

## 2. ABOUT JEMENA AND OUR NETWORK

### Key messages

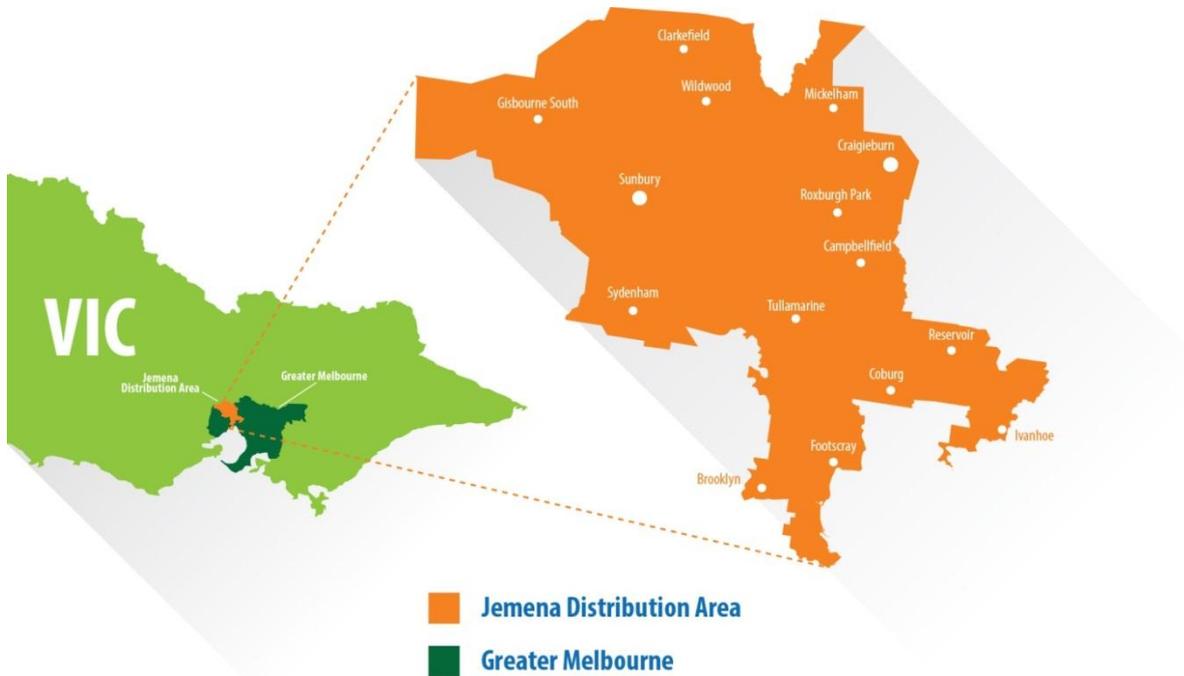
- Our role is to ensure the community has access to a safe, reliable source of power by operating and maintaining the low-voltage network that transports electricity to over 320,000 homes and businesses across north west Melbourne.
- Our service levels reflect what our customers expect and value, and our cost efficiency is in line with, or better than, that of other comparable Australian electricity networks.
- Our charges make up around 37% of a typical residential customer's retail electricity bill, which is significantly less than in other states.
- Our services, costs and prices are independently regulated, and this regulation together with our private ownership provides us with strong financial incentives to continually improve our cost efficiency and share these improvements with our customers over time.

### 2.1 OUR NETWORK

33. Our network covers approximately 950 square kilometres of the North Western area of greater Melbourne (Figure 2–1). This area includes a mixture of residential and industrial suburbs extending from Mickleham in the north to Footscray in the south, and from Sydenham in the west to Ivanhoe in the east. It includes the city's international airport and some major transport routes.
34. Many of the suburbs within our network are well established. The assets within these parts of our network are nearing the end of their life<sup>9</sup> and many of these aging assets need replacement or greater inspection and maintenance. We expect that targeted capital and operating expenditure will be needed to meet safety requirements and provide the service levels our customers expect.
35. In addition, our network is undergoing significant change and development. On the one hand, there are pockets of high residential and industrial growth, particularly in newly established suburbs, which is leading to increases in electricity demand in these areas. On the other, our network supplies a relatively large proportion of industrial customers and is experiencing pockets of low or declining electricity demand as several large industrial customers close operations. Only some of these industrial customers are being replaced by new residential customers. While we are forecasting modest growth in electricity consumption, overall we are expecting the need for increased capital expenditure to meet our customers' existing and future needs.

<sup>9</sup> Many of our network assets were built 50 years ago or more.

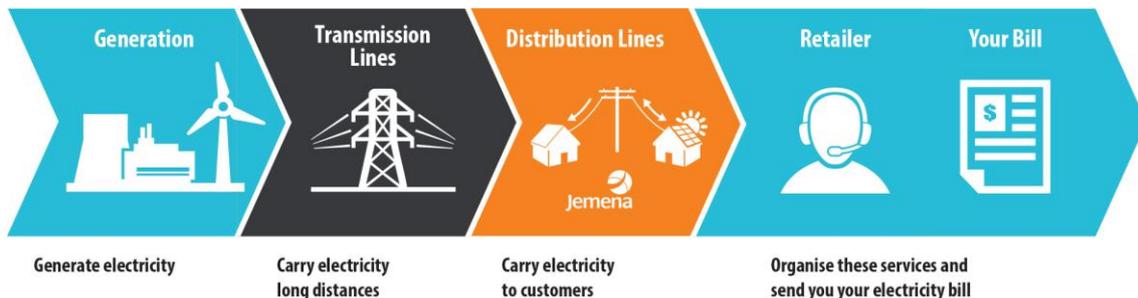
Figure 2–1: JEN’s electricity distribution network area



2.2 OUR ROLE IN POWERING HOMES AND BUSINESSES

36. Typically, electricity is generated in locations that are far from where most people live and work. It is then transported long distances to the outskirts of cities and towns via a transmission network. From there, it is transported to end-users’ premises via a distribution network like JEN (see Figure 2–2). However, increasingly electricity is also generated near or within cities and towns—such as by solar photovoltaic (PV) units in residential homes and cogeneration plants—and transported by our network *between* our customers’ generation units and their homes and businesses. This change has contributed to peak demand on our network growing at a faster rate than energy consumption (see section 3).

Figure 2–2: JEN builds, operates and maintains a distribution network



37. Our primary role is to design, operate and maintain our distribution network so we can safely, reliably and efficiently transport electricity through the suburbs and streets of North West Melbourne and into our customers’ homes and business when it’s needed. We also measure the flow of electricity to our customers’ premises through smart meters.

38. Among other things, this role involves ensuring that over 6,000 km of power lines on over 95,000 high and low voltage poles can manage extreme fluctuations in both electricity usage and temperature. We must also keep

trees away from power lines to minimise the chance of power outages during storms, and promptly restore power when outages do occur.

39. We also connect over 5,000 new homes and businesses to our network each year and provide a range of other user-requested services to the community, including public lighting and electricity connection and reconnection.
40. However, our role is evolving in response to changes to technology, policy and market factors, as well as our customers' attitudes to energy (see section 3).

### 2.3 OUR PERFORMANCE IN POWERING HOMES AND BUSINESSES

41. We provide a highly reliable and efficient supply of electricity that meets our customers' expectations and is consistent with what they value (see Box 2–1).

#### **Box 2–1- Providing a highly reliable and cost efficient supply of electricity**

Our customers consistently tell us they value a safe and reliable supply of electricity. They also tell us that rising energy prices have become a household and business concern. They want us to put downward pressure on our costs and network prices.

Our customers' expectations, together with our private ownership and the regulatory framework, provide us with strong incentives to invest in, and operate our network business efficiently and respond to changing energy market conditions. As a result, we have delivered continued cost efficiency and service performance improvements across our network.

One of the ways we measure the reliability of our network is to use the System Average Interruption Duration Index (**SAIDI**). This index measures the average number of unplanned minutes that customers are without electricity each year, excluding the impact of significant storms.

Between 2006 and 2013, unplanned SAIDI on our network decreased from 91.0 to 59.8 minutes,<sup>10</sup> which indicates that the reliability of our network has improved.

One of the ways to evaluate our cost efficiency is to benchmark our performance against other electricity network businesses in Australia. The AER benchmarks our performance on an annual basis using a variety of techniques, and its analysis highlights that our performance—based on the total expenditure required to provide our services—means we are within the top quartile of efficient businesses in Australia.<sup>11</sup>

Attachment 2-1 provides detail on our cost and service performance over the 2006 and 2011 regulatory periods.

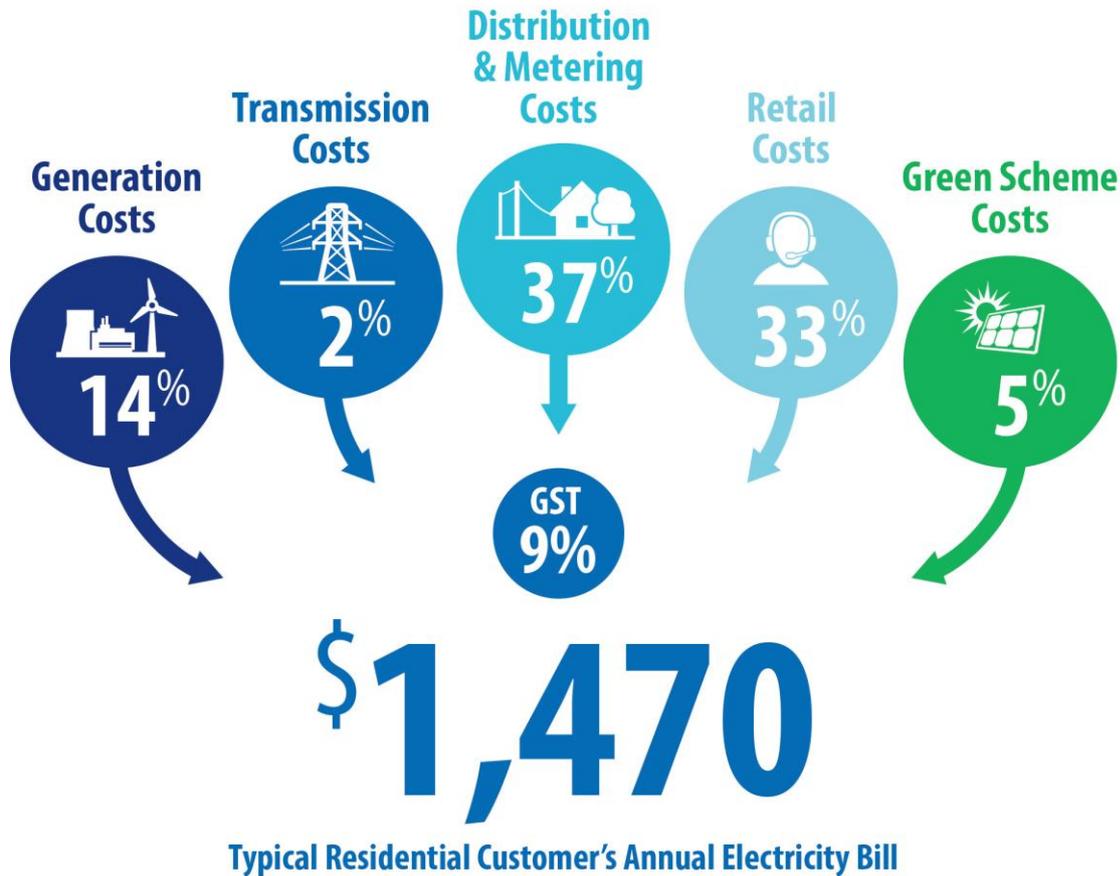
42. Providing a highly reliable and efficient supply of electricity involves significant investment in a range of assets, including poles, wires, meters, substations, property and IT systems. It also involves dedicated field and office staff to operate, inspect, maintain and replace these assets, and provide responsive connection, reconnection, market (including providing billing information to retailers) and management services. We are also supported by our shareholders (see Box 2–2).
43. The costs of us providing a reliable and efficient supply of electricity are recovered through our network charges (including our distribution and metering charges), which make up around 37% of a typical residential retail

<sup>10</sup> This excludes all excluded events and Major Event Days (**MED**)

<sup>11</sup> AER, *Annual distribution benchmarking report*, November 2014

customer bill (see Figure 2–3). Our network charges are a significantly smaller proportion of residential retail customer bills than in other states.<sup>12</sup>

**Figure 2–3: The contribution of the energy supply costs to our typical residential customers' electricity bill**



Source: Oakley Greenwood, *Causes of residential electricity bill changes in the Jemena service area, 1995 to 2014*, December, 2014.

44. Although the smallest of the five distribution networks in Victoria, with a uniquely challenging operating environment, we provide our services efficiently. Our cost efficiency is in line with, or better than, other comparable electricity networks in Australia—as evidenced in the AER's economic benchmarking analysis<sup>13</sup> and by our network charges being a lower proportion of residential retail customer bills compared with distributors in other states (see Attachment 2-1 for detail on our cost efficiency).

<sup>12</sup> For example, network charges make up around 40-45% of a typical residential retail customer bill in NSW. See Essential Energy, *Regulatory Proposal: 1 July 2014 to 30 June 2019*, May 2014, p 4.

<sup>13</sup> AER, *2014 Annual distribution benchmarking report*, November 2014.

45. Our cost efficiency reflects our strong governance and management arrangements, as well as the long history of private ownership and independent economic regulation in Victoria (see section 2.4). It also reflects our focus on thinking and planning for the long term, being responsive to changes in our market, seeking out new and non-traditional network solutions, and making decisions that reflect our customers' long-term interests and preferences (see chapter 4).

### Box 2–2 JEN's ownership structure

JEN is 100% owned by Jemena, an Australian infrastructure group that builds, owns and maintains a combination of major electricity, gas and water assets. In addition to JEN, Jemena's assets include:

- Jemena gas distribution network (JGN), which transports gas to over 1.3m homes and businesses in NSW
- Eastern Gas Pipeline (EGP), which transports gas from the Gippsland Basin in Victoria to markets in Sydney and regional NSW centres (including JGN)
- Queensland Gas Pipeline (QGP), which transport gas from the Surat Basin in Queensland to large industrial customers and retail distribution networks in Gladstone and Rockhampton.
- Aquanet, which supplies recycled water to industrial and commercial customers in Western Sydney

Jemena is 100% owned by SGSP (Australia) Assets Pty Ltd (SGSPAA), which is jointly owned by State Grid Corporation of China (60%) and Singapore Power (40%).

## 2.4 THE FRAMEWORK FOR INDEPENDENT ECONOMIC REGULATION HAS EVOLVED

46. Like other electricity distribution network businesses in Australia, JEN is now regulated by the AER (see Figure 2–4). This means every five years we must submit a regulatory proposal to the AER setting out the services we will offer, the costs we expect to incur, and the prices we need to charge to recover our costs. Among other things, our proposal must promote the long-term interests of customers in terms of price, quality, safety, reliability and security of supply (see Box 2–3).

### Box 2–3 What do we mean by the long-term interest of customers?

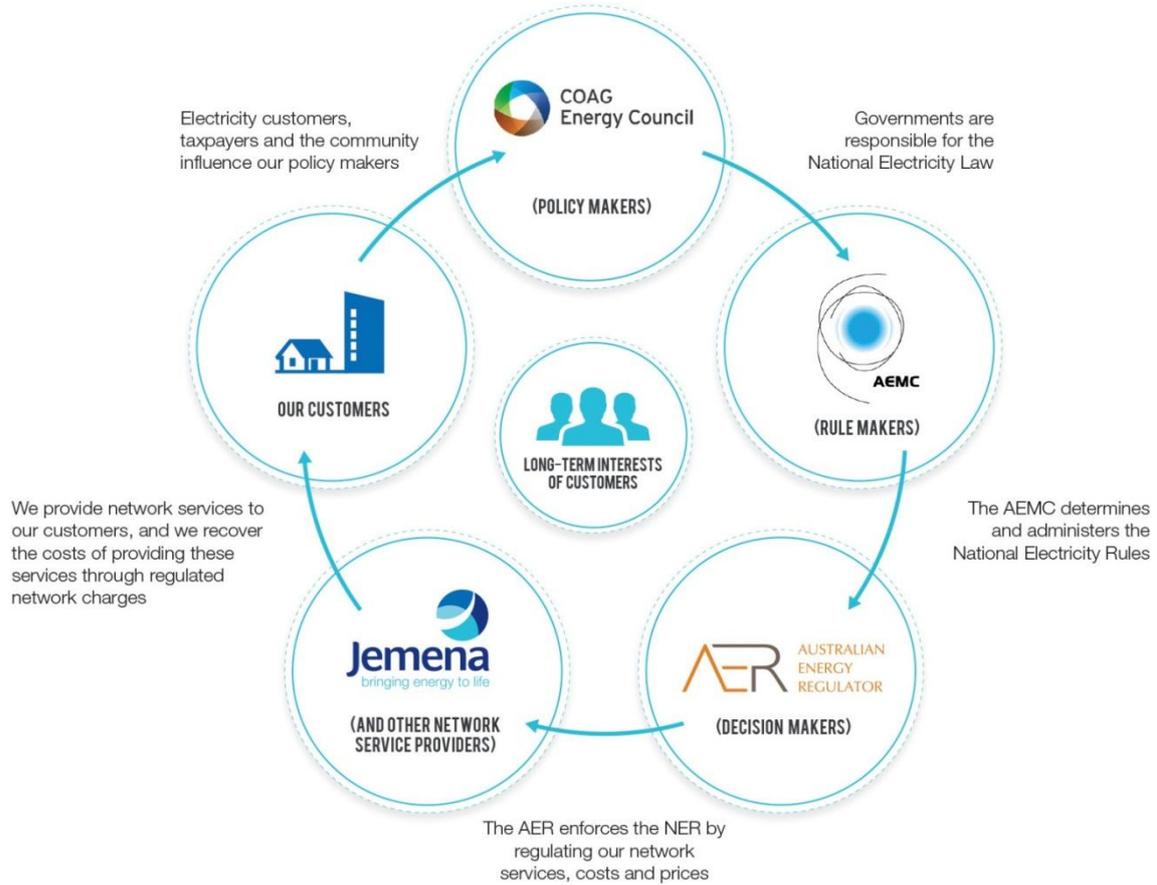
The National Electricity Law requires our proposal to promote “the long-term interests of customers”. In turn, the NER provide guidance on how the AER should make decisions that promote this objective.

Ultimately, we think promoting the long-term interests of customers means that our proposal needs to ensure we continue to provide a safe, reliable supply service consistent with our customers’ expectations and to price these services in a way that encourages our customers to use our network efficiently. To do this, we must be customer-focused, strive to run our business as smartly and efficiently as possible, and think and plan for the long-term so that:

- Our prices reflect the lowest sustainable cost of providing our services and meeting the required safety and service levels (and are not higher than they need to be because of inefficient operations or poor investments). This promotes productive and allocative efficiency.
- Our service levels reflect what our customers want and are willing to pay for. This promotes allocative efficiency.
- Our services are priced to encourage customers to make informed energy decisions about the way they use our network, which lowers network costs and helps drive innovation in new technologies. This promotes allocative and dynamic efficiency.
- Our combination of prices and service levels represents good value for money and encourages customers to continue to use our network efficiently over the longer term, reducing our costs per customer. This promotes dynamic efficiency.

47. The AER applies the regulatory framework specified in the NER, and these rules are determined and administered by the Australian Energy Market Commission (**AEMC**). Commonwealth and State energy ministers—through the Council of Australian Governments (**COAG**) Energy Council—administer and review the National Electricity Law, and the broader governance framework of independent economic regulation.
48. This framework of independent economic regulation provides clear, separate and accountable decision making responsibilities—including relating to policy, the ‘rules of the game’ and economic regulation—and an overarching focus on promoting customers’ long-term interests.

Figure 2–4: The framework of independent economic regulation



49. In 2012 changes were made to the NER in relation to how network revenues are determined and adjusted over time, they also enhanced the ability of customers to meaningfully participate in this decision making process.<sup>14</sup>
50. Following recommendations from the COAG Energy Council, further changes were made to the regulatory framework in 2014. This included changes to how network revenues are recovered from customers through network prices, covering the guidance provided to network businesses in balancing cost, efficiency and customer considerations and the timeframe for annual changes in network prices.<sup>15</sup>

<sup>14</sup> AEMC, *Rule determination, National electricity amendment (Economic regulation of network service providers) rule 2012, National gas amendment (Price and revenue regulation of gas services) rule 2012*, 29 November 2012.

<sup>15</sup> AEMC, *Rule determination, National electricity amendment (Distribution Network Pricing Arrangements) Rule 2014*. 9 November 2014.

### 2.5 THE FRAMEWORK FOR INDEPENDENT ECONOMIC REGULATION HAS BENEFITED OUR CUSTOMERS

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51. We have had private ownership and independent economic regulation of our services, costs and prices for more than two decades.<sup>16</sup> This ownership and regulatory framework has provided us with financial incentives to continually improve our cost efficiency and share these improvements with our customers over time.<sup>17</sup>
52. As highlighted in section 2.4, this regulatory framework alongside our strong governance and management arrangements has delivered network price reductions over a long period,<sup>18</sup> and ensured that our network charges are a significantly smaller proportion of residential retail customer bills than in other states. Economic regulation has also encouraged us to continually provide high levels of service (see Attachment 5-3).<sup>19</sup>

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<sup>16</sup> The AER took responsibility for economic regulation of Victorian distribution network businesses from 1 January 2009. Prior to this the Essential Services Commission of Victoria was responsible for economic regulation of Victorian distribution network businesses.

<sup>17</sup> Economic regulation provides us with financial incentives to continually improve our cost efficiency by setting network prices based on forecast efficient costs, rather than our actual costs, over the regulatory period. This provides us with incentives to 'beat the benchmark' costs set by the regulator, with improvements in our cost efficiency shared with our customers over time.

<sup>18</sup> The Victorian Government notes that the regulatory framework has generally served Victorian interests well, including an 18% reduction in average annual electricity network prices for Victoria, in real terms, from 1996 to 2013 while New South Wales and Queensland experienced substantial increases at 122 and 140% respectively over approximately the same time. Network service levels have also generally improved. *Victorian Government, Department of State Development, Business and Innovation, Victoria's Electricity Statement, 2014, p 39.*

<sup>19</sup> The Victorian Government notes service levels have also generally improved. *Victorian Government, Department of State Development, Business and Innovation, Victoria's Electricity Statement, 2014 p 39.*