



**smartEn**  
Smart Energy Europe

# The contribution of flexible consumers in the REPowerEU demand reduction plan

smartEn Position Paper

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## INTRODUCTION

The fifth action of the **European Commission's REPowerEU plan published on 18 May 2022 defines how to reinforce preparedness in case of a severe gas supply disruption that could occur, notably in the 2022/23 winter**. Among the different measures proposed to phase out EU's dependency from Russian fossil fuels, the Commission will facilitate the definition of a coordinated EU demand reduction plan, based on these principles:

- Pre-emptive voluntary curtailment measures that have to be in place before an actual emergency.
- Market-based measures for undertakings to reduce consumption.
- Prioritisation of protected customers for which security of supply have to be guaranteed.

## ROLE OF DEMAND-SIDE FLEXIBILITY IN THE PLAN

smartEn recognises that major energy savings will be required in case of emergency, but **demand-side flexibility can play a crucial role to mitigate the impact of an extreme critical event (e.g., a supply shock) on the whole energy system by:**

- shifting energy consumption away from peak hours, when peaking gas-fired power plants operate, thus reducing EU gas import needs. This would be an “ex-ante supply shock contribution” by flexible consumers. This can be automated thanks to demand-side flexibility technologies and services that lower demand in a time-dependent way when electricity is produced by gas, at peak times. It is a dynamic saving of fossil fuel energy that should complement static savings resulting from energy efficiency measures;
- activating the flexible consumption of as many end-users as possible for different timeframes. This would be an “ex-post supply shock contribution” by flexible consumers, activated as soon as the gas supply disruption occurs. This would require industries and buildings to reduce the consumption of energy from the grid and/or to consume energy produced/stored on-site for a certain period of time, sharing the burden among end-use sectors, based on their flexible capacity. This could be further enhanced by local energy trading and sharing mechanisms as endorsed by the EU framework legislation on energy communities.

In both cases, the demand reduction plan should target consumption of gas and electricity by industries, residential and commercial buildings, and transport sectors. While some energy intensive industries are historically more acquainted to participate in flexibility schemes, also buildings, if equipped with flexible assets (e.g., smart HVAC systems, heat pumps, smart appliances, energy storage facilities) hold a significant flexibility potential and should equally contribute.

We regret that ENTSO-E's preliminary assessment of 2022/23 winter adequacy issues<sup>1</sup> proposes supply-only mitigation actions (i.e., acceleration of RES deployment, alternative fuel supply routes) and downplays the potential of already existing resources with reduced deployment and activation costs, like consumers managing their demand.

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<sup>1</sup> ENTSO-E - Summer Outlook 2022 (June 2022)

## 5 MEASURES FOR A SMART EU DEMAND REDUCTION PLAN

### IMMEDIATELY APPLICABLE EX-ANTE SUPPLY SHOCK MEASURES



1. Open all markets and mechanisms to flexible demand-side resources to increase capacity and reduce gas consumption



2. Support massive roll-out of smart devices to ensure sufficient flexible demand capacity



3. Set up a communication campaign to engage consumers in demand-side flexibility programmes

### EX-POST SUPPLY SHOCK MEASURES



4. Remunerate dynamic energy savings to reduce demand during peak hours



5. Temporarily relax restrictions for the use of back-up generators to allow consumers to curtail their demand for longer periods

### HOW TO SHAPE A SMART DEMAND REDUCTION PLAN

As highlighted in the figure above, smartEn recommends five measures to be included in the EU coordinated demand reduction plan.

*Three of them are immediately applicable and should be considered ex-ante supply shock measures:*

- 1) **Open all markets and mechanisms across Europe to flexible demand-side resources, in particular:**
  - a) **Capacity mechanisms and strategic reserves.** Capacity mechanisms and strategic reserves should guarantee to participants from all sectors (including LV resources) availability payments for every kW of flexible capacity that can be curtailed for a certain amount of time, when needed. At the moment, this is not the case for most of existing schemes<sup>2</sup>. Availability payments are usually guaranteed to fulfil long-term requirements, but they should be granted to resources that can deliver in the short-term as well. If Member States have already in place such mechanisms that are inclusive to demand-side resources, additional short-term auctions for the next winter should be considered.

<sup>2</sup> For an overview of how existing Resource Adequacy Mechanisms across Europe are not treating demand-side resources in a technology inclusive way, smartEn realised a mapping, published in early 2022 [https://smarten.eu/wp-content/uploads/2022/01/the\\_smarten\\_map\\_2021\\_DIGITAL\\_final.pdf](https://smarten.eu/wp-content/uploads/2022/01/the_smarten_map_2021_DIGITAL_final.pdf)

Any measure contemplated by the plan should not be managed bilaterally between system operators and consumers but incentivise competitiveness through participation of aggregators. It is also crucial to avoid non-market based, bilateral curtailments and specifically not to penalise eventually curtailed consumers that are already participating in existing schemes (like capacity mechanisms).

- b) **Wholesale markets.** Allowing the full participation of demand-side resources, including aggregators, would reduce the need of peaking gas-fired generators in wholesale markets. Member States are currently lagging in the implementation of the Electricity Market Design provisions that requires opening of wholesale markets to demand-side resources<sup>3</sup>. These provisions could be implemented immediately based on a simplified model.

- 2) **Support massive roll-out of smart devices to ensure sufficient flexible demand capacity.** When capacity mechanisms and strategic reserves are set up, in line with the previous recommendation, a conditionality should be introduced to require beneficiaries, either individual consumers or aggregators, to invest availability payments in the deployment of more distributed flexible capacities to increase the flexible contribution in case of activation.

Alternatively, direct subsidies, rebate payments or tax rebates to support the deployment of smart devices should be granted to consumers.

In both cases, end-users benefitting from these support schemes should invest in on-site renewables, energy storage facilities, smart charging and smart devices to increase self-consumption, energy trading and sharing within a local renewable energy community: this would reduce the overall EU gas imports, even before a supply shock, and allow them to timely react in case of an emergency thanks to signals from the grid that reach such devices.

Both these measures will guarantee the availability of millions of flexible consumers already in the next winter as well as increasing the reliability of the system in the medium term.

- 3) **Set up a communication campaign to engage consumers in demand-side flexibility programmes.** The EU Save Energy Communication campaign or any ad-hoc campaign to stimulate consumers to “play their part” should inform consumers about their possible contribution by making their consumption more flexible through the uptake of smart devices and their participation to flexibility schemes.

Consumers should react and be remunerated when the system needs it the most, i.e., when demand-side flexibility can bring the highest value. A procedure for declaring and communicating a state of emergency to end-users should be also introduced. It is suggested there should be more than one level, e.g. preparation, medium risk and high

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<sup>3</sup> For an overview of how Member States are implementing key articles for demand-side flexibility in the EMD across Europe, smartEn realised a monitoring report, published in early 2022 [https://smarten.eu/wp-content/uploads/2022/03/The\\_implementation\\_of\\_the\\_Electricity\\_Market\\_Design\\_2022\\_DIGITAL.pdf](https://smarten.eu/wp-content/uploads/2022/03/The_implementation_of_the_Electricity_Market_Design_2022_DIGITAL.pdf)

risk of power cuts, with measures appropriate to each thus avoiding putting whole countries under such measures at any one time.

The mobilisation of the Ambassadors of the European Climate Pact or the Covenant of Mayors is crucial to ensure the largest possible outreach.

*Two out of these five measures should be implemented in case the emergency situation occurs and should be considered as ex-post supply shock measures:*

- 4) **Remunerate dynamic energy savings.** Consumers, notably households, should be remunerated for reducing their energy demand, especially during peak hours, either directly or through an aggregator, as currently considered by the British National Grid plan<sup>4</sup>. This is a simple measure to communicate and it is expected could engage a majority of users and deliver significant demand reductions.
  
- 5) **Temporarily relax restrictions for the use of back-up generators.** Many consumers, including industrial consumers as data centres, can rely on back-up generators only for few hours per year due to environmental restrictions. These limitations could be temporarily and consciously waived to allow them to curtail demand for longer periods, as currently considered by Ireland. This measure should be considered a last resort action to react to an extreme scenario. In addition, financial support or more favourable market access conditions should be granted to consumers that switch from diesel to biofuel generators.

## CONCLUSIONS

These measures are fully aligned with the EU energy and climate priorities because they:

- Empower consumers and prosumers to participate in energy markets
- Facilitate smart integration of decentralised energy resources
- Accelerate the decarbonisation of the energy sector

Therefore, they are no-regret options to reinforce preparedness of the EU energy system.

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<sup>4</sup> [www.bloomberg.com/news/articles/2022-06-30/uk-grid-prepares-to-pay-firms-cash-to-cut-power-use-next-winter](https://www.bloomberg.com/news/articles/2022-06-30/uk-grid-prepares-to-pay-firms-cash-to-cut-power-use-next-winter)

## About smartEn - Smart Energy Europe

smartEn is the European business association integrating the consumer-driven solutions of the clean energy transition. We create opportunities for every company, building and car to support an increasingly renewable energy system. Our membership consists of the following companies:



The positions expressed in this document represent the views of smartEn as an association, but not necessarily the opinion of each specific smartEn member.

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