We acknowledge the Traditional Owners of country throughout Australia and recognise their continuing connection to land, waters and culture. We pay our respects to their Elders past, present and emerging.
<table>
<thead>
<tr>
<th>Timing</th>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00am</td>
<td>Welcome and introductions</td>
<td>NECA</td>
</tr>
<tr>
<td>8:15am</td>
<td>AEMO DER Register overview</td>
<td>Australian Energy Market Operator</td>
</tr>
<tr>
<td>8:30am</td>
<td>Distribution Network overview</td>
<td>Distribution Networks</td>
</tr>
<tr>
<td>9:00am</td>
<td>Panel Q&amp;A session</td>
<td>All</td>
</tr>
<tr>
<td>9:20am</td>
<td>Networking</td>
<td>All</td>
</tr>
<tr>
<td>10:00am</td>
<td>Close</td>
<td></td>
</tr>
</tbody>
</table>
About AEMO

Shaping a better energy future for all Australians

We operate Australia’s National Electricity Market and power grid in Australia’s eastern and south-eastern seaboard, and the Wholesale Electricity Market and power grid in south-west WA.

Both markets supply more than 220 terawatt hours of electricity each year.

We also operate retail and wholesale gas markets across south-eastern Australia and Victoria’s gas pipeline grid.

Collectively traded more than A$20 billion in the last financial year.

Ownership

<table>
<thead>
<tr>
<th>Market participants</th>
<th>Governments of Australia</th>
</tr>
</thead>
<tbody>
<tr>
<td>40%</td>
<td>60%</td>
</tr>
</tbody>
</table>
The growing level of consumer choice

Source: AEMO 2019 ISP Insights, neutral scenario
High rooftop PV in the operational domain

Source: OpenNEM
Reversing the distribution network

Forecast ‘reverse electricity flows’ across Australia’s distribution networks

Source: CSIRO 2019
AEMO’s DER Register
DER Register

- Required to be implemented by the National Electricity Rules
- A national database of DER assets to enable the realisation of consumer value and enhance power system reliability via DER installed in homes and businesses across Australia
- Implemented from 1 December 2019
## What kinds of data?

<table>
<thead>
<tr>
<th>Level</th>
<th>Data types</th>
<th>Expected source of data</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Network</td>
</tr>
<tr>
<td>Installation</td>
<td>Approved capacities, technologies and central control/protection (e.g. export limits)</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Installer licence number / ID</td>
<td></td>
</tr>
<tr>
<td>AC interface</td>
<td>Inverter or generator manufacturer, model, serial number and capacities, and numbers of installed units</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inverter control modes and settings (e.g. volt-watt etc)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Non-inverter generation control modes, settings and protection</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Date of commissioning</td>
<td></td>
</tr>
<tr>
<td>Device</td>
<td>Device (e.g. solar PV panels or battery) manufacturer, model and capacities, and numbers of installed units</td>
<td></td>
</tr>
</tbody>
</table>
What changes?
From 1 December 2019, a condition of the connection of all small generator and battery installations to the network will require DER installers and electrical contractors to provide information for the DER Register.

**Workflow**

**As-approved information**
- Network provides
- Aligns to connection approval
- Includes approved capacities, technologies and site protection and control information

**As-installed information**
- Installer provides
- Includes information about the equipment installed such as manufacturer, model and serial numbers
- Protection and control settings can be confirmed

**Confirmed DER Record**
- Data submitted to Register

**Steps**

**Step 1**
Apply to the network for a connection and receive approval.

**Step 2**
Customer agrees and installation goes ahead.

**Step 3**
DER installer collects information about what is installed on site.

**Step 4**
DER installer provides information to the DER Register.

**Step 5**
Network can review and confirm data.

**DER installation certificate**
Providing information

1. Create account
2. Access records
3. Provide data

Step 1: Create an account with AEMO

- To pre-register for an alert when the account system is open email DERRegister@aemo.com.au
Providing information

1. Create account
2. **Access records**
3. Provide data

Step 2: Access a DER Record

Or, register your AEMO account with your smartphone application provider to access DER records and provide the data.
Providing information

Step 3: Provide DER data

1. Create account
2. Access records
3. **Provide data**
Step 3: Provide DER data

1. Create account
2. Access records
3. **Provide data**
Providing information – App Providers

- Formbay
- Solar Scope
- Kickstart Agile

- Work is in progress with Formbay, Solar Scope & Kickstart Agile app developers to create a more seamless process for uploading data into the DER Register.

- Further information on the availability of this function will be provided shortly.
Note: In all cases the local network service provider is the first contact for a connection approval, as with current process.
NSW AEMO-DB process overview

1. Customer chooses a DER, like solar
2. Network connection approval
   - Network DER connection webpage
   - Information for approved / proposed DER is added to the DER Register
3. DER installation proceeds
   - AEMO DER Register webpage or solar installer application
   - Information about what is installed on site added to the AEMO DER Register
4. DER system in operation
5. Happy customer

LEGEND
- Information provided by installer
- Network service provider
- AEMO DER Register

Note: In all cases the local network service provider is the first contact for a connection approval, as with current process.
Readiness
Readiness

- Installers and electrical contractors should progress DER connection approvals with their local network as per current processes.
- AEMO high level Fact Sheets are high level.
- Your local distribution network will provide information on steps that are needed within their connection processes.

NSW DNSP overview

Introducing coming changes to implement the DER Register and changes to inverter requirements
## For more information regarding the DER Register or MSO changes:

<table>
<thead>
<tr>
<th>NSW DNSP</th>
<th>Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>AusGrid</td>
<td>Phone: 13 13 65</td>
</tr>
<tr>
<td>Endeavour Energy</td>
<td>Phone: 13 37 18</td>
</tr>
<tr>
<td></td>
<td>[<a href="http://www.endeavourenergy.com.au/wps/portal/ee/lut/p/a1/nVCxsMwEP">http://www.endeavourenergy.com.au/wps/portal/ee/lut/p/a1/nVCxsMwEP</a> 2VdugY2SG244wRkkQsCUUvZIFqj-ui2On2A1-n7QwsBRUbjpn7dVfeQR8skq3pzVmUXg_InLNm2u2na7paUzWPTLXG7Vlt fM07K1ROeCgl4AvV4r_2n5FESq95zHskALbvojPJsM7QHz32c98AhnZYBd SVt67YGcpevV6OjigCwaSs-GMemeQMjwQo0paUOCsUQoQhO6K-ra6KrUJlJefUn43YSYXNaXbVRodeXPByStj_qcsHCH41G2UwxxZPJlaPP_HMZ hPfDDbuS4ot7O558mgv6X/dl5/d5/L2dBjSEvZ0FBIS9nQSEh/](<a href="http://www.endeavourenergy.com.au/wps/portal/ee/lut/p/a1/nVCxsMwEP">http://www.endeavourenergy.com.au/wps/portal/ee/lut/p/a1/nVCxsMwEP</a> 2VdugY2SG244wRkkQsCUUvZIFqj-ui2On2A1-n7QwsBRUbjpn7dVfeQR8skq3pzVmUXg_InLNm2u2na7paUzWPTLXG7Vlt fM07K1ROeCgl4AvV4r_2n5FESq95zHskALbvojPJsM7QHz32c98AhnZYBd SVt67YGcpevV6OjigCwaSs-GMemeQMjwQo0paUOCsUQoQhO6K-ra6KrUJlJefUn43YSYXNaXbVRodeXPByStj_qcsHCH41G2UwxxZPJlaPP_HMZ hPfDDbuS4ot7O558mgv6X/dl5/d5/L2dBjSEvZ0FBIS9nQSEh/)</td>
</tr>
<tr>
<td>Essential Energy</td>
<td>Phone: 13 23 91</td>
</tr>
<tr>
<td>Australian Energy Market Operator (AEMO)</td>
<td>Email: <a href="mailto:DERRegister@aemo.com.au">DERRegister@aemo.com.au</a></td>
</tr>
</tbody>
</table>