**The smartEn Map 2024 Wholesale Markets**

**Questionnaire**

**Introduction**

Dear Reader,

The objective of the following questionnaire is to gather information on the participation of Decentralised Energy Resources in wholesale electricity markets in the country of your activity, in particular Day-Ahead and Intraday Markets. Your replies will be used as a source for the drafting of the 2024 smartEn Map.

The questionnaire will follow five sections for each country:

* Access to wholesale markets
* Maturity of the wholesale markets
* Participating technologies and traded volumes
* Benefits observed
* Roadmap

Please answer the following questions as detailed as possible and provide sources if relevant (for example newly introduced legislation or links for us to further investigate).

Please send your contribution to Quentin Donnette ([quentin.donnette@smarten.eu](mailto:quentin.donnette@smarten.eu)). We thank you for your collaboration!

**Organisation responding**:

**Country for which you are responding**:

Access to wholesale markets

*Please mark those participants with access to Day-ahead markets*

☐ Suppliers

☐ Independent aggregators

☐ Large consumers

☐ Energy communities

Comment:

*Please mark those participants with access to Intraday Markets*

☐ Suppliers

☐ Independent aggregators

☐ Large consumers

☐ Energy communities

Comment:

*Are the Day-Ahead or Intraday markets linked to local flexibility markets in any way? (e.g., GOPACS in The Netherlands)*

☐ Yes

☐ No

Comment:

*Are SOs allowed to purchase products for congestion management and/or voltage in DA/ID markets?*

☐ Yes

☐ No

Comment:

#### Do any of the markets include locational information in the bids (either for buying or selling)?

☐ Yes

☐ No

Comment:

#### How is demand-side flexibility participating?

☐ Direct access through explicit trading by aggregators, suppliers or consumers

☐ Through a dynamic retail tariff

☐ Implicitly reflected in a non-dynamic retail tariff

☐ Others (please specify)

Comment:

#### Can DR be provided as demand reduction and turn-up (e.g., upwards and downwards bids)?

☐ Yes

☐ No

Comment:

#### Does the country you are replying for have a legal framework for independent aggregators?

☐ Yes

☐ No

Comment:

#### Does the country you are replying for comply with the Electricity Market Design 2019 in terms of compensation models available / efficiency and symmetry of activations?

☐ Yes

☐ No

Comment:

*Are there any requirements to be (or delegate to) a Balance Responsible Party to access wholesale markets?*

☐ Yes

☐ No

Comment:

#### What are the technical requirements to participate in wholesale markets? (e.g., minimum bid size, pooling/portfolio requirements, etc.)

Comment:

#### Do you consider technical requirements to be:

☐ Inadequate and a barrier to access

☐ Mostly inadequate and worth accessing the market for some actors

☐ Mostly adequate except for some situations

☐ Adequate for the participation of all actors

Comment:

#### What are the administrative requirements to participate in wholesale markets?

Comment:

#### Is there a requirement to provide a collateral by the service provider? How much is it and do you consider it a significant barrier to access the market?

☐ Yes

☐ No

Comment:

#### Do you consider bureaucratic requirements to be:

☐ A barrier to access the market

☐ Slowing down or overcomplicating the process to the extent that it would be difficult to access the market

☐ Mostly adequate and in line with other markets

☐ Easy to follow and not hindering participation of any type of actor

#### How is the activation measured?

☐ Smart meter (boundary meter)

☐ Sub-meter or dedicated measurement device

☐ Other

Comment:

*Is a prequalification process required for participating? If yes, please describe it and provide your interpretation of its suitability for Demand-Side Flexibility.*

☐ Yes

☐ No

Comment:

*What is the minimum bid size*?

☐ 5MW and higher

☐ 1MW

☐ 500kW

☐ 200kW and lower

☐ Not applicable

*If participation of Demand-Side Flexibility through explicit activations is not possible in the country of your responses, what are the necessary steps to overcome the barriers:*

Comment:

Maturity of the wholesale markets

*To assess the level of maturity of the DA and ID markets, please provide the following information for 2023:*

* The number of products available:
* The granularity of products (e.g., 15min products):

* Market concentration (e.g., number of participants bidding in the wholesale markets, number of participants being activated):

Participating technologies and traded volumes

#### Please mark the technologies with access to Day-ahead markets

☐ Residential or small-scale Solar PV

☐ Other distributed generation

☐ Small-scale battery storage (aggregated)

☐ Utility scale storage

☐ Demand Response from commercial and industrial consumers

☐ Demand Response from households (through aggregators or suppliers)

Comment:

#### Please mark the technologies with access to Intraday Markets

☐ Residential or small-scale Solar PV

☐ Other distributed generation

☐ Small-scale battery storage (aggregated)

☐ Utility scale storage

☐ Demand Response from commercial and industrial consumers

☐ Demand Response from households (through aggregators or suppliers)

Comment:

*Is it possible to distinguish the types of assets participating to wholesales markets, notably generation or demand assets?*

☐ Yes

☐ No

*If yes, please describe the types of decentralised energy resources (i.e. distributed generation, energy storage facilities and demand response) participating in wholesale markets. Does it vary between Day-Ahead and Intraday markets?*

Comment:

*How many independent aggregators or aggregators are registered to participate in wholesale markets in the country you are replying for?*

Comment:

*What are the amounts of explicitly activated volumes from demand-side resources?*

Comment:

Benefits observed

#### If Demand-Side Flexibility is active in the wholesale market, is there a measurable reduction in wholesale prices?

☐ Yes

☐ No

Comment:

#### What is the average discount in consumer bills if they participate in wholesale markets through implicit flexibility compared to consumers that do not?

Comment:

#### What is the average value (in €) for 1 MW of flexibility?

Comment:

### Roadmap

#### Are there any trials or regulatory sandboxes that would allow any of these technologies to access wholesale markets?

☐ Yes

☐ No

If yes, please provide background to the sandbox or trial:

*Is there a national plan for the implementation of the following aspects that might facilitate the access of DSF to wholesale markets?*

☐ Independent aggregator framework

☐ Access to wholesale markets

Comment:

*Could you provide a timeline for the roadmap?*

Comment:

*In your opinion, would this roadmap be sufficient for opening wholesale markets to DSF? If not, what is lacking?*

Comment:

*Do you have any further comments on the measures that were introduced or are going to be introduced in your country?*

Comment: