Australian Government

Department of Industry and Science

Energy White Paper
– at a glance

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Energy White Paper
– at a glance

The Australian Government made an election commitment to deliver an Energy White Paper to give industry and consumers certainty and confidence in energy policy.

The Energy White Paper has now been released and sets out the policy framework which will deliver competitively priced and reliable energy supply to households, business and international markets.

The main themes of the White Paper are:

- Increasing **competition** to keep prices down
- Increasing energy **productivity** to promote growth
- **Investing** in Australia's energy future

Increasing **competition** to keep prices down

Effective competition needs adequate supply, choice of suppliers and informed consumers. There is an oversupply of electricity generation capacity, as the review of the Renewable Energy Target has highlighted. If the states and territories privatise their energy assets, with the support of the Australian Government's Asset Recycling Initiative, competition will improve.

After sharp electricity price increases, prices in most states and territories are now stabilising. This follows the repeal of the carbon tax, more efficient investment in poles and wires, changes to the rules determining revenues for those investments, and lower wholesale prices. Future movements in electricity prices are now likely to be smaller than the changes consumers have experienced in recent years. The Australian Government will lead work through the Council of Australian Governments (COAG) Energy Council to support the introduction of appropriate electricity use price signals for consumers, and to support the removal of cross-subsidies.

In gas, demand has increased from Australia's rapidly growing exports of liquefied natural gas, bringing revenue and growing jobs in regional communities, including opportunities for Indigenous Australians.

Gas supply on Australia's east coast is tightening and this is not helped by unnecessary policy barriers imposed by some states on new onshore production. The Australian Government will continue to lead work through the COAG Energy Council to address this problem.

Demand for gas exports is pushing up local gas prices towards the international price, affecting both our industries and households. Responding to this challenge requires a cohesive approach that includes:

- increasing supply
- ensuring there is adequate competition and transparency in the gas market
- encouraging more flexible trading arrangements.

The Australian Government does not support reserving gas for domestic use. Reservation will have the perverse effect of discouraging needed investment in new production. The Australian Competition and Consumer Commission will look at the effectiveness of competition in the gas market, particularly upstream.

Increasing energy **productivity** to promote growth

Improving energy productivity will help reduce business and household costs. Productivity improvements can come from giving consumers the choice, information and tools to source and use energy appropriate to their needs, as well as through more efficient buildings, transport, and equipment and appliances.

The Australian Government will develop a National Energy Productivity Plan to improve how we use energy. The Australian Government will also work through the COAG Energy Council to develop a national energy productivity policy framework to deliver the collaborative actions in the National Energy Productivity Plan. A national energy productivity improvement target will be determined as part of the plan, in parallel with developing Australia's post 2020 emissions reduction target. A national improvement target of up to 40 per cent by 2030 is possible.

Investing in Australia's energy future

Australia depends on a reliable supply of energy, whether it is electricity, gas or transport fuels and benefits from the jobs and investment the sector provides. The Department of Industry and Science projected within the next five years, Australia's yearly export earnings from energy resources commodities will reach $114 billion. Investment, particularly foreign investment, is essential to realising the potential of Australia's natural resources and technology innovation. The White Paper highlights the actions being taken to promote Australia as an investment destination.

The Australian Government supports a technology neutral approach to our future electricity and transport fuel supply and will continue to support research, development and demonstration of new energy technologies, while removing unnecessary regulatory and other non-market barriers to future technologies. The Australian Government will also improve its outlook capability to enable Australia to respond quickly to major changes in the way we produce, transport and use energy.

Initiatives

The Australian Government has already initiated a comprehensive range of **actions** that the **Energy White Paper** will build on to reduce pressure on electricity and gas prices and increase Australia's future competitiveness as a global supplier of energy resources.

Initiatives *include:*

ASSET RECYCLING INITIATIVE

$5 billion Asset Recycling Initiative, which will encourage states and territories to free up capital to invest in additional economic infrastructure by privatising state and territory-owned assets.

INDUSTRY GROWTH CENTRES

$188.5 million Industry Growth Centres, which will lift competitiveness and productivity by focusing on areas of competitive strength, including the oil, gas and energy resources sector and the mining equipment, technology and services sector.

INDUSTRY SKILLS FUND

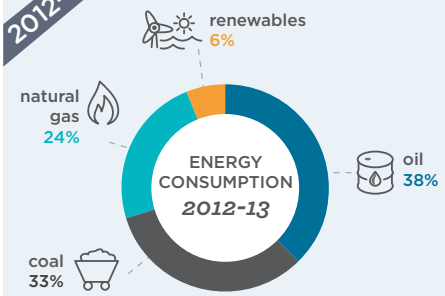
$476 million Industry Skills Fund, which will enable Australia to have the highly skilled workforce needed to adapt to new business growth opportunities, rapid technological change and market-driven structural adjustment.

ENTREPRENEURS' INFRASTRUCTURE PROGRAMME

$484.2 million Entrepreneurs' Infrastructure Programme, which will provide Australian companies with structural and strategic support to capitalise on growth opportunities.

Fast facts Energy consumption in Australia

2012–13

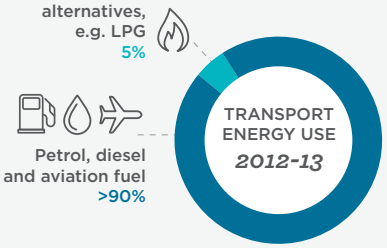


***oil accounted for* 38% OF ENERGY CONSUMPTION**

Over the past 10 years, *the retail price of gas for households increased by*

8% A YEAR

PETROL, DIESEL & AVIATION FUEL *accounted for over 90% of transport energy use in 2012–13*



Australian petrol prices are AMONGST THE LOWEST

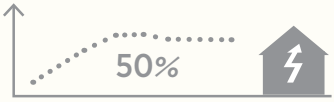
of countries in the Organisation for Economic Co-operation and Development.

consumption TRENDS *of* 2012–13

oil	gas	renewables	coal
+1%	+2%	+12%	-6%

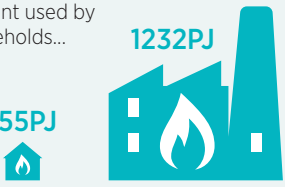
oil, gas, renewables up... coal down

Household electricity prices **increased by around 50 per cent nationally** between 2010 and 2013, ***but prices have moderated and future price increases are expected to be lower than recent rises***



most gas in 2012–13 used for INDUSTRIAL & ELECTRICITY PURPOSES

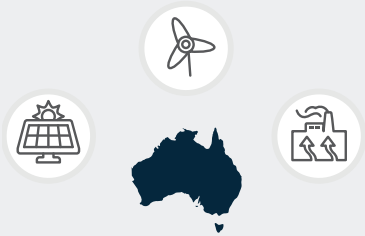
with a smaller amount used by households...



Energy productivity improving

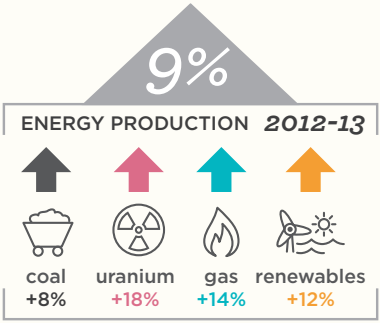
Australia's **energy productivity**, as measured by the ratio of real GDP to primary energy consumption, has **improved at an average rate of 1.6 per cent a year** from 2000–01 to 2012–13.

Fast facts
Australian energy production



***Australia has world-class* SOLAR, WIND AND GEOTHERMAL RESOURCES**

and good potential across a range of other renewable energy sources.



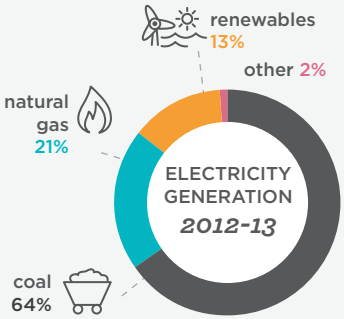
Australian energy production rose by

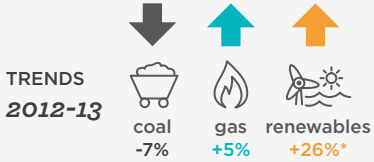
9 PER CENT TO 19,318 PETAJOULES IN 2012–13

This rise is underpinned by **increases in coal** (8 per cent increase), **uranium** (18 per cent increase), **natural gas** (14 per cent increase) and **renewable energy** production (12 per cent increase).

Most of this expansion was in projects destined for export markets.

Fast facts
Energy generation in Australia





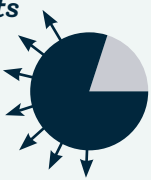
*MOSTLY DUE TO HYDRO

Coal-fired electricity generation decreased by 7 per cent in 2012–13, but **remains the largest source of electricity generation in Australia at 64 per cent**, followed by natural gas (21 per cent), which increased by 5 per cent, and renewable energy (13 per cent), which increased by 26 per cent.

Most of this growth in renewables is attributable to increased hydro electricity generation, although wind and solar energy also grew strongly.

Fast facts Energy trade

***Australia exports around* 80% *of its* ENERGY PRODUCTION**



the ENERGY SECTOR

7% GDP

170K EMPLOYED

$71.5B EXPORT EARNINGS

The energy sector accounted for **7 per cent of GDP** and **$71.5 billion in export earnings** in 2013–14. Energy related industries **employed around 170,000 people** over the same period.

Exports vs imports

2012–13 

2018 

In 2012–13, the amount of Australian gas exported was close to the amount of domestic gas used, ***however by 2018, exports could more than triple domestic gas consumption.***

Energy exports rose by 14 per cent to 15,504 petajoules in 2012–13. This rise is **underpinned by strong growth in coal, uranium and LNG exports**.

***Australia is among the world's* LARGEST EXPORTERS** *of coal, uranium and LNG*

Energy imports also increased strongly, by 5% in 2012–13 to 2,310 petajoules.

Liquid fuels, such as crude oil and refined products **accounted for the majority of Australia's energy imports**, with gas coming in third.

the new QUEENSLAND LNG EXPORT *industry*

The new LNG export industry in Queensland brought over **$63 billion in direct investment** in LNG projects, generated **30,000 construction jobs** and is projected to keep at least **12,000 ongoing jobs** from 2020.

30,000 CONSTRUCTION JOBS

12,000 ONGOING JOBS

$63B+ DIRECT INVESTMENT

These facts are drawn from various reports published by the Department of Industry and Science at www.industry.gov.au

Increasing competition to keep prices down – *at a glance*

- Effective competition amongst electricity generators and retailers is the best way to encourage innovation and deliver energy products and services to consumers at the lowest cost.
- Effective competition gives consumers choices about how they source and use their energy.
- Privatisation of energy assets increases competition and enables more cost-effective energy supply.
- The Australian Government is encouraging privatisation of state and territory electricity assets as part of the $5 billion Asset Recycling Initiative.
- Cost-reflective electricity tariffs give consumers better price signals about how they use energy. Consumers will increasingly be charged according to what it costs to supply energy at the time they use it.
- Price signals discourage use during peak times, when energy is most costly to deliver, taking pressure off the network and reducing network costs, which are around half of the total electricity bill.
- Giving consumers improved information on their energy use helps them to find market offers that best suit their needs and make a choice to switch retailers and save. Consumers can save 5–16 per cent in states and territories where there are competitive offers.
- Over the past 10 years, the retail price of gas for households has increased by 8 per cent a year. Higher prices are inevitable, because production costs have increased and demand has increased.
- The eastern gas market has commenced exports of liquefied natural gas (LNG). Supply now needs to meet domestic and international demand.
- The LNG export industry provides enormous opportunity for the economy. For Queensland, the new industry has brought over $63 billion in direct investment in projects and generated almost 30,000 construction jobs.
- The Australian Government does not support reserving gas for domestic use. Reservation would result in less profitable production, attracting less investment, thereby reducing supply and raising costs.

- Improving access to pipelines to enable gas to be more readily traded between different locations will help build a more competitive domestic gas market, together with improving the availability of market information on prices and available supply.
- Competition amongst gas suppliers and increasing supply will help ease price pressures. An Australian Competition and Consumer Commission inquiry will look at the effectiveness of competition in the gas market, particularly upstream.
- Unnecessary state regulatory barriers are limiting much-needed new gas supply.
- Regulation of energy markets should encourage competition and, as much as possible, be consistent across the country to avoid unnecessary regulation and associated costs for energy suppliers and consumers operating across borders.
- Petrol and diesel make up around 75 per cent of transport fuel use in Australia, and prices are amongst the lowest of OECD countries.
- Australia imports around 80 per cent of the crude oil we refine into liquid fuels, and 44 per cent of the refined liquid fuel we use. Australia exports around 75 per cent of the oil we produce as it is more profitable to export.
- Reliability of fuel and crude supply to Australia, which underpins fuel supply domestically, is maintained through diverse international crude and fuel suppliers.
- Future fuels such as shale oil, hydrogen and synthetic fuels have the potential to contribute to Australia's future transport fuel mix, but are unlikely to be cost competitive in the short-term.

For further information on increasing competition to keep prices down, see Chapter 1 of the *Energy White Paper*.

Increasing energy productivity to promote growth – *at a glance*

- Improved energy productivity can reduce household and business energy costs and encourage economic growth.
- In the five years to 2011, the energy savings potential in Australia's industrial sector was found to be equivalent to the energy use of 3.3 million Australian households and their cars for one year, with possible annual financial savings of over $1.2 billion.
- Energy productivity can be improved through making energy markets more competitive. More competitive markets provide consumers with innovative new products and choice about how and when they use energy.
- Tariffs that give consumers the choice of altering their electricity use in response to price signals can reduce electricity demand during peak times, which reduces pressure on the network. In the longer-term this delays the need for investment in new electricity supply infrastructure and reduces associated price increases to recover the investment.
- Energy productivity can also be improved through more efficient buildings, transport, and equipment and appliances. Consumers need to have the necessary information and decision-making tools (like labels and smart apps) to make those choices.
- Minimum standards and information on building management allow occupants to get the best energy performance from their buildings.
- Labelling, minimum energy performance standards and recognition of highest performing products give consumers choice to select more efficient appliances and equipment, and use energy more productively.
- Better transport efficiency can be achieved through improved vehicle technologies, driver behaviour, vehicle choice and proper maintenance.
- Australia's energy productivity, as measured by the ratio of real GDP to primary energy consumption, has improved at an average rate of 1.6 per cent a year from 2000–01 to 2012–13, with improvements largely from structural shifts in the economy, improved energy efficiency and fuel switching.

- A national energy productivity improvement target will be determined as part of the development of a National Energy Productivity Plan, which will drive further improvement.
- A national target could be up to 40 per cent improvement by 2030.
- Development of the National Energy Productivity Plan will be supported by an initiative to consolidate fragmented energy use data which will enable more robust analysis.

For further information on increasing energy productivity to promote growth, see **Chapter 2** of the *Energy White Paper*.

Investing in Australia's energy future – *at a glance*

- Australia's strong energy sector drives economic growth and a high national standard of living.
- In 2013–14, the energy sector accounted for 7 per cent of GDP, $71.5 billion in export earnings, employed around 170,000 people, and provided significant infrastructure investments.
- Australia has the potential to reap substantial economic gains meeting future global energy demand, which is expected to increase by over one-third by 2040.
- Recent improvements in workforce productivity and streamlined project approvals are making investing in Australian energy resources a more attractive proposition.
- Further streamlining regulation, and ensuring a highly skilled workforce will allow Australia to continue to compete for sales in global markets, and attract investment to maximise project developments and supply. It will also help reduce pressure on domestic energy prices.
- The resources and energy sector is one of Austrade's five national investment priorities. A dedicated Senior Investment Specialist will facilitate resources and energy investment.
- Free Trade Agreements with Japan, South Korea, China and India will open up new markets for Australian energy resources exporters, helping to grow energy resources exports.
- Better sharing of resources data between jurisdictions and with industry encourages exploration and investment, and better engagement with communities is needed for the development of energy resources.
- Australia should encourage the rapid adoption of new energy technologies, improvements to existing technologies and new energy sources where adoption will support economic growth, productivity and affordability.
- Policies should not favour one technology or energy source over another.

- A better outlook capability will help identify trends, threats and opportunities for Australia's energy supply to help Australia respond quickly to major changes in the way we produce, transport and use energy. This change could come from a new technology or change in resources availability.
- The Australian Government is considering research priorities, including energy and resources, and transport, for the $9.2 billion annual investment in research, focusing on solving local issues, competitive advantage, and industry capability to commercialise research.
- Research to support the energy and resources sector should include the development of reliable, low cost, sustainable energy supplies and enhance the long-term viability of Australia's resources industries.
- The Australian Government is providing over $1 billion toward research, development and demonstration of renewable energy projects and half a billion to low emissions fossil fuel projects.
- Improving connections between government, research organisations, universities and business will help translate science and research investment into commercial outcomes.
- Ensuring the energy sector continues to underpin economic growth will benefit regional and remote Australia, through infrastructure investment and jobs for Indigenous and non-Indigenous people.

For further information on investing in Australia's energy future, see **Chapter 3** of the *Energy White Paper.*

Further information on the *Energy White Paper* and the process to develop it is at www.ewp.industry.gov.au

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