



ENERGY SECURITY BOARD
BILL TRANSPARENCY

CONSULTATION PAPER

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Abbreviations and Technical Terms

ABS	Australian Bureau of Statistics
ADR	Accredited Data Recipient
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
ARENA	Australian Renewable Energy Agency
AS	Australian Standard
CA	Certificate Authority
CDR	Consumer Data Right
CEC	Clean Energy Council
CER	Consumer Energy Resources
CIC	Customer Insights Collaboration
CSIP	Common Smart Inverter Profile
CSIP-Aus	Common Smart Inverter Profile – Australia
CSML	Contingency and Minimum System Load
DEECA	Department of Energy, Environment and Climate Change
DEIP	Distributed Energy Integration Program
DER	Distributed Energy Resources
DMO	Default Market Offer
DNSP	Distribution Network Service Provider
DOE	Dynamic Operating Envelope
DPE	Department of Planning and Environment
DRSP	Demand Response Service Providers
DSU	Data Services Unit
ESCOSA	Essential Services Commission of South Australia
EWON	Energy and Water Ombudsman NSW
ECA	Energy Consumers Australia
ESB	Energy Security Board
FEL	Flexible Export Limits
FRMP	Financially Responsible Market Participant
HEMS	Home Energy Management System
IEEE	The Institute of Electrical and Electronics Engineers
IEEE 2030.5	IEEE Standard for Smart Energy Profile Application Protocol
IP	Internet Protocol

IRP	Integrated Resource Provider
ISC	DEIP Interoperability Steering Committee
ISP	Integrated System Plan
LAN	Local Area Network
MASP	Market Ancillary Service Providers
MSATS	Market Settlement and Transfer Solutions
MSGA	Market Small Generation Aggregator
NECF	National Energy Customer Framework
NEL	National Electricity Law
NEM	National Electricity Market
NEO	National Electricity Objective
NERO	National Energy Retail Objective
NER	National Electricity Rules
NERR	National Electricity Retail Rules
NMI	Network Meter Identifier
OEM	Original Equipment Manufacturer
PKI	Public Key Infrastructure
PV	Photovoltaic
SAHB	Standards Australia Handbook
SAPN	South Australia Power Networks
SEP2	Smart Energy Profile 2 (IEEE 2030.5)
SRES	Small Scale Renewable Energy Scheme
SWG	Stakeholder Working Group
TNSP	Transmission Network Service Provider
TS	Technical Specification
VEC	Victorian Energy Compare
VPP	Virtual Power Plant
WEM	Wholesale Electricity Market

Executive Summary

In the context of growing complexity and innovation in services, the Energy Security Board (ESB) Data Strategy identified that it is increasingly important to understand what drives consumer behaviour, what consumers pay for electricity, and how different services impact bills and choices. This is a high priority gap in energy information required for government policy makers, regulators and market bodies, to inform decision making to support better consumer outcomes.

The ESB has considered and consulted on the current approach to collection and use of billing data, as well as potential alternative approaches that could improve transparency of electricity billing data. This consultation paper presents the findings to date and seeks stakeholder views on:

1. The need for government decision makers to have greater access to electricity billing data,
2. What data would be required, and
3. Options to gather the data more efficiently and effectively.

The ESB seeks stakeholder views on the findings, options, and recommendations presented in this consultation paper.

Timely data on what consumers pay for their electricity is essential for policy makers to support better consumer outcomes and is increasingly important for the energy transition.

Electricity is an essential service – it is a core input into economic production and impacts living standards. This means that electricity costs and affordability will always be of central concern to governments. With rising electricity bills contributing to cost-of-living pressures on consumers and inflation, government and regulatory decision makers need to better understand financial billing outcomes, whether markets are driving efficient outcomes and how vulnerable groups are being impacted.

The rapid transition of the energy system to new technologies and services increases these concerns. It creates new opportunities for consumers to reduce costs, but also new uncertainty in how different consumers respond to, and are impacted by, these services. As innovation drives new market approaches, governments must be able to assess the effectiveness of consumer protections and supporting policies and planning, to manage consumer risks and support consumer benefits.

This requires access to accurate and up-to-date information on what different consumers are paying for their electricity consumption, the services they are receiving and other factors affecting their bills.

The ESB undertook early engagement with key stakeholders to understand the priorities of government policy makers and regulators, the current approach to collecting and using billing data, and alternative options to improve accessibility of billing data. Findings from early engagement was used to inform this consultation paper.

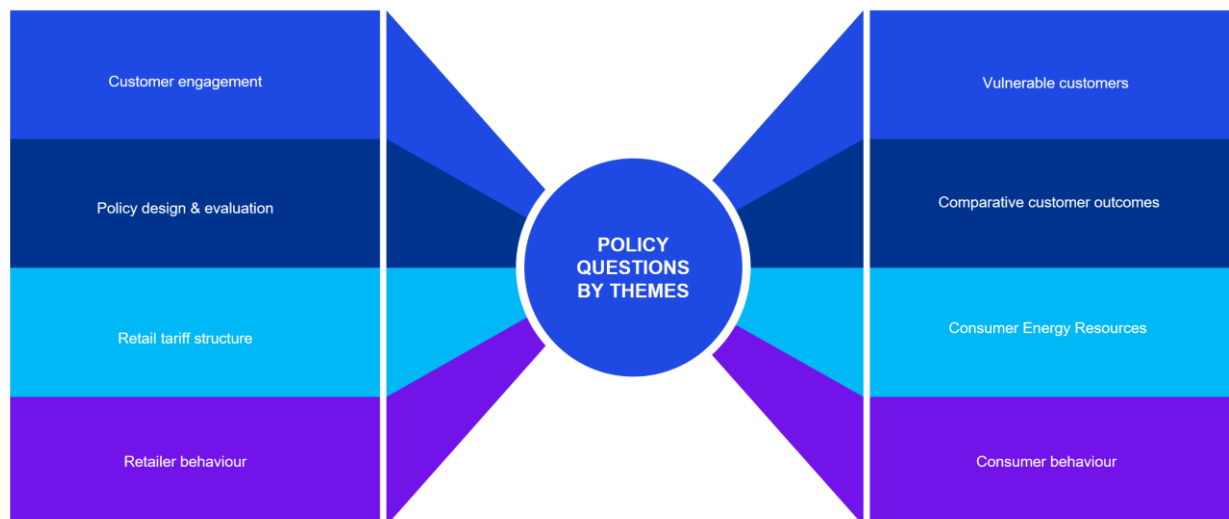
Finding 1: Greater transparency of electricity billing data is necessary. Stakeholders identified gaps in the current data available to answer critical policy questions required to support policy development to achieve better consumer outcomes.

The ESB has explored the need for billing data with key stakeholders, including jurisdictional policy makers, jurisdictional regulators, consumer groups and retailers. Through a series of workshops, interviews and a questionnaire, stakeholders identified their primary use cases for small consumer billing data and their priority policy questions relating to billing data. Stakeholders also provided insights on what billing data is currently gathered and their views on how to improve data collection and sharing.

Stakeholders resoundingly supported both the need for billing data to answer key policy needs and that the current access to data is inadequate. Over 70 policy questions were identified through early stakeholder

consultation with data users including policy makers, regulators, and consumer groups. These questions have been categorised into eight policy themes, as shown in **Figure 1** below.

Figure 1: Priority policy themes



When these eight themes are mapped against potential use cases and existing data sets, there are considerable gaps and limitations in the current data sets which are collected.

Areas identified where deficiencies exist include:

- Timeliness of data
- Details of tariffs and energy products
- Usage (including time-of-use) and new electricity services
- Longitudinal data to measure impacts over time
- Ability to link to metering data and wider datasets (such as the drivers of usage)

Finding 2: Current approaches to collecting consumer billing data are inefficient and are not adequate to meet increasingly complex policy needs – alternatives are needed which support more complete data sets that can be efficiently shared across regulatory stakeholders.

Existing billing data collection arrangements were reviewed. The ACCC, AER, AEMO, AEMC, ABS, most jurisdictional energy regulators, and many related government departments are all involved in collecting different billing datasets, largely from energy retailers.

Despite considerable activity, effort, and cost in gathering this data, there is a lack of coordination and capacity to share this data between those who gather and use it. This means that the resulting datasets available still have material gaps in meeting the identified needs of policy makers as set out above.

This uncoordinated approach is also inconsistent and duplicative, imposing unnecessarily high costs on retailers. Some retailers reported receiving around 10 different requests for data per year, which require manual consideration and cost over \$1 million per year to respond to.¹

This problem was recognised as a key concern in the ACCC’s 2018 Retail Electricity Pricing Inquiry (REPI). Following the conclusion of REPI, the Australian Government initiated the broad-ranging ACCC Electricity

¹ Based on early stakeholder engagement

Market Monitoring Inquiry 2018-2025 (Inquiry into the NEM). Among other areas of focus, this Inquiry into the NEM provided a timely solution to closing critical gaps in billing data collection and reporting using the ACCC's strong data gathering. This Inquiry into the NEM has provided considerably better data than previously available, with regular public reports demonstrating the benefits of greater insights into what consumers pay.

These benefits, however, have been limited by legislative constraints on the ability of the ACCC to share detailed data with wider regulators and policy makers, due to the nature of their data gathering powers. This means the solution has failed to address many priority policy questions and user data gaps, which means it has had limited impact in replacing other data gathering activities, resolving duplication or reducing costs.

As the ACCC Inquiry into the NEM is due to conclude in 2025, it is timely to consider whether there is an ongoing need to collect customer billing data, if more efficient and effective methods exist to collect and, where appropriate, share billing data to resolve policy questions and deliver improved consumer outcomes, whilst also reducing the regulatory burden and costs for retailers or other data providers.

A review of the different requirements for data collection, sharing, and reporting reveals a range of options.

The ESB considered and seeks views from stakeholders on a range of the key elements of data collection, sharing and reporting (see **Table 1** below), including who could undertake each role, the scope and what changes would be required. The ESB also considered related reforms, such as the Consumer Data Right, and other emerging standards, to maximise alignment with existing processes and minimise costs. The consultation paper seeks stakeholder input on these components.

Table 1: Key components of data gathering solutions

Key components	Sub-components
Components of data collection	<ol style="list-style-type: none"> 1. Data collector 2. From whom the data is collected 3. Systems to collect billing data 4. Systems to support secure data management 5. Quality assurance and sense checking processes 6. Geographical coverage 7. Sample or population data 8. Frequency of data collection
Components of data sharing	<ol style="list-style-type: none"> 1. Powers to share data 2. Options to access data 3. System to share the data 4. De-identification and linking to existing data sets (e.g. AEMO-held energy data)
Components of data analysis and reporting	<ol style="list-style-type: none"> 1. Provision of data analytic tools and services 2. National review and reporting on retail data 3. Jurisdictional reporting on retail data

The ESB seeks stakeholder views on four options for creating greater transparency of consumer billing data.

While a wide range of combinations have been considered, the ESB has identified four key viable options for stakeholder comment, that are reviewed against the base case where the ACCC inquiry ends as scheduled in August 2025.

- **Option 1:** ACCC Inquiry is extended;
- **Option 2:** AER is empowered to collect and share data building on their existing retail reporting and the ACCC's current approach;
- **Option 3:** AER undertakes a new automated system of data collection and sharing; and
- **Option 4:** AEMO undertakes a new automated system of data collection and sharing.

Each of these options is explored and qualitatively assessed against the potential benefits and challenges of each approach. ESB's review of these options at this stage remains qualitative, as a full assessment requires more detailed technical and legal design. However, this assessment has provided a range of initial insights into key factors which need to be considered, supporting the ESB to develop recommendations on the way forward.

Recommended way forward

The ESB is seeking stakeholder feedback on the below recommendations.

Recommendation 1: A new approach to gathering retailer-held billing data should be developed which supports more effective policy decision making to improve consumer outcomes, through:

- More timely insights for key regulators and policy makers into how different consumers, including vulnerable groups, are affected over time by more complex, changing markets and new services, and
- Safe data sharing between appropriate trusted bodies to increase benefits for consumers and reduce duplication and costs.

Recommendation 2: Any new approach should not rely on the ACCC's Inquiry information gathering powers to seek national-level billing data from retailers, as the legislative restrictions that this approach places on data sharing will not provide an effective, long-term solution to meet wider stakeholder needs and reduced duplication.

Recommendation 3: Any new approach to billing data gathering and sharing should focus on ensuring consumer benefits and protections and safely managing privacy. A privacy risk assessment should be undertaken as part of the detailed design of new arrangements.

Recommendation 4: Any new approach should enhance the scope of retailer-held billing data collected, to efficiently target key gaps in current and emerging policy needs and enable linking to wider datasets to maximise consumer benefits, while also carefully managing privacy risk and costs.

Recommendation 5: Detailed design and assessment should be undertaken on a preferred model for access to billing data, where a single body (possibly AER or AEMO) is empowered to gather retailer-held billing data in a cost-efficient and timely way and share it safely with approved trusted data users, including jurisdictional and market bodies.

The ESB seeks feedback on the best approach to collecting and sharing data on what consumers pay for electricity.

The ESB also seeks stakeholder views on preliminary recommendations for how billing data could be more effectively gathered and shared in the future to achieve the objective of improving data accessibility to inform decision making.

Submissions are due by 1 September 2023, with other engagement opportunities to follow.

From 7 July 2023, following the transition of the ESB, the AEMC will become the lead agency for stakeholders to engage with in relation to this consultation paper. The AEMC will continue to work with other market bodies and the ACCC in progressing consultation.

Written submissions responding to this consultation paper must be lodged with the AEMC by Friday 1 September 2023 via the AEMC's [website](#). Stakeholders are invited to provide comments by responding to the consultation questions set out below.

There are also further opportunities for you to engage with us such as one-on-one discussions or through an industry briefing session. See [Chapter 10](#) for further instructions and contact details for the project leader.

#	Consultation questions
1	Have we appropriately captured the issues with the current approach to data gathering?
2	What are the issues faced by data holders or data users in providing and/or collecting data?
3	Do you agree with the policy themes identified that need to be answered through small customer billing data? If not, are there other policy themes relevant to billing data?
4	Are there other potential end users that need consideration?
5	Of the limitations identified, what are the most critical issues for policy makers to address?
6	Do you have views on the scope of data collected and preferred common data standards?
7	Do you have views on the preferred body to collect the data?
8	Do you have views as to collection of data from retailers and considerations to optimise this? What scope of retailers should be included?
9	Do you have views on the appropriate systems to collect data? Does this vary by which retailers are covered or which agency is collecting data?
10	Do you have views on the challenges in managing data quality and processes to achieve this efficiently?
11	Do you have views on the challenges in managing regional coverage?
12	Do you have views on the coverage of billing data collected and a preference for population or sample data?
13	Do you have views on the frequency of data collection and the relative cost and timeliness of data collection?
14	Do you have views on how to best facilitate sharing to ensure consumer benefits? What considerations are required around linking data while also ensuring privacy? Is there a preferred body to facilitate?
15	Are there other options that we should consider for collection, sharing, and analysis and reporting of billing data?
16	Are there any other assessment criteria or relevant considerations which we should include to determine the preferred option?
17	Do you agree with our preliminary assessment of each option?
18	Do you agree with the ESB's recommendations?

1. Context

1.1 Background

The ESB has been tasked by the government to implement the Data Strategy to unlock data as an enabler in the energy transition. The Data Strategy is a necessary foundation for the ongoing rapid transition of the energy system, to ensure that market planners, operators, policy makers, regulators, and researchers can access the data they need for effective decision making in a timely manner.

Energy Ministers supported the Data Strategy in December 2021 and agreed a range of reforms and capabilities needed to support greater benefits from existing data, as well as five initial priority data gaps to be addressed. Billing transparency was one of the five priority data sets supported by Energy Ministers.

Small consumer (i.e. residential and small businesses) electricity billing data is an important resource for policy makers and regulators to understand what consumers pay for electricity and how consumers respond to and are impacted by market events, new technologies, and associated electricity services.²

Regulatory price monitoring arrangements which gather customer billing data from retailers are led separately by each jurisdiction³, resulting in diverse and fragmented approaches with different scope and timing. Billing data that is gathered is generally constrained in how it can be shared and cannot be accessed or linked to meet wider policy needs. As a result, there is no comprehensive view available to energy policy makers on what energy consumers pay.

The persistent lack of transparent billing data was a concern raised in the ACCC's 2017-2018 REPI. The REPI used the ACCC's powers to gather a one-off set of billing data for the review, examining for the first time "what customers paid" in depth and comparing the findings to existing price monitoring approaches. The REPI identified significant deficiencies, where governments did not adequately understand "what consumers pay" to manage necessary consumer protections. The REPI also raised concerns that retailers face higher costs than necessary due to duplication of reporting to many bodies and inconsistency of approaches.

The ACCC recognised the importance and value of billing data for governments and policy makers to make informed decisions about the future direction of the electricity market. The REPI made the recommendation to extend the powers of energy market bodies, in particular the AER, be able to obtain information from retailers about price, offers, customer billing data and retail costs.⁴

However, the Australian Government in 2018 chose to take an alternative approach. Expanding the AER's powers, as recommended by the ACCC, requires agreement across jurisdictions⁵ and time to implement new legislation. With immediate concerns to affordability and a need to monitor the impact of new policies being introduced, particularly the Default Market Offer, the Australian Government chose a more rapid solution - directing the ACCC to undertake the Inquiry into the NEM.⁶ This solution provided more billing data and a range of valuable insights but does not resolve many of the systemic concerns raised by the REPI. Uses of data gathered by the ACCC under its statutory powers is highly restricted, with limits to ACCC's capacity to share data. This limits improvements in transparency, with policy makers unable to resolve many of their policy needs and increases duplicative reporting costs for both energy agencies and retailers. The Inquiry into the NEM also ends in 2025, so it does not create an ongoing solution.

² The range of energy policy needs are explored in depth in Chapter 3.

³ As agreed under the Australian Energy Market Agreement (AEMA) which underpins all national energy laws.

⁴ ACCC (2018) Retail Electricity Pricing Inquiry, Recommendation 40 pp 320-321.

⁵ As agreed under the Australian Energy Market Agreement (AEMA) which underpins all national energy laws.

⁶ The ACCC Inquiry was originally set up for two years, but subsequently extended it for another five years.

The ESB's Data Strategy reiterated the concerns highlighted in the ACCC's REPI.⁷ The Data Strategy also recognised that the increasing penetration of consumer energy resources (CER) poses further challenges for policy makers. With the rapid change and innovation of technologies and services available in the energy transition, understanding how consumers are responding to and being impacted by these new services becomes increasingly critical to policy makers planning for consumer needs and considering the ongoing effectiveness of existing policies to improve consumer outcomes.

Streamlining the billing data gathering process is important to reduce inconsistencies and duplication, whilst ensuring that data is collected and shared in a manner that effectively and efficiently meets the need of data users now and into the future. Importantly, introducing a more coordinated approach to data collection should reduce the regulatory burden on data holders, including retailers who currently bear a high cost in responding to multiple and uncoordinated data requests.

With the ACCC's Inquiry into the NEM coming to an end in 2025, it is now timely to consider how billing data can be more effectively collected and shared in a way that maximises the potential for government and policy makers to access critical billing data to inform future decisions on the energy market, whilst at the same time, streamlining data requests to reduce costs for data holders.

1.2 Purpose and scope of this paper

This paper will investigate:

- The rationale for collecting billing data by exploring policy questions and use cases;
- Billing data needed to resolve these questions;
- How small customer electricity billing data is currently collected and shared;
- Limitations in the current data management approach, including in supporting data needs and impacts on stakeholders; and
- Options to improve access to this small customer billing data to inform policy and regulatory decision making, increase consumer benefits and reduce costs.

The scope of data considered is limited to retailer-held billing data for small customer electricity bills, covering residential and small businesses. However, the need to link to wider existing data sets for analysis is acknowledged (see [Chapter 6](#) for more details).

Large customer electricity data and gas billing data is outside the scope of this paper as the nature of challenges to large energy users and gas data differ to those explored here. Nevertheless, the outcomes of this project may inform future work on how to potentially collect and share broader energy billing data to inform policy decision making.

The paper also focuses on the NEM jurisdictions, excluding Western Australian and Northern Territory at this stage. However, any new arrangements implemented in the NEM states may consider coverage of these jurisdictions in the future.

1.3 Relevant reforms in the energy sector

There are ongoing reforms in the energy sector that are relevant to this Billing Transparency reform. The reforms outlined below partially address some of the limitations in access to billing data and options to improve access to billing data. Relevant reforms include:

- Reforms across the ESB Data Strategy
- Consumer Data Right (CDR)
- Wider CER reforms, considering the changing roles of retailers and service providers.
- Reforms to the Privacy Act

⁷ ESB (2020), Data Strategy Consultation Paper, p17.

Ongoing ESB Data Strategy reforms

The ESB Data Strategy has been progressing a range of reforms designed to support more effective energy data sharing to support policy, research and the market and ultimately better consumer outcomes. It also includes a range of workstreams aimed at addressing priority data gaps. This paper supports one of these workstreams - seeking to resolve priority gaps in billing transparency. Three additional workstreams are relevant for when considering options for data gathering approaches.

- a) **Initial data reforms:** proposed legislative reforms which allow AEMO to share AEMO-held data more effectively with trusted parties and for a range of purposes.
- b) **Data Services:** a proposal to put in place a new expert team with resources to facilitate greater safe sharing of data. This will include facilitation of the above initial reforms to share AEMO data.
- c) **Consumer metrics:** will consider ongoing consumer research needs to provide policy makers and researchers with the input they need to support better consumer outcomes.

Together, these workstreams will expand and improve AEMO's data management and sharing capabilities. It is important to note that the above streams of work are subject to further consultation and updates, and that their exact impact on energy data is yet to be determined.

These proposed reforms are described below.

Initial data reforms⁸

Initial ESB data reforms seek to remove regulatory barriers and enable more effective access to existing data. The draft legislative amendments to the National Electricity Laws (NEL) and National Gas Laws (NGL) will allow AEMO to share protected data safely with trusted "prescribed" bodies.

The key benefit of this reform is that AEMO will have explicit arrangements in place to allow it to share any data it holds with all primary bodies identified as priority users of billing data, including jurisdictional energy regulators and policy departments, the Australian Bureau of Statistics (ABS), the Clean Energy Regulator, the AER and AEMC. AEMO will also be able to share data with some wider Australian research bodies and Energy Consumer Australia (ECA), subject to specific purposes and protection.

In relation to the Billing Transparency workstream, if AEMO is given the responsibility of collecting consumer billing data, or even simply allowed access to the data collected, they could facilitate the access to these data sets required by others. This is in express contrast to existing arrangements with the ACCC. AEMO could also link this data to key datasets it already holds, including metering and DER data.

Data Services model⁹

The Data Services reform focuses on resolving the practical constraints on safe data sharing, such as resources, processes, and capabilities. Whilst the Initial Reforms workstream is intended to reduce regulatory barriers to sharing by AEMO through legislative amendments, these reforms will have limited impact without Data Services to facilitate sharing and outcomes. As data sets expand in size and complexity, safely managing data and access benefits requires new systems, methods, and expertise.

This workstream considered five potential delivery models and governance options and recommended introducing a new dedicated data services capability within AEMO. This would be achieved through a unit within AEMO that is set up with dedicated funding, staff, and a steering committee of data users and stakeholders to set priorities. Data Services was recommended to sit within AEMO, to access existing priority AEMO data sets and existing systems and capabilities in the short term. It provided the most cost-effective immediate solution. However, Data Services are explicitly intended to support a wide range of data sharing needs across the sector. Much of the expected value will come from linking wider data sets to AEMO data. "Data hosting" is intended to be a provided service, supporting access to data sets provided

⁸ Energy Security Board, [Data Strategy Initial Reforms Draft Legislation – Consultation Paper](#), April 2023.

⁹ Energy Security Board, [Data services delivery model – Consultation paper](#), December 2022.

voluntarily, such as data from government programs and research projects. AEMO's data sets will also continue to expand.

In the context of billing data, if AEMO can be provided with access to billing data (not necessarily because they collected it), the Data Services team could facilitate access to data in a range of value-added forms for different stakeholders, including by linking to a range of other data sets. For example, this could include delivering a protected-access billing data dashboard for regulators and policy makers to undertake analysis or linking to program data to analyse program impacts.

Note that Data Services is intended to facilitate access to data already provided, rather than obtaining additional datasets. If AEMO was to collect billing data, this would need to be a clear separate policy decision and mandate. This Billing Transparency workstream considers a range of options for data collection as set out in [Chapter 5](#) and [Chapter 6](#).

Consumer Metrics

The Consumer Metrics workstream is expected to be progressed in the second half of 2023. It seeks to address major gaps in understanding consumer behaviours and needs, through better coordination of consumer research efforts. The work will engage stakeholders to define needs and use cases and then propose a research approach and governance model to deliver it.

Billing data is sought as a key input into this work, to link to wider consumer data and understand how consumer bills vary across a wide range of factors.

This workstream will consider specific research needed to link this data to other relevant datasets – such as demographics and income, information on housing and equipment, engagement in other services like subsidies and government programs, and even health wellbeing metrics and qualitative data such as consumer views. The Billing Transparency workstream is focused on data held by retailers, with related consumer data to be considered in the Consumer Metrics workstream.

Consumer Data Right

The CDR provides a service framework to allow consumers to share their own data safely and securely with a range of accredited service providers. In the context of energy data, CDR allows consumers to authorise third parties (such as comparator services) to access their energy data, including billing data and usage data. The framework was initially implemented in the banking sector and is now being rolled out to the energy sector.

The CDR is being considered in this Billing Transparency workstream for how it can assist in billing data collection and sharing, as it creates a range of new capabilities and opportunities, but also has a range of limitations (see **Box 2**) as outlined below. Opportunities that the CDR provides for the proposed gathering of billing data in the Billing Transparency workstream includes:

- **Standards:** CDR data is required to be shared in accordance with data standards with strict requirements on how data is shared and was developed in consultation with stakeholders from the energy industry. This includes new standards for energy product data (retail services and tariffs) and customer billing data, which most retailers will be required to use. These standards create a common definition to describe billing data and a platform for sharing it.
- **New retail capabilities:** Under CDR, the three largest retailers are currently required to share data in accordance with these standards. Many smaller retailers are required to commence sharing data in November 2023.
- **Data collection:** Key participants in the energy data space can become accredited data recipients (ADR) to collect individual's customer data from data holders at the explicit consent of the individual. Accreditation for CDR is a robust process, as ADRs must demonstrate that they meet legal and compliance standards for data security and privacy, as well as the technical standards that apply to data transfer, storage, and ongoing secure management of data. The exception is general retail product data held by AER which is also covered by CDRs but is already publicly available.

- **AEMO-held energy data is available through CDR:** AEMO can provide usage data, standing data and DER data in response to CDR requests. This creates access for ADRs to relevant data.

Reforms to the Privacy Act

In the context of a growing digital environment and economy, many people are now starting to live their lives online and individual information is collected and used for multiple purposes. The Federal Attorney General's Department conducted a review into the *Privacy Act 1988* (Cth) to consider whether the Act and its enforcement mechanism are fit-for-purpose in this new digital environment. The Privacy Act Review proposed a series of reforms to strengthen the protection of personal information and the control individuals have over their information.

We recognise that billing data contains personal information and that retailers hold personal data as a necessary part of providing a service to consumers. These reforms will have implications for data owners, providers and collectors and have implications for how data is collected and retained in a compliant manner.

In this consultation paper and the Billing Transparency workstream, personal information such as personally identifiable information (e.g., name and contact details) will not be collected.

We recognise that although National Metering Identifier (NMI) data is not in itself personal information, but there remains a risk that it can be linked to other datasets that may include other identifying information about the individual/s at the address of the NMI (see [Section 5.4.4](#) for further details on de-identification of data). In the design of any data gathering solution, we note the importance and need for an explicit review in the approach to managing privacy (in line with wider government data policy and best practice) and a privacy risk assessment.

1.4 Structure of this paper

This consultation paper is structured as follows:

- Chapter 2 outlines the need to improve access to billing data and sets out the limitations of the current approach for both policy makers and retailers;
- Chapter 3 sets out the billing data required by policy makers to inform policy decision making;
- Chapter 4 maps the data needs to existing data sets to identify data gaps;
- Chapter 5 breaks down the core components to any data gathering solution
- Chapter 6 sets out the base case and potential options for a new approach to billing data collection;
- Chapter 7 sets out the assessment criteria;
- Chapter 8 undertakes a high-level assessment of each option against the assessment criteria;
- Chapter 9 outlines recommendations; and
- Chapter 10 sets out the next steps, including how to make a submission to this consultation paper.

Consultation questions are included to seek stakeholder views on ESB's understanding of the current data gathering process and on options to achieve the objective of improving ease of access to billing data.

1.5 Approach and stakeholder consultation to date

To inform the development of this consultation paper, the ESB has undertaken early stakeholder consultation with four groups of stakeholders – governments and policy bodies; regulatory and market bodies; consumer groups; and market retailers. This included a range of workshops, interviews and a questionnaire. The full list of stakeholders consulted through early engagement are set out in [Appendix A](#).

Stakeholders identified their primary use cases for small consumer billing data and their priority policy questions related to billing data. Stakeholders also provided insights on how billing data is currently gathered and their views on how to improve data collection and sharing.

This consultation paper presents initial insights and seeks a broader range of inputs by asking several questions to stakeholders under each key theme.

2. The need to improve access to billing data

The ESB Data Strategy identified better transparency of ‘what consumers actually pay’ as a key priority.

This section presents the case for change by outlining:

- Why it is important for government and policy decision makers to access billing data.
- How the current approach to data collection is limited with: (1) material duplication in costs on market participants and; (2) key sources of billing data that is gathered and analysed nationally due to cease, with the current ACCC Inquiry into the NEM finishing in 2025.

2.1 The need for billing data collection and sharing

Managing affordability in energy markets has always been a key priority for governments. However, rapid change in the energy transition against a backdrop of high and rising electricity prices and broader cost of living pressures makes it increasingly imperative that government understand how policy and regulatory decisions are impacting consumer outcomes.

Policy makers, energy regulators, market bodies and planners all have the common goal of designing and delivering policies, programs, and regulations to improve long-term consumer outcomes from the energy market. The challenge for governments is how to effectively deliver policies and programs to deliver consumer outcomes in complex and dynamic markets.

Through early stakeholder engagement, priority uses of billing data identified include (explored further in [Chapter 3](#)):

- Improving outcomes for consumers experiencing vulnerability.
- Promoting effective markets and affordability.
- Understanding the impacts of new technologies and supporting the transition of the energy market.

Central to all these priorities is understanding what consumers are paying for electricity to evaluate the impacts of market change and government decisions on consumers, including where there may be limitations, gaps, challenges, and opportunities for better outcomes. To enable this, decision makers need access to electricity billing data.

The ACCC REPI identified that there are numerous price reporting mechanisms undertaken by energy market bodies, jurisdictional governments and not-for-profit organisations that monitor prices over time. These reports play a key role in identifying the affordability problem with electricity. There are, however, deficiencies in the current approach - none of the reports provide transparency on what consumers actually pay, the reports are not well supported by effective information gathering powers, and there are gaps in the reporting of business and consumer outcomes.

The ACCC recognised that the collection and analysis of data to ‘fill in the gaps’ for the REPI, provided valuable insights into the market that were then not available in the then reporting arrangements. This includes understanding what consumers are actually pay, where consumers are not benefiting from electricity retail competition, what factors are driving price changes, and insights on outcomes for different demographics.

The ACCC highlighted the value of these insights for governments and policy makers to make informed decisions about the future of the electricity market. The ACCC also considered that effective and routine monitoring of the market will enable governments to ensure that the market and individual retailers are responding as intended to change made by governments. The lack of a NEM-wide approach to price monitoring will lead to difficulties in observing market and retailer behaviour, and these challenges would likely increase with further diversification of the market arising from changing consumer preferences and energy needs.

The ACCC REPI recommended a streamlined and strengthened retail price monitoring function that involved transitioning from a state-based price reporting model to a single NEM-wide agency – specifically

the AER – to be responsible for price monitoring. This would ensure greater transparency in the market, reduced costs, and allow governments to effectively monitor and respond to changes in the market.¹⁰

The proposed reforms, however, would take time to implement. In response to the immediate concerns over electricity affordability raised in the REPI findings as well as other areas of concern, the Australian Government directed the ACCC to undertake a broad Inquiry into the NEM to monitor prices, margins and profits in the NEM and make policy recommendations to government to address any failure of the market to deliver competitive and efficient prices for customers.

The ACCC Inquiry into the NEM is the first-time policy makers have begun to have a better picture of billing data and has demonstrated analyses never possible before by collecting and analysing customers billing data provided by retailers directly to the ACCC. Findings from the Inquiry into the NEM have provided significant value to governments and policy makers in understanding market conditions on competition in the electricity market and how to address issues in the market to improve consumer outcomes. It has also already had direct benefits for retailers by informing policy makers understanding of the narrowing retail markets and concerns around effective levels of default market offers. **Box 1** below outlines some of the ways in which billing data analysed under the ACCC’s Inquiry into the NEM provide deep insights for policy development.

The ACCC also monitors profits and costs and margins of market participants in its cost stack reporting. Further, the ACCC has also used its powers to collect and report on the operation of the electricity contract market in its November 2022 report, focusing on impacts of the June 2022 events on competition in the retail market.

This Inquiry into the NEM, however, is due to end in 2025 which means that the benefits from the Inquiry into the NEM will not continue.

Box 1: How the ACCC’s monitoring of billing information improved outcomes from the electricity market

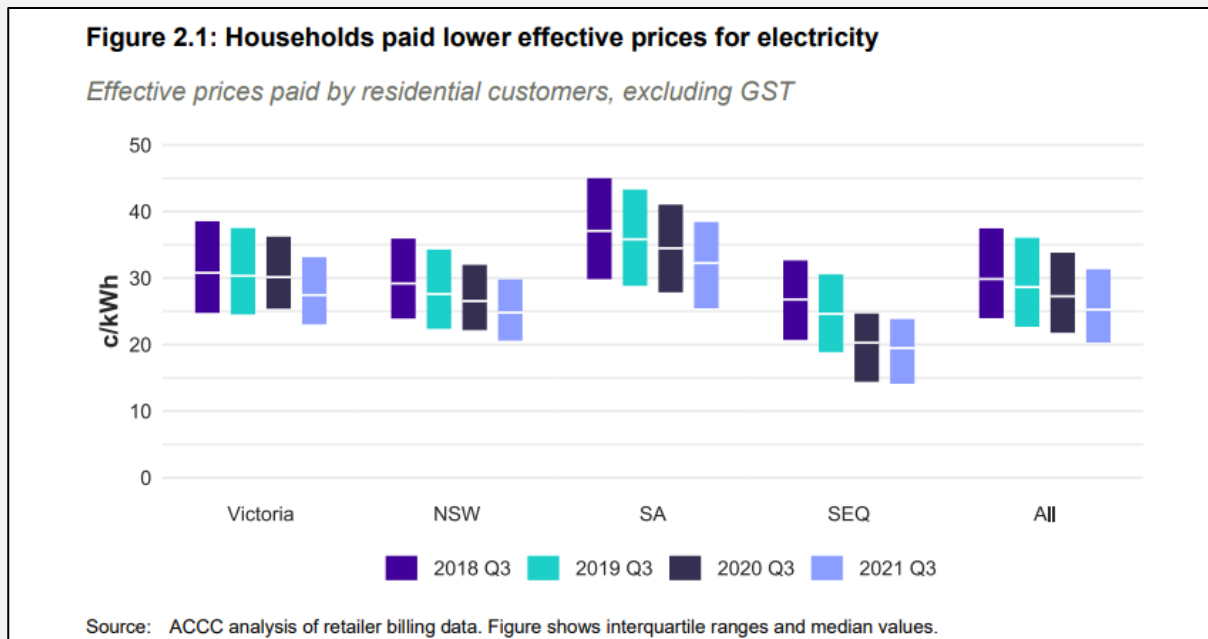
1. Evidence of falling energy prices

Analysis of billing data demonstrates the effectiveness of energy policy reforms such as the AER’s Default Market Offers and the Essential Services Commission Victorian Default Offer in reducing energy prices. In the figure below, the ACCC uses retailer billing data for households to measure the fall in effective prices over three years, prior to the recent impacts from the war in Ukraine that have increased energy prices.¹¹

¹⁰ ACCC (2018), Retail Electricity Pricing Inquiry, pp 318-321.

¹¹ ACCC, Inquiry into the NEM, May 2022, p16.

Continuing to collect billing data to determine effective price changes over time for different customers assists in the development of targeted policies.



2. Understanding and responding to market shocks

Analysing billing data allowed the ACCC to determine that COVID-19 resulted in an increase in household energy usage of around 10%, reflecting ongoing changes in household behaviour, such as the widespread use of working from home arrangements and lockdowns. Small business customers remained below pre-pandemic levels, around 21% lower, reflecting economic disruption on businesses' trading operations.¹² This information assists governments to refine their policy measures in response to ongoing COVID threats and build experience for other future health threats.

3. Evidence that input cost changes are largely being reflected in prices

The ACCC uses billing data to monitor retailers to ensure cost reductions are passed through to consumers. The ACCC then investigates where retailers are not adequately passing through cost savings. "Overall in 2021 retailers' input costs decreased moderately (down 5%–8% for residential, 4%–10% for small business, depending on the region) and this is broadly reflected in price changes for customers in each region".¹³

4. Evidence that many small household and business customers are not on the best offers available to them

The ACCC analysis of retailers' data shows that 9% of residential customers and 17% of small business customers are on default standing offers, which are priced above market offers. The data shows a declining trend overtime, which points to the effectiveness of the better offer guidelines.

In 2021, "Typical households in New South Wales, South Australia, and south-east Queensland could all have saved more than \$300 by switching from the median standing offer to a low-price market offer."¹⁴

¹² *ibid*, p18-22.

¹³ *ibid*, p.7, 25. Note the legislation clause Part XICA Competition and Consumer Act 2010 expires on 1 January 2026.

¹⁴ *Ibid* p.27, 31.

Likewise, it previously found that "If all residential customers in the National Electricity Market regions benefitted from retailers passing through cost reductions, or by switching to lower offers, the total annual savings would be about \$900 million"¹⁵

5. *Understanding customers facing financial hardship and payment difficulties*

The ACCC used retail billing data to better understand the challenges faced by customers in hardship and to propose suitable policies to assist them.

"The most significant driver of hardship customers' relatively high bills is high usage from the grid. While improving the accessibility of solar panels to low-income households will help drive down their reliance on electricity from the grid, initiatives to reduce households' electricity usage generally, such as by improving the energy efficiency of the housing stock available to low-income households, are also fundamentally important."¹⁶

6. *Understanding impacts of the shift to solar*

Solar customers receive substantial benefit from rebates, paying lower effective prices. Customers on solar tariffs paid lower effective prices than non-solar customers (28% less for residential, 31% less for small business) because of solar rebates for the power they exported to the grid. These rebates remain largely subsidised by wider customers.

Solar uptake continues to grow – with new systems exporting more but gaining less benefit from subsidies.¹⁷

Continued ability of regulators to monitor bills and prices for customers adopting new technologies, such as EVs and batteries, is important to manage policy and the pace of transition to net zero emissions.

7. *Understanding the uptake of smart meters and flexible pricing*

Despite growth in the uptake of smart meters (up to one quarter of all households), there is a lag in the uptake of time-of-use prices that incentivise consumers to use energy during off-peak times. The outcomes differ by state depending on policies and approaches of the network distributor and state governments. Analysis of billing data assist governments and regulators understand customer responsiveness to prices which is critical to managing system security and forecasting maximum demand as the market continues to transition to new technologies.

2.2 The datasets which comprise customer billing data

In this consultation paper, the ESB is primarily focused on small customer electricity-related data that is necessary for the purpose of answering priority policy questions. These can be categorised into three types:

1. **Retail held billing data** which can be separated into three components:
 - a. **Retail services data** which encompasses product specific data provided by the retailer in relation to particular plans and services they offer.¹⁸ Retailers are already required to provide this data for

¹⁵ ACCC, Inquiry into the NEM, May 2021, p24.

¹⁶ ACCC, Inquiry into the NEM, May 2022, p.40.

¹⁷ *ibid* p.46. 8, 55

¹⁸ This includes information that identifies or describes characteristics of a plan, such as the type (standing, market or regulated), plan name, retailer brand offering the plan, distribution zone the plan is offered in, tariff type, and features and benefits of the price plan.

publication on Energy Made Easy (EME) and Victorian Energy Compare (VEC). Examples include plan name, comparator price, fees and conditional discounts.

- b. **Electricity account specific data** about a particular customer account held by the retailer, including how much that customer pays and key drivers such as the tariff, usage, and discounts. This data is the primary focus of this paper.

This category includes data that is currently collected by the ACCC for its Inquiry into the NEM, such as plan ID, indicators of whether the account relates to a residential or business customer, and indicators of whether the customer receives a concession and the actual bill amount. See [Appendix B](#) for the full list of data fields requested for the ACCC's billing analysis as part of its Inquiry into the NEM.

This category of data includes data beyond what the ACCC currently collects such as tailored tariff data such as individually negotiated rates and charges that differ from the standard plan available on EME, the rates for different time of use, or the type of concession that a consumer receives.

- c. **Additional services data** that retailers may hold data on wider services, beyond electricity, linked to a customer's account. Examples include bundled services (such as gas or internet services) and non-energy discounts (e.g. movie tickets). This data could be relevant, as influencing customer decisions, but may also be appropriately excluded in any data gathering solution to limit privacy risks.

2. **AEMO-held energy data.** AEMO already holds data on every meter in the NEM which can inform billing analysis, including metered energy usage; standing data covering the unique NMI, meter type, network tariff and responsible retailer; and linked data on installed Distributed Energy Resources. This data is already centrally gathered, so is primarily considered in this paper in the context of ensuring gathered bill data can be efficiently linked to this data, where this can add value while avoiding duplication.

3. **Wider data informing drivers of electricity bills:** Complementary data not held by retailers or AEMO but potentially key to policy analysis of bills may include demographic classifications or business activity data about the site occupants, data on the building or equipment characteristics, weather or climate data linked to the sites, or data on the customers preferences and decisions. This type of data may be able to be linked to billing data, for example through customers surveys, related service data such as government programs, or locational data such as public building data, ABS business activity data or aggregated Census data. This data is not considered as part of the Billing Transparency reform but will be considered as part of ESB's Consumer Metrics reforms.

Personal information will not be collected

Some data sets are considered unnecessary and inappropriate to hold for most policy, planning, and research purposes and should be avoided wherever possible to minimise privacy and security risks. The most obvious example is personal customer details, such as names and contact details.

Retailers hold this personal data as a necessary part of providing a service.

Many data collectors and holders restrict any capture of personal data to limit associated privacy and security risks. For example, AEMO collects meter data that is linked to a unique location-specific identifier – i.e. a NMI. AEMO uses the NMI as the common index across data shared between networks, retailers, and metering providers about that meter. Other data sets are linked to meter data on the basis of this index – such as the Distributed Energy Resources Register.

AEMO does not collect nor link the NMI to the names, phone number or other contact details of account holders or residents at that address, which are held by retailers and will change over time for any given meter.

Whilst the NMI data is not in itself personal information, there remains a risk that it can become personal information through use of linked datasets that may include other identifying information about the

individual/s at the address of the NMI. This risk will need to be carefully considered in the final design for any data collection, with appropriate consideration of:

- What data needs to be collected, and
- What data should be disclosed, in what approach, to ensure there is no ability to link datasets inappropriately.

Privacy by design principles should be applied in the design of any solution to ensure that risks are appropriately addressed in the design of the data collection and sharing functionality. See [Chapter 9](#) for more detail.

Whilst policy makers, planners and researchers often seek granular detail to understand diversity in consumers, this should be constrained to what is needed for statistical analysis to understand customer patterns. Personal information need not be collected nor disclosed for this purpose.

2.3 The current data gathering approach

The current data gathering process is complex – multiple bodies hold billing data and multiple bodies collect billing data.

Figure 2 below provides a graphical example of how some data is currently gathered.

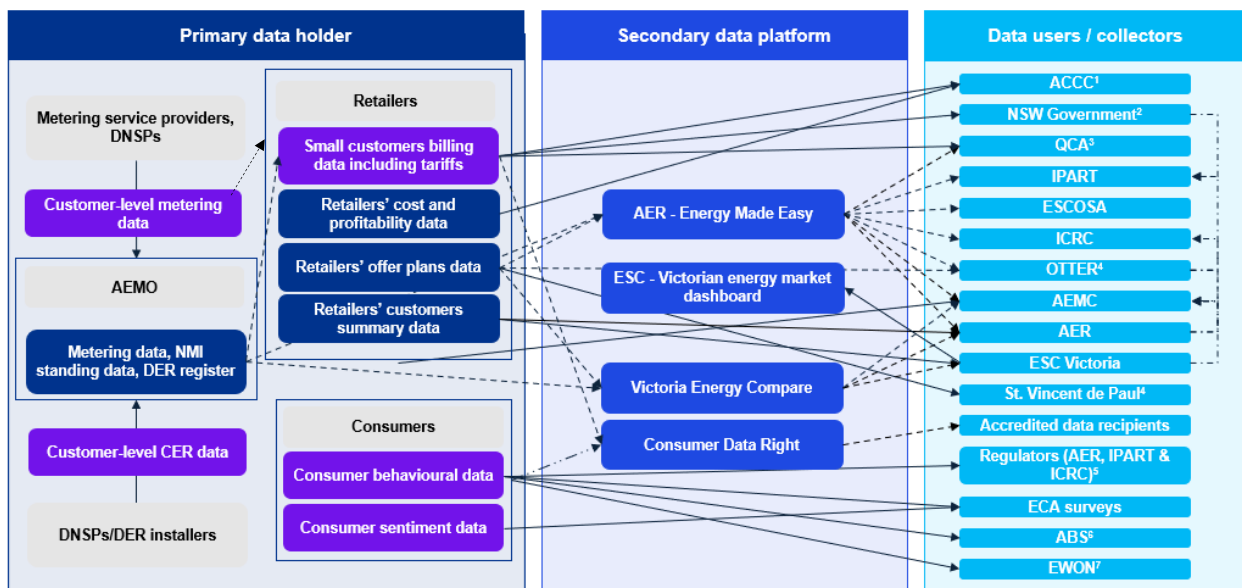
Primary data holders of electricity billing data are retailers, consumers and other parties also holding supporting meter data, including AEMO, networks and meter providers:

- **Retailers** are the primary data holders of billing data across all customers. To prepare small customer electricity bills, retailers use metering data from meter providers, as well as information from networks and AEMO. Retailers uniquely hold data about retail tariff and contract arrangements relating to individual meters, as well as personal information about customers such as their names and addressed and historic bills. Retailers share some customer details with Distribution Network Service Providers (DNSPs) and will engage with networks and metering providers over some data issues, such as corrections in metering data.
- **Consumers** are also a primary data holder of their own energy bills, as well as broad information about their preferences and energy uses. Importantly consumers are also often the only source of data on other factors affecting their bills, such as the characteristics of their home equipment, family demographics, behaviour, and sentiment data.
- **AEMO** is a primary data holder of NMI standing data and collects metered energy use data from metering service providers and DNSPs, and consumer energy resources data from DNSPs and installers. While retailers and DNSPs also hold metering data, AEMO is unique in holding standing meter data and related energy usage for all meters across the NEM in a single data set. Importantly AEMO's metering standing data includes key factors like the responsible retailer (which changes as customers switch retailers), DNSP tariffs, and location.

These primary data holders share data directly and indirectly (through a secondary data platform) with data users. Through early stakeholder engagement, the ESB identified almost 80 data sets that are currently being collected by about 25 organisations, departments, and agencies. A detailed list of current data sets is set out in [Appendix C](#).

Details and examples of data sharing and the challenges and limitations of the current approach for both policy makers and retailers are outlined below.

Figure 2: How some energy billing data is currently collected and shared



Limitations in the current data gathering approach for policy makers

Currently, retailers are required to share billing data when requested by energy market bodies, and government departments and regulators. The process of data gathering can be separated into three categories – granular data shared directly with data users, aggregate-level data shared directly with data users, and data inputted into a secondary platform which data users can access. Examples of each category, and limitations of each approach, are outlined below.

The multiple uncoordinated data collections, with gaps and limitations, means that data is not effectively gathered to enable decision makers to access comprehensive data. There is limited visibility over what different types of customers pay, and no ability to understand how that is changing over time or impacted by different services. This limits the effectiveness of government decision making on how to design and evaluate policies, programs, and plans for the electricity market.

Granular data shared directly with data users

ACCC Electricity Market Monitoring 2018-2025

The ACCC's Inquiry into the NEM has a broad direction from government to track policy changes in the sector and monitoring bills is one aspect of the ACCC's work.

Retailers provide granular consumer-level data to the ACCC in the Inquiry into the NEM.

Under this Inquiry into the NEM, information is gathered about each electricity bill invoice for a sample of consumers over an 18-month period. In the most recent data collection, billing data from 10 retailers who supply the majority of residential (90%) and small business (80%) electricity consumers across NSW, South Australia, South-East Queensland, and Victoria.¹⁹ Data collected includes account and plan details, tariff types, solar rebates, discounts, concessions, bill amounts and usage.

Each retailer is required to provide data for a random sample of residential customers²⁰, all small business customers, and all customers that were in hardship and/or on a payment plan due to financial difficulties at any point during the 18-month period.

¹⁹ ACCC, [Inquiry into the National Electricity market – May 2022 report](#), May 2022 p.68

²⁰ Sample was required to represent 5% of the retailer's customer base in each of the 4 regions or 10,000 customers, whichever was greater.

The ACCC publishes their analysis of billing data in May and cost stack and retail offers in November each year and provides recommendations for improving regulations and key findings from their analysis.

Currently, this is the most comprehensive and useful information on ‘what consumers actually pay’. There are, however, limitations to the data available through the ACCC Inquiry into the NEM, in terms of timeliness, breadth and accessibility:

- **Access to granular data is limited**

Data for the Inquiry into the NEM is collected through its compulsory acquisition powers under *section 95ZK of the Competition and Consumer Act*. The use of these powers restricts the ability for the ACCC to share this data, including with wider energy market bodies, regulators, and policy makers. However, this information can be and has been shared with the AER.

- **Confidentiality provisions of the legislation mean that the ACCC can generally only publish aggregated data**

ACCC provides a range of analysis reports, which are highly useful and widely used across policy makers. However, they remain focused on requirements of the Inquiry into the NEM and cannot pre-empt the range of specific needs of policy makers for complementary analysis, including energy market bodies and regulators with their ongoing statutory reporting functions in retail market monitoring, market design and competition analysis. ACCC is not resourced or appropriate to support analytical needs across wider data users.

- **Cycle of data collection limits short-term analysis**

Small consumer bill data is collected annually and covers data over the previous 18-month period. Due to fundamental challenges associated with lags in the availability of billing data, the ACCC publishes their analysis of the data about five to six months after the most recent December bills that they collect. This means that the December bill, the most recent the data that the ACCC collects, is two quarters old at reporting time, and any consumer bills after December, such as January are not reported on until 16 months later in May the following year. This is less than ideal for prompt policy development. Any agency collecting this data annually will face similar lag issues because electricity bills are paid in arrears and the large volume of data, which is highly complex, requires significant time and resourcing to clean and analyse.

- **Data collected under the scope of the Inquiry focuses on the NEM**

The ACCC’s data gathering powers under this Inquiry focus on the NEM. While the Inquiry into the NEM is quite broad, it generally focuses on the NEM jurisdictions where there is effective competition in retail electricity markets (though data collection could be expanded to incorporate all regions in the NEM).

It has also focused on larger retailers, as this provides statistical coverage and limits costs on smaller retailers. However, smaller retailers often have unique challenges of concern to wider policy makers, such as smaller scale and higher costs, as well as many of the more innovative and unusual services, where consumer impacts and protections may be less understood.

- **Data collected does not cover specific needs beyond ACCC analysis**

The ACCC’s Inquiry into the NEM has demonstrated value in greater visibility of consumer billing data. However, the ACCC’s billing data collection is not well positioned to support a wide range of energy regulatory and policy analytical needs in an ongoing way.

For example, it does not include longitudinal data across timing, limiting analysis of switching and wider impacts of new services and market change on consumers. It also does not include more detail components of bills such time-of-use usage, and pricing structures such as fixed supply charges, time-of-use tariffs, demand tariffs and discounts. These issues are key to understanding many new technologies and services.

- **The ACCC Inquiry into the NEM ceases in 2025**

As outlined in [Section 2.1](#) and **Box 1** above, the ACCC Inquiry into the NEM has provided significant value and benefits for both policy makers, retailers, and consumers by providing insights on issues and challenges in the market and how government can make changes to improve outcomes. However, the Inquiry is not an ongoing reliable source of billing data.

The Inquiry into the NEM is time-limited and due to cease in 2025. This means that, without any change, there will be a significant gap in data available for governments and policy makers. There will be no single agency that collects relatively detailed information and data on prices and bills in the electricity market to support effective government decision making.

If the Inquiry into the NEM ceases with no replacement, this will effectively result in governments and decision makers in the same position before the ACCC REPI – i.e. with numerous organisations and agencies collecting and monitoring prices across the NEM that overlap nor provide transparency on what consumers actually pay and result in higher costs for retailers than necessary.

Data requests from jurisdictional departments and regulatory bodies to retailers

Billing data is also requested by jurisdictional energy regulators and government departments from energy retailers.

For example, retailers in NSW provide granular-level data to the NSW Government as part of the NSW Social Programs for Energy Code. This code requires retailers to report billing information of customers who receive energy rebates or energy account payment assistance. The NSW Government publishes summaries of this information on an annual basis.

Retailers also respond to data requests from jurisdictional regulators. For example, the Queensland Competition Authority and Northern Territory Utilities Commission seek hardship and performance data from retailers on an annual basis. The type of data requested across these two utilities are not consistent and serve different purposes. The Victorian Essential Services Commission has previously requested hardship and performance data from retailers as a once-off ad hoc request which required detailed consumer to retail-level data.

Data collected by jurisdictional departments and regulators are generally not comprehensive with a smaller breadth in consumer base (e.g., the NSW Government collects targeted information on consumers that receive a concession under its Energy Social Programs in NSW) and vary in granularity.

Jurisdictional data requests to retailers for billing data are also, at times, ad hoc and definitions may not be consistent with other data requests. This creates additional cost and effort from retailers to respond to these data requests. Inconsistencies in data requests also means that data may not be comparable to other data reported from other energy market bodies and organisations.

Lastly, data from these requests may not be readily available or shared with other jurisdictions or energy market bodies due to the nature in which the data is collected.

Actual bills shared by customers to data users

At times, consumers provide actual bill data directly to data users. For example, the Victorian Department of Energy, Environment and Climate Action collect actual bills from Victorian households that apply for the \$250 Power Saving Bonus. All Victorian households are eligible for this program and can apply by providing a recent electricity power bill through the Victorian Energy Compare website or engaging with an energy affordability service.

This bill data is accessible to DEECA but is limited in its use. Data is only available from households that apply for the bonus which leads to self-selection bias and only one bill is collected from each household (noting that 12 months of billing data is required to understand consumer impacts, due to seasonality of usage and bills).

The ABS also collects billing information from consumers through its infrequent Household Expenditure Survey, undertaken approximately every 5-6 years. The survey collects out-of-pocket expenditures related to goods and services consumption from over 10,000 households across Australia, excluding very remote areas. Households provide estimates for electricity, gas, and other domestic sources of energy, and includes information on solar panels and rebates. Data collected from this survey is used to reweight the Consumer Price Index and household sector adjustments in National Accounts. These data sets are used extensively for research including areas such as cost of living, poverty, and housing affordability.

Aggregate data is shared directly with data users

AER retail performance reporting

National Energy Customer Framework (NECF) retailers provide summary data to the AER for retail performance reporting. This includes data such as number of consumers, contract types (standing or market), complaints, energy debt, payment plans, disconnections, and reconnection. It does not provide any information related to what consumers pay because AER's function explicitly excludes price monitoring. Excluding data on bills, usage and tariff types beyond market vs standing offers.

Data inputted into a secondary platform which data users can access

Energy Made Easy

The AER collects information from retailers on current retail plans available on the market through Energy Made Easy (EME), except in Victoria where an equivalent website, Victoria Energy Compare (VEC), plays a similar role. This data includes, for example, price information, discounts, incentives, fees, and eligibility criteria, which provides insights on retail prices.

Data from these secondary platforms are utilised by data users to answer policy questions. For example, a policy maker may need to understand what plans are available in the market to estimate what a consumer may pay based on current plans available.

Policy makers and regulators track changes in these available plans to support price monitoring activities. EME's data set of available tariffs is currently the key source of data for most price reporting. The AER, AEMC, and many of the state regulators and policy bodies use this as their key source of information for a wide range of price reporting obligations. They estimate prices and bills by selecting a range of representative retail prices from EME, alongside data on weighted retail market shares and shares of consumers on standing versus market offers²¹ and consumer usage²².

This data provides insights on how prices are changing over time, but the estimated bill values do not accurately reflect the bill that consumers actually pay. Many consumers are not on plans currently available on Energy Made Easy – for example, some consumers may be on an older plan or a variation of an existing plan. Differences in methodologies and assumptions of price monitoring activities also result in variations of price and bill estimates of a 'representative / typical consumer bill'.

Limitations in the current data gathering process for retailers

The above highlights how retailers face many data requests from different organisations and agencies. These multiple, uncoordinated, inconsistent, and at times ad hoc, data requests impose a high regulatory burden to retailers, which in turn creates costs for consumers.

For example, retailers may not have dedicated teams to respond to government data requests. To respond to data requests, retailers may have to mobilise resources across the organisation to respond. This team is then required to interpret data requests, apply logic of the request to billing data, develop code to extract the required data, and undertake a compliance and legal check of the data to ensure that data is accurate

²¹ Which are reported in aggregate through AER's retail performance monitoring

²² Provided either by distributor estimates of residential averages or AER's Bill Benchmarking survey

and complies with the data request. Clashes within the data are then rectified or context is provided to explain anomalies in the data set. This is all before it goes through the relevant approvals to officially submit the data to the data requester.

Based on our early engagement, some retailers face over 10 data requests annually from jurisdictional bodies and energy market bodies, which can cost more than \$1 million annually.

With the ACCC's Inquiry into the NEM into the market coming to an end in 2025, it is now timely to consider how government can more effectively collect billing data that can be shared between data users to deliver improved consumer outcomes, whilst reducing the regulatory burden and costs for retailers.

Recommendation 1: A new approach to gathering retailer-held billing data should be developed which supports more effective policy decision making to improve consumer outcomes, through:

- More timely insights for key regulators and policy makers into how different consumers, including vulnerable groups, are affected over time by more complex, changing markets and new services, and
- Safe data sharing between appropriate trusted bodies to increase benefits for consumers and reduce duplication and costs.

Recommendation 2: Any new approach should not rely on the ACCC's Inquiry information gathering powers to seek national-level billing data from retailers, as the legislative restrictions that this approach places on data sharing will not provide an effective, long-term solution to meet wider stakeholder needs and reduced duplication.

Consultation questions

Q1. Have we appropriately captured the issues with the current approach to data gathering?

Q2. What are the issues faced by data holders or data users in providing and/or collecting data?

3. Billing data required to inform policy decision making

3.1 Approach to identifying policy questions and data needs

The ESB undertook a structured approach to identify gaps in the ability to use small consumer electricity billing data to answer the priority policy questions. This involved identifying the priority policy themes and use cases for billing data and mapping these against existing data sets to identify where there are limitations in the existing data sets.

To understand the use cases for billing data sets and understand data requirements, the ESB identified four end user prototypes. This enabled the ESB to map policy themes and use cases against existing data sets and identify where there are data gaps. Details of the four end user prototypes are set out in **Appendix D**.

3.2 Policy themes and questions that relate to billing data

Over 70 policy questions were identified through early stakeholder consultation with data users including policy makers, regulators and consumer groups. These questions are categorised into eight policy themes: consumer engagement; vulnerable consumers; policy design and evaluation; comparative consumer outcomes; retail tariff structure; consumer energy resources; retailer behaviour; and consumer behaviour.

Table 2 lists those policy themes and includes an overview of some of the policy questions under each theme. A comprehensive list of policy questions relating to billing data raised in consultations is set out in **Appendix E**.

Table 2: Policy themes with an examples of policy questions

Policy theme	Number and examples of questions identified
1 Customer engagement	10 questions, relating to whether customers are selecting better plans; why and how long are customers on standing offers; how often customers switch plans/retailers and its impact on customer bills; and impact on customers that do not engage in the market.
2 Policy design and evaluation	7 questions, relating to the impact of policies on consumer bills, on different types of customers and the impact over time; identifying / investigating changes to existing policies/programs; and how government's support could better address energy payment difficulties.
3 Retail tariff structure	9 questions, relating to impact of different tariff structures on consumers; whether cost reflective tariffs provide savings to households; which tariff structures are best for different customer segments; and whether feed-in-tariff reflects wholesale price pattern during a day.
4 Retailer behaviour	11 questions, which relate to retailers' conduct in the market including how often retailers adjust their prices; how retailers passthrough network tariffs; whether retailers offer consumers genuine tariffs choice; and impact of retailer innovation or low price offers on consumers.
5 Vulnerable consumers	9 questions, relating to whether customers are able to access rebates; impact of concessions on bills; benefits customers receive from different concession types; engagement of vulnerable customers with the market.
6 Comparative consumer outcomes	11 questions, relating to whether any customer groups are paying more (e.g., lower income suburbs); what do customers in embedded networks and with dual fuel connections pay; spread of customers across different plans and tariff structures; and trend in bills for households and small businesses.
7 Consumer energy resource	6 questions, relating to CER customers response to retail price signals; whether customers with / without DER are better off on certain tariffs; impact of DER and

		new technologies on distribution of bills by consumer classes; and impact of smart meter on customers' usage and bills.
8	Consumer behaviour	7 questions, relating to whether and how customers respond to price signals and financial incentives; whether customers respond to key messages on a bill; and impact of retail plans and tariff structures on usage pattern.

Source: Stakeholder consultation

Policy themes that were identified as most common across stakeholder groups relate to vulnerable consumers, customer engagement, retailer behaviour and policy design and evaluation. As highlighted above in **Section 2.1**, these policy themes relate to improving outcomes for consumers experiencing vulnerability, promoting affordability, and relating to the energy transition plan.

Consultation questions

Q3. Do you agree with the policy themes identified that need to be answered through small customer electricity billing data? Are there other policy themes that may be relevant to billing data?

3.3 Use cases for billing data

Use cases set out the types of activities that a data user will undertake with the billing data. Use cases link the policy questions with the data sets. Understanding what problem the end-user is trying to solve, and linking it to a use case, is a key step in identifying what data an end-user needs.

For example, a policy maker considering customer engagement in electricity market competition may ask the questions "which consumers are on standing offers? how long are consumers on standing offers? why are consumers on standing offers?". These questions relate to the use cases of policy design and development and consumer behavioural analysis.

Prototype end users of small electricity billing data and their use cases

The use cases were examined for the following four potential end user prototypes. Whilst there are many other prototypes that could be selected, the ones selected below are representative of policy roles across the jurisdictions. Details on the four end user prototypes are set out in [Appendix D](#).

Table 3 below links each end user prototype to the eight identified policy themes. Common policy themes across the end-users are policy design and evaluation, comparative consumer outcomes, consumer behaviour, consumer engagement, consumer energy resources and retail tariff structures.

Table 3: Potential end users and their use cases linked to policy themes

End user prototypes	Policy themes								Use cases
	Vulnerable consumers	Customer engagement	Retailer behaviour	Tariff structures	Policy design & evaluation	Consumer energy resources	Comparative customer outcome	Consumer behaviour	
Vulnerable customer focus	◆	◆			◆		◆	◆	<ul style="list-style-type: none"> • Policy design and development • Program evaluation • Tariff design • Behavioural analysis • Bill impact analysis • Regulatory analysis and reforms
Consumer energy resource focus				◆	◆	◆	◆	◆	<ul style="list-style-type: none"> • Policy design and development • Program evaluation • Tariff design • Behavioural analysis • Bill impact analysis
Market design focus		◆	◆	◆	◆	◆	◆	◆	<ul style="list-style-type: none"> • Program evaluation • Bill impact analysis • Market analysis • Tariff design • Behavioural analysis • Regulatory analysis and reforms • Forecasting
General energy researcher	◆	◆	◆	◆	◆	◆	◆	◆	<ul style="list-style-type: none"> • Policy design and development • Program evaluation • Bill impact analysis • Market analysis • Behavioural analysis • Tariff design

Source: Stakeholder consultation

What billing data is required for end users?

Each end user requires different types of billing data to enable them to address the policy themes and use cases set out in **Table 3** above. **Table 4** below maps the type of data required for each of the four end user prototypes.

Common data requirements across the four end-user prototypes include bill amount, fees and charges, retail plans and tariffs, usage, consumer data, concession and hardship data, and demographic data.

For example, an end user with a market design focus may require billing data to evaluate consumer engagement with the energy market to inform the design of fair and transparent tariff structures. The end user may require longitudinal billing data to understand the type of tariff structures faced by each different type of consumer, the usage and consumption patterns of each consumer type, and how much each type of consumer pays for electricity over time. To understand in more detail about the differences between each consumer type, demographic data may be required.

Table 4: Data requirements of the four end user prototypes

End user prototypes	Type of data required for end users															In what form is data required?
	Billing data (amount, charges, fees)	Usage and export data	Retail plan and tariffs data	Customer data (consumer type, postcode)	Account data (concession, payment plan)	Account data (dual fuel)	Hardship (debt; disconnection)	Network tariffs	Switching retailer and plan	CER data	Demographic data	Non-energy data	Household composition	Household income & expenditure	Qualitative	
Vulnerable customer focus	◆	◆	◆	◆	◆		◆		◆		◆		◆	◆	◆	<ul style="list-style-type: none"> • Longitudinal data (bill, usage, debt) • Aggregate data • May require raw granular data • Links to ABS databases to assess household characteristics
Consumer energy resource focus	◆	◆	◆	◆		◆				◆	◆					<ul style="list-style-type: none"> • Longitudinal data (bill, usage) • Aggregate data • May require raw granular data
Market design focus	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		<ul style="list-style-type: none"> • Longitudinal data (bill, usage) • Aggregate data • May require raw granular data • Links to ABS databases to assess household characteristics
General energy researcher	◆	◆	◆	◆	◆		◆	◆		◆	◆			◆		<ul style="list-style-type: none"> • Longitudinal data (bill, usage, debt) • Raw granular data to inform research • Aggregate data may be informative to research

Source: Stakeholder consultation

Consultation questions

Q4. Are there other potential end users that need consideration?

4. Gaps in billing data

4.1 What data sets are currently collected?

The ESB recognises that billing data currently being gathered can address some of the data needs for end users. Through early stakeholder engagement, the ESB identified almost 80 data sets that are currently being collected by about 25 organisations, departments, and agencies. A detailed list of current data sets is set out in [Appendix C](#).

Billing data is currently collected through multiple channels by different organisations, and primarily from retailers. Each agency has its own legislative provisions that empower it to collect certain billing data. However, the comprehensiveness of each data set varies in:

- **Breadth** – the extent to which the data set covers small consumers, jurisdictions, and data fields
- **Granularity** – the extent to which the data set provides consumer-level or aggregate-level data
- **Frequency** – how often the data set is collected which could include regular or ad hoc collection

The breadth, granularity and frequency of the data is largely dependent on the purpose of its collection and therefore, often varies from one data collector to the other.

These data sets are not always accessible to relevant end-users including policy makers, regulators, and energy market bodies due to restrictions on sharing. This results in inconsistencies in data requests and duplicative effort in collecting and reporting. The ACCC's recommendation in the REPI was to introduce a mechanism to reduce duplicative reporting and to reduce unnecessary costs on retailers. Whilst the introduction of the Inquiry into the NEM was able to support improved policy decision making, it is limited in its effectiveness in reducing duplication as granular data cannot be shared with decision makers. Moreover, the Inquiry into the NEM is due to end in 2025. Without a replacement, there will be a substantial gap in collection and analysis of billing data which will inhibit effective decision making.

Importantly, the number of data sets identified through our early engagement (which may not represent all data requests) outline the high costs that are imposed on retailers. As detailed in [Section 2.3](#), retailers go through a detailed process that is both time consuming and costly when responding to each data request. Data requests may also, at times, be ad hoc and could vary over time which creates regulatory uncertainty that further adds to costs and time associated with responding to data requests.

Some data requests are duplicative which creates inefficiencies and imposes unnecessary costs on retailers. For example, the AER collects aggregate-level data on performance indicators, including hardship data, on a quarterly basis from retailers as part of its annual Performance Reporting. At the same time, the Queensland Competition Authority also collects hardship data from retailers (using the AER's definition of hardship program customers to avoid reporting inconsistencies), but at a granular level and uses this data to validate the AER's data.

The multiple, uncoordinated, and at times ad hoc, data requests to retailers imposes a high regulatory cost to retailers which in turn results in higher costs for consumers.

4.2 Limitations in current data collected

Despite a broad set of data currently being collected, there are still limitations in the data that do not enable policy makers to effectively answer priority policy questions. These data limitations can be categorised into the following four areas: data collected but not shared or accessible, data not collected, constraints on what data should be collected or shared and functionality gaps.

Data collected but not shared or accessible

As noted in [Section 3.3](#) above, the data commonly required across the identified policy themes include bill amount, fees and charges, retail plans and tariffs, usage, and consumer data (e.g. type of consumer, postcode).

This data is commonly held by retailers and currently being collected by the ACCC as part of its Inquiry into the NEM. This granular data, however, is limited in its accessibility to other data users due to the legislation under which the ACCC collects the data. Billing data is also requested by jurisdictional energy regulators and government departments from energy retailers. However, jurisdictional data is not accessible to other market bodies.

Gaps where data is not collected

- **Longitudinal data** was commonly identified as a data gap that is needed to inform policy decision making. Longitudinal data of consumers' bills over time enables researchers and decision makers to go beyond describing the problem to understanding the drivers of issues in the market, including cause-and-effect relationships.

Longitudinal data also provides a rich data set for data users to understand and evaluate the impacts of changes to the market on consumer outcomes over time, including government decisions and investments. Customers who change retailers each year may not be well represented in some retailer datasets as they don't have the required 12 months of data showing usage across the seasons. De-identified data may not allow tracking across retailers.

- **Time of use data and new offers** data fields will need to be considered that cover market pricing more effectively, especially as innovation creates a wider range of contract arrangements. Additionally, aggregate usage data as collected by the ACCC, cannot inform assessment of many forms of tariff structure. Usage by time of day will be more important as batteries and electric vehicles (EVs) become more popular, and as retailers innovate in product and service offerings such as demand tariffs and smart EV charging incentives.
- **Data on non-energy products** is not collected. Innovation in the market has led to the movement away from traditional energy products to new products and services that include non-energy products. For example, some retailers offer bundling packages which comprise of electricity, gas and telecommunication / internet services and the value derived from a bundled package is not captured in electricity billing data alone.

Data not collected by retailers

This section outlines data gaps which are not currently collected by retailers. The ESB recognises that these data gaps are important for policy work on bills and are considered in the wider Data Strategy but are out of scope in this Billing Transparency workstream.

- **Data for consumers in embedded networks** (such as apartment blocks, caravan parks and shopping centres): Data on embedded networks is currently not collected outside of the individual service providers. These service providers are generally not captured by most retail requirements. Some of these customers are vulnerable customers and may have limited consumer protections. Lack of visibility of these customers limits the evaluation of the extent to which such customers may benefit from energy transition and policy and regulatory reforms.

- **Customer characteristics and factors impacting usage:** Information about the different customers and drivers behind their bills is a key complementary data set to understanding energy use and bills. This can include information about the number of occupants, their demographics or activities, the building envelope and equipment on the site. This data is generally not held by retailers and is usually only available where billing data can be linked to a survey or government program and usually requires direct engagement with customers. Other Data Strategy workstreams are considering this type of data as part of wider consumer metrics and consumer research needs.
- **Specific usage factors:** Key energy usage factors of interest are consumer energy resources such as solar and batteries and data to support network planning and management. AEMO currently collects data in the Distributed Energy Resources Register (DERR) and can link it to meter data. Retailers do not have direct visibility of the DERR but may hold some of this data due to the services the customer has requested, such as a solar tariff. Other factors which are not reported currently but are being considered are EV chargers, demand management products (like controlled hot water, air-conditioning or pool pumps) and whether the site also uses gas (all of which affect total energy use).
- **Qualitative data** was recognised as a data gap, particularly for vulnerable consumers. Whilst the ECA’s Sentiment and Behavioural Surveys do capture some information on consumer views and sentiment, it was commonly recognised across stakeholders that qualitative data alongside quantitative data enables deeper analysis of what consumers are paying and what value they derive from energy products. For example, vulnerable households may be making trade-offs between paying bills that may not be captured effectively in energy billing data alone. Similarly, a deeper understanding of the challenges faced by small businesses in how they manage bills and usage is important to enable policy makers to design effective policies and programs.

Functionality gaps

There are functionality gaps in the ability to link electricity billing data to other data sets which could inform understanding of bills and forecasting of demand. Examples are gas billing data or publicly held data on building characteristics or business types.

Importantly, the ACCC Inquiry into the NEM is due to end in 2025 which means that it does not provide an on-going permanent long-term solution.

Consultation questions

Q5. Of the limitations identified, what are the most critical issues faced by policy makers? Are there other limitations which have not been identified?

5. Components of any data gathering solution

5.1 Our approach to finding a solution to address the data limitations

This chapter provides an overview of the potential options for collecting, managing, and sharing billing data. In this chapter, the ESB first explores the potential data scope and then drills down into three key components of any data gathering solution – (1) how data is collected from retailers; (2) how data is then shared with other data users; and (3) how the data is then analysed and reported.

Within each component, there are sub-components that are considered. For example, in the data collection component, we consider who could collect the data, the powers available to the data collector, how frequently data could be collected, or what data could be collected.

After considering each component individually, the ESB identified four alternative options to the base case scenario of the ACCC's Inquiry into the NEM ceasing in 2025 as planned as set out in [Chapter 6](#). In [Chapter 7](#) we set out assessment criteria and in [Chapter 8](#) we assess each option against the assessment criteria.

It is important to note that the components that make up each option, as well as the options themselves, are not intended to be final recommendations and will require further refinement. Any short-listed option may need a business case supported by a cost-benefit analysis. The ESB has set out a series of questions in this chapter to seek stakeholder views on the appropriate design of any data gathering option.

There are also additional considerations that will need to be factored into a final options analysis, including how compliance is achieved in relation to privacy legislation and requirements. A detailed design phase is required to develop one or more short-listed options in more detail. Details on short-listed options and the detailed design phase is set out in [Chapter 9](#).

5.2 Data scope and common standards

Analysis of policy questions and use cases in [Chapter 3](#) identified a range of high-level data requirements and gaps in existing data gathered. This section provides a high-level description of the data sets that are currently gathered and by which agency compared to the data identified as priority data. A detailed analysis of the data sets to be collected and shared, including the incremental costs and challenges will be conducted at a later stage.

One of the challenges for retailers under current arrangements is that different regulatory bodies seeking retail data may request datasets with different scopes, aggregation, and formats. Retailers incur added costs to tailor their responses to different requests.

To minimise these costs, a new approach to reporting billing data should streamline requests to a common shared format. This new format should build on existing common approaches where possible, to minimise implementation costs across retailers. A key design question is to compare existing retail datasets with the scope of data requirements identified by data seekers. Two existing processes already define retail-billing data standards or formats which could support many aspects of the needs identified:

- **Data fields currently collected by the ACCC as part of its Inquiry into the NEM.** The ACCC collects energy account specific data from select large retailers, covering a sample of residential customers and population data for small business and targeted customers (i.e. vulnerable). Details of data included in the ACCC's Inquiry in the NEM are set out in [Table 5](#) below. The specific data fields collected are outlined in detail in [Appendix B](#).
- **CDR retail data standards** include standard formats for sharing individual energy account data, as well as retail services data. This covers more detailed information than the ACCC data set, as set out in [Table 5](#) below. Some of the data requested may be mandatory when requested by an ADR whereas other data fields may be voluntarily provided by the data holders. The specific data fields that may be obtained through CDR are outlined in detail in [Appendix F](#).

- AEMO could also provide some of these data fields, such as detailed meter-level data of usage and consumer energy resources. AEMO does not have key billing data fields such as retail tariff and billed amount.

Table 5 below compares the data sets identified as data user needs (as set out in [Chapter 3](#)) against each of these existing data sets.

Both data sets cover some of the types of data to meet the needs of end users, with CDR data providing more comprehensive data compared to ACCC's existing data collection. Nevertheless, there are some data fields in CDR which are optional and not mandatory for retailers to provide. Additionally, none of these data sets completely and comprehensively meet all the needs of all end users.

Table 5: Comparison of data scope

	Identified priorities	CDR dataset	ACCC datasets	AEMO Datasets
Service point details (meter standing data)				
NMI	Y	Y	Y	Y
Responsible retailer		Y	Y	Y
Location		Y	Y State only	Y
Postcode	Y	Y	Y	Y
Network tariff	Y	Y		Y
Energy account data				
Account number	Y	Y	Y	
Account holder name	N	Y	N	N
Contact details	N	Y	N	N
Account type (residential/business)	Y	Y	Y	Y
Fuel type	Y	Y	Y Dual fuel customer indicator	
Contract details		Y	Y Contract term	
Usage data				
Usage (Aggregate)	Y	Y	Y	Y
Solar feed-in (Aggregate)	Y	Y	Y	Y
Solar feed-in (Time-of-use)	Y	Y		Y
Smart meter usage (Time-of-use)	Y	Y		Y
Controlled register	Y	Y		Y
Other registers				
Tariff data				
Plan ID	Y	Y	Y	
Plan name	Y	Y	Y	
Offer type (Standing or Market)	Y	Y	Y	
Discounts	Y	Y	Y Indicators for type and total amount	
Tariff details (e.g., rates and structure)	Y	Y	Y Indicators for select characteristics	
Concessions data				
Concessions	Y	Y	Y Total only	

Hardship customer	Y		Y Indicator only	
Payment plan	Y	Y	Y Indicator only	
Bill data				
Billed amount	Y	Y	Y	
Invoice data		Y	Y Start and end date	
Payment data				
Payment schedule	Y	Y		
Balance amount	Y	Y	Y	
Debt	Y	Y		
Payment arrangements	Y	Y		
Other fees and charges				
Disconnection	Y	Y		
Reconnection	Y	Y		
Other	Y	Y		
Non-electricity services				
Bundled offers	Y	Y		
Gas billing		Y		
Additional offers				
CER standing data				
Solar technologies installed	Y	Y		Y
Battery technology installed	Y	Y		Y
EVSE installed	Y			*Being considered

While more detailed design and costing is needed, the ESB considers that aligning data collection with the new CDR standards would likely be a preferred approach. While the ACCC data fields provide valuable information and insights to inform decision making, CDR standardised billing data has greater coverage of the priority data identified. ACCC's data set would cover more priority data if linked to AEMO metering data.

CDR also has added advantages. It was developed recently through an extensive consultative process with industry participants, including retailers, ADR, AEMO and importantly consumer groups, led by the CDR standards body. This means that extensive debate has been had over how to best describe each dataset, based on existing data systems and consumer data needs.

Large retailers have already been required to build systems to comply with sharing data to CDR standards and further retailers will meet these requirements in the near future, which could reduce the costs of gathering data if this standard is used.

CDR also has existing arrangements in place for monitoring compliance with these standards (undertaken by the ACCC) and for expanding and evolving standards (subject to Minister's approval) as needs in the market change.

Consultation questions

Q6. Do you have views on the scope of data collected and preferred common data standards?

5.3 Components of data collection

The following eight sub-components are considered for how data could be collected:

1	Data collector
2	From whom the data is collected
3	Systems to collect billing data
4	Systems to support secure data management
5	Quality assurance and sense checking processes
6	Geographical coverage
7	Sample or population data
8	Frequency of data collection

5.3.1 Data collector

Six potential data collectors have been identified, each with varying levels of powers to collect billing data:

- **Jurisdictional governments or regulators** could collect the data and many of these bodies have existing powers and already collect billing data from retailers (see [Appendix C](#) for data currently collected). A distributed model where jurisdictions gather data more consistently and share data with the central bodies who need access could be considered. However, there is substantial variability in scope and approach across jurisdictions. Some government departments or regulators may not currently be able to collect the level of data required to enable effective policy decision making. Additionally developing a consistent, coordinated approach to reduce retailer costs may prove difficult. Coordinating reforms across jurisdictions to align arrangements would also likely prove challenging and could be less efficient than a single body coordinating data gathering and sharing it between bodies.
- **The ACCC** currently collects billing data from retailers as part of its Inquiry into the NEM, which is due to end in 2025. The ACCC collects billing data through its statutory powers under *section 95ZK of the Competition and Consumer Act*, consistent with the Terms of Reference of the Inquiry. If this Inquiry was extended beyond 2025, these powers could allow ACCC to collect enhanced billing data. However, the ACCC's 95ZK powers create a material limitation on sharing data, even with other regulatory and policy bodies, which limits the objectives to reduce duplication and support wider policy makers.
- **The AER** has a strong role in retail reporting, consumers protections and related functions such as the default market offer. However, they would require additional legislative powers to collect billing data. The AER already collects some data from retailers and has broad data gathering powers, but these powers are limited to its current functions.

Under the Australian Energy Market Agreement (AEMA), which defines how jurisdictions collaborate under the NEM, jurisdictions explicitly retained price monitoring powers and did not allow transfer of these powers to the AER. For AER to gather billing data, jurisdictions would have to support additional powers for the AER through amendments in either the NEL or NERL.

Most of the AER's retail powers are linked to the NECF and related National Energy Retail Law / Rules, (NERL/NERR) which explicitly exclude Victoria. An AER-specific option would need to consider alternatives to ensure that the needs of Victorian policy makers could be met. Further, Victoria has around a third of all customers, the highest level of retail competition and is the only jurisdiction with complete smart meter coverage, which makes it usually the priority jurisdiction in understanding new market services.

Another consideration is that the AER currently has responsibility for license registration of retailers, which may provide another avenue to collect some billing data from retailers.

Further analysis is required on options to adjust AER's powers, whether the jurisdictions would support this, and whether Victoria could be included.

Alternatively, the AER could potentially collect billing data directly from users of EME. This, however, would result in a self-selected non-representative sample, as it would only capture customer who choose to use EME and consent. As EME is a service to support switching retail tariffs, its users would over-represent active customers and have lower coverage of some vulnerable groups, as there is evidence that they have lower switching rates. It would also be a change to the current approach of EME where the AER does not currently collect any consumer information and may require legislative and regulatory amendments.

- **AEMO** also collects related data from retailers, to support market settlement and competition, and has existing relationships and systems to facilitate this. However, legislative and/or regulatory amendments to the NEL and NER are also likely required to enable AEMO to collect billing data. This would also require agreement between jurisdictions but may be less complicated as it doesn't interact with state price monitoring arrangements.

Despite its role in settlement, AEMO does not have a direct role in retail reporting, and so has less direct interest or expertise in billing data compared to the AER. However, AEMO does have strong existing capabilities in data collection and data sharing. AEMO has considerable expertise in managing and protecting granular data relating to electricity consumption.

Many of the priority policy questions identified in this study will depend on linking billing data to both smart metering and DER data, which are already most accessible through AEMO. For example, understanding how emerging innovation in retail services interact with CER technologies and consumer behaviour. Further, AEMO's proposed new Data Services Unit, under the Data Services reform, is intended to play a key role supporting policy users in safely linking datasets for these and wider insights where billing data will also be a priority (for example evaluating how jurisdictional programs intended to help consumers impact bills).

Billing related data and understanding how consumers respond to retail incentives may also have increasing future relevance to AEMO's forecasting role, given expected future growth in retail services which may shape demand, such as demand-related tariffs targeting batteries and smart-EV charging.

- The **ABS**, under the *Census and Statistics Act 1905* has the authority to conduct statistical collections, including the collection of administrative and transaction data on a range of topics. However, the Act imposes strict obligations on how the ABS can use and disclose that information, including the requirement to publish and disseminate compilations and analyses in ways that are not likely to enable the identification of a particular person or organisation. The ESB does not consider this option viable as electricity billing data collected under the *Census and Statistics Act 1905* for purposes of official statistics could not be shared with other agencies in a manner required by those agencies.
- Lastly, an independent party, such as a **commercial provider**, could also collect billing data. This could be, for example, third party data aggregators or a service provider with access to CDR, such as a price comparator. However, this is considered not viable as third-party data collection capabilities are generally limited to small-scale projects (e.g., geographically limited or based on service or specific consumer-types) and are likely to lack a representative cross-section of the population. Additionally, bodies who collect data for commercial reasons may not collect the data required to answer policy questions.

Based on our early assessment, the ESB considers that the ACCC, the AER and AEMO are the most viable options when considering who could be responsible for the collection of billing data. However, further work, in consultation with jurisdictions, is required to resolve the appropriate powers, as no party currently has the powers to gather and share billing data effectively.

Consultation questions

Q7. Do you have views on the preferred body to collect the data?

5.3.2 From whom the data is collected

The only two parties who have access to billing data under current arrangements and could support data collection are consumers and retailers.

Collection of data from consumers has benefits as it enables consumers to have control over the data provided and shared, but there are considerable costs and limitations involved. The need to contact each customer separately, seek voluntary information and consent to use it means this approach is generally limited to small samples.

The complexity of billing arrangements also means consumers cannot generally provide key details, (such as what tariff they are on, their billed amount or NMI) without access to the customers' bill itself. This relies on customers retaining access to their bills and often being asked to provide them. This creates immediate privacy challenges, as bills also contain personal details, like names, contact details and possible payment information.

The highly seasonal nature of energy use means that a full 12 months of billing data, usually four quarterly bills, are required to understand a customer's costs and use. One bill is insufficient to obtain a complete picture of energy costs due to the seasonal impacts of energy usage, with winter in cold climates, and summer in hot climates contributing to higher usage.

Bills also do not provide direct access to many details, such as time-of-use metering data, so may still need to be linked to underlying data.

The recent introduction of CDR could assist these survey approaches, as customers can now provide consent to access billing and usage data from the retailer. However, this also has hurdles as the consumers must be digitally enabled to provide consent through an online mechanism and the data collectors must be an ADR, which requires significant costs, security arrangements and importantly restrictions on retaining and using the data which may limit its value for statistical purposes. Market bodies requiring the data are not currently ADRs.

These challenges mean that most existing collection processes seek billing data directly from electricity retailers, who are the only other source of billing information. Collection of data from retailers enables more comprehensive data to be collected and larger sample sizes, or even population level data, and can also include data behind the bill (e.g., components that contribute to the total bill, such as time of use, disconnection/reconnection). It can also assist with privacy, by limiting unnecessary data being shared, such as their name and contact details, or payment arrangements, while still providing some linking data, such as a unique NMI.

The ESB recognises that any new approach to collection of data from retailers imposes costs on retailers, including upfront costs for any IT system update and ongoing costs to respond to requests. These costs must be considered in the context of existing costs of providing billing data, which in many cases are material. Some retailers reported 10 varied requests per year resulting in costs of around \$1 million. A more automated approach based on common standards may create upfront IT costs but may have lower ongoing costs over time. A more detailed design of the data and transfer mechanism and a cost-benefit analysis is required to assess the relative incremental costs.

Diversity in retailer impacts must also be considered, where large retailers and small retailers have cost scale differentials mean that the cost of data collection may be relatively higher for small retailers. This could have negative consequences for competition if not appropriately addressed in the detailed design phase.

Collection of billing data could exclude small retailers and only collect data from large retailers, similar to both ACCC's approach and CDR, which exclude retailers with less than 10,000 customers. This means that

data collection is restricted to a sample rather than population data, which could bias the results. Smaller retailers are likely to attract a specific class of consumers, such as those more open to new services and innovative approach, so excluding them from analysis may skew understanding of consumer choices.

The ESB considers that any option to collect data from retailers could adopt a combination of collection methodologies for large and small retailers to account for cost differential. For example, collection of billing data for large retailers could be through a regular, automated system to support a wide coverage of consumers, whereas the collection of data from small retailers could explore lower cost methods (e.g., less frequent collection and data collection that doesn't require upfront IT investments). This could enable some representative data to be collected from small retailers in the short-term, with further work with small retailers to adopt a more permanent and effective method in the medium- to long-term.

Consultation questions

Q8. Do you have views on the collection of data from retailers and considerations to optimise this? What scope of retailers should be included?

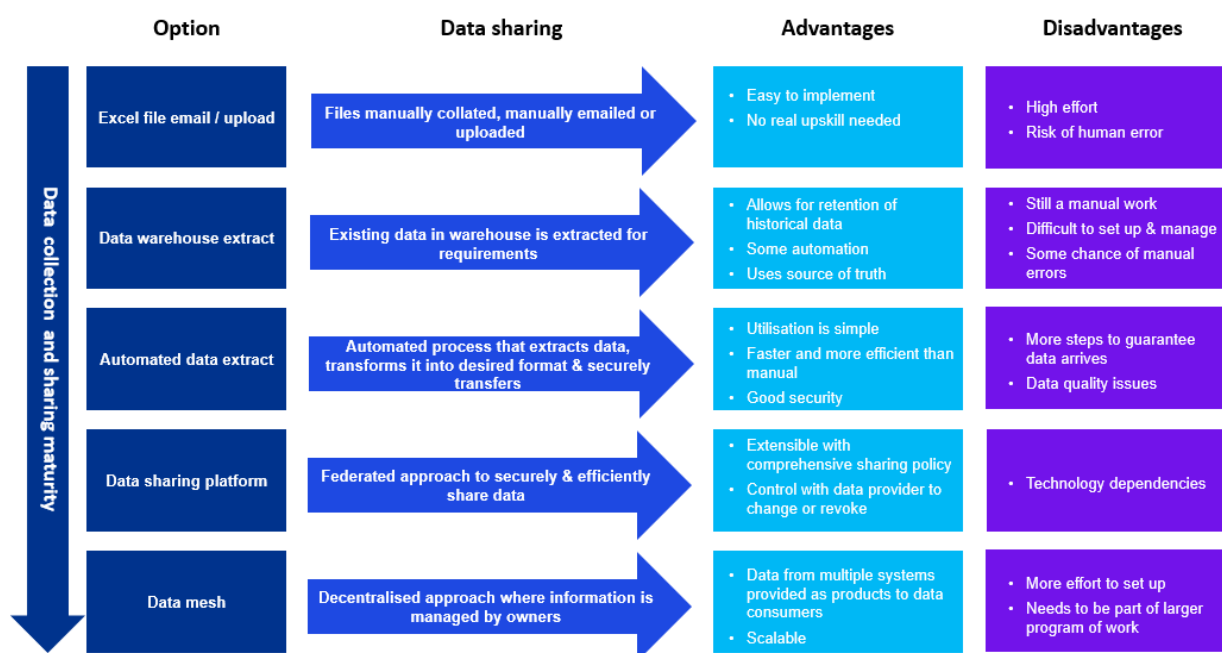
5.3.3 Systems to collect billing data

There are multiple options for a system to be used to collect, manage and share data. Currently, each market body and jurisdictional department or regulator collects data using different mechanisms. For example, the ACCC's Inquiry into the NEM adopts a system that is akin to an excel file upload and data warehouse extraction by retailers.

In contrast, AEMO currently collects data through MSATS. This is a built-for-purpose system which does not leverage advancements in modern technology and has restrictive governance arrangements for change. It is not recommended to use this platform to collect billing data as its extension may not be optimal. If AEMO collects billing data, then a new fit-for-purpose system will likely be required, but this could still be linked to existing datasets and build on existing experience.

Figure 3 below provides an overview of each of them, including the relevant advantages and disadvantages involved. The ESB considers that there is merit in each option. Whilst the options listed first in the figure below are relatively manual and may require more resourcing to manage the data, they require less upfront costs for data collectors and data providers (i.e., retailers) to transfer data. On the other hand, more advance technology provides the benefit of having more secure and automated processes that likely result in a more efficient transfer of data into the system and from the system to data users in the long term, but may require substantial upfront costs for data collectors, retailers, and data users.

Figure 3: Options for data collection, management and sharing



CDR is also a relevant consideration, as it is designed to enable the collection and sharing of granular customer data. The ESB recognises the primary purpose of the CDR is to help individual consumers share their data safely with a range of service providers, such as comparator services to find offers that meet their needs. It was not designed for the purpose of sharing data for statistical analysis to answer and resolve energy policy questions. This creates a range of clear limitations with using the CDR framework for data collection as outlined in **Box 2** below.

Box 2: Limitations in using CDR to collect retailer-held data

- **Requirement of consent:** The founding principle of the CDR framework is consumer consent. Each individual consumer must be actively engaged and provide explicit consent via a digital process with several touch points (including confirming a ‘one time password’ with the data holder) for any data to be shared. This creates significant challenges for the purposes of improving billing data transparency:
 - **Costs** - Collection of large sample sets for broad-scale anonymised billing data would likely be cost-prohibitive. Consent is also likely required to periodically update the data held, adding further costs. CDR could be used to link data to smaller survey samples.
 - **Selection bias** - Only a subset of consumers will provide consent, leading to self-selection bias and a non-representative sample data base. Consent could be linked to delivery of additional services, such as EME, but this would likely increase selection bias.
 - **Privacy issues** - where the data gatherer accesses data from every customer and may have to re-contact that customer for future data, the data gatherer would likely have to hold the customer contact data.
- **CDR Rule changes will be required:** A data user must be an ADR to collect data through CDR and there are explicit constraints on keeping or sharing data which are key to accreditation. Currently policy makers and other government entities are not ADRs. Accreditation of government entities is

likely to require rule changes to the CDR Rules which are managed by Treasury. This may not be feasible for all data users and will likely lead to gaps in accessibility of data.

Time limits to data retention: CDR data can be retained only for fixed short time periods which may limit the ability to support longitudinal data collection.²³ There are also constraints on sharing the data, which is a key requirement of this process – i.e., to be able to gather data more efficiently and share data with a range of relevant parties to reduce duplication and costs.

- **Data fields may be non-compulsory:** Given that some data fields in the CDR standards are identified as optional. This is to allow for data holders who may not hold that data. If the data holder holds the data, they must disclose the data for that field. Optional data fields may not be comprehensively collected.
- **Exemption of small retailers:** Under current CDR Energy rules, retailers with less than 10,000 small customers are not required to participate in the CDR landscape. Collection of billing data through CDR Energy will be limited to large retailers and will exclude consumer billing data that are held by small retailers. This means that data collection cannot be at a population-level which may create data gaps. Smaller retailers may be of particular interest in analysing bills, given they have unique challenges, such as cost structures, and also may have innovative and varied products, which may be relevant to understanding how consumers are behaving and testing appropriateness of consumer impacts and protections.

The CDR framework, whilst important in its introduction of standardised data structures and increased access to data, is limited in terms of its application to collecting and sharing of large sets of consumer billing data.

Consultation questions

Q9. Do you have views on the appropriate systems to collect data? Does this vary by which retailers are covered or which agency is collecting data?

5.3.4 Systems to support secure data management

Billing data needs to be collected in a secure manner to ensure that consumer data is well protected, and this is increasingly true with growing cyber security concerns. To do this, appropriate governance, processes and systems need to be established for the secure collection, management and sharing of billing data.

Currently different organisations and agencies have different governance, IT systems, processes and security standards underpinning their current collection of protected data. For example, AEMO currently collects and manages significant consumer-level data sets and hence has established secure systems and supporting capabilities, as well as internal policies and procedures to manage regulatory and legal requirements under the Privacy Act, CDR, and Security of Critical Infrastructure Act.

In a similar vein, the AER currently collects commercially sensitive data in accordance with its approach under regulation, law and governance and has similar secure system arrangements. However, AER does not currently manage large scale consumer-level data, and this would require expansion of capabilities.

In any option, the ESB considers that the collection of billing data will require robust and secure processes to be established, and regularly reviewed, that are fit-for-purpose and ensure that protected information is collected, held, and shared in a secure manner.

²³ At the consumers determination

5.3.5 Quality assurance and sense checking processes

Data users require robust, accurate and reliable data for analysis and to inform decision making. This requires the data collected to be appropriately collated, checked and quality assured to detect and correct errors in the data.

Billing data is complex and there are likely to be significant volumes of anomalies in the data submitted by retailers. Managing data anomalies appropriately requires comprehensive quality assurance processes and detailed analysis to understand the reasons for unusual data points.

ACCC's current processes demonstrates that significant effort is required for data quality checking. The time and resources required to be dedicated to quality assurance can also affect the timeliness of data reporting. Similarly, AER's retail reporting (of aggregate data) has had a range of compliance challenges. Both depend on retail expertise to identify anomalies in the data.

The quality of data may be influenced by the level of standardisation and consistency. For example, one-off or ad hoc data requests may be more prone to inconsistencies, whereas CDR processes have quality assurance compliance processes in place linked to the standards and automated data transfers, so may provide more consistent data particularly over time as issues are resolved.

The ESB considers that appropriate quality assurance processes need to be established between retailers and the data collector. This will require the data collector to work closely with retailers to ensure processes are in place to minimise errors and for the data collector to understand and explain to data users the anomalies in the data set. To do this, it may require the data collector to build on existing retail expertise and/or leverage CDR compliance requirements currently imposed on retailers through CDR energy.

Consultation questions

Q10. Do you have views on the challenges in managing data quality and processes to achieve this efficiently?

5.3.6 Geographical coverage

The potential geographic coverage of each option will be largely dependent on the data collector and their powers and functions.

To date the ACCC Inquiry into the NEM has limited its data collection to regions where there is effective retail competition, as this is the focus of its policy concerns. Specifically, this includes New South Wales, South Australia, South-East Queensland, and Victoria. The ACCC Inquiry into the NEM, however, has a NEM-wide remit and can collect more broadly beyond these regions should it be appropriate for the scope of the Inquiry.

If AEMO was to collect billing data, then this could be limited to where it currently operates the wholesale market – i.e., the NEM regions and Western Australia (where it has a different coverage and systems). This will mean that customers in areas outside the NEM, such as the Northern Territory, microgrids and stand-alone power systems, may be excluded or require alternative arrangements. However, as identified earlier in the scope, these regions (including Western Australia) have not been prioritised in this study for similar reasons as the ACCC has not focused on them. Northern Territory and microgrids (as well as Western Australia) have limited retail competition and often more direct service obligations with government, providing greater visibility of “what consumer pay” and a different range of local services and consumer protection issues. Their billing data arrangements are likely best considered separately.

The AER's remit is also largely limited to NEM regions. But more importantly, their retail functions, including current retail reporting, Energy Made Easy and the DMO, exclude Victoria, as they are provided through

the National Energy Consumer Framework (NECF)²⁴. Excluding Victoria from collection of billing data would be a priority concern. Across jurisdictions it has the highest levels of retail competition and a unique position of full coverage of smart meters, making it a priority jurisdiction in many consumer and retail market policy investigations and studies of emerging services. Victoria also covers around a third of all consumers and has the most retailers, so excluding it would limit streamlining benefits.

Excluding Victoria could significantly reduce the value in understanding new arrangements and an ability for policy holders to manage a range of emerging risks. It could also lead to Victoria seeking to duplicate arrangements, reducing the potential benefits from streamlining data collection and potentially limiting data sharing.

Victorian energy policy makers have indicated that their more diverse retail landscape makes billing data a key concern to them, and they are seeking better solutions through this workstream. There may be legal alternatives which could resolve AER's powers to gather billing data without linking to the NECF, however this requires further review and detailed design, as well as jurisdictional agreement for any regulatory reforms.

Consultation questions

Q11. Do you have views on the challenges in managing regional coverage?

5.3.7 Sample or population data

Customer data could be collected in two ways – as sample or population data. Both options have distinct advantages and disadvantages.

The collection of sample data has the advantage of being relatively cost effective, particularly if data is collected manually. Generally, less time and resources are required to collect, and quality check a sample. Additionally, data is more easily and readily accessible about consumption, due to the smaller data set required. If a good cross-representative sample is obtained, this will provide a relatively accurate representation of the population.

Collecting and analysing sample data, however, requires the data user to make inferences about how representative the findings are for the whole population. This means that less detailed information is available for in-depth analysis and checking how representative the sample really is can be difficult, leading to uncertainty in conclusions or make questions hard to answer.

It may also be more challenging to collect longitudinal data from a sample, because longitudinal data is only available where specific data in the sample collection is consistently collected across time. Random sampling would provide different coverage each time and using a fixed sample overtime can increase sampling risks.

In contrast, population data enables the collection and analysis of longitudinal data, as all customers are covered consistently across time. This also provides a true measure of the population and does not rely on inferences about how representative the sample is for every question. Another benefit of collecting population data is that it enables more comprehensive analysis for downstream users. For example, some data users may only need to conduct analysis on a targeted sub-set of the population. If only a sample of

²⁴ Due to differences in retail regulatory arrangements at the time of its introduction, Victoria chose to derogate from the National Energy Consumer Framework (NECF) and maintain most of its own retail arrangements through its own regulator. This has extended to its own arrangements instead of the Default Market Offer (DMO), as the Victorian Default Offer (VDO), as well as Victorian Energy Compare (VEC), rather than Energy Made Easy (EME). Its metering arrangements and related data roles also derogate from NEM Power of Choice competitive metering, as it had rolled out network-owned smart meters prior to this framework. This has also resulted in unique flexible tariff arrangements.

data was collected at the start, then there is always a risk that the sample did not have representative coverage of the targeted sub-set.

Collecting data on the entire population, however, can be costly (including costs of collection and data storage). Population data collection may be more cost effective if it is automated but would still incur upfront systems costs.

Additional time may also be required to clean and prepare the data, including resolving anomalies, which may add to costs and some delay. Larger datasets can also be more difficult to analyse creating added costs. Even if population data was available many analytical activities would start by selecting the appropriate sample to make analysis easier.

A mixture of sample and population data could also be collected. For example, the ACCC currently collects a sample of residential household data but population-level data for concession / hardship / vulnerable consumers and small business consumers. This is often an appropriate way of managing sampling risks for targeted groups.

The ESB considers that the appropriate approach may depend on related components in the data collection – such as how the data is to be collected and stored and by whom.

Consultation questions

Q12. Do you have views on the coverage of billing data collection and preference for population or sample data?

5.3.8 Frequency of data collection

There are two factors to consider in this option which will have an impact on costs for data collectors and retailers. Firstly, consideration needs to be given to how much and how often billing data changes and the extent to which data users need up-to-date data. Secondly, data collection could occur manually or automatically at pre-agreed frequencies.

Currently, the ACCC collects billing data from retailers on an annual basis. Billing data is collected for the 18 months prior and findings from the analysis of this data is not published until at least six months after collection. This means that billing data and findings may not be as relevant to data users, particularly policy makers who, at times, need to make timely decisions during critical periods. Although it should be noted that there are fundamental lags in the availability of billing data due to the fact that electricity usage is billed in arrears, often on a quarterly basis, and bills may not be generated immediately after the end of the previous period. This means that some consumers' bills will inevitably not be available for months after the relevant date.

More frequent collection of billing data may enable data users to be able to access data in a timelier fashion to inform decision making. Most electricity billing is currently quarterly (although consumer increasingly have other options), so quarterly collection of billing data would be more up-to-date and valuable for policy makers than an annual collection. However, it may also incur greater costs for retailers (and potentially the data collector), particularly if the data collection process is manual.

Data collection that is automated may be cost effective to collect more frequently, as once the up-front cost of automation is incurred the ongoing management costs may be lower. Using an automated process means that the frequency of data collection could range from "real-time" or responding to a trigger (e.g., reporting billing info at the same time as creating the bill or reporting a change in customer plan when they switch), or based on a cycle (e.g., quarterly). Whereas manual data collection, such as through a survey, may cost less to set up but may be too costly to do more than once a year.

The ESB considers that it is likely that a more frequent automated approach (at least quarterly) would provide greater benefits to policy makers, but that this must be considered further in detailed design to ensure it would be cost-effective. Up-front costs must be carefully weighed against ongoing and existing manual processes.

Consultation questions

Q13. Do you have views on the frequency of data collection and the relative cost and timeliness of data collection?

5.4 Components of data sharing

There are four sub-components to data sharing

1	Powers to share data
2	Options to access data
3	System to share data
4	De-identification and linking to existing data sets

5.4.1 Powers to share data

A key component the solution needs to consider the extent to which the billing data can be collected, and then shared, by the relevant agency. The appropriate powers to collect and share will depend on the agency ultimately tasked with doing so.

As highlighted in the chapters above, a key challenge with the ACCC's Inquiry into the NEM is that billing data collected through ACCC's statutory powers means that there are restrictions to sharing data with other energy market bodies and jurisdictional bodies. However, the ACCC has and can share data with the AER.

The restriction in data sharing is consistent with principles that generally apply where a government body or regulator exercises information gathering powers related to regulatory or compliance purposes. However, in practice it limits the usefulness of data collected as a means of informing wider policy decisions across government.

The limitation on sharing of data collected through these means also contributes to duplication in data collection, as jurisdictions separately exercise powers to collect data to inform state-based policies.

Currently the AER has some powers to share data, however this is quite constrained. If the AER is the entity to collect billing data, then legislative and/or regulatory amendments are likely required to enable the AER to share granular billing data with other data users.

AEMO also currently has restrictions on its ability to share data. However, as highlighted in [Section 1.3](#), legislative amendments through the ESB's initial reforms have already been approved by Ministers and are currently being implemented to allow (but do not oblige) AEMO to share data with prescribed bodies. These bodies include the full range of regulatory and policy bodies identified as seeking billing data. These powers also apply to any data AEMO holds, as they are designed to support AEMO's changing data capabilities over time. AEMO could facilitate sharing of billing data if they collected it, or even if they had access to data collected by the AER or another party.

Ultimately, the appropriate powers to share data will need to be considered in detail as part of the detailed design.

5.4.2 Options to access data

A key objective of the initiative is to create a longer-term dataset of small customer electricity bills and to reduce duplication of the data requests to retailers submitted by jurisdictions. This requires a range of bodies across jurisdictions to be able to access to the data for a range of their needs.

The data users, including jurisdictions, may seek to access data in the following ways:

- Jurisdictions obtaining their own data for their local purposes, without sharing with other jurisdictions, which will arise under the default scenario of do nothing. This is a sub-optimal outcome as it means that retailers will continue to face multiple requests which duplicates effort and increases costs.
- Relying on the ACCC annual aggregated reports sourced from the ACCC's current use of compulsory data gathering powers to obtain the billing data under the current Inquiry into the NEM.
- Jurisdictions create a new shared access dataset where each jurisdiction deposits data it has gathered separately, with the risk of low-quality analysis due to jurisdictional variations, gaps and incompatible definitions.
- Direct access to a new national repository on a new sharing platform (AER or AEMO).
- Accessing data through a facilitated dashboard or analytical environment, supported by a new national data repository.

The preferred approach is to ensure data users, particularly jurisdictions, to have sufficient access to meet their policy needs and improve consumer outcomes while reducing the requirement for duplication in requests to retailers.

5.4.3 System to share data

Any new data collection and sharing arrangement will require consideration of the appropriate system to collect and share the data. System considerations should take into account the cost and efficiency of the solution, and the ability of the system to support data security, cyber security, and privacy outcomes. They also need to consider the timeliness and frequency of access required by data users.

Figure 3 above set out examples of different IT solutions to collect and share data. An IT solution will need to be scoped with appropriate consultation from data providers (retailers), the data collector and the data users (policy makers).

A range of system approaches to facilitate sharing could be considered:

- If jurisdictions continued to be the primary source of data collection (post the ACCC Inquiry into the NEM), they could agree to share data through a distributed system using a common IT platform to allow organisation-to-organisation interoperability. However, there may be limited interest in gaining access to other jurisdictions data, so the key users of such system may be limited to the national bodies. Variations in jurisdictional data gathering powers are also likely to constrain sharing and make alignment across the system challenging. A possible outcome of a jurisdictional led data sharing initiative is to not agree to share data at all.
- If a national agency developed a new IT database storage system focused on warehousing functions, similar to the ACCC's current database system, sharing arrangements could be undertaken through file transfers of reports.
- A national body (AER or AEMO) could alternatively facilitate a new automated shared access IT platform that allows the other national agencies and jurisdictions to apply for direct access to the data that is relevant to their policy and regulatory requirements. A shared access platform like this could include retailers and facilitate both data collection and sharing. Off the shelf platforms designed for this kind of data sharing across organisations are available and already used by some retailers such as Snowflake.
- Where de-identification and linking concerns need to be managed it may be more appropriate to facilitate data access via an analytical platform or dashboard, rather than allowing direct access by all parties. This requires careful consideration of different data user needs and capabilities, for example some data users want insights but not the responsibility to manage access risks. A platform such as this would require a party to facilitate it and may be linked to reporting issues (see **Section 5.4.4** below).

An IT solution will need to be scoped with appropriate consultation from data providers (retailers), the data collector and the data users (policy makers). The IT system adopted for sharing could build on or be the same system as the one used for data collection.

5.4.4 De-identification and linking to existing data

Many of the priority policy questions identified would depend on linking to a range of billing related datasets. Examples include smart metering data, network tariff data, CER data and supporting data on retail services. Many questions would also require linking to data from wider data sets, such as government programs for example, to analyse their success.

The capacity to share data across a range of bodies for analysis tends to depend on ensuring that data is de-identified appropriately or similar access constraints are managed, to ensure effective privacy and security. De-identification can limit many analyses, especially if they depend on linking to wider data. Any sharing arrangements or platform design would need to consider these issues fundamentally up front to allow both de-identification and secure linking where needed.

There are a range of ways to allow for this kind of linking while still protecting privacy and security, but they require specific consideration and design up front across both systems and governance. For example, a common approach is third-party linking of keys, where two data sets are linked by a third- party, who cannot see the data, but only the linking keys from each data set (such as the unique identifier and location) but not the wider protected data.

It will be critical to the design of sharing options needs to ensure it enables linking of datasets whilst retaining the characteristics of de-identified data, to minimise privacy risk (see [Chapter 9](#) for more details). AEMO's MSATS system contains critical elements of this data, including metering usage and network tariff data and the DER Register provides information about solar installations. Whether AER or AEMO collects data, consideration is needed of processes to link these data sets and provide secure access.

Allowing broad jurisdictional data users to link datasets remains challenging as it may re-identify data. Clear rules need to be established and this may require facilitation. AEMO's proposed new Data Service Unit is specifically designed to support this kind of analysis, and it may be an appropriate option to facilitate linking of data which is protected.

Wider data linking of a less sensitive nature may also be advantageous. Examples include data providing context to services, such as AER's EME (and Victoria's VEC) data which contain price, fees and discount information that may apply.

Broader linking of this type, while less sensitive, still requires common standards to identify and interpret data. CDR's recent development of retail-data standards should provide an effective basis.

Recommendation 3: Any new approach to billing data gathering and sharing should focus on ensuring consumer benefits and protections and safely managing privacy. A privacy risk assessment should be undertaken as part of the detailed design of new arrangements.

Consultation questions

Q14. Do you have views on how to best facilitate sharing to ensure consumer benefits? What considerations are required around linking while also ensuring privacy? Is there a preferred body to facilitate?

5.5 Components of data analysis and reporting

The ESB has identified three sub-components to data analysis and reporting.

1

Provision of data analytic tools and services

2	National review and reporting on retail data
3	Jurisdictional reporting on retail data

5.5.1 Provision of data analytic tools and services

Data analytic services could be provided by the responsible national body gathering data, or by another body with access, noting that these analytical skills can be a material capability. Data analytic services would be particularly helpful in managing de-identification and linking issues, as well as managing the challenges of large data analysis. It is also likely that many data users would have common analytical questions, such as billing trends for particular subgroups. An appropriate cost-effective approach may be facilitation of common dashboard or reporting tools. In the case of many data users this could be preferred to direct access. This could be provided by the responsible national body gathering data or by another body with access, noting that these analytical skills can be a material capability.

It may be the case that jurisdictions engage the national body to conduct research on their behalf, depending on the relative skills needed, costs and frequency of analytical advice required. Potential specific requests could also be made to the national body for bespoke analysis. Sophisticated tools for analysis and prediction can be operated over data warehouses and data lakes to model potential impacts of draft policies to fine-tune the most effective and timely introduction of policies. Some of these tasks could align with the intended role of the AEMO Data Service Unit. Others may appropriately require more in-depth research support.

It is likely that different agencies and data users will have different levels of interest, capability and comfort in accessing direct data versus seeking facilitated insights. Both these models need to be considered and supported in the design.

5.5.2 National review and reporting on retail data

Reporting on the analysis of retail bills and related data is the goal of this data collection and sharing programme of work. The regular reports from the ACCC’s Inquiry have played a useful and important role, as has AER’s other ongoing retail reports. There is likely the need for similar national level report to continue in any future scenario. For example, the May 2021 report commented on COVID-19, market offers, solar customer rebates, and customers in financial difficulties and the May 2022 report advanced the research by adding 2021 billing data to the time series analysis of effective price trends, and also addressed key areas of current interest, such as update on smart meters and time-of use tariffs.

Importantly, the body facilitating collection of the data need not be the most appropriate body to provide this kind of reporting, given that it is established that a range of bodies need access. For example, if AEMO were to facilitate collection and sharing it would still likely be more appropriate for the AER to undertake national-level analysis and reporting.

5.5.3 Jurisdictional reporting on retail data

In any scenario, the ESB has assumed that jurisdictions would continue to undertake their existing analysis and reporting on retail market, relevant to their own populations, policy areas of interest and existing obligations. A primary objective is to ensure that however data access is shared, it supports these ongoing needs. Supporting content could be prepared by the national agency, particularly for comparative analysis between jurisdictions, if relevant.

Recommendation 4: Any new approach should enhance the scope of retailer-held billing data collected, to efficiently target key gaps in current and emerging policy needs and enable linking to wider datasets to maximise consumer benefits, while also carefully managing privacy risk and costs.

6. Options for data collection, management and sharing

This section sets out the further detail of the base case and options for data collection, management and sharing. Whilst there are different ways the components of the solution can be approached, the ESB has considered the following four options as the most viable. The four options are based on a preliminary assessment of the components described in the section above. Each option is compared to the base case of the ACCC Inquiry into the NEM expiring in 2025. Below sets out a general description and assumptions of each option:

- **Option 1 - ACCC Inquiry is extended:** The Treasurer makes a ministerial direction to the ACCC to continue the Inquiry into the NEM to 2035. Existing methods and processes of data collection and reporting remain the same. As data is collected under 95ZK of the *Competition and Consumer Act*, data sharing is highly restrictive.
- **Option 2 - AER is empowered to collect and share data building on their existing retail reporting and the ACCC's current approach:** Governments empower the AER to collect billing data. It is assumed that the AER will collect data similar to what the ACCC currently collects and leverages learnings from the ACCC's current approach. The AER is assumed to build on its existing retail reporting arrangements, including publishing a regular report (similar to the Inquiry into the NEM) to provide value and benefits that the ACCC's current reporting provides to policy makers. This option will require legislative and/or regulatory amendments to enable the AER to collect and share billing data. A new system will also need to be adopted to enable secure data sharing with other data users, and this is assumed to be separate from the data collection IT system.
- **Option 3 - AER undertakes a new automated system of data collection and sharing:** Under this option, it is assumed that legislative and/or regulatory amendments enable the AER to collect and share billing data. The AER collects CDR standardised data from retailers, shares data with other data users, and publishes regular reports. Under this option, it is assumed that the AER takes the opportunity to leverage advancements in technology to collect billing data on a quarterly basis in an automated fashion into a new data sharing platform. This new platform is also used to share data with other data users.
- **Option 4 - AEMO undertakes a new automated system of data collection and sharing:** Under this option, it is assumed that legislative and/or regulatory amendments enable AEMO to collect billing data. Through Data Strategy Initial Reforms, AEMO has the power to share data with other data users. AEMO collects CDR standardised data and leverages advancements in technology to collect billing data from retailers in an automated fashion, either on a quarterly or operational basis, into a new data sharing platform. Through the same IT platform, AEMO shares billing data with other data users. The AER is assumed to be a data user that access the data and publishes regular reports.

Across all options, the ESB presumes that jurisdictional bodies may continue to request billing data from retailers. The collection of electricity billing data from retailers does not eliminate the ability for jurisdictions to continue to request data from retailers, if needed. The ESB does consider that, if there was a national market body that collects and shares data (Options 2, 3 and 4), then a clear objective should be for this data to be usefully shared in a manner that is sufficient to meet many jurisdictional needs, such that it reduces the number and detail in requests from jurisdictional bodies to retailers. The impact of a national market body collecting data on jurisdictional data requests are detailed in the options below.

Table 6 below outlines the components of each option. Further detail and assumptions of each option including the base case is provided in [Appendix G](#).

Table 6: Options

		Base case post 2025 (Inquiry ceases in 2025)	Option 1 Extending the ACCC Inquiry into the NEM	Option 2 Empower the AER to collect and share data	Option 3 AER undertakes a new automated system of collecting billing data	Option 4 AEMO undertakes a new automated system of collecting billing data
Components of data collection	Data collector and powers to collect data	Jurisdictional departments and regulators collect data through their existing powers	ACCC collects data through s95ZK of the Competition and Consumer Act. Requires Treasurer direction to continue with the Inquiry into the NEM	AER collects billing data through new powers provided through legislative and/or regulatory amendments. Requires jurisdictional support. May exclude Victoria.		AEMO collects billing data through new powers provided through legislative and/or regulatory amendments
	From whom to collect the data	Retailers depending on the jurisdiction	Large retailers (over 10,000 customers)		Large retailers initially and working with small retailers to collect data in the future	
	System to collect data	Existing varied processes	No data sharing system	Learning from the ACCC current approach and building on AER's existing retail reporting arrangements	New shared access platform	
	System securities	Existing varied processes	Existing governance and system processes	Has experience with commercially sensitive data but doesn't hold extensive data at a customer or meter level.		Has existing robust systems which hold individual meter data, protected data and big data sets
	Data quality assurance and sense checking	Existing varied processes	Existing expertise and processes to quality assure data	Build on existing retail expertise and processes		Existing data quality arrangements for metering data. Could Leverage ACCC's CDR compliance imposed on retailers

	Data scope	Varied data scopes	Existing ACCC's data fields	Existing ACCC's data fields expanded to include additional data that policy makers require	Utilise CDR standardised billing data fields and expanded to include additional data that policy makers require
	Data coverage	Limited to each jurisdiction's remit	Current Inquiry into the NEM is limited to jurisdictions with effective competition (NSW, SA, south-east Qld and Victoria) but could be expanded in the future	Subject to the legislative and/or regulatory amendments. In these options it is assumed that amendments will enable AER to collect data from NECF jurisdictions (i.e., NSW, SA, Qld, Tas, and ACT)	Limited to NEM regions and WA but excludes microgrids and stand-alone power systems not connected to the grid
	Sample v population	Varied depending on jurisdictional body	Sample for residential households; population for small businesses and vulnerable/hardship consumers	Population for all small customers	
	Frequency of data collection	Varied depending on jurisdictional body	Annual	Quarterly	Quarterly or Operational ongoing collection
Components of data sharing	Powers to share data	Jurisdictions unlikely to have powers to share	Very limited if within Inquiry into the NEM	Subject to legislative and/or regulatory amendments. In these options it is assumed that powers will be expanded to enable sharing of granular data to other data users	ESB's initial legislative reforms will allow AEMO to share data with jurisdictional regulatory and policy bodies, as well as the ABS and some research bodies ²⁵ .
	System to share data	None	None	New system will have to be adopted to enable secure sharing	Built into new data sharing platform (as above in system for data collection)

²⁵ ECMC supported the policy position in these amendments in December 2022 and are expected to approve the Bill for SA Parliament in July 2023.

	Link to existing data	Not linked	Not linked	AEMO data services unit supports AER by linking billing data to AEMO-held data	Linked internally to NMI, metering data and CER Register data
Components of retail reporting	Services to link, aggregate and analyse data	None	None	AER supports policy makers in the analysis of data and interpretation of findings	AEMO data services unit supports data users in linking, aggregation and analysis
	National review and reporting on retail data	None	ACCC	AER analyses national data and publishes regular reports leveraging its existing market, retail and affordability reporting and the ACCC's current Inquiry reporting.	
	Jurisdictional access to data	Limited to data the jurisdiction collects and using existing powers and processes	ACCC Inquiry into the NEM data cannot be accessed by jurisdictions	Jurisdictions access shared data sets and/or data services	
	Jurisdictional reporting on retail data	Jurisdictions undertake own reporting			

Consultation questions

Q15. Are there other options that we should consider for collection, sharing, and analysis and reporting of billing data?

7. Assessment criteria

To support an initial assessment of the options, the ESB is proposing to assess the four options identified above using the assessment criteria set out in **Table 7** below. The ESB seeks your feedback on the assessment criteria.

The assessment criteria were selected because these factors capture the potential benefits for policy makers and consumers as well as the potential challenges to deliver and costs for data collectors, retailers and data users.

Table 7: Assessment criteria

Criteria	Description
Benefits for policy makers and consumers	
Policy coverage	<p>The extent to which the option collects a data set that can solve priority policy questions across policy makers, regulators and planners. This includes:</p> <ul style="list-style-type: none"> • The effective coverage of policy issues • The breath of the data to cover relevant factors • Granularity of the data • Timeliness of the data to meet policy needs • Quality of the data • Constraints of the data • Adaptability to meet future policy questions
Effectiveness of delivering data and outcomes for priority stakeholders	<p>The extent to which the option supports the provision of accessible data to policy makers including:</p> <ul style="list-style-type: none"> • The data collected can be shared with relevant policy makers • Support policy makers in the analysis of data and interpretation of findings • Alignment of the objective and expertise with the delivery agent
Safety and trust of data arrangements	<p>The extent to which the option ensures secure collection, management and sharing of data including:</p> <ul style="list-style-type: none"> • If there are new or increased risks with the option • Available security capabilities and expertise • Management of privacy risks • Social licence and trust to manage data
Adaptability to expanding changing needs	<p>The extent to which the data collection option will be flexible and adaptable to changes in scope and needs. For example:</p> <ul style="list-style-type: none"> • Increasing coverage across wider regions or to smaller retailers • Coverage of new technologies and roles / service providers in the market transition (e.g., multiple retailers / service providers per customer / meter, new roles like aggregators) • Expanding coverage to link to relevant data beyond electricity retail data (e.g., gas data, demographics data)
Costs and challenges to deliver	

Ease of implementation	<p>The extent to which there are barriers to delivery of the option including:</p> <ul style="list-style-type: none"> • Challenges for decision maker support for the option • Fit and interoperability with existing systems and processes • Legislative and regulatory changes required • Likely time to implement the option • Durability or risk to ongoing delivery • Change management / alignment needs across stakeholders
Cost effectiveness for data collector	<p>The extent to which the option provides a cost-effective solution for the data collector, including:</p> <ul style="list-style-type: none"> • The upfront costs for delivery (e.g., new capabilities and systems, structural IT changes, labour costs, etc.) • Ongoing costs to implement and maintain the data system and/or manual processes (e.g., additional staff and labour processing costs, etc.) • Savings from the option arising from leveraging existing arrangements (such as CDR or existing ACCC reporting processes), replacing existing costs and processes or avoided costs
Cost effectiveness for retailers	<p>The extent to which the option provides a cost-effective solution for retailers, including:</p> <ul style="list-style-type: none"> • The upfront costs for delivery (e.g. new capabilities and systems, structural IT changes, labour costs, etc.) • Ongoing costs to implement and maintain the data system and/or manual processes (e.g. additional staff and processing costs, software license fees etc.) • Savings from the option arising from leveraging existing arrangements (such as CDR or existing ACCC reporting processes), replacing existing costs and processes or avoided costs. This includes reduced reporting to multiple jurisdictional bodies for retailers.
Cost effectiveness for data users	<p>The extent to which the option provides a cost-effective solution for retailers, including:</p> <ul style="list-style-type: none"> • The upfront costs for delivery (e.g., new capabilities and systems, structural IT changes, labour costs, etc.) • Ongoing costs to implement and maintain the data system and/or manual processes (e.g., additional staff and processing costs, software license fees etc.) • Analytical and processing costs to gain value from the data • Savings from the option arising from leveraging existing arrangements (such as CDR or AEMO data services), replacing existing costs and processes or avoided costs (e.g., reduced duplication of efforts or replacement of existing reporting)

Consultation questions

Q16. Are there any other assessment criteria or relevant considerations which we should include to determine the preferred option?

8. Preliminary assessment of the options

This section sets out an initial assessment of the four potential options against the proposed assessment criteria discussed in [Chapter 7](#). The options are assessed qualitatively against the base case of the ACCC Inquiry into the NEM ceasing in 2025.

A summary of the preliminary assessment is set out in **Table 8** below. A detailed assessment of each option is set out in [Appendix H](#). The ESB is seeking stakeholder views on the merits of each option, and it's the preliminary assessment of how well each option achieves the criteria over time.

The conclusions of the option assessment are that:

- **Option 3 (AER undertakes a new IT system of collecting billing data) and Option 4 (AEMO undertakes a new IT system of collecting billing data)** rated most favourably. Option 4 surpasses Option 3 in relation to the criteria for i) ease/reliability of implementation and ii) safety and trust of data arrangements. On all other criteria they are assessed as equivalent.
- **Option 1 (Extending the ACCC Inquiry into the NEM)** is the least preferred as it relies on the ACCC Inquiry information gathering powers, to which legislative constraints apply for sharing data.
- **Option 2 (AER is empowered to collect and share billing data)** is the middle option.

Table 8: Summary of preliminary assessment of each option. (Light to dark colour equates with low to high value for benefit or cost)

A qualitative assessment table can be found in [Appendix H](#)

	Base case	Option 1	Option 2	Option 3	Option 4
	ACCC Inquiry into the NEM ceases. Ongoing Jurisdictional processes	Extending the ACCC Inquiry into the NEM	AER is empowered to collect and share billing data	AER undertakes a new IT system of collecting billing data	AEMO undertakes a new IT system of collecting billing data
BENEFITS FOR POLICY MAKERS AND CONSUMERS					
Policy coverage – Ability to solve priority policy questions across stakeholders	Current benefits from ACCC policy analysis and high-level reporting are lost. Jurisdictional coverage remains the same	Coverage currently captures most priority data sets and there is flexibility to expand. However, longitudinal analysis is not possible, and data is not available on a timely basis	Coverage would capture priority data sets but will not be able to capture data from Victoria. Timeliness low, lacks longitudinal data but high-quality data.	Timeliness high, could include longitudinal data and high data quality. Coverage of policy issues improved but may be constrained to NECF jurisdictions.	Timeliness high, could include longitudinal data. Requires leveraging existing ACCC and AER compliance functions for data quality. NEM coverage but excludes microgrids and standalone power systems
Effectiveness of delivering data and outcomes to priority stakeholders	Only jurisdictional outcomes. No national view. No data sharing or data linking. Alignment with role reasonable.	Cannot be shared with wider users other than AER, which limits policy outcomes. Annual report publication provides useful insights. Alignment reasonable but not core role.	Can be shared with wider users - but needs a secondary system. High alignment with AER's role.	Can be shared with wider users. High alignment with AER's role.	Can be shared with wider users. Some alignment with retail data gathered through existing processes
Safety and trust of data arrangements	Smaller organisation and processes, less system capabilities, less perceived risk	Social licence and trust are high. The ACCC has experience manage existing protected data. As data is not shared, there is lower security concerns.	AER has social licence and high trust. Experienced in managing commercially sensitive data. Lower systems experience but can build on existing systems. Collection of new data sets will require new privacy assessments.	AER has social licence and high trust. Experienced in managing commercially sensitive data. New data collection and sharing system will need to be designed to secure data. Collection of new data sets will require new privacy assessments.	AEMO has social licence and high trust. Experienced in managing protected granular and operational data, including cybersecurity. Sharing systems more established - so may be less incremental risk

<p>Adaptability to expanding/ changing needs</p>	<p>Varied. Smaller arrangements may enable flexibility.</p>	<p>Currently limited coverage of regions and changes in the market – but this could be expanded. Lack of sharing limits linking to address expanded needs, including time-of-use data.</p>	<p>AER is in a strong position to identify key priority data and work with stakeholders to collect relevant data. Relatively manual process may enable easier adjustment but limit timeliness to adjust for future priority areas. AER can work with other data users to link relevant data</p>	<p>AER is in a strong position to identify key priority data and work with stakeholders to collect relevant data. New IT system provides greater flexibility and adaptability. AER can work with other data users to link to relevant data.</p>	<p>Greater linking and innovative uses with the new Data Services Unit. New IT system provides greater flexibility and adaptability.</p>
COSTS AND CHALLENGES TO DELIVER					
<p>Ease/ Reliability of implementation</p>	<p>Varied – some jurisdictions may have to seek additional data requests if there is no longer ongoing publication of the Inquiry into the NEM report</p>	<p>Subject to a business case and direction from the Treasurer to continue the Inquiry into the NEM for a fixed time. ACCC has existing powers and systems in place which enables more timely implementation</p>	<p>Needs legislative gathering and sharing powers. May have issues with jurisdictional support. May be able to draw on ACCC’s existing systems.</p>	<p>Needs legislative gathering and sharing powers. May have issues with jurisdictional support. May be able to adapt off the shelf system.</p>	<p>Needs legislative gathering power but already has sharing powers. Greater retail role may require consultation. May have issues with market support. May be able to adapt off the shelf system.</p>
<p>Cost effectiveness for data collector</p>	<p>Varied - jurisdictions may increase data requests due to the lack of Inquiry into the NEM report</p>	<p>Can leverage existing processes, systems and processes but requires ongoing budget.</p>	<p>New system for the AER but can learn from ACCC’s existing processes. Upfront costs for new IT system for data sharing and ongoing costs.</p>	<p>Higher new upfront costs for new system costs but lower ongoing costs.</p>	<p>Higher new upfront costs for new system costs but lower ongoing costs.</p>
<p>Cost effectiveness for retailers</p>	<p>Cost savings from the reduction of ACCC data request but may face increased costs in response to increased jurisdictional data requests</p>	<p>No savings. Ongoing jurisdictional data requests</p>	<p>Reporting costs similar to data requests from ACCC. Savings from reduced ongoing jurisdictional costs</p>	<p>Upfront IT costs but lower operational costs. Savings from reduced ongoing jurisdictional costs.</p>	<p>Upfront IT costs but lower operational costs. May have synergies with other systems. Savings from reduced ongoing jurisdictional costs.</p>

Cost effectiveness for data user/ jurisdictions	No savings. Potential increased costs to replace ACCC data	No savings. Ongoing jurisdictional data requests	Upfront cost to access data from new sharing system. Potential cost savings if jurisdictions reduce data requests.	New system costs but potential cost savings from reduce jurisdictional data requests	New system costs but potential cost savings from reduce jurisdictional data requests
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Consultation questions
 Q17. Do you agree with our preliminary assessment of each option?

Recommendation 5: Detailed design and assessment should be undertaken on a preferred model for access to billing data, where a single body (possibly AER or AEMO) is empowered to gather retailer-held billing data in a cost-efficient and timely way and share it safely with approved trusted data users, including jurisdictional and market bodies.

9. Recommendations

9.1 Recommendations

The ESB makes the following recommendations:

Recommendation 1: A new approach to gathering retailer-held billing data should be developed which supports more effective policy decision making to improve consumer outcomes, through:

- **more timely insights for key regulators and policy makers into how different consumers, including vulnerable groups, are affected over time by more complex, changing markets and new services, and**
- **safe data sharing between appropriate trusted bodies to increase benefits for consumers and reduce duplication and costs.**

A new data gathering approach should have the objective of enabling effective policy decision making to support the delivery of improved consumer outcomes particularly as more complex markets and services emerge.

This should include consideration of the AER being allocated the responsibility for providing a regular national-level report on small customer billing and related retail challenges, as currently undertaken by the ACCC and in line with their wider retail regulatory reporting. This is not proposed to change jurisdictional roles in jurisdictional analysis and reporting and jurisdictions are proposed to retain power for price monitoring responsibility. Rather, this national level reporting may support jurisdictional analysis.

Barriers to sharing in current data gathering processes are also clearly resulting in duplication of costs for retailers and data gatherers and limit access to many priority users, reducing benefits for consumers. Annual public reporting of analysis of aggregated data is expected to continue as a result of this approach.

Recommendation 2: Any new approach should not rely on the ACCC's Inquiry information gathering powers to seek national-level billing data from retailers, as legislative restrictions that this approach places on data sharing will not provide an effective, long-term solution to meet wider stakeholder needs and reduced duplication.

Even if the ACCC's Inquiry into the NEM were to be extended beyond 2025, legislative restrictions on ACCC's ability to share data means billing data gathered under this Inquiry would remain ineffective in meeting a wide range of stakeholder needs and have little capacity to reduce duplicated costs. ACCC's legislative data powers were designed to support specific investigations, not as an ongoing source of data gathering.

While ACCC's Inquiry into the NEM has demonstrated value in greater visibility of consumer billing data, the ACCC's billing data collection is not well positioned to support a wide range of energy regulatory and policy analytical needs in an ongoing way. An Inquiry-based model also does not support an ongoing reliable source of billing data (see [Chapter 2](#) for details).

An alternative model should be put in place, designed to meet ongoing needs. This should include being able to share data with the ACCC, to support any future inquiries without increasing duplication.

It should be noted, the ACCC's Inquiry into the NEM has a broad direction from government to track policy changes in the sector and monitoring bills is one aspect of the ACCC's work. Officials may also wish to consider whether some wider aspects of the ACCC's Inquiry into the NEM, such as understanding retailer costs and margins, could also be usefully supported by the AER beyond 2025, in line with its retailer reporting and expected role in contract monitoring.

Recommendation 3: Any new approach to billing data gathering and sharing should focus on ensuring consumer benefits and protections and safely managing privacy. A privacy risk assessment should be undertaken as part of the detailed design of new arrangements.

Granular meter-level data is required for many policy purposes critical to safeguarding consumer benefits, to understand diversity of consumer impacts across different consumer groups and over time, and to allow for consideration of tailored needs.

However, personal data should be minimised, particularly excluding customer names and contact details which are generally unnecessary for statistical analysis, while retaining the ability to link datasets via a location or meter identifier. In the design of the preferred option, there should be an explicit review in the approach to managing privacy (considering “privacy-by-design” approaches), in line with wider government data policy and best practice and include a privacy risk assessment.

Recommendation 4: Any new approach should enhance the scope of retailer-held billing data collected, to efficiently target key gaps in current and emerging policy needs and enable linking to wider datasets to maximise consumer benefits, while also carefully managing privacy risk and costs.

Enhancing the data gathered and shared, beyond aggregated data current provided in the annual reports published under the ACCC Inquiry, enables more timely data to answer a greater number of priority policy questions that supports greater consumer benefits.

Areas identified where deficiencies exist include timeliness of data obtained, details of tariffs, usage and new electricity services, longitudinal data to measure impacts over time, coverage of hardship arrangements, and the ability to link to metering data and wider datasets (such as the drivers of usage). See [Chapter 4](#) for more details.

Sampling and coverage of small electricity consumers should be considered carefully in a detailed design against policy priorities and costs (see [Section 5.3](#) for more detail).

- In line with ACCC’s approach, it should consider population coverage of priority vulnerable consumers.
- It will need to ensure sufficient sampling in covered jurisdictions, including at least all regions with competitive retail markets.
- Customers of Tier 2 and 3 retailers need to be represented, as small retailers hold important data on innovative products and some types of consumers, such as early adopters. However, the most efficient approach to gathering data from large and small retailers may be different.
- Population data may be considered if a cost-effective, automated approach can be implemented.

In design of the approach to data gathering and sharing, a further priority is the ability to link energy billing data efficiently with complementary data sets for analysis to support wider policy needs. Ensuring security, confidentiality and privacy of personal data is an important requirement for any linking of datasets and this should be considered in the design (see [Section 5.4](#) for more detail). Examples of linking data include:

- AEMO-held metering and DERR data to support analysis of new services and critical impacts on usage
- government-held surveys or program-specific data to analyse the impact of the program
- ABS-held business and demographic data in ABS’s protected microdata environment.

Recommendation 5: Detailed design and assessment should be undertaken on a preferred model for access to billing data, where a single body (possibly AER or AEMO) is empowered to gather retailer-held billing data in a cost-efficient and timely way and share it safely with approved trusted data users, including jurisdictional and market bodies.

The detailed design phase should address the following:

- The appropriate IT solution that meets the requirements of the preferred option for efficient data collection, including options for frequency and coverage, and data sharing, including the potential to implement easy and low-cost solutions in the short-term and transitioning to more cost-effective solutions in the long-term.
- Different methodologies to collect billing data from large and small retailers to account for cost differentials. This could be through, for example, lower cost methods for small retailers in the short-term with further work with small retailers to adopt a more permanent and effective method in the medium- to long-term.
- A potential business case that includes a review the incremental costs and benefits of the short-listed options or preferred option, including consideration of the diversity of costs expected to be incurred by different retailer types.
- The legal powers required by potential data gathering and sharing bodies, including resolving any constraints in both gathering and sharing the data, and explicitly ensuring that Victoria is not excluded.
- Security and system requirements of any data manager, including what additional capabilities may be needed.
- The frequency of data collection, including weighing up the costs of adopting manual or automated processes.
- Efficient and secure sharing and linking data in automated ways, including linking with AEMO datasets and allowing access for Data Services.
- Consideration of access to analytical capabilities needed to maximise benefits of the data. This should include Data Services but also consider any wider in-house needs or value-added systems needed for data users accessing the data to gain benefits.
- A design that is focused on delivering strong privacy outcomes and conducting a privacy impact assessment of the proposed design, as in recommendation 3.

AER may be an appropriate body to coordinate the data collection, as AER has an existing role and expertise in related areas of retail energy regulation, including their role with the Default Market Offer, ongoing retail market reporting (which excludes price and billing reporting), reporting of retail arrangements under EME, their work on billing requirements through Better Bills guidelines, and wider work on consumer protections and vulnerable consumers (such as the Consumer Vulnerability Strategy and Game Changer).

Given these roles, in the event that ACCC's Inquiry ceased, its current annual reporting on changes to consumer bills, it is likely that AER would be the appropriate alternative to provide a similar regular national overview, regardless of who coordinated collection of the data.

There are, however, factors that need to be considered for the AER to be the appropriate body to coordinate the collection and sharing of billing data. This includes:

- The AER can be provided with appropriate data gathering powers without limiting the ongoing role of jurisdictional regulators in price monitoring, and this role is supported by jurisdictions.
- The scope of AER's current retail powers under the NECF, which excludes Victoria, would not constrain gathering of data in Victoria or increase duplication.
- The AER can be provided with appropriate powers and supporting capabilities to gather and share large datasets safely with a wide range of bodies.

If AER is not viewed as an appropriate body, due to any of the issues identified above, the AEMO may be an alternative responsible agency to manage collection and sharing of retail billing data subject to the design of the data gathering approach and further stakeholder consultation.

- AEMO’s primary interest in utilisation of this data is lower than AER, but the AEMO has strong capabilities and experience in sharing data with retailers and managing secure data systems. It also already holds some key aspects of this data, such as metered usage data and the responsible retailer for each meter.
- Through ongoing Data Strategy reforms, AEMO is already being provided with the powers to share data they have access to with all of the identified priority data users (including jurisdictional regulators and policy bodies, market bodies, ABS, and trusted researchers for particular purposes). AEMO is also implementing a Data Services Unit which could assist data users to increase value for consumers from this dataset.
- Even if AEMO was the primary holder of the system, key data users, including the AER and jurisdictional regulators, would require safe, timely and efficient access, as highlighted above.
- AEMO would need to resolve the detailed design and consider management of privacy related risks, in line with current management of related metering data. For clarity, there is no intent to gather any personal identification or contact information, with all billing data focused on linking at locational/meter levels and for sharing to be appropriately limited to trusted parties within secure environments.

ESB seeks stakeholder views on these issues and proposes further work on legal options and detailed design in collaboration with jurisdictions.

Consultation question

Q18. Do you agree with ESB’s recommendations?

10. How To Respond to this Consultation Paper

10.1 How to make a submission

From 7 July 2023, following the transition of the ESB, the AEMC will become the lead agency for stakeholders to engage with in relation to this consultation paper. The AEMC will continue to work with other market bodies and the ACCC in progressing the consultation.

Written submissions responding to this consultation paper must be lodged with the AEMC by Friday 1 September 2023 via the AEMC's [website](#). Stakeholders are invited to provide comments by responding to the consultation questions set out in this paper, as well as below.

Submission information	
Submission close date	1 September 2023
Lodgement details	Submissions responding to this consultation paper must be lodged via the AEMC's website .
Naming of submission document	[Company name] - Response to Billing Transparency Consultation Paper
Form of submission	Clearly indicate any confidentiality claims by noting "Confidential" in document name and in the body of the email.
Publication	Submissions will be published on the AEMC website, following a review for claims of confidentiality.

10.2 Matters for consultation

In responding to consultation questions, stakeholders are asked to consider interdependencies between suggested approaches. For example, a governance arrangement for one implementation activity may necessitate a particular model for another. It would be most useful if submissions presented an internally consistent proposal where possible.

#	Consultation questions
1	Have we appropriately captured the issues with the current approach to data gathering?
2	What are the issues faced by data holders or data users in providing and/or collecting data?
3	Do you agree with the policy themes identified that need to be answered through small customer billing data? If not, are there other policy themes relevant to billing data?
4	Are there other potential end users that need consideration?
5	Of the limitations identified, what are the most critical issues for policy makers to address?
6	Do you have views on the scope of data collected and preferred common data standards?
7	Do you have views on the preferred body to collect the data?
8	Do you have views as to collection of data from retailers and considerations to optimise this? What scope of retailers should be included?

9	Do you have views on the appropriate systems to collect data? Does this vary by which retailers are covered or which agency is collecting data?
10	Do you have views on the challenges in managing data quality and processes to achieve this efficiently?
11	Do you have views on the challenges in managing regional coverage?
12	Do you have views on the coverage of billing data collected and a preference for population or sample data?
13	Do you have views on the frequency of data collection and the relative cost and timeliness of data collection?
14	Do you have views on how to best facilitate sharing to ensure consumer benefits? What considerations are required around linking data while also ensuring privacy? Is there a preferred body to facilitate?
15	Are there other options that we should consider for collection, sharing, and analysis and reporting of billing data?
16	Are there any other assessment criteria or relevant considerations which we should include to determine the preferred option?
17	Do you agree with our preliminary assessment of each option?
18	Do you agree with ESB's recommendations?

Appendix A – Groups of stakeholders consulted through early engagement

Government departments and bodies

- Australia Bureau of Statistics (ABS)
- Department of Climate Change, Energy, the Environment and Water (Commonwealth)
- Department of Planning and Environment (NSW)
- Department of Energy, Environment and Climate Action (Victoria)
- Department of Mines, Industry Regulation and Safety (WA)
- Department for Energy and Mining (SA)
- Environment, Planning and Sustainable Development Directorate (ACT)
- Department of Energy and Public Works (Qld)
- Renewables, Climate and Future Industries Tasmania (Tas)
- Department of Industry, Tourism and Trade (NT)
- Commonwealth Scientific and Industrial Research Organisation (CSIRO)

Regulators and market bodies

- Australia Competition and Consumer Commission (ACCC)
- Australian Energy Regulator (AER)
- Australian Energy Market Commission (AEMC)
- Australian Energy Market Operator (AEMO)
- NSW Independent Pricing and Regulatory Tribunal
- Victoria Essential Services Commission
- ACT Independent Competition and Regulatory Commission
- Queensland Competition Authority
- Essential Services Commission of South Australia

Consumer groups

- Energy Consumers Australia (ECA)
- Energy Charter
- Public Interest Advocacy Centre
- St Vincent De Pauls
- Energy and Water Ombudsman NSW
- Energy and Water Ombudsman
- Business NSW

Retailers

- Australian Energy Council
- Powershop
- AGL Energy
- GloBird Energy
- Red Energy
- Energy Australia
- Momentum

Appendix B – Data fields requested under the ACCC’s Inquiry into the NEM

As part of the ACCC’s Inquiry into the NEM (May 2022), the ACCC obtains billing data from 10 electricity retailers across New South Wales, Victoria, South Australia and South-East Queensland. These retailers are required to provide data for every bill for customers selected in the residential, small business and targeted samples between 1 July 2020 and 31 December 2021.

To determine the sample of residential customers, each retailer was required to provide data for a random sample of residential customers. The sample was required to represent 5% of the retailer’s customer base in each of the 4 regions or 10,000 customers, whichever was greater. If a retailer’s customer base in a region was smaller than 10,000 customers, the retailer was required to provide data for all of its customers in that region. For the small business sample, each retailer was required to provide data for every small business customer in its customer base during the 18-month period.

The table below outlines the data fields requested in the May 2022 report.

Table B.1: Data fields requested under the ACCC’s Inquiry into the NEM May 2022

Data field
Company name
Account number
State
Postcode
NMI
Bill Issue Date
Invoice Date From
Invoice Date To
Offer Start Date
Offer End Date
From Different Retailer (Y/N)
Distributor
Smart Meter (Y/N)
Hardship Customer (Y/N)
Payment Plan Customer (Y/N)
Solar Customer (Y/N)
Dual Fuel Customer (Y/N)
Offer Type (Standing Offer or Market Offer)
Contract Term (Months)
Plan ID
Other ID
Plan Name
Flat Tariff (Y/N)
Controlled Load Tariff (Y/N)
Time of Use/Flexible Tariff (Y/N)
Demand Tariff (Y/N)
Subscription Plan (Y/N)
Premium FiT (Y/N)
Negotiated FiT (Y/N)
Conditional Discount Type

Unconditional Discount Type
Total Usage (kWh)
Total Solar Feed-in Supply (kWh)
Total Supply Charge (\$)
Total Usage Charge (\$)
Total Conditional Discounts (\$)
Total Conditional Discounts Applied (\$)
Achievement of Conditional Discount (Y/N)
Total Unconditional Discounts (\$)
Total Concessions (\$)
Total Solar FiT Rebate (\$)
Demand Charges (\$)
Green Energy Charges (\$)
Other Charges (\$)
Other Discounts (\$)
Total Current Balance (\$)

Appendix C – Current data sets

Table C.1: Existing billing-related data collected

Data collector	Data set identifier	Underpinning instrument	Description	Breadth	Granularity	Frequency
ACCC	NEM inquiry	Ministerial Direction under s.95ZK of the Competition and Consumer Act	A range of consumer-level detailed billing data for residential and small business consumers including actual bill amount, consumption, plan details, tariff type, solar PV, concessions, hardship consumer.	Medium	Very High (consumer-level, but not time of use)	Annually
AER	Performance reporting and compliance reporting	National Energy Retail Law and National Energy Retail Rules.	A range of performance indicators data including; consumer numbers, contract types, complaints, energy debt, payment plans, hardship programs, disconnections and reconnections. AER also reports on its compliance and enforcement activities (penalties imposed, compliance audits completed)	High	Medium (retailer-state level)	Quarterly, annual
AER	Energy Made Easy	National Energy Retail Law	EME provides retailers' energy plan offer data and information, including discounts, incentives and price information.	Low	High (retailer-distributor level)	-
AEMO	DER register, MSATS	National Electricity Law, National Energy Retail Law	Data collected include DER (information on small-scale renewable energy generation capacity and storage), NMI standing data (network tariffs, retailer transfer), metering data (usage)	High	Very High (connection-level)	Multiple
NSW Government	Energy Rebates Program Data	Social Programs for Energy Code (Gazette) under A5.14	Collection of data on all residential consumers on rebates or EAPA. Bi-annual data includes postcode, billing data, usage, amount payable, rebate amount, hardship. Information gathered includes details about consumer-retailer relationship, including number of consumers on a standard retail contract.	Medium	Very High (consumer-level)	Bi-annually and annually
WA Government	Hardship tracking data	-	Both Synergy and Horizon provide a range of data sets per month regarding hardship/rebates, including no. of consumers entering/exiting hardship, and no. of consumers on hardship.	Medium	Medium (retailer-level)	Monthly

NT Utilities Commission	Hardship and performance data	Electricity Retail Supply Code, Electricity Reform Act 2000, Utilities Commission Act 2000	Collection of a range of data sets, including consumption data, market share data, electricity plans/offers, hardships/rebates, price data, and complaints. A large portion of this information feeds into the Electricity Retail Review Report.	Medium	Medium (retailer-level)	Annually
Queensland Competition Authority (QCA)	Hardship and performance data	Ministerial direction under the Electricity Act 1994 (Qld)	QCA collects a range of data from retailers to gather information on hardship consumers, default market offers and standing offers, and the pricing of GreenPower options.	Medium	Medium (retailer-level)	Annually
Essential Services Commission (ESC)	Hardship and performance data	Essential Services Commission Act 2001	Retail billing data acquired under ESC's powers include consumer invoice data (a sample of electricity consumers) submitted by specific retailers, detailing the price consumers are paying and energy consumption. Retailer-level data on hardship consumer outcomes and concession and utility relief grants.	Low-Medium	Very high to medium (consumer to retailer-level)	One-off & real-time
Australian Bureau of Statistics (ABS)	Official Statistics	Census and Statistics Act 1905	ABS collects a range of data, including consumption data, electricity plans/offers. Household surveys have a range of data relating to energy.	Low	Very High (consumer-level)	Monthly-quarterly
Energy Consumers Australia (ECA)	Behavioural data	-	The ECA's survey explores residential & small business behaviour to a broad range of energy-related issues, including how they use power and associated energy technology, and their attitudes to new technology.	Low	Very High (consumer-level)	Annually
Business NSW	Behavioural data	-	Survey with small and medium-sized enterprises to understand their actions (inc. barriers to actions) and efforts to reach net zero and reduce energy costs.	Low-Medium	Low	One-off (Dec 2022)
Energy and Water Ombudsman (EWON)	Complaints data	-	Use the detail provided in complaints, to inform our submissions to regulators, review systemic issues and monitor complaint issues that consumers are raising with our office.	Medium	Medium	Annual
Office of the Tasmanian Economic Regulator (OTTER)	Consumption data	Section 10C Electricity Supply Industry Act 1995	Establish a set of typical electricity consumers who consume electricity under regulated tariffs with standing offer prices offered by Aurora Energy	Low	-	Annually

Clean Energy Regulator	Postcode data	Renewable Energy (Electricity) Act 2000	Summary of postcode data, Small-scale installations by installation year, small generation unit (SGU) installations, Solar water heater (SWH) installations and general installations	Medium	Low-medium	Monthly
Melbourne Institute	Behavioural data	-	Surveys the Australian population to capture their sentiments and behaviours related to current economic and social issues.	Medium	Medium	Monthly
Energy Queensland	Sentiment Data	Energy and Water Ombudsman Act 2006 (Qld), The Energy Efficiency Act 2000 (Qld).	The Queensland Household Energy Survey provides annual insights into consumers' views of the energy sector, how they are managing household electricity bills and in particular how they use electricity in the home.	Medium	High	Annual
Independent Pricing and Regulatory Tribunal (IPART)	Sentiment Data	Independent Pricing and Regulatory Tribunal Act 1992 (NSW).	Collect information on household energy and water use patterns, expenditures, and attitudes towards energy efficiency and conservation measures.	Medium	High	Ad hoc (every few years)
St Vinnies	Tariff data	-	Provides information on the electricity tariffs and charges for the St. Vincent Electricity Services Limited service area.	Small	Small	Annual
Essential Services Commission of South Australia (ESCOSA)	Prices	National Energy Retail Law (South Australia) Act 2011	Price data based on publicly available energy retail offers for small consumers at a point in time. Data is based on that uploaded by energy retailers into the AER's Energy Made Easy price comparison website.	High	High	Immediate
NSW Government	Billing details, Disconnections data, Pricing details and Consumption Data	Under the NSW Social Programs for Energy Code, consumption data purchased under 3-yr agreement.	The data are submitted by NSW energy retailers under NSW Social Programs for Energy Code. It contains bill level data for energy rebates, bills, consumptions, tariff plans, and disconnection, for the NSW Energy Social Programs (ESP)' participants (just under 1/3 of the NSW households). SA1 aggregated consumption data including solar feed-in for households, LGA aggregated for small businesses.	Medium	Medium-high	6-monthly, annually
NSW Government	Hardship/rebates, consumption and metering data	Under the NSW Social Programs for Energy Code, consumption data is through volunteer consent.	Rebate applications and recipients from embedded network residence, Contingency energy assistance applications and recipients. Detailed consumption and metering interval data.	Low	Medium	Ad hoc

Office of Environment and Heritage	Consumption data	Negotiated in good faith	Census Collection District (CCD) aggregated consumption data including residential, small and large businesses	Medium	Medium	One-off
Utilities Commission	Complaints, consumption, metering, hardship, rebates, plans, price and bill data	Electricity Retail Supply Code Electricity Reform Act 2000 and Utilities Commission Act 2000	The Commission's Northern Territory Electricity Retail Review focuses on retail performance and standard of service provided to small consumers. It also includes observations in relation to larger consumers, such as those related to market share and competition.	-	-	annual
Department of Energy, Environment and Climate Action (DEECA)	Actual bill data, electricity plans/offers	Section 46D of the Electricity Industry Act 2000 (EIA), section 42A of the Gas Industry Act 2001 (GIA) and Clause 39 of the Victorian Energy Retail Code of Practice	Management and publication of all 'generally available' and 'restricted' offers in the Victorian energy market. The PSB3 Portal supports the management of applications through the application lifecycle from submission on the PSB3 website, through to validation and payment.	High	Medium-high	Ad-hoc

Appendix D – End user prototypes

A number of use cases can be grouped to end user prototypes. Prototypes describe different policy making roles. The used cases listed below are not high level only and not exhaustive. Development of any new data collection approach would require more detailed assessment of use cases to ensure the approach meets the user needs.

1. Data user focusing on vulnerable consumers, hardship and concessions

This type of end user focuses on designing and evaluating energy policies and initiatives relating to vulnerable households, including concessions, subsidies and hardship programs. This end user requires data to inform policy decisions through evaluating the performance and success of current policies and programs, including identifying gaps and limitations; designing policies and programs by understanding households that need support, the extent of support required, and what type of measures are most effective for each type of household.

2. Data user focusing on CER

This type of end user focuses on initiatives relating to consumer energy resources (CER) such as solar, batteries, and electric vehicles, including consideration of the equity and affordability issues of CER, understanding the penetration of CER in different communities, and its impact on consumption patterns and consumer bills.

3. Data user focusing on market design

This type of end user focuses on policies and regulations in the design of the energy market. This end user may be focused on understanding how the impacts of market policies on consumers; how households respond to changes in the market, including changes in prices; and advising on regulation to policy makers, for example, better offers.

4. Energy data researcher

Aside from the above three data users, there may be general researchers that may ask questions relating to consumer bill outcomes. For example, a researcher may be focusing on understanding how consumer bills have changed over time; analysing the impact of broader changes in the market and economy, such as the current energy crisis or COVID-19, on consumer energy prices; or determining the effectiveness of rebates and concessions to develop new conceptual frameworks for addressing energy inequity.

Appendix E - List of policy questions identified by stakeholders

Table E.1: Priority policy questions identified by stakeholders

#	Policy questions	Policy themes
1	How could the government use increased transparency to improve existing policies/programs and more effectively target future policies/programs?	Policy design and evaluation
2	Identify/Inform where changes to codes/rules should be investigated further - e.g., any future reviews of electricity retail code (DMO)	
3	How can government's supports and interventions better address energy payment difficulties?	
4	How can we utilise greater transparency of customer billing data to improve consumer energy literacy	
5	What is the value that a competitive market for an essential service add to a counterfactual? (e.g., a single government retailers, all regulated prices)	
6	How do new policies or market changes impact consumer bills (such as the introduction of DMO or COVID-19)? How does this impact vary over time?	
7	How are different types of consumers impacted by new policies or market changes? How does this impact vary over time?	
8	To what extent does retailer innovation and/or low price offers translate to benefits to consumers?	Retailer behaviour
9	Are customers actually being given a genuine choice of tariffs?	
10	Is there a disparity between what a consumer can get from EME v loyalty to the current retailer?	
11	Are cost-reflective network tariffs influencing retail offerings and consumer choice?	
12	How are new products/services appearing in customer bills?	
13	Are there unreasonable fees and charges being levied on customers?	
14	How does the spread of offers available compare to the spread of actual contracts?	
15	How are network tariffs being passed through? To what extent does the retail tariff simply pass through the network structure?	
16	How often are retailers adjusting their prices? How often are consumers seeing their rates increase?	
17	What tariff components are retailers marking up? How are retailers marking up the network tariff components?	
18	Are retailers sending customers mixed signals with prices?	
19	How many consumers are on a plan which suits their usage type? Are consumers effectively selecting better retail plans?	Consumer engagement
20	Is there a difference between a retailers' current offers and the price people are paying?	
21	What plans are customers actually getting vs what they see offered/see as available through sites like EME?	
22	What are the customer outcomes for customers that don't engage in the market?	
23	When consumers switch retailer or plan do they save? How much/often?	
24	How often do consumers change retail plan without switching retailer? Are they better off?	
25	How many consumers benefit from switching? If so, how large? How long does that benefit last?	
26	How frequently are different demographics switching retailer/plan?	
27	How many customers are paying above the reference price?	
28	Why are customers on a standing offer? For how long are customers on a standing offer?	
29	How do the TOU offers differ from flat tariffs? Do they have higher fixed charges?	Retail tariff structure
30	Which product/tariff structures are best for different customer segments?	
31	What is the relationship between network tariffs available and the tariffs customers are actually on?	
32	Does cost reflective tariffs provide cost savings for households?	
33	Are tariff structure types changing?	
34	How does the feed-in-tariff reflect the wholesale price during the day and the retail tariff for the time?	
35	How might different tariff structures (TOU, demand etc) might impact consumers?	

36	If a customer goes on a mandatory TOU tariff, are they better or worse off financially?	
37	How does a TOU retail tariff reflect wholesale prices through the day?	
38	To what extent do retail plans or tariff structures drive consumption patterns? When consumers change tariff structure does it impact their usage patterns?	Consumer Behaviour
39	Are customers responding to price signals? How do customers respond to price signals?	
40	How does consumer behaviour change with increased information?	
41	How do customer behaviour in our state compare to other jurisdictions?	
42	How are customer usage patterns changing?	
43	Are customers willing to change products when the financial incentives are in place?	
44	Do customers respond to key messages on a bill? For instance, if a retailer advises to change to a different tariff, what is the percentage of customers that act on that advice?	
45	What is the cost allocation of green schemes and other public policy funded through energy bills across consumer groups (inc. interaction with CER)? What is the cost allocation between customer classes? What is the interaction with CER products?	
46	Are DER consumers responding to retail price signals (particularly those with active DER such as batteries)?	
47	How is this [distribution of bills by consumer classes] changing with increasing DER and new technologies?	
48	Are customers with/without DER better off on particular products/tariffs?	
49	Does the ability to monitor usage with a smart meter influence usage and bills?	
50	How does DER market participation impact participating customers?	
51	What do customers in embedded networks pay?	Comparative consumer outcomes
52	Relative consumption data/bills for people with dual fuel connections	
53	Are any distinct customer groups paying more than others? How are bills and retail plans distributed by consumer classes? For example, are lower-income suburbs paying more?	
54	How much are households and small businesses actually paying over time	
55	What are consumers actually paying? Overall bills, fixed charges, usage rates and bills per usage?	
56	What is the range and average energy prices people are paying?	
57	What fees and charges are customers paying?	
58	What is the spread of consumers across different types of plans and tariff structures? How is this changing with competition and innovation?	
59	How do our tariffs in our state compare to other jurisdictions?	
60	What prices and tariffs are different types of small businesses on?	
61	How do different small businesses manage electricity bills?	
62	How are vulnerable customers responding to information?	
63	What benefits are customers receiving from different concession types?	
64	What proportion of the bill does the concession cover? What are the bill impacts for customers with concessions?	
65	How does the impact of concessions and rebates on the overall bill vary between customers?	
66	Outside of concessions, how common are things like pay on time discounts and is this adversely impacting hardship customers?	
67	Are customers getting all the rebates they are eligible for?	
68	How many customers have quarterly bills that exceed \$500? (because this aligns with social service markers on level of savings to deal with unexpected costs)	
69	If customers experiencing financial hardship are paying higher bills and also if they have higher energy consumption	
70	Are concession customers largely paying DMO or are they actively looking at market offers?	
71	If people switch from gas to electricity, does their carbon footprint decrease?	Other
72	What measures can be taken to ensure consumer security and data protection with as we increase transparency and data access?	
73	Is the current gas price cap sufficient?	

Appendix F – CDR Standardised Data fields

The below sets out the Application Programming Interface (APIs) under Energy CDR and description of the type of data that can be obtained under each API. In addition to the list below there are APIs that are common between sectors such as Get Customer or Get Customer Details.

Further information, including specific details on the data fields are available here:
<https://consumerdatastandardsaustralia.github.io/standards/#tocSenergyservicepoint>

Table F.1: CDR Energy APIs

Energy APIs	Description
Get Generic Plans	Obtains a list of energy plans that are currently offered to the market.
Get Generic Plan Detail	Obtain detailed information on a single energy plan offered openly to the market.
Get Service Points	Obtain a list of service points owned by the customer that has authorised the current session.
Get Service Point Detail	Obtain detailed standing information for a specific service point that is owned by the customer that has authorised the current session.
Get Usage for Service Point	Obtain a list of electricity usage data from a particular service point.
Get Bulk Usage	Obtain usage data for all service points associated with the customer.
Get Usage for Specific Service Points	Obtain the electricity usage data for a specific set of service points.
Get DER for Service Point	Obtain a list of DER data from a particular service point.
Get Bulk DER	Obtain DER data for all service points associated with the customer.
Get DER for Specific Service Points	Obtain DER data for a specific set of service points.
Get Energy Accounts	Obtain the list of energy accounts available under the authorised consent.
Get Energy Account Detail	Obtain detailed information for a specific energy account.
Get Agreed Payment Schedule	Obtain the agreed payment schedule and details, if any, for a specific energy account.

Get Concessions	Obtain the details of any concessions or arrangements applied to a specific energy account.
Get Balance for Energy Account	Obtain the current balance for a specific account.
Get Bulk Balances for Energy	Obtain the current balance for all accounts.
Get Balances for Specific Energy Accounts	Obtain the current balance for a specified set of accounts.
Get Invoices For Account	Obtain the invoices for a specific account.
Get Bulk Invoices	Obtain the invoices for all accounts.
Get Invoices for Specific Account	Obtain invoices for a specified set of accounts.
Get Billing for Account	Obtain the billing transactions for a specific account.
Get Bulk Billing	Obtain billing transactions for all accounts.
Get Billing for Specific Account	Obtain billing for a specified set of accounts.

Appendix G – Details and assumptions of each option

Base case

Under the base case, it is assumed that post 2025, the ACCC's Inquiry into the NEM will cease. This means that there is no national collection of billing data, noting that inquiry collects more data than billing data from retailers.

Data collection

Under this option, jurisdictional bodies continue with current data requests to retailers. The components of data collection and data sharing will vary jurisdiction by jurisdiction depending on the jurisdictional body powers and existing processes. As mentioned above, these requests may be ad hoc and inconsistent in definitions.

Data sharing

Under this option, each jurisdiction has varied levels of power to share data. Given that each jurisdiction is likely to continue to collect the data it requires for its own jurisdiction, it is assumed that no jurisdiction shares data with other jurisdictional bodies or energy market bodies.

Retail reporting

Under the base case, as each jurisdiction collects their own data and there is no single energy market body supporting the data collection, there are no services to link, aggregate and analyse data for jurisdictional bodies. It is also assumed that the data collector does not share data with other jurisdictional bodies (even potentially within the same jurisdiction). Reporting of billing data analysis is subject to each jurisdiction's reporting needs.

Option 1: Extending the ACCC Inquiry into the NEM

Data scope

ACCC continues to collect the same data fields as it currently collects in the Inquiry into the NEM (see [Appendix B](#)).

Data collection

Under this option, the ACCC's Inquiry into the NEM is assumed to be extended to 2035.

Extending the Inquiry into the NEM will require approval by the Commonwealth Government. The extension will have to be formalised by the Treasurer making a ministerial direction to the ACCC to extend the ACCC's current electricity inquiry into the NEM under Part VIIA of the *Competition and Consumer Act*.

In this option, it is assumed that the current methods of collecting data would be retained by the ACCC. This includes using its statutory powers under the *Competition and Consumer Act* to collect billing data annually from large retailers across New South Wales, South Australia, South-East Queensland and Victoria and using existing IT systems, governance and processes to collect and quality assure the data.

Data sharing

As data is collected through ACCC's statutory powers, there are very limited scenarios where data can be shared. It cannot be shared with other energy market bodies to support complimentary energy analysis nor to jurisdictional departments and regulators to support policy decision making.

Retail reporting

In this option, the ACCC continues publishing reports as part of the Inquiry into the NEM and jurisdictions undertake their own reporting as required.

Option 2: AER is empowered to collect and share billing data

Data scope

The AER collects the ACCC's Inquiry into the NEM data fields (see [Appendix B](#)) from large retailers for a sample of residential households, all small businesses and all hardship and vulnerable consumers.

Data collection

Under Option 2, it is assumed that after 2025, governments empower the AER to collect billing data similar to the data that the ACCC currently collects in the Inquiry into the NEM. This option will require legislative and/or regulatory amendments to provide AER with the powers and functions to collect billing data from retailers.

In this option, it is assumed that the AER will largely adopt learnings from ACCC's current approach and build on AER's existing retail reporting arrangements. For example, the AER may utilise ACCC's existing systems and collect data only from large retailers, and collect a sample data for residential households, but population data for small businesses and vulnerable and hardship customers.

The AER may, however, take the opportunity to amend some of the existing processes to improve the collection and sharing of billing data. For example, the AER may continue to collect the same data fields as the ACCC currently collects as part of the Inquiry into the NEM but expand it to include additional data fields that are important for policy makers to inform decision making. The AER may also start collecting data on a quarterly basis rather than annual basis to enable policy makers to access data in a more timely manner.

A key issue to be considered in this option is whether the AER's functions to collect billing data would have the same geographical coverage as the ACCC or would be limited to the NECF jurisdictions (i.e., exclude Victoria). If amendments in the NERL enable the AER to collect billing data then this will be limited to NEFC jurisdictions (i.e., NSW, SA, Qld, Tas and ACT). The Victorian Government would need to consider appropriate alternative provisions to enable collection of billing data within that jurisdiction.

Data sharing

The AER does not currently have the powers to share granular data with other data users. Legislative and/or regulatory amendments will be required.

A new system will need to be adopted to enable secure data sharing, and this is assumed to be separate from the IT system used to collect billing data.

Retail reporting

Under this option, the AER would build on its existing market, retail and affordability reporting and continue to publish Inquiry into the NEM reports, to provide the value and benefits that the ACCC's Inquiry into the NEM reporting provided to policy makers. Jurisdictional bodies may also undertake their own reporting needs as necessary.

Option 3: The AER undertakes a new IT system of collecting billing data

Data scope

The AER collects CDR standardised data fields on a quarterly basis (see [Appendix F](#)). This will be from large retailers within its jurisdictional remit (subject to the powers provided to the AER).

Data collection

Under Option 3, it is assumed that after 2025, the ACCC's Inquiry into the NEM ceases and the AER takes on a new role to collect billing data on an ongoing basis. Similar to Option 2, this requires the Commonwealth Government approval and will require legislative and/or regulatory amendments to provide AER with the powers and functions to collect billing data from retailers. Like Option 2, the AER would leverage its existing retail expertise and processes to check data collected.

In contrast to Option 2, in this option it is assumed that the AER will take the opportunity to leverage more recent advancements in technology and collect billing data in an automated fashion on a quarterly basis using a new data sharing platform. The use of a new data sharing platform means that the AER may choose to collect population level data for all small customers from large retailers within its jurisdictional remit (i.e., all small customer data with NSW, SA, Qld, Tas, and ACT).

Data is assumed to be collected initially from large retailers through the new data sharing platform.

Furthermore, in contrast to Option 2, it is assumed that the AER would utilise CDR standardised billing data fields (rather than ACCC's current data fields) and expand it to include additional data that policy makers require to support decision making.

Data sharing

As with Option 2, the AER does not currently have the powers to share granular data with other data users. Legislative and/or regulatory amendments will be required.

However, unlike Option 2, it is assumed that the system used to collect data from retailers will also be the same data used to share data with other data users – i.e., a new data sharing platform for the collection and sharing data.

Retail reporting

Similar to Option 2, the AER would build on its existing market, retail and affordability reporting and continue to publish Inquiry into the NEM reports, to provide the value and benefits that the ACCC's Inquiry into the NEM reporting provided to policy makers. Jurisdictional bodies may also undertake their own reporting needs as necessary.

If the AER is provided with expanded powers to collect and share data, the AER could support policy makers in the analysis of relevant billing data and interpretation of findings.

Option 4: AEMO undertakes a new IT system of collecting billing data

Data scope

AEMO collects CDR standardised data fields in real-time or on a daily basis (see [Appendix F](#)).

Data collection

Currently AEMO does not collect data of the type contemplated in these reforms. Accordingly, appropriate and specific data collection arrangements will need to be set out in the rules, with any changes to legislation also considered. There will also need to be a corresponding change in the rules to require the retailers to share the relevant data with AEMO.

Like Option 3, it is assumed that AEMO will also set up a new shared access platform and initially collect population data from large retailers, whilst working with small retailers to collect data in a simple method in the short term whilst exploring more permanent and cost-effective long-term solution to collecting population data from small retailers.

In this option it is assumed that AEMO would require retailers to provide data either quarterly or based on ongoing operational changes automatically. For example, when a customer updates their plan or starts to receive a concession, then this data would be automatically updated in AEMO's new data sharing platform at the same time. As AEMO has less retail experience, it would rely on ACCC's CDR compliance imposed on retailers to provide accurate data.

Additionally, unlike the other options, AEMO's data coverage will be limited to small customers connected to the NEM where AEMO has an operational role. This means that microgrids and stand-alone power systems will be excluded.

Data sharing

Under this option it is assumed that legislative amendments (as per the ESB initial reforms) will pass to enable AEMO to share data that it collects.

Similar to Option 3, it is assumed that AEMO will share data with other data users through the same system it uses to collect billing data from retailers – i.e. a new data sharing platform. These could potentially be enabled by a new Data Services unit, if established by AEMO.

Under this option, AEMO could internally link the data it currently holds – i.e. NMI, metering data and CER register data – with billing data that it collects from retailers.

Retailer reporting

AEMO could share data with the AER which enables the AER to analyse the data at a national level and publish reports to support policy makers and inform decision making. Jurisdictional bodies may also undertake their own reporting needs as necessary.

In contrast to Options 2 and 3, services to link, aggregate, and analyse data will be limited to AEMO services, which may include the potential new Data Services unit.

Appendix H – Assessment of alternative options

Assessment of Option 1: Extending the ACCC Inquiry into the NEM

Table H.1: Assessment of Option 1

Criteria	Rationale
Policy coverage	<ul style="list-style-type: none"> • <i>Constraints on data:</i> Whilst the ACCC publishes aggregate-level data and analysis in its annual report, this does not enable policy makers to effectively answer all their policy questions and understand ‘what consumers pay’. • <i>Effective coverage of policy issues:</i> The ACCC’s Inquiry in the NEM is limited to the Terms of Reference. However, there is sufficient flexibility in the Terms of Reference for the ACCC to expand its coverage of policy issues. However, lack of ability to share data across all policy-makers means that a wide range of policy issues for wider data users cannot be covered. The data scope captures most of the priority data sets important to policy makers, however, the ACCC’s existing data fields does not capture all data relevant, nor does it enable longitudinal analysis. • <i>Effective coverage of consumers:</i> The current Inquiry in the NEM is limited to a sample of consumers as it only collects data from jurisdictions in the NEM with effective competition. It also only collects data from large retailers, and only sample data of residential households. However, there is flexibility for the ACCC to expand its coverage. As the collection of data is limited to a sample of residential households, this will not enable longitudinal analysis. • <i>Timeliness:</i> Aggregate-level analysis of data is published based on data was billed between 5- and 16-months prior which does not enable policy makers to answer priority policy questions in a timely manner. Issues with timeliness are due to fundamental challenges stemming from lagged billing cycles and the time necessary for quality assurance and analysis on large and complex datasets. • <i>Quality of data:</i> The ACCC Inquiry into the NEM provides quality analysis as the ACCC applies robust processes to ensure accurate and reliable data is collected from retailers.
Effectiveness of delivering data and outcomes to priority stakeholders	<ul style="list-style-type: none"> • <i>Accessibility of data for policy makers:</i> Data for the Inquiry into the NEM is collected under <i>Competition and Consumer Act 95ZK</i>. This data cannot be shared with other data users apart from the AER, which limits policy outcomes. However, the publication of the Inquiry into the NEM report and associated data appendices provides useful insights.

	<ul style="list-style-type: none"> • <i>Alignment of objectives and expertise with delivery:</i> The ACCC has the strongest focus on competition issues and consumer policy and has a high level of expertise in considering consumer and competition outcomes in the sector. It has technical expertise in the electricity sector.
<p>Safety and trust of data arrangements</p>	<ul style="list-style-type: none"> • <i>Security capabilities and expertise:</i> The ACCC has existing governance, systems and processes to ensure secure collection of data from retailers as data is not shared there is relatively low risks to data security and privacy concerns. • <i>Social licence and trust:</i> High trust established with stakeholders.
<p>Adaptability to expanding/changing needs</p>	<ul style="list-style-type: none"> • <i>Coverage across wider regions and smaller retailers:</i> The ACCC currently only collect data from jurisdictions with effective competition. However, the ACCC does have a national remit and can, if it wishes to, expand its Inquiry into the NEM to include other jurisdictions and collect a broader data set, including from smaller retailers. • <i>Coverage of changes in the market:</i> The coverage of the Inquiry into the NEM is limited to the Terms of Reference set by the Treasurer. However, the Terms of Reference are quite broad which provides the ACCC with flexibility to expand scope of the Inquiry into the NEM beyond what is currently collected and reported. This includes the expanding its reporting to consider current and future priority areas for policy makers. • <i>Coverage to link to relevant data beyond electricity retailer data:</i> Legislative limits on sharing will likely also limit the ability to link to other relevant data, including time-of-use.
<p>Ease/Reliability of implementation</p>	<ul style="list-style-type: none"> • <i>Challenges for decision maker support:</i> Extending the Inquiry into the NEM will require a robust strong business case to provide evidence for the need to continue the Inquiry into the NEM which goes beyond analysis of billing data alone. The original purpose of the Inquiry into the NEM is to monitor and report on the supply of retail and wholesale electricity in the NEM as the market undergoes a significant period of transition over the period to 2025. This includes monitoring the effects of policy changes in the NEM including those resulting from the Retail Electricity Price Inquiry recommendations. The Inquiry into the NEM is not designed as an ongoing solution. • <i>Likely time to implement the option:</i> The development of a business case and seeking support for continuation is likely to take time to obtain. However, if it is supported, then it requires minimal time to continue existing systems and process for the existing Inquiry into the NEM. • <i>Interoperability with existing systems/processes:</i> There is minimal costs and change required which enables easier implementation.

	<ul style="list-style-type: none"> • <i>Durability or risk to ongoing delivery:</i> The ACCC's original Inquiry into the NEM was only set for two years and was then extended for another five years. If there is another extension, then it is likely to be time-limited and subject to government concerns around the electricity market.
Cost effectiveness for data collector	<ul style="list-style-type: none"> • <i>Upfront and ongoing costs:</i> Leverages existing processes, systems and capabilities but requires ongoing funding for the life of the Inquiry
Cost effectiveness for retailers	<ul style="list-style-type: none"> • <i>Upfront and ongoing costs:</i> Leverages existing processes, systems and capabilities but requires ongoing funding for the life of the Inquiry • <i>Cost savings:</i> No cost savings. Jurisdictional data requests are likely to continue as the ACCC's data cannot be shared
Cost effectiveness for data users	<ul style="list-style-type: none"> • <i>Upfront and ongoing funding costs:</i> No upfront costs required as data is not shared. Ongoing funding continues for jurisdictions as they continue to request data from retailers • <i>Cost savings:</i> No cost savings. Jurisdictional data requests are likely to continue as the ACCC's data cannot be shared

Assessment of Option 2: AER is empowered to collect and share billing data

Table H.2: Assessment of Option 2

Criteria	Rationale
Policy coverage	<ul style="list-style-type: none"> • <i>Effective coverage of policy issues:</i> The adoption of the ACCC's current data scope, will capture some of the priority data sets important to policy makers. The ACCC's existing data fields, however, do not capture all relevant data. Additionally, without agreement from the Victorian Government, the AER cannot collect data from Victoria, which is important data from the smart metering roll-out that can provide valuable insights to inform policy decision making. The AER also has the advantage of having experience undertaking stakeholder engagement and working with retailers to obtain data. This enables AER to be in a stronger position to understanding what information would be useful to answer policy questions. • <i>Effective coverage of consumers:</i> The AER will be constrained to NECF jurisdictions where it currently has retail remit. This means that it will exclude Victoria where there is valuable data for policy makers from smart meters.

	<p>Additionally, as only a sample of residential households is collected in this option, this will not enable longitudinal analysis.</p> <ul style="list-style-type: none"> • <i>Timeliness:</i> If the AER continues with the Inquiry into the NEM, then data collection is likely to continue on an annual basis. Whilst the AER may share the data with data users, the data may not be provided on a timely basis if it is collected annually. • <i>Quality of data:</i> The AER has retail and billing expertise. It will also be a primary data user of billing data. The combination of these factors means that the AER will be able to quality assure the data before it is shared with data users. AER also has compliance and enforcement powers that it can utilise to ensure that retailers provide robust and accurate data
<p>Effectiveness of delivering data and outcomes to priority stakeholders</p>	<ul style="list-style-type: none"> • <i>Accessibility of data for policy makers:</i> The AER’s current data collection and sharing powers are limited. Without expansion of the AER’s collection and sharing powers, then the data will not be accessible for policy makers. • <i>Alignment of objectives and expertise with delivery:</i> Billing is highly aligned to AER’s role in the retail energy market regulation. AER is a consumer-focused organisation with the role of reporting on energy affordability and disconnection. AER also has a role in approving policies relating to financial hardship and publishing the Better Billing guidelines. However, responsibility for price monitoring resides with jurisdictions.
<p>Safety and trust of data arrangements</p>	<ul style="list-style-type: none"> • <i>Security capabilities and expertise:</i> The AER has experience in managing commercially sensitive data but has limited experience in managing big data sets with potentially privacy-related data issues. The collection of billing data may require the AER to establish stronger security and privacy controls for billing information. AER can learn from ACCC’s existing processes. <p>Collection of new data sets will require new privacy assessments for AER.</p> <ul style="list-style-type: none"> • <i>Social licence and trust:</i> The AER have high trust established with stakeholders.
<p>Adaptability to expanding/changing needs</p>	<ul style="list-style-type: none"> • <i>Coverage across wider regions and smaller retailers:</i> The AER will be limited to NECF regions which excludes Victoria. The relatively manual process of data collection may be easier for the AER to adjust its data collection but will limit timeliness to adjust collection on future priority areas. • <i>Coverage of changes in the market:</i> The AER is in a strong position to understanding what information would be useful to answer policy questions and how to ask for it (e.g., ensure comparability, minimise unnecessary regulatory burden), in a manner that brings key stakeholders along the journey.

	<ul style="list-style-type: none"> • <i>Coverage to link to relevant data beyond electricity retailer data:</i> Subject to expansion of sharing powers, the AER can work with other data holders to link retailer-held data with other data sets.
Ease/Reliability of implementation	<ul style="list-style-type: none"> • <i>Challenges for decision maker support:</i> Retail price monitoring is the role of states and territories. Stakeholder consultation will be required to confirm the AER's role in pricing to ensure there is no duplication in efforts with states and territories. This is a risk for the implementation of this option. • <i>Interoperability with existing systems/processes:</i> Relatively manual process of collection and learning from ACCC's systems will require minimal system changes, enabling easier implementation.
Cost effectiveness for data collector	<ul style="list-style-type: none"> • <i>Upfront and ongoing costs:</i> Requires the AER to establish new processes and skills as the AER does not usually manage large data sets. This may be partially offset if the AER learns from ACCC's existing processes and capabilities. Upfront costs will be required for the new data sharing system. Requires ongoing funding from the Commonwealth.
Cost effectiveness for retailers	<ul style="list-style-type: none"> • <i>Upfront and ongoing costs:</i> Similar approach to current data collection minimises upfront costs. Requires ongoing funding to respond to ongoing data requests • <i>Cost savings:</i> Cost savings may be achieved if the data collected by the AER is shared with jurisdictional bodies who reduce their data requests.
Cost effectiveness for data users	<ul style="list-style-type: none"> • <i>Upfront and ongoing costs:</i> Subject to the sharing system adopted, some upfront costs are likely required to be able to access the data. Ongoing funding likely required to access the data. • <i>Cost savings:</i> Potential cost savings if jurisdictions reduce data requests from retailers and leverage the AER's support for analysing and interpretation of findings.

Assessment of Option 3: AER undertakes a new IT system of collecting billing data

Table H.3: Assessment of Option 3

Criteria	Rationale
Policy coverage	<ul style="list-style-type: none"> • <i>Effective coverage of policy issues:</i> AER has the advantage of having experience undertaking stakeholder engagement and working with retailers to obtain data. This enables AER to be in a stronger position to understanding what information would be useful to answer policy questions. The use of CDR standards will enable the AER to access a broad range of data. However, CDR does not capture all data relevant. Nevertheless, the AER could expand its data scope to capture data gaps over the longer term. Additionally, without agreement from the Victorian Government, then the AER cannot collect data from Victoria which may provide valuable insights to inform policy decision making. • <i>Effective coverage of consumers:</i> The AER will be constrained to NECF jurisdictions where it currently has retail remit. This means that it will exclude Victoria where there is valuable data for policy makers, including data from smart meters. • <i>Timeliness:</i> The adoption of a new data sharing platform and collection of data on a quarterly basis will enable AER to share data with data users in a timely manner. • <i>Quality of data:</i> The AER has retail and billing expertise. It will also be a primary data user of billing data. The combination of these factors means that the AER will be able to quality assure the data before it is shared with data users. AER also has compliance and enforcement powers that it can utilise to ensure that retailers provide robust and accurate data. Retailers are also required to comply with ACCC’s compliance for CDR.
Effectiveness of delivering data and outcomes to priority stakeholders	<ul style="list-style-type: none"> • <i>Accessibility of data for policy makers:</i> The AER’s current data collection and sharing powers are limited. Without expansion of the AER’s collection and sharing powers, then the data will not be accessible for policy makers. If AER’s power are expanded, the adoption of a new data sharing platform will be accessible for policy makers. The AER could support policy makers in the analysis of data and interpretation of findings. <i>Alignment of objectives and expertise with delivery:</i> Billing is highly aligned to AER’s role in the retail energy market regulation. AER is a consumer-focused organisation with the role of reporting on energy affordability and

	<p>disconnection. AER also has a role in approving policies relating to financial hardship and publishing the Better Billing guidelines. However, responsibility for price monitoring resides with jurisdictions.</p>
<p>Safety and trust of data arrangements</p>	<ul style="list-style-type: none"> • <i>Security capabilities and expertise:</i> The AER has experience in managing commercially sensitive data but has limited experience in managing big data sets with potentially privacy-related data issues. The collection of billing data may require the AER to establish stronger security and privacy controls for billing information. Collection of new data sets will require new privacy assessments for AER. • <i>Social licence and trust:</i> The AER have high trust established with stakeholders.
<p>Adaptability to expanding/changing needs</p>	<ul style="list-style-type: none"> • <i>Coverage across wider regions and smaller retailers:</i> The AER will be limited to NECF regions which excludes Victoria. The AER could work with smaller retailers to identify a suitable method for data collection in the short term and find a more cost-effective and permanent solution in the longer term. • <i>Coverage of changes in the market:</i> The AER is in a strong position to understanding what information would be useful to answer policy questions and how to ask for it (e.g., ensure comparability, minimise unnecessary regulatory burden), in a manner that brings key stakeholders along the journey. • <i>Coverage to link to relevant data beyond electricity retailer data:</i> Subject to expansion of sharing powers, the AER can work with other data holders to link retailer-held data with other data sets.
<p>Ease/Reliability of implementation</p>	<ul style="list-style-type: none"> • <i>Challenges for decision maker support:</i> Retail price monitoring is the role of states and territories. Stakeholder consultation will be required to confirm the AER's role in pricing to ensure there is no duplication in efforts with states and territories. This is a risk for the implementation of this option.
<p>Cost effectiveness for data collector</p>	<ul style="list-style-type: none"> • <i>Upfront and ongoing costs:</i> Requires the AER to establish new processes and skills as the AER does not usually manage large data sets and also incur upfront costs for a new data sharing platform. Requires ongoing funding from the Commonwealth, but the new data sharing platform may reduce ongoing funding in the longer term leading to a more cost-effective solution.
<p>Cost effectiveness for retailers</p>	<ul style="list-style-type: none"> • <i>Upfront and ongoing costs:</i> Retailers will likely incur an upfront cost to be able to transfer data into the AER's new data sharing platform, however, this is likely to be more cost-effective for retailers over the longer term. As the AER won't be able to collect data from Victoria, retailers in Victoria may continue to face data requests.

	<ul style="list-style-type: none"> • <i>Cost savings:</i> Cost savings may be achieved if the data collected by the AER is shared with jurisdictional bodies which may reduce data requests.
Cost effectiveness for data users	<ul style="list-style-type: none"> • <i>Upfront and ongoing costs:</i> Data users will likely incur an upfront cost to access data in the AER’s new data sharing platform. However, as it is able to access retailer-held data it can reduce its costs in collecting data directly from retailers and if it leverages support provided by the AER. • <i>Cost savings:</i> Potential cost savings if jurisdictions reduce data requests from retailers and leverage the AER’s support for analysis and interpretation of findings.

Assessment of Option 4: AEMO undertakes a new automated system of collecting billing data

Table H.4: Assessment of Option 4

Criteria	Rationale
Policy coverage	<ul style="list-style-type: none"> • <i>Effective coverage of policy issues:</i> The use of CDR standards will enable the AEMO to collect a broad range of data. However, CDR does not capture all data relevant. Nevertheless, the AEMO could expand its data scope to capture data gaps over the longer term. • <i>Effective coverage of consumers:</i> AEMO can cover NEM jurisdictions, but this would exclude consumers not connected to the NEM including microgrids and stand-alone power systems, such as those in regional Queensland. • <i>Timeliness:</i> The adoption of a new data sharing platform and collection of data on an operational basis will enable AEMO to continually share relatively up-to-date data with data users. • <i>Quality of data:</i> As AEMO will not be a data user, there may be limitations to the effectiveness of AEMO quality assuring data. The onus for the provision of reliable data is with the data holder. AEMO will rely on retailers to comply with ACCC’s CDR compliance guidance for data holders to provide robust data and on AER’s compliance and enforcement functions.
Effectiveness of delivering data and outcomes to priority stakeholders	<ul style="list-style-type: none"> • <i>Accessibility of data for policy makers:</i> The adoption of a new data sharing platform will be accessible for policy makers. AEMO’s data services unit could provide compilation, linking and analysis services to provide useful data insights to data users in a readily accessible manner.

	<ul style="list-style-type: none"> • <i>Alignment of objectives and expertise with delivery:</i> AEMO’s data activities are primarily focused on energy market operations and planning, and it does not have a direct consumer policy focus nor a clear need for the use of billing data.
Safety and trust of data arrangements	<ul style="list-style-type: none"> • <i>Security capabilities and expertise:</i> AEMO has the expertise and capabilities in managing large energy data sets with secure data governance and processes established for MSATS and B2B services, as well as supporting AEMO’s broader data and cyber security. Collection of new data sets will require new privacy assessments for AEMO. • <i>Social licence and trust:</i> AEMO have high trust established with stakeholders in relation to its ability to collect and share data.
Adaptability to expanding/changing needs	<ul style="list-style-type: none"> • <i>Coverage across wider regions and smaller retailers:</i> AEMO will be limited to NEM jurisdictions but excludes microgrids and stand-alone power systems not connected to the NEM. AEMO could work with smaller retailers to identify a suitable method for data collection in the short term and find a more cost-effective and permanent solution in the longer term. • <i>Coverage of changes in the market:</i> AEMO is deeply involved in the operationalisation of the energy market and may be able to expand its coverage of new technologies and potentially roles and service providers in the market transition. However, AEMO is not a billing data user or focused on consumer policy, so it may not be able to effectively focus on future data requirements. This includes limited ability in identifying what other potential data may need to be collected to enable data users to answer policy questions. • <i>Coverage to link to relevant data beyond electricity retailer data:</i> AEMO can share data with other data users and the AEMO’s data services unit may be able to support data users to link retailer-held data with other data sets.
Ease/Reliability of implementation	<ul style="list-style-type: none"> • <i>Challenges for decision maker support:</i> The collection of billing data from retailers will be a new role for AEMO. This may require additional stakeholder consultation to confirm AEMO’s role in the retail space and also approval from AEMO Board.
Cost effectiveness for data collector	<ul style="list-style-type: none"> • <i>Upfront and ongoing costs:</i> AEMO will incur costs for a new data sharing platform. Requires ongoing funding to be either obtained from the Commonwealth or through fees and charges. The new data sharing platform may reduce ongoing funding in the longer term leading to a more cost-effective solution.

Cost effectiveness for retailers

- *Upfront and ongoing costs:* Retailers will likely incur an upfront cost to be able to transfer data into the AEMO's new data sharing platform, however, this is likely to be more cost-effective for retailers over the longer term. The requirement to update data on an ongoing operational basis (e.g., report switching) will impose additional regulatory costs for retailers and this need to be designed in a way to minimise costs for retailers.
- *Cost savings:* Cost savings may be achieved if the data collected by the AEMO is shared with jurisdictional bodies which may reduce their data requests.

Cost effectiveness for data users

- *Upfront and ongoing costs:* Data users will likely incur an upfront cost to be able to access data in AEMO's new data sharing platform. However, as AEMO can access retailer-held data it can reduce its costs in collecting data directly from retailers.
 - *Cost savings:* Potential cost savings if jurisdictions reduce data requests from retailers and leverage the AEMO's data services unit.
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