

# Plug & Play 2

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***Plug & Play 2: Enabling distributed generation through effective grid connection standards is the second report for this project. It follows a consultation paper released in February 2017, titled *Plug & Play: Facilitating grid connection of low emissions technologies.****

For this report, we interviewed stakeholders from the gas, telecommunications and aviation industries about the characteristics of an effective process for developing industry standards and codes of practice. These discussions suggested two important features: regulatory oversight; and active and informed representation of different interests. Both of these features are helpful for the development of fair and effective standards, and at least one is necessary. These features are largely absent from the current process for developing distribution network access requirements, and this report suggests actions that could be taken to address this.

The Australian electricity market is at the forefront of the distributed electricity transition occurring internationally. This transition promises a move to customer-led markets located in distribution networks, providing a range of services to the network as a whole. To enable this transition, it is essential that customers can easily access the network by connecting their equipment. This will ensure customers can participate in the range of projected financial and energy security benefits produced through this evolving market.

Current arrangements do not always provide customers with easy access to the distribution network for their equipment. Connection is controlled by a complex array of laws, requirements and standards that vary between different networks. Under state laws, distributors are responsible for managing the safety and performance of the network, and have control over connection to the network. Distributors can base their access requirements on Australian Standards, International Standards and/or their own particular conditions. There is no regulatory oversight of distributors' network access requirements.

Customer access to the network may also be constrained by customers' absence from the process of developing access requirements. While networks are explicitly required to consider network safety and performance, they are not required to balance customer interests against these features. Some distributors include Australian Standards as part of their network access requirements. Although Standards Australia encourages the representation of a range of interests in the standards development process, broad stakeholder representation is not consistently achieved on Standards Australia committees. Across a range of industries, Standards Australia experiences difficulties in attracting appropriately skilled customer representatives, or customer proxies such as manufacturers, to sit on its panels. As a result, even the inclusion of Australian Standards in distributor access requirements may fail to provide balanced consideration of customer interests.

The development process for network access requirements therefore results in increased costs for customers wanting to access the grid by connecting their equipment. Our first report, *Plug & Play: Facilitating grid connection of low emissions technologies*, identified a range of situations where variations in distributor network requirements have increased customer costs or reduced customers' ability to achieve their objectives. This report influenced the Australian Energy Market Commission's discussion of the near-term enablers required for distributed energy to flourish in the National Electricity Market (NEM). Energy Networks Australia (ENA) has also identified the importance of developing more consistent connection processes across the different distribution networks and is currently consulting stakeholders on principles for common distribution network connection processes. This new report is intended to feed into the current ENA process.

# Improving the process

**We have identified three actions that could improve the process for developing network access requirements.**

Action 1 is intended to address the need for oversight and transparency of distribution network access requirements.

Actions 2 and 3 each address the need for better customer representation in the development of access requirements.

In order to improve network access requirements, either Actions 1 and 2 or Actions 1 and 3 should be undertaken as a package.

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## **ACTION 1:**

### **A framework for network access requirements**

Across distribution networks, agreement is required to define the characteristics of a safe, secure network. A framework should be developed to provide guidance on the acceptable (and unacceptable) incidence of foreseeable events. In the first instance, this may mean codifying the 'rules of thumb' that networks are currently using to manage requests for access in specific locations. As the distributed electricity transition progresses, distribution networks should publish their findings from applying the framework, and the framework should be updated regularly to incorporate these learnings.

To support the framework and provide transparency to a range of stakeholders, models and tools for testing key assumptions about the safety framework should become publically accessible. Manufacturers and customers could use the tool to better understand the risks and benefits of their product, or the potential impacts of their application for connection to the distribution network. It is our view that the ENA is best placed to undertake the role of developing the framework, models and tools. This process should be transparent and seek feedback from a broad range of stakeholders, including networks, manufacturers and customers.

## **ACTION 2:**

### **Representing customers in the development of Australian standards**

The process for developing Australian Standards for grid-connected equipment could provide a valuable method for implementing the broad framework recommended as Action 1. However, better representation from a wider range of stakeholders is required in the development of these Standards. Increased funding may be needed to engage capable customer and industry representatives in the standards development process. We are yet to identify the most appropriate source for this funding.

The Australian Energy Market Operator (AEMO) could provide a potential alternative to Standards Australia for the development of network access requirements. This option should be considered further, to test its viability. This role would represent a significant departure from AEMO's current responsibilities.

## **ACTION 3:**

### **Adopting international standards**

In the absence of funding for improved participation in the development of Australian Standards, International Standards should be adopted, with only minimum amendments to account for specific Australian conditions. The rationale for this approach is that representation of a broad range of stakeholders is much stronger at the international level and this could provide a cheaper, more transparent, more adaptive alternative to the current model, both for Australian electricity customers and for the economy as a whole.

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Effective distribution network connection requirements will be essential in enabling the distributed electricity transition to progress equitably and transparently. It is our view that implementation of the above actions would improve the balance of customer interests alongside network safety and performance in the requirements for distribution network access. The improved requirements would be evidence-based, consistent across different networks, and balance the interests of different energy market participants to create better outcomes for the economy and the grid.