We’re shaping a sustainable energy future for Australia, by taking action to prosper in a carbon-constrained world and becoming a more customer-centric business.

As the largest private coal fired energy generator in Australia, the largest private operator of renewable energy generation assets in Australia and as one of Australia’s largest energy retailers, we’re uniquely placed to shape a sustainable energy future for Australia.

• We are moving from being a mass retailer to a personalised retailer – using smarter solutions, technology and service to empower our customers.
• We are transitioning from being an owner and operator of large generation assets to an orchestrator of large and small assets, allowing energy to be generated, stored and shared by individuals.
• And we are moving to lower-emissions technology. We’ve set a deadline to close our coal plants and are investing heavily in renewable energy.

We’ve been committed to sustainability for a long time. In fact, we’ve been reporting on our sustainability journey since 2004. To us, ‘sustainability’ simply means thinking about the long-term responsibilities we have to all our stakeholders (our employees, our customers, our investors, and the community) and to the environment in which we all work and live. We think this way because we recognise that our future success and reputational standing is shaped and measured by more than just our economic performance; it is also influenced by the social and environmental consequences of our decisions and actions for all our stakeholders.

This report provides our stakeholders with an account of our sustainability performance over the last year, and sets goals for the following years. It focuses on the things that matter most to us, and to our stakeholders - our ‘material issues’ - and aims to provide thought leadership on important and emerging issues for our business, our industry, and the broader community.
AGL’s Strategic Imperatives

Prosper in a carbon constrained future

- Mass retailing → Personal retailing
  - $300 million Customer Experience Transformation program

- Operator of large assets → Orchestrator of large and small assets
  - Virtual Power Plant in SA connecting 1,000 home batteries

- Orchesturator of large and small assets → Lower emissions technology
  - Powering Australian Renewables Fund, driving investment in large scale renewables

- Lower emissions technology → Leveraging platforms in existing and new markets
  - WA expansion and review of energy retail opportunities in select offshore developed markets

Build customer advocacy

- Leveraging business platforms in existing markets

FY17 material issues

- Customer experience
  - Energy prices and affordability

- Distributed energy services and energy efficiency

- Climate change (greenhouse and energy)
  - Renewable energy

- Energy market evolution

Ethical conduct Public policy engagement Profitability Health and safety Community engagement

How we’ll deliver

- Embrace transformation
- Drive productivity
- Unlock growth

In this section

Strategy and material issues Sustainability targets & performance summary Material issues About this report Energy market evolution

This information is included in an interactive online report at http://agl2017.reportonline.com.au/sustainabilityreport. Visit this website to access the full FY17 Sustainability Report, sustainability data centre and other online features. This report is subject to the important information statement which is also available on this website.
Sustainable business strategy
Sustainability targets & performance summary

We have established targets and commitments to drive performance, behaviours and transparency across a range of sustainability topics. Our scorecard shows how we have performed against the targets we set for FY17, and shows the new targets that have been set to guide our performance in FY18 and beyond.

Further details about how we have performed are available in each section of the report. While we try to keep as much consistency between target metrics year on year, some targets have changed to reflect key metrics used by the business to evaluate performance, or where existing metrics aren’t measuring or driving performance as expected.

<table>
<thead>
<tr>
<th>Sustainable business strategy</th>
<th>FY17 target</th>
<th>FY17 performance</th>
<th>Status</th>
<th>FY18 target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy market evolution</td>
<td>Contribute to the development of an electricity market design and regulatory framework that facilitates safe, reliable, affordable and decarbonised electricity supply from centralised and distributed sources</td>
<td>Publish two thought leadership papers which contribute to sustainable market design</td>
<td>More than two thought leadership papers were published in FY17. See the energy market evolution section for details</td>
<td>Publish two thought leadership papers which contribute to a market design that facilitates sustainable, secure, reliable, affordable and decarbonised electricity supply</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How we operate</th>
<th>FY17 target</th>
<th>FY17 performance</th>
<th>Status</th>
<th>FY18 target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethical conduct</td>
<td>Act ethically in all activities in accordance with the AGL Code of Conduct</td>
<td>Number of substantiated issues relating to unacceptable behaviour in the workplace: 0</td>
<td>Number of substantiated issues relating to unacceptable behaviour in the workplace: 8</td>
<td>Number of substantiated issues relating to unacceptable behaviour in the workplace ranked as high or greater according to AGL’s FIRM risk management process: 0</td>
</tr>
<tr>
<td>Public policy engagement</td>
<td>Engage transparently with governments to facilitate the development of sensible public policy</td>
<td>AGL will publish all material submissions in relation to public policy matters on the AGL Blog</td>
<td>All material submissions in relation to public policy matters are published on the AGL Blog</td>
<td>AGL will publish all material submissions in relation to public policy matters on the AGL Blog</td>
</tr>
<tr>
<td>Corporate governance</td>
<td>Adopt best practice corporate governance</td>
<td>AGL’s FY17 Corporate Governance Statement is available on the AGL website</td>
<td>AGL will continue to publish its approach to corporate governance through the annual Corporate Governance Statement</td>
<td>AGL will continue to publish its approach to corporate governance through the annual Corporate Governance Statement</td>
</tr>
<tr>
<td>Legislative compliance</td>
<td>Comply with legislative requirements across the organisation</td>
<td>Number of adverse court findings in relation to Australian Consumer Law: 0</td>
<td>Number of adverse court findings in relation to Australian Consumer Law: 0</td>
<td>Number of legislative non-compliances that result in adverse court findings: 0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Number of fines or penalties in relation to environmental licences: 0</td>
<td>Number of fines or penalties in relation to environmental licences: 0</td>
<td>Number of fines or penalties in relation to environmental licences: 0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Environmental Regulatory Reportable Frequency Rate (ERRFR): &lt;1.5</td>
<td>Environmental Regulatory Reportable Frequency Rate (ERRFR): 1.0</td>
<td>Environmental Regulatory Reportable Incidents: ≤12</td>
</tr>
</tbody>
</table>

This information is included in an interactive online report at [http://agl2017.reportonline.com.au/sustainabilityreport](http://agl2017.reportonline.com.au/sustainabilityreport). Visit this website to access the full FY17 Sustainability Report, sustainability data centre and other online features. This report is subject to the important information statement which is also available on this website.
<table>
<thead>
<tr>
<th>Customers</th>
<th>FY17 target</th>
<th>FY17 performance</th>
<th>Status</th>
<th>FY18 target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer experience</td>
<td>Provide a superior experience that meets the needs of our customers</td>
<td>Net Promoter Score&lt;sup&gt;6&lt;/sup&gt;: Improvement in average annual NPS score compared to FY16&lt;sup&gt;6&lt;/sup&gt;</td>
<td>Net Promoter Score&lt;sup&gt;4&lt;/sup&gt;: -18.7, higher than the FY16 score of -19.8</td>
<td>☝️ Net promoter score&lt;sup&gt;6&lt;/sup&gt;: Improvement in average annual NPS score compared to FY20&lt;sup&gt;7&lt;/sup&gt;</td>
</tr>
<tr>
<td>FY17 target</td>
<td>FY17 performance</td>
<td>Status</td>
<td>FY18 target</td>
<td></td>
</tr>
<tr>
<td>Distributed energy services and energy efficiency</td>
<td>Provide a market-leading range of energy products and services that maximises customer value from distributed energy technologies</td>
<td>Proportion of AGL fleet comprising electric vehicles: 10% (by 2018)</td>
<td>We have committed to purchasing 36 electric vehicles (equivalent to 10% of current fleet) by the end of 2018</td>
<td>☝️ Leading by example by increasing the proportion of electric vehicles in our fleet to at least 10%</td>
</tr>
<tr>
<td>FY17 target</td>
<td>FY17 performance</td>
<td>Status</td>
<td>FY18 target</td>
<td></td>
</tr>
<tr>
<td>Energy prices and affordability</td>
<td>Provide affordable energy solutions for our vulnerable customers</td>
<td>Delivery of commitments under the Affordability Initiative: 100%</td>
<td>Delivery of commitments under the Affordability Initiative: 100%</td>
<td>☝️ Develop a Social and Economic Inclusion Policy</td>
</tr>
<tr>
<td>Community</td>
<td>Work side by side with the community to develop mutually beneficial energy projects</td>
<td>AGL will host at least four community events at each operational/development site&lt;sup&gt;10&lt;/sup&gt; to allow for community views to be raised and discussed in public&lt;sup&gt;11&lt;/sup&gt;</td>
<td>At least four events were held at each site, as detailed in the community engagement section</td>
<td>☝️ AGL will host at least four community events for each operational/development site&lt;sup&gt;10&lt;/sup&gt; to allow for community views to be raised and discussed in public&lt;sup&gt;11&lt;/sup&gt;</td>
</tr>
<tr>
<td>Community investment</td>
<td>Contribute to the organisations in our communities that are important to our employees and customers</td>
<td>Employee Volunteering participation rate: 35% (head count basis)</td>
<td>Employee Volunteering participation rate: 16%</td>
<td>☝️ Employee Volunteering participation rate of AGL's Enterprise Leadership Team: 90% (head count basis)</td>
</tr>
<tr>
<td>People</td>
<td>Maintain an engaged workforce in order to optimise business results</td>
<td>FY17 target</td>
<td>➔ FY18 target</td>
<td></td>
</tr>
<tr>
<td>Employee engagement</td>
<td>Employee engagement score: ≥ 75%</td>
<td>FY17 target</td>
<td>FY17 performance</td>
<td>Status</td>
</tr>
<tr>
<td>Talent</td>
<td>Attract and retain the right people to meet strategic objectives</td>
<td>Key talent retention: ≥ 80%</td>
<td>Key talent retention: 93%</td>
<td>☝️ Key talent retention: ≥ 80%</td>
</tr>
<tr>
<td>Diversity and inclusion</td>
<td>Build a diverse workforce and inclusive workplace culture</td>
<td>Women in the Senior Leadership Pipeline: 38%</td>
<td>Women in the Senior Leadership Pipeline: 40% (by FY2019)</td>
<td>☝️ Women in the Senior Leadership Pipeline: 40% (by FY2019)</td>
</tr>
<tr>
<td>Health and safety</td>
<td>Provide a safe and healthy workplace to eliminate work-related injuries and illnesses</td>
<td>Total injury frequency rate (AGL): &lt; 3.9</td>
<td>Total injury frequency rate (AGL): 2.0</td>
<td>☝️ Total injury frequency rate (AGL): ≤ 1.7</td>
</tr>
<tr>
<td>Environment</td>
<td>Compliance with AGL Greenhouse Gas Policy: 100%</td>
<td>Greenhouse Gas Policy: 100%</td>
<td>Compliance with AGL Greenhouse Gas Policy: 100%</td>
<td>☝️ Annually offset the greenhouse gas emissions from electricity consumed at AGL’s corporate workplaces&lt;sup&gt;14&lt;/sup&gt;</td>
</tr>
<tr>
<td>Climate change (greenhouse and energy)</td>
<td>2,405 tCO&lt;sub&gt;2&lt;/sub&gt;e of Gold Standard abatement was purchased to offset the emissions associated with electricity purchased for AGL’s corporate workplaces&lt;sup&gt;10&lt;/sup&gt;</td>
<td>2,405 tCO&lt;sub&gt;2&lt;/sub&gt;e of Gold Standard abatement was purchased to offset the emissions associated with electricity purchased for AGL’s corporate workplaces&lt;sup&gt;10&lt;/sup&gt;</td>
<td>Customers signed up to AGL’s Future Forests carbon offset product&lt;sup&gt;13&lt;/sup&gt;: 10,000</td>
<td>☝️ Customers signed up to AGL’s Future Forests carbon offset product&lt;sup&gt;13&lt;/sup&gt;: 10,000</td>
</tr>
<tr>
<td>FY17 target</td>
<td>FY17 performance</td>
<td>Status</td>
<td>FY18 target</td>
<td></td>
</tr>
<tr>
<td>-------------</td>
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<td>-------------</td>
<td></td>
</tr>
<tr>
<td><strong>Renewable energy</strong></td>
<td>Continue to be Australia's leading privately-owned operator of renewable energy</td>
<td>Development of first project to financial close, through the Powering Australian Renewables Fund</td>
<td>Financial close on Silverton Wind Farm achieved 19 January 2017</td>
<td>Development of one additional project to financial close, via the Powering Australian Renewables Fund</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FY17 target</th>
<th>FY17 performance</th>
<th>Status</th>
<th>FY18 target</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Water management</strong></td>
<td>Manage water resources sustainably</td>
<td>Environmental Regulatory Reportable Frequency Rate (ERRFR): ≤1.5</td>
<td>Environmental Regulatory Reportable Frequency Rate (ERRFR): ≤1.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FY17 target</th>
<th>FY17 performance</th>
<th>Status</th>
<th>FY18 target</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Air, waste and noise</strong></td>
<td>Minimise our environmental footprint</td>
<td>Environmental Regulatory Reportable Frequency Rate (ERRFR): ≤1.5</td>
<td>Environmental Regulatory Reportable Frequency Rate (ERRFR): ≤1.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FY17 target</th>
<th>FY17 performance</th>
<th>Status</th>
<th>FY18 target</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Biodiversity and cultural heritage</strong></td>
<td>Minimise our environmental footprint</td>
<td>Environmental Regulatory Reportable Frequency Rate (ERRFR): ≤1.5</td>
<td>Environmental Regulatory Reportable Frequency Rate (ERRFR): ≤1.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FY17 target</th>
<th>FY17 performance</th>
<th>Status</th>
<th>FY18 target</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rehabilitation</strong></td>
<td>Rehabilitate sites to an appropriate state, with appropriate community consultation, upon cessation of activity</td>
<td>Compliance with AGL Rehabilitation Principles: 100%</td>
<td>Compliance with AGL Rehabilitation Principles: 100% (delivered through the Rehabilitation Report)</td>
</tr>
</tbody>
</table>

### Economic performance

<table>
<thead>
<tr>
<th>FY17 target</th>
<th>FY17 performance</th>
<th>Status</th>
<th>FY18 target</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Profitability</strong></td>
<td>Drive value and earnings growth</td>
<td>Underlying Profit: in line with earnings guidance to be released at AGL’s FY2016 Annual General Meeting on 28 September 2016</td>
<td>Underlying Profit: $802 million, slightly above the guidance range of $720-800 million</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FY17 target</th>
<th>FY17 performance</th>
<th>Status</th>
<th>FY18 target</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Supply chain</strong></td>
<td>Work with our suppliers to ensure sustainability practices are implemented to meet the expectations of AGL and the community</td>
<td>AGL Supplier Agreements signed in FY17 to include the AGL Supplier Code of Conduct: 100%</td>
<td>AGL Supplier Agreements signed in FY17 to include the AGL Supplier Code of Conduct: 100%</td>
</tr>
</tbody>
</table>

#### In this section
- Strategy and material issues
- Sustainability targets & performance summary
- Material issues
- About this report
- Energy market evolution

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Material issues

We recognise the need to balance the desire for broader disclosure on more of our issues with the imperative to provide more focused and accessible information on the issues that are most important to stakeholders.

Materiality matrix

During FY16, we undertook an independent review to gauge what issues matter most to our stakeholders. The output of the review was a materiality matrix, and a list of 12 ‘material issues’ that were used to shape our sustainability reporting framework. To maintain consistency, comparability, and an internal focus on our sustainability priorities, the material issues identified during FY16 have been retained for FY17, however, in the interest of streamlining our material issues, ‘energy efficiency’ was merged under the broader issue of ‘distributed energy services’ for reporting purposes, due to the high degree of congruence between the two issues.

In response to feedback received from the AGL Stakeholder Advisory Council about the materiality review (refer to the stakeholder engagement section), we’ve added some further explanation about the process that we undertook in FY16, below. It is our intention to revisit the materiality review during FY18 to confirm our sustainability priorities for FY18 and beyond, to ensure that our report continues to reflect views of our stakeholders, both outside and within our business.

You can explore the results from the materiality review in the matrix below.
## Review process

<table>
<thead>
<tr>
<th>1. Identification of sustainability challenges and stakeholders (FY16)</th>
<th>2. Ranking of challenges by internal and external stakeholders (independently-facilitated review) (FY16)</th>
<th>3. Issue consolidation and identification of top 12 material issues (FY16)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 42 sustainability challenges were identified, based on review of stakeholder concerns, sector issues and mega-trends, and AGL's business risks. We engage with stakeholders regularly about all aspects of our business (refer to <a href="#">stakeholder engagement</a> section) and this ongoing dialogue provided us with a robust list of the issues of greatest concern to our stakeholders.</td>
<td>• Stakeholders completed a detailed survey ranking the sustainability challenges from 1 to 5 in order of importance.</td>
<td>• Survey and interview results were reviewed, and several similar sustainability challenges were subsequently grouped together into categories, resulting in 30 sustainability issues.</td>
</tr>
<tr>
<td>• 11 internal stakeholders and 11 external stakeholders were selected to ensure balance and coverage between themes and issues.</td>
<td>• Stakeholders participated in detailed one-on-one interviews with the independent facilitator. The purpose of these interviews was to ensure that all stakeholders had a comparable understanding of the ranking criteria, a comparable interpretation of each of the issues that they were asked to rank, and to ensure that there were no further issues of concern that were missed from the list of challenges.</td>
<td>• Internal rankings and external rankings were added together, with the 12 highest scoring issues designated as 'material' for FY16.</td>
</tr>
</tbody>
</table>

### 4. Validation (FY16) 5. Confirmation of material issues for FY17 (FY17) 6. Stakeholders who participated in the review (FY16)

| • Results were presented to the AGL Safety, Sustainability and Corporate Responsibility Committee for validation and approval. | • The proposal to retain FY16's material issues for FY17 was discussed with members of AGL's Stakeholder Advisory Council, and subsequently with members of the Executive Team. Whilst some improvements to the materiality process were suggested, no other issues were recommended for elevating to 'material' status. In the interest of streamlining our material issues, 'energy efficiency' was merged under the broader issue of 'distributed energy services' for reporting purposes, due to the high degree of congruence between the two issues. | • 11 internal stakeholders were selected from the AGL Enterprise Leadership Team and other senior managers to cover the breadth of our operations. |
| | • The list of material issues for FY17 was presented to the AGL Safety, Sustainability and Corporate Responsibility Committee for validation and approval. | • Members of AGL's Climate Change and Customer Councils (environmental and social NGOs), as well as representatives from the investment community, energy industry, regulators and community committees participated as external stakeholders. |
Sustainable business strategy

About this report

We publish an annual sustainability report to provide a transparent account of our performance in relation to the social, environmental and economic challenges facing our business, our industry and our community.

Key elements of our report comprise:

- our sustainable business strategy, providing an outline of how our material sustainability issues link to our business strategy
- our material issues, presented in a matrix form showing their relative importance as judged by internal and external stakeholders
- our sustainability targets and performance summary, where our commitments to drive performance are established, tracked and measured
- an outline of how we operate, encapsulating our approach to stakeholder engagement, corporate governance, ethical conduct, legislative compliance and public policy engagement
- performance information about our key sustainability issues, divided into the five subject areas of customers, community, people, environment and economic performance, and
- a centralised data centre, where comprehensive performance data is available to view and download.

We want this report to be the starting point for many conversations about our performance, policies, and strategic direction.

Options for engaging with us via social media are available at the top of each page.

GRI Sustainability Reporting Standards (GRI Standards)

This report has been prepared in accordance with the GRI Standards: Core option.

The GRI Standards are designed to be used by organisations to report about their impacts on the economy, the environment and/or society. The GRI Standards were launched in October 2016 to replace the GRI G4 Guidelines, which will be phased out by 1 July 2018. Further information about the GRI Standards is available at the GRI website.

For the purposes of applying the GRI Standards, the material issues we identified have been mapped back to the available topic-specific GRI Standards. The following table outlines which topic-specific GRI Standards (and associated Disclosures) have been used to compile this report, and the topic boundaries for each material issue.

<table>
<thead>
<tr>
<th>Material issue</th>
<th>GRI Standard</th>
<th>Chosen disclosure(s)</th>
<th>Boundary</th>
</tr>
</thead>
<tbody>
<tr>
<td>–</td>
<td>101 Foundation</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>–</td>
<td>102 General Disclosures</td>
<td>All required for Core option</td>
<td>–</td>
</tr>
<tr>
<td>–</td>
<td>103 Management Approach</td>
<td>Applied to each material topic</td>
<td>–</td>
</tr>
<tr>
<td>Public policy engagement</td>
<td>415 Public Policy</td>
<td>415-1</td>
<td>We engage with governments and public authorities regarding policies that affect customers, communities and the environment in Australia (and globally with respect to climate change policies). We engage directly with governments and other stakeholders to facilitate the development of sensible public policy.</td>
</tr>
<tr>
<td>Community engagement</td>
<td>413 Local Communities</td>
<td>413-1</td>
<td>Community engagement occurs outside the organisation, with local communities adjacent to AGL’s operational and development sites, and with the broader Australian community. We engage directly with local communities to develop mutually beneficial energy projects.</td>
</tr>
<tr>
<td>Health and safety</td>
<td>403 Health and Safety</td>
<td>403-2</td>
<td>Health and safety is an important issue, within and external to, our organisation. This issue affects our employees, contractors and suppliers. We engage directly with the issue of safety.</td>
</tr>
</tbody>
</table>
Impacts of climate change are experienced within and outside our organisation. Impacts of climate change are also experienced outside the organisation, by customers, communities, and the environment in Australia and globally.

We engage directly with the issue of climate change. One of our strategic imperatives is to prosper in a carbon constrained economy. This is reflected in our Greenhouse Gas Policy, which sets out clear commitments for our operations and future investments.

We contribute to our organisation’s profitability directly, but are conscious of the multitude of other external factors that contribute to our profitability.

Customer experience is relevant to our external stakeholders, including our customers and shareholders.

We directly impact our customers’ experience through our products and services.

Energy prices and affordability are experienced externally by our customers in the states in which we operate.

We have some direct control on energy prices and affordability. Other contributing impacts include energy policy, regulation, wholesale energy costs, and transmission costs.

Impacts of distributed energy services are experienced externally by our customers in the states in which we operate.

We contribute directly to the development and deployment of distributed energy services, and contribute indirectly through industry partners and subsidiaries.

Renewable energy is an important issue within and outside our organisation, to our people, customers, communities and broader Australian society.

As with the issue of climate change, we engage directly on the issue of renewable energy. One of our strategic imperatives is to prosper in a carbon constrained economy. This is reflected in our Greenhouse Gas Policy, which sets out clear commitments for continued investment in renewable energy sources.

Ethical conduct applies within our organisation to our employees, contractors and suppliers. Outside our organisation, ethical conduct applies to all stakeholders, including customers, with whom we deal, regardless of their location.

We engage directly on ethical conduct but acknowledge that the conduct of our contractors, suppliers and business partners may also impact on ethical conduct.

Energy market evolution is experienced internally and outside the organisation.

We engage with governments and public authorities regarding policies that affect customers, communities and the environment in Australia (and globally with respect to climate change policies).

We engage directly with governments and other stakeholders to facilitate the development of sensible energy market policy.

We engaged Deloitte Touche Tohmastu (Deloitte) to provide assurance over our self-declaration that the report was prepared in accordance with the GRI Standards: Core option. Details are provided in the assurance statement.

We have also taken other guidelines into consideration when developing this report, including the Australian Council of Superannuation Investors (ACSI) and the Financial Services Council (FSC) ESG Reporting Guidelines for Australian Companies 2015, published in March 2016.

**Boundary and scope**

This report covers the performance of the AGL group of companies (AGL Energy Limited and its wholly-owned Australian subsidiaries) (AGL) and the activities and facilities in Australia over which AGL had operational control for all, or part, of the financial year ended 30 June 2017 (FY17). All data in this report relates to FY17 unless otherwise stated.

Where information regarding partially owned and non-operated investments is material, available and relevant, it is included and clearly referenced. The performance of joint ventures which we do not operate is also excluded.

We have been publishing an annual sustainability report since FY04, and historical reports are available on our website. Our most recent sustainability report was released on 10 August 2016, covering the financial year ended 30 June 2016 (FY16).
Investments and divestments since previous report

No material acquisitions were made during FY17.

During FY17, we completed or announced a number of divestments:

- In FY16, AGL announced its intention to divest the majority of its upstream gas interests (with Camden Gas Project to be exited by 2023). As of 30 June 2017, the Moranbah, Silver Springs and Spring Gully assets have not yet been divested. PEL 285 (Gloucester Gas Project) will be relinquished following completion of the gas well and monitoring bore rehabilitation project.

- On 14 November 2016, AGL sold the Nyngan and Broken Hill solar plants to the Powering Australian Renewables Fund (PARF). AGL will continue to operate and maintain the solar farms, and will retain the rights to all Renewable Energy Certificates and electricity output until 2021 with both AGL and PARF having an option to extend the offtake for a further five years. For more information about PARF, refer to the renewable energy section.

- On 19 January 2017, AGL sold the 200 MW Silverton Wind Farm Project to PARF. AGL will manage the construction of the project on behalf of PARF, will operate the wind farm once complete, and will retain the rights to all Renewable Energy Certificates and electricity output until 2023 with both AGL and PARF having an option to extend the offtake for a further five years.

Projects under development and construction

We also have a range of projects in different stages of development to provide strategic depth and flexibility to our electricity generation portfolio and gas customers, alongside delivering reliable and affordable energy to our customers.

During FY17, we prioritised planning and development activities to progress the following projects:

- **Coopers Gap Wind Farm**: The Environmental Impact Statement for the proposed Coopers Gap Wind Farm in Queensland was approved in March 2017. Refer to the renewable energy section for further information.

- **LNG Import Facility**: In November 2016, we announced an investment of $17 million into a feasibility study for a potential LNG Import Facility in Eastern Australia as part of our approach to maintaining future security and stability of gas supply.

- **Barker Inlet Power Station**: In June 2017, we announced an investment of $295 million to develop a 210 MW reciprocating engine, gas-fired power station to be built alongside our Torrens Island Power Station in South Australia. Construction is expected to commence in Q1FY18, and the power station is expected to be operational during FY19.

In addition, in March 2017, we applied for a two-year extension to the Project Approval for the proposed Dalton Power Station in southern New South Wales.

During FY17, construction (on behalf of PARF) commenced on the following project:

- **Silverton Wind Farm (200 MW), New South Wales.** Refer to the renewable energy section for further information.

Assurance

We engaged Deloitte to undertake limited assurance of the FY17 sustainability performance data in this report in accordance with the Australian Standard on assurance engagements ASAE 3000 Assurance Engagements other than Audits or Reviews of Historical Financial Information (ASAE 3000).

The assurance comprised:

- Assurance over the application of AA1000 principles in managing and reporting sustainability performance.

- Assurance over selected sustainability indicators, namely the performance against the FY17 sustainability targets, as well as selected greenhouse gas emission data and data relating to our material issues.

- Assurance over our self-declaration that the report has been prepared in accordance with the GRI Standards: Core option.

Full details of the assurance process and outcome are included in the assurance statement.

Consultation about this report

We incorporate the AA1000 principles of inclusivity, materiality and responsiveness into our stakeholder consultation processes, and engage with different stakeholder groups on a regular basis, as outlined in the stakeholder engagement section of this report.

Regular interaction with stakeholders, whether through formal or informal channels, as well as the specific consultation undertaken through the materiality review, ensures that the focus and content of our annual sustainability reports remain relevant to our overall business strategy and the needs of our stakeholders.
Sustainable business strategy

Energy market evolution

Energy market evolution
Contribute to the development of an electricity market design and regulatory framework that facilitates sustainable, secure, reliable, affordable and decarbonised electricity supply from centralised and distributed sources.

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<tr>
<th>FY17 target</th>
<th>FY17 performance</th>
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<th>FY18 target</th>
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<tbody>
<tr>
<td>Publish two thought leadership papers which contribute to sustainable market design</td>
<td>More than two thought leadership papers were published in FY17. See below for details</td>
<td>Met</td>
<td>Publish two thought leadership papers which contribute to a market design that facilitates sustainable, secure, reliable, affordable and decarbonised electricity supply</td>
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Australia's energy markets are in a state of transition, as a result of new technologies, evolving customer expectations and a global commitment to reduce greenhouse gas emissions. Over time, Australia's population will grow and change, and the values, expectations and preferences of energy consumers are likely to reflect this. By 2050, the Australian Bureau of Statistics estimates that Australia's population may grow by more than 50% to 37.6 million (with the majority of this growth within capital cities), and the number of households may grow by even more, with a greater proportion of single and couple households as the population ages. Australia's energy systems will therefore need to service a far greater number of homes and businesses than they do today, and achieving this at the lowest possible cost will involve both more efficient use of resources and improved utilisation of energy infrastructure. This is discussed in greater detail in Australia's Economic Transformation - AGL's role in a changing society and economy, which was published last year as a supplementary report to our FY16 Sustainability Report.

Policy and regulatory settings that were designed for markets supplied by large, centralised (and mostly thermal) power stations, and with clearly defined generation, transmission, distribution and customers, may no longer be fit for purpose. More than 1.6 million Australian customers now produce their own electricity supply with solar PV, and new technologies such as digital meters, battery storage and energy management software may give rise to increasingly sophisticated multi-directional flows of energy to, from and between energy customers – blurring the traditional roles of market participants.

The substantial decarbonisation of Australia's electricity sector is likely to be required to achieve the Commonwealth Government's commitment to reduce greenhouse gas emissions by 26 to 28% by 2030 (relative to 2005 levels), and for emission reductions consistent with limiting global warming to less than 2°C above pre-industrial levels.

In this context, our stakeholders are concerned about energy and climate change policy and regulation.

Long-term and integrated energy policies are required if energy markets are to continue to deliver reliable and affordable energy supplies, while contributing to Australia's climate change objectives and facilitating innovation in products and services for energy consumers.

We have echoed this sentiment in a broad range of public consultations and submission processes, and continue to contribute to the policy reform agenda through peer-reviewed economic and policy research. We continue to engage with relevant stakeholders and advocate for constructive public policy during this time of energy market evolution. Refer to the stakeholder engagement and public policy engagement sections for further detail.

For any area of policy reform to be effective, it must be designed with a sufficiently long-term outlook to remain relevant as industry and economic conditions change. In the past, market design and energy policy have focused on providing reliable supplies of energy at the lowest cost. Increasingly, communities expect policy makers to deliver energy security, affordability and environmental sustainability, as well as delivering greater customer choice and control over the products and services they use. Coordinated and integrated policies and market settings are required to jointly pursue these objectives.

The following are key aspects of the energy market and policy reform agenda.

“Australia’s energy markets are undergoing profound change, driven by both rapid technological advancement and a desire to reduce greenhouse emissions. Customer centricity in this transition is key, as energy is an essential part of everyday lives” – Stephanie Bashir, Senior Director Public Policy
Climate change policies and electricity market design

An enduring and sustainable climate change policy framework will be critical to making the investments in electricity supply infrastructure required for the modernisation and decarbonisation of the electricity sector as these assets typically operate across decadal timeframes.

The generation mix in the National Electricity Market is old and relatively emissions intensive. Around 75% of the installed thermal capacity is already operating beyond its original design life. Both renewable and lower-emission fossil fuel generation will form an integral part of the energy mix throughout the transition to a low-emission global economy. A long-term vision and trajectory for this transition is essential, to ensure continued investment in zero-emission energy sources, and the orderly retirement of old and emissions-intensive power stations. Policy to progressively close ageing coal power stations is required to provide sustainable market outcomes for new renewable energy investments.

Our Greenhouse Gas Policy outlines our commitment to contribute to the achievement of Australia's climate change objectives. We have committed to not extending the operating life of any of our coal fired power stations, and that by 2050, we will close all existing coal-fired power stations in our portfolio. We are also committed to continuing to invest in renewable and low-emission technologies, and to continually evolving our suite of distributed energy solutions, which enable customers to directly participate in the transition to a low-emissions future (such as distributed renewable generation, battery storage and demand management products). Furthermore, we will advocate for effective long-term government policy to reduce Australia's emissions, that will enable further investment in renewable and low-emission power generation. Refer to the climate change (greenhouse and energy) section for further information.

Australia's Renewable Energy Target (RET) has been legislated to increase the proportion of renewable electricity supply to 2020, however policy volatility and underlying market conditions have created challenges for renewable energy investments in recent years. To meet the RET, an estimated 5,000 MW of new renewable projects will be required nation-wide, representing over $10 billion of investment.

During FY16, we announced the development of the Powering Australian Renewables Fund (PARF), an innovative financing vehicle for renewable energy which is intended to develop and own around 1,000 MW of large-scale renewable generation (investment worth $2 to 3 billion).

PARF has achieved two major milestones since inception. In November 2016, AGL reached financial close on selling its existing 102 MW Nyngan and 53 MW Broken Hill solar plants into the fund, and in January 2017, AGL and PARF reached financial close on the sale and contract for the subsequent construction of the 200 MW Silverton Wind Farm project in western New South Wales. Refer to the renewable energy section for further information.

Over the long-term, other challenges will need to be addressed to achieve electricity sector decarbonisation. Research authored by AGL economists has shown that the interaction between renewable energy targets and energy-only electricity market design may not be sustainable with high penetration of non-firm renewable generation. As more intermittent renewable supply enters the market (such as wind and solar), wholesale electricity prices are likely to become volatile, with very low prices for much of the year and a handful of extreme pricing events (during which generators can recover their fixed costs). Volatility and increasing electricity forward prices have been exacerbated by the worsening challenge of sourcing sufficient, cost-effective gas supplies for use as a generation fuel.

Concerns around rising electricity forward prices are now also accompanied by increased anxiety amongst customers, industry and governments about the ongoing security and reliability of the system. As the generation mix changes, demand for system stability services (such as frequency control, reactive power and inertia) will increase just as the traditional suppliers of these services exit the market. Although caused by a multitude of factors (including a violent storm), the South Australian state-wide black out of September 2016 has been a catalyst for much of this concern.

It is notable that this and subsequent system events (including material load-shedding during a February heatwave) have prompted governments to propose taking new, more interventionist positions in the energy market. The impact of these interventions must be carefully considered in the context of market signals to investors and the stability of the energy market architecture more broadly. In our view, it is imperative that policy makers consider what long-term and sustainable modifications to existing market design are necessary to support investment certainty in a carbon constrained future and to assure system stability is maintained as increasing levels of variable renewable generation are integrated into the energy system.
We have proposed a number of measures to assist in achieving these outcomes, including a regulated closure rule for ageing thermal plant and new market mechanisms to value the provision of system stability services, such as inertia. More detail on these and other recommendations can be found in our submission to the Independent Review into the Future Security of the National Electricity Market (the ‘Finkel Review’).

**Energy affordability and vulnerable customers**

Electricity is an essential service and consumer protections afforded to energy users ensure that they have access to competitively priced, reliable and high-quality energy supplies. We acknowledge the need to meet community expectations to support vulnerable customers. We support a shared responsibility approach to energy hardship, where energy suppliers, governments and the community sector work together to deliver sustainable improvements.

In FY17 we launched our ‘A Fairer Way’ package. To ensure that discounts are accessible to those consumers who would benefit most from them, our A Fairer Way package aims to deliver fairer outcomes for all consumers, as well as incentivise broader public engagement with the competitive retail energy market to find the best deal for them.

Throughout FY17, we continued to implement improvements to support vulnerable energy consumers, which were established in the $6.5 million Affordability Initiative. The Affordability Initiative is a three-year programme launched in December 2014 to proactively identify and support customers experiencing financial hardship. Refer to the energy prices and affordability section to read more about this initiative.

The reform of government concession arrangements represents a key opportunity to support customers experiencing financial difficulties – ensuring that for energy concessions in all jurisdictions: eligibility for concessions is targeted based on customer need; an adequate level of support is provided based on energy usage (rather than a flat rate); and programs are easily accessible to those who need them.

**New energy technologies**

Evolving customer preferences are leading a transformation of the electricity industry. Ongoing developments in the cost, availability and capabilities of distributed energy services are enabling customers to exert greater control over their energy usage and demand improved services and a wider range of products from energy service providers. Distributed energy services include digital meters, distributed generation, electric vehicles and battery storage.

In addition to the direct benefits to customers taking-up these technologies, their efficient deployment and use have the potential to unlock system-wide benefits in Australia’s energy markets such as improving the utilisation and productivity of existing energy infrastructure, providing system stability services and delivering demand response at times of system constraint.

To realise these benefits, it is important that policy and regulatory frameworks facilitate access to open and competitive markets (for example, grid services markets) and provide competitive neutrality between different technologies, different suppliers and between existing and new energy resources. A key component of protecting the competitive landscape involves the effective ring-fencing of regulated monopolies. Implementing appropriate technology, product and installation standards (based on international standards where possible) will also promote choice and competition, and limit unnecessary overheads, while protecting customers through the transition. These settings will best ensure that customers can select products and services that suit their circumstances from a wide range of options, and share in system-wide value enabled by their choices.

Careful design of network cost-recovery and pricing frameworks is also key to driving efficient network utilisation, efficient adoption of distributed energy technologies and mitigating potential equity issues that arise where those without the ability to adopt distributed technologies are left to bear a disproportionate share of remaining network costs.

Read more about AGL’s involvement in this area in the distributed energy services section.

**AGL Applied Economic and Policy Research working paper series**

For several years, AGL economists have authored economic research that provides critical analysis of energy market trends and policy settings to industry stakeholders and policy makers. These articles are submitted to academic journals and are subject to a formal (blind) peer-review process prior to publication.

During FY17 the following new pieces of research were published:

- **Reducing the horizons of uncertainty: Setting Australia’s post-2030 emission goal**: This policy brief, co-authored with The Climate Institute, outlines the role that long-term targets play in setting government policy and guiding business strategies. It also considers the 2050 emissions goals already announced by other countries and the commitments the Australian Government has made to contribute to limiting warming to 1.5-2°C under the Paris Agreement. Together, these mechanisms have been used to guide recommendations of possible next steps for Australia. These include a lead recommendation to define a 2050 emissions target (or target range) for Australia that will provide guidance for business, government and regulatory decisions.
• **The Changing Nature of the Australian Electricity Industry**: This article considers the implications of the emergence of new distributed energy technologies and a global focus on reducing anthropogenic on the founding assumptions underpinning the design of the National Electricity Market and the restructure of the industry following the Hilmer Reforms of the 1990s. Distributed energy technologies represent a ‘partial grid-substitute’ requiring, in the authors’ view, that policymakers consider whether write-downs of the regulated asset base of monopoly network providers are necessary, and the appropriate role of monopolists and competitive markets in delivering these technologies and the products and services they enable. In relation to climate change, the authors found that there is a need to better integrate electricity market and climate change policy to ensure emissions reductions occur in an orderly and cost-effective manner.

• **Access rights and consumer protections in a distributed energy system (published in the book Innovation and Disruption at the Grid’s Edge)**: This chapter explores how consumer protections and grid access rights may need to be redefined in energy markets featuring widespread distributed energy technologies, using Australia’s National Electricity Market as a case study. It found that customers with solar PV and battery installations will interact with and depend on the grid in different ways and for potentially different services compared with a customer without these technologies. It concludes that reformed consumer protection frameworks will need to balance innovation and customer choice with universal access to electricity supply.

• **Price discrimination in Australia’s retail electricity markets: An analysis of Victoria and southeast Queensland**: This article examines price dispersion in deregulated markets and associated impacts on consumer welfare. The authors analyse differential retail electricity offer prices in the Australian states of Victoria and Queensland and contrast these with industry average total cost and the marginal cost of retail supply. Consistent with the literature on price dispersion, the analysis demonstrated that Victoria, the National Electricity Market’s most mature deregulated market, shows a greater dispersion than the NEMs least mature contestable market, southeast Queensland. It found further that in Victoria the marginal unit produced is priced at marginal cost meeting the key criterion for efficient pricing. However, the authors also identified an episode of inter-consumer misallocation due to high ‘standing offers’ and concluded that policy initiatives designed to help firms shift vulnerable households from ‘standing offer’ tariffs are desirable.

• **Electricity market design in a decarbonised energy system (under review)**: This paper critically examines an ‘energy-only’ market in a high penetration renewables system, with a particular focus on the vertically and horizontally restructured Australian National Energy Market. The authors propose that the ‘energy-only’ market can indeed work within a decarbonised energy system but extreme pricing volatility within spot markets is likely to be required to ensure system reliability. ‘Unintended consequences’ of adjacent climate change policies will need to be corrected to ensure: successful retail competition; appropriate new investment is forthcoming; and pricing outcomes are acceptable given political economy constraints. Potential mechanisms identified to address these consequences include requiring ageing thermal plant to provide sufficient notice of closure, requiring intermittent generation to partner with complementary plant (such as OCGT, advanced batteries or pumped hydro) to create a synthetic ‘firm’ generator, and expanding the role of reliability and security markets.

• **Price dispersion in Australian retail electricity markets (under review)**: Simshauser and Whish-Wilson (2017) articulated that price dispersion within the restructured Victorian retail electricity market is welfare enhancing as efficient pricing ensured the marginal unit produced was sold at marginal cost. This article expands on this analysis by considering the heterogeneous nature of electricity consumption when measured by volume sold (kWh). The authors find that customers on ‘standing offer’ tariffs use 18% less electricity than customers on ‘high discount’ products, indicating the presence of market segmentation and implicit second-degree price discrimination. Climate change policy and the emergence of new technologies such as household solar PV, battery storage and in-home energy displays will create further price dispersion in Australian electricity markets due to even greater product heterogeneity. The key finding is that policy makers will need to facilitate, rather than prevent, both price and tariff structure dispersion with the objective of improving consumer outcomes.

• **Redesigning a 20th century regulatory framework to deliver 21st century energy technology**: This article explores how electricity systems are shifting from a once highly centralised regulated model to become more renewable, distributed and consumer-centric. Australia has some of the highest installation rates of embedded renewable electricity generation in the developed world, and the emergence of cost-effective distributed battery storage and energy management systems may fundamentally alter the electricity industry—which has been largely unchanged for decades. Evolutionary economics indicates that firms must adapt to new technologies and market conditions or they will become extinct. The author found that energy markets will only evolve if regulatory frameworks continuously adapt to ensure that consumer preferences for reliability, control and environmental outcomes are able to be achieved at lowest cost – concluding that regulators will need to ensure that facilitating efficient consumer decision making is prioritised.

Importantly, the views are those of the authors and not necessarily those of AGL. For more information about economic and policy research authored by AGL economists, visit the AGL Blog.


**Related Information**

AGL Greenhouse Gas Policy
Supplementary Report (FY16): Australia’s Economic Transformation
Supplementary Report (FY17): Social and Economic Inclusion

**In this section**

Strategy and material issues  Sustainability targets & performance summary  Material issues  About this report  Energy market evolution

This information is included in an interactive online report at http://agl2017.reportonline.com.au/sustainabilityreport. Visit this website to access the full FY17 Sustainability Report, sustainability data centre and other online features. This report is subject to the important information statement which is also available on this website.