Deliverable D6.4
Capacity building in S-PARCS: Training Toolkit

Organisation: AFV
Main authors: Oroitz Unzain as representative of AFV

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Envisioning and Testing New Models of Sustainable Energy Cooperation and Services in Industrial Parks

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More information on the project can be found at http://www.sparcs-h2020.eu/

Disclaimer

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Executive summary

This report intends to explain the activities carried out during the S-PARCS project regarding capacity building. This 6.4 Training Toolkit deliverable is part of WP6: Capacity building, dissemination and exploitation. The main aim of WP6 is the exploitation of the results of the S-PARCS project and the dissemination of the project results to industrial parks, enterprises within parks and many other related stakeholders not involved in the project. In order to spread all the information related to the project to the stakeholders, an elaborated dissemination strategy and plan is followed. Thereby the project consortium aims at ensuring the deployment of instruments and solutions for increasing energy cooperation in industrial parks to as many stakeholders as possible and reach all the interested parties: companies, industrial park managers, energy service companies etc. Within this framework, the Training Toolkit is an important tool, which will be explained in this 6.4 deliverable. This training toolkit will summarize and explain the outcomes of the project in an easy to read, attractive, short, understandable and comfortable way.
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List of Abbreviations

EDP ......................................................................................................................Electronic Data Processing
EIP ..........................................................................................................................Eco-Industrial Park
EMS ..........................................................EnergyManagement System, EnergyManagement System
IEC ..........................................................................................................................International Electrotechnical Commission
IS ..........................................................................................................................Industrial Symbiosis
ISO .........................................................................................................................International Organisation for Standardisation
IT .............................................................................................................................Information Technology
MS ..........................................................................................................................Member States
NSIP ..........................................................................................................................National Industrial Symbiosis Programme
ROI ..........................................................................................................................Return of Investment
TRL ..........................................................................................................................Technology Readiness Level
1 Introduction

In the last years and decades, the importance of connectivity and communication has increased in a significant manner. Nowadays we use the internet for many different activities. Technological developments and the internet have changed people’s lives on different scales including for instance teaching and learning. The web has become one of the channels of learning that opens the door for people around the world to access education free, or at lower costs.

Considering these developments, the S-PARCS project offers a training toolkit for all interested stakeholders. Thereby we aim to contribute to capacity building.

Capacity building (or capacity development) is the process by which individuals and organizations obtain, improve, and retain the skills, knowledge, tools, equipment, and other resources needed to do their jobs competently. It allows individuals and organizations to perform at a greater capacity (larger scale, larger audience, larger impact, etc).

Within the S-PARCS project, several different capacity-building activities have been done and information material has been produced. The main objective of this deliverable is to gather all the information related to the capacity building of the project, in which the training material is the main important output.

This deliverable is part of the project’s Task 6.4: Capacity Building, which runs between the project months M13 and M36. Capacity building activities in S-PARCS will be undertaken throughout the project, as they are an inherent aspect of the cooperative activities in S-PARCS. All partners of the project are conscious that a sustainable increase of competences and skills on all relevant levels - from the individual level of e.g. an employee responsible for implementing parts of an S-PARCS instrument, to the different organisational levels of the Lighthouse Parks - is paramount for a successful, long-lasting and evolving impact. Thus, this 6.4 deliverable will gather all capacity building related to S-PARCS project developed so far.

For this task, the appropriate leader is project partner AFV. AFV has already led and implemented a successful joint energy purchase between their associate foundries (members of FEAF, Spanish Federation of Foundry Associations), having gone to auction of electricity together instead of individually. In this process, AFV has gained valuable expertise and knowledge related to the necessary communication and information-sharing processes with and between companies, that can support the uptake of energy cooperation solutions.

In order to reach all capacity building aims, capacity building is being carried out in onsite physical workshops in which the park management, representatives of the park companies and representatives of other Lighthouse Parks, and follower park community are involved (as it will be shown in the workshop part of this deliverable). Additionally, depending on the specific topic of the workshop and the format of the event, other stakeholders (e.g. policy makers, energy utilities) are also invited (as in the event celebrated in Zeanuri, Spain the 23rd of May 2019). The objective of all these workshops is to involve at least 15 participants per workshop. These workshops are organized within each of the Lighthouse Parks as part of
the project's Task 5.1 in order to train employees in the Lighthouse Park with relation to the
instruments developed in WP2 and tested in WP5.

Regarding the Training Toolkit, an important tool of this capacity building process, in order to
provide impact on all relevant levels, measures are aimed at three levels: 1) the institutional
and legal framework, 2) organizational development and 3) human resource development.
The following deliverable follows this threefold structure.

Note: This deliverable consists of two parts. Part 1 is this deliverable, which provides an
overview of the Training Toolkit and describes the first set of workshops undertaken in the first
half of the S-PARCS project. Part 2 is the Training Toolkit, which has been prepared as a
PowerPoint presentation. This PowerPoint presentation is available in pptx-format (which
includes animations) on the project’s website: https://www.sparcs-
h2020.eu/results/deliverable/. Screenshots of this presentation are provided in Chapter 2 of
this document.
2 Training Toolkit

As discussed above, in the following we give a brief overview of the content of the training Toolkit elaborated in the S-PARCS project. The Training Toolkit summarizes the most relevant information and results of the project in an easy to read, short and comfortable manner. Considering this, the consortium has decided to capture all this information in a PowerPoint (PPT) format. This training material relates to the following three topics:

- **Institutional and legal framework:** S-PARCS addresses legal and regulatory changes to demonstrate aspects of an optimal environment for energy cooperation in industrial parks and the training kit is developed based on the previous work and analysis of WP2 (specifically Task 2.3). This part of the training has been developed by a common structure proposed by project partners EQY and EI-JKU.

- **Organizational development:** An important issue to take into account are the relations between different stakeholders in an industrial park. Building trustful relationships between the Park Managers and the companies as well as companies and employees is of paramount importance to change the current cultural perception of “each-on-his/her-own”. For that, this material targets these issues directly within an industrial park as well as in-between industrial parks. With the aim of having a profound change of perspectives, this part of the kit it is based on results of WP4, that analysed management structures, processes and procedures, within the Parks and within companies so as to propose adequate communications channels. This preliminary analysis as well as the specific training materials have been developed by EI-JKU and then translated in each country by the respective partners.

- **Human resource development:** S-PARCS it is also focused on bridging skills’ gaps, by providing training of employees in the Lighthouse Park represented in the project. For this, this part has been developed following results of WP2 and information tested in WP5, so as to increase their acceptance, raise awareness and any existing technical know-how gaps. This section also includes training about how to use the S-PARCS Initial Assessment Tool (IAT), which is currently under development. This 3rd level has been elaborated by EQY with the help of CIRCE for the part of the IAT.

This self learning training Toolkit will be available on the S-PARCS project website to everyone who wants to get informed about S-PARCS instruments and how to implement them. All this material will be translated to partners languages, by the respective partners of each country. Additionally, this material will be disseminated to the stakeholders of the project.

Below screenshots of the PowerPoint are provided. They follow the structure of the actually PowerPoint presentation.
2.1 Introduction

S-PARCS
TRAINING TOOLKIT
TASK 6.4: Capacity Building

This project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 764339.

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- INTRODUCTION
  Aim of this training toolkit and objectives of S-PARCS project
- INSTITUTIONAL AND LEGAL FRAMEWORK DEVELOPMENT
  Guidance on contractual issues for joint service and energy cooperation
- ORGANIZATIONAL DEVELOPMENT
- HUMAN RESOURCES DEVELOPMENT AND THE USE OF IAT
  S-PARCS instruments: Introduction and implementation tips

OBJECTIVES

In this document you will find the most relevant information, as well as the main results of the S-PARCS project. You will be able to increase your competencies and skills on all relevant levels in regards to energy cooperation in Industrial Parks, from the individual level, of e.g. an employee responsible for implementing parts of an S-PARCS instrument, to the different organizational levels.

S-PARCS presents a sound concept for reducing energy costs and energy consumption in Industrial parks, while, at the same time, increasing renewable on-site energy production.

The pre-assessment of the seven Lighthouse Parks from Spain, Portugal, Italy, and Austria, which participate in the study, has shown a high potential for joint energy actions, many of which are transferable to the community of S-PARCS Followers in the UK, Sweden, Turkey, Russia, Italy, Portugal, Austria and Norway.

S-PARCS aims at moving from a single-company energy efficient intervention approach to cooperative energy efficient solutions within the framework of Industrial parks, thus enabling higher energy savings and the subsequent increase of competitiveness of the companies located in the parks.

S-PARCS will systematically analyze technical, economic, regulatory, legal, organizational, environmental and social barriers to energy-efficient park design and operation on all levels and will provide innovative, market-ready solutions to overcome them.

1. Increase the competitiveness of enterprises by developing, testing and deploying replicable instruments for energy cooperation in real-world environments
2. Develop, test and deploy replicable business models for joint contacting of energy services for industrial parks
3. Contribute to the creation and regulatory models that accelerate and facilitate the adoption of innovative instruments for energy cooperation and feed insights into political debates
4. Build capacities and increase the skills and competencies of players from the EU industrial environment

Project Start: 01/03/2018 | Duration: 36 Months
2.2 Institutional and Legal Framework Development

Objectives (Context)

- Contractual solutions are a corner stone of successful energy cooperation activities.
- S-PARCS provides a framework for contractual solutions related to the implementation within an Industrial Park of different types of energy cooperation activities.
- Cooperation solutions can be of various types, from a contractual point of view they can be categorized in two macro categories: 1) activities that concern the sharing of services and 2) activities concerning the sharing of infrastructures.

We aim at identifying the elements that represent the minimum content of a possible contractual agreement signed between the interested parties.

HOW TO IDENTIFY ENERGY COOPERATION SOLUTIONS WITHIN AN INDUSTRIAL PARK

Step 1: Identification of the Park's energy needs

Activity 1: Performing energy audits at the Park Company

Step 2: Identification of energy cooperation solutions

Activity 2: Choosing the option that best fits the needs of the Park

Option 1: Sharing of a service

Option 2: Sharing of an infrastructure

Check https://www.sparcs.eu for an overview of different solutions.

WHAT ARE "SHARED SERVICES"?

Shared services may concern different aspects of energy management and energy efficiency, but can also relate to other resources (e.g. water treatment, waste management,...) Examples are:

- common energy (cost) activity
- joint design of buildings with high energy efficiency
- the treatment/exploitation of common waste water
- industrial symbiosis: exploitation of by-products deriving from the industrial processes of a company and their subsequent use as raw materials in the production process of a different company.

Also common forms of purchases:

- joint purchase of electricity
- joint purchase of energy carriers (gas, fuel and wood)
- joint purchase of raw materials.

The principle of economies of scale and a simplification of logistics, can enjoy discounts and more favourable prices from the service provider.

WHAT IS "SHARED INFRASTRUCTURE"?

Shared infrastructures is about the need to install a new element in the park for energy purposes using a cooperative approach in the phase of purchase, installation and/or management. Example are:

- installation of plants of renewable energy sources (RES)
- the installation of district heating or cooling networks in the Park
- the installation of joint heat pumps for heating, etc.
- the construction of shared office buildings
- the shared use of specific ICT to ensure an improvement of the energy performance of companies in the Park
- the use of shared central servers.

Other shared infrastructures can be:

- the identification of efficient solutions for mobility and logistics
- use of a common fleet for employees to reach the park (e.g. bus)
- purchase of joint electric vehicles / fleet based on H2.
What the Third Legal Party Can Do

- Functions of a commercial nature
  - Monitoring activities of the third party legal entity
  - Assistance relating to new connections / modifications to connections
  - Collection of the debts and expectations of the Park companies
  - Production of the characteristic data of the supply parties of the Park companies

- Functions of a technical nature
  - Control of impacts during the use of supply
  - Assistance related to problems related to the supply of heat, electricity, or water
  - Update the user register and on possible savings opportunities
  - Possible search and management of relationships with EDCO or external consultants
  - Negotiation of the contracts with the different consumption groups located for the optimization of the supply

Example:
- Control of impacts during the use of supply
- Assistance related to problems related to the supply of heat, electricity, or water
- Update the user register and on possible savings opportunities
- Possible search and management of relationships with EDCO or external consultants
- Negotiation of the contracts with the different consumption groups located for the optimization of the supply

Summary & Conclusions

To summarize:
- Cooperation activities regarding the sharing of services and / or infrastructure can be simplified and facilitated by the presence of a third party legal entity, which has the function of representing all the Park’s companies and the Park itself.
- This legal entity can take a different role by qualifying as an “entity”, “company”, “consortium” etc., taking into account the legal instruments offered by national regulations and the specific needs of the Park considered.
- The third party legal entity, representative of the Park companies, can effectively carry out technical, commercial and legal activities, exempting companies from costly activities in terms of time, resources and required skills.
- Among the activities delegated to the third party legal entity there may be those related to the search for qualified external organizations for performing energy audits and commercial with service providers and technologies (including EDCOs).
- The commercial negotiation with suppliers by the third party, representative of the Park companies, can exploit the advantages linked to the principle of economies of scale, succeeding in obtaining more favourable market prices.

Become a member of the S-PARCS follower community!

Various institutions are already part of the S-PARCS follower community, from industrial parks to museums in the United Kingdom, Sweden, Turkey, Russia, Italy, Portugal, Austria, Spain and Norway.

Don’t miss out on the latest project results!
- Invitations to webinars
- The latest news of the S-PARCS project, such as the Initial Assessment Tool for energy cooperation
- Use new knowledge to make your site more attractive to companies and municipalities!
2.3 Organizational Development

The methodology is outlined considering the following key principles:

- Easily available and simple input data – to facilitate the implementation of the full methodology for industrial parks;
- Synthetic and immediate representation of results – to condense information and allow sound decision-making;
- Multi-criteria approach – to consider performance from various perspectives;
- Focus on industrial parks’ intrinsic features – to include peculiar features of industrial parks that involve multiple actors and synergies;
- Quantitative method – to facilitate direct and objective comparison between solutions.

**OBJECTIVES**

Performance measurement is one of the first steps in process improvement, and involves the choice, designation and use of specific performance indicators as metrics for the effectiveness and success of methods being examined in the most various contexts.

The evaluation of performance of industrial parks, specifically, is an important issue. Indeed, as industrial organization, the industrial park develops interactions with resources and business environments.

**KEY PERFORMANCE INDICATORS – TYPES (1/2)**

There are 5 different types of KPIs:

- Organizational KPIs (3)
- Social KPIs (5)
- Environmental KPIs (B)
- Technical KPIs (B)
- Functional and Economic KPIs (5)

For all these KPIs at least one question is asked, based on:

- A Likert scale from 1 (most negative) to 5 (most positive) for Qualitative KPIs
- Whether or binary answer (Yes/No) for Qualitative KPIs
- And/or specific numbers (e.g. number of employees)

Some indicators are related directly to the overall performance of the park. These indicators can be evaluated even if solutions are not implemented and are also able to capture the baseline status of the park.

Some indicators are related to the specific solutions to be implemented. They describe and measure the features of the solution and directly assess its performance, which however depends on the specific industrial park the solution is implemented in. These indicators are fundamental to evaluate the performance of the park when a solution is implemented.

**KEY PERFORMANCE INDICATORS – OVERVIEW**

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**References:**

RESULTS OF KPI ANALYSIS

For the park and each solutions KPI performance is averaged and weighted for each impact category. Weightings are introduced in order to guarantee that robust performance terms, calculated from a significant number of indicators, become more significant in the final assessment.

When the methodology is fully and completely applied, for each impact category a quantitative measure of performance $P$ is assessed. $P$ ranges from 0% (low performance) to 100% (very good performance).

Within the scope of the IAT tool, the main purpose of the assessment is to evaluate the performance of a solution and to compare different solutions within a park/company.

In theory, the methodology allows also the comparison of the performance of the implementation of a solution in different parks/companies. In this case, the performance of the solution is strongly driven by national factors and local features (e.g., size, existing energy systems, etc.).

SIMPLIFIED ASSESSMENT - OPTION A

For each impact category identified, the performance evaluation shall include at least a number of KPIs higher than 1/3 of the total number of KPIs for that impact category. The user is free to select which KPIs to include and which ones not. Of course, it is desirable that in the choice of KPIs to be included within the assessment the materiality principle is applied and the most relevant indicators for the studied solution within the specific park are not neglected.

Impact Category | Minimum # of KPIs
Organisational | 2
Financial and Economic | 3
Legal and Regulatory | 1
Social | 2
Environmental | 3
Technical | 2

SUMMARY

The evaluation of performance of industrial parks, specifically in a European context, is an important issue.

The methodology is outlined considering the following key principles:
- Each available and simple input data
- Synthetic and immediate representation of results
- Multi-criteria approach
- Focus on industrial parks' intrinsic features
- Quantitative method

There are different types of KPIs:
- Organisational
- Financial and Economic
- Legal and regulatory
- Social
- Environmental
- Technical

Alternatively to a full assessment, two options for a partial assessment based on:
- Minimum number of KPIs per category chosen by user
- Core KPI's possible

Within the scope of the IAT tool, the main purpose of the assessment is to evaluate the performance of a solution and to compare different solutions within a park/company.

USEFUL LINKS & DOCUMENTS

DEVELOPED FOR 2
Methodology and Key Performance Indicators for the Monitoring and Assessment of the Lighthouse Parks
Background on the assessment method and description of KPIs

DEVELOPED FOR 2
Data Collection Guidebook
Detailed technical description of each KPI needed input data and equations

IAT with KPI assessment
- Web link

Become a member of the S-PARCS Follower Community!

Various institutions are already part of the S-PARCS Follower Community:
- Through industrial parks to measure in the United Kingdom, Sweden, Turkey, Russia, Italy, France, Portugal, Austria, Spain and Italy
- Don’t miss out the latest project results!
  ➔ Invitations to workshops
  ➔ Be among the first to test the results of the S-PARCS project, such as the Initial Assessment for energy performance
  ➔ Utilise new knowledge to make your site more attractive to businesses and municipalities

https://sparcs.h2020.eu
#sparcs2020

Project Start: 01/03/2018 | Duration: 36 Months

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2.4 Human Resource Development and use of IAT

To effectively and efficiently implement energy cooperation activities, industrial parks managers and companies (so-called “stakeholders”) need to be supported by a set of instruments.

S-PARCS provides the necessary support for industrial parks stakeholders by developing some specific instruments, aiming at:

1. Raising stakeholders’ awareness on energy cooperation issues.
2. Connecting stakeholders all over Europe to share best practices on cooperation issues.
3. Assessing and identifying tailored energy cooperation solutions for an industrial park.
4. Supporting the implementation of energy cooperation solutions.

Based on an in-depth analysis of stakeholders needs and an overview of best practices and lessons learnt all over Europe, industrial park managers and companies can find all the necessary information on our S-PARCS online platform, as presented in the following pages.

S-PARCS platforms provide introductory elements to Energy Cooperation, easily accessible without any registration. You will find there all the basics for understanding the stakes of energy cooperation and be ready for action!

Energy cooperation for beginners:

- What is energy cooperation?
- How can I benefit?
- Joint energy solutions
- Business solutions for energy cooperation
- Link to access the S-PARCS Initial Assessment Tool

S-PARCS Initial Assessment Tool (IAT)

S-PARCS supports you in assessing your potential for energy cooperation thanks to its Initial Assessment Tool (IAT).

Targeting industrial parks’ and companies’ managers, this unique webtool will provide you with information of potential energy cooperation solutions to be implemented in your park.

Step 1: Registeration:

- Park representative, looking for potential energy cooperation solutions to be implemented within the industrial park and companies, possible barriers associated to them and instruments to overcome them, as well as feasible studies on different factors that influence cooperation.
- You will choose key companies from your park to fill in the IAT to obtain further information on how to choose the most suitable potential energy cooperation solutions to implement.

Step 2: Data Insertion:

Insert main data related to your industrial park (e.g. sector, activity, dimension, number of companies etc.) to enable providing tailored assessment.
A specific tool will be created to enable you, as park representative, to invite the companies associated to your park.

Click here to access the S-PARCS Initial Assessment Tool!
3 Workshops

During the runtime of the project different workshops have been carried out in order to obtain, improve, and retain the skills, knowledge, tools, equipment, and other resources developed in the S-PARCS project. In the following, we present an overview of these activities. As the project it is not finished yet and this deliverable is written in month 25 (out of 36), more workshops will be held to contribute to this capacity building task.

Workshops, networking activities among Lighthouse and Follower Parks and internal park meetings are some of the tools that the S-PARCS partners are performing to build the adequate capacities for energy cooperation planning, to safeguard that the identified opportunities identified are duly followed-up, and to foster the creation of adequate enabling conditions for their roll-out.

3.1 Workshops in Spain

3.1.1 Workshop in Okamika-Gizaburuaga (Spain) Industrial Park. 18/05/2018

The first workshop about the S-PARCS project in Spain took place on the 18th of May 2018 in Okamika-Gizaburuaga Industrial Park. The tile of the workshop was: “EFICIENCIA ENERGÉTICA EN LOS PARQUES INDUSTRIALES: OPORTUNIDADES PARA UNA MEJOR GESTIÓN DEL GASTO ENERGÉTICO” and more than 15 people from different companies (furniture sector, machining, thermal treatment etc.) of the park participated in it (a list of participants is available).

In this workshop participant had the opportunity to get to know all the important information about the S-PARCS project as well as some good energy cooperation practices (as the Joint Management Purchase of Energy in Spanish Foundry Sector). The workshop was coordinated by BSI, Tecnalia and AFV.

Figure 1 Participants attending the 1st workshop celebrated in Okamika – Gizaburuaga Industrial Park
Figure 2 AFV’s Secretary General explaining the Joint Electricity Purchase in the Foundry Sector to participants in Okamika – Gizaburuaga Industrial Park

3.1.2 Workshop in Bildosola - Artea (Spain) Industrial Park. 25/05/2018

This workshop maintained the same structure as the previous event in Okamika’s Industrial Park. The organizers were the same and also more than 15 companies participated in it (a list of participants is available).

Figure 3 Workshop held in Bildosola – Artea Industrial Park
3.1.3 Workshop in Okamika – Gizaburuaga (Spain) Industrial Park with experts. 10/05/2019

AFV, BSI and Tecnalia organised one capacity building workshop in Okamika-Gizaburuaga on the 10th of May 2019 to raise awareness about the joint purchase of electricity opportunity. In this workshop 11 companies participated in total. The experts, SEA (Business Association) and ASE consultores (Experts in the Electricity sector) presented the successful joint purchase of electricity in which there are already more than 1,000 companies involved.

As stated in Deliverable 5.2, this workshop encouraged companies to jointly purchase electricity, the actors engaged in a successful initiative were invited to present their experience on 10th of May 2019.

As explained in D.5.2, joint purchase of electricity is an energy cooperation opportunity that does not require significant investments, searching for big amounts of data, or time-consuming feasibility assessments. Instead, hiring an energy advisor that manages the energy consumption and bills of several companies and arranges the auctions, is enough to cut the electricity bill. TECNALIA and BSI knew about the joint purchase of electricity initiative managed by AFV for its associated foundries several years ago. 47 foundries connected to the high voltage grid participate in the joint purchase of electricity organised by AFV in collaboration with ASE Consultores. But this initiative has proven to be effective also for low voltage companies.
belonging to diverse economic sectors. It is the case of the initiative initiated by a local business association (SEA) and ASE Consultores. Since 2015, six auctions have been organised, and the initiative is already supported by thirteen Business Associations in Spain. In the first four auctions the participating companies (more than 1,000) achieved electricity price savings ranging from 14% to 20%). The last auctions took place in the unfavourable context of extremely high electricity prices. But still, the companies participating in the initiative were able to keep the average raise in electricity price below 10% (20% cheaper than the average market prices). These initiatives have been presented to companies of Spanish Parks involved in the project.

3.1.4 Workshop in Bildosola – Artea (Spain) Industrial Park with experts. 17/05/2019

Following the same format workshop as in Okamika, on the 17th of May 2019 AFV, BSI and Tecnalia organised one capacity building workshop in Bildosola – Artea Industrial Park. In this workshop, 11 companies participated in total. The experts, SEA (Business Association) and ASE consultores (Experts in the Electricity sector) presented the successful joint purchase of electricity in which there are already more than 1,000 companies involved.

![Figure 6 Workshop celebrated in Bildosola – Artea Industrial Park](image)

3.2 Workshops in Austria

3.2.1 1st Company Workshop at Chemiepark, Linz (Austria), 07/10/2019

On the 7th of October 2019, the first workshop with the major companies located in Chemiepark Linz took place. All attendees had the chance to discuss about cooperation opportunities(described more in-depth in D5.2). The workshop was organised by El-JKU and Borealis Agrolinz Melamine and was titled 1st Company workshop at Chemiepark Linz within the EU project "S-PARCS". All companies from the Chemiepark, who were interviewed before for the project, were invited. Except for one company, all invitees participated in the
workshop. In the course of the workshop and roadmap development, several cooperation opportunities were discussed and the results of the previous interviews were presented.

3.2.2 2nd Company Workshop at Chemiepark, Linz (Austria).

This second workshop, as continuation of the first one held in Chemiepark, had to be postponed due to the COVID-19 situation, but will take place at the earliest opportunity.

- **Title:** 2nd Company workshop at Chemiepark Linz within the EU project "S-PARCS"
- **Topics:** TBD – potentially external waste heat utilization.
- **Time:** TBD – preparatory work and workshop postponed due to COVID-19.
- **Place:** Borealis Agrolinz
- **Expected participants:** Chemiepark companies, Borealis Agrolinz Melamine, Energy Institute.

3.2.3 1st Company Workshop at Ennshafen (Austria), 13/11/2019

The 1st company workshop at Ennshafen took place on the 13th November 2019. The S-PARCS project was introduced. Also, a brief presentation about emission reduction targets and scenarios for CO₂ pricing based on current studies was presented. This was followed by a presentation of the park strategy (developed by Ennshafen OÖ GmbH and the Energy Institute) on energy cooperation and jointly used energy services as well as the potential B2B cooperation in Ennshafen based on the interview results. Two representatives of companies located in Ennshafen then shared their experience with energy cooperation and alternative drive systems. After this first round of presentation, the participants split up in groups and discussed possibilities and topics for future B2B cooperation in the park.

Figure 7 Werner Auer introducing in the workshop held in Ennshafen
3.2.4 2nd Company Workshop at Ennshafen (Austria). Planned for 07/05/2020
Title: 2nd company workshop Ennshafen is planned.
Date: May 7th, 2020
Location: Logistics Center / Ennshafen OÖ GmbH
Agenda: Ennshafen e-mobility strategy and LNG/CNG for trucks
It has been already sent a Save-the-date to all companies of the whole industrial park Ennshafen. Nevertheless, due to the circumstances of COVID-19 it will be decided after Easter 2020 if the meeting will take place virtually or if it will be postponed to autumn 2020.
3.2.5 3rd Company Workshop at Ennshafen (Austria). Planned for autumn 2020

A 3rd workshop for Autumn 2020 referring to the Training Toolkit is planned. It will aim at informing all stakeholders about the IAT. It is planned to have 1 or 2 workshops in the autumn with the main topic “Training Toolkit” and others.

3.3 Workshops in Italy

3.3.1 Workshop in Ponte a Egola Industrial Park. Consorzio Cuoi o Depur (Italy), 29/11/2018

The first workshop was held on the 11th of June 2018 in Ponte a Egola Industrial Park (Italy). Organized by SSSA and CUIODEPUR, this workshop was the first personal contact of 21 companies with the S-PARCS project. Later, organizers arranged bilateral meetings with companies that were interested in the S-PARCS project. 14 companies were interviewed between September and October 2018. These companies are tanneries (except for one which sells chemicals for tanneries). The majority are small-medium family businesses that are suppliers of national and international luxury fashion companies. The level of awareness on energy efficiency is low because the energy costs (increased in last years) are not the principal production costs.

Figure 11 Participants of the 1st workshop held in Ponte a Egola Industrial Park

3.3.2 Workshop in Ponte a Egola Industrial Park. Consorzio Cuoi o Depur (Italy), 29/11/2018

This workshop took place on the 29th of November 2018 in Ponte a Egola Industrial Park (Italy). The workshop was organised by Italian host partners of the project, SSSA and Cuioio Depur, and more than 10 companies of the park participated actively on it.

In this workshop, partners of the project had the opportunity to make a short presentation about possible energy cooperation solutions. There were presentations from: RINA, SSSA, CIRCE, EI-JKU, AFV, TECNALIA and KHAS.
Further workshops are planned for 2020 but with the uncertainty of being able to conduct them because of COVID-19. They may be done by videoconference or postponed to a feasible date.
4 Summary and Conclusion

This report comprehensively identified and summarized the activities carried out in the project regarding capacity building. It is well known that an important part of all projects is to reach out to stakeholders. Thus, dissemination activities are essential for a good implementation of project outcomes. S-PARCS has planned and executed different dissemination activities. In this deliverable we have gathered all the information related to capacity building, workshops and the main important tool, the Training Toolkit, which summarizes the most significant results of S-PARCS. The material it is intended to be a guidance and learning material about energy cooperation in Industrial Parks for people working in Industrial Parks and all other interested stakeholders. Also, the report provides a brief overview of activities conducted so far (until April 2020). Further capacity building actions are already planned and the entire consortium will manage different types of activities during the remaining runtime of the project and after it.

Therefore, the outcomes of T6.4 are a training toolkit, as the main result and this report includes material related to capacity building in S-PARCS so far. Additionally a webinar will be organised towards the last part of the project.
TRAINING TOOLKIT

TASK 6.4: Capacity Building

This project has received funding from the European Union’s Horizon 2020 program under grant agreement No. 785134.
Table of contents

- INTRODUCTION
  Aim of this training toolkit and objectives of S-PARCS project

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- ORGANIZATIONAL DEVELOPMENT

- HUMAN RESOURCES DEVELOPMENT AND THE USE OF IAT S-PARCS instruments: Introduction and implementation tips

This project has received funding from the European Union’s Horizon 2020 research and innovation program under grant agreement No 785134.
This project has received funding from the European Union’s Horizon 2020 research and innovation program under grant agreement No 785134.
In this document you will find the most relevant information, as well as the main results of the S-PARCS project. You will be able to increase your competences and skills on all relevant levels in regards to energy cooperation in Industrial Parks, from the individual level, of e.g. an employee responsible for implementing parts of an S-PARCS instrument, to the different organizational levels.

S-PARCS presents a sound concept for reducing energy costs and energy consumption in industrial parks, while, at the same time, increasing renewable on-site energy production.

The pre-assessment of the seven Lighthouse Parks from Spain, Portugal, Italy, and Austria, which participate in the study, has shown a high potential for joint energy actions, many of which are transferrable to the community of S-PARCS Followers in the UK, Sweden, Turkey, Russia, Italy, Portugal, Austria and Norway.
S-PARCS aims at moving from a single-company energy efficient intervention approach to cooperative energy efficient solutions within the framework of industrial parks, thus enabling higher energy savings and the subsequent increase of competitiveness of the companies located in the parks.

S-PARCS will systematically analyze technical, economic, regulatory, legal, organizational, environmental and social barriers to energy-efficient park design and operation on all levels and will provide innovative, market-ready solutions to overcome them.

1. Increase the competitiveness of enterprises by developing, testing and deploying replicable instruments for energy cooperation in real-world environments

2. Develop, test and deploy replicable business models for joint contacting of energy services for industrial parks

3. Contribute to the creation and regulatory frameworks that accelerate and facilitate the adoption of innovative instruments for energy cooperation and feed insights into political debates

4. Build capacities and increase the skills and competencies of players from the EU industrial environment
Training Toolkit
INSTITUTIONAL AND LEGAL FRAMEWORK DEVELOPMENT
Guidance on contractual issues for joint service and energy cooperation

This project has received funding from the European Union’s Horizon 2020 research and innovation program under grant agreement No 785134.
Contractual solutions are a corner stone of successful energy cooperation activities.

S-PARCS provides a framework for contractual solutions related to the implementation within an Industrial Park of different types of energy cooperation activities.

Cooperation solutions can be of various types, from a contractual point of view they can be categorized in two macro categories:

1) activities that concern the sharing of services and
2) activities concerning the sharing of infrastructures

We aim at identifying the elements that represent the minimum content of a possible contractual agreement signed between the interested parties.
Compared to the sharing of a service, it might be appropriate to regulate aspects such as:

- consumption of the service, quality of service, monitoring of consumption, monitoring of quality, the price of the service, the related billing mechanism, and any sharing of sensitive data.

Differently, in the context of a contract concerning the sharing of an infrastructure:

- the parties must appropriately agree on the regulation of aspects related to the ownership of infrastructure, location, operational management, maintenance, contract duration, installation and management costs, as well as liability profiles for any damage caused to the infrastructure.

Keep in mind:

- Sometimes certain cooperative activities are characterized by a combination of sharing services and infrastructures.

- It is likely that sharing a service does not necessarily entail the sharing of an infrastructure, whereas the sharing of an infrastructure automatically includes the sharing of the service resulting from the use of the infrastructure itself.

- The related contractual agreements will therefore have to consider these circumstances, providing, where appropriate, to regulate both cases.
How to Identify Energy Cooperation Solutions within an Industrial Park

Step 1: Identification of the Park’s energy needs

What are the suitable energy cooperation solutions the park needs, what do the individual companies in the park need?

Activity 1: Performing energy audits at the Park Companies

An “energy audit” is “a systematic procedure with the purpose of obtaining adequate knowledge of the existing energy consumption profile of a building or group of buildings, an industrial or commercial operation or installation or a private or public service, identifying and quantifying cost-effective energy savings opportunities, and reporting the findings”. (Directive 2012/27/EU)

Step 2: Identification of energy cooperation solutions

Activity 2: Choose the solutions that best fit the needs of the Park

Option 1: Sharing of a service

Check https://www.sparcs-community.eu/joint-energy-solutions/ for an overview of different solutions

Option 2: Sharing of an infrastructure

Training Toolkit S-PARCS

„Institutional and Legal Framework Development“ 9
WHAT ARE „SHARED SERVICES“

Shared services may concern different aspects of energy management and energy efficiency, but can also relate to other resources (e.g. water treatment, waste management, ...). Examples are:

- common energy control activity,
- joint design of buildings with high energy efficiency,
- the treatment/exploitation of common waste water,
- industrial symbiosis: exploitation of by-products deriving from the industrial processing of a company and their subsequent use as raw materials in the production process of a different company.

Also common forms of purchases:

- joint purchase of electricity,
- joint purchase of energy carriers (gas, fuel and wood),
- joint purchase of raw materials.

→ principle of **economies of scale** and a simplification of logistics, can enjoy discounts and more favourable prices from the service provider.
WHAT IS “SHARED INFRASTRUCTURE”

Option 2:
Sharing of an infrastructure

Shared infrastructures is about the need to install a new element in the park for energy purposes using a cooperative approach in the phase of purchase, installation and/or management. Example are:

- installation of plants of renewable energy sources (RES),
- the installation of district heating or cooling networks in the Park,
- the installation of joint heat pumps for heating, etc.,
- the construction of shared office buildings,
- the shared use of specific ICT to ensure an improvement of the energy performance of companies/parks, through monitoring of energy consumption of processes and equipment and the subsequent use of the data obtained.
- Realization of a smart grid inside the premises of the Park,
- Joint purchase of monitoring equipment, or
- the use of shared central servers.

Other shared infrastructures can be:

- the identification of efficient solutions for mobility and logistics,
- use of a common fleet for employees to reach the park (e.g. bus),
- purchase of joint electric vehicles / fleet based on H2.
S-PARCS results show that Energy cooperation within an industrial park can be managed more easily through the identification of a third party legal entity which can take different shapes according to the legislation in force in the country in which the Park is located. Its role will be to take care of the needs of the various companies in the Park, with the aim of identifying possible efficient solutions, to be managed through an approach of cooperation and sharing between the various companies.

**Activity 3:** Identify a third legal party (TLP)

- **Option 1:** TLP is the park itself, autonomous & distinct from the individual companies
- **Option 2:** TLP is one of the companies in the park, which plays a leading role (eg due to its size)
- **Option 3:** Park companies create a new TLP (entity, company, consortium) possibly through partnership mechanisms and the payment of quotas
WHAT THE THIRD LEGAL PARTY CAN DO

The role of the third legal entity

Functions of a commercial nature

Examples:
• Market Surveys;
• Commercial bargaining;
• Identification of the most competitive market benchmarks to align the contract;
• Detailed analysis of the offers received;
• Implementation of one or more tenders during the year preceding the supply, involving the major energy producers at national level;
• Search for qualified suppliers from the point of view of reliability and quality of service.

Functions of a technical nature

Examples:
• Monitoring activities of the energy consumption monitoring network;
• Assistance relating to new connections / modifications to connections;
• Collection of the needs and expectations of the Park companies;
• Collection of the characteristic data of the supply points of the Park companies.

Functions of a legal nature

Examples:
• Control of invoices during the year of supply;
• Assistance related to problems related to the supply itself (billing, credit management);
• Update on sector regulations and on possible savings opportunities.
• Possible search and management of relationships with ESCO or external consultants;
• Reorganization of the consortium users in homogeneous consumption groups (clusters) for the optimization of the supply.
Significant Contractual Aspects

Contract for sharing a service

- Use / consumption of the service
- Quality of the Service
- Use / consumption monitoring
- Quality monitoring
- Price
- Billing mechanism
- Sharing of sensitive data
- Other legal & management aspects

Contract for sharing an infrastructure

- Ownership of the infrastructure
- Location of the infrastructure
- Operational management of the Infrastructure
- Infrastructure Maintenance
- Duration of the Contract
- Costs
- Liability of the infrastructure
To summarize:

Cooperation activities regarding the sharing of services and/or infrastructures can be simplified and facilitated by the presence of a third party legal entity, which has the function of representing all the Park's companies both inside the Park and outside;

- this legal entity can take on a different role by qualifying as an "entity", "company", "consortium" etc., taking into account the legal instruments offered by national regulations and the specific needs of the Park considered;

- the third party legal entity, representative of the Park companies, can effectively carry out technical, commercial and legal activities, exempting companies from costly activities in terms of time, resources and required skills;

- among the activities delegated to the third party legal entity there may be those related to the search for qualified experts/organizations for performing energy audits and commercial bargaining with service providers and technologies (including ESCOs);

- the commercial negotiation with suppliers by the third party, representative of the Park companies, can exploit the advantages linked to the principle of economies of scale, succeeding in obtaining more favourable market prices;
SUMMARY & CONCLUSIONS

What needs to regulated:

- in the context of sharing a service, companies should regulate aspects such as: consumption of the service, quality of service, monitoring of consumption, monitoring of quality, the price of the service, the related billing mechanism, the possible sharing of sensitive data as well as other legal and management aspects;

- as part of a contract concerning the sharing of an infrastructure, the parties must agree on the aspects related to the ownership of the infrastructure, its location, operational management, maintenance, the duration of the contract, the costs of installation and management, as well as the profiles related to liability for any damage caused to the infrastructure;

- the sharing of sensitive data (such as those related to energy consumption) appears to be one of the most disruptive aspects to the sharing of services and infrastructures between companies, however, from a contractual point of view, this criticality can be easily addressed thanks to the use specific tools, such as the inclusion in the contract of special "confidentiality clauses" or the stipulation of specific "confidentiality agreements";

  - The management of the aspects related to the sharing of sensitive data can be facilitated by the presence of a third party legal entity, which would receive such data from the individual companies, forcing them not to share or disseminate them in any way.

This report offers a series of support elements aimed at simplifying the understanding of any critical issues related to the stipulation of contractual agreements concerning energy cooperative solutions; however, the same does not intend to offer content of an exclusive nature. From this point of view, it is necessary to consider that the drafting of this kind of contractual agreements will be affected by the legislation in the country where the Park is located, as well as the specific will of the parties involved.
Find more details & contract templates in:

Deliverable D2.3: “GUIDANCE ON CONTRACTUAL ISSUES FOR JOINT SERVICES AND ENERGY COOPERATION”

Downloadable for free on https://www.sparcs-h2020.eu/
Become a member of the S-PARCS Follower Community!

Various institutions are already part of the S-PARCS Follower Community – From industrial parks to museums in the United Kingdom, Sweden, Turkey, Russia, Italy, Portugal, Austria, Spain and Norway!

Don’t miss out the latest project results!
→ Invitations to workshops
→ Be among the first to test the results of the S-PARCS project, such as the Initial Assessment Tool for energy cooperation
→ Utilize new knowledge to make your site more attractive to companies and municipalities!

https://sparcs-h2020.eu
#sparcsh2020
This project has received funding from the European Union’s Horizon 2020 research and innovation program under grant agreement No 785134.
Performance measurement is one of the first steps in process improvement, and involves the choice, designation and use of specific performance indicators as metrics for the effectiveness and success of methods being examined in the most various contexts.

The evaluation of performance of industrial parks, specifically, is an important issue. Indeed, as industrial organization, the industrial park develops interactions with resources and business environments.
The methodology is outlined considering the following key principles:

- **easily available and simple input data** – to facilitate the implementation of the full methodology for industrial parks,
- **synthetic and immediate representation of results** – to condense information and allow sound decision-making,
- **multi-criteria approach** – to consider performance from various perspectives,
- **focus on industrial parks’ intrinsic features** – to include peculiar features of industrial parks that involve multiple actors and synergies,
- **quantitative method** – to facilitate direct and objective comparison between solutions.
Quantitative and qualitative KPIs are selected according to **relevance, interpretability, timeliness, reliability, validity and materiality** criteria and cover organizational, financial and economic, legal and regulatory, social, environmental and technical impact categories.

» **KPIs allow to measure and compare the progress of solutions and instruments based on a clearly defined and easy to organise method.**

**Appropriate KPIs shall present the following features***:

1. **Relevance.** Include data that are essential to provide a basis for understanding the accomplishments of goals and objectives of the park;
2. **Interpretability.** Communicate in a readily understandable manner that is concise, yet comprehensive. Indeed, information should be easily accessible and understandable without unreasonable effort;
3. **Timeliness.** Report in a timely manner so that the information will be available to users before it loses its value in making decisions;
4. **Reliability.** Report consistency from period to period;
5. **Validity.** The measure should determine the intended quality indicator (performance indicator in this case).

There are 6 different types of KPIs:

- Organizational KPIs (3)
- Financial and Economic KPIs (5)
- Legal and regulatory KPIs (2)
- Social KPIs (5)
- Environmental KPIs (8)
- Technical KPIs (3)

For all these KPIs at least one question is asked, based on:

- A Likert scale from 1 (most negative) to 5 (most positive) → Qualitative KPIs
- And/or binary answer (Yes/No) → Qualitative KPIs
- And/or specific numbers (e.g. number of employees)

Some indicators are related directly to the overall performance of the park. These indicators can be evaluated even if solutions are not implemented and are also able to capture the baseline status of the park.

Some indicators are related to the specific solution to be implemented. They describe and measure the features of the solution and directly assess its performance, which however depends on the specific industrial park the solution is implemented in. These indicators are fundamental to evaluate the performance of the park when a solution is implemented.
<table>
<thead>
<tr>
<th>Impact category</th>
<th>KPI</th>
<th>Park level KPIs</th>
<th>Solution-specific KPIs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Quantitative</td>
<td>Qualitative</td>
</tr>
<tr>
<td><strong>Organizational KPIs</strong></td>
<td>Staff involvement</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Stakeholder involvement</td>
<td></td>
<td>x</td>
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<td></td>
<td>Energy efficiency awareness</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td><strong>Financial and Economic KPIs</strong></td>
<td>Normalized CAPEX</td>
<td></td>
<td>x</td>
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<tr>
<td></td>
<td>Normalized net annual balance</td>
<td></td>
<td>x</td>
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<tr>
<td></td>
<td>Normalized PBP (pay back period)</td>
<td></td>
<td>x</td>
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<tr>
<td></td>
<td>Normalized IRR (internal rate of return)</td>
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<td>x</td>
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<tr>
<td></td>
<td>Financial assistance from public entities</td>
<td></td>
<td>x</td>
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<tr>
<td></td>
<td>Marketing communication and opportunities</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td><strong>Legal and Regulatory KPIs</strong></td>
<td>Simplicity of bureaucratic steps</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Legal and regulatory feasibility</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td><strong>Social KPIs</strong></td>
<td>Replication potential</td>
<td></td>
<td>x</td>
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<tr>
<td></td>
<td>Job creation</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Impact on local development</td>
<td></td>
<td>x</td>
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<tr>
<td></td>
<td>Impacts on human health and safety</td>
<td></td>
<td>x</td>
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<td></td>
<td>Benefits for sustainable mobility</td>
<td></td>
<td>x</td>
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<tr>
<td><strong>Environmental KPIs</strong></td>
<td>Total annual water consumption</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Total annual waste generation</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Annual by-products internal use</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Annual energy consumption</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Total annual greenhouse gases emissions</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Renewable energy source share</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Total annual air emissions</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Reduction of indirect (scope 3) greenhouse gases emissions</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td><strong>Technical KPIs</strong></td>
<td>Thermal energy recovery</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Technical feasibility</td>
<td></td>
<td>x</td>
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<tr>
<td></td>
<td>Annual uniformity</td>
<td></td>
<td>x</td>
</tr>
</tbody>
</table>
For the park and each solutions **KPI performance is averaged and weighted for each impact category**. Weights are introduced in order to guarantee that robust performance terms, calculated from a significant number of indicators, become more significant in the final assessment.

When the methodology is fully and completely applied, for each impact category a **quantitative measure of performance** $P$ is assessed.

$P$ ranges from -100% (low performance) to 100% (very good performance).

**Within the scope of the IAT tool, the main purpose of the assessment is to evaluate the performance of a solution and to compare different solutions within a park/company.**

In theory the method allows also the comparison of the performance of the implementation of a solution in two different parks/companies. In this case, the performance of the solution is strongly driven by national factors and local features (e.g.: size, existing energy systems, etc.).
The application of the full methodology presented may turn to be a demanding task, especially because of the large amount of information necessary to the calculation of all the KPIs. In addition, due to the variety of solution covered within the project and of the impact category assessed, it is possible that some KPIs are not relevant for the evaluation of the performance of a certain solution.

For this reason, two options exist to apply the methodology only partially, reducing the burden of the data-gathering phase without threatening the quality and validity of the results. Specifically, one among the following two options can be followed:

**Option A:**
For each impact category, the performance evaluation shall include at least a number of KPIs higher than 1/3 of the total number of KPIs for that impact category. The user is free to select which KPIs to include and which ones not.

**Option B:**
The performance evaluation of a solution shall be carried out through core indicators.
For each impact category identified, the performance evaluation shall include at least a number of KPIs higher than 1/3 of the total number of KPIs for that impact category.

The user is free to select which KPIs to include and which ones not. Of course, it is desirable that in the choice of KPIs to be included within the assessment the *materiality principle* is applied and the most relevant indicators for the studied solution within the specific park are not neglected.

<table>
<thead>
<tr>
<th>Impact category</th>
<th>Minimum n° of KPIs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizational</td>
<td>2</td>
</tr>
<tr>
<td>Financial and Economic</td>
<td>3</td>
</tr>
<tr>
<td>Legal and Regulatory</td>
<td>1</td>
</tr>
<tr>
<td>Social</td>
<td>2</td>
</tr>
<tr>
<td>Environmental</td>
<td>3</td>
</tr>
<tr>
<td>Technical</td>
<td>2</td>
</tr>
</tbody>
</table>
Core indicators are indicators generally applicable, as they are relevant and respect the materiality principle for most of the solutions. In order to guarantee a comprehensive and significant application of the methodology, one or more core KPIs are identified for each impact category.

Table: Core KPIs for each impact category and the solution categories that are exempted from their calculation. If the solution for which the performance is being evaluated, belongs to one of the exempted categories, the correspondent core KPI must not be calculated.

<table>
<thead>
<tr>
<th>Impact category</th>
<th>Core KPIs</th>
<th>Categories exempted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizational</td>
<td>O2. Stakeholder involvement</td>
<td>-</td>
</tr>
<tr>
<td>Financial and Economic</td>
<td>FE1. Normalized CAPEX</td>
<td>Managerial actions (for KPI FE3 only)</td>
</tr>
<tr>
<td></td>
<td>FE3. Normalized Payback period</td>
<td></td>
</tr>
<tr>
<td>Legal and Regulatory</td>
<td>LR2. Legal and Regulatory feasibility</td>
<td></td>
</tr>
<tr>
<td>Social</td>
<td>S4. Benefits for human health and safety</td>
<td></td>
</tr>
<tr>
<td>Environmental</td>
<td>E4. Annual energy consumption</td>
<td>Contractual instruments and managerial actions</td>
</tr>
<tr>
<td></td>
<td>E5. Total annual GHG emissions</td>
<td></td>
</tr>
<tr>
<td>Technical</td>
<td>T2. Technical feasibility</td>
<td>Managerial actions</td>
</tr>
</tbody>
</table>
The evaluation of performance of industrial parks, specifically, is an important issue.

The methodology is outlined considering the following key principles:

- Easily available and simple input data
- Synthetic and immediate representation of results
- Multi-criteria approach
- Focus on industrial parks’ intrinsic features
- Quantitative method

There are 6 different types of KPIs:

- Organizational
- Financial and Economic
- Legal and regulatory
- Social
- Environmental
- Technical

Alternatively to a full assessment, two options for a partial assessment based on:

A) minimum number of KPI per category chosen by user

B) Core KPIs is possible

Within the scope of the IAT tool, the main purpose of the assessment is to evaluate the performance of a solution and to compare different solutions within a park/company.
Deliverable D4.1
Methodology and Key Performance Indicators for the Monitoring and Assessment of the Lighthouse Parks
Background on the assessment method and description of KPIs

Deliverable D4.2
Data Collection Guidebook
Detailed technical description of each KPI, needed input data and equations

IAT with KPI assessment
>Web link<
Become a member of the S-PARCS Follower Community!

Various institutions are already part of the S-PARCS Follower Community – From industrial parks to museums in the United Kingdom, Sweden, Turkey, Russia, Italy, Portugal, Austria, Spain and Norway!

Don’t miss out the latest project results!
→ Invitations to workshops
→ Be among the first to test the results of the S-PARCS project, such as the Initial Assessment Tool for energy cooperation
→ Utilize new knowledge to make your site more attractive to companies and municipalities!

https://sparcs-h2020.eu
#sparcsh2020
This project has received funding from the European Union’s Horizon 2020 research and innovation program under grant agreement No 785134.
To effectively and efficiently implement energy cooperation activities, industrial parks managers and companies (so called “stakeholders”) need to be supported by a set of instruments.

**S-PARCS provides the necessary support for industrial parks stakeholders by developing some specific instruments, aiming at:**

1. Raising stakeholders’ awareness on energy cooperation issues;
2. Connecting stakeholders all over Europe to share best practices on cooperation issues;
3. Assessing and identifying tailored energy cooperation solutions for an industrial park;
4. Supporting the implementation of energy cooperation solutions.

Based on an in-depth analysis of stakeholders needs and an overview of best practices and lessons learnt all over Europe, industrial park managers and companies can find all the necessary **information on our S-PARCS online platform**, as presented in the following pages.
About Energy Cooperation

The S-PARCS e-platform provides introductive elements to Energy Cooperation, easily accessible without any registration.

You will find there all the basics for understanding the stakes of energy cooperation and be ready for action!

Energy cooperation for beginners

What is energy cooperation?
How can I start?
Joint energy solutions
Barriers to energy cooperation and solutions
Business solutions for energy cooperation

Click here to know more about Energy Cooperation!
S-PARCS supports you in assessing your potential for energy cooperation thanks to its Initial Assessment Tool (IAT).

Targeting Industrial Parks’ and companies’ managers, this unique webtool will provide you with information of potential energy cooperation solutions to be implemented in your park!

**Step 1: Registration**

Register to our platform to get tailored information:

- **Park representative**, looking for potential energy cooperation solutions to be implemented within the industrial park and companies; possible barriers associated to them and instruments to overcome them, **as well as feasible studies on different factors (not implemented yet)**
- You will choose key companies from your park to fill in the IAT to obtain further information to help choosing the most suitable potential energy cooperation solutions to implement

**Step 2: Park/company data introduction**

Insert main data related to your Industrial Park (e.g. sectors of activity, dimension, number of companies etc.), to enable providing tailored assessment.

A specific link will be created to enable you, as park representative, to invite the companies associated to your park.

Click [here](#) to access the S-PARCS Initial Assessment Tool!
### Step 3: Park data introduction

Access to S-PARCS IAT through this link: [S-PARCS IAT](#) with the credentials when you were registered in the platform.

Insert main data related to your Industrial Park (e.g. general information, park energy consumption and performance, energy etc.), to enable providing tailored assessment.

### Step 4: Company registration and data introduction

Register to S-PARCS platform through the link shared by the park representative.

Access to this link: [S-PARCS IAT](#)

Insert main data related to your company (e.g. general information, company energy consumption and performance, energy etc.), to enable providing tailored assessment.

### Step 5: Park and company energy consumption benchmark

You will see as park representative a benchmarking of energy consumption on the same NACE sector as the companies that have filled the questionnaire in the IAT.

You will see as company a benchmarking of energy consumption on the same NACE sector as you.

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*Click here to access the S-PARCS Initial Assessment Tool!*
**Step 6: Energy cooperation potential at your park/company**

You will be proposed with a list of possible energy cooperation solutions to be implemented within the park. For each solution you will be informed on definition, potential benefits, useful links and possible barriers you will find when implementing the solution, and finally instruments to overcome those barriers (in the future possible business models).

**Step 7: Solution feasibility study for park and companies**

You will be provided with quality feasible studies per solution, related to different factors (organisational, technical, economical, etc.) and you also will have the possibility of compare between solutions.

*Click [here](#) to access the S-PARCS Initial Assessment Tool!*
S-PARCS supports you in assessing your potential for energy cooperation thanks to its Initial Assessment Tool (IAT).

Targeting Industrial Parks’ managers as well as stakeholders, through this unique webtool you will have the possibility of looking for support to implement energy cooperation solution(s) in your park and to support parks if you are an interested stakeholder!

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**Step 1: Park representative - Registration**

Register to our platform to get tailored information, depending on your profile:

- **Park representative**, looking for support/advice from other suppliers/stakeholders to help implement the energy cooperation solution you are interested in, as park you can also look for other parks that can help you to solve any problem from their experiences or make networking between parks;

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**Step 2: Park representative - Park data registration**

Insert main data related to your Industrial Park (e.g. sectors of activity, dimension, number of companies etc.), to enable providing tailored assessment. You will have the possibility to accept to display your park in the S-PARCS database for interacting and networking with other parks. A specific link will be created to enable you, as park representative, to invite the companies associated to your park.

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[Click here](#) to access the S-PARCS Initial Assessment Tool!
Step 3: Park representative - Add solutions (proposed by the IAT or not)

If you wish, you can add and give basic information of the energy cooperation solution/s you want to implement at your park, to make it visible to find potential stakeholders to support you on its implementation.

You can publish the solution, and it will be shown on the S-PARCS community home page, once you have introduced all the information. You can find stakeholder interested in supporting you on the solution implementation and decide whether accept or not their support. You can also find statistics on the support achieved.

Step 4: Park representative - Asking for other park’s support, networking

You can include some basic information on the park you are looking for, whether it is for advice or other type of networking (type of support needed, country, sector of activity). You will find the list of parks that fit to your request for support/networking.

Click here to access the S-PARCS Initial Assessment Tool!
S-PARCS supports you in assessing your potential for energy cooperation thanks to its Initial Assessment Tool (IAT).

Targeting Industrial Parks’ managers as well as stakeholders, through this unique webtool you will have the possibility of looking for support to implement energy cooperation solution(s) in your park and to support parks if you are an interested stakeholder!

Step 1: Stakeholder - Registration

Register to our platform to support the energy cooperation solutions implementation:

• **Stakeholder**, if you are a supplier of services that can help parks implementing an energy cooperation solution.

Step 2: Stakeholder - Stakeholder data registration and type of support offered

Insert main data related to your company (e.g. city, type of service offered, description of the support, etc.), to enable providing solutions to be supported.

Click [here](#) to access the S-PARCS Community!
Step 3: Solutions to be supported

You will find energy cooperation solutions published by parks looking for support to implement them and matching with the type of support you offer. If you are interested, you can fill the collaboration request form and send it to the park representative. Once the collaboration request is sent it will appear on your user menu (Solutions requested for collaboration).

Step 4: Solutions requested for collaboration

You will find energy cooperation solutions you have requested to support, and the status of request, pending/accepted/not accepted. Once it is accepted you can proceed with the support by communicating with the park representative.

Click here to access the S-PARCS Community!
Energy Cooperation is already a reality: several Industrial Parks are effectively implementing solutions all over Europe!

S-PARCS e-platform invites you to learn more about best practices and success stories of Energy Cooperation. This database will be constantly updated with new examples coming from the S-PARCS community and beyond.

Click here to access the S-PARCS Best Practices database!
S-PARCS community is the first European network of stakeholders working around Energy Cooperation in industrial parks.

The S-Parcs Community enables you to find the best supporting scheme for energy cooperation solutions, or the most appropriate project to invest.

**Park and companies**

You have identified an energy cooperation solution and you would like to implement it?

Connect to the S-PARCS community and present your needs.

S-PARCS stakeholders may offer you all the support you need in the different phases of the solution’s implementation!

**Stakeholders**

Thanks to the S-PARCS community, you will be able to identify Industrial Parks that may require your expertise for implementing energy cooperation solution(s).

Offer your legal, technical or economical support to various European industrial parks!

Click here to access the S-PARCS Initial Assessment Tool!
If you are interested in energy cooperation, S-PARCS e-platform is the reference tool!

- Visit the platform to know more about energy cooperation and learn about best practices and success stories.
- Register for joining the S-PARCS community and run the S-PARCS Initial Assessment Tool!

To know more about the S-PARCS project itself, don’t hesitate to visit our dedicated website and discover our results!

Moreover, keep posted on the project updates by following #sparcsh2020 on LinkedIn and Twitter!
This project has received funding from the European Union’s Horizon 2020 program under grant agreement No. 785134.