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Unlocking the potential of demand flexibility – a residential product perspective (green paper)

Transpower welcomes the opportunity to submit to the EECA's green paper entitled "Unlocking the potential of demand flexibility – a residential product perspective", published 16 October, 2025.

We support demand flexibility in general, and deem the following considerations as being worth of the EECA's continued focus:

1. **Price Signals.** Flexibility is only valuable if consumers and aggregators can clearly see and respond to time-varying prices that reflect network and wholesale conditions, or the structures that retails seek to pass on. For those consumers that want to be demand flexible, tariff structures should be available that they can respond to.
2. **Interoperability/Standards.** Standards should promote open, non-proprietary communication protocols (e.g. OCPP, IEEE 2030.5, OpenADR) to avoid technology lock-in and ensure future competition between device vendors and flexibility providers.
3. **Communication.** Two-way communication must be secure, standardised, and capable of integrating with both Home Energy Management Systems (HEMS) and third-party aggregators / Flexibility Service Providers (FSPs).

We acknowledge the questions set out in the green paper by EECA, and have set out our responses thematically below:

Q1-2. Residential: Yes – we see managing peak demand, optimising / coordinating renewables, and optimising home energy (energy efficiency) use are the key use cases. The list of products identified as key end-use products for demand flexibility is somewhat comprehensive but should not be arbitrarily limited – products like spa/pool heaters and underfloor heating are other examples commonly found in the residential sector that may develop increased flexibility capabilities in future.

Q3-6. Commercial and industrial: We believe a bespoke approach is more suitable given diverse load profiles. Flexibility measures likely to be performed within these verticals are both diverse and technical in nature.

Q7. Barriers to uptake: We see the key barriers at present as up-front equipment cost (or perceived costs),[1] unclear value streams, and the ability to understand the required demand response. Weak, inconsistent, price signals may mean that consumers are not willing to invest the time, make the behavioural change, or take risks (even small) if required. Fragmented communication standards and lack of interoperability may also limit consumer awareness and ability to engage in demand response and/ or with service providers.

Q8-9. Components and standardisation: We agree that communication protocol, product response, and operational information are the core components. A minimum voluntary standard for interoperability and data transparency would accelerate uptake. An example of this is the widely deployed, demand response enabling device standard AS/4755.3.x commonly found within all air source heat pump systems (typ. residential) sold in country[2]. Through various trials we have learnt that it is the enabling device that triggers this standard which is 'Smart' pe se vs the demand response measures / logic themselves.

Q10-11. Voluntary lists and working groups: We support a voluntary approved-product list, similar to the EV Smart Charger List, provided criteria are open and technology-neutral. We would also value the opportunity to participate in the working groups listed.

We support the EECA's work in this space and invite any questions or further discussion (if required) regarding the contents of this submission.

Yours sincerely

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[1] Some devices can be made 'smart' with relatively small investments.
[2] AS/4755.3.x