



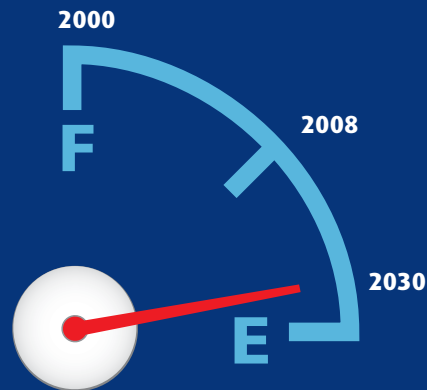
## Why Australia needs to create new fuels

May 2010

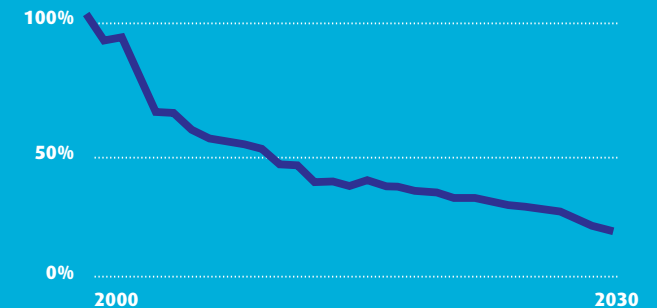
# Australia's reserves of easy-to-get and inexpensive conventional oil are rapidly depleting



## Australia... Running On Empty?



Australia's oil production has fallen from 100% self sufficiency in 2000 to 54% in 2008, and is forecast to drop to just 18% by 2030.



Source: EnergyQuest, 2009

In 2030 Australia's demand for oil will have risen to 470 million barrels per year but production will have fallen to 80 million barrels per year.

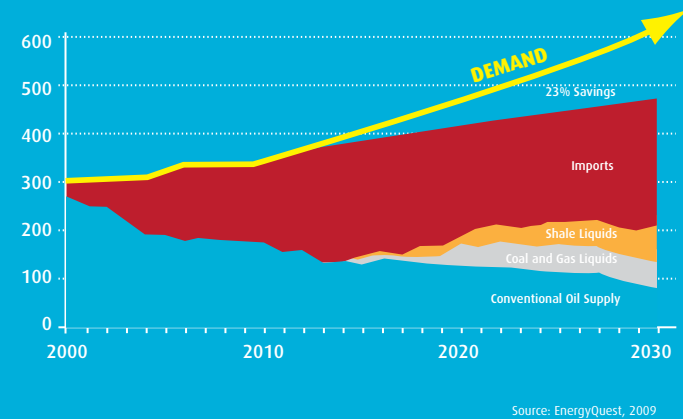
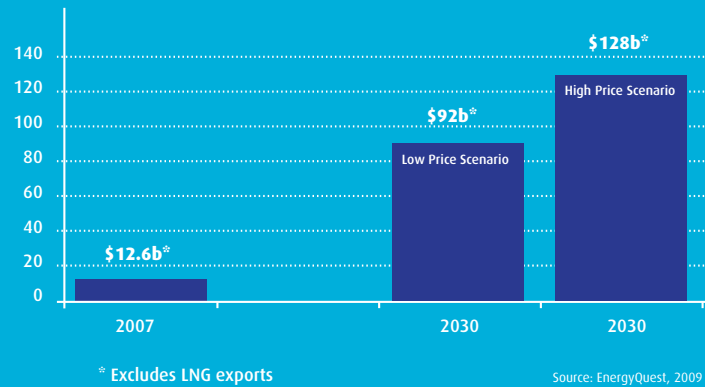
At the end of 2007, Australia had proven reserves of 4.2 billion barrels of oil, which at present rates of production would last 20 years. Forecast growth in road and air travel will see increased pressure on Australia's dwindling fuel reserves, with demand for diesel expected to increase 60% by 2030 and demand for aviation fuel to be up 80% in the same period.

In world terms, oil demand is forecast to increase from about 86 million barrels per day (MMbbl/d) in 2008 to almost 112 MMbbl/d in 2030. In order to meet this forecast 26 MMbbl/d increase in demand, a large amount of new crude oil production capacity – in a range from 51 to 64 MMbbl/d – will need to be developed or found and brought into production by 2030 in order to meet forecast crude oil demand.

# Australia's oil import bill is unsustainable and increasing

Reliance on oil imports would dramatically affect our balance of trade.

Development of alternative fuels can significantly reduce our imports bill.



With Australia's conventional oil reserves in serious decline we are faced with two alternatives – import more and more crude oil or look to Australia's abundant natural resources to develop alternative fuels.

Reliance on imports presents significant economic, employment and security issues. It has been estimated Australia's oil import bill could be as much as \$130 billion per year by 2030 if we don't develop domestic alternative fuels.

In addition, Australia's security of oil supply would be diminished because our major supply region, the Asia-Pacific, is facing reduced production and strongly increasing demand from nations such as China and India, potentially forcing Australia to look further afield for supplies.

This could mean increased dealings with geopolitically unstable regions and also require longer supply chains which are inherently more expensive and involve greater risk.

***"We've got huge problems on the trade front, but also importantly, a real problem in terms of energy security and our economic future by 2015."***

*Hon. Martin Ferguson AM MP Minister for Resources and Energy, 21 February 2008 ABC 7.30 Report.*

# The case to develop Australia's oil shale resources



Australia's oil shale resources are vast and offer a promising, realistic solution to our current oil shortage, especially for transport fuel.

## Creating new fuels to top up Australia

A Shale-to-Liquids (STL) industry could operate for decades, providing an essential transport fuel source while other alternative fuel sources are being investigated and developed.

Australia's oil shale resources are vast and offer a promising, realistic solution to our current oil shortage, especially for transport fuel. QER holds the rights over oil shale resources with the potential to yield up to 15.8 billion barrels of oil. These resources are at least twice the size of the Bass Strait oil field, which to date is the largest oil field discovered and developed in Australia.

The sustainable development of Australia's important oil shale resources provides a great opportunity for QER to responsibly contribute to the ongoing demand for transport fuels. It has the potential to yield investments in the billions of dollars, provide thousands of jobs and significantly reduce Australia's balance-of-trade deficit.

A commercial STL industry will provide significant employment and economic revenues for decades to come. Shale oil products are low in sulphur and have high quality transport fuel characteristics, making them particularly suitable for ships, planes, trains and heavy vehicles.



## Australia's oil production cannot meet demand



The International Energy Agency says demand growth for oil will require the production of an additional 64 million barrels per day by 2030.

The supply of oils and fuels for Australia's heavy transport systems is critical to our social development and the nation's prosperity. Our economy is reliant upon our ability to move freight and people by air, rail and road.

Without oil, logistical transport systems would come to a halt, crippling the economy. The daily transport of people, food and other goods would be severely restricted, impacting on communities. Australia is particularly vulnerable to such an impact, given the country's large geographical land mass.

While electric and hydrogen technologies may at some time in the future provide solutions for passenger vehicles, they simply don't have the necessary energy density to drive trucks or power aircraft.

Carbon-based fuels and oils will remain the major power source for heavy vehicles for decades to come.

*Oil-based fuels will meet 92% of heavy transport energy demand in 2030.*

IEA World Energy Outlook 2008.

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