



Deliverable D3.3

INDUSTRIAL PARK SERVICE INITIAL ASSESSMENT TOOL



Organisation: CIRCE

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

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DELIVERABLE 3.3 – VERSION 0

WORK PACKAGE N° 3

Nature of the deliverable		
R	Document, report (excluding the periodic and final reports)	
DEM	Demonstrator, pilot, prototype, plan designs	
DEC	Websites, patents filing, press & media actions, videos, etc.	
OTHER	Software, technical diagram, etc.	X

Quality procedure			
Date	Version	Reviewers	Comments
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Dissemination Level		
PU	Public, fully open, e.g. web	X
CO	Confidential, restricted under conditions set out in Model Grant Agreement	
CI	Classified, information as referred to in Commission Decision 2001/844/EC	

Annex			
Number	Name	Content	Format

Acknowledgements

This report is part of the deliverables from the project "S-PARCS" which has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No 785134.

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.

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

Disclaimer

The opinions expressed in this document reflect only the authors' view and reflect in no way the European Commission's opinions. The European Commission is not responsible for any use that may be made of the information it contains.

Executive summary

The aim of Deliverable 3.3 "Industrial Park Service Initial Assessment Tool" is to explain the main components of the S-PARCS e-Platform and the S-PARCS IAT as well as legal and technical requirements and conditions for their correct use. This deliverable provides information about the final version of the S-PARCS IAT and platform. The final public version of the IAT will be presented in early autumn 2020.

The S-PARCS e-Platform will create a community of interest within the industrial sector to transfer all the material developed in the S-PARCS project that may be of interest, including the IAT as an engagement instrument. Its final version was used within S-PARCS Follower Community first, and is now finally published online on the project website - free-of-charge - to boost the replicability of the S-PARCS solutions and related instruments

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1 INTRODUCTION

The project S-PARCS - Envisioning and Testing New Models of Sustainable Energy Cooperation and Services in Industrial Parks - 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. A core output of S-PARCS is a free online ICT tool which aims at supporting the decision-making and solution-finding processes in industrial parks that are keen on installing energy cooperation measures, increase their energy efficiency, and thus strengthen their competitiveness.

The objective of the S-PARCS industrial park service e-Platform is to be a meeting, supporting and dissemination point for any kind of energy related cooperation solution and service for different stakeholders involved in such processes, being the reference platform for any interested party in energy cooperation solutions and services within industrial parks, from company representatives to investors or providers of services.

This document summarizes the results of the final version of the S-PARCS e-Platform and the Initial Assessment Tool (IAT), including their scheme, components, and different levels of assessment, inputs and results as well as the main technical specifications and legal requirements.

2 S-PARCS E-PLATFORM AND IAT CONCEPT

One of the core outputs of the S-PARCS project is the **e-Platform S-PARCS COMMUNITY** and the Industrial Park Service Initial Assessment Tool, short **S-PARCS IAT**.

The **Industrial Park Service Initial Assessment Tool (S-PARCS IAT)** forms part of the wider supporting **e-Platform “S-PARCS community”** for companies and parks. There is a necessity at the level of parks and companies to be informed about the existence of energy cooperation and mutualised energy services and about the benefits they can obtain by implementing them at their premises, as has been concluded in several meetings within the S-PARCS project.

It is important to highlight that the **S-PARCS IAT** is not intended to be an expert-level software allowing the detailed technical modelling of energy, materials and other resource flows in an industrial park (as there are software products available on the market for such purposes). Such systems require significant effort of the utilizing party and rely on classified and confidential data impeding their exploitation for triggering energy related cooperation at inexperienced parks. The S-PARCS IAT aims at filling the gap between these expert-level tools and a broadly applicable solution yet providing the park management with quality input for informed decisions about a) what energy cooperation solutions to prioritise, and b) how to start the related innovation processes taking into account possible barriers, instruments to overcome them, as well as possible business models to be agreed within or with other industrial parks. For the S-PARCS engineering team, the provision of the S-PARCS e-Platform and IAT to any interested party (free of charge) is considered as an important way of getting in contact with potential future clients, and thereby boost the replicability of the S-PARCS approach and outcomes.

2.1 Development steps

The S-PARCS community platform and Industrial Park Service Initial Assessment (IAT) have been developed following a continuous process which is explained within this section.

After several meetings of the WP 3 team, it has been concluded that it is difficult to obtain detailed data from the companies due to absence of energy monitoring or due to confidentiality issues. The latter has influenced the concept of the S-PARCS IAT becoming a supporting tool for decision making instead of an energy cooperation assessment tool with detailed information on potential energy and economic savings. In this sense S-PARCS IAT becomes the S-PARCS platform, in which S-PARCS IAT will be embedded. The S-PARCS e-Platform will create a community of interest within the industrial sector to transfer all the material developed in the S-PARCS project that may be of wider, public interest. Guides and technical material, will serve as support tools, meeting point and coverage for the IAT, it will encourage and engage parks and companies willing to participate in energy related cooperation activities and mutualised energy services.

The specification of the S-PARCS IAT and the e-Platform were developed within Task 3.1. The workflow of defining the system specification is based on the analysis of the parks and the output of work packages 1, 2, and 4.

As mentioned before, the input data required from parks and companies, as well as supporting stakeholders to help implementing and replicating energy cooperation solutions, have been defined based on the meetings and surveys done with Lighthouse Parks within work packages 1, 4 and 5, and internal consortium meetings and results from work packages 1 and 2, in any case, following a “as-little-as-possible-as-much-as-needed” approach.

S-PARCS IAT has been implemented as part of a multi-platform application based upon previous, related experiences of the WP leader, CIRCE. Comparable tools commonly adopt the Excel format to develop tools, which has some advantages; however, the interfaces tend to be not user-friendly, too complex and not very intuitive to use. Therefore, it was decided to use a different approach. The technical specifications of the web hosting server are:

- **Virtual service VPS 2 (2vCPU, 4GB RAM, SSD 60 GB)**
- **OS: Linux**
- **MySQL: For databases storage.**
- **Plesk: Web hosting platform**

The S-PARCS community platform and S-PARCS IAT, published at the end of month 30, complies with GDPR according to the Data Management Plan (D7.1) of the S-PARCS project.

The S-PARCS IAT is implemented as an online tool as part of the S-PARCS community e-Platform. The ambition is to have an easy-to-use tool providing its output to the user within a very reasonable time (below half a person*day). The interface and software of the e-Platform implementation which integrates the S-PARCS IAT is carried out by a specialised third party which has been selected based on the best value-for-money criterion and the S-PARCS IAT itself is being developed internally by CIRCE.

This ICT tool is called the S-PARCS industrial park service platform and consists of four core sections:

1. An information website (<https://www.sparcs-community.eu/>) which presents information about energy cooperation in industrial parks in general, provides insights into barriers to energy cooperation and solutions & instruments to overcome them. No registration is required to access this information:
 - a. How can I start, that explains briefly the main resources and support provided, by S-PARCS platform, to stakeholders, park representatives and companies of industrial parks.
 - b. Energy cooperation for beginners
 - i. What is energy cooperation?
 - ii. Joint energy solutions
 - iii. Barriers to energy cooperation and solutions
 - iv. Business solutions for energy cooperation
2. Showcasing “Best Practices”: in this section best practises from industrial parks are highlighted and key information about the measures in these parks is provided. No registration is required to access this information.
3. Contact us, where the contact point from the partners is included in order to give a closer point to S-PARCS interested stakeholders
4. The S-PARCS IAT (Initial Assessment Tool; <https://iat.sparcs-community.eu/>) that supports stakeholders to assess suitable energy cooperation solutions. Registration required.
5. The S-PARCS community platform <https://www.sparcs-community.eu/platform/> which enables industrial parks to find suitable stakeholders to support them towards energy cooperation solutions becoming real. In addition, parks will have the possibility to network with other parks that can help them to find solutions to a specific problem or collaborate with them. Stakeholders interested in supplying one or more types of support to parks can register as well and provide legal, technical or financial support to making energy cooperation solutions becoming reality. Registration required.

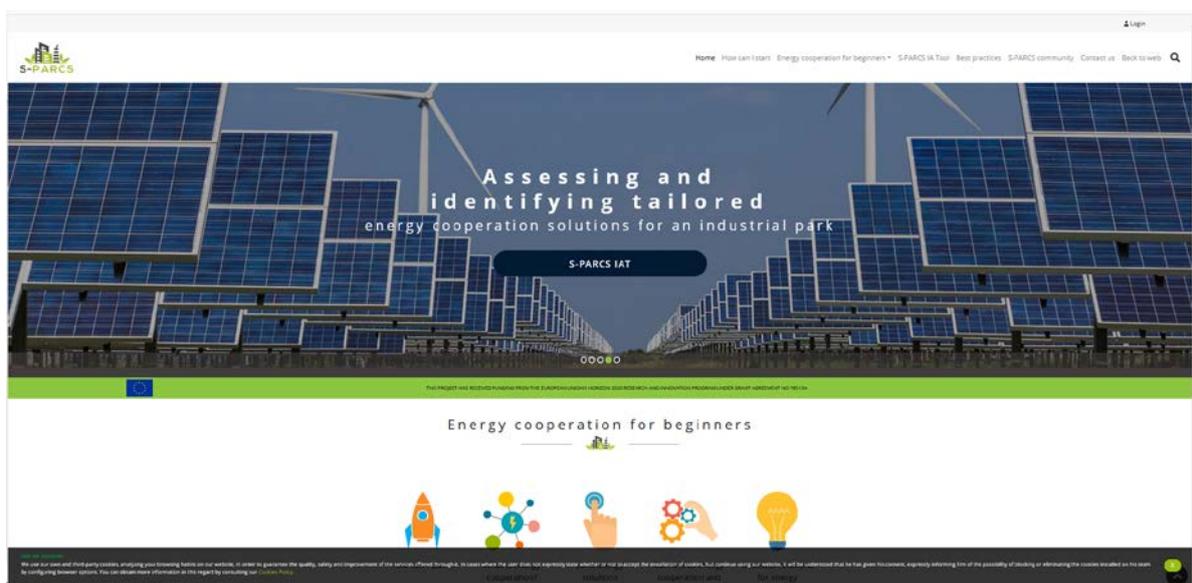


Figure 2-1: The S-PARCS e-Platform home page

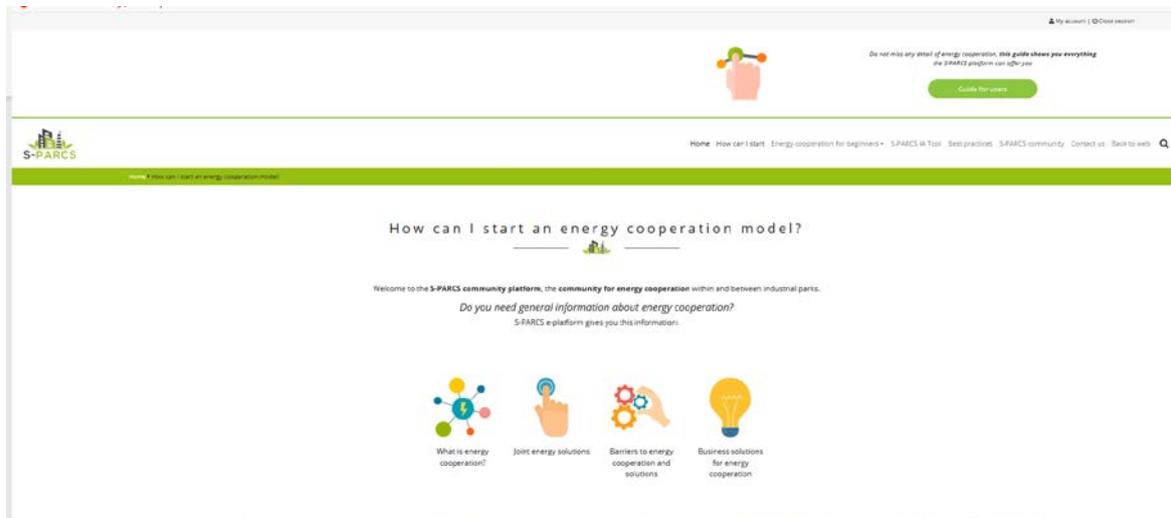


Figure 2-2: How can I start section

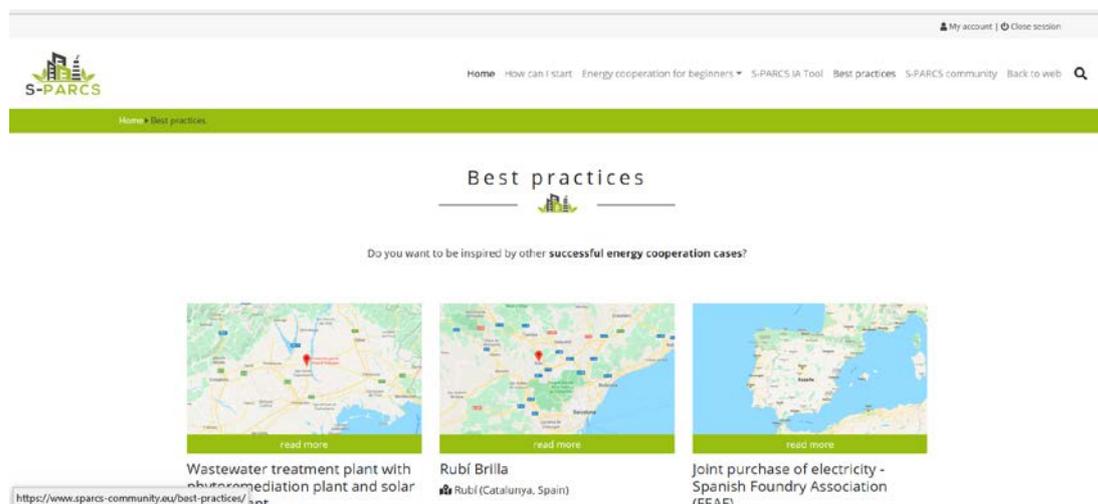


Figure 2-3: Best practices section

2.2 S-PARCS community

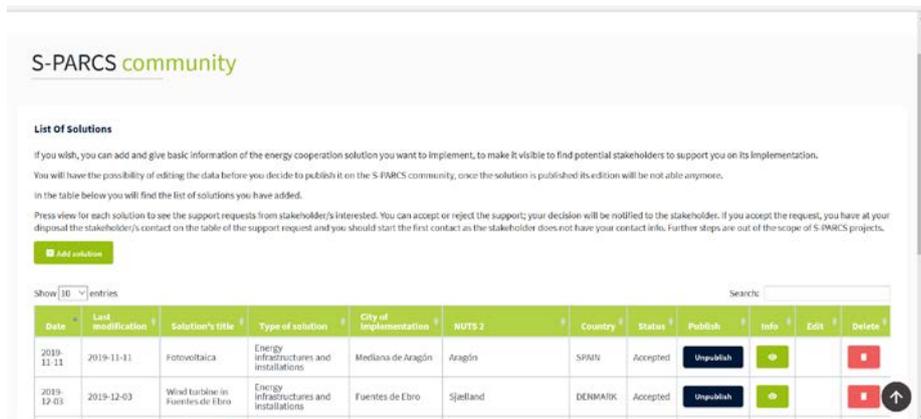
S-PARCS community (meeting point): where the parks can find support from external stakeholders to implement the solutions.

There are three types of users:

- **Park representative**, they will be in charge of including all the information about the park in both S-PARCS IAT and Community, adding the solutions they want to implement and asking for support from stakeholders; and also from others parks in terms of advice or networking.

- When using the S-PARCS IAT, parks will have the possibility of adding key **companies** from the park to fill the questionnaire, these companies will register through a link the park will send them and then they will fill the questionnaire of the S-PARCS IAT.
- **Stakeholder**, they will have the possibility of supporting energy cooperation solutions implementation in terms of:
 - Consultancy (Technical/legal/financial advice)
 - Engineering and technical advice
 - Equipment manufacturing and supplying
 - Installation and maintenance
 - Legal advice (contracts,...)
 - Financial advice
 - Insurance
 - Financing/Funding
 - Private financing
 - Public funding
 - Institutional support
 - Public (local, national, etc.)
 - Private
 - Research

The park will also have the opportunity to look for other registered parks' support or networking through the S-PARCS community.



S-PARCS community

List Of Solutions

If you wish, you can add and give basic information of the energy cooperation solution you want to implement, to make it visible to find potential stakeholders to support you on its implementation. You will have the possibility of editing the data before you decide to publish it on the S-PARCS community, once the solution is published its edition will be not able anymore. In the table below you will find the list of solutions you have added.

Press view for each solution to see the support requests from stakeholder/s interested. You can accept or reject the support; your decision will be notified to the stakeholder. If you accept the request, you have at your disposal the stakeholder/s contact on the table of the support request and you should start the first contact as the stakeholder does not have your contact info. Further steps are out of the scope of S-PARCS projects.

[Add solution](#)

Show entries

Date	Last modification	Solution's title	Type of solution	City of implementation	NUTS 2	Country	Status	Publish	Info	Edit	Delete
2019-11-11	2019-11-11	Fotovoltaica	Energy infrastructures and installations	Mediana de Aragón	Aragón	SPAIN	Accepted	Unpublish	Info	Edit	Delete
2019-12-03	2019-12-03	Wind turbine in Fuentes de Ebro	Energy infrastructures and installations	Fuentes de Ebro	Sjælland	DENMARK	Accepted	Unpublish	Info	Edit	Delete

Figure 2-4: Park's list of solutions to be supported and added to the S-PARCS Platform

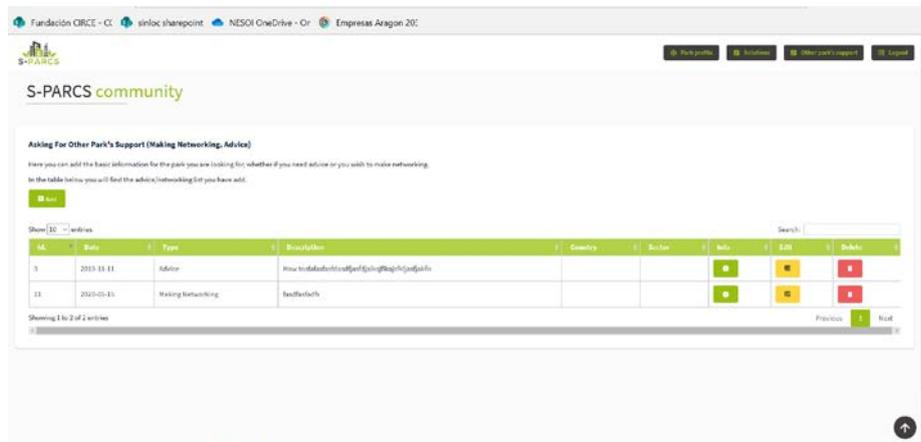


Figure 2-5: Looking for other park's support through S-PARCS Platform

2.3 S-PARCS IAT

S-PARCS IAT, is a decision-making tool, which will help to detect potential energy cooperation solutions, barriers to the implementation and instruments as well as business models that will help to implement the solutions.

The data needed from the industrial parks/companies asked through the IAT are:

- general data about the companies in the industrial park (employees, daily working hours, annual turnover, etc.),
- type of energy used by the park and the companies (electricity, thermal, biomass, gas),
- and other set of questions

The parks and companies' answers will help to detect through the IAT (in a first assessment):

- which energy cooperation solutions are the most suitable for the park,
- which barriers need to be overcome to implement the proposed solutions,
- instruments to overcome the proposed barriers

Results of a second assessment are:

- the feasibility of the solutions (from organisational, legal, etc. factors)

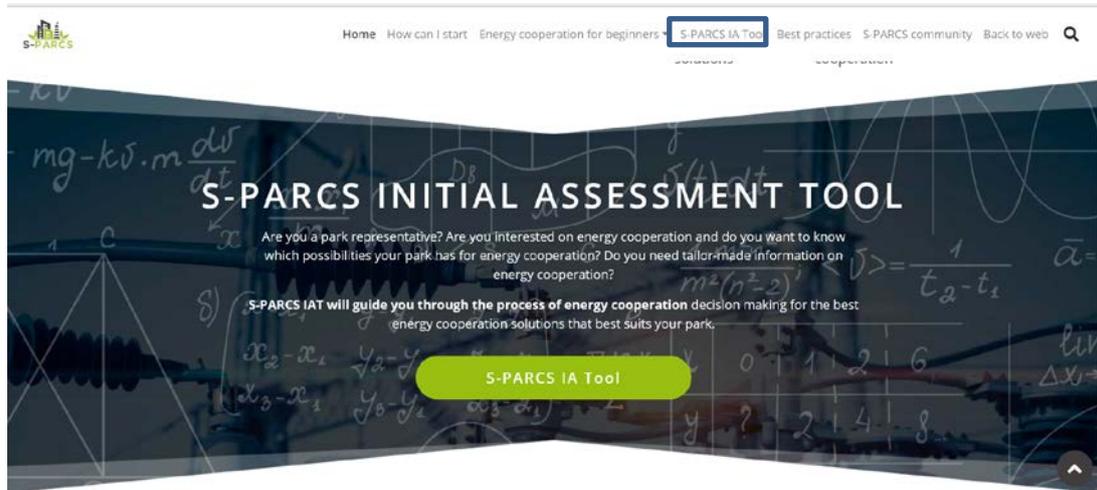


Figure 2-6: S-PARCS Initial Assessment Tool access from S-PARCS home page

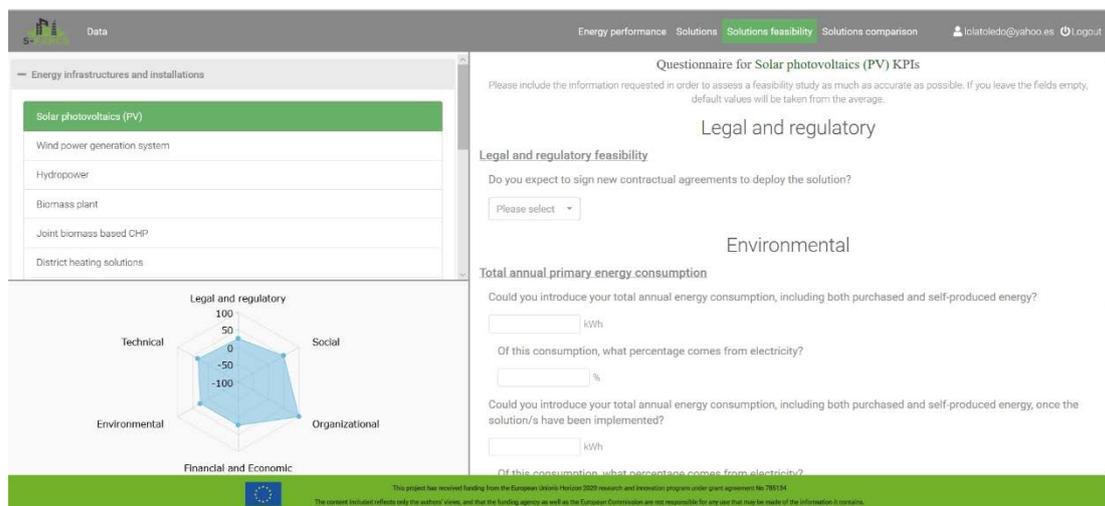


Figure 2-7: Feasibility result from S-PARCS IAT

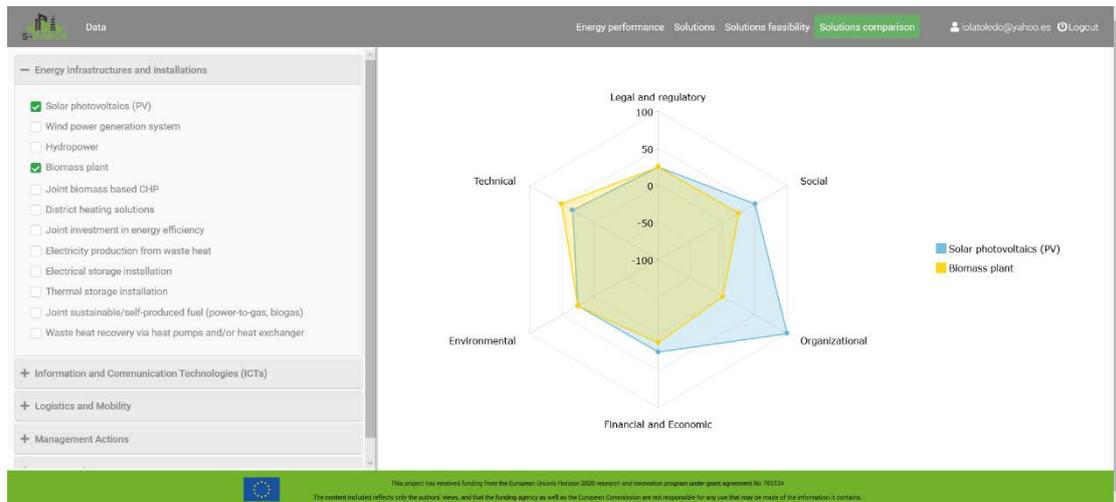


Figure 2-8: Comparison of feasibility studies for different solutions

2.4 Guide for users

The guide for users gives an overview of all resources available in S-PARCS community and provides support on how to navigate through all sites included in the e-platform.

When a registered user enters the S-PARCS community the guide for users can be accessed through the link shown in the figure below:

Date	Last modification	Solution's title	Type of solution	City of implementation	NUTS2	Country	Status	Publish	Add	Edit	Delete
2020-11-11	2019-11-11	Fotovoltaica	Energy infrastructures and installations	Mediana de Aragón	Aragón	SPAIN	Accepted	Unpublish	+	-	✖
2019-12-03	2019-12-03	Wind turbine in Fuentes de Ebro	Energy infrastructures and installations	Fuentes de Ebro	Spainland	DENMARK	Accepted	Unpublish	+	-	✖
2020-02-05	2020-02-05	Biomass	Energy infrastructures and installations	Zaragoza	Aragón	SPAIN	Accepted	Unpublish	+	-	✖
2020-02-05	2020-02-05	Biomass	Energy infrastructures and installations	Delva	Aragón	SPAIN	Accepted	Unpublish	+	-	✖
2020-05-19	2020-05-22	prueba herramienta	Energy infrastructures and installations	Zaragoza	Andalucía	SPAIN	Accepted	Unpublish	+	-	✖
2020-05-19	2020-05-19	hydropower prueba	Energy infrastructures and installations	Zaragoza	Région de Bruxelles Capitale/ Brussels hoofdstedelijk Gewest	BELGIUM	Accepted	Unpublish	+	-	✖
2020-05-25	2020-05-25	prueba 2	Energy infrastructures and installations	El Burgo	Aragón	SPAIN	Accepted	Unpublish	+	-	✖
2020-05-28	2020-05-28	hydropower S-PARCS	Energy infrastructures and installations	Zaragoza	Burgenland	AUSTRIA	Accepted	Unpublish	+	-	✖
2020-06-09	2020-06-09	PRUEBA 2	Energy infrastructures and installations	Zaragoza	Burgenland	AUSTRIA	Accepted	Unpublish	+	-	✖
2020-06-09	2020-06-09	PRUEBA 3	Energy infrastructures and installations	Madrid	Burgenland	AUSTRIA	Accepted	Unpublish	+	-	✖

Figure 2-9: Access to the guide for users

It guides you through the steps applicable to the role you have chosen in the registration.

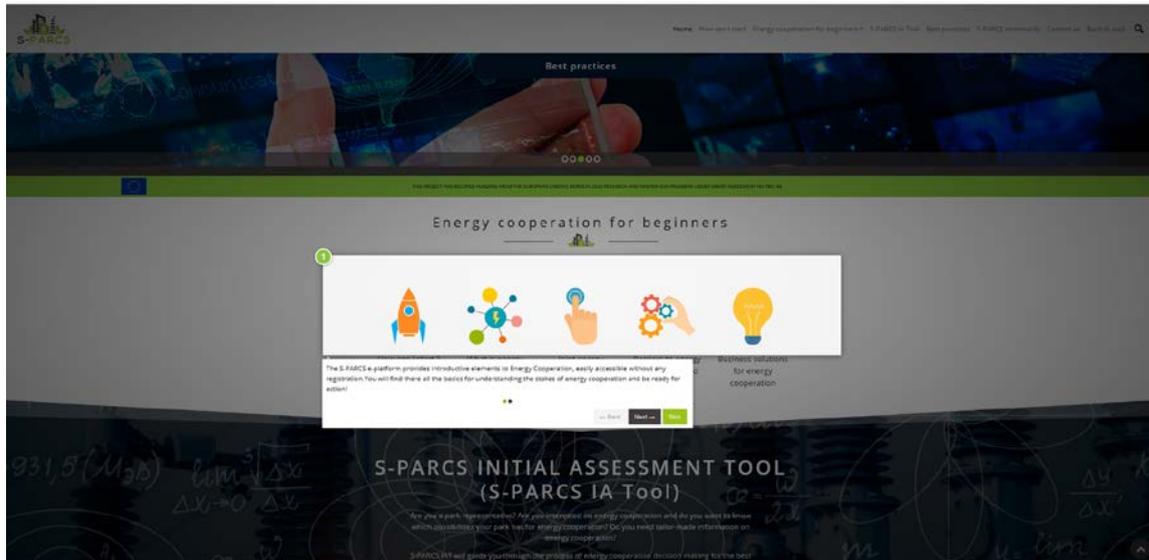


Figure 2-10: Guide for users for energy cooperation for beginners' section

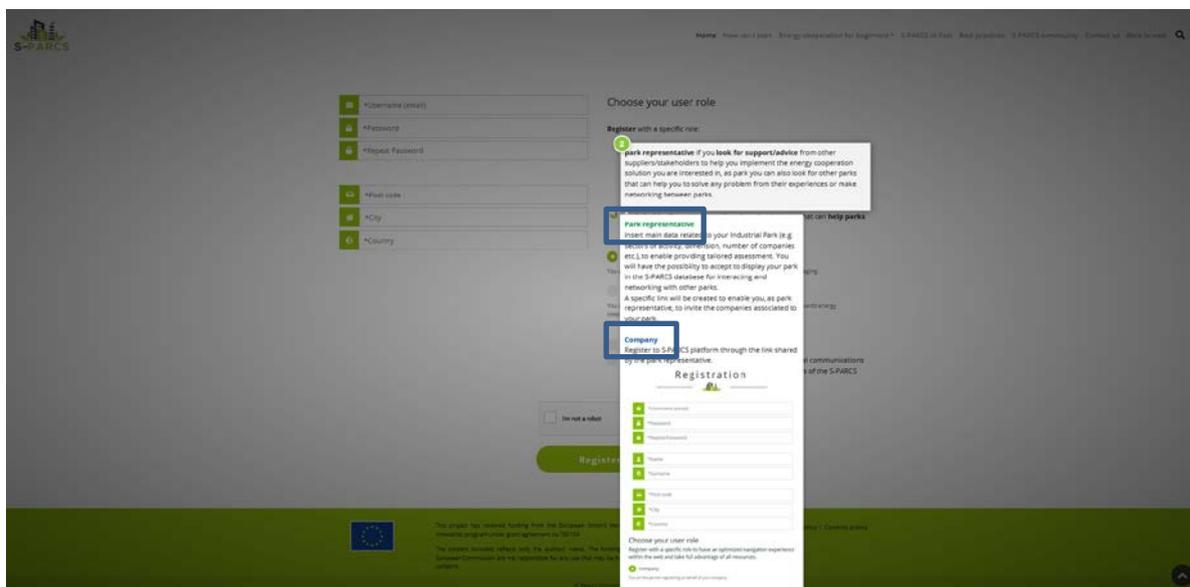


Figure 2-11: Guide for users guiding depending for the different roles

2.5 Legal requirements, terms and conditions for use

The S-PARCS community e-Platform has been designed to comply with specific technical and legal requirements, among which it is important to note the following ones. These requirements are specified in the contract signed with the external company that developed the programming tasks:

- Web servers, bandwidth, hardware and software that meet features needed to implement the resources and tools included in the project, so that they are accessible fluidly and easily by different users.
- Responsive Web Design (RWD design), which ensures the correct appearance of the web in the various existing mobile devices such as laptops, tablets, smartphones, e-books, etc.
- Service Level Agreement, SLA. It means availability of service, under which must be guaranteed a level of service of at least 99%.
- Data protection legislation. The e-platform includes legal information regarding processing of users' personal data, privacy statement and acceptance of the use of cookies in accordance with the EU directive.

Additionally, specific issues have been addressed in Personal Data Protection:

- Establishment of a Privacy Statement of S-PARCS e-platform that must be accepted in order to become a registered user.
- Guarantying the user's consent and rights of access, rectification, cancellation and opposition to the given personal data, according to the Spanish/European regulations.

As for the requirements of the Grant Agreement of the European Commission, the interface of the S-PARCS community e-Platform clearly shows the disclaimer informing this project has been funded from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 785134.

The e-platform also informs the general public that the content included reflects only the authors' views, and the funding agency is not responsible for any use that may be made of the information it contains.