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ADVOCACY CENTRE

# AEMC Review of the regulatory framework for metering services
# Consultation Paper

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## About the Public Interest Advocacy Centre

The Public Interest Advocacy Centre (PIAC) is an independent, non-profit legal centre based in Sydney.

Established in 1982, PIAC tackles barriers to justice and fairness experienced by people who are vulnerable or facing disadvantage. We ensure basic rights are enjoyed across the community through legal assistance and strategic litigation, public policy development, communication and training.

## Energy and Water Consumers' Advocacy Program

The Energy and Water Consumers' Advocacy Program (EWCAP) represents the interests of low-income and other residential consumers of electricity, gas and water in New South Wales. The program develops policy and advocates in the interests of low-income and other residential consumers in the NSW energy and water markets. PIAC receives input from a community-based reference group whose members include:

- NSW Council of Social Service;
- Combined Pensioners and Superannuants Association of NSW;
- Ethnic Communities Council NSW;
- Salvation Army;
- Physical Disability Council NSW;
- Anglicare;
- Good Shepherd Microfinance;
- Financial Rights Legal Centre;
- Affiliated Residential Park Residents Association NSW;
- Tenants Union;
- The Sydney Alliance; and
- Mission Australia.

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# Introduction

PIAC welcomes the opportunity to respond to the Australian Energy Market Commission's (AEMC) review of the regulatory framework for metering services consultation paper (the Paper).

Metering is a fundamental component of the infrastructure providing essential energy services to consumers. Appropriately specified advanced metering can significantly increase the scope, efficiency and reliability in the delivery of energy services. Advanced metering is increasingly understood to be a fundamental enabler of system efficiency and a key requirement facilitating the transition to a cleaner, more distributed and flexible energy system.

This review represents a vital opportunity to re-assess the roles and priorities required of metering in light of the recent experience of rapid energy system transition. With comprehensive reforms to the energy system and markets being considered through such processes as the Energy Security Board's (ESB) Post-2025 Market Design and the Australian Energy Market Operator's (AEMO) Integrated System Plan (ISP), there is now a clearer understanding of the crucial enabling role metering will be required to play. This review must assess metering's priority roles and formulate a range of responses designed to realise them efficiently, simply and with least risk and cost to consumers.

# Reasons for this review

## Background to the current metering framework

The AEMC expected the *Competition in metering* reforms of 2015 to deliver a range of benefits to consumers. This was a mistake and has resulted in a metering framework that is not fit for purpose.

These reforms were driven in large part by a desire to avoid perceived issues with the earlier smart metering rollout in Victoria rather than a reasonable assessment of the cost, benefits, merits and risks of the reform.

The cost blowout and other problems incurred by Government and consumers during Victorian rollout provided a problematic precedent for a metering framework based on Distribution Network Service Provider (DNSP) responsibility. The preference for a 'competitive' rollout was based upon the conclusion that the key issue with the Victorian rollout was the central role of DNSPs as regulated monopolies.

This was not a proper assessment of the experience in Victoria. It does not consider the range of decisions involved, where issues arose, what drove up costs, what limited the realisation of benefits, and how the lessons from this experience were being applied in the National Smart Meter Program to avoid repetition in other jurisdictions. Instead it was determined metering reform must avoid DNSP responsibility and must be delivered by retailers through a 'competitive', consumer-driven framework.

The expectation a 'competitive' rollout framework would deliver a rapid and extensive rollout, as outlined in the Paper, was based on flawed assumptions:

- That consumers would regard meters as a discrete product subject to personal preference and choice, rather than a technical component of the infrastructure delivering an essential service (akin to the substation, the poles, or the wires connecting their house to the network). It was assumed that consumer information and preferences regarding metering would be a strong driver, not only for widespread rollout, but for installation of metering above the narrowly defined minimum specifications. These assumptions made the availability of appropriately capable metering, as well as the adoption of metering services, reliant upon consumer understanding and choice.

- That retailers would see benefits in the capabilities of advanced metering (even when those capabilities were limited by narrowly defined minimum specifications) and have a fundamental incentive to use metering technology and services to compete with each other to gain and retain customers. It was assumed the desire to reap benefits of metering and provide benefits to consumers would drive widespread installation, and the offering of metering above the narrowly defined minimum specifications.

- That newly created metering entities would be able to grow rapidly and create efficient operations sourcing, installing and managing metering infrastructure and data, from scratch, and that competition between these entities would drive cost-competitiveness and service innovation in the provision and use of meter data. It was assumed that a desire to offer wider data services to networks and other service providers would drive installation of metering above narrowly defined minimum specification.

This set of assumptions does not reflect any evidence or assessment of the existing energy system, the operation of the retail market, or consumer preferences and experiences. It does not assess metering in the wider context of existing operational roles and incentives, and it fails to correctly characterise the fundamental role of metering. As a result, it restricts the required capabilities of advanced metering, and links its deployment to consumer understanding of relatively marginal - or in some cases non-existent - direct service benefits.

## The current state of metering

PIAC considers current outcomes to be largely consistent with a flawed framework, and represent an overwhelming case for an overhaul of the metering framework. Key evidence for the failure of the current framework includes:

- Rollout in the National Energy Market (NEM) remains small, around 15-17%, and leaves the standard of metering in the NEM well below that experienced in Victoria and in many jurisdictions around the world. This is a serious risk in a system with one of the highest penetrations of Distributed Energy Resources (DER) and non-synchronous generation in the world.

- Rollout is associated mostly with the installation of solar PV. All other reasons for deployment, except new connections, are well below what was assumed at the implementation of competition in metering. Most tellingly, replacements due to meter flaws and failures, and retail-led rollout are not proving to be strong or consistent drivers. This underperformance

indicates the framework is not capable of delivering the scope and standard of rollout expected.

- Minimum required metering specifications are inadequate and narrowly focus on delivering retail functions. The specifications are, intentionally, well below those of Victoria and other international jurisdictions, and well below what is capable of being delivered efficiently through available technology. These limitations render much installed metering incapable of delivering many of the priority data services and functions of value to network service providers and system operators. There is anecdotal evidence of network service providers having to inefficiently invest in parallel infrastructure because this metering is not capable of providing necessary data and services.

- The limited data available through installed advanced meters is not being widely and efficiently accessed and used to deliver key benefits to network service providers. Contract terms between retailers and metering entities limit data availability for networks. The costs of data provided by metering entities, together with its patchy coverage and limited value, often render it a financially unviable prospect for networks.

- There is no transparency around the costs of metering assets and meter data provision, how efficient they are, or how much is being paid by consumers and others for them. The metering framework has rendered the costs of metering opaque and unregulated, and there can be no confidence they are being incurred and apportioned efficiently or fairly in the long-term interests of consumers.

- The rapid integration of DER has highlighted the urgent need for more detailed and dynamic system visibility and flexibility across the entire system. The range of efficient responses to deal with this transition, and the impending reforms to the energy market and system require universal improvements to metering functionality. The long-term interest of consumers is not being served by a framework that is itself a barrier to a more efficient, flexible and equitable energy system.

PIAC considers these, and a range of other document failures, represent an undeniable case for fundamental reform of the metering framework.

## An alternative approach to metering reform

PIAC contends this review should seek to recommence metering reform from first principles, rather than adapt the current framework. This process should commence with an appropriate definition of the role of metering in the energy system, and an assessment of how consumers relate to it.

Metering should be regarded as a technical component of the physical infrastructure required to deliver an essential service. Like other components of infrastructure, such as wires and substations, it should be subject to specification requirements that deliver expected levels of safety, efficiency and capability in the operation of the system and the provision of energy services. Consumers do not and should not be required to understand or have an expressed preference regarding the specifications of metering. Consumers view metering, if anything, as an inconvenience, and part of an energy system that should deliver the electricity they require safely,

efficiently, affordably and to a standard that enables the lifestyle they expect. Meters enable products and services that may be interesting to consumers, but they are not, in themselves, an object of interest or preference.

This understanding of the nature and role of metering, and the perspective that consumers have of it, facilitates a clearer and more appropriate direction for the consideration of metering reform. From this start point the technical capabilities of metering can be assessed in relation to the appropriate standard required to safely, equitably and efficiently deliver services required and expected in the current and future energy system. Standards for building efficiency are upgraded over time, standards for electrical and fire safety are upgraded with technology over time independent of consumer preference, to meet capability expectations. These changes are regarded as technical specification updates to meet new expectations and norms facilitated by new technology. Metering standards should be regarded similarly. Reform of the metering framework should be undertaken to facilitate the upgrade of standards for metering to ensure that they are capable of efficiently integrating the new technologies, services and practices that are and will be required of the energy system, in the long-term interests of all consumers.

This review should consider the range of functions metering must deliver to the system and what standards and specifications are required to deliver them. It should then evaluate and prioritise these functions, and set requirements for metering functionality that enables them.

A target date should be set for full implementation of the new standard, with the framework assigning responsibilities and regulating relationships to ensure that target is met efficiently and equitably, with least complexity and risk to consumers.

Given the repeated failure of the current arrangements to meet the needs of many consumers and smaller retailers in a timely manner, this review should recommend arrangements for the assignment of DNSPs as a meter provider of last resort' and in a defined range of circumstances

Enabling regulations and guidelines should direct the terms of various aspects of the rollout, oversee the appropriate sharing of costs and benefits, and provide assistance measures to ensure implementation of the upgrade is equitable and does not burden vulnerable consumers.

PIAC recommends the Commission consider this approach to reform of the metering framework.

# Responses to Consultation Paper questions

## Question 1: Consideration of other market reforms and related work

1. **Are there other significant market reforms that are likely to impact the metering framework that the Commission has not identified?**

PIAC agrees that the market reforms identified in the Paper should be considered in relation to reform of the metering framework.

2. **Is there additional related work that the Commission should consider in this metering review?**

PIAC considers it appropriate to identify related work required to be undertaken as part of this review. Any additional work should be identified subsequent to the primary steps of the review such as appropriately recognising the role of metering, determining the priority functions that metering must perform, setting a date at which the standards of metering must be able to accommodate these functions, assigning roles and responsibilities to meet the required standards, setting out a framework regulating and monitoring the relationships and costs of implementing these new standards. Subject to this process, it will be clearer what other work must be undertaken to incorporate the new framework into the wider energy system, and address any efficiency, cost, risk or equity concerns. However, it is likely work identified as a result of this process will include, but not be limited to:

- A review of the arrangements for meter boards and opportunities for greater consistency, clarity and functionality over the responsibility for upgrade and maintenance of meter board infrastructure. This should also consider a transparent framework for the management of safety issues and how the costs of addressing them will be recovered and shared This will be of particular importance in multiple residences, embedded networks and community housing.

- A review of tariff reform and the operation of tariffs at a network and retail level, the role of network tariffs and how they interact with what consumers are charged. It is likely this will need to address issues of efficiency, equity, simplicity and tariff assignment and transparency and include a complementary review of rebates, concessions and supporting measures.

- Ongoing reform to embedded networks to ensure metering infrastructure and service standards in embedded networks, including all legacy networks, are brought in-line with those on market.

## Question 2: Assessment framework

1. **Do you agree with the Commission's proposed Assessment Framework for this Review? Are there any additional criteria we should consider as a part of this framework?**

PIAC broadly supports the assessment criteria identified for this review, with the following comments and additions:

- Transparency and predictability
  Roles and responsibilities should be clearly defined and understood by market participants. It should be clear to consumers who is responsible for the various aspects of their metering service, and those responsible should be able to be held directly accountable to the consumer.

  Transparency and predictability should relate to the identified information required by a market participant for the operation of the system in the long-term interests of all consumers. For instance, metering data required for the optimum efficient operation of the network should

be transparently available to the network operators. Roles and responsibilities should be assigned to enable the transparency and availability of information to those who require it.

Predictability should apply to the assignment of responsibilities. Roles should be aligned with the capability and incentive to best manage that responsibility efficiently in the arrangements that fail to deliver consumer benefit.

- Facilitating positive customer outcomes including consumer choice
  It should be made clear that recommendations should prioritise overall outcomes for all consumers, rather than potential improved outcomes for individual consumers. This should recognise metering is an essential component, not a priority area of consumer choice in itself, and is only of benefit to consumers where it is installed and operated to a standard that is capable of delivering meaningful improvements to consumer outcomes.

  Consumer choice should be meaningful to be regarded as a benefit. This means that improved choice should not be regarded as an intrinsic benefit for its own sake. In this context meaningful improvements to consumer choice are those that are available to all consumers, and can directly facilitate a benefit to them. For instance, the choice to take up services from their retailer or other service provider that are enabled through metering with more advanced capabilities.

  The exercise of consumer choice, or any particular choice, should not be required for a consumer to benefit from an efficient energy system. Recommendations with benefits contingent upon the exercise of consumer choice should be given a lower priority in recognition of the risk they will not be realised.

  This assessment criteria should be updated to explicitly focus on simplicity as a beneficial outcome for consumers. Where the energy system will involve increasingly complex relationships between energy service providers, the metering framework should contribute to greater simplicity for consumers interactions with energy.

- Efficient investment and allocation of risks and costs
  Aligning responsibility with incentives should be prioritised to manage costs and risks in the long-term interests of efficient outcomes for all consumers. Recommendations should be assessed against their capacity to align risk, responsibility and incentives so that those with the greatest incentive and ability to minimise cost and risk to all consumers, have responsibility to do so.

- Regulatory and administrative burden
  The regulatory framework should enable the simplest arrangements and assignment of responsibilities in metering. It must recognise that regulatory 'burden' results from frameworks that involve unnecessary complexity of relationships (such as those in the current framework), even where the regulatory burden on any individual entity appears to be minimal. PIAC recommends the criteria not focus unduly on the regulation of individual entities, but on the impact of the regulatory framework on metering relationships and the ability of the entities involved to deliver efficient outcomes in the interests of all consumers.

Regulation should apply a consistent principle across metering relationships, to achieve an outcome. For instance, the current framework regulates networks to ensure transparent costs and operational requirements in metering, but leaves the metering costs and charges of retailers and other metering entities opaque and unregulated, even when metering entities are effectively monopoly service providers.

Regulatory and administrative simplicity should extend to considering whether greater regulation of a single responsible entity may have the least risk of unintended consequences, and involve least additional complexity requiring future rule change processes.

- Ability to accommodate future reforms
  PIAC recommends an additional assessment criterion specifically consider whether recommendations have scope to accommodate reforms and developments of the energy system transition currently under way. This should not involve attempts to predict future developments, but flexibility to accommodate and facilitate likely requirements of the future energy system. For instance, recommendations should be assessed against the ability to accommodate an accelerated transition to a zero-carbon economy, electrification and greater complexity in relationships between households and the energy market and energy service providers.

- System integrity
  The framework should facilitate the information and control required for optimal system safety and efficiency.

It is essential reform recommendations are assessed accordingly to their capacity to realise overall benefits to all consumers, rather than focus on potential benefits for any individual consumer.

## Question 3: Expectations of meter rollout.

1. **How does the roll out of smart meters to date compare with your expectations?**

This question is ambiguous.

PIAC considers the metering rollout to date to be in line with what we and many other stakeholders would expect of a metering framework that is not fit for purpose. The creation of superfluous new entities, complex new relationships, competing incentives and responsibilities, and an unjustified reliance upon the motivation and regulatory discipline of competition has led to predictably poor outcomes in the scope and impact of the rollout.

Compared against what was possible through a simpler framework that adapted previously existing resources, relationships and incentives, PIAC considers the rollout has substantially, but unsurprisingly, underperformed.

2. **Is the current pace of smart meter deployment appropriate? What should be the appropriate pace of rollout?**

The Paper establishes the case for change with ample evidence of slow pace of rollout. PIAC notes objective quantification of performance is made difficult by a lack of any assessable objectives for the rollout being incorporated into the *Competition in metering* reforms. The review and reform process should address this.

As part of a comprehensive reform of the metering framework, PIAC recommends a target date for implemented rollout be set. This target date should be determined subject to:

- The identification of the capabilities metering must have to enable the function and service benefits that are priorities for the system and all consumers.
- The assignment of metering roles and responsibilities.
- Arrangements for cost sharing, particularly in circumstances where installation is occurring before the end of the existing meter's life, or otherwise when not as a result of consumer requirement.
- The role metering will be required to play to efficiently facilitate an accelerated transition to a zero-emissions energy system.
- The likely implementation date of future energy market and system reforms requiring advanced metering.

**3. What benefits are smart meters providing to consumers? Have the benefits changed or improved over time?**

It is not clear meters are delivering any material benefits to consumers. Most consumer requests for metering replacements are related to the installation of solar systems, for which they are a means to an end. The inadequate specification requirements for smart meters are likely to mean these meters enable less scope for benefit to consumers than the inverters installed with their solar system.

Most benefits currently enabled by advanced metering are relevant to retailers, rather than consumers. This is a predictable result of a metering framework relying on retail rollout, and shaped according to retail incentives. While monthly billing, remote de-energisation/re-energisation, and more timely and accurate usage data can be of benefit to consumers, these benefits are minimal and indirect, and dependent on consumers being able to utilise that information in particular ways. There has been no demonstration that retailers have realised any cost savings from the capabilities of advanced metering, and it is not apparent that any cost savings are being passed through to consumers.

While there is anecdotal evidence some retailers provide services such as demand reduction schemes and detailed usage reports, it is apparent these have not been taken up widely, and there is no demonstration consumers are deriving a material benefit from them. It is not apparent new, non-retail service providers have emerged at scale to utilise new metering capabilities. This further limits the options available for the realisation of consumer benefit.

PIAC does not consider there has been any development in the direct material benefits being provided to consumers, and there is no reason to expect this to change without comprehensive reform to the metering framework.

4. **Have the prices of smart meters plus the costs of associated products and services changed from the introduction of *Competition in metering?* If so, how?**

The framework introduced through *Competition in metering* is directly responsible for the lack of transparency of the costs of metering products and services. It is not clear what the range of metering costs are, how they are being recovered and how efficient these costs are. Similarly, the cost of metering services and data provisions are not transparent and easily assessible. PIAC considers the opacity of costs and the inability to assess and control them a fundamental failure of the current framework that must be addressed in any metering reform.

## Question 4: Are incentives in the right place?

1. **Are the incentives in relation to smart meter rollout correct? Please provide details on why/why not?**

Incentives are not aligned with responsibilities or the capacity to manage system risks and control costs for the benefit of all consumers. PIAC contends this is a direct result of a failure to correctly identify the role of metering, and assess the priority benefits that may be realised through more advanced metering. This failure was further compounded by setting minimum specifications for metering too narrowly. Key failures of incentive alignment include:

- Retailers incentive to improve information for consumers in a way that will lead to efficient consumer usage is likely to be outweighed by the direct impact upon their business revenue that results. They have less reason to promote the potential for advanced metering as a result. This is compounded by retail autonomy to use their access to metering data to shift consumers' balance of costs between usage tariffs and daily charges, potentially undermining the clarity of usage signals. Without regulation or transparency in this area, there is potentially an incentive for retailers to undermine the value of consumer usage information to consumers.

- Retailers do not have a strong incentive to roll out new metering before it is cost effective for them, regardless of whether consumers request it, it would enable more efficient operation of the system, or the existing state of metering warrants it. Evidence from consumer complaints and input from networks, indicate retailers respond to the installation cost as a priority, and only initiate a rollout when it can be arranged with their metering co-ordinator at a cost acceptable to them. It is likely geographic concentration or more favourable larger scale delivery contract terms are the key consideration.

- Retailers have an incentive to make contract arrangements with their metering entities that restrict the provision of data to networks or other service providers where networks may employ that data to initiate demand reduction, demand response and other projects in competition with the retailer's own operations.

- Retailers incentive to be transparent about the costs of smart metering installation or service, particularly where installations are not a result of consumer choice, is outweighed by their incentive to present a simple value prospect to their customer. Their incentive is either to

embed this cost in the other charges paid by the customer, or potentially roll the costs into account-closing or other charges.

- Retailers have little operational or financial incentive to initiate rollout in difficult-to-serve geographical areas, sites with higher service costs, and wherever the potential benefits to do so are more marginal. Often these same network areas are those where advanced metering would offer the most benefit, due to poor power quality, congestion, faults and other issues.

- For retailers and metering entities the incentive to offer metering with above-minimum specifications here are negated by the increase to upfront cost of the installation, which must be recovered with no direct benefit to either party. Indeed, higher specification metering, in potentially enabling other new service delivery, could be seen as an avenue for inviting risk of future competition.

- Metering entities have limited incentive to offer extra data to networks, or to make data more available, cheaper or more functional to use.

- The incentive for metering entities to reduce the costs of data provision to networks, is less significant than their incentive to maintain the value of a key income stream that is not transparent and not subject to regulation or meaningful competition.

- Metering entities have an incentive to increase their fleet of meters, as the key source of their income (either through installation or data management contracts), but they have no agency to do so outside of responding to consumer choice or meter failure at the direction of retailers.

- Networks have a significant incentive to use advanced metering to gain greater dynamic, granular visibility of their networks, but have no responsibility to facilitate the rollout of metering.

- Networks, through appropriate regulatory oversight, can have an incentive to ensure the costs of metering infrastructure and operations are efficient, and have an existing suite of network infrastructure-related resources to do so. They do not have a role in meter rollout.

- Networks have an incentive to implement advanced metering with above-minimum specifications in order to more efficiently manage the network. They have no responsibility or agency to undertake this under the current framework, except by inefficiently installing parallel devices to meet these needs.

- Networks have no direct incentive to restrict access to a range of metering data as no service entity represents a competitive threat to their primary operations or incomes. Retailers have a direct incentive to restrict data scope and availability that might be able to facilitate the development of new service offerings which would either be in direct competition with them, or impact upon customer revenue (for instance demand response aggregators, virtual power plant providers, home management system providers and others).

- Consumers have little or no incentive to request a smart meter under current circumstances where it is likely they will bear the cost of doing so with limited direct benefit in return. Specifically:
    - Due to data access imbalances, consumers are unlikely to know if the deal they are offered is in their best interests or the retailer's,
    - they have limited access to service providers other than their retailer,
    - they are unlikely to have access to innovative tariff arrangements that can enable benefit from more control of usage,
    - they may be wary of new automatic tariff re-assignment that comes with a smart meter, and be concerned they will be negatively impacted,
    - any increased information they receive as a result of their smart meter will not necessarily lead to reduced usage and costs unless they are able to negotiate the best deal and make the correct behaviour changes.

**2. Is the current market structure financially viable? If not for whom is it not financially viable.**

PIAC does not consider the current market structure provides a financially viable foundation for metering entities or networks. While retailers' operations are likely to be viable under the current framework, that viability likely comes at the cost of a wider, more efficient rollout of metering and related services, and the realisation of the priority benefits enabled by metering.

**Metering entities**

Metering entities have a limited scope of operation, potentially restricted to revenue from metering installation and data management contracts. They are unlikely to be able to gain operational and scale efficiencies that could be available to networks undertaking similar roles. Their operations are limited only to instances of retailer-approved consumer requests, and retailer-approved meter replacements. This limitation is likely to impact their financial viability.

The complicated relationships involved in the current framework often involve multiple site visits and service coordination by metering entities as part of meter replacement. This is likely to lead to larger service costs that must either be borne or recovered. Dependence upon retailers is likely to limit the costs that can be recovered, potentially presenting a further risk to viability.

The contracts they undertake with retailers are determined according to retailer interests, particularly in relation to restrictions on the use and sale of the meter data they manage. While the nature of the framework makes it hard to determine costs and revenue of metering entities, it is difficult to see how metering entities are financially sustainable under the current framework.

It should also be noted that the revenue required to ensure viability of metering entities involves additional, potentially inefficient costs added to the supply chain. Viability of metering entities should not be a priority consideration of reform, particularly where that viability involves inefficient costs.

**Networks**

While networks as a whole are financially viable, PIAC does not see evidence the current framework results in a financially sustainable basis for the use of metering data. The limitations in available data (resulting from the inadequate minimum specifications of metering), the patchy

nature of available data, and the cost of accessing it, make it difficult for a regulated network entity to justify the cost. Cases of networks installing parallel infrastructure in order to access key data and capabilities is an unsustainable and inefficient practice that will either impact business viability, or increase long-term network costs borne by consumers.

**Retailers**
Retailers are likely to be financially viable, as they have most agency to control and recover costs under the current framework. They determine the terms of contracts with metering entities, and initiate installations where the cost-benefit equation is reasonable for them. They are currently able to delay or refuse a meter replacement until costs are acceptable. They are able to recover meter costs from the consumer, either directly or through embedded charges, and control the consumer meter data, which they can use both to optimise the benefit extracted from the consumer, and to operate more effective wholesale contract management. They are also able to restrict access to meter data in a way that limits the potential for new services to impinge upon their operations.

There is significant scope for reform of the metering framework to establish responsibilities that are more sustainable for the relevant entities, while minimising the scope for perverse incentives that operate contrary to the interests of consumers.

## Question 5: Drivers of smart meter roll outs

**1. What were your expectations regarding the drivers of smart meter roll outs?**

PIAC considers success requires a rollout driven by recognition metering is a technical component of the infrastructure delivering an essential service, and that implementation of smart metering should be undertaken as an upgrade to minimum standards required for that component. Such an approach would have determined what specifications represent the optimum capabilities required to facilitate safe and efficient delivery of energy from network to connection in the future energy system, and set a target date by which they would be implemented. Under these circumstances smart meter rollout would be driven by the adequacy and efficiency requirements of the system, the end date for the completion of the 'upgrade', and the transparent criteria for prioritising installation.

Instead, the rollout under the existing framework has proceeded as expected: driven largely by the needs of retailers. Rollout has occurred only when the costs are acceptable to retailers, often determined by geographical concentration rather than consumer requests or need. This was a predictable result of a framework that was not fit for purpose.

PIAC does not consider the expectation outlined in the paper for a rapid and comprehensive rollout driven by retailers and consumer choice, to be a reasonable or likely outcome from the framework implemented through *Competition in metering*.

**2. Has there been any changes in the overall reasons for installing smart meters since the Competition in metering rule commenced**

There has been little change in the experience under the existing framework where smart metering is largely being installed as a result of solar installations or where the cost is acceptable to retailers. Installation has not been driven by the desired standards of metering, or by an assessment of overall efficiency of replacement. This should be considered a failure of the framework and evidence of the case for reform.

**3. Which parties should be responsible for driving the roll out of smart meters?**

PIAC recommends the role of metering be re-evaluated from first principles, with responsibility for metering assigned and regulated accordingly.

Metering is a technical component of infrastructure delivering an essential service. The rollout of smart metering should be considered an exercise in updating the technical performance standards in metering required to contribute to new safe and efficient performance expectations for the system. Implementation should be planned, implemented and monitored similarly to the implementation of upgraded building standards or physical safety requirements. Such a process would set a clear target date for full implementation, assign responsibility to the entities most appropriate for the installation and operation of physical infrastructure, set a transparent framework to regulate and monitor the terms of implementation, and determine supporting and enabling measures to address issues and barriers. This approach should have been taken from the outset.

It is inappropriate to assign responsibility for metering before undertaking the process outlined above. However, PIAC highlights the following considerations for determining the appropriate assignment of responsibilities for an efficient rollout:

- Regardless of which entity has responsibility for metering installation, network service providers should be designated as installer of last resort, and under a range of defined 'emergency' circumstances.

- Responsibility for metering infrastructure should reflect the fact that metering is a technical component of infrastructure required to safely and efficiently deliver essential energy services.

- The responsible entity should be able to implement the rollout at an economic scale, across all geographic areas and metering connection types (including multiple connections, slave connections and others).

- The responsible entity should be able to respond efficiently to all drivers of metering installation, including family failure, consumer request, requirements for network transparency and operational efficiency, and facilitation of new system requirements and reforms.

- Responsibility should be assigned to an entity whose costs are transparent and subject to regulation for efficiency and overall consumer benefit.

- Responsibility should be assigned to an entity that does not have an incentive to restrict the entrance of new services utilising metering data and capabilities for individual or overall consumer benefit.

- Responsibility should result in minimal interactions between entities to deliver metering installation and the efficient and effective utilisation of metering data, in order to reduce the risk that potential benefits will not be realised.

- The assignment of responsibility should result in the simplest regulatory framework, with the greatest capacity to accommodate likely reforms and developments as part of transition of the energy system.

**4. Do consumers have clear information on the benefits of smart meters and their rights relating requesting a smart meter?**

There is no evidence consumers have consistently accurate, accessible and useful information regarding metering. PIAC considers this to be a direct result of retail responsibility for smart metering, and the conflict of interest retailers may have in providing clear information regarding metering. Such information may drive consumer requests retailers are not in a position to fulfil, leading to increased complaints or account losses.

Where information is provided by retailers it is likely to be that which benefits them, such as information regarding the ability to have more accurate and frequent billing. Retailers do not have a strong incentive to provide clear and unbiased information regarding wider potential uses of metering, the potential to request additional capabilities, or consumer rights of refusal or request.

Information on consumers' rights and potential benefits relating to advanced metering, though important, are not be a strong driver of rollout.

Like other components of energy infrastructure, consumers should not have to understand or be informed about metering and its technical specification in order to exercise their choices in retail services. Consumers should have confidence metering standards support their safe, efficient and affordable access to essential energy and the entity responsible for metering should be best placed to ensure this.

Information regarding the safety of their metering, its technical capabilities, rights in requesting one, and how it helps support better services, should be provided by networks as the entity responsible for safety and maintenance of other infrastructure. Other trusted third-party information providers such as the Ombudsman schemes and regulators should also provide this information. This arrangement would separate provision of technical capability information from the service relationship and remove any potential conflict of interest with retailers. It would leave greater scope for retailers (and other potential service providers) to focus on providing information relating to potential available products and services enabled by the consumers' metering.

## Question 6: Consumer experience.

**1. What are your views on the customer experience in relation to smart meter roll out and installation?**

Consumer experience of smart meter rollout is minimal and generally likely to fall into the categories of requests for a meter as part of the installation of solar PV, responding to a retailer message of intent to install a smart meter, and arranging a replacement meter as a means of addressing a fault or failure. Ombudsman scheme data regarding metering suggest many consumers experience of the smart meter rollout continues to be problematic.

## Question 7: Industry co-operation

1. **Do you have any suggestions on how industry cooperation can be improved?**

PIAC does not consider issues with the existing framework can be addressed only through measures to improve industry co-operation. This review must re-evaluate metering from first principles, assign responsibilities appropriately and ensure simplicity and efficiency in the regulation of relationships between entities involved. More appropriately assigned responsibilities, simplified relationships and better aligned incentives will help ensure co-operation between entities is in the interest of all parties and more likely to be effective.

2. **Are changes to the market structure or roles and responsibilities needed to improve the consumer experience?**

Other than recommending networks are designated as an 'installer of last resort', it is not appropriate to commence this review with specific recommendations regarding responsibilities and market structures.

PIAC reiterates the need to commence with a correct framing of the role and nature of metering for consumers and the system. This framing should inform the prioritisation of benefits to be enabled through metering. Then metering responsibilities should be assigned accordingly, and a regulatory framework created to ensure metering is implemented and operated in the long-term interests of consumers. PIAC agrees this will involve a comprehensive restructuring of responsibilities, regulations, market structures and relationships, but this review should not repeat the mistakes of the *Competition in metering* reforms by prescribing a response before assessing the problem and identifying priorities and objectives.

## Question 8: Expectations of metering services

1. **What expectations did you have around the services that smart meters would provide? Were your expectations met?**

This question is ambiguous.

The current framework has set inadequate minimum specifications for advanced metering limited to basic aspects of communication relevant to the provision of simple retail services. In this context the limited services being provided by existing advanced meters are a predictable consequence of the framework.

The assumption competition and consumer choice would drive the uptake of metering standards above the minimum, and enable a wide range of new services was unreasonable and based upon incorrect characterisation of metering. Metering is not a product subject to consumer

preference and choice, it is a technical component of the infrastructure that safely provides an essential service. Consumers should not have to express preferences regarding the technical standards of their connection, and are not an appropriate or effective driver of standards that enable wider benefits to the system. The failure of the current framework to deliver new services through advanced metering was a predictable result of relying upon consumers and retailers to drive new service provision.

Assessed against what services could have been provided through the implementation of an appropriate framework, the experience of metering has comprehensively failed to deliver against PIAC's expectations of service provision. The minimum specifications are inadequate to facilitate the development of new data-based services enabled by metering, particularly in relation to services required by DNSPs to enable the optimum integration of DER and the efficient operation of the system.

**2. What services are being provided by smart meters currently? Are there services widely available?**

Current services provided by advanced metering are largely limited to those relevant to retailers, which is a predictable consequence of a rollout defined and controlled by retailers. These services include more accurate and regular meter reading and billing. While an improvement on the previous services, these are limited and non-material benefits for consumers. PIAC is also concerned that even these limited benefits are being compromised. For instance, failures to make adequate provisions in the framework for communications infrastructure to support metering, have undermined the ability to benefit from remote meter reading capabilities in many areas.

**3. What services did you expect from smart meters which have not eventuated?**

The most significant undelivered services are those related to network transparency, performance, efficiency and operation. While these are some of the most material benefits enabled through appropriately implemented metering, PIAC considers it predictable that these services would not be delivered through the *Competition in metering* framework.

The minimum metering specifications required by the regulatory framework are inadequate and unfit to facilitate data provision and services networks could utilise to improve visibility of their infrastructure, and more efficiently plan investment and manage operations and DER integration. However, had metering reforms properly characterised meters as a technical component which should be subject to minimum standards that facilitate safe and efficient system operation, higher specification standards (comparable to those in Victoria, for instance) would have resulted. Based on Victorian experience and the information and services available to networks in Victoria, PIAC expects a wider range of system visibility and control services would be made available.

PIAC is concerned the existing framework has not reliably and efficiently delivered the basic information services advanced meters are capable of. It appears networks have struggled to negotiate access to data from metering entities, specifically:

- The cost of the data offered by metering entities can't be mitigated by the limited value of that data, which is patchy and limited in both range of data and geographic coverage of data.

- The legal terms of agreements between retailers and metering entities often limit the scope and availability of data accessible to networks.
- Networks are unable to effect upgrades to the specifications of metering managed by metering entities and can be forced to install parallel equipment in some instances to gain access to visibility data needed to operate the network.

PIAC reiterates the review should not focus on the availability of specific services at this stage. Instead, the review should identify the range of functions that should be expected of metering based upon the priority services and functions metering must enable in order to meet current and future system and consumer expectations.

4. **Are there any services being provided by smart meters which were not anticipated at the time of the Competition in metering rule change?**

PIAC does not consider this a priority for this review at this stage.

## Question 9: Collection and use of metering data

1. **In relation to metering data, what data should be captured by smart meters and why?**

PIAC does not consider it appropriate or useful, at this stage of the review, to repeat the fundamental mistakes of previous metering reforms and nominate required specifications for metering, without first determining the role and priorities of metering. This review should draw on previous work, experience in Victoria and other jurisdictions, and processes for future system and market reform. This should be used to determine the range of key specifications required of metering, in order to provide the capability to deliver a safe and efficient energy system for all consumers.

The implementation of upgraded building efficiency standards, or the implementation of new minimum safety and requirements (such as smoke alarms, disability access or energy protection) should be regarded as a useful and relevant equivalent process.

PIAC recommends this process be forward looking and seek to ensure standards are durable and capable of efficiently accommodating the future needs of the system, and delivery of efficient services for all consumers.

2. **In relation to metering data, who should be able to access metering data, and how? What protections should be in place?**

The Consumer Data Right (CDR) process is currently developing a framework that will regulate the transfer and use of consumer data. However, PIAC considers it inappropriate to rely upon this process to assign data rights and responsibilities within the NEM. This review is an opportunity to re-evaluate what data is generated by metering and who has primary responsibility for that data, who they can share that with, what they can share and how much control consumers have over that collection and sharing, and how much protection consumers have for the use of that data.

PIAC has recommended this review seek to assign metering responsibilities subject to a re-evaluation of the role of metering, the required scope of metering capabilities and the simplest

and most efficient alignment of incentives. We consider the generation and handling of data to be a priority consideration. The framework should seek to give access to data that maximises benefits to the system through improved efficiency and service functionality. However, protecting the rights and privacy of individual consumers must be a priority. PIAC believes assignment of responsibility for metering infrastructure could be a means of more effectively balancing these considerations and ensuring the CDR process is more compatible with better consumer outcomes in energy.

As an example of the role consideration of data should play, giving networks responsibility for metering infrastructure and data management may enable more efficient collection and use of data for systemic benefit. At the same time, it may provide more systemic protection of consumer data, specifically:

- Networks data collection would be attached geographically to the NMI rather than a person's account where the important information is related to the property on the network, rather than the occupant. This potential allows scope for more granular data collection that can be effectively disaggregated and de-identified before it is shared.

- Networks do not have a direct commercial relationship with consumers and so have no incentive to use data in a way that may not be in the interest of the consumer. In any case they can be subjected to more limitation on the collection and use of data to protect consumers, without this impinging upon their operations.

- Customer switching currently creates complications with the life and use of data, where a retailer may retain account information with relevant data, and potentially share or sell aspects of that data. Network control of metering data would not have any indication of switches other than changes in the data collected. Any portion of that data could potentially be shared or sold more safely, ensuring it is more likely to be used only as intended.

- Network responsibility for metering data may place more effective limits on the data available to retailers and others, ensuring there are more effective protections on energy data available through the CDR.

**3. What impact do you think the Consumer Data Right may have on access to, and use of, metering data?**

PIAC does not consider the impact of the CDR to be a priority at this stage of the review. As outlined in question 2 above, appropriate assignment of metering and data responsibilities may facilitate better interaction with the CDR.

## Question 10: Future metering services

**1. What is your understanding of other services that meters can provide?**

PIAC understands advanced metering can offer a wide range of services depending upon the minimum technical specifications of those meters. Current metering specifications required by the

metering framework are extremely limited in their capability to provide basic services, much less additional ones.

This review should involve a detailed assessment of the range of capabilities of smart metering, the services they can facilitate and the cost implications of requiring different levels of minimum capability.

2. **If additional services are to be provided by smart meters, how should the costs of providing these services be allocated?**

Improved capabilities in smart metering will not necessarily involve material increases to the installation costs of new metering. It is particularly difficult to assume additional capabilities involve increased costs when the range of existing costs for metering installation and service provisions are not transparent or subject to oversight or regulation for cost-reflectivity and efficiency in pricing.

At this stage of the review it is more appropriate to consider what the required range of capabilities for advanced metering should be, who is best placed to deliver them efficiently and effectively, and how to harness operational incentives to ensure costs are transparent and efficient. The appropriate principles for the sharing of costs will depend upon the result of these considerations.

PIAC does consider it will be appropriate to assess what proportion of metering costs relate to the basic capabilities common to all consumers and which should be recoverable from them, and what proportion of costs may be appropriately shared. Specifically:

- Whether there are costs related to additional service capabilities that benefit individual consumers that should be recovered from individual consumers on a cost reflective basis.

- Where there are costs related to capabilities that provide a service benefit, cost reduction benefit or risk management benefit to networks and other market participants, that should be recovered directly from them.

## Question 11: Penetration of smart meters required

1. **Are particular metering services only cost effective when a particular penetration is achieved? If so, what services and what penetration is required?**

PIAC does not consider the cost effectiveness of penetration to be an appropriate consideration at this stage of the review. Metering should be regarded as an essential component of the infrastructure delivering an essential service and should have a standard of specifications capable of meeting the requirements of a safe and efficient system. The cost effectiveness of services that rely on metering should not be regarded as a valid limitation to the rollout of metering that meets improved capability specifications.

2. **What other factors are important in determining whether the provision of particular services are efficient or effective**

Metering should be regarded as an essential component of the infrastructure delivering an essential service and should have a standard of specifications capable of meeting the requirements of a safe and efficient system. The cost effectiveness of services that rely on metering should not be regarded as a valid limitation to the rollout of metering that meets improved capability specifications.

## Question 12: Encouraging adoption of smart meters and future services

1. **Is the current regulatory framework appropriate for the current needs of metering and the market? Is it flexible enough to provide encouragement for the development of future services in metering?**

The current regulatory framework is not fit for purpose, and is thoroughly inadequate for the efficient operation of the new energy system that is rapidly evolving.

As PIAC outlined in responses to previous questions, this review should not commence with narrow identification of specific issues with metering, but re-commence from first principles with an evaluation of what role metering should play, and assess and implement metering reform accordingly.

2. **To encourage higher adoption of smart meters:**
    a. **What changes, if any, need to be made to the current regulatory framework for future services?**

As outlined in response to previous questions, PIAC considers it appropriate to clearly define the role of metering, and its priority functions for consumers and the energy system. A set of standards to ensure the full scope of these functions is efficiently realised should then be set, with a target date for full implementation of upgraded standards for metering. The metering framework should then be derived to enable these standards to be met, and implementation to be delivered simply, efficiently and with greatest scope to deliver benefits for all consumers.

    b. **What changes, if any, need to be made to other instruments (eg. Regulatory instruments, guidelines, codes)**

While the process outlined throughout this submission will determine the specifics of the standards of metering, when and how upgraded standards should be implemented, and the relationships and responsibilities that will best deliver them, it is likely that a range of regulatory instruments, guidelines and other enabling policies and measures will be needed to support this process. This may include (but not be limited to):

- An updated set of minimum standard specifications for metering that can accommodate the range of current and likely future capability requirements.

- An independently assessed timeframe for the implementation of new metering across the NEM.

- A guideline for metering rollout including:

- when and how consumer requests should be delivered;
- conditions to be met for replacement of faulty metering;
- conditions for replacement of multiple metered arrangements;
- how geographic rollout should be prioritised;
- how costs should be shared between consumers and the entity responsible for metering rollout, including scope for cost offsets, and maximum costs recoverable from consumers for metering assets and metering data;
- conditions for the use and sharing of data from metering that protects individual consumer privacy; and
- conditions for the provision of data to retailers and other approved service providers (such as aggregators).

3. **Are there other avenues of encouragement that are available that the commission has not considered in this paper?**

PIAC does not consider this a priority question at this stage in the review. This would be better addressed at a later date, subject to clearer identification of the priorities of metering, the needs a metering framework must fulfil, and more detail regarding what is intended to be implemented.

## Question 13: Barriers to realising the benefits of smart meters

1. **Are there other barriers that were not identified by the Commission that you have found prevent the realisation of benefits of smart meters and/or slowed the rollout of smart meters in the NEM?**

The current framework, the technical standards it implements, the responsibilities and relationships it relies on, and the incentives and costs it has created, are fundamental barriers to the realisation of any material benefits that could be enabled by advanced metering. PIAC recommends this review not seek to address narrow aspects of the current framework, but start from first-principles with an assessment of the optimum role and priorities for metering within the wider system, and derive a regulatory framework that is capable of efficiently delivering those identified roles in the long-term interests of all consumers.

2. **What changes, if any, need to be made to the current regulatory framework for current arrangements to improve deployment?**

As outlined throughout previous answers, PIAC recommends this review evaluate the role of metering and assess the priority objectives of implementing more advanced metering across the system. A new regulatory framework, responsibilities and supporting measures, should be implemented according to the determination of these standards and objectives.

3. **Are there other tools outside of the regulatory framework that may address some of the current barriers to realising the benefits of smart meters and/or the slower rollout of smart meters in the NEM?**

Reforming the regulatory framework for metering is a priority for navigating the energy transition. This reform should identify and prioritise the roles metering must play to make the transition

efficient and of benefit for all consumers. The identified priorities of reform will likely require supporting and enabling measures, which should be determined accordingly.

Should an accelerated rollout of smart metering be prioritised, such as through the setting of a target date for full implementation, the criteria for installation of new metering will likely need to go beyond occasions when installation is most efficient, or at the explicit request of a consumer. In this case ensuring the costs of accelerated rollout are not borne completely by consumers is essential. To this end it may be necessary to create a framework for the sharing of costs and benefits where accelerated installation occurs, where a maximum amount of cost is recoverable from consumers, and the remainder is offset through other means. Government support or investment based upon realisation of potential benefits (for instance as part of demand reduction or virtual power plant projects) may need to be facilitated either through supporting regulatory changes or direct investment programs funded by consolidated revenue.

More flexible tariff options and wider availability of a range of tariff options at a network and retail level has already been identified as a key enabler for realisation of potential network efficiency benefits of advanced metering. PIAC supports a renewed focus on the role of tariff reform, but strongly recommends ongoing tariff reform should be examined separately through a comprehensive process that:

- responds directly to any reforms to the metering framework and supports the systemic and consumer benefit priorities the metering review process identifies;
- considers expressed consumer and community preferences regarding the equity, fairness and simplicity of the pricing of essential services; and
- reviews frameworks for rebates, concessions, supporting measures and consumer assistance and protection to ensure tariffs designed to optimise system efficiency do not have a negative impact upon consumer vulnerability.