ECONOMIC OUTLOOK

2015 NATIONAL ELECTRICITY FORECASTING REPORT

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AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

IMPORTANT NOTICE

Purpose

AEMO has prepared this document to provide information about the economic assumptions underpinning the 2015 National Electricity Forecasting Report.

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1. ECONOMIC ASSUMPTIONS FOR THE NATIONAL ELECTRICITY MARKET

1.1 Economic outlook

AEMO commissioned KPMG to develop forecasts of economic variables based on AEMO's defined scenarios (medium, low and high) for the 2015 National Energy Forecasting Report (NEFR) outlook period. Key observations from KPMG's forecasts include[1]:

- Under a medium scenario, national gross domestic product (GDP) is expected to grow 2.8% in the short term (2014–15 to 2017–18); 2.8% in the medium term (2017–18 to 2024–25) and 2.7% in the long term (2024–25 to 2034–35)
- There is a small degree of variation in Gross State Product (GSP) growth across each National Electricity Market (NEM) region.
- Queensland's economy continues to grow more quickly than other regions in the NEM, due to strong population growth and continued (although weaker) mining activity, and investment in liquefied natural gas (LNG).
- Both Victoria and New South Wales will experience sustained growth, with strong population growth anticipated in the former, and strong dwelling and business investment in the latter.
- Despite expected low population growth, Tasmania is expected to average higher growth than experienced in recent years driven by business investment and household consumption.
- Weak growth in South Australia is forecast due to declining population growth.

1.2 Electricity prices

AEMO commissioned Frontier Economics to develop the 2015 electricity price forecasts, based on AEMO's defined scenarios. Their key observations across the NEM include[2]:

- Historically, residential retail prices were relatively flat in real terms until around 2007. From 2007 to 2013, prices increased rapidly largely due to rising network costs.
- A further increase was evident in 2012–13 with the introduction of the carbon price. This was followed by a reduction in retail prices from 2014–15 with the removal of the carbon price.
- The impact of network costs is highly dependent on regulatory decision-making over the next 12–18 months, as the Australian Energy Regulator (AER) makes new distribution determinations covering the short term forecast period. In New South Wales, based on the AER's final determination for distribution network businesses in May 2015, a 30% reduction in network costs is assumed for 2015–2016. The AER is yet to release its draft revenue determinations for distribution in the other regions. As a result, the Queensland and South Australian assumptions are based on network service provider proposals. For Victoria and Tasmania, network costs are assumed to remain stable.
- Although wholesale prices are projected to remain relatively weak in the short term, they are expected to rise in the longer term due to the following factors:
  - An eventual tightening of demand/supply.
  - Rising gas prices.
  - Carbon pricing (assumed to contribute to rising prices post-2020).
- Assuming the Renewable Energy Target (RET) ends in 2030, it will cause a dip in prices in most regions in 2031.

[1] AEMO uses unpublished KPMG GSP data for its modelling purposes.
[2] Frontier Economics' 2015 Electricity market forecasts can be found on AEMO's NEFR 2015 website.

1.3 Population

AEMO's 2015 population forecasts are based on the Australian Bureau of Statistics (ABS) Series B in the medium scenario, Series C in the low scenario and Series A in the high scenario.

Queensland has consistently achieved the highest population growth rate of all NEM regions since 2005–06, and is forecast to continue to do so going forward. This is being driven by interstate migration and the demand for labour from resource extraction and human service industries. Population growth in Victoria is similarly strong relative to other states, due to above average interstate migration. South Australia and Tasmania, meanwhile, will continue to experience declining population growth.

1.4 Regional Outlooks

The following sections summarise the economic assumptions underlying the 2015 NEFR for each of the NEM regions.

2. QUEENSLAND

2.1 Economic outlook

According to KPMG, growth in the Queensland economy slowed from 3.1% in 2012–13 to 2.4% in 2013–14. As an economy with a strong mining focus, the decline in mining investment has affected the Queensland economy significantly.

The Queensland economy is expected to grow at an average annual rate of 2.5% in both the medium (2017–18 to 2024–25) and long term (2024–25 to 2034–35). The Australian economy is forecast to grow at a similar rate over the same period. The long-term average growth in the low and high scenarios is forecast at 2.2% and 2.9% respectively.

2.2 Electricity prices

According to Frontier Economics, residential prices were flat in real terms until around 2007, and increased rapidly from 2007–2013, largely due to rising network costs.

A further increase was evident in 2012–13 with the introduction of the carbon price. This was followed by a reduction in retail prices from 2014–15 with the removal of the carbon price.

In the medium and low scenarios, projected retail prices begin to rise in real terms from 2016 as increases in network costs offset the initial fall in wholesale costs arising from the repeal of the carbon tax.

Currently, wholesale prices are very low. This is due to weak demand growth and a ramping up of renewable investment to meet the renewable energy target (LRET). As demand eventually recovers the demand/supply balance can be expected to tighten, thereby pushing up wholesale prices.

Gas prices are projected to rise over time, contributing to higher wholesale costs. This is largely driven by the introduction of export LNG markets in Queensland from around 2015.

Post 2020, prices begin to rise as carbon prices are assumed to be re-introduced.

In the scenarios modelled, supply-side effects are expected to dominate in the short and long run. The “low” demand scenario includes higher cost assumptions and this flows through to higher retail prices than the other scenarios, despite the lower demand in that scenario. Conversely, the "high” demand scenario has lower cost assumptions and these supply-side factors drive lower projected prices in the long run, despite the higher demand assumptions.

2.3 Population

In 2014–15, the population of Queensland grew at 2.0%. From 2014–15 to 2017–18, average annual population growth in the medium scenario is forecast at 2.0%. In the ten years to 2034–35, average annual population growth is forecast at 1.5% in the medium scenario, 1.3% in the low scenario and 1.9% in the high scenario.

3. NEW SOUTH WALES

3.1 Economic outlook

According to KPMG, the combined New South Wales and ACT economy grew by 1.8% in 2012–13 and 2% in 2013–14. Beyond 2013–14, the New South Wales and ACT economy is expected to recover, growing by around 3% in 2014–15 – above the Australian forecast average growth rate of 2.7%. In the short-term, the recovery in the New South Wales and ACT economy is underpinned by strong dwelling investment and a recovery in business investment.

The New South Wales and ACT economy is expected to grow at an average annual rate of 2.6% in both the medium (2017–18 to 2024–25) and long term (2024–25 to 2034–35). The long-term average growth in the low and high scenarios is forecast at 2.2% and 2.9% respectively.

3.2 Electricity prices

According to Frontier Economics, residential prices were flat in real terms until around 2007 and increased rapidly from 2007–2013, largely due to rising network costs.

A further increase was evident in 2012–13 with the introduction of the carbon price. This was followed by a reduction in retail prices from 2014–15 with the removal of the carbon price.

In the medium scenario, projected retail prices are forecast to rise 16% from 2015 to 2030. The largest contributing factor is projected to be an increase in wholesale costs.

Currently, wholesale prices are very low. This is due to weak demand growth and a ramping up of renewable investment to meet the renewable energy target (LRET). As demand eventually recovers the demand/supply balance can be expected to tighten, thereby pushing up wholesale prices.

Gas prices are projected to rise over time, contributing to higher wholesale costs. This is largely driven by the introduction of export LNG markets in the eastern states in Queensland from around 2015.

Post 2020, prices begin to rise as carbon prices are assumed to be re-introduced.

In the scenarios modelled, supply-side effects are expected to dominate in the short and long run. The “low” demand scenario includes higher cost assumptions and this flows through to higher retail prices than the other scenarios, despite the lower demand in that scenario. Conversely, the "high” demand scenario has lower cost assumptions and these supply-side factors drive lower projected prices in the long run, despite the higher demand assumptions.

3.3 Population

In 2014–15, the population of New South Wales and the ACT grew at 1.3%. From 2014–15 to 2017–18, average annual population growth in the medium scenario is forecast at 1.3%. In the ten years to 2034–35, average annual population growth is forecast at 1.0% in the medium scenario, 0.9% in the low scenario and 1.3% in the high scenario.

4. SOUTH AUSTRALIA

4.1 Economic outlook

According to KPMG, the state of the South Australian economy picked up in 2013–14, growing by 1.3% after a rate of only 0.9% in 2012–13. The economy will continue to grow at a forecast rate of 1.9% in 2014–15 in the medium scenario, and then stabilise at around 2.1% from 2014–15 to 2017–18. This is below that Australian forecast average growth of 2.8% over the same period.

The South Australian economy is expected to grow at an average rate of 2.0% in the medium term (2017–18 to 2024–25) and 1.7% in the long term (2024–25 to 2034–35). The long-term average growth in the low and high scenarios is forecast at 1.3% and 2.0% respectively.

The main driver of growth in South Australia in the short and longer term will be household consumption. The main drag on growth in South Australia in the short run will be business investment, as it is expected to recover only slowly from the unwinding of the mining boom. In the longer term, business investment will see continued weak growth and will make a minimal contribution to GSP growth.

4.2 Electricity prices

According to Frontier Economics, residential prices were flat in real terms until around 2007, and increased rapidly from 2007–2013, largely due to rising network costs.

A further increase was evident in 2012–13 with the introduction of the carbon price. This was followed by a reduction in retail prices from 2014–15 with the removal of the carbon price.

In general (across all scenarios) projected retail prices are relatively flat until around 2022 and then rise in the longer term. This is because network costs are expected to stabilise, but wholesale costs are expected to recover in the longer term.

In the scenarios modelled, supply-side effects are expected to dominate in the short and long run. The low demand scenario includes higher cost assumptions and this flows through to higher retail prices than the other scenarios, despite the lower demand in that scenario. Conversely, the high demand scenario has lower cost assumptions and these supply-side factors drive lower projected prices in the long run, despite the higher demand assumptions.

4.3 Population

In 2014–15, the population of South Australia grew at 1.1%. From 2014–15 to 2017–18, average annual population growth in the medium scenario is forecast at 1.0%. In the ten years to 2034–35, average annual population growth is forecast at 0.7% in the medium scenario, 0.6% in the low scenario and 0.9% in the high scenario.

5. TASMANIA

5.1 Economic outlook

According to KPMG, economic growth in the Tasmanian economy picked up in 2013–14, growing by 1.2%, compared to the 0.3% contraction in 2012–13. The Tasmanian economy is forecast to grow by 1.4% in 2014–15 in the medium scenario, well below the Australian average growth rate of 2.7%. The key drivers of growth are business investment and improvements in household consumption as a response to continued low interest rates.

The Tasmanian economy is expected to grow at an average annual rate of 2.2% in both the medium (2017–18 to 2024–25) and long (2024–25 to 2034–35) term. The long-term average growth in the low and high scenarios is forecast at 1.8% and 2.5% respectively.

5.2 Electricity prices

According to Frontier Economics, residential prices were flat in real terms until around 2007, and increased rapidly from 2007–2013, largely due to rising network costs.

A further increase was evident in 2012–13 with the introduction of the carbon price. This was followed by a reduction in retail prices from 2014–15 with the removal of the carbon price.

In all scenarios, projected retail prices are relatively flat until 2020 and then continue to rise in the longer term. This is because network costs are expected to fall slightly and then flatten, whereas wholesale costs are expected to fall initially and then rise in the longer run.

Currently, wholesale prices are low. This is due to weak demand growth and a ramping up of renewable investment to meet the renewable energy target (LRET). As demand eventually recovers the demand/supply balance can be expected to tighten. Demand growth will not necessarily occur in Tasmania per se, but the demand growth in other NEM regions will contribute to the prices in Tasmania.

Post 2020, prices begin to rise as carbon prices are assumed to be re-introduced.

In the scenarios modelled, supply-side effects are expected to dominate in the short and long run. The low demand scenario includes higher cost assumptions and this flows through to higher retail prices than the other scenarios, despite the lower demand in that scenario. Conversely, the high demand scenario has lower cost assumptions and these supply-side factors drive lower projected prices in the long run, despite the higher demand assumptions.

5.3 Population

In 2014–15, the population of Tasmania grew at 0.6%. From 2014–15 to 2017–18, average annual population growth in the medium scenario is forecast at 0.6%. In the ten years to 2034–35, average annual population growth is forecast at 0.3% in the medium scenario, –0.1% in the low scenario and 0.7% in the high scenario.

6. VICTORIA

6.1 Economic outlook

According to KPMG, the Victorian economy grew by 1.7% in 2013–14 but is forecast to grow at 2.6% in 2014–15, just below the Australian average forecast growth of 2.7%. Growth in exports and private consumption are the key reasons for this growth in Victoria.

Overall, annual growth in the Victorian economy is expected to average 2.5% between 2014–15 and 2040–41 in the medium scenario. In the low and high scenarios, average growth in the Victorian economy is forecast at 2.2% and 2.8% respectively.

6.2 Electricity prices

According to Frontier Economics, residential prices were flat in real terms until around 2007, and increased rapidly from 2007–2013, largely due to rising network costs.

A further increase was evident in 2012–13 with the introduction of the carbon price. This was followed by a reduction in retail prices from 2014–15 with the removal of the carbon price.

In the medium and low scenarios, projected retail prices begin to rise in real terms from 2016 as increases in network costs offset the initial fall in wholesale costs once carbon is removed.

In the medium case, projected retail prices are relatively flat until 2019, but rise in the longer term. This is driven by stabilising network costs and increasing wholesale/green costs.

Currently, wholesale prices are very low. This is due to weak demand growth and a ramping up of renewable investment to meet the renewable energy target (LRET). As demand eventually recovers the demand/supply balance can be expected to tighten.

Gas prices are projected to rise over time, contributing to higher generation costs. This is largely driven by the introduction of export LNG markets in Queensland from around 2015.

Post 2020, prices begin to rise as carbon prices are assumed to be re-introduced.

In the scenarios modelled, supply-side effects are expected to dominate in the short and long run. The low demand scenario includes higher cost estimates and this flows through to higher retail prices than the other scenarios, despite the lower demand in that scenario. Similarly, the high demand scenario has lower cost assumptions and these supply-side factors drive lower projected prices in the long run, despite the higher-demand assumptions.

6.3 Population

In 2014–15, the population of Victoria grew at 1.8%. From 2014–15 to 2017–18, average annual population growth in the medium scenario is forecast at 1.8%. In the ten years to 2034–35, average annual population growth is forecast at 1.3% in the medium scenario, 1.2% in the low scenario and 1.6% in the high scenario.