

Canberra observed



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Minerals on road to recovery as petroleum plummets

In the August 2016 issue of *Preview*, I suggested that investment in minerals exploration was recovering. The June 2016 quarter data provided by the Australian Bureau of Statistics (ABS) confirms this observation. However, like all statistics there are several ways to look at the information.

The \$354 million invested, Australia-wide, in the June quarter was \$64 million more than in the March 2016 quarter and \$10 million more than in the June 2015 quarter. However, the 'trend' estimate by the ABS still shows a drop of \$7.1 million in the June 2016 quarter. The numbers are now very similar to those during 2005 (~\$300 million, see *Preview*, August 2016, p. 35). The trend and seasonally adjusted ABS information are shown in Figure 1.

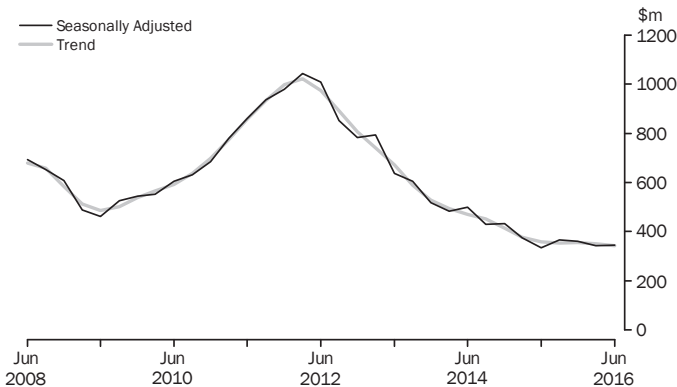


Figure 1. Australian quarterly seasonally adjusted and trend data for mineral exploration investment for the period June 2008–June 2016 (courtesy Australian Bureau of Statistics).

Gold is the dominant commodity. It accounts for \$157 million of the \$354 million, with iron ore (\$77 million) and copper (\$32 million) filling the second and third places. As you would expect, Western Australia is the leading state with a total investment of \$228 million or a massive 64 percent of the Australian total. These numbers are a long way down from record \$1148 million reached in the June 2012 quarter, but at least the future looks more positive than it did a year ago.

Petroleum

While mineral exploration may be recovering, petroleum is still declining rapidly. The actual quarterly expenditure fell to \$283 million, the lowest it has been since June 2004 and well below the \$1573 million invested in the June 2014 quarter. The trend estimate fell 19.4% (–\$76.8 million) to \$318.4 million and the seasonally adjusted estimate fell 30.8% to \$295.3 million in the June quarter 2016. Whichever numbers you use the outcome is bad (see Figure 2). In trend terms, the onshore investment (\$59.2 million) has not been as low since the December quarter 2003 and the offshore investment (\$224.2 million) has not been as low since the June quarter 2006.

Western Australia is by far the most important state as far as petroleum is concerned, and although it experienced a fall of \$127.9 million, or 38 percent, to \$212.2 million, it still contributes 75 per cent of the total Australian investment. Unfortunately, with the oil price at less than US\$50 a barrel, the re-bounce could take a year or more to eventuate – unless Saudi Arabia starts cutting production.

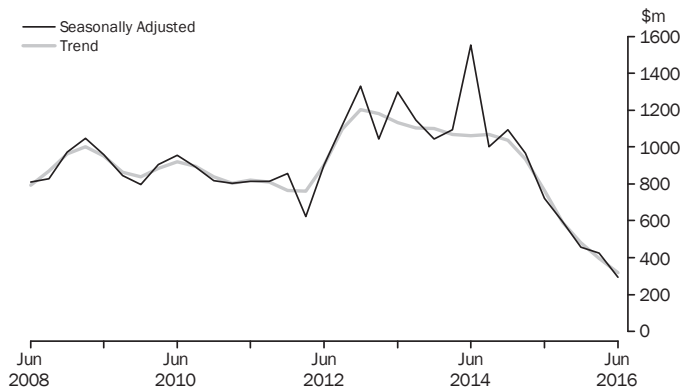


Figure 2. Australian quarterly seasonally adjusted and trend data for petroleum exploration investment for the period June 2008–June 2016 (courtesy Australian Bureau of Statistics).

Natural Gas Information 2016: a treasure trove of global information

Natural Gas Information 2016 is the latest edition of a publication on natural gas that has been produced annually since 1996 by the OECD/IEA team in France. It contains information on natural gas, in a global context, up to and including 2015, that relates to the production, storage, transport, reserves, price and many other parameters.

Natural gas is one of the success stories of the petroleum industry in the past 40 years. Figure 3 summarises the global production since 1973. This reached a record 3590 billion m³ in 2015 and has more than doubled in the past 40 years.

Australia has been a standout performer, in 1973 its production was 4 billion m³, and by 2015 it had grown to 66 billion m³ with an annual production still increasing at more than 5 percent. On a global scale it is well short of the production rates from the USA (769 billion m³) and Russia (638 billion m³) but is nevertheless a very good record.

While global production increased in 2015 the prices fell dramatically and erratically. For European Union Members import prices by pipeline fell by an average of 27%, while in the United States they fell by 46%. The difference between the two prices was significant. In the US gas was about US\$2.8/MBtu while in the EU it was close to US\$7.0/MBtu, a significant difference. Prices for LNG showed a similar pattern with a drop of about 35% in Japan and Korea.

The use of gas for power generation continued to increase (see Figure 4) apart from in 2014 when OECD usage dropped because of the very mild winter in the northern hemisphere. It will be interesting to see what the 2015 and 2016 data reveal as the globe continues to heat-up.

One of the many tables in the report relates to reserves. It turns out that at the end of 2014 global reserves were approximately 200 000 billion m³ and Australia's is listed as 3700 billion m³. These were unchanged from the end of 2013, presumably because when there are more than 50 years of proven reserves, there is not much point in frantically exploring for more.

Another table relates to storage capacity. This includes export terminal storage and geological storage. For Australia the working capacity is 6151 million m³ and the peak daily output is 27 million m³. Whether that is a good number or not I will leave to the strategic analysts.

What the report does not do is try to estimate the future demand for gas. For this information you have to read the International Energy Outlook (DOE/EIA-0484(2016) 1 May 2016) produced by the US Energy Information Administration. This publication is on the web at: www.eia.gov/forecasts/ieo.

Figure 5 indicates that the EIA estimates that consumption of natural gas worldwide will increase from 120 trillion cubic feet (Tcf) in 2012 to 203 Tcf in 2040. The assumptions are that by energy source, natural gas will account for the largest increase in world primary energy consumption. Because natural gas resources are abundant and its fuel efficiency is high it will remain a key fuel in the electric power sector and in other industrial sectors. Natural gas also burns cleaner than coal or petroleum products. As more governments begin to implement plans to reduce carbon dioxide (CO₂) emissions, this may encourage the use of natural gas to displace more carbon-intensive coal and liquid fuels.

References

- Natural Gas Information, 2016, OECD/IEA, International Energy Agency, 9 rue de la Fédération, 75739 Paris Cedex 15, France, www.iea.org.
- U.S. Energy Information Administration, 2016, International Energy Outlook 2016, Office of Energy Analysis, U.S. Department of Energy, Washington, DC, www.eia.gov/forecasts/ieo.

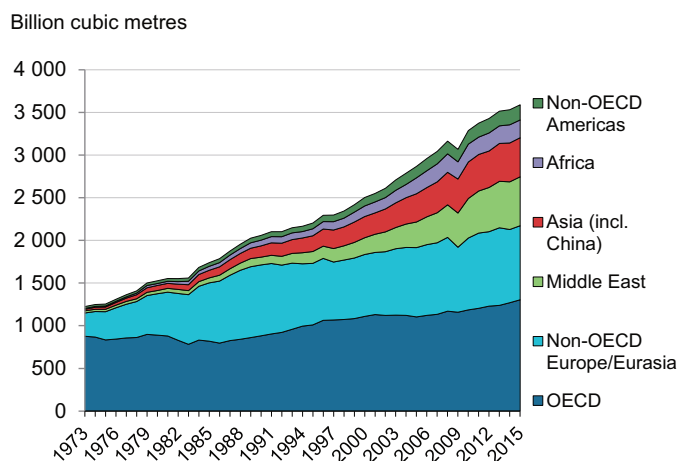


Figure 3. Global natural gas production by region, courtesy of the International Energy Agency.

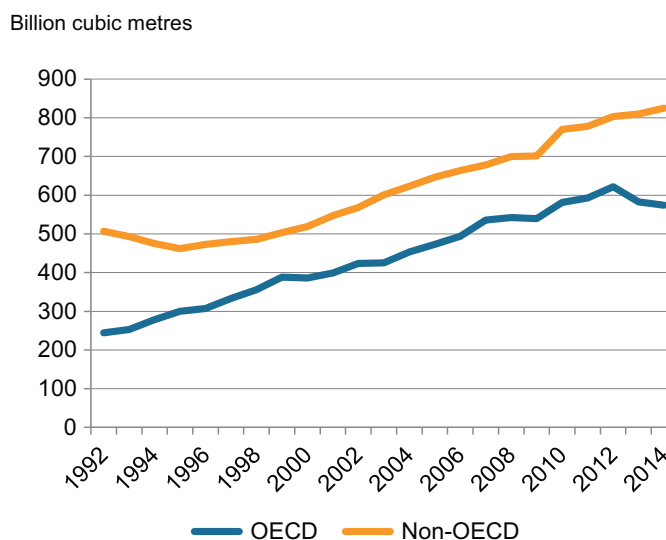


Figure 4. Natural gas use for power generation 1992–2014, courtesy of the International Energy Agency.

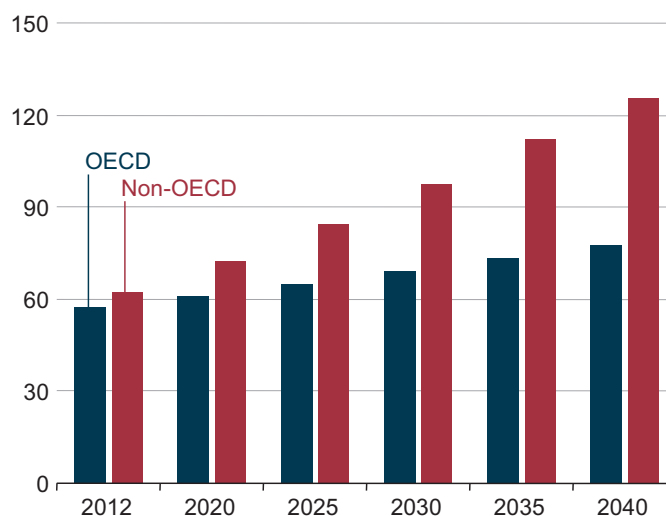


Figure 5. World natural gas consumption, trillion cubic feet. Note: there are 0.0353 trillion cubic feet in one. Data courtesy of the U.S. Energy Information Administration.