
ESB Networks

***Data Protection Impact
Assessments for the
National Smart
Metering Project***

Overview

History of Changes to Document

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1.0	Initial DPIA issued for the Smart Metering Deployment	ESBN Industry and Comms	7 Sept 2020	Head Smart Metering
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1 Executive Summary

In September 2017 the Commission for Regulation of Utilities (CRU), whose mission is to protect public interest in water, energy and energy safety, announced the details of the phased delivery plan for the introduction of smart meters across Ireland. The CRU tasked ESB Networks with the roll-out of the National Smart Metering Programme (NSMP), which involves replacing all existing electricity meters with modern smart meters.

The roll-out programme – now part of the Government’s Climate Action Plan¹ - is being delivered in a phased approach by ESB Networks in co-operation with the CRU, the Department of Communications, Climate Action and Environment, the Sustainable Energy Authority of Ireland and with all electricity supply companies.

The initial phases of the National Smart Metering Programme (NSMP) transform the energy retail market by ensuring Suppliers are able to provide customers with access to new tariffs and services, better and more accessible information about their energy consumption and more accurate bills.

The NSMP reforms are facilitated by ESB Networks rolling out smart meters and a supporting communications infrastructure, to all domestic and smaller business customers. This creates a technical platform for recording, collecting, processing and distributing detailed, accurate data, and for automating retail market activities that currently require manual intervention and site visits.

To operate in the retail electricity market, companies must comply with a range of obligations, rules, systems and processes which are captured in legislation, licences, codes and procedures. This regulatory framework is continuously updated and is designed to promote effective competition between Suppliers, promote customer choice based on good quality information and to provide an appropriate framework of customer protection.

The requirements for the NSMP have been transposed by CRU into relevant parts of the regulatory framework. Specifically, the most recent Supplier Handbook² and within updates to the Retail Market Systems³ which were approved by CRU in March 2019 and have gone live in 2021 with the following data flows available from Smart Meters:

- 24 Hour Cumulative Register Data;
- Interval Data and SST (Standard Smart Tariff) Register Data;
- Instrumentation Data; and
- Event Data.

ESB Networks is committed to ensuring that the National Smart Metering Programme is delivered in compliance with applicable data privacy laws and that all customer data is safe and secure. Pursuant

¹ <https://www.dccae.gov.ie/en-ie/climate-action/publications/Pages/Climate-Action-Plan.aspx>

² <http://www.cru.ie/wp-content/uploads/2019/11/CRU19138-Electricity-and-Gas-Suppliers-Handbook-2019-.pdf>

³ <https://rmdservice.com/v13-00-00-release/>

to Article 6(1)(c) of the GDPR⁴, ESB Networks will record, collect and process data from smart meters to comply with the legal obligations it is subject to.

This overview document is supported by individual Data Protection Impact Assessments (DPIAs) for each of the four identified data flows and can be located here:

<https://www.esbnetworks.ie/existing-connection/meters-readings/smart-meter-upgrade/data-protection-impact-assessments/>

1.1 The National Smart Metering Programme (NSMP) Introduction

This overview document and the accompanying DPIAs were first published in September 2020. ESB Networks will issue updates to these documents to ensure that data subjects are kept informed about any data processing changes which may occur as the planned additional NSMP services are delivered over Phases 2 and 3 of the programme. These changes are aligned to the supporting legal frameworks that mandate the NSMP activities and the legitimate basis for the processing of the necessary customer information. The NSMP remains committed to protecting the rights and freedoms of individuals and is committed to keeping stakeholders informed when changes occur.

1.2 Background

In September 2017 the Commission for Regulation of Utilities (CRU), whose mission is to protect public interest in water, energy and energy safety, announced the details of the phased delivery plan for the introduction of smart meters across Ireland. The CRU tasked ESB Networks with the roll-out of the National Smart Metering Programme (NSMP), which involves replacing all existing electricity meters with modern smart meters.

Based on the CRU cost benefit analysis⁵ and information from Customer Behaviour Trials, the upgrade to smart meters will provide customers with better information to enable them to reduce their energy usage, carbon footprint and, over time, eliminate the need for estimated bills. Smart meters will enable the move to a low-carbon electricity network, the development of smart grids, facilitate local renewable generation and microgeneration and support the electrification of heat and transport.

The CRU's decision to implement smart metering for all residential and smaller business customers was initially announced in July 2012. This decision was made following comprehensive customer behaviour and technology trials and cost-benefit analyses, and in the context of the European Third Package Directive provisions for the rollout of smart meters in Member States to at least 80% of electricity consumers by 2020 if there is a positive cost benefit analysis.

The CRU concluded the High Level Design for the NSMP in October 2014 and finalised the suite of detailed policy decisions required to give practical effect to that High Level Design in 2016.

The NSMP was further underpinned when National Legislation was enacted in 2014 (SI.426/2014). This, amongst other things, set new functions for CRU in relation to smart metering and set new obligations on electricity suppliers and ESB Networks to support their delivery and implementation.

The rollout of smart electricity meters in Ireland for all residential and small & medium sized businesses commenced in September 2019.

⁴ REGULATION (EU) 2016/679 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

⁵ <https://www.cru.ie/wp-content/uploads/2017/11/CRU17324-Smart-Meter-Upgrade-Cost-Benefit-Analysis-Information-Paper.pdf>

1.3 Industry Overview

The regulatory framework for the retail electricity market in Ireland has developed incrementally since 1999 when the process of market deregulation commenced. It is a model based on a high standard of consumer protection, whilst facilitating efficient competition in the retail markets.

All customers have the right to choose their electricity supplier, and to switch supplier in order to get a better deal. This choice across competing suppliers has delivered significant benefits for customers, including access to new suppliers, a variety of prices and products and by enabling new types of services to enter the market.

The Electricity Regulation Act 1999 (as amended), network operator licences, energy supplier licences, industry codes, including the Meter Code and the Supplier Handbook largely set out the rules and legal obligations which underpin the day to day operation of the electricity retail market.

These rules and obligations are delivered through complex and secure IT Systems and Processes operated and maintained by ESB Networks on behalf of the whole industry. Operating & maintaining these systems and processes are requirements of ESB Networks Distribution System Operator (DSO) Licence, where Condition 8 requires ESB Networks to operate and maintain a Meter Point Registration Service and Condition 9 requires it to provide Metering & Data Services.

The suite of regulatory documents, market systems and processes provide a clear framework for how ESB Networks should operate in an efficient and non-discriminatory manner, and how energy supply companies should interact with various customer segments in offering products and services.

Since 26th February 2021, customers with a smart meter can avail of new products and services from electricity supply companies. Further information regarding smart meters can be found [here](#).

The NSMP will continue to transform the energy retail markets by empowering Suppliers to provide customers with access to new tariffs and services, better and more accessible information about their energy consumption and more accurate bills.

The NSMP reforms are facilitated by ESB Networks rolling out smart meters, and a supporting communications infrastructure, to all domestic and smaller business customers. This creates a technical platform for collecting detailed, accurate data, and for automating activities that currently require manual intervention and site visits.

The new technical platform and the associated changes to how retail markets operate is fundamentally changing the services that customers, who have a smart meter and have availed of the smart metering services, receive in a number of ways:

- there is more information available on how individual customers are using energy, allowing customers better information to decide how much energy to use and when to use it
- it makes accurate billing of Time-of-Use Tariffs available to all. Currently, access to tariffs which allow customers to use energy at cheaper times (off-peak) requires the installation of a special meter, and is limited to a relatively small number of customers with Day/Night Metering

- it will remove the technical requirement for a site visit in order to read a meter as the data will be collected remotely, this will in turn remove the need to provide estimates and make bills more accurate
- it will improve the accuracy and timeliness of key retail market processes such as change of supplier (COS) and change of legal entity (COLE)
- Support the introduction of a Microgeneration support scheme as set out in the Climate Action Plan.¹

The new platform will also improve the quality of existing services. For example, in most cases an actual meter reading will be available to calculate a customer bill (including for a closing bill when a customer changes Supplier or moves home). Hence, the risk of a customer being surprised by a high bill as a result of previous bills being based on estimates (or overpaying due to an inaccurate estimate that is not corrected until a later billing cycle) should be virtually removed.

The new platform will also create opportunities to improve the quality of network services, and to monitor performance in respect of those services more accurately. It does this by providing instrumentation and event data related to the performance and integrity of the local network and the meter assets.

1.4 Smart Metering Operational Structures

The first phase of the NSMP culminated in the Smart Metering services activation in February 2021 and the release of the Electricity market functionality (commonly referred to as Market Schema v13) in April 2021. The operational smart metering systems are operated by the Smart Metering Operations Centre (SMOC), an integrated function that manages smart metering systems, applications and data for ESB Networks.

2 SMP Data Protection Impact Assessments

2.1 Legal Basis

The recording, collection and processing of data from smart meters by ESB Networks is necessary to meet a number of legal obligations in its DSO Licence. ESB Networks has obligations under Condition 7 (Detection and Prevention of Theft of Electricity), Condition 8 (Meter Point Registration Service and Meter Registration Agreement) and Condition 9 (Provision of Metering and Data Services). In July 2020, CRU determined, pursuant to Condition 9(2) of the DSO Licence, that the following actions also fall under the scope of Condition 9:

- Programming all smart metering systems installed by it to record (import and export) (i) half-hourly interval data (ii) twenty-four-hour, day, day peak and night register readings (iii) instrumentation data and (iv) meter event data from such systems
- The foregoing data should, subject to further direction, be processed by ESB Networks solely for purposes of:
 - continuing to implement the High-Level Design to meet the requirements of the Programme and the emerging obligations from the Clean Energy Package (CEP), in accordance with the Decision and Condition 9 of the DSO Licence;
 - establishing and commissioning the Advanced Meter Infrastructure (AMI) to support operation of the Programme; and
 - Operating the AMI to enable delivery of the Retail Market Smart Services (including time of use tariffs) as described in the electricity retail market processes as updated per schema Version 13

Data from smart meters is stored for 7 years by ESB Networks as required by the Meter Code (CER/07/085, Section: 4.2.3 As a minimum, for each registered Meter, [7] full years of metered data shall be retained and the Statute of Limitations Act 1957, Section 11.

2.2 NSMP Data Flows

NSMP policy and the obligations arising have been transposed by CRU into the most recent Supplier Handbook⁶ and approved within updates to the Retail Market Systems⁷ that are planned to go live in 2021.

The Supplier Handbook places obligations on Supplier to make available a Standard Smart Tariff and up to three other Time-of-Use tariffs. Suppliers also have obligations to prepare a Code of Practice for Smart Services and to take meaningful and effective steps to migrate relevant customers to an appropriate Time-of-Use tariff.

The Retail Market System changes set out the various data flows and market messages maintained by ESB Networks that will facilitate Suppliers as they meet their Supplier Handbook obligations.

As a multiyear programme, reliant on a national regulatory framework that is developing in alignment with the NSMP objectives, ESB Networks will continuously review the NSMP Data Protection Impact Assessments (DPIAs). The DPIAs assess the data collection and processing requirements associated

⁶ <http://www.cru.ie/wp-content/uploads/2019/11/CRU19138-Electricity-and-Gas-Suppliers-Handbook-2019-.pdf>

⁷ <https://rmdservice.com/v13-00-00-release/>

with the NSMP, evaluate risks to the privacy of customers and identify whether these risks can be mitigated to an acceptable level.

ESB Networks has identified four data flows arising from the implementation of the NSMP (for further information see Appendix 1). These are:

- 24 Hour Cumulative Register Data;
- Interval Data and Standard Smart Tariff Register Data;
- Instrumentation Data, and
- Event Data.

2.3 Securing Customer Data

ESB Networks is committed to ensuring that the National Smart Metering Programme is delivered in compliance with applicable data privacy laws and that all ESB Networks customer data is safe and secure. ESB Networks access to smart meter data is tightly controlled and multiple layers of cyber security are employed on ESB Networks' IT systems and business processes. The smart meter being deployed has been independently tested from a cyber security perspective and ESB Networks' Retail Market Systems are also subject to regular independent testing and review.

2.4 Conclusion & Further Information

The CRU has tasked ESB Networks with the roll-out of the National Smart Metering Programme (NSMP), which is transforming the energy retail market by ensuring Suppliers provide customers with access to new tariffs and services, better and more accessible information about their energy consumption and more accurate bills.

These reforms are facilitated by ESB Networks rolling out smart meters and a supporting communications infrastructure, to all domestic and smaller business customers. This creates a technical platform for recording, collecting, processing and distributing detailed, accurate data, and for automating retail market activities that currently require manual intervention and site visits.

The ESB Networks NSMP Data Protection Impact Assessments (DPIA's) can be found at <https://www.esbnetworks.ie/existing-connection/meters-readings/smart-meter-upgrade/data-protection-impact-assessments/>.

Further information on the NSMP can be found at www.esbnetworks.ie/smartmeter

Appendix 1: NSMP Data Flow Description

Four NSMP data flows have been identified: Instrumentation Data, Event Data, 24 Hour Cumulative Register Data and Interval & Standard Smart Tariff (SST) Register Data. These are described in the table below.

Data Flow	Description
Instrumentation Data	The Electricity Smart Meter (ESM) has the capability to provide diagnostic metrics relating to power quality on the network in the vicinity of the ESM. These metrics will allow ESB Networks to remotely assess customer supply issues (such as low voltage) which often currently require the visit of a Network Technician and the temporary installation of additional on-site metering.
Event Data	The ESM has the capability to provide ESB Networks with meter event and diagnostic metrics. These metrics provide a range of information related to the network and meter itself which can indicate a safety issue, an operational issue, a tampering or cyber security event.
24 Hr Cumulative Register Data	24-hour Cumulative Registers are identical to the data recorded by existing electricity meters. The registers are called cumulative registers because they increment continuously as energy is consumed (import register) or produced (export register) at a premise. The registers measure energy in kWh ⁸ (for active energy) and kVARh ⁹ (for reactive energy).
Interval & SST Register Data	Interval and Standard Smart Tariff (SST) Register data is more granular than the 24-hour Cumulative Register data discussed above and is the new type of data being recorded with the introduction of ESMs. The Interval Data is recorded on the meter every 30-minutes. These recordings are not cumulative recordings – they are recordings of the energy used, measured in kW or kVAR, during the 30-minute period. Like the 24-hour registers, the SST registers are Cumulative Registers, but instead of recording continuously they only record during certain times of the day. ESMs are pre-configured to record the SST time settings as defined by the CRU ¹⁰ .

⁸ kWh = Kilowatt Hour

⁹ kVARh = KiloVAR Hour

¹⁰ <https://www.cru.ie/wp-content/uploads/2018/05/CRU19019-Customer-Led-Transition-to-Time-of-Use.pdf>

Appendix 2: Glossary

Abbreviation	Meaning
AMI	Advanced Metering Infrastructure
BPD	Business Process Design
CoLE	Change of Legal Entity
CoS	Change of Supplier
CSP	Communication Service Provider
CRU	Commission for Regulation of Utilities
DB	Data Base
DPIA	Data Privacy Impact Assessment
DSO	Distribution System Operator
ESM	Electric Smart Meter
HES	Head End System
IPS	Intrusion Prevention System
KMS	Key Management System
MDMS	Meter Data Management System
MID	Measuring Instruments Directive
MPRN	Meter Point Registration Number (MPRN)
NSMP	National Smart Metering Programme
SMDH	Smart Meter Data Hub
SMOC	Smart Meter Operations Centre
SST	Standard Smart Tariff