NexSys (Next Generation Energy Systems)

Response to CRU *Smart Meter Upgrade - Access to Near Real Time Metering Data* Consultation Paper

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Introduction

NexSys (Next Generation Energy Systems) is an all-island, multidisciplinary energy research programme. Through this programme of research, 50 leading academics across 9 institutions are working in partnership with industry to tackle the challenges of energy system decarbonisation, developing evidence-based pathways for a net zero energy system.

NexSys is committed to engaging with national policy processes in order to provide evidence based research and policy insights in support of our net zero ambitions. Further information on NexSys engagement with Ireland's sustainable energy transition policies is available on our website.

NexSys welcomes the opportunity to respond to the consultation paper on *Access to Near Time Smart Metering Data* published by the CRU. Our responses to the specific questions are based on NexSys and expert review of third party research relevant to the consultation topic.

Theme 1

Do you agree with the CRU's proposal to remove the requirement on ESB Networks to provide a physical IHD device to all customers who request one through their supplier? Please provide evidence to support your response.

- We agree with the CRU's rationale for removing the requirement on ESB Networks to provide a physical IHD to all customers who request one. However, access to near real-time smart meter data remains important to realising the full benefits of the National Smart Meter Programme, and we are not convinced that relying on the market will provide optimal levels of access. As noted in the consultation paper, 'the CRU is not aware of any electricity supplier offering a near real time metering data service to residential customers to date, and envisaging that this will change without providing further guidance or standards to the market appears optimistic. In particular, it is not clear what market incentive suppliers will have to provide supported access to near real-time usage data for vulnerable customers. In addition, in the absence of minimum standards or guidance, there is a risk that any solutions that do emerge will be supplier-specific, potentially increasing barriers to switching to a different supplier.

- Near real-time usage data can help customers manage their own electricity consumption. This is particularly relevant in the case of time-of-use (TOU) tariffs, and will be even more pertinent once standard dynamic price contracts become available. Many studies have demonstrated that providing an IHD improves the response of households to time-of-use (TOU) or dynamic pricing (Di Cosmo et al., 2014; Di Cosmo & O'Hora, 2017; Faruqui et al., 2010). However, as evidence of this demand responsiveness typically comes from pilot studies, it is possible that this is only a short-term effect. In addition, some studies have questioned whether IHDs improve the information available to consumers or simply serve as a reminder to reduce electricity usage (Carroll et al., 2014; Faruqui et al., 2010). Several studies have shown

that demand responsiveness to TOU or dynamic pricing is significantly higher when households are instead equipped with devices to automate responses to price changes (Bollinger & Hartmann, 2020; Dutta & Mitra, 2017; Harding & Lamarche, 2016; Newsham & Bowker, 2010). As pointed out by the CRU, there would be costs associated with ESB Networks providing IHDs to a significant proportion of customers, which would have to be recovered through Distribution Use of System (DUoS) charges. It is unclear that the benefits of providing these physical IHDs would justify these costs, particularly as newer technology develops and different types of tariffs such as dynamic price contracts become available.

- In place of the requirement for ESB Networks to provide an IHD on request, we suggest that the CRU considers establishing a minimum requirement for mobile applications that can link to smart meters to give guidance to the market. For example, this may set out minimum standards for how electricity usage data and price information should be presented to customers in a standardised, machine-readable format. Accessing this near real time data will become more important as dynamic price contracts become available, as customers will otherwise not have sufficient information to respond to price signals.

- Part half-hourly usage data can also help customers identify the best plan for them and switch to a different supplier. As providing customers with easier access to their smart meter data could help them switch to a different supplier, suppliers would not necessarily be incentivised by the market to develop innovative solutions for accessing near real-time smart meter data as envisaged by the CRU.

- We suggest that the CRU also considers establishing a minimum requirement for the standardised disclosure of past smart meter data by suppliers. For example, in the UK, suppliers are required to include a QR code on every electricity bill that provides access to past smart meter data in a standardised, machine readable format. At the discretion of customers, this data can then be read by price comparison applications to help customers make an informed tariff choice. This has been cited by Thaler & Sunstein (2021) as an example of 'smart disclosure'. In Ireland, one option could be a QR code that links with customers' ESB Networks Online Account in a way that allows customers to use price comparison tools such as the UCD Energy Cost Calculator to compare tariffs across different suppliers. To complement this requirement, suppliers should also be required by the CRU to publish comprehensive pricing information for all offered tariffs in a standardised, machine readable format so that price comparison tools can offer accurate insights to customers.

- We agree with the CRU that many customers may prefer to access their smart meter data using a smartphone application instead of an IHD. However, we are concerned that some customers may be overlooked by this proposal due to the digital divide that has been linked to the energy transition (Thunshirn et al., 2025). For example, older adults may have greater difficulty accessing their smart meter data via mobile applications, and this could undermine the Just Transition to climate neutrality as outlined in Ireland's 2025 Climate Action Plan. We suggest that the CRU considers

whether ongoing targeted support for such customers to access their smart meter data may be warranted.

- Access to near real-time consumption data is fundamental for effective participation in emerging electricity market models such as peer-to-peer (P2P) energy trading platforms and local energy communities. For P2P trading, participants would require timely, granular data to optimise energy exchanges, respond to dynamic pricing signals, and balance supply and demand autonomously. Limiting the provision of physical IHDs without strong guidance on enabling digital alternatives may slow down consumer engagement levels necessary for the success of community energy models and P2P market mechanisms.

Theme 2

What are your views on requiring ESB Networks to provide an accessible IHD to those on the vulnerable customer register who request one (for a transitionary period)?

- We agree with a targeted approach, but question whether this targeting should be limited to the vulnerable customer register and whether this should only be for a short transitionary period.

- In addition to those on the vulnerable customer register, many customers, including older adults, people with certain disabilities, people with low digital literacy, individuals with language barriers, or those in socio-economically disadvantaged groups may struggle to access electricity usage data digitally. We suggest a broader eligibility mechanism should be considered, possibly through registered third-party intermediaries, to support the principles of a Just Transition.

- Vulnerability is not static. Customers may become eligible after the 12-month window closes, and we are concerned that there would not be sufficient incentives in the market alone to provide additional support to these customers. We recommend that instead of a rigid transitionary window, the CRU consider a rolling eligibility model, whereby newly registered vulnerable customers whether registered during or after the initial 12-month period can still request access to supported IHD solutions.

Theme 3a

Should ESB Networks have flexibility to procure an IHD or a device that pairs with a smart phone application (or similar)?

- We agree that ESB Networks should have flexibility in procuring this device, subject to the proposed minimum functionality standards in terms of accessibility as laid out in the proposal. Any paired device would ideally be tested by a broad cohort of prospective users, with a particular focus on ensuring accessibility and ease of use for vulnerable users.

- In addition, we recommend that ESB Networks consider long-term use cases, including the potential integration of smart meter interfaces into local energy trading or community energy systems. Ensuring device interoperability, openness to third-party services, and adaptability to future market innovations will be key. A hybrid solution, combining both app and IHD functionality where appropriate, may offer more inclusive value especially in households with multiple users or varying digital literacy levels.

Theme 3b

Have you any comments on the proposed features of the accessible solution (IHD or device with supported application) to be procured by ESB Networks?

- We note the lack of existing solutions allowing customers to manually input more than 3 price bands. This prevents the input of tariffs with additional bands beyond day/night/peak, such as those with free weekend days or "ultra low" 2am-5am bands. This may also leave these customers with a lower capacity to adopt dynamic pricing when this becomes available in 2026.

Theme 4

Do you agree that ESB Networks should provide technical support during the set-up process and provide ongoing support to customers for a minimum of 12 months?

- We agree with the proposal to provide technical support. However, as outlined in our response to Theme 2 above, we believe that a support period of only 12 months is somewhat arbitrary and this should be available on an ongoing basis, particularly for vulnerable customers, in line with Just Transition principles.

Theme 5

Have you any views on the CRU's proposal that ESB Networks would develop and deliver training to community mentors who can advise and support vulnerable customers to install and use their IHD?

- We suggest that SEAI Sustainable Energy Communities may be one potential avenue through which such training could be delivered to community mentors.

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NexSys welcomes further engagement with the CRU on this submission and related matters. Any information requests can be sent to john.doody@ucd.ie.