

About our project

The main objective of PARITY Project is to develop tools to take advantage of the ability of electricity users to modify the way they consume or generate energy to improve the operation of the electricity system.

In the electricity system of the future there will be lots of distributed generation sources (solar photovoltaic panels or windmills) and storage systems (batteries) spread along the grid. For a proper grid operation generation, storage and energy consumption must be coordinated. To reach this, generation, storage and energy consumption must be monitored and controlled by smart systems. The tools to be developed in PARITY will allow the monitoring of the grid (to find problems) and the monitoring of generators and consumers (to find solutions from the demand side).

The PARITY solutions will be tested in buildings belonging to four pilot sites around the European Union (Spain, Greece, Switzerland and Sweden) to validate the effectiveness across different climatic, cultural and techno-regulatory conditions.

Information we need

To develop the PARITY project tools and properly adapt them to all the electric system actors (from system operators and regulators to small consumers) different surveys and interviews have to be carried out.

This interview will be used to gather information among distribution system operators (DSOs) to know how the tools to monitor the grid, to analyse the state and to improve the operation of its system should be. This survey also will allow to characterize Project pilot sites.

Estimated time to complete the questionnaire: 15 minutes

Personal data protection:

According to the in force regulation, you are informed that due to the monitoring and control obligations to which Fundación CIRCE – Centro de Investigación de Recursos y Consumos Energéticos (hereinafter, “CIRCE” or the “Foundation”) is subject in the Project H2020 PARITY Project: Prosumer AwaRe, Transactive Markets for Valorization of Distributed flexibility enabled by Smart Energy Contracts (Nº864319) (hereinafter, the “Project”), in their condition of collaborator of the mentioned Project together with the rest of consortium partners, are obliged to keep records of the activities carried out, including meetings, training and/or dissemination of Project activities, interviews, among others, in the frame of the Project, aiming at performing the actions required by the control bodies and any other competent authorities of the Project.

With this consent, you are informed that your personal data can be sent to control bodies and any other competent authorities of the Project and to the rest of the consortium partners in order to comply with the control requirements under CIRCE’s obligations in the frame of the Project, and will be kept until the end of the Project and for the limited periods of the responsibilities that may result enforceable.

Additionally, CIRCE will process the personal data you provide us in this form to, in the framework of the Project, send you different surveys for completion, with the objectives of identifying the specifications of the tools developed in the framework of the reference project, based on the preferences of potential users, under their consent and / or the relationship maintained with Fundación CIRCE. In this sense, if you expressly authorize it by checking the

corresponding boxes at the bottom of this form, your data may be processed by Fundación CIRCE for the purposes indicated above. You have the right, among others, to oppose the processing of your data, revoke your consent at any time, access, limit, rectify and / or delete your data by contacting the Data Protection Officer of CIRCE via email at protecciondatos@fcirce.es. You are also entitled to lodge a complaint with the Spanish Data Protection Agency. You will find more detailed information about your rights and other privacy conditions in our Privacy Policy: <http://www.fcirce.es/politica-de-privacidad-y-cookies> and in the following link: http://www.fcirce.es/pub/CIRCE_clausula_formacion.pdf

- I have been informed about the treatment of my data by CIRCE and I authorize their use.
- I authorize the use of the data resulting from the completion of the surveys that, where appropriate, are sent to me by Fundación CIRCE.
- I authorize the making of calls or video calls and their recording within the legitimate interest of Fundación CIRCE under the framework of the reference

Want to know more? Please visit <https://www.parity-h2020.eu/> for more information about the PARITY Project.

This document lists the topics to be discussed in the interviews with internal and external stakeholders (bold lines) and the objective information to be gathered about every topic (normal lines). This document will be sent to the interviewed expert some days before the interview so he/she can prepare the answers to the questions.

Please provide this information on written before the interview takes place

- **Characterization and company profile**
 - General data about the company: size, number and type of customers, national and international expansion, other activities besides distribution activity (the same company or others in the group) ...
 - Expected future evolution.
 - Experience in smart grid sector: knowledge about the sector, experience, current project or business, implicit/explicit demand response, demand aggregator, flexibility.
- **Size and type of grid assets.**
 - Voltage ranges
 - Volume of energy distributed and generated by own means
 - Peak power of the distribution.
 - Main characteristics of grid assets: grid type (radial or meshed), main characteristics of average line...
 - Type and number of customers
 - Number and characterization of current customers that could provide flexibility to the system. (type of average customer, size, voltage level connection, contracted power, customer business, location, local generation or storage, etc...)
 - Contractual relationships and liabilities with customers
- **Type of grid management.**
 - Technical / economical
 - Centralized / economical
 - Own or third party grid
- **Current IT system architecture**
 - Description of the IT architecture in your company to monitor and/or control your customers.
 - Data Security description in your systems and ideal data security for aggregation tasks.
- **For Parity project partners only:**
What of the following DR management expected functionalities of the Parity tool set are a “must”, a “want”, or are not needed at all from your point of view?
 - UC1 Building-level P2H/BaaB flexibility estimation & automated provision to aggregator for LFM participation (Must, Want, No need, Don't know)
 - UC2 Aggregated P2H flexibility estimation and provisioning for market participation pre-qualification (Must, Want, No need, Don't know)
 - UC3 Aggregated V2G flexibility estimation and provisioning for market participation pre-qualification. (Must, Want, No need, Don't know)
 - UC4 Human-centric and contract-safeguarding participation in LFM, based on context-aware flexibility profiles. (Must, Want, No need, Don't know)
 - UC5 Forecasting, scheduling and dispatch of DER flexibility for coordinated management of the LFM grid. (Must, Want, No need, Don't know)

- UC6 Flexibility exchange triggered by smart contracts for automated grid balancing. (Must, Want, No need, Don't know)
- UC7 Smart grid management using enhanced PQ services for grid instability limitation. (Must, Want, No need, Don't know)
- UC8 Ancillary services provision by STATCOM to TSO for overlay network stability. (Must, Want, No need, Don't know)
- UC9 Congestion management by DSO through operation of LFM to increase DER penetration. (Must, Want, No need, Don't know)
- UC10 Operation of local flexibility market in a grid constrained area. (Must, Want, No need, Don't know)
- UC11 Provision of ancillary services to overlay ancillary service market operated by TSO. (Must, Want, No need, Don't know)
- UC12 Participation of LFM-enabled flexibility to national wholesale energy market. (Must, Want, No need, Don't know)
- UC13 Red light (emergency) grid management using automated control of distributed DER (through smart contracts). (Must, Want, No need, Don't know)
- UC14 Energy/flexibility credit exchange in the LFM jurisdiction (Must, Want, No need, Don't know)
- UC15 Flexibility enhancement through synergies with neighbor distribution networks and/or LFM. (Must, Want, No need, Don't know)

- **For NON-Parity project partners only:**

What of the following demand response management tools functionalities do you think are a “must”, a “want”, or are not needed at all from your point of view?

- Demand and generation forecasting (Must, Want, No need, Don't know)
- Flexibility provision (Must, Want, No need, Don't know)
- Aggregation of flexibility (Must, Want, No need, Don't know)
- DER registry (Must, Want, No need, Don't know)
- Contractual data repository (Marketplace) (Must, Want, No need, Don't know)
- Local and global demand manager (Must, Want, No need, Don't know)
- Interface and user portal (Must, Want, No need, Don't know)
- Provide to the final customers complete data about their facilities (Must, Want, No need, Don't know)
- Others: _____

Please provide these answers one or two days before the interview. Thank you.

These questions will be discussed during the interview, following the answers provided to the characterization questions above.

- **Current availability of data from flexibility providers**
 - Direct monitoring of your customers: granularity, values monitored, direct access to clients' meters
 - Smart metering deployment (%)?
 - Availability of historical data?
 - Availability of data from clients' DERs?
 - Monitoring of other external data? (weather, electricity market prices...)
- **Level of interest and reasons in demand response management capabilities for:**
 - RES generation matching
 - Grid balancing
 - Grid stability and congestion management

Please explain how your company deals with these issues now and the plan for the future.

- **Reasons for your interest in DR**

(sustainability, economic, regulative, enlarge and diversify service portfolio, more competitive services/products, ...). What current or potential future problems do you intend to address by extracting demand flexibility from your customers?
- **Level of interest in becoming a LFM operator**
 - What do you prefer: open LFM or restrained LFM.
- **Level of Interest in becoming a DER network operator**
- **Type of integration of new flexibility tools with current systems**
 - Are you interested in integrating new aggregation tools in your IT systems? Directly or connecting to external servers?
 - Do you want to integrate downstream (client data) and/or upstream (reporting and/or algorithms)?
 - What kind of data reporting do you prefer? (automatically, personalized...)
- **Barriers and incentives identified for demand response management.**
 - **Incentives.** State those aspects that can incentive the development of Demand Management schemas and flexibility markets. Examples:
 - Fair remuneration
 - Contribute to your own grid balancing mechanisms.
 - Offer an additional value-added service to your clients, as they could become flexibility providers.
 - Participate in newly open demand-response marketplaces
 - Improve your control and management over your customers' energy consumption and DER operation.
 - Contribute to the sustainability of the electricity system by reducing environmental impacts.
 - Other incentives. Please state: _____
 - **Barriers.** State those aspects that can limit/slow the development of Demand Management schemas and flexibility markets. Examples:
 - Initial investment on IT systems and learning curve
 - Possible economic penalties in case of failure to deliver the committed demand flexibility.
 - Financial remuneration low

- Possible new technology failure or malfunctioning.
 - Lack of transparency and regulation about market rules.
 - Lack of previous aggregation experience in a new business market.
 - Difficulty of managing the integration between all the components.
 - Possible conflicts with demand flexibility services already existing in some of European countries
 - Possible misuse of customers' personal data.
 - Lack or not settled legislation regarding flexibility markets in most EU countries
 - Non established financial regulation regarding Blockchain
 - Lack of available funding to implement the changes needed for the adoption of a flexibility market.
 - Other barriers. Please state: _____
- **Others. Please specify**
 - Other tool set requirements specific for your business model, or type of customers.
 - Other particular questions based on the answers given to the characterization questions.