savings for ring fencing would be available to invest in subsequent ECMs.

In the Romanian pilot, which focussed on the hospitality sector, the ring-fencing approach was demonstrably successful. Savings from the first phase of ECMs in 5 hotels, participating in the project, resulted in significant savings. These savings are being used to implement the next phase of more costly ECMs with the Pensiunea Carol Hotel finding approach particularly useful.

In other scenarios, the ring-fencing mechanism did not produce sufficient levels of finance for the immediate implementation of more advanced and costlier ECMs. The focus of the pilot in Ireland was on the industrial and manufacturing section. While the initial ECM implementation resulted in savings at Modular Automation and St Tola Goats Cheese these savings did not release finance quickly enough to immediately proceed to the next phase of ECMs during the SPEEDIER project programme. However, the success of the ring-fencing approach was demonstrated by these businesses adopting a 5-year plan for implementation of the more advanced ECMs. Furthermore, the energy monitoring, which is a key step in the SPEEDIER process, amongst the Irish pilot sites was seen as very beneficial, not only as a source of data for future ECMs but as a means to improve the understanding on site of different services.

The SPEEDIER Service pilot in Spain implemented in 34 SMEs hosted in 2 multi-tenant buildings. The pilot implementation of the SPEEDIER concept provided companies with information, advice, energy tools, capacity building, training and monitoring of impacts. It was developed following the one-stop-shop SPEEDIER Service solution approach in order to mitigate the main barriers the SMEs to carrying out energy audits. The ECMs implemented have been monitored to enable the savings to be ring fenced and invest them in follow up, higher value ECMs.

Participating SMEs in Pilot 1, hosted in Tecnoincubadora Marie Curie do not have a contract with an energy supplier and instead have electricity provided by the building owner/landlord. The ECMs in this case could be implemented by the owner of the building, who has the contract with an energy supplier and thus the ring-fencing mechanism in this instance is being implemented in collaboration with the owner as well as the SME itself. This is significantly different from what is envisaged but demonstrates the flexibility of the SPEEDIER concept.

In contrast in Pilot 2, the SMEs do not have an energy contract but they do pay a charge based on energy consumption and are responsible for the ECMs to be implemented and thus engage with SPEEDIER experts in a more conventional approach.

Due to the long payback period (7 – 10 years) of the implemented ECMs for companies in Pilot 2 it was not possible to demonstrate the ring-fencing mechanism in the timeframe of this pilot.

### 3.2 ECM Sheets & ESCOs

Due to the nature of the ring-fencing mechanism and other factors affecting implementation, a commitment from SMEs to implement the suggested ECMs has been approved by the Project Officer as a quantifiable impact of the SPEEDIER Service.

Throughout the SPEEDIER Service, the need to capture data on energy savings and cost savings was apparent from each SME. The ECM sheets ensure that all data and key performance indicators on each ECM implemented by the Experts can be robustly and systematically evaluated by SMEs. The ECM sheets have been demonstrated to enable decision makers to quickly understand the calculation steps, the source of information and the year-on-year savings with cost savings being subjected to net present value (NPV) calculations in order to properly assess each ECM.

They have also been demonstrated to enable tracking and evaluation of ECM effectiveness by facilitating and tracking multiple revisions of the same ECM. Starting with the high-level energy assessment Revision 1 and updating as continuous updates from site are received i.e., monitored data, different quotes, and new information.

The ECM sheets also supported the replication among other sites, with savings documented on an ECM sheet on one site, informing saving estimates on newer sites.

The Energy Conservation Measure (ECM) sheet approach was based on the energy assessment for each site and upgraded to align with the requirements of the SPEEDIER Service. It can be used as a paper trail and is a neat format to showcase the source of all information regarding the ECM, the calculations involved in the ECM and the energy, as well as the carbon and cost savings from the ECM. The ECM sheets were deployed in sites in Ireland, Romania, and Spain to present the business case of each ECM developed during the implementation of the SPEEDIER Service.

The Italian pilot adopted an alternative and innovative approach, engaging the SMEs through interaction with ESCOs. In Italy, ESCOs are very important players and actors in the value chain of Energy Efficiency and Energy Management. They perform energy audits and know in detail the benefits and the issues related to the Energy Management process, so they can give even more detailed suggestions and advice thanks to their expertise.

### 3.3 SPEEDIER Mobile App & SPEEDIER Tool

Two tools were created to support energy auditing and energy awareness in the SPEEDIER Project, these include:

### 3.3.1 SPEEDIER mobile app

The SPEEDIER mobile app is remote/virtual training tool for SME employees. The aim of the mobile app is to enable and support behavioural changes within SME employees and encourage them to participate in energy conservation activities, build energy culture within their organisation through innovative gamification features and develop energy management acumen.

The SPEEDIER mobile app helps the energy manager of an organisation to create awareness regarding importance of energy efficiency along with energy management practice of their organisation. The mobile app provides an additional, flexible mechanism for employees to learn about energy efficiency practices and technologies rather than a more traditional approach of providing training to employees of an organisation. Employees within an SME can create a user account in the SPEEDIER mobile app to learn about energy efficiency and energy management at the time that suits them. The mobile app has been designed to be flexible enough to meet a variety of SMEs requirements.

Gamification features have also been built into the mobile app. These features encourage engagement with the app and can be configured to support energy efficiency behaviour etc. The gamification features also enable employees to a) provide feedback about thermal comfort of their work place b) suggest probable energy saving opportunities within their organisation c) learn through learning section and test their knowledge through quiz section. In the current iteration of the mobile app users will be rewarded with some points for each of their activities in the app.

The SPEEDIER mobile app has been demonstrated to the SPEEDIER External Advisory Board (EAB), SPEEDIER Experts and other stakeholders and have received positive feedback.

### 3.3.2 SPEEDIER energy expert support tool

The main objectives of the SPEEDIER Energy Expert support tool are:

- Provide an advanced tool able to identify opportunities for ECMs within SMEs to streamline the energy auditing process.
- The tool will be an online system where SPEEDIER Experts will input information on the participating SME, and the tool will automatically suggest a number of suitable energy conservation measures (ECMs).
- Compare theoretical data with real data that will be collected to improve the tool.

The SPEEDIER tool was well received by both the EAB members and SPEEDIER Experts during the SPEEDIER training events. More information on the SPEEDIER tool can be found in deliverable D4.2.



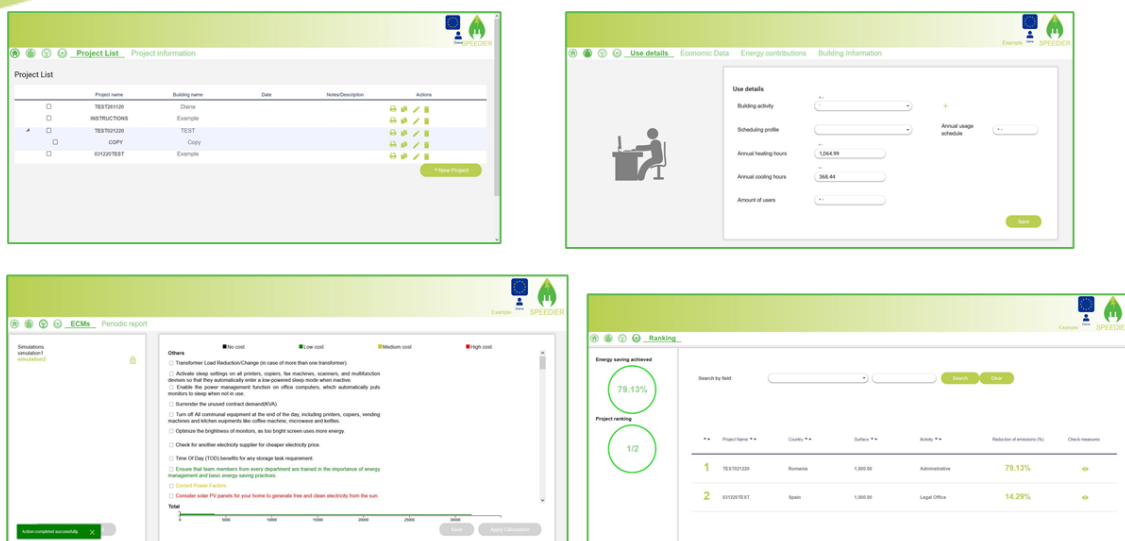


FIGURE 3 SCREENSHOT FROM SPEEDIER ENERGY EXPERT SUPPORT TOOL

### 3.4 SPEEDIER SME Training & DigiECO

In addition, to the ECMs that were part of the original SPEEDIER programme the opportunity for the SPEEDIER concept and SPEEDIER Experts to enable new sustainability concepts to be piloted and implemented during the project. In the Irish pilot the training of staff proved difficult to implement. With events, being held in order to reach the projects KPIs, failing to attract any SMEs that had previously given commitment to attend. SMEs stated that lack of time was the main reasoning behind this.

During the Irish pilot, DigiECO, was developed to help small and micro businesses on their sustainability journey with training on digital skills, climate awareness, and energy efficiency. The concept was first trailed in December 2020 in conjunction with SPEEDIER. The undertaking is a collaborative upskilling initiative between the regional skills coordinator, LCETB and LIT, and the Local Enterprise Offices.

DigiECO consists of a single-day digital, climate, and energy training, followed by a project for a month, where SMEs undertake their energy assessment with the newly obtained skills.

After one month, each SME will present to the group what they found in their energy assessment and what plans for the future they are considering followed by a Q&A session.

Some events held for decision making staff like in Ireland 'DigiECO' were a success. This is a collaborative upskilling initiative between regional skills Ireland as coordinator, the Limerick, Clare Education Training Board and LIT and Local Enterprise Offices. Helping small and micro businesses on their sustainability journey with training on digital skills, climate awareness and energy efficiency.



FIGURE 4 DigiECO POSTER

During the Irish pilot, DigiECO was developed to help small and micro businesses on their sustainability journey with training on digital skills, climate awareness and energy efficiency. The concept was first trialled in December 2020 in conjunction with SPEEDIER. This is a collaborative upskilling initiative between regional skills coordinator, LCETB and LIT, and the Local Enterprise Offices.

DigiECO consists of a single day digital, climate and energy training, followed by a project for a month, where SMEs undertake their own energy assessment with the newly obtained skills. After one month, each SME will present to the group on what they found in their energy assessment and what plans for the future they are considering followed by a Q&A session.

DigiECO has been demonstrated to huge success with 4 cohorts of 7-8 SMEs training and 1 cohort of 10 SMEs having received training and more funding available from the regional skills office for more cohorts in 2022.

The main source of SMEs willing to join DigiECO were SMEs that were already in contact with the Local enterprise office, the LEO then advised on doing the DigiECO programme in order to prepare them for future programmes like the Green for Micro. This steppingstone approach to training and programmes has proven to be very successful and is very replicable as more county/municipal Local enterprise offices are interested in running the programme, and other sectors like Agriculture are interested in running similar programmes.



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## 4 Conclusion

### 4.1 Irish Pilot Impacts

All revised targets were met by the Irish pilot. This is primarily due to the clear, frequent and relevant engagement with SMEs. This excellent engagement was made possible primarily by the provision of clear evidence based data and information that provided confidence to the SME that the engagement was valuable.

At the beginning of the energy assessment, some SMEs were slow to engage but as time passed and more concrete ECMs were proposed with detailed information, step-by-step calculations, and investment calculations (NPV calculations), the SMEs became more engaged. Some of these ECMs are implemented while others are planned to be implemented once savings are realised from earlier ECMs. The ring-fencing mechanism supported the engagement with SMEs, as reduced capital investment and consideration of multi-year energy management plans (carbon plans in some cases) was something they had not previously considered.

The training of staff proved difficult to implement partly due to the Covid-19 pandemic. In some cases, training events were organised within larger SMEs only for the participants to cancel at the last minute. SME management stated that lack of time was the main reasoning behind this. Over time, SME staff underwent training by learning in their own time in some instances, while SPEEDIER collaborated with a Regional Skills provider to deliver training to staff from SMEs who were not otherwise affiliated with SPEEDIER.

The intense engagement with SMEs in the development of robustly evidenced ECMs gives confidence that these future measures will be adopted when circumstances allow in each SME's case. This indicates that the SPEEDIER approach has embedded longer-term, more significant changes in SME's culture which is setting them on a trajectory towards further energy conservation and CO2 reduction.

### 4.2 Italian Pilot Impact

All the revised targets (except for a small deviation in terms of trained staff) have been reached with the continuous and strong support of ESCO & SMEs involved. Through their collaboration with the ESCOs, the SMEs have had an increased awareness, knowledge, and competency regarding energy management and energy efficiency.

The process of energy auditing implemented by the ESCO helped the SMEs to identify the main Energy Conservation Measures (ECMs) for implementation. Some of these ECMs have been already implemented, while others are being implemented. These interventions led to the energy savings, carbon savings and cost savings as expected in the revised targets. Moreover, the SMEs have committed to using the savings, obtained through the first interventions, for re-investment as per the ring-fencing mechanism pioneered in SPEEDIER.

The target of trained staff was 50 people, however due to the difficulties encountered with the Covid-19 situation, at the moment 45 SME staff have been trained. Nevertheless, the

engagement and training of SMEs staff is still on-going and it is expected through the support of the e-learning materials, that the target will likely be reached.

### 4.3 Romanian Pilot Impact

All revised targets have been reached for pilot activities in Romania due in large part to the very professional engagements between SMEs and SPEEDIER experts involved in the pilot. The hospitality sector has been hit very hard by Covid-19 pandemic but despite this setback, the investment into energy efficiency and ECMs has proven that the hospitality sector realises the benefits of becoming more sustainable and energy efficient.

There were significant efforts by the SPEEDIER Energy Experts to obtain commitment from the SMEs to implement all ECMs. Listed in Annex 3, the Romanian pilot has 106 ECMs implemented and a remaining 264 ECMs either ongoing or to be implemented in the future. Significant work has been done to ensure that the SMEs are fully prepared and informed to implement the future planned ECMs after the cessation of the SPEEDIER project.

### 4.4 Spanish Pilot Impact

The implementation of energy audits in both multi-tenant buildings (used on the Spanish pilot sites) generated great expectation among the SMEs. The high levels of participation amongst the staff of the SMEs participating in both pilots have ensured an excellent reception of the training materials and the achievement of the objectives set in the SPEEDIER project.

The trained staff target was not met but it is expected to be in the future as pilot leaders continue to collect sign off of 10 companies from pilot implementation. The staff of these 10 companies (of which there are 4 companies that are medium-sized) amounts to 346 people.

### 4.5 Overall conclusions and lessons learned

Feedback from the pilots indicated that a very involved process of facilitation and handholding was required for SME management to gain confidence in the process and the proposed measures. The SMEs were willing to make a commitment that once their situation allowed it, they would begin investing in the ECMs that had been developed by the SPEEDIER Energy Expert and so this commitment is used as validation of the measures in the absence of measured energy savings and other related metrics from the list above.

The project programme managed to exceed or nearly reach all the revised targets set out in the context of the Covid-19 pandemic demonstrating that the SPEEDIER concept has a real-world application that has merit for becoming a business-as-usual approach in some contexts.

## 5 Annexes (Example of Annex)

### 5.1 Annex 1 Ireland Pilot Region

#### 5.1.1 Summary of Impacts at each SME

SME name	ECM description	Implemented Y/N, provide date if yes	Energy type (gas, electricity etc)	Final Energy (kWh/annum)	Primary Energy (kWh/annum) (1.83 PECF)	Carbon (tCO2/annum)	Cost Savings (€/annum)	Investment (€)	Simple Payback Period
St Tola Goats Cheese	Change Boiler from Kerosene to LPG	Y March 2021	Kerosene/LPG	27,597	30,357	8.0	2,007	4,800	2.4
St Tola Goats Cheese	Thermostat replacements	Ongoing	LPG	3,064	3,371	0.7	343	400	1.2
St Tola Goats Cheese	Insulate Piping to and from the ice bank	N	Electricity	2,315	4,236	0.8	413	600	1.5
St Tola Goats Cheese	Walk in Fridge: Evaporator & Condenser Cleaning	Ongoing	Electricity	1,600	2,928	0.5	285	100	0.4
St Tola Goats Cheese	Walk in Fridges Seal replacement	Ongoing	Electricity	5,440	9,955	1.8	969	500	0.5
St Tola Goats Cheese	Wash Hand Basin Optimisation	Ongoing	LPG	3,054	3,360	0.7	342	25	0.1
St Tola Goats Cheese	Ice Bank Energy Reduction	Y September 2021	Electricity	466	853	0.2	83	0	0.0



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SME name	ECM description	Implemented Y/N, provide date if yes	Energy type (gas, electricity etc)	Final Energy (kWh/annum)	Primary Energy (kWh/annum) (1.83 PECF)	Carbon (tCO2/annum)	Cost Savings (€/annum)	Investment (€)	Simple Payback Period
Tipperary Glass	Fleet Management System	Y September 2021	Diesel	95,318	104,850	24.8	9,472	16,800	1.8
Tipperary Glass	Clean & maintain Air conditioning units	Ongoing	Electricity	4,032	7,379	1.3	466	440	0.9
Tipperary Glass	Clean Skylights for more natural light	Ongoing	Electricity	3,710	6,789	1.2	429	500	1.2
Tipperary Glass	Monitoring and Verification System	N	Electricity, NGas	25,777	45,315	8.0	2,960	10,000	3.4
Tipperary Glass	Replace Storage Heaters with EVRAD Electric heaters	Y September 2021	Electricity	14,640	26,791	4.7	1,692	3,672	2.2
Valentia Slate	Replace 25-year-old saw with more modern saw, with horizontal cut capabilities	Ongoing	Diesel	66,050	38,978	16.5	1,010	300,000	-

SME name	ECM description	Implemented Y/N, provide date if yes	Energy type (gas, electricity etc)	Final Energy (kWh/annum)	Primary Energy (kWh/annum) (1.83 PECF)	Carbon (tCO2/annum)	Cost Savings (€/annum)	Investment (€)	Simple Payback Period
J.F Walsh Packaging	Replace 40+ year old Motors	N	Electricity	20,110	36,801	6.5	3,387	10,000	3.0
J.F Walsh Packaging	Monitoring and Verification System	N	Electricity, Kerosene	19,226	33,289	6.2	2,727	8,000	2.9
J.F Walsh Packaging	Setpoint Reduction of Heaters	Ongoing	Kerosene	4,409	4,850	1.2	328	0	0.0
J.F Walsh Packaging	Heating Time Schedule reduction	Ongoing	Kerosene	5,512	6,063	1.5	410	0	0.0
J.F Walsh Packaging	Install Capacitors to reduce Wattless load	N	Electricity	0	0	0.0	657	700	1.1
J.F Walsh Packaging	Replace Blower Units with more efficient Heaters	Y September 2021	Kerosene	16,535	18,188	4.4	1,229	10,557	8.6
J.F Walsh Packaging	Lighting Upgrade (FL to LED)	N	Electricity	4,742	8,678	1.5	801	1,520	1.9
J.F Walsh Packaging	Compressor Leak test & repair	N	Electricity	9,240	16,909	1.5	1,561	3,000	1.9

SME name	ECM description	Implemented Y/N, provide date if yes	Energy type (gas, electricity etc)	Final Energy (kWh/annum)	Primary Energy (kWh/annum) (1.83 PECF)	Carbon (tCO2/annum)	Cost Savings (€/annum)	Investment (€)	Simple Payback Period
Modular Automation	Building management system upgrade and energy monitoring	Ongoing	Electricity, NGas	37,740	56,619	8.8	2,777	6,050	2.2
Modular Automation	Reduce Building 1 heating systems thermostat Setpoint by 1 degree	Ongoing	NGas	11,423	12,565	2.3	674	0	0.0
Modular Automation	Reduce Time schedule of heating systems in Building 1	Ongoing	Electricity	57,119	107,955	11.7	3,370	0	0.0
Modular Automation	LED Lighting Upgrade	Ongoing	Electricity	103,784	196,151	33.7	12,350	47,520	3.8
Modular Automation	Reduce building 1 boiler setpoint by 5 degrees	N	NGas	51,927	57,119	10.6	3,064	0	0.0
Modular Automation	Reduce AHU Fan Speed	N	Electricity	2,767	5,230	0.9	329	700	2.1
Modular Automation	Change Filters in AHU	Ongoing	Electricity	986	1,863	0.3	117	70	0.6



SME name	ECM description	Implemented Y/N, provide date if yes	Energy type (gas, electricity etc)	Final Energy (kWh/annum)	Primary Energy (kWh/annum) (1.83 PECF)	Carbon (tCO2/annum)	Cost Savings (€/annum)	Investment (€)	Simple Payback Period
Alltech	LED Lighting Upgrade	Ongoing	Electricity	385,500	705,465	125.0	57,825	125,000	2.2
Alltech	Compressor Leak test	Ongoing	Electricity	48,809	89,320	15.8	7,321	11,000	1.5
Alltech	Variable speed drive for Compressor	Ongoing	Electricity	599,362	1,096,832	194.5	89,904	61,672	0.7
Total				1,632,253	2,739,060	496	209,301	623,626	3.0

### 5.1.2 Sample ECM sheet

ECM Sheet-7-01			Rev-03
Detail:	Description		
Site:	St. Tola Goats Cheese		
Date of Assessment Report:	05/02/2021		
Revision Date:	10/06/2021		
Assessor:	Stephen Murphy		
ECM Name:	Change Boiler from Kerosene to LPG		
Description:	Changing fossil fuel source from kerosene to LPG as LPG is a cleaner fuel compared to kerosene and replacing the kerosene boiler with a more efficient condensing LPG boiler.		
Source	Technical Information	Quantity	
SEAI	Carbon intensity of LPG (gCO2/kWh)	229.3	
SEAI	Carbon Intensity of Kerosene (gCO2/kWh)	257	
Specification Sheet	Kerosene Boiler Efficiency, Condensing LPG Boiler efficiency.	70%, 99%	
Site Billing	2019 Kerosene Yearly Usage (kWh)	39,101	
Quote	Bulk Tank Installation (€)	4,800	



6 Month Data	Estimated Energy usage (kWh)	11503.8
SEAI Cost Comparison	Cost per kWh Kerosene (€/kWh)	0.0843
SEAI Cost Comparison	Cost per kWh LPG (€/kWh)	0.112
<b>Calculations</b>		
Description	Equation	Unit
Carbon intensity Difference	$257 - 229.3 = 27.7$	gCO <sub>2</sub> /kWh
tCO <sub>2</sub> per Annual Kerosene Usage	$(39,101 - 11,503) \times (27.7 / 1,000,000) = 0.76444$	tCO <sub>2</sub> / year
Cost of LPG	$0.112 \times 11,503 = 1,288.4$	€
Cost of Kerosene	$0.0843 \times 39,101 = 3,296.21$	€
Cost Savings per Year	$3,296.21 - 1,288.4 = 2,007.1$	€
<b>Savings Details</b>		
Capital Expenditure (€)	€4,800	
Energy / Year (kWh)	27,597	
Total Primary Energy Required (kWh)	30,357	
Carbon abatement / Year (tCO <sub>2</sub> )	7.96	
Cost Savings / Year (€)	€2,007	

Discounted 5 Year Net Present Value (€)	€3,213	
5 Year Carbon Abatement (tCO2)	39.79	
5 Year NPV/ 5 Year Carbon Abatement (€ / tCO2) (MACC)	80.75	
Net Present Value Calculations		
Parameter	Value	
Yearly Savings (€)	€2,007	
Discount Rate	8%	
Capex (€)	€4,800	
Year 1 Savings	-€2,942	
Year 2 Savings	-€1,221	
Year 3 Savings	€372	Payback in Year 2
Year 4 Savings	€1,847	
Year 5 Savings	€3,213	
5 Year NPV (-CapEx)	€3,213	

### 5.1.3 Example SME Sign off

## Commitment for Staff Training

I, Nicholas Ryan of Tipperary Glass Ltd hereby acknowledge the support from the SPEEDIER service and intend to provide training to the number of staff outlined below:

Staff Type	No. of staff intended for training
Decision Making staff (Management)	3
General Staff	13

SME Signature: Nicholas Ryan Date: 10/11/2021



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## Declaration of SPEDIER Project Impact

I, Brian McEntee of St Tola Goats Cheese hereby acknowledge the support from the SPEEDIER service as a deciding factor for the consideration of the Energy Conservation Measures (ECMs) listed below:

ECM Name	ECM Ref No.	ECM Spend (€)	Energy Savings (kWh)	Carbon Savings (Tco2)	Cost Savings / year (€)	5 NPV (€)
Change Boiler from Kerosene to LPG	ECM Sheet-07-01	€4,800	7,820	7.96	€2,007	€3,213
Thermostat replacements	ECM Sheet-07-02	€52	3,064	0.70	€343	€1,318
Insulate Heat Exchanger, Piping to and from the ice bank	ECM Sheet-07-03	€600	2,315	0.75	€413	€1,047
Walk in Fridge: Evaporator & Condenser Cleaning	ECM Sheet-07-04	€100	1,600	0.52	€1,038	€1,038
Walk in Fridges Seal replacement	ECM Sheet-07-05	€500	5,440	1.77	€969	€3,371
Wash Hand Basin Optimisation	ECM Sheet-07-06	€25	3,054	0.70	€342	€1,341
Ice Bank Energy Reduction	ECM Sheet-07-07	€0	466	0.15	€83	€332
<b>Total</b>		<b>€6,077</b>	<b>43,537</b>	<b>13</b>	<b>€5,196</b>	<b>€11,660</b>

With adequate time and resources all above would be implemented, the support from the SPEEDIER service has also been proven helpful with better understanding of site systems and processes, raising awareness of climate challenges, and improved energy efficiency for St Tola Goats Cheese.

SME Signature: 

Date: 15/9/21



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## 5.2 Annex 2 Italy Pilot Region

### 5.2.1 Summary of Impacts at each SME

SME name	ECM description	Implemented Y/N, provide date if yes	Energy type (gas, electricity etc)	kWh/annum	kg CO2/annum	€/annum
1	Facility Management Changes	Ongoing	Electricity and heat	196000	49000	12250
	Regularly clean air filters during peak cooling or heating season					
	Install Task Lights and upgrade to dimmable LED.					
	Replace boiler and insulate tubes					
2	Adjust thermostats for seasonal changes and Keep exterior doors closed while running HVAC.	Ongoing	Electricity and heat	120000	30000	7500
	Efficient use of lighting					
	Change Air-filters and install better insulation solutions					
	Consider use of photovoltaic panels					
3	Enable sleep settings and energy management function on all multifunction devices	Y	Electricity and heat	57600	14400	3600
	Keep engines clean, minimize lighting in non-working areas and install better insulation solutions					
	Facility Management Changes					
	Ensure team members in each department are trained on the importance of energy management and basic energy conservation practices.					

4	Enable sleep settings and energy management function on all multifunction devices	Ongoing	Electricity and heat	55000	13750	3437.5
	Regularly clean lights and air filters and use of task lighting					
	Repair leaks and adjust pressure in compressed air systems.					
	Use heat-insulating materials for doors and windows					
5	Transformer load reduction/change and other structural changes	Y	Electricity and heat	19600	4900	1225
	Use of bright colors for walls to reflect light and efficient use of lighting					
	Change Air-filters					
6	Regularly clean lights, air filters and assets	Ongoing	Electricity and heat	120000	30000	7500
	Maximize the use of daylight and optimized use of lights					
	Calibrate the thermostats and use of smart meters					
	Enable sleep settings and energy management function on all multifunction devices					
7	Transformer load reduction/change (in case of more than one transformer).	Ongoing	Electricity and heat	250000	62500	15625
	Adjust thermostats for seasonal changes and use of modern electronic thermostats					
	Installing or substitute fans					
	Replace windows with more energy efficient options (double/triple glazing).					
8	Efficient use of lighting	Ongoing	Electricity and heat	168000	42000	10500
	Keep engines clean					
	Calibrate the thermostats and use of smart meters					

	install better insulation solutions					
9	Use task lighting when feasible	N	Electricity and heat	87500	21875	5468.75
	Facility Management Changes					
	Ensure team members in each department are trained on the importance of energy management and basic energy conservation practices.					
	Repair leaks and adjust pressure in compressed air systems.					
10	Enable sleep settings and energy management function on all machineries and distribute lighting switches	Ongoing	Electricity and heat	130000	32500	8125
	Install occupancy markers and insulation solutions					
	Consider use of photovoltaic panels					

## 5.2.2 Sample ESCO Signoff



Ancona, 29th september 2021

Hereby, the undersigned Simone Francesco Fedeli, C.E.O. at Ve.S.T.A. srl, a company currently operating on the Italian market in the field of energy services, confirms that he has collaborated with the research activities of Energy & Strategy of Politecnico di Milano in the field of energy efficiency, which are the subject of the SPEEDIER project.

In particular, thanks to the collaboration with Energy & Strategy research group of Politecnico di Milano, we became aware of the tools for the evaluation of energy efficiency projects and methods for conducting energy audits that also include ring-fencing and zero-budget mechanisms, such as those at the basis of the SPEEDIER project.

These tools have helped to strengthen the approach to the audit process, adopted by the company to several SMEs in the Italian context.

As part of the collaboration mentioned above, I also confirm that we have shared with Energy & Strategy research group of Politecnico di Milano, and in compliance with the regulations on the processing of sensitive data, information and aggregate data relating to the results obtained and expected by the companies involved (in terms, for example, of investments made, economic and energy savings, etc.).

Sincerely,

Simone Francesco Fedeli

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Iscritta al R.E.A. di Monza n° 1847070



Horizon 2020  
European Union Funding  
for Research & Innovation

This project has received funding from  
the European Union's Horizon 2020 research and innovation  
programme under grant agreement No 847034



## 5.3 Annex 3 Romania Pilot Region

### 5.3.1 Summary of Impacts at each SME

ECMs Ref.	SME name	ECM description	Implemented Y/N, provide date if yes	Energy type (gas, electricity etc)	Final Energy (kWh/annum)	Primary Energy (kWh/annum) (1.1 for gas and 2.8 for Elec PECF)	Carbon (tCO2/annum)	Cost Savings (€/annum)	Investment (€)
E01-01	Le Boutique Hotel Moxa	Energy Consumption monitoring: energy consumption is regularly monitored in order to assess energy savings and to identify abnormal changes in energy consumption	Y/01.09.2021	Electricity & gas	8,693	10,181	2.0	656	100



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E01-02	Le Boutique Hotel Moxa	Information to guests: leaflets in the guests rooms	Y/01.09.2021	Electricity & gas	8,693	10,182	2.0	656	400
E01-03	Le Boutique Hotel Moxa	Staff trainings	Y/01.09.2021	Electricity & gas	22,603	26,470	5.1	1,705	1,000
E01-04	Le Boutique Hotel Moxa	Hot water saving: low-flow devices have been installed in the hotel rooms	N	Gas	37,381	41,119	8.4	2,617	1,500
E01-05	Le Boutique Hotel Moxa	Automatic control of electricity in guest rooms: "economy box" to shut down the electricity when guests leave their rooms	N	Electricity	2,182	6,108	0.5	436	1,500
E02-01	Capital Plaza Hotel	Energy Consumption monitoring: energy consumption is regularly monitored in order to assess	Y/01.09.2021	electricity&gas	10,503	12,500	6.6	802	100



		energy savings and to identify abnormal changes in energy consumption							
E02-02	Capital Plaza Hotel	Information to guests: leaflets in the guests rooms	Y/01.09.2021	electricity&gas	10,503	12,500	6.6	802	500
E02-03	Capital Plaza Hotel	Staff trainings	Y/15.10.2021	electricity&gas	27,308	29,754	16.2	2,085	1,000
E02-04	Capital Plaza Hotel	Hot water saving: low-flow devices have been installed in the hotel rooms	N	gas	45,163	53,440	11.0	3,161	1,250
E02-05	Capital Plaza Hotel	Electricity consumption monitoring: AC consumption	N	Electricity	2,573	7,205	0.6	515	1,250
E03-01	Hotel Carmen Predeal	Energy Consumption monitoring: energy consumption is regularly monitored in order to assess	Y/01.09.2021	electricity&gas	33,328	41,158	21.8	2,677	100



		energy savings and to identify abnormal changes in energy consumption							
E03-02	Hotel Carmen Predeal	Information to guests: leaflets in the guests rooms	Y/01.09.2021	electricity&gas	33,328	41,158	21.8	2,677	500
E03-03	Hotel Carmen Predeal	Staff trainings	Y/15.10.2021	electricity&gas	86,652	71,500	38.9	6,960	1,000
E03-04	Hotel Carmen Predeal	Hot water saving: low-flow devices have been installed in the hotel rooms	N	gas	81,352	89,487	18.3	5,695	3,000
E03-05	Hotel Carmen Predeal	Windows shadow system:	N	Electricity	6,615	18,521	1.7	1,323	1,852
E04-01	Vila Alpin	Energy Consumption monitoring: energy consumption is regularly monitored in order to assess energy	Y/01.09.2021	electricity&gas	4,536	5,602	3.2	364	100



		savings and to identify abnormal changes in energy consumption							
E04-02	Vila Alpin	Information to guests: leaflets in the guests rooms	Y/01.09.2021	electricity&gas	4,536	5,602	3.2	364	500
E04-03	Vila Alpin	Staff trainings	Y/15.10.2021	electricity&gas	11,795	14,566	29.7	947	1,000
E04-04	Vila Alpin	Hot water saving: low-flow devices installed in the hotel rooms	N	gas	19,507	18,656	3.8	813	700
E04-05	Vila Alpin	Efficient lighting new bulbs	N	Electricity	1,441	4,034	0.4	288	1,130
E05-01	Pensiunea Carol Floresti	Energy Consumption monitoring: energy consumption is regularly monitored in order to assess energy savings and to identify abnormal	Y/01.02.2021	electricity&gas	2,635	3,088	1.6	199	100



		changes in energy consumption							
E05-02	Pensiunea Carol Floresti	Information to guests: leaflets in the guests rooms	y/01.08.2021	electricity&gas	2,635	3,088	1.6	199	500
E05-03	Pensiunea Carol Floresti	Staff trainings	Y/01.09.2021	electricity&gas	6,851	8,030	4.2	517	1,000
E05-04	Pensiunea Carol Floresti	Windows insulation: energy saving duple glazing was instaled during extension (+40%) of the hotel	Y/01.09.2021	gas	8,300	9,750	2.0	581	5,000
E05-05	Pensiunea Carol Floresti	Building insulation: high level insulation	Y/01.09.2021	gas	8,696	10,300	2.1	609	7,500
E05-06	Pensiunea Carol Floresti	Hot water saving: low-flow devices have been installed in the hotel rooms	Y/01.09.2021	gas	5,770	6,347	1.3	813	600

E05-07	Pensiunea Carol Floresti	Integration of renewable energies: - domestic hot water from solar	N	gas	16,773	18,450	3.8	780	923
E05-08	Pensiunea Carol Floresti	Integration of renewable energies: - electricity from PV solar sources 27kwh	N	Electricity	1,393	3,900	0.4	279	1,950
E06-01	Casa Lazaroiu Hotel	Energy Consumption monitoring: energy consumption is regularly monitored in order to assess energy savings and to identify abnormal changes in energy consumption	Y/15.10.2021	electricity&gas	2,700	3,268	1.7	212	100
E06-02	Casa Lazaroiu Hotel	Information to guests: leaflets in the guests rooms	Y/15.10.2021	electricity&gas	2,700	3,268	1.7	212	500



E06-03	Casa Lazaroiu Hotel	Staff trainings	Y/15.10.2021	electricity&gas	7,021	8,497	4.4	551	1,000
E06-04	Casa Lazaroiu Hotel	Hot water saving: low-flow devices have been installed in the hotel rooms	Y/15.10.2021	gas	11,611	14,052	2.9	813	500
E06-05	Casa Lazaroiu Hotel	Integration of renewable energies: - domestic hot water from solar	N	gas	11,141	12,255	2.5	780	613
E06-06	Casa Lazaroiu Hotel	Integration of renewable energies: - electricity from PV solar sources	N	Electricity	2,188	6,128	0.6	438	3,064
E06-07	Casa Lazaroiu Hotel	Automatic control of electricity in guest rooms: "economy box" to shut down the electricity when guests leave their rooms	N	Electricity	1,050	2,941	0.3	210	500



E06-08	Casa Lazaroiu Hotel	Electricity consumption monitoring: AC consumption	N	Electricity	876	2,451	1.4	175	500
E06-09	Casa Lazaroiu Hotel	Windows shadow system:	N	Electricity	438	1,225	0.1	88	123
E07-01	Hotel Caro's	Energy Consumption monitoring: energy consumption is regularly monitored in order to assess energy savings and to identify abnormal changes in energy consumption	Y/15.10.2022	electricity&gas	3,517	4,825	2.5	319	100
E07-02	Hotel Caro's	Information to guests: leaflets in the guests rooms	Y/15.10.2022	electricity&gas	3,517	4,825	2.5	319	500
E07-03	Hotel Caro's	Staff trainings	Y/15.10.2022	electricity&gas	9,144	12,545	6.5	830	1,000
E07-04	Hotel Caro's	Hot water saving: low-flow devices have been	Y/15.10.2021	gas	15,122	20,748	4.3	813	700

		installed in the hotel rooms							
E07-05	Hotel Caro's	Integration of renewable energies: - domestic hot water from solar	N	gas	13,188	14,507	3.0	923	725
E07-06	Hotel Caro's	Integration of renewable energies: - electricity from PV solar sources	N	Electricity	7,034	19,694	1.8	1,407	9,847
E07-07	Hotel Caro's	Automatic control of electricity in guest rooms: "economy box" to shut down the electricity when guests leave their rooms	N	Electricity	3,376	9,453	0.9	675	700
E07-08	Hotel Caro's	Electricity consumption monitoring: AC consumption	N	Electricity	2,814	7,879	0.7	563	700
E07-09	Hotel Caro's	Windows shadow system:	N	Electricity	1,407	3,939	0.4	281	394

E08-01	Hotel Hello	Energy Consumption monitoring: energy consumption is regularly monitored in order to assess energy savings and to identify abnormal changes in energy consumption	Y/15.10.2023	electricity&gas	4,032	5,669	2.9	377	100
E08-02	Hotel Hello	Information to guests: leaflets in the guests rooms	Y/15.10.2023	electricity&gas	4,032	5,669	2.9	377	500
E08-03	Hotel Hello	Staff trainings	Y/15.10.2021	electricity&gas	10,483	14,739	7.7	979	1,000
E08-04	Hotel Hello	Hot water saving: low-flow devices have been installed in the hotel rooms	Y/15.10.2021	gas	17,338	24,377	5.0	813	550
E08-05	Hotel Hello	Integration of renewable energies: - domestic hot	N	gas	24,192	26,611	5.5	1,693	1,331

		water from solar							
E08-06	Hotel Hello	Integration of renewable energies: - electricity from PV solar sources	N	Electricity	9,072	25,402	2.3	1,814	12,701
E08-07	Hotel Hello	Automatic control of electricity in guest rooms: "economy box" to shut down the electricity when guests leave their rooms	N	Electricity	4,355	12,193	1.1	871	550
E08-08	Hotel Hello	Electricity consumption monitoring: AC consumption	N	Electricity	3,630	10,163	0.9	726	550
E08-09	Hotel Hello	Windows shadow system:	N	Electricity	1,814	5,080	0.5	363	508
E09-01	Hotel Confort	Energy Consumption monitoring: energy consumption is regularly monitored in order to	Y/15.10.2021	electricity&gas	3,618	4,779	2.5	314	100



		assess energy savings and to identify abnormal changes in energy consumption							
E09-02	Hotel Confort	Information to guests: leaflets in the guests rooms	Y/15.10.2021	electricity&gas	3,618	4,779	2.5	314	500
E09-03	Hotel Confort	Staff trainings	Y/15.10.2021	electricity&gas	9,406	12,425	6.5	817	1,000
E09-04	Hotel Confort	Hot water saving: low-flow devices have been installed in the hotel rooms	Y/15.10.2021	gas	6,222	6,844	1.4	813	500
E09-05	Hotel Confort	Integration of renewable energies: - domestic hot water from solar	N	gas	18,088	19,897	4.1	780	995
E09-06	Hotel Confort	Integration of renewable energies: - electricity from PV solar sources	N	Electricity	5,879	16,460	1.5	438	8,230

E09-07	Hotel Confort	Automatic control of electricity in guest rooms: "economy box" to shut down the electricity when guests leave their rooms	N	Electricity	2,822	7,901	0.7	210	500
E09-08	Hotel Confort	Electricity consumption monitoring: AC consumption	N	Electricity	2,352	6,585	0.6	470	500
E09-09	Hotel Confort	Windows shadow system:	N	Electricity	1,176	3,292	0.3	235	329
E10-01	Hotel Orion	Energy Consumption monitoring: energy consumption is regularly monitored in order to assess energy savings and to identify abnormal changes in energy consumption	Y/15.10.2025	electricity&gas	5,384	7,295	3.8	482	100



E10-02	Hotel Orion	Information to guests: leaflets in the guests rooms	Y/15.10.2025	electricity&gas	5,384	7,295	3.8	482	500
E10-03	Hotel Orion	Staff trainings	Y/15.10.2021	electricity&gas	13,997	18,966	9.9	1,253	1,000
E10-04	Hotel Orion	Windows insulation: energy saving duple glazing	N	gas	10,198	11,217	2.3	714	2,500
E10-05	Hotel Orion	Hot water saving: low-flow devices have been installed in the hotel rooms	Y/15.10.2021	gas	5,787	6,366	1.3	813	750
E10-06	Hotel Orion	Integration of renewable energies: - domestic hot water from solar	N	gas	16,824	18,506	3.8	1,178	925
E10-07	Hotel Orion	Integration of renewable energies: - electricity from PV solar sources	N	Electricity	10,094	28,264	2.5	2,019	14,132
E10-08	Hotel Orion	Automatic control of electricity in guest rooms:	N	Electricity	4,845	13,567	1.2	969	750



		"economy box" to shut down the electricity when guests leave their rooms							
E10-09	Hotel Orion	Electricity consumption monitoring: AC consumption	N	Electricity	4,038	11,308	1.0	808	750
E10-10	Hotel Orion	Windows shadow system:	N	Electricity	2,019	5,653	0.5	404	565
E11-01	Hotel B-Dorin	Energy Consumption monitoring: energy consumption is regularly monitored in order to assess energy savings and to identify abnormal changes in energy consumption	Y/15.10.2026	electricity&gas	5,520	7,855	4.1	523	100
E11-02	Hotel B-Dorin	Information to guests: leaflets in	Y/15.10.2026	electricity&gas	5,520	7,855	4.1	523	500



		the guests rooms							
E11-03	Hotel B-Dorin	Staff trainings	Y/15.10.2021	electricity&gas	14,352	20,423	10.6	1,359	1,000
E11-04	Hotel B-Dorin	Windows insulation: energy saving double glazing	N	gas	17,427	24,798	5.1	12,199	3,400
E11-05	Hotel B-Dorin	Hot water saving: low-flow devices have been installed in the hotel rooms	Y/15.10.2021	gas	23,736	33,776	6.9	1,662	600
E11-06	Hotel B-Dorin	Integration of renewable energies: - domestic hot water from solar	N	gas	20,700	22,770	4.7	1,449	1,139
E11-07	Hotel B-Dorin	Integration of renewable energies: - electricity from PV solar sources	N	Electricity	13,110	36,708	3.3	2,622	18,354
E11-08	Hotel B-Dorin	Automatic control of electricity in guest rooms: "economy box" to shut down the	N	Electricity	6,293	17,620	1.6	1,259	600

		electricity when guests leave their rooms							
E11-09	Hotel B-Dorin	Electricity consumption monitoring: AC consumption	N	Electricity	5,245	14,686	1.3	1,049	600
E11-10	Hotel B-Dorin	Windows shadow system:	N	Electricity	2,622	7,342	0.7	524	734
E12-01	Continental Hotel	Energy Consumption monitoring: energy consumption is regularly monitored in order to assess energy savings and to identify abnormal changes in energy consumption	Y/15.10.2027	electricity&gas	7,584	10,405	5.4	689	100
E12-02	Continental Hotel	Information to guests: leaflets in the guests rooms	Y/15.10.2027	electricity&gas	7,584	10,405	5.4	689	500
E12-03	Continental Hotel	Staff trainings	Y/15.10.2021	electricity&gas	19,718	27,054	14.1	1,790	1,000



E12-04	Continental Hotel	Windows insulation: energy saving double glazing	N	gas	23,943	32,849	6.7	1,676	5,600
E12-05	Continental Hotel	Hot water saving: low-flow devices have been installed in the hotel rooms	Y/15.10.2021	gas	32,611	44,743	9.2	813	1,250
E12-06	Continental Hotel	Integration of renewable energies: - domestic hot water from solar	N	gas	28,440	31,284	6.4	1,991	1,564
E12-07	Continental Hotel	Integration of renewable energies: - electricity from PV solar sources	N	Electricity	15,168	42,470	3.8	3,034	21,235
E12-08	Continental Hotel	Automatic control of electricity in guest rooms: "economy box" to shut down the electricity when guests leave their rooms	N	Electricity	7,281	20,386	1.8	1,456	1,250



E12-09	Continental Hotel	Electricity consumption monitoring: AC consumption	N	Electricity	6,068	16,991	1.5	1,214	1,250
E12-10	Continental Hotel	Windows shadow system:	N	Electricity	3,034	8,494	0.8	607	849
E13-01	Hotel Turist	Energy Consumption monitoring: energy consumption is regularly monitored in order to assess energy savings and to identify abnormal changes in energy consumption	Y/15.10.2028	electricity&gas	7,950	10,772	5.6	712	100
E13-02	Hotel Turist	Information to guests: leaflets in the guests rooms	Y/15.10.2028	electricity&gas	7,950	10,772	5.6	712	500
E13-03	Hotel Turist	Staff trainings	Y/15.10.2021	electricity&gas	20,670	28,008	14.6	1,850	1,000
E13-04	Hotel Turist	Windows insulation: energy	N	gas	25,098	34,008	7.0	1,757	5,000

		saving double glazing							
E13-05	Hotel Turist	Hot water saving: low-flow installed in the hotel rooms	Y/15.10.2021	gas	34,185	46,321	9.5	813	1,000
E13-06	Hotel Turist	Integration of renewable energies: - domestic hot water from solar	N	gas	24,844	27,328	5.6	1,739	1,366
E13-07	Hotel Turist	Integration of renewable energies: - electricity from PV solar sources	N	Electricity	14,906	41,738	3.8	2,981	20,869
E13-08	Hotel Turist	Automatic control of electricity in guest rooms: "economy box" to shut down the electricity when guests leave their rooms	N	Electricity	7,155	20,034	1.8	1,431	1,000
E13-09	Hotel Turist	Electricity consumption monitoring: AC consumption	N	Electricity	5,964	16,698	1.5	1,193	1,000



E13-10	Hotel Turist	Windows shadow system:	N	Electricity	2,981	8,347	0.8	596	835
E14-01	Articus Hotel	Energy Consumption monitoring: energy consumption is regularly monitored in order to assess energy savings and to identify abnormal changes in energy consumption	Y/15.10.2029	electricity&gas	9,095	12,323	6.4	814	100
E14-02	Articus Hotel	Information to guests: leaflets in the guests rooms	Y/15.10.2029	electricity&gas	9,095	12,323	6.4	814	500
E14-03	Articus Hotel	Staff trainings	Y/15.10.2021	electricity&gas	23,646	32,041	16.7	2,116	1,000
E14-04	Articus Hotel	Windows insulation: energy saving double glazing	N	gas	28,712	38,905	8.0	2,010	6,800
E14-05	Articus Hotel	Hot water saving: low-flow devices have been	Y/15.10.2021	gas	39,108	52,991	10.9	813	1,250

		installed in the hotel rooms							
E14-06	Articus Hotel	Integration of renewable energies: - domestic hot water from solar	N	gas	28,421	31,263	6.4	1,989	1,563
E14-07	Articus Hotel	Integration of renewable energies: - electricity from PV solar sources	N	Electricity	17,053	47,748	4.3	3,411	23,874
E14-08	Articus Hotel	Automatic control of electricity in guest rooms: "economy box" to shut down the electricity when guests leave their rooms	N	Electricity	8,185	22,919	2.1	1,637	1,250
E14-09	Articus Hotel	Electricity consumption monitoring: AC consumption	N	Electricity	6,822	19,103	1.7	1,364	1,250
E14-10	Articus Hotel	Windows shadow system:	N	Electricity	3,411	9,549	0.9	682	955

E15-01	Casa Odeon	Energy Consumption monitoring: energy consumption is regularly monitored in order to assess energy savings and to identify abnormal changes in energy consumption	Y/15.10.2021	electricity&gas	2,033	2,893	1.5	193	100
E15-02	Casa Odeon	Information to guests: leaflets in the guests rooms	Y/15.10.2021	electricity&gas	2,033	2,893	1.5	193	500
E15-03	Casa Odeon	Staff trainings	Y/15.10.2021	electricity&gas	5,286	7,522	3.9	501	1,000
E15-04	Casa Odeon	Windows insulation: energy saving double glazing	N	gas	6,418	9,133	1.9	449	2,500
E15-05	Casa Odeon	Hot water saving: low-flow devices have been installed in the hotel rooms	Y/15.10.2021	gas	8,742	12,440	2.6	813	500





E15-06	Casa Odeon	Integration of renewable energies: - domestic hot water from solar	N	gas	7,624	8,386	1.7	534	419
E15-07	Casa Odeon	Integration of renewable energies: - electricity from PV solar sources	N	Electricity	4,828	13,519	1.2	966	6,760
E15-08	Casa Odeon	Automatic control of electricity in guest rooms: "economy box" to shut down the electricity when guests leave their rooms	N	Electricity	2,318	6,489	0.6	464	500
E15-09	Casa Odeon	Electricity consumption monitoring: AC consumption	N	Electricity	1,932	5,409	0.5	386	500
E15-10	Casa Odeon	Windows shadow system:	N	Electricity	966	2,704	0.2	193	270

E16-01	Pensiunea Mea	Energy Consumption monitoring: energy consumption is regularly monitored in order to assess energy savings and to identify abnormal changes in energy consumption	Y/15.10.2021	electricity&gas	2,280	3,206	1.7	213	100
E16-02	Pensiunea Mea	Information to guests: leaflets in the guests rooms	Y/15.10.2021	electricity&gas	2,280	3,206	1.7	213	500
E16-03	Pensiunea Mea	Staff trainings	Y/15.10.2021	electricity&gas	5,928	8,335	4.3	554	1,000
E16-04	Pensiunea Mea	Windows insulation: energy saving double glazing	N	gas	7,198	10,120	2.1	504	2,500
E16-05	Pensiunea Mea	Hot water saving: low-flow devices have been installed in the hotel rooms	Y/15.10.2021	gas	9,804	13,784	2.8	813	500



E16-06	Pensiunea Mea	Integration of renewable energies: - domestic hot water from solar	N	gas	13,680	15,048	3.1	958	752
E16-07	Pensiunea Mea	Integration of renewable energies: - electricity from PV solar sources	N	Electricity	5,130	14,364	1.3	1,026	7,182
E16-08	Pensiunea Mea	Automatic control of electricity in guest rooms: "economy box" to shut down the electricity when guests leave their rooms	N	Electricity	2,462	6,895	0.6	492	500
E16-09	Pensiunea Mea	Electricity consumption monitoring: AC consumption	N	Electricity	2,052	5,747	0.5	410	500
E16-10	Pensiunea Mea	Windows shadow system:	N	Electricity	1,026	2,873	0.3	205	287

E17-01	Villa Silvia	Energy Consumption monitoring: energy consumption is regularly monitored in order to assess energy savings and to identify abnormal changes in energy consumption	Y/15.10.2021	electricity&gas	3,680	4,986	2.6	329	100
E17-02	Villa Silvia	Information to guests: leaflets in the guests rooms	Y/15.10.2021	electricity&gas	3,680	4,986	2.6	329	500
E17-03	Villa Silvia	Staff trainings	Y/15.10.2021	electricity&gas	9,568	12,965	6.7	856	1,000
E17-04	Villa Silvia	Windows insulation: energy saving double glazing	N	gas	11,618	15,742	3.2	813	8,600
E17-05	Villa Silvia	Hot water saving: low-flow devices have been installed in the hotel rooms	Y/15.10.2021	gas	15,824	21,442	4.4	813	600



E17-06	Villa Silvia	Integration of renewable energies: - domestic hot water from solar	N	gas	11,500	12,650	2.6	805	633
E17-07	Villa Silvia	Integration of renewable energies: - electricity from PV solar sources	N	Electricity	6,900	19,320	1.7	1,380	9,660
E17-08	Villa Silvia	Automatic control of electricity in guest rooms: "economy box" to shut down the electricity when guests leave their rooms	N	Electricity	3,312	9,274	0.8	662	600
E17-09	Villa Silvia	Electricity consumption monitoring: AC consumption	N	Electricity	552	600	0.7	552	600
E17-10	Villa Silvia	Windows shadow system:	N	Electricity	1,380	3,864	0.3	276	386

E18-01	Bradru Pension	Energy Consumption monitoring: energy consumption is regularly monitored in order to assess energy savings and to identify abnormal changes in energy consumption	Y/15.10.2021	electricity&gas	3,929	5,191	2.7	341	100
E18-02	Bradru Pension	Information to guests: leaflets in the guests rooms	Y/15.10.2021	electricity&gas	3,929	5,191	2.7	341	500
E18-03	Bradru Pension	Staff trainings	Y/15.10.2021	electricity&gas	10,216	13,496	7.0	888	1,000
E18-04	Bradru Pension	Windows insulation: energy saving double glazing	N	gas	12,405	16,387	3.4	868	8,000
E18-05	Bradru Pension	Hot water saving: low-flow devices have been installed in the hotel rooms	Y/15.10.2021	gas	16,896	22,320	4.6	813	700



E18-06	Bradú Pension	Integration of renewable energies: - domestic hot water from solar	N	gas	19,647	21,612	4.4	1,375	4,430
E18-07	Bradú Pension	Integration of renewable energies: - electricity from PV solar sources	N	gas	6,385	17,879	1.6	1,277	8,939
E18-08	Bradú Pension	Automatic control of electricity in guest rooms: "economy box" to shut down the electricity when guests leave their rooms	N	Electricity	3,065	8,582	0.8	613	700
E18-09	Bradú Pension	Electricity consumption monitoring: AC consumption	N	Electricity	2,555	7,153	0.6	511	700
E18-10	Bradú Pension	Windows shadow system:	N	Electricity	1,277	3,576	0.3	255	358

E19-01	Hotel Belvedere 1	Energy Consumption monitoring: energy consumption is regularly monitored in order to assess energy savings and to identify abnormal changes in energy consumption	Y/15.10.2021	electricity&gas	6,174	8,786	4.6	585	100
E19-02	Hotel Belvedere 1	Information to guests: leaflets in the guests rooms	Y/15.10.2021	electricity&gas	6,174	8,786	4.6	585	500
E19-03	Hotel Belvedere 1	Staff trainings	Y/15.10.2021	electricity&gas	16,052	22,843	11.9	1,520	1,000
E19-04	Hotel Belvedere 1	Windows insulation: energy saving double glazing	N	gas	19,491	27,736	5.7	1,364	12,000
E19-05	Hotel Belvedere 1	Hot water saving: low-flow devices have been installed in	Y/15.10.2021	gas	26,548	37,778	7.7	813	1,000





		the hotel rooms							
E19-06	Hotel Belvedere 1	Integration of renewable energies: - domestic hot water from solar	N	gas	23,153	25,468	5.2	1,621	1,273
E19-07	Hotel Belvedere 1	Integration of renewable energies: - electricity from PV solar sources	N	gas	14,663	41,057	3.7	2,933	20,529
E19-08	Hotel Belvedere 1	Automatic control of electricity in guest rooms: "economy box" to shut down the electricity when guests leave their rooms	N	Electricity	7,038	19,707	1.8	1,408	1,000
E19-09	Hotel Belvedere 1	Electricity consumption monitoring: AC consumption	N	Electricity	5,866	16,426	1.5	1,173	1,000
E19-10	Hotel Belvedere 1	Windows shadow system:	N	Electricity	2,933	8,211	0.7	587	821

E20-01	Stubeanu Hotel	Energy Consumption monitoring: energy consumption is regularly monitored in order to assess energy savings and to identify abnormal changes in energy consumption	Y/15.10.2021	electricity&gas	5,365	7,087	3.7	466	100
E20-02	Stubeanu Hotel	Information to guests: leaflets in the guests rooms	Y/15.10.2021	electricity&gas	5,365	7,087	3.7	466	500
E20-03	Stubeanu Hotel	Staff trainings	Y/15.10.2021	electricity&gas	13,949	18,427	9.6	1,212	1,000
E20-04	Stubeanu Hotel	Windows insulation: energy saving double glazing	N	gas	16,937	22,374	4.6	1,186	14,500
E20-05	Stubeanu Hotel	Hot water saving: low-flow devices have been installed in the hotel rooms	Y/15.10.2021	gas	23,070	30,475	6.2	813	950



E20-06	Stubeanu Hotel	Integration of renewable energies: - domestic hot water from solar	N	gas	26,825	29,508	6.0	1,878	1,475
E20-07	Stubeanu Hotel	Integration of renewable energies: - electricity from PV solar sources	N	Electricity	8,718	24,411	2.2	1,744	12,205
E20-08	Stubeanu Hotel	Automatic control of electricity in guest rooms: "economy box" to shut down the electricity when guests leave their rooms	N	Electricity	4,185	11,717	1.1	837	950
E20-09	Stubeanu Hotel	Electricity consumption monitoring: AC consumption	N	Electricity	3,488	9,766	0.9	698	950
E20-10	Stubeanu Hotel	Windows shadow system:	N	Electricity	1,744	4,882	0.4	349	488

E21-01	Bertha House	Energy Consumption monitoring: energy consumption is regularly monitored in order to assess energy savings and to identify abnormal changes in energy consumption	Y/15.10.2021	electricity&gas	4,966	6,982	3.6	464	100
E21-02	Bertha House	Information to guests: leaflets in the guests rooms	Y/15.10.2021	electricity&gas	4,966	6,982	3.6	464	500
E21-03	Bertha House	Staff trainings	Y/15.10.2021	electricity&gas	12,912	18,154	9.4	1,206	1,000
E21-04	Bertha House	Windows insulation: energy saving double glazing	N	gas	15,678	22,044	4.5	1,097	12,000
E21-05	Bertha House	Hot water saving: low-flow devices have been installed in the hotel rooms	Y/15.10.2021	gas	21,355	30,025	6.2	813	1,050

E21-06	Bertha House	Integration of renewable energies: - domestic hot water from solar	N	gas	29,797	32,777	6.7	2,086	1,639
E21-07	Bertha House	Integration of renewable energies: - electricity from PV solar sources	N	gas	11,174	31,287	2.8	2,235	15,644
E21-08	Bertha House	Automatic control of electricity in guest rooms: "economy box" to shut down the electricity when guests leave their rooms	N	Electricity	5,363	15,018	1.4	1,073	1,050
E21-09	Bertha House	Electricity consumption monitoring: AC consumption	N	Electricity	4,470	12,517	1.1	894	1,050
E21-10	Bertha House	Windows shadow system:	N	Electricity	2,235	6,257	0.6	447	626

E22-01	Katalin Pension	Energy Consumption monitoring: energy consumption is regularly monitored in order to assess energy savings and to identify abnormal changes in energy consumption	Y/15.10.2021	electricity&gas	1,669	2,205	1.1	145	100
E22-02	Katalin Pension	Information to guests: leaflets in the guests rooms	Y/15.10.2021	electricity&gas	1,669	2,205	1.1	145	500
E22-03	Katalin Pension	Staff trainings	Y/15.10.2021	electricity&gas	4,340	5,733	3.0	377	1,000
E22-04	Katalin Pension	Windows insulation: energy saving double glazing	N	gas	5,270	6,961	1.4	369	2,400
E22-05	Katalin Pension	Hot water saving: low-flow devices have been installed in the hotel rooms	Y/15.10.2021	gas	7,178	9,482	1.9	813	500



E22-06	Katalin Pension	Integration of renewable energies: - domestic hot water from solar	N	gas	8,346	9,181	1.9	584	459
E22-07	Katalin Pension	Integration of renewable energies: - electricity from PV solar sources	N	Electricity	2,712	7,595	0.7	542	3,797
E22-08	Katalin Pension	Automatic control of electricity in guest rooms: "economy box" to shut down the electricity when guests leave their rooms	N	Electricity	1,302	3,646	0.3	260	500
E22-09	Katalin Pension	Electricity consumption monitoring: AC consumption	N	Electricity	1,085	3,039	0.3	217	500
E22-10	Katalin Pension	Windows shadow system:	N	Electricity	542	1,519	0.1	108	152

E23-01	S'Hotel	Energy Consumption monitoring: energy consumption is regularly monitored in order to assess energy savings and to identify abnormal changes in energy consumption	Y/15.10.2021	electricity&gas	2,935	4,176	2.2	278	100
E23-02	S'Hotel	Information to guests: leaflets in the guests rooms	Y/15.10.2021	electricity&gas	2,935	4,176	2.2	278	500
E23-03	S'Hotel	Staff trainings	Y/15.10.2021	electricity&gas	7,630	10,858	5.6	723	1,000
E23-04	S'Hotel	Windows insulation: energy saving double glazing	N	gas	9,265	13,184	2.7	649	7,800
E23-05	S'Hotel	Hot water saving: low-flow devices have been installed in the hotel rooms	Y/15.10.2021	gas	12,620	17,958	3.7	813	500





E23-06	S'Hotel	Integration of renewable energies: - domestic hot water from solar	N	gas	11,006	12,106	2.5	770	605
E23-07	S'Hotel	Integration of renewable energies: - electricity from PV solar sources	N	Electricity	6,970	19,516	1.8	1,394	9,758
E23-08	S'Hotel	Automatic control of electricity in guest rooms: "economy box" to shut down the electricity when guests leave their rooms	N	Electricity	3,346	9,368	0.8	669	500
E23-09	S'Hotel	Electricity consumption monitoring: AC consumption	N	Electricity	2,789	7,808	0.7	558	500
E23-10	S'Hotel	Windows shadow system:	N	Electricity	1,394	3,903	0.4	279	390

E24-01	Pensiunea Pui de Urs	Energy Consumption monitoring: energy consumption is regularly monitored in order to assess energy savings and to identify abnormal changes in energy consumption	Y/15.10.2021	electricity&gas	3,254	4,410	2.3	291	100
E24-02	Pensiunea Pui de Urs	Information to guests: leaflets in the guests rooms	Y/15.10.2021	electricity&gas	3,254	4,410	2.3	291	500
E24-03	Pensiunea Pui de Urs	Staff trainings	Y/15.10.2021	electricity&gas	8,461	11,465	6.0	757	1,000
E24-04	Pensiunea Pui de Urs	Windows insulation: energy saving duble glazing	N	gas	10,274	13,921	2.9	719	7,000
E24-05	Pensiunea Pui de Urs	Hot water saving: low-flow devices have been installed in the hotel rooms	Y/15.10.2021	gas	13,994	18,962	3.9	813	500



E24-06	Pensiunea Pui de Urs	Integration of renewable energies: - domestic hot water from solar	N	gas	10,170	11,187	2.3	712	559
E24-07	Pensiunea Pui de Urs	Integration of renewable energies: - electricity from PV solar sources	N	Electricity	6,102	17,086	1.5	1,220	8,543
E24-08	Pensiunea Pui de Urs	Automatic control of electricity in guest rooms: "economy box" to shut down the electricity when guests leave their rooms	N	Electricity	2,929	8,201	0.7	586	500
E24-09	Pensiunea Pui de Urs	Electricity consumption monitoring: AC consumption	N	Electricity	2,441	6,836	0.6	488	500
E24-10	Pensiunea Pui de Urs	Windows shadow system:	N	Electricity	1,220	3,417	0.3	244	342

E25-01	BB 16 Hotel	Energy Consumption monitoring: energy consumption is regularly monitored in order to assess energy savings and to identify abnormal changes in energy consumption	Y/15.10.2021	electricity&gas	6,200	8,717	4.5	579	100
E25-02	BB 16 Hotel	Information to guests: leaflets in the guests rooms	Y/15.10.2021	electricity&gas	6,200	8,717	4.5	579	500
E25-03	BB 16 Hotel	Staff trainings	Y/15.10.2021	electricity&gas	16,120	22,665	11.8	1,506	1,000
E25-04	BB 16 Hotel	Windows insulation: energy saving double glazing	N	gas	19,573	27,520	5.6	1,370	14,500
E25-05	BB 16 Hotel	Hot water saving: low-flow devices have been installed in the hotel rooms	Y/15.10.2021	gas	26,660	37,484	7.7	813	900



E25-06	BB 16 Hotel	Integration of renewable energies: - domestic hot water from solar	N	gas	37,200	40,920	8.4	2,604	2,046
E25-07	BB 16 Hotel	Integration of renewable energies: - electricity from PV solar sources	N	Electricity	13,950	39,060	3.5	2,790	19,530
E25-08	BB 16 Hotel	Automatic control of electricity in guest rooms: "economy box" to shut down the electricity when guests leave their rooms	N	Electricity	6,696	18,749	1.7	1,339	900
E25-09	BB 16 Hotel	Electricity consumption monitoring: AC consumption	N	Electricity	5,581	15,627	1.4	1,116	900
E25-10	BB 16 Hotel	Windows shadow system:	N	Electricity	2,790	7,812	0.7	558	781

E26-01	I. Birtha Hotel	Energy Consumption monitoring: energy consumption is regularly monitored in order to assess energy savings and to identify abnormal changes in energy consumption	Y/15.10.2021	electricity&gas	5,879	8,066	4.2	534	100
E26-02	I. Birtha Hotel	Information to guests: leaflets in the guests rooms	Y/15.10.2021	electricity&gas	5,879	8,066	4.2	534	500
E26-03	I. Birtha Hotel	Staff trainings	Y/15.10.2021	electricity&gas	15,285	20,971	10.9	1,388	1,000
E26-04	I. Birtha Hotel	Windows insulation: energy saving double glazing	N	gas	18,559	25,463	5.2	1,299	14,000
E26-05	I. Birtha Hotel	Hot water saving: low-flow devices have been installed in the hotel rooms	Y/15.10.2021	gas	25,279	34,683	7.1	1,770	850



E26-06	I. BIRTHA Hotel	Integration of renewable energies: - domestic hot water from solar	N	gas	22,046	24,250	5.0	1,543	1,213
E26-07	I. BIRTHA Hotel	Integration of renewable energies: - electricity from PV solar sources	N	Electricity	11,758	32,921	3.0	2,352	16,461
E26-08	I. BIRTHA Hotel	Automatic control of electricity in guest rooms: "economy box" to shut down the electricity when guests leave their rooms	N	Electricity	5,644	15,802	1.4	1,129	850
E26-09	I. BIRTHA Hotel	Electricity consumption monitoring: AC consumption	N	Electricity	4,704	13,171	1.2	941	850
E26-10	I. BIRTHA Hotel	Windows shadow system:	N	Electricity	2,351	6,584	0.6	470	658

E27-01	Small Hotel	Energy Consumption monitoring: energy consumption is regularly monitored in order to assess energy savings and to identify abnormal changes in energy consumption	On going	electricity&gas	2,520	3,457	1.8	229	100
E27-02	Small Hotel	Information to guests: leaflets in the guests rooms	On going	electricity&gas	2,520	3,457	1.8	229	500
E27-03	Small Hotel	Staff trainings	N	electricity&gas	6,552	8,989	4.7	595	1,000
E27-04	Small Hotel	Hot water saving: low-flow devices have been installed in the hotel rooms	N	gas	10,836	14,867	3.0	813	750
E27-05	Small Hotel	Integration of renewable energies: - domestic hot	N	gas	9,450	10,395	2.1	662	520



		water from solar							
E27-06	Small Hotel	Integration of renewable energies: - electricity from PV solar sources	N	Electricity	5,040	14,112	1.3	1,008	7,056
E27-07	Small Hotel	Automatic control of electricity in guest rooms: "economy box" to shut down the electricity when guests leave their rooms	N	Electricity	2,419	6,774	0.6	484	750
E27-08	Small Hotel	Electricity consumption monitoring: AC consumption	N	Electricity	2,016	5,646	0.5	403	750
E27-09	Small Hotel	Windows shadow system:	N	Electricity	1,008	2,822	0.3	202	282
E28-01	Casa din Deal Hotel	Energy Consumption monitoring: energy consumption is regularly monitored in order to	On going	electricity&gas	2,883	3,956	2.1	262	100



		assess energy savings and to identify abnormal changes in energy consumption							
E28-02	Casa din Deal Hotel	Information to guests: leaflets in the guests rooms	On going	electricity&gas	2,883	3,956	2.1	262	500
E28-03	Casa din Deal Hotel	Staff trainings	N	electricity&gas	7,496	10,285	5.3	681	1,000
E28-04	Casa din Deal Hotel	Hot water saving: low-flow devices have been installed in the hotel rooms	N	gas	12,398	17,010	3.5	813	1,100
E28-05	Casa din Deal Hotel	Integration of renewable energies: - domestic hot water from solar	N	gas	10,812	11,893	2.4	757	595
E28-06	Casa din Deal Hotel	Integration of renewable energies: - electricity from PV solar sources	N	Electricity	5,766	16,146	1.5	1,153	8,073

E28-07	Casa din Deal Hotel	Automatic control of electricity in guest rooms: "economy box" to shut down the electricity when guests leave their rooms	N	Electricity	2,768	7,750	0.7	554	1,100
E28-08	Casa din Deal Hotel	Electricity consumption monitoring: AC consumption	N	Electricity	2,307	6,460	0.6	461	1,100
E28-09	Casa din Deal Hotel	Windows shadow system:	N	Electricity	1,153	3,229	0.3	231	323
E29-01	Casa Monica Hotel	Energy Consumption monitoring: energy consumption is regularly monitored in order to assess energy savings and to identify abnormal changes in energy consumption	On going	electricity&gas	2,438	3,344	1.7	221	100



E29-02	Casa Monica Hotel	Information to guests: leaflets in the guests rooms	On going	electricity&gas	2,438	3,344	1.7	221	500
E29-03	Casa Monica Hotel	Staff trainings	N	electricity&gas	6,338	8,695	4.5	575	1,000
E29-04	Casa Monica Hotel	Hot water saving: low-flow devices have been installed in the hotel rooms	N	gas	10,481	14,380	2.9	813	800
E29-05	Casa Monica Hotel	Integration of renewable energies: - domestic hot water from solar	N	gas	9,141	10,055	2.1	640	503
E29-06	Casa Monica Hotel	Integration of renewable energies: - electricity from PV solar sources	N	Electricity	4,875	13,650	1.2	975	6,825
E29-07	Casa Monica Hotel	Automatic control of electricity in guest rooms: "economy box" to shut down the electricity	N	Electricity	2,340	6,552	0.6	468	800

		when guests leave their rooms							
E29-08	Casa Monica Hotel	Electricity consumption monitoring: AC consumption	N	Electricity	1,950	5,461	0.5	390	800
E29-09	Casa Monica Hotel	Windows shadow system:	N	Electricity	975	2,730	0.2	195	273
E30-01	Zori de Zi Hotel	Energy Consumption monitoring: energy consumption is regularly monitored in order to assess energy savings and to identify abnormal changes in energy consumption	On going	electricity&gas	2,400	3,293	1.7	218	100
E30-02	Zori de Zi Hotel	Information to guests: leaflets in the guests rooms	On going	electricity&gas	2,400	3,293	1.7	218	500
E30-03	Zori de Zi Hotel	Staff trainings	N	electricity&gas	6,240	8,561	4.5	567	1,000

E30-04	Zori de Zi Hotel	Hot water saving: low-flow devices have been installed in the hotel rooms	N	gas	10,320	14,159	2.9	813	900
E30-05	Zori de Zi Hotel	Integration of renewable energies: - domestic hot water from solar	N	gas	9,000	9,900	2.0	630	495
E30-06	Zori de Zi Hotel	Integration of renewable energies: - electricity from PV solar sources	N	Electricity	4,800	13,440	1.2	960	6,720
E30-07	Zori de Zi Hotel	Automatic control of electricity in guest rooms: "economy box" to shut down the electricity when guests leave their rooms	N	Electricity	2,304	6,451	0.6	461	900
E30-08	Zori de Zi Hotel	Electricity consumption monitoring: AC consumption	N	Electricity	1,920	5,377	0.5	384	900



E30-09	Zori de Zi Hotel	Windows shadow system:	N	Electricity	960	2,688	0.2	192	269
E31-01	Casa Roua	Energy Consumption monitoring: energy consumption is regularly monitored in order to assess energy savings and to identify abnormal changes in energy consumption	On going	electricity&gas	2,987	4,098	2.1	271	100
E31-02	Casa Roua	Information to guests: leaflets in the guests rooms	On going	electricity&gas	2,987	4,098	2.1	271	500
E31-03	Casa Roua	Staff trainings	N	electricity&gas	7,766	10,655	5.5	705	1,000
E31-04	Casa Roua	Hot water saving: low-flow devices have been installed in the hotel rooms	N	gas	12,844	17,622	3.6	813	1,250
E31-05	Casa Roua	Integration of renewable	N	gas	11,201	12,321	2.5	784	616



		energies: - domestic hot water from solar							
E31-06	Casa Roua	Integration of renewable energies: - electricity from PV solar sources	N	Electricity	5,974	16,727	1.5	1,195	8,364
E31-07	Casa Roua	Automatic control of electricity in guest rooms: "economy box" to shut down the electricity when guests leave their rooms	N	Electricity	2,868	8,029	0.7	574	1,250
E31-08	Casa Roua	Electricity consumption monitoring: AC consumption	N	Electricity	2,390	6,692	0.6	478	1,250
E31-09	Casa Roua	Windows shadow system:	N	Electricity	1,195	3,345	0.3	239	335
E32-01	Hotel Art	Energy Consumption monitoring: energy consumption is regularly	On going	electricity&gas	2,654	3,641	1.9	241	100





		monitored in order to assess energy savings and to identify abnormal changes in energy consumption							
E32-02	Hotel Art	Information to guests: leaflets in the guests rooms	On going	electricity&gas	2,654	3,641	1.9	241	500
E32-03	Hotel Art	Staff trainings	N	electricity&gas	6,899	9,466	4.9	626	1,000
E32-04	Hotel Art	Hot water saving: low-flow devices have been installed in the hotel rooms	N	gas	11,410	15,655	3.2	813	1,500
E32-05	Hotel Art	Integration of renewable energies: - domestic hot water from solar	N	gas	9,951	10,946	2.2	697	547
E32-06	Hotel Art	Integration of renewable energies: - electricity	N	Electricity	5,307	14,860	1.3	1,061	7,430

		from PV solar sources							
E32-07	Hotel Art	Automatic control of electricity in guest rooms: "economy box" to shut down the electricity when guests leave their rooms	N	Electricity	2,547	7,133	0.6	509	1,500
E32-08	Hotel Art	Electricity consumption monitoring: AC consumption	N	Electricity	2,123	5,945	0.5	425	1,500
E32-09	Hotel Art	Windows shadow system:	N	Electricity	1,061	2,972	0.3	212	297
E33-01	Hotel Timea	Energy Consumption monitoring: energy consumption is regularly monitored in order to assess energy savings and to identify abnormal changes in	On going	electricity&gas	2,100	2,881	1.5	191	100

		energy consumption							
E33-02	Hotel Timea	Information to guests: leaflets in the guests rooms	On going	electricity&gas	2,100	2,881	1.5	191	500
E33-03	Hotel Timea	Staff trainings	N	electricity&gas	5,460	7,491	3.9	496	1,000
E33-04	Hotel Timea	Hot water saving: low-flow devices have been installed in the hotel rooms	N	gas	9,030	12,389	2.5	813	1,550
E33-05	Hotel Timea	Integration of renewable energies: - domestic hot water from solar	N	gas	7,875	8,663	1.8	551	433
E33-06	Hotel Timea	Integration of renewable energies: - electricity from PV solar sources	N	Electricity	4,200	11,760	1.1	840	5,880
E33-07	Hotel Timea	Automatic control of electricity in	N	Electricity	2,016	5,645	0.5	403	1,550



		guest rooms: "economy box" to shut down the electricity when guests leave their rooms							
E33-08	Hotel Timea	Electricity consumtion monitoring: AC consumtion	N	Electricity	1,680	4,705	0.4	336	1,550
E33-09	Hotel Timea	Windows shadow system:	N	Electricity	840	2,352	0.2	168	235
E34-01	Casa Verde	Energy Consumtion monitoring: energy consumtion is regularly monitored in order to assess energy savings and to identify abnormal changes in energy consumtion	On going	electricity&gas	1,932	2,651	1.4	175	100
E34-02	Casa Verde	Information to guests: leaflets in	On going	electricity&gas	1,932	2,651	1.4	175	500



		the guests rooms							
E34-03	Casa Verde	Staff trainings	N	electricity&gas	5,023	6,892	3.6	456	1,000
E34-04	Casa Verde	Hot water saving: low-flow devices have been installed in the hotel rooms	N	gas	8,308	11,398	2.3	813	900
E34-05	Casa Verde	Integration of renewable energies: - domestic hot water from solar	N	gas	7,245	7,970	1.6	507	398
E34-06	Casa Verde	Integration of renewable energies: - electricity from PV solar sources	N	Electricity	3,864	10,819	1.0	773	5,410
E34-07	Casa Verde	Automatic control of electricity in guest rooms: "economy box" to shut down the electricity when guests leave their rooms	N	Electricity	1,855	5,193	0.5	371	900



E34-08	Casa Verde	Electricity consumption monitoring: AC consumption	N	Electricity	1,546	4,329	0.4	309	900
E34-09	Casa Verde	Windows shadow system:	N	Electricity	773	2,164	0.2	155	216
E35-01	Pensiunea Dora	Energy Consumption monitoring: energy consumption is regularly monitored in order to assess energy savings and to identify abnormal changes in energy consumption	On going	electricity&gas	2,424	3,326	1.7	220	100
E35-02	Pensiunea Dora	Information to guests: leaflets in the guests rooms	On going	electricity&gas	2,424	3,326	1.7	220	500
E35-03	Pensiunea Dora	Staff trainings	N	electricity&gas	6,303	8,648	4.5	572	1,000
E35-04	Pensiunea Dora	Hot water saving: low-flow devices have been	N	gas	10,425	14,303	2.9	813	950



		installed in the hotel rooms							
E35-05	Pensiunea Dora	Integration of renewable energies: - domestic hot water from solar	N	gas	9,092	10,001	2.1	636	500
E35-06	Pensiunea Dora	Integration of renewable energies: - electricity from PV solar sources	N	Electricity	4,849	13,577	1.2	970	6,788
E35-07	Pensiunea Dora	Automatic control of electricity in guest rooms: "economy box" to shut down the electricity when guests leave their rooms	N	Electricity	2,327	6,517	0.6	465	950
E35-08	Pensiunea Dora	Electricity consumption monitoring: AC consumption	N	Electricity	1,940	5,432	0.5	388	950
E35-09	Pensiunea Dora	Windows shadow system:	N	Electricity	970	2,715	0.2	194	272



E36-01	Pensiunea La Bunica	Energy Consumption monitoring: energy consumption is regularly monitored in order to assess energy savings and to identify abnormal changes in energy consumption	On going	electricity&gas	2,016	2,766	1.4	183	100
E36-02	Pensiunea La Bunica	Information to guests: leaflets in the guests rooms	On going	electricity&gas	2,016	2,766	1.4	183	500
E36-03	Pensiunea La Bunica	Staff trainings	N	electricity&gas	5,242	7,191	3.7	476	1,000
E36-04	Pensiunea La Bunica	Hot water saving: low-flow devices have been installed in the hotel rooms	N	gas	8,669	11,894	2.4	813	1,100
E36-05	Pensiunea La Bunica	Integration of renewable energies: - domestic hot	N	gas	7,560	8,316	1.7	529	416





		water from solar							
E36-06	Pensiunea La Bunica	Integration of renewable energies: - electricity from PV solar sources	N	Electricity	4,032	11,290	1.0	806	5,645
E36-07	Pensiunea La Bunica	Automatic control of electricity in guest rooms: "economy box" to shut down the electricity when guests leave their rooms	N	Electricity	1,935	5,419	0.5	387	1,100
E36-08	Pensiunea La Bunica	Electricity consumption monitoring: AC consumption	N	Electricity	1,613	4,517	0.4	323	1,100
E36-09	Pensiunea La Bunica	Windows shadow system:	N	Electricity	806	2,258	0.2	161	226
E37-01	Colt de Rai Hotel	Energy Consumption monitoring: energy consumption is regularly monitored in order to	On going	electricity&gas	2,490	3,417	1.8	226	100



		assess energy savings and to identify abnormal changes in energy consumption							
E37-02	Colt de Rai Hotel	Information to guests: leaflets in the guests rooms	On going	electricity&gas	2,490	3,417	1.8	226	500
E37-03	Colt de Rai Hotel	Staff trainings	N	electricity&gas	6,475	8,884	4.6	588	1,000
E37-04	Colt de Rai Hotel	Hot water saving: low-flow devices have been installed in the hotel rooms	N	gas	10,709	14,692	3.0	813	1,250
E37-05	Colt de Rai Hotel	Integration of renewable energies: - domestic hot water from solar	N	gas	9,339	10,273	2.1	654	514
E37-06	Colt de Rai Hotel	Integration of renewable energies: - electricity from PV solar sources	N	Electricity	4,981	13,946	1.3	996	6,973



E37-07	Colt de Rai Hotel	Automatic control of electricity in guest rooms: "economy box" to shut down the electricity when guests leave their rooms	N	Electricity	2,391	6,694	0.6	478	1,250
E37-08	Colt de Rai Hotel	Electricity consumption monitoring: AC consumption	N	Electricity	1,993	5,580	0.5	399	1,250
E37-09	Colt de Rai Hotel	Windows shadow system:	N	Electricity	996	2,789	0.3	199	279
E38-01	Pensiunea 2 Margarete	Energy Consumption monitoring: energy consumption is regularly monitored in order to assess energy savings and to identify abnormal changes in energy consumption	On going	electricity&gas	2,390	3,279	1.7	217	100



E38-02	Pensiunea 2 Margarete	Information to guests: leaflets in the guests rooms	On going	electricity&gas	2,390	3,279	1.7	217	500
E38-03	Pensiunea 2 Margarete	Staff trainings	N	electricity&gas	6,213	8,524	4.4	564	1,000
E38-04	Pensiunea 2 Margarete	Hot water saving: low- flow devices have been installed in the hotel rooms	N	gas	10,275	14,098	2.9	813	1,200
E38-05	Pensiunea 2 Margarete	Integration of renewable energies: - domestic hot water from solar	N	gas	8,961	9,857	2.0	627	493
E38-06	Pensiunea 2 Margarete	Integration of renewable energies: - electricity from PV solar sources	N	Electricity	4,779	13,382	1.2	956	6,691
E38-07	Pensiunea 2 Margarete	Automatic control of electricity in guest rooms: "economy box" to shut down the electricity	N	Electricity	2,294	6,423	0.6	459	1,200



		when guests leave their rooms							
E38-08	Pensiunea 2 Margarete	Electricity consumption monitoring: AC consumption	N	Electricity	1,912	5,354	0.5	382	1,200
E38-09	Pensiunea 2 Margarete	Windows shadow system:	N	Electricity	956	2,676	0.2	191	268
E39-01	Hotel Escalade 2	Energy Consumption monitoring: energy consumption is regularly monitored in order to assess energy savings and to identify abnormal changes in energy consumption	On going	electricity&gas	1,700	2,332	1.2	154	100
E39-02	Hotel Escalade 2	Information to guests: leaflets in the guests rooms	On going	electricity&gas	1,700	2,332	1.2	154	500
E39-03	Hotel Escalade 2	Staff trainings	N	electricity&gas	4,420	6,064	3.2	401	1,000



E39-04	Hotel Escalade 2	Hot water saving: low-flow devices have been installed in the hotel rooms	N	gas	7,310	10,029	2.1	813	1,600
E39-05	Hotel Escalade 2	Integration of renewable energies: - domestic hot water from solar	N	gas	6,375	7,013	1.4	446	351
E39-06	Hotel Escalade 2	Integration of renewable energies: - electricity from PV solar sources	N	Electricity	3,400	9,520	0.9	680	4,760
E39-07	Hotel Escalade 2	Automatic control of electricity in guest rooms: "economy box" to shut down the electricity when guests leave their rooms	N	Electricity	1,632	4,570	0.4	326	1,600
E39-08	Hotel Escalade 2	Electricity consumption monitoring: AC consumption	N	Electricity	1,360	3,809	0.3	272	1,600



E39-09	Hotel Escalade 2	Windows shadow system:	N	Electricity	680	1,904	0.2	136	190
E40-01	Hotel Aosta	Energy Consumption monitoring: energy consumption is regularly monitored in order to assess energy savings and to identify abnormal changes in energy consumption	On going	electricity&gas	2,672	3,666	1.9	243	100
E40-02	Hotel Aosta	Information to guests: leaflets in the guests rooms	On going	electricity&gas	2,672	3,666	1.9	243	500
E40-03	Hotel Aosta	Staff trainings	N	electricity&gas	6,947	9,532	5.0	631	1,000
E40-04	Hotel Aosta	Hot water saving: low-flow devices have been installed in the hotel rooms	N	gas	11,490	15,764	3.2	813	1,500
E40-05	Hotel Aosta	Integration of renewable	N	gas	10,020	11,022	2.3	701	551



		energies: - domestic hot water from solar							
E40-06	Hotel Aosta	Integration of renewable energies: - electricity from PV solar sources	N	Electricity	5,344	14,963	0.6	513	1,500
E40-07	Hotel Aosta	Automatic control of electricity in guest rooms: "economy box" to shut down the electricity when guests leave their rooms	N		2,565	7,182	0.6	513	1,500
E40-08	Hotel Aosta	Electricity consumption monitoring: AC consumption	N		2,138	5,986	0.5	428	1,500
E40-09	Hotel Aosta	Windows shadow system:	N		1,069	2,993	0.3	214	299
E41-01	Hotel Hermes	Energy Consumption monitoring: energy consumption is regularly	Y/15.10.2025	electricity&gas	5,258	7,125	1.0	471	100





		monitored in order to assess energy savings and to identify abnormal changes in energy consumption							
E41-02	Hotel Hermes	Information to guests: leaflets in the guests rooms	Y/15.10.2025	electricity&gas	5,258	7,125	1.0	471	500
E41-03	Hotel Hermes	Staff trainings	Y/15.10.2021	electricity&gas	13,672	18,525	2.6	1,224	1,000
E41-04	Hotel Hermes	Windows insulation: energy saving double glazing	N	gas	9,960	10,957	2.2	697	2,500
E41-05	Hotel Hermes	Hot water saving: low-flow devices have been installed in the hotel rooms	Y/15.10.2021	gas	5,653	6,218	1.2	813	700
E41-06	Hotel Hermes	Integration of renewable energies: - domestic hot water from solar	N	gas	16,433	18,076	3.7	1,150	904

E41-07	Hotel Hermes	Integration of renewable energies: - electricity from PV solar sources	N	Electricity	9,860	27,607	0.9	1,972	13,803
E41-08	Hotel Hermes	Automatic control of electricity in guest rooms: "economy box" to shut down the electricity when guests leave their rooms	N	Electricity	4,733	13,251	0.4	947	700
E41-09	Hotel Hermes	Electricity consumption monitoring: AC consumption	N	Electricity	3,945	11,045	0.4	789	700
E41-10	Hotel Hermes	Windows shadow system:	N	Electricity	1,972	5,521	0.2	394	552
	<b>Total</b>				3,062,601	4,723,000	1,143.4	306,287	745,314

### 5.3.2 Sample SME Signoff



Horizon 2020  
European Union Funding  
for Research & Innovation

This project has received funding from  
the European Union's Horizon 2020 research and innovation  
programme under grant agreement No 847034

## Declaration of SPEEDIER Project Impact

I, **Oana UNGUREANU** manager of **Le Boutique Hotel Moxa** hereby acknowledge the support from the SPEEDIER service as a deciding factor for the consideration of the Energy Conservation Measures (ECMs) listed below:

SMEs		Le Boutique Hotel Moxa
Industry		hospitality
Building Surface		1,680
Rooms		30
Staff		41
Climate zone		2
Final Energy total		434,666
electric		18,180
gas/heating		191,584
gas/hot water		224,803
Consum final energy/room		239
Consum Primary Energy total		509,039
electric		10,364
gas/heating		210,742
gas/hot water		247,393
ECMs		ECMs
E01-01	Energy Consumption monitoring: energy consumption is regularly monitored in order to assess energy savings and to identify abnormal changes in energy consumption	
implemented Y/N, provide date if yes	Y/01.09.2021	
Energy type (gas, electricity etc)	el, gas	
kWh/annum		10,181
kg CO2/annum		1,970
investment costs		100
E01-02	Information to guests: leaflets in the guests rooms	
implemented Y/N, provide date if yes	Y/01.09.2021	
Energy type (gas, electricity etc)	el, gas	
kWh/annum		10,182
kg CO2/annum		1,970
investment costs		500
E01-03	Staff trainings	
implemented Y/N, provide date if yes	Y/15.10.2021	
Energy type (gas, electricity etc)	el, gas	
kWh/annum		26,470
kg CO2/annum		5,122
investment costs		1,000
E01-04	Hot water saving: low-flow devices have been installed in the hotel rooms	
implemented Y/N, provide date if yes	N	
Energy type (gas, electricity etc)	gas	
kWh/annum		41,119
kg CO2/annum		8,429
investment costs		1,500
E01-05	Automatic control of electricity in guest rooms: "economy box" to shut down the electricity when guests leave their rooms	
implemented Y/N, provide date if yes	N	
Energy type (gas, electricity etc)	el	
kWh/annum		6,108
kg CO2/annum		550
investment costs		1,500
Total Savings		
kWh/annum		94,061
kg CO2/annum		18,041
investment costs		4,600
94,061		kWh/annum
18,041		kg CO2/annum
4,600		investment costs
41	staff and decision makers trained by expert	
1.1	factor convert energy final vs energy primary	
2.8	electric	
0.205	kg/wh	
0.09	kg/wh	

With adequate time and resources, all the above would be implemented using the SPEEDIER **ring-fencing mechanism**. The support from the SPEEDIER service has also been proven helpful with a better understanding of site system and processes, raising awareness of climate challenges **through the 41 staff training**, and improved energy efficiency for **Le Boutique Hotel Moxa**.

SME signature

Date:

15/10/2021



Horizon 2020  
European Union Funding  
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## 5.4 Annex 4 Spain Pilot Region

### 5.4.1 Summary of Impacts at each SME

SME name	ECM description	Implemented Y/N, provide date if yes	Energy type (gas, electricity etc)	kWh/annum	Carbon (tCO2/annum)	costs savings (€/year)	Investment	Simple Payback Period
PCT CARTUJA - TECNOINCUBADORA	LED Lighting Replacement	01/02/2021	Electricity	93,530.53	17.70	6,684.00	33,162.00	4.96
PCT CARTUJA - TECNOINCUBADORA	Improvements in thermal installations: heat	NO	Electricity	49,360.00	11.46	5,183.00	120,000.00 €	23.15



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	pump replacement							
PCT CARTUJA - TECNOINCUBADORA	Improvements in thermal installations: pumps replacement	NO	Electricity	30,900.00	3.11	3,245.00	67,500.00 €	20.80
PCT CARTUJA - TECNOINCUBADORA	Improvements in the epidermis. Replacement of carpentry with others with better thermal qualities	NO	Electricity	64,636.00	18.05	6,787.00	161,680.00 €	23.82
PCT CARTUJA - TECNOINCUBADORA	Photovoltaic solar installation	NO	Electricity	39,593.00	17.86	6,129.00	60,000.00 €	9.79
TEAMBIMCIVIL	Behavioural change related to Lighting, computer equipment, air conditioning and ways of work	06/07/2021	Electricity	533.1	0.1764	0	0.00 €	--
HG Control	Behavioural change related to Lighting, computer equipment, air conditioning and ways of work	02/07/2021	Electricity	556	0.1764	0	0.00 €	--

alGenio	Behavioural change related to Lighting, computer equipment, air conditioning and ways of work	01/07/2021	Electricity	1287.5	0.426	0	0.00 €	--
Nextu Formación	Behavioural change related to Lighting, computer equipment, air conditioning and ways of work	05/07/2021	Electricity	136.1	0.0444	0	0.00 €	--
Ennde 3d	Behavioural change related to Lighting, computer equipment, air conditioning and ways of work	06/07/2021	Electricity	489.4	0.162	0	0.00 €	--
Saergy	Behavioural change related to Lighting, computer equipment, air conditioning and ways of work	24/06/2021	Electricity	866.8	0.2856	0	0.00 €	--
Arqueología y Gestión	Behavioural change related to Lighting, computer	30/06/2021	Electricity	188.1	0.0624	0	0.00 €	--

	equipment, air conditioning and ways of work							
Digital Jurado	Behavioural change related to Lighting, computer equipment, air conditioning and ways of work	15/07/2021	Electricity	412.4	0.138	0	0.00 €	--
EASY PVF	Behavioural change related to Lighting, computer equipment, air conditioning and ways of work	24/06/2021	Electricity	809.2	0.2676	0	0.00 €	--
Extravaganza Communication	Behavioural change related to Lighting, computer equipment, air conditioning and ways of work	13/09/2021	Electricity	580.9	0.192	0	0.00 €	--
Civile	Behavioural change related to Lighting, computer equipment, air conditioning and ways of work	YES	Electricity	1581.6	0.5232	0	0.00 €	--



Castañó y Asociados	Behavioural change related to Lighting, computer equipment, air conditioning and ways of work	YES	Electricity	1054	0.2342	0	0.00 €	--
Ingeniería y Sistemas de Auditoria e Inspección, S. COOP. AND. (INSAI)	Behavioural change related to Lighting, computer equipment, air conditioning and ways of work	07/07/2021	Electricity	909.2	0.3012	0	0.00 €	--
Arquitectos del Sur	Behavioural change related to Lighting, computer equipment, air conditioning and ways of work	YES	Electricity	188.1	0.0624	0	0.00 €	--
Crear página e-web	Behavioural change related to Lighting, computer equipment, air conditioning and ways of work	YES	Electricity	758.9	0.2508	0	0.00 €	--
AYC Sinergia	Behavioural change related to Lighting, computer	YES	Electricity	649.5	0.2148	0	0.00 €	--



	equipment, air conditioning and ways of work							
E2K2	Behavioural change related to Lighting, computer equipment, air conditioning and ways of work	30/08/2021	Electricity	498.9	0.1656	0	0.00 €	--
Ingelectus	Behavioural change related to Lighting, computer equipment, air conditioning and ways of work	YES	Electricity	866.8	0.2856	0	0.00 €	--
Biogold Network	Behavioural change related to Lighting, computer equipment, air conditioning and ways of work	YES	Electricity	578.2	0.192	0	0.00 €	--
Cenit	Behavioural change related to Lighting, computer equipment, air conditioning and ways of work	01/07/2021	Electricity	732.2	0.2424	0	0.00 €	--

Eman Ingeniería	Behavioural change related to Lighting, computer equipment, air conditioning and ways of work	YES	Electricity	1178.9	0.39	0	0.00 €	--
Amarna Therapeutics	Behavioural change related to Lighting, computer equipment, air conditioning and ways of work	YES	Electricity	254.3	0.0828	0	0.00 €	--
Ariddad Therapeutics	Behavioural change related to Lighting, computer equipment, air conditioning and ways of work	YES	Electricity			0	0.00 €	--
Woodswallows, S.L.	Behavioural change related to Lighting, computer equipment, air conditioning and ways of work	YES	Electricity	649.4	0.2148	0	0.00 €	--
<b>TOTAL TMC PILOT 1</b>				<b>293,779.03</b>	<b>73.27</b>			



CENTRO DE EMPRESAS PABELLÓN DE ITALIA	LED Lighting Replacement & presence sensor	NO	Electricity	202,621.00	67.10	20,262.00	145,355.00 €	7.17
CENTRO DE EMPRESAS PABELLÓN DE ITALIA	Installation of aero-coolers (option A)	NO	Electricity	136,389.00	45.10	13,639.00	145,355.00 €	10.66
CENTRO DE EMPRESAS PABELLÓN DE ITALIA	Replacement of heat pumps (option B)	NO	Electricity	261,102.00	86.40	26,110.00	354,025.00 €	13.56
CENTRO DE EMPRESAS PABELLÓN DE ITALIA	Photovoltaic solar energy installation	NO	Electricity	228,805.00	75.70	22,880.00	123,695.74 €	5.41
CENTRO DE EMPRESAS PABELLÓN DE ITALIA	Optimization of power in electricity bill	NO	Electricity	0.00	0.00	1,185.00	0.00 €	0.00
CELGENE	LED Lighting Replacement & presence sensor	Ongoing	Electricity	19,219.00	3.65	work in progress	22,088.00 €	
TELEDYNE ANAFOCUS	LED Lighting Replacement & presence sensor	Ongoing	Electricity	33,971.00	6.45	work in progress	21,014.00 €	
SCALPERS	LED Lighting Replacement & presence sensor	Ongoing	Electricity	3,627.00	0.69	work in progress	18,452.00 €	
ACSA	LED Lighting Replacement & presence sensor	Ongoing	Electricity	8,970.00	1.70	work in progress	12,852.00 €	
UNYQ	LED Lighting Replacement & presence sensor	Ongoing	Electricity	9,969.00	1.89	work in progress	7,325.00 €	

NUNSYS	LED Lighting Replacement & presence sensor	Ongoing	Electricity	2,028.00	0.39	work in progress	2,184.00 €	
PLEXUS	LED Lighting Replacement & presence sensor	Ongoing	Electricity	1,185.00	0.23	work in progress	2,604.00 €	
MAGTEL	LED Lighting Replacement & presence sensor	Ongoing	Electricity	1,137.00	0.22	work in progress	2,394.00 €	
FUNDACIÓN MAGTEL	LED Lighting Replacement & presence sensor	Ongoing	Electricity	420.00	0.08	work in progress	1,680.00 €	
BITMAKERS	LED Lighting Replacement & presence sensor	Ongoing	Electricity	84.00	0.02	work in progress	714.00 €	
<b>TOTAL CEPI PILOT 2</b>				<b>909,527.00</b>	<b>289.62</b>	<b>112,104.00</b>	<b>1,302,079.74</b>	

## 5.4.2 Sample SME Signoff

### 3. alGenio Marketing Online, S.L. contribution:

- The company assumes to participate in SPEEDIER training session with one person.
- The company **understands to implement** as much as possible from recommended ECMs starting with “no-cost measures” and to **use the savings only** for the implementation on more advanced ECMs.
- The company assumes to inform PCT Cartuja on the stage of the ECMs implementation.

### 4. Liability and Privacy


- Nothing in this Memorandum is deemed to create a legally enforceable agreement and consequently, no liability shall attach to either party in the event of its failure to carry out any activity outlined.
- Nothing in this Memorandum shall be construed as giving the right to any party to represent the other towards third parties, including the press and media.
- Each Party is responsible to comply with EU and national rules, regulations, and laws that may be relevant to the activities outlined in this Memorandum.
- Each Party shall take all reasonable precautions and put in place all necessary measures to prevent the disclosure of personal or sensitive data or information received under this Memorandum except from the legal obligations of reporting to the EC.

### 5. Effective date and Termination

This Memorandum shall be in force from the date of signature.

Both parties may terminate this Memorandum of Understanding at any time.

for PCT Cartuja  
Luis Pérez  
General Manager



Parque Científico y Tecnológico Cartuja, S. A.  
WP-A415027001

for alGenio Marketing Online, S.L.  
Miguel Fernández Olivero  
CEO



Horizon 2020  
European Union Funding  
for Research & Innovation

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