Electric Vehicle Charging Infrastructure (EVCI) Trial

Early learnings report

26 June 2026

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Executive Summary

The Electric Vehicle Charging Infrastructure (EVCI) Trial was established to explore how distribution network businesses can support Victoria's transition to electric transport through the deployment of publicly accessible charging infrastructure in locations where charging availability, accessibility or customer convenience may currently be limited.

Delivered by CitiPower, Powercor and United Energy, the trial seeks to better understand customer charging behaviours, infrastructure utilisation, network impacts, operational requirements and future planning considerations associated with the growing adoption of electric vehicles (EVs).

The trial will install up to 100 pole-mounted EV chargers across metropolitan and regional Victoria. The networks are responsible for the installation and maintenance of the charging infrastructure, while charging services are operated by independent third-party providers.

Importantly, the trial was designed to generate practical evidence and real-world insights that are currently unavailable to industry, governments and regulators. The findings will assist in informing future policy, regulatory frameworks, network planning approaches and infrastructure investment decisions as Victoria progresses towards greater transport electrification.

The trial also aims to test whether existing electricity network assets can be leveraged safely and efficiently to support large scale EV charging infrastructure deployment while maintaining appropriate regulatory safeguards, transparency and competitive neutrality.

Early observations from the trial reinforce the importance of accessible charging infrastructure in supporting EV adoption, particularly in locations where customers have limited access to private off-street parking. The trial is also providing valuable insights into charging utilisation patterns, customer demand profiles, operational performance and local network impacts.

The site identification and approval process has demonstrated the considerable complexity involved in deploying public charging infrastructure at scale. To date, more than 448 potential sites have undergone detailed technical assessment, with over 320 subsequently progressing to local council review. Despite this substantial level of activity and stakeholder engagement, 34 charging locations have received approval from councils for deployment to date. This conversion rate reflects the multifaceted nature of site selection, where technical feasibility, customer demand, parking availability, local amenity considerations and the requirements of various stakeholders must all be carefully balanced to achieve viable and community-supported outcomes.

As the trial progresses, CitiPower, Powercor and United Energy remain committed to openly sharing findings with governments, regulators, industry participants and the broader community to support evidence-based decision making and the efficient development of Victoria's future EV charging ecosystem.

Project background

Victoria has set ambitious decarbonisation targets, including a commitment to achieve net zero emissions by 2050 and a long-term vision for zero-emission vehicles to become the dominant form of transport across the state.

A key enabler of this transition is the availability of reliable, accessible and affordable charging infrastructure. While electric vehicle adoption continues to grow, charging accessibility remains one of the most significant barriers influencing customer confidence and purchasing decisions.

Research consistently identifies charging availability, convenience and concerns regarding charging access as important factors affecting EV adoption rates. These challenges are particularly pronounced for customers who do not have access to private off-street parking, customers living in higher-density urban environments, and customers located in regional communities where charging infrastructure may be less prevalent.

Recognising these challenges, CitiPower, Powercor and United Energy developed the EVCI Trial to explore how existing electricity distribution infrastructure could support the delivery of public charging services in a safe, efficient and scalable manner.

The trial was established following a ring-fencing waiver application to the Australian Energy Regulator (AER), enabling the networks to own**,** install and maintain EV charging infrastructure while independent third-party operators provide customer-facing charging services.

The trial is intentionally limited in scope and scale. It is designed as a learning initiative rather than a commercial charging network. The objective is to gather practical insights that can assist governments, regulators, network businesses and market participants in understanding how public charging infrastructure may evolve as EV adoption accelerates.

The trial focuses on several key areas:

- impact of EVCI charging on demand in local networks
- impact of customer charging on price elasticity during periods of both low and high demand
- application of new technologies on the networks
- understanding utilisation rates of local area identities, for instance utilisation of residential streets compared to commercial and no-off-street parking locations to inform demand forecasting
- impact of power quality on the network from customer charging behaviour
- development of processes and technical guidelines for ECVI connections.

Representatives from CitiPower, Boroondara Council, participating EMSPs and other project parters at the launch of the first charger

About this report

The purpose of this Early Learnings Report is to share insights gathered during the planning and development phase of the EVCI Trial. While charger deployment is still underway, significant findings have already emerged through engagement with local councils, charge point operators, hardware manufacturers, software providers and other industry stakeholders.

These early findings highlight that the successful rollout of public EV charging infrastructure extends well beyond the installation of charging equipment. Delivering charging infrastructure at scale requires coordination across multiple organisations, regulatory frameworks, technical systems and community stakeholders. Through the trial development process, valuable insights have been gained into the opportunities and challenges associated with planning, approving, operating and maintaining public charging infrastructure in both metropolitan and regional Victoria.

Importantly, our findings are intended to support broader industry understanding and inform future infrastructure deployment, policy development and regulatory decision-making. By sharing these insights openly, the trial aims to contribute to a more efficient, collaborative and customer-focused approach to supporting Victoria's transition to electric transport.

zuup founder James Kleine plugging in for the inaugural charge at our Boroondara launch

Early learnings

1. E-Mobility Service Providers: Navigating CPO and EMSP interoperability

Engagement with EMSPs has reinforced their critical role in the EV charging value chain, particularly in relation to customer-facing services, tariff structure (dynamic vs fixed pricing), and billing arrangements. While the underlying network infrastructure enables physical charging capability, EMSPs are responsible for delivering the end-to-end customer experience, and therefore significantly influence market outcomes and customer satisfaction.

To facilitate market participation, a standardised access agreement was developed with the intent of being fair, reasonable, and supportive of efficient onboarding. Notwithstanding this, experience to date indicates that commercial negotiations with EMSPs remain inherently complex and time-consuming, particularly where their internal governance processes, pricing constructs, and customer obligations must be aligned across multiple parties.

From a systems integration perspective, interoperability is enabled through OCPI (Open Charge Point Interface), which provides a recognised framework for data exchange and roaming functionality. However, practical implementation has demonstrated that variability in how individual EMSPs interpret and implement OCPI standards can introduce material differences in integration approaches. These inconsistencies have, in turn, resulted in delays in testing, validation, and commissioning of customer-facing access, despite adherence to a common protocol framework.

A further key observation relates to the introduction of multiple EMSPs within the trial environment, which has provided practical validation of a key pre-trial hypothesis: that competition at the point of charging (“socket level”) drives improved price outcomes for end users. At initial go-live, the platform supported a single EMSP. Following the onboarding of a second EMSP, observed pricing for equivalent charging services within the same time period has reduced by more than 50%, indicating that increased competitive tension can materially improve customer pricing outcomes and overall market efficiency.

2. Local Council engagement: Working together to deliver for the community

Engagement with local councils has highlighted the important role local government plays in the successful deployment of public EV charging infrastructure. While there is broad support for transport electrification across Victoria, councils are at varying stages of maturity in their sustainability, climate action and EV strategies. Some councils have well-developed electrification roadmaps and dedicated resources focused on EV adoption, while others are still developing their approach and priorities. This variation can significantly influence the pace of decision-making, approval pathways and deployment outcomes.

A key observation has been that highly engaged councils can move quickly when there is strong alignment between EVCI deployment and their strategic objectives. Where councils view charging infrastructure as an enabler of sustainability outcomes, economic development or community amenity, they have demonstrated a willingness to collaborate closely and expedite approvals. Conversely, where EV infrastructure is not yet a strategic priority, deployment discussions often require greater stakeholder engagement and education.

The trial has also highlighted differing levels of familiarity with charging technologies. In some cases, councils have approached low-capacity AC pole-mounted charging infrastructure using assessment frameworks more commonly applied to larger DC fast charging installations. While both technologies support EV charging, their scale, visual impact, electrical requirements and operational characteristics are significantly different while complimentary to each other. This has reinforced the importance of providing clear information and education regarding the role and purpose of different charging technologies.

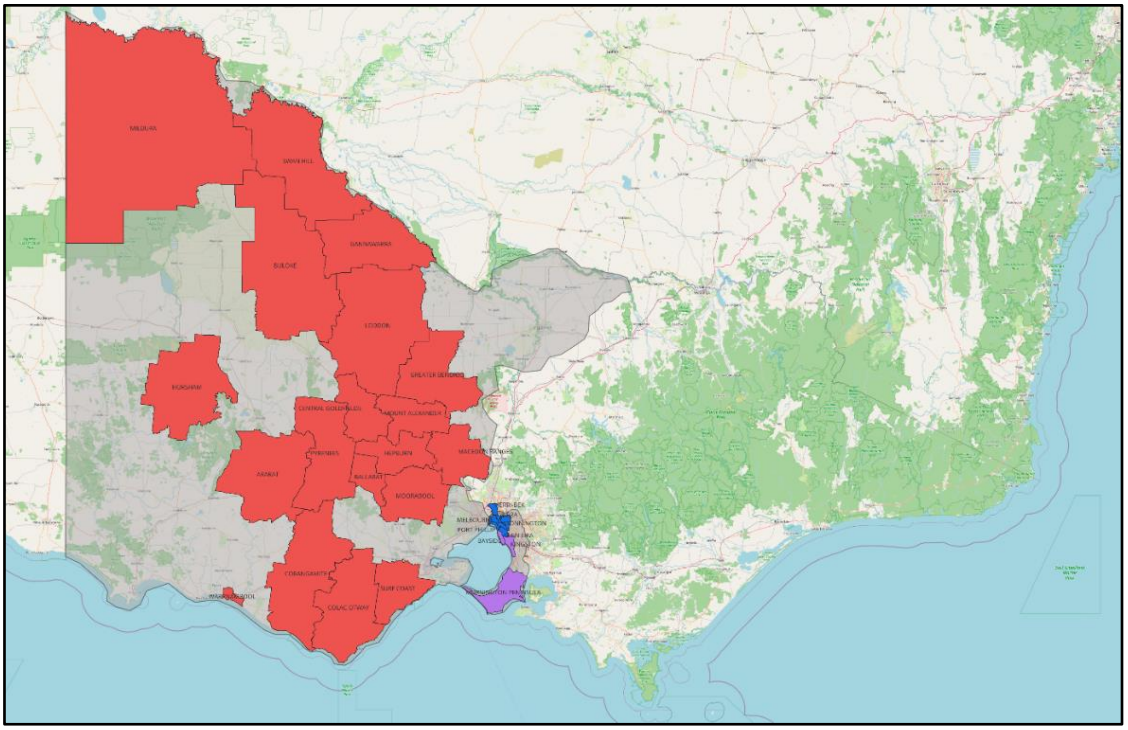
Commercial and legal arrangements have also varied across municipalities. Some councils have expressed a preference for Memorandums of Understanding (MOUs) to establish partnership principles and project objectives, while others have preferred more formal licence agreements governing the use of council-managed land and assets. The absence of a consistent approach across local government is creating additional complexity and extending deployment timeframes.

Another significant finding has been the importance of internal council alignment. EV charging infrastructure often intersects with multiple departments, including sustainability, transport planning, engineering, parking, urban design, economic development and community engagement teams. While all departments are working towards positive community outcomes, their priorities can differ. For example, discussions relating to EV charging locations may intersect with competing priorities such as active transport infrastructure, bicycle lanes, streetscape improvements, parking utilisation or accessibility requirements. Achieving alignment across these stakeholders can be one of the most significant contributors to increased project timelines and has reinforced the need for early engagement and clear governance pathways.

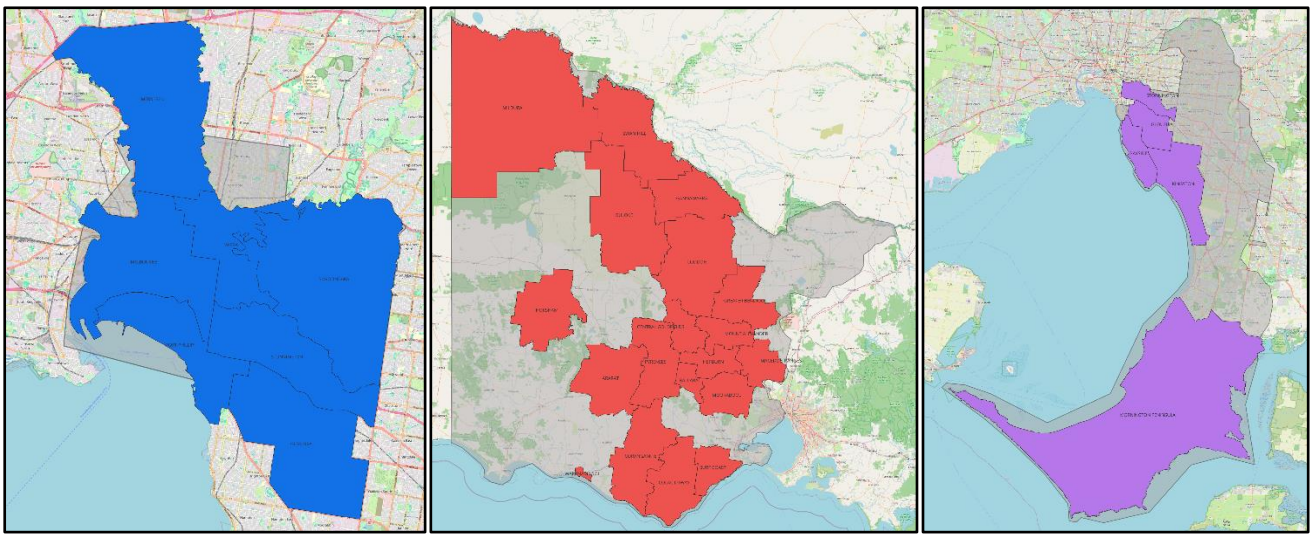
Parking management preferences have also varied significantly between councils. Some councils have preferred dedicated EV charging bays to maximise charger availability and visibility, while others have favoured non-dedicated or shared-use parking arrangements to maintain flexibility and optimise utilisation of public parking assets. Early operational experience suggests that the choice of parking management approach can have a substantial impact on customer experience and charger utilisation outcomes.

One of the most notable challenges identified to date has been the occurrence of "ICEing", where internal combustion engine (ICE) vehicles occupy parking spaces intended for EV charging. In locations where dedicated parking controls are absent or enforcement mechanisms are limited, EV drivers have reported frustration when arriving at charging locations only to find bays unavailable due to non-EV vehicles occupying the space. While the optimal balance between dedicated and shared-use parking arrangements may differ across locations, the trial has highlighted the importance of

considering parking controls, signage, enforcement and customer behaviour alongside charging infrastructure deployment to ensure a positive user experience.



Engaged local government areas



Detailed local government area engagement, by network

3. Dedicated Parking Bays: Establishing a baseline for future evaluation

The trial is demonstrating the importance of understanding the relationship between parking arrangements and customer access to public EV charging infrastructure (EVCI).

To date, the trial has primarily operated without dedicated EV charging parking bays. This reflects the preferences of many local councils to maintain flexibility and maximise utilisation of public parking assets by combustion vehicles. While this approach has supported site deployment, it has also highlighted challenges associated with ensuring reliable customer access to charging infrastructure. This is understandably a short-term priority for councils, but the rapidly accelerating uptake of electric vehicles is challenging the future parking allocation requirements.

Throughout the trial, instances of EV charging spaces being occupied by non-charging vehicles have been observed, limiting customer access to available charging infrastructure. Customer feedback has identified this as a source of frustration, particularly where charging equipment is operational but inaccessible due to parking availability. These experiences reinforce that the customer charging experience is influenced not only by charger reliability, but also by the accessibility of the associated parking bay.

Importantly, the current operating model has provided CitiPower and Powercor with a valuable baseline dataset regarding charger utilisation, customer behaviour, parking occupancy, and access-related challenges in a predominantly non-dedicated parking environment. This baseline will enable future comparison and evaluation as dedicated EV charging bays are introduced across selected locations.

The introduction of dedicated parking bays will provide an opportunity to assess the extent to which dedicated access improves charger availability, utilisation outcomes, customer satisfaction, and overall charging experience. This evidence-based approach will support future decision-making regarding the role of dedicated parking in maximising the effectiveness of public charging infrastructure investments.

More broadly, the trial has demonstrated that successful public charging deployment requires consideration of the entire customer journey, including parking access, signage, enforcement, and bay management, rather than focusing solely on the charging hardware itself.

4. Site Selection: The importance of an iterative and multi-stage assessment process

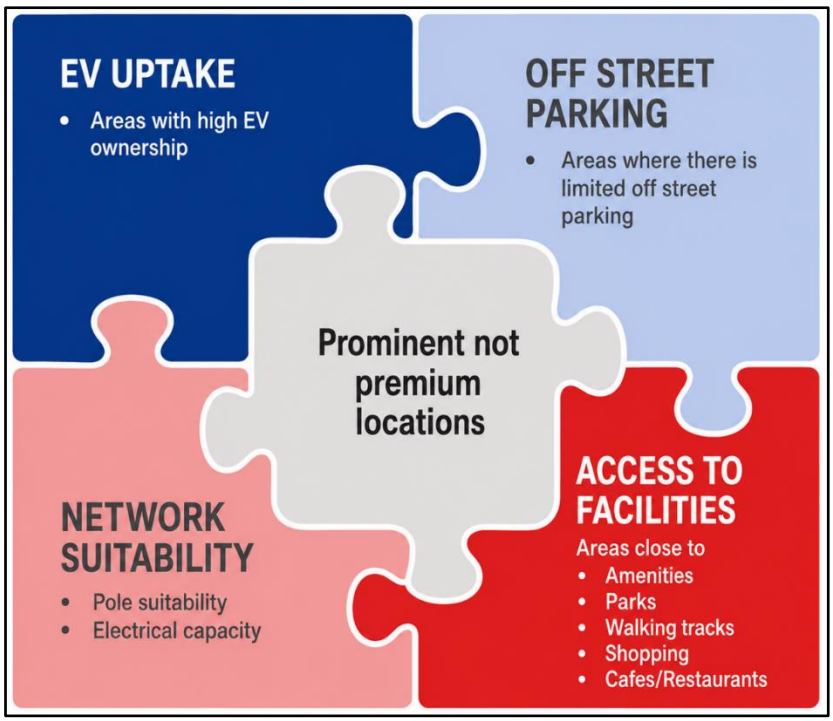
While CPU collectively operate more than 800,000 poles across the networks, the number of poles that can practically support public EV charging infrastructure is substantially lower. Site suitability is influenced by a range of factors including network configuration and capacity availability, technical and engineering constraints, proximity to suitable parking bays, accessibility requirements, and local planning considerations.

As a result, site selection is not a linear process but is undertaken in an iterative manner, reflecting the complexities associated with identifying locations that satisfy both technical and stakeholder requirements. Sites that initially appear suitable may subsequently be excluded due to engineering constraints, parking considerations, council feedback, community concerns, or changing operational requirements. The trial has demonstrated that the availability of a pole alone is not a reliable indicator of deployment suitability and that multiple rounds of assessment and refinement are often required before a viable site is identified.

To date, more than 448 potential sites have undergone detailed assessment, with over 320 of these locations subsequently progressing to local council review and consideration. Despite this significant level of activity and engagement, only 34 charging locations have received approval from councils for deployment. This conversion rate highlights the complexity of balancing technical feasibility, customer demand, parking considerations, local amenity impacts, and stakeholder requirements.

The experience gained through the trial has reinforced the importance of maintaining a large pipeline of candidate sites and adopting a flexible, iterative approach to site identification and assessment. Successful public charging deployment requires ongoing collaboration between distribution network businesses, local councils, and community stakeholders to progressively refine and identify locations that are both technically feasible and operationally sustainable.

More broadly, the findings suggest that future large-scale deployment programs should anticipate significant attrition throughout the assessment and approval process and account for this when establishing deployment targets, timelines, and resource requirements.



The location jigsaw we've used through council briefings

5. Equity for Rural and Regional Customers: Technology readiness and deployment constraints

The trial is showing the importance of addressing equity of access to public EV charging infrastructure (EVCI) in rural and regional areas, alongside metropolitan deployment.

To date, engagement with rural and regional councils has resulted in limited uptake and progression of charging sites, relative to metropolitan areas. This reflects a combination of factors including lower initial demand signals, differing infrastructure priorities, and longer approval timeframes.

In parallel, there is a growing expectation from rural and regional stakeholders for the deployment of pole-mounted DC fast charging solutions to support longer-distance travel and reduce charging time constraints in areas with lower site density. However, there are currently no fully market-ready pole-mounted DC solutions at scale that can be broadly deployed across these environments.

This creates a material constraint for regional electrification, particularly in townships and feeder networks operating on single-phase supply or SWER (Single Wire Earth Return) systems, where available capacity and network configuration significantly limit the ability to support higher-powered DC charging without substantial upstream network augmentation.

As a result, there is a risk that rural and regional areas may face a structural disadvantage in access to fast charging infrastructure, unless technology solutions and deployment models evolve in parallel with demand. This highlights the importance of aligning infrastructure rollout strategies with the maturity of available charging technologies and the underlying network capabilities.

More broadly, the trial suggests that achieving equitable EV infrastructure outcomes will require a coordinated approach across technology development, network capability, and stakeholder engagement, with particular focus on ensuring that regional deployment pathways are not constrained by the current limitations of market-ready high-power pole-mounted solutions.

6. Upskilling of Staff: Enabling safe, effective delivery of emerging EV infrastructure

Safely and effectively accelerating the deployment of emerging EV charging technologies and associated operating models will require an ongoing process of workforce upskilling.

The introduction of new infrastructure types, digital platforms, and customer-facing service arrangements has required staff to develop capability across multiple domains, including new technologies, revised delivery processes, evolving safety requirements, contractor engagement models, and customer support expectations. This reflects the multidisciplinary nature of EV infrastructure delivery, which spans electrical engineering, network operations, commercial arrangements, and customer experience.

From a technology perspective, the rapid evolution of EV charging systems and associated communications protocols has required teams to build familiarity with new equipment types, integration requirements, and system interoperability considerations. This has been particularly important in ensuring safe commissioning, reliable operation, and effective troubleshooting across a range of vendor solutions.

In parallel, updated processes and delivery frameworks have required staff to adapt to more complex end-to-end workflows, including coordination across internal functions, external delivery partners, and customer-facing stakeholders. This has reinforced the importance of clear procedural guidance and consistent governance structures to support scalable deployment.

Safety requirements have also evolved in response to the introduction of new electrical assets, installation methods, and operational environments. Ensuring staff are appropriately trained and aligned to these requirements has been fundamental to maintaining safe outcomes during installation, commissioning, and ongoing maintenance activities.

More broadly, the trial demonstrates that successful scale-up of EV infrastructure is not solely dependent on technology deployment, but equally on the ability of the workforce to adapt, learn, and operate effectively within an evolving technical and commercial environment.

7. Flexible Trading Arrangements (Type 9 Metering): Enabling lower cost deployment and enhanced market competition

The trial has demonstrated the potential value of Flexible Trading Arrangements (FTA), specifically a Type 9 metering framework, in reducing both the cost and complexity of EV charging infrastructure deployment, while also enabling more competitive and consumer-centric market structures.

Under a Type 9 metering approach, metering requirements can be streamlined by utilising the internal metering capability of the EVCI, rather than requiring a separate physical metering panel. This has the potential to deliver material reductions in upfront installation costs, driven by the removal of additional electrical infrastructure requirements and associated civil and commissioning works. In addition, the simplified installation approach reduces on-site complexity and installation timeframes, improving the overall efficiency of deployment.

Beyond cost and installation benefits, Type 9 metering has the potential to significantly enhance market structure and competition. It would enable multiple EMSPs to operate concurrently at a single charging point, while also allowing them to select a Financially Responsible Market Participant (FRMP / electricity retailer) of their choice. This decoupling of roles is expected to increase market participation, promote competitive tension at both the charging service and retail electricity levels, and ultimately contribute to downward pressure on end-user charging prices.

In addition, Flexible Trading Arrangements represent an important foundational step toward enabling “plug and charge” functionality, where customers can access public charging infrastructure seamlessly, with energy costs automatically allocated back to their nominated retail electricity account. This has the potential to significantly improve customer experience by removing transactional friction at the point of charging, while maintaining appropriate market settlement and billing arrangements in the background.

More broadly, the trial insights suggest that reforms enabling flexible metering and settlement arrangements could play a critical role in accelerating the scale-up of public EV charging infrastructure, improving cost efficiency, and supporting the development of a more competitive and interoperable EV charging ecosystem in Australia.

Notwithstanding these benefits, it is important to recognise that enabling Flexible Trading Arrangements, including a Type 9 metering framework, requires the development and integration of new market and IT system capabilities, which introduce additional costs and complexity. This includes the establishment of systems to support metering data validation, settlement processes, EMSP–FRMP interactions, and customer account attribution, as well as the ongoing management of increased data volumes and associated data storage and retention obligations. These requirements represent a material investment across market participants and supporting platforms. As such, the costs and operational complexity associated with these enabling capabilities should be acknowledged as a necessary component of implementing flexible metering arrangements and considered as part of the broader assessment of long-term market efficiency, competition, and customer benefits.