Presentation to the
Australian Institute of Company Directors

The State of the Nation's Oil & Gas

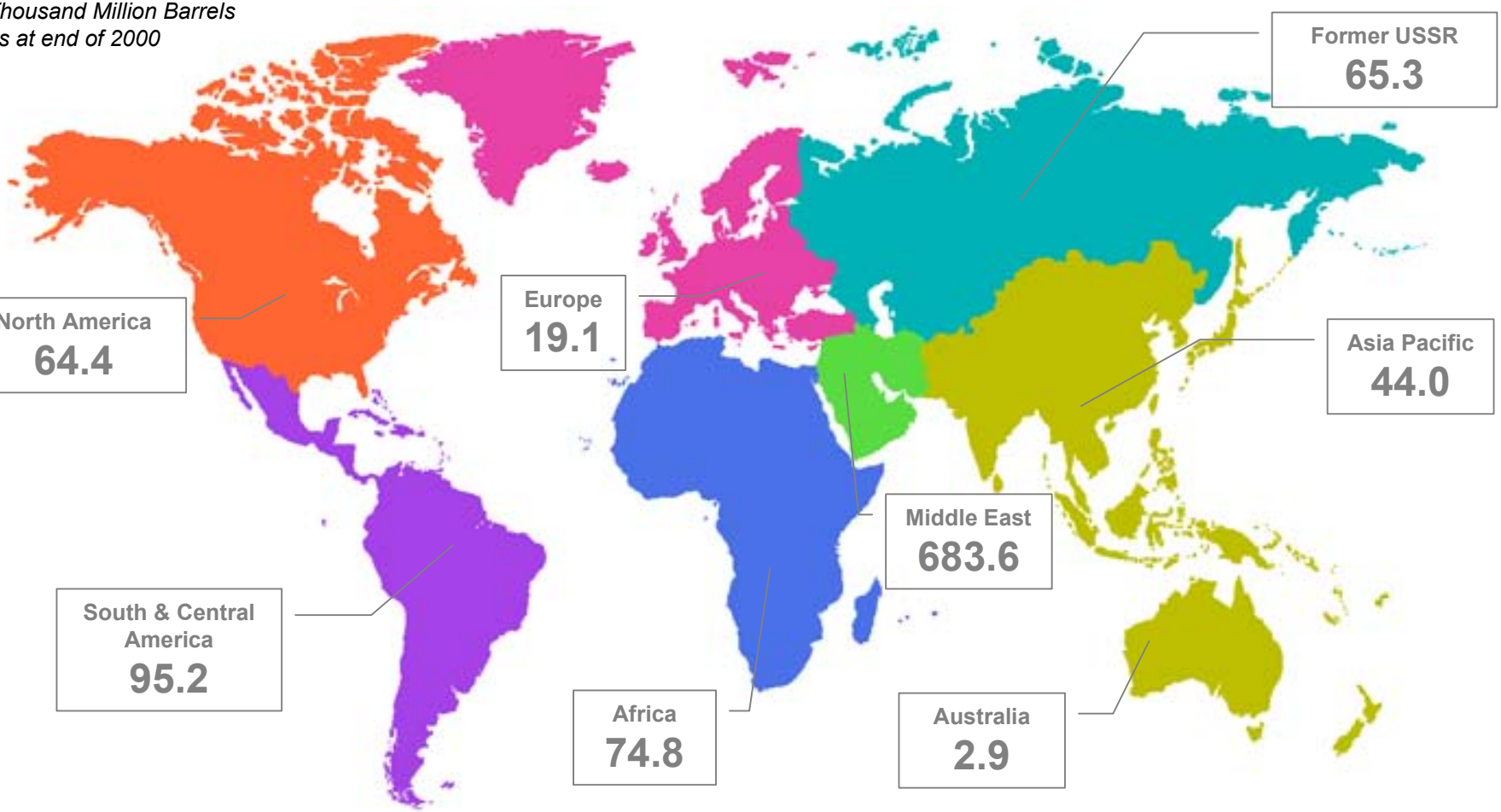
John Akehurst, Managing Director & CEO
Woodside Energy Ltd.

Friday, 14 March 2003

WOODSIDE
AUSTRALIAN ENERGY

Location of Global Proved Oil Reserves

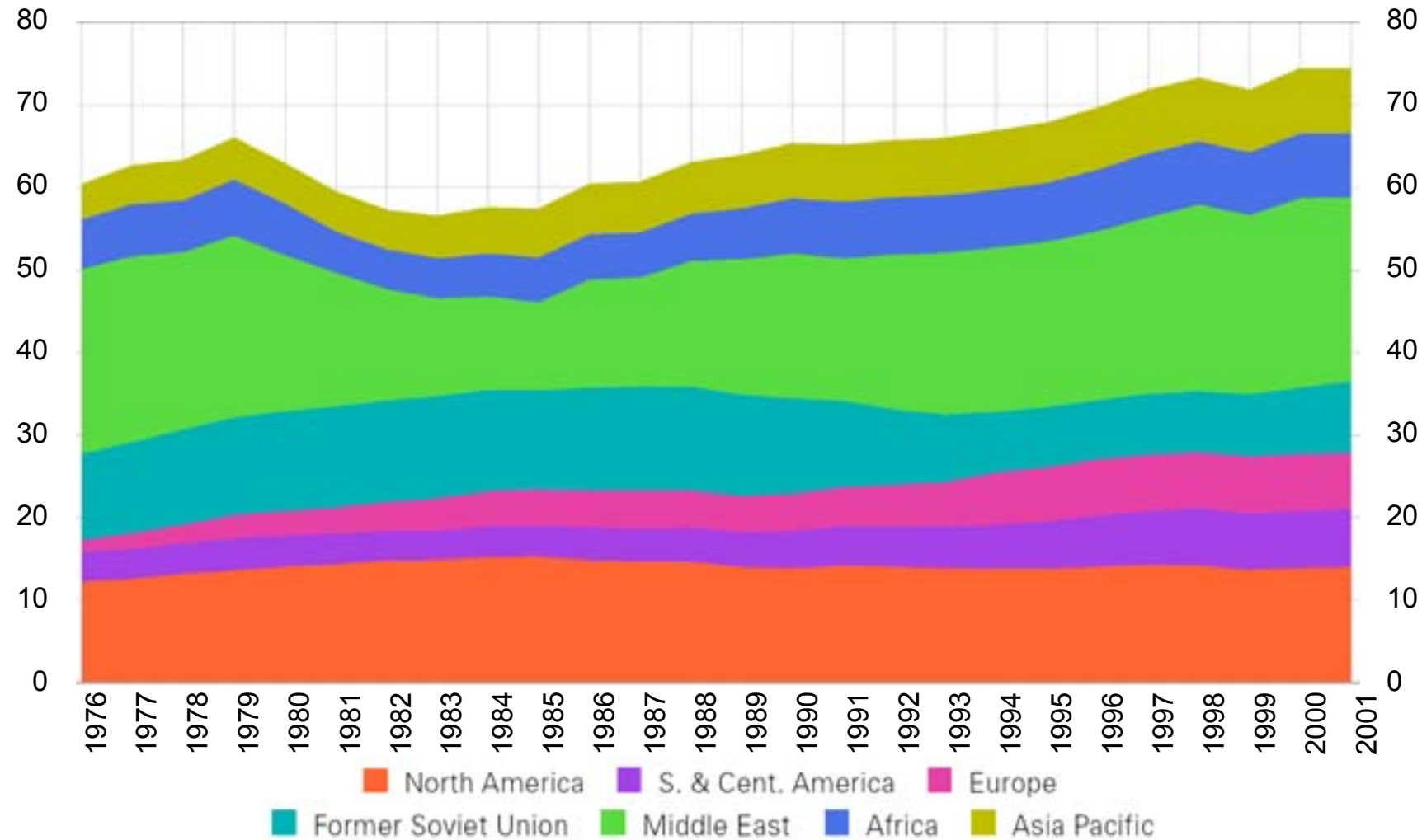
Thousand Million Barrels
as at end of 2000



World Reserves ≡ 40 years production
OECD Reserves ≡ 11 years production
Australia's own reserves ≡ 10 years own production

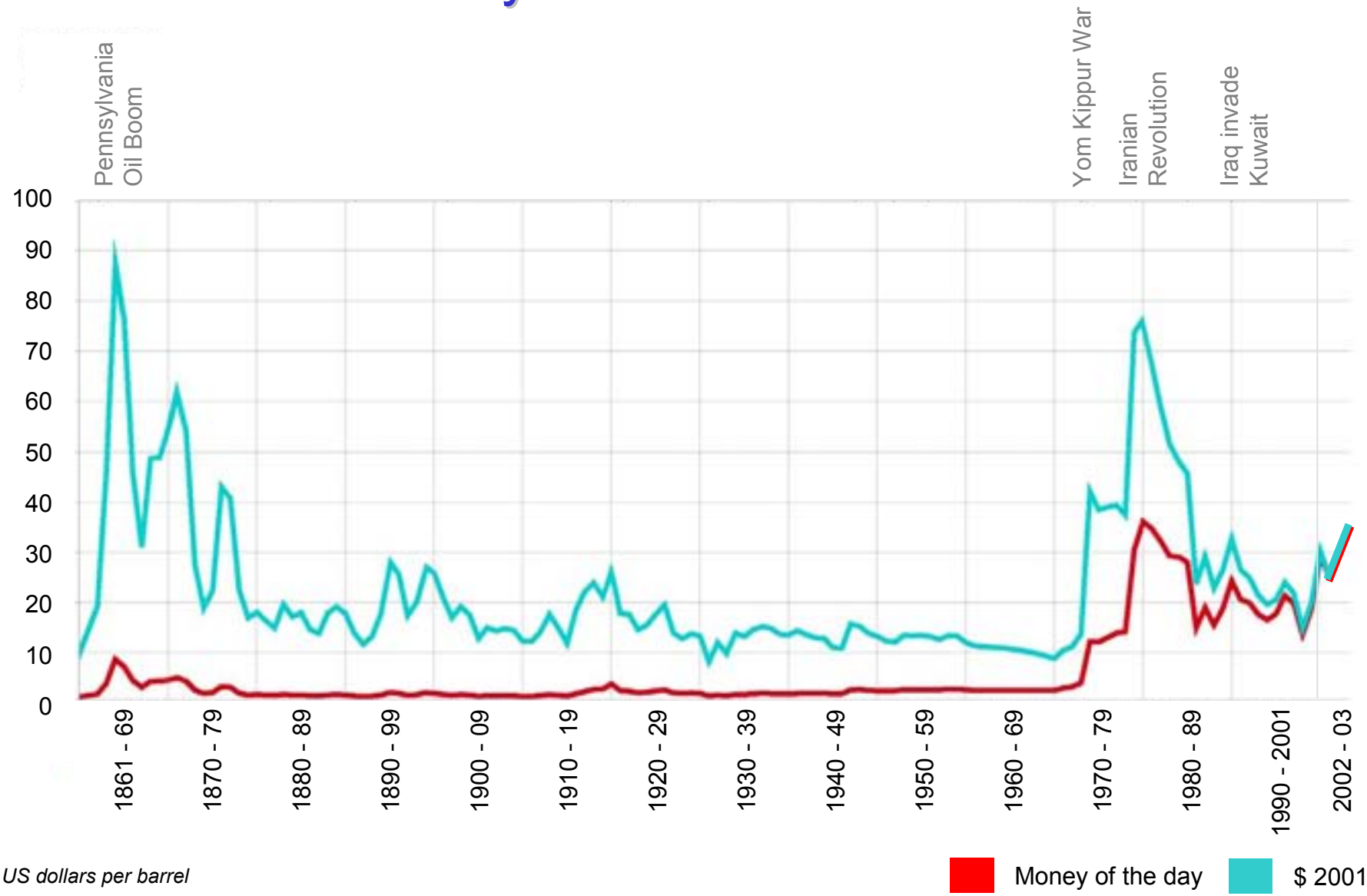
Oil Production by Region

Million barrels daily

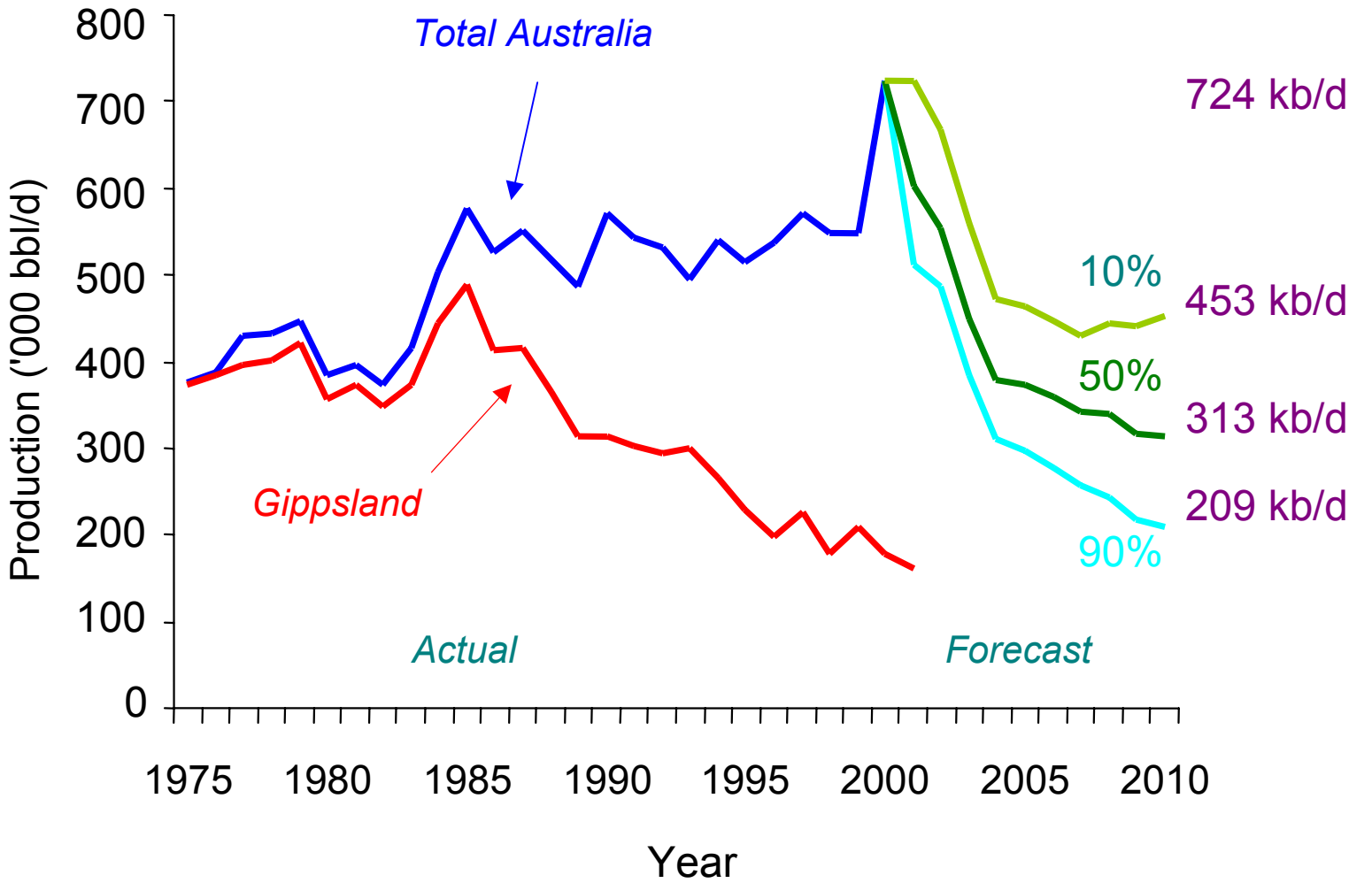


Oil production was broadly flat in 2001 compared with the previous year. Strong growth in the Former Soviet Union was offset by a decline in OPEC output.

History of Crude Oil Prices

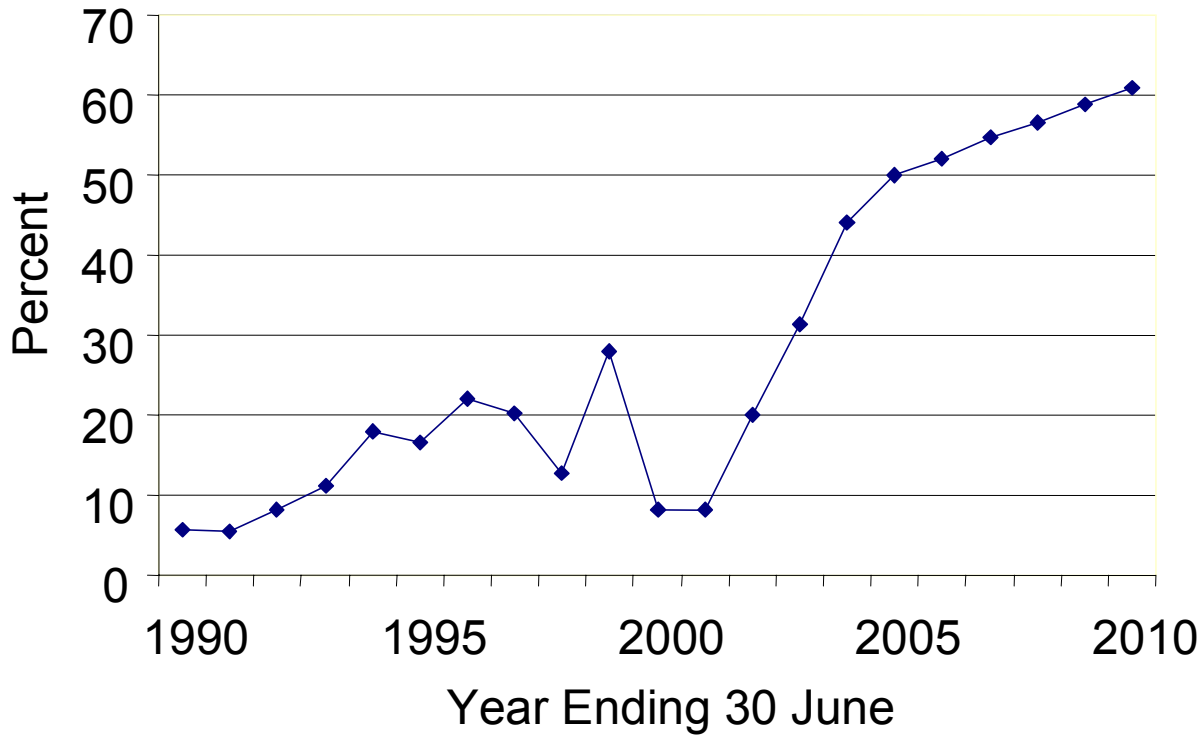


Australian Crude Oil and Condensate Production



Source: APPEA, Geoscience Australia

Australian Crude Oil and Petroleum Products Imported



Economic Implications of Higher Oil Imports

- **Balance of Payments:**

	Surplus/(Deficit) $billion
1999/2000	0.12
2001/2002	1.25
2004/2005	(5.60)
2009/2010	(7.60)

- **Energy Security:**

  Increased reliance of less stable oil exporters - Middle East, Indonesia, etc.

- **Sectoral Impacts - Jobs:**

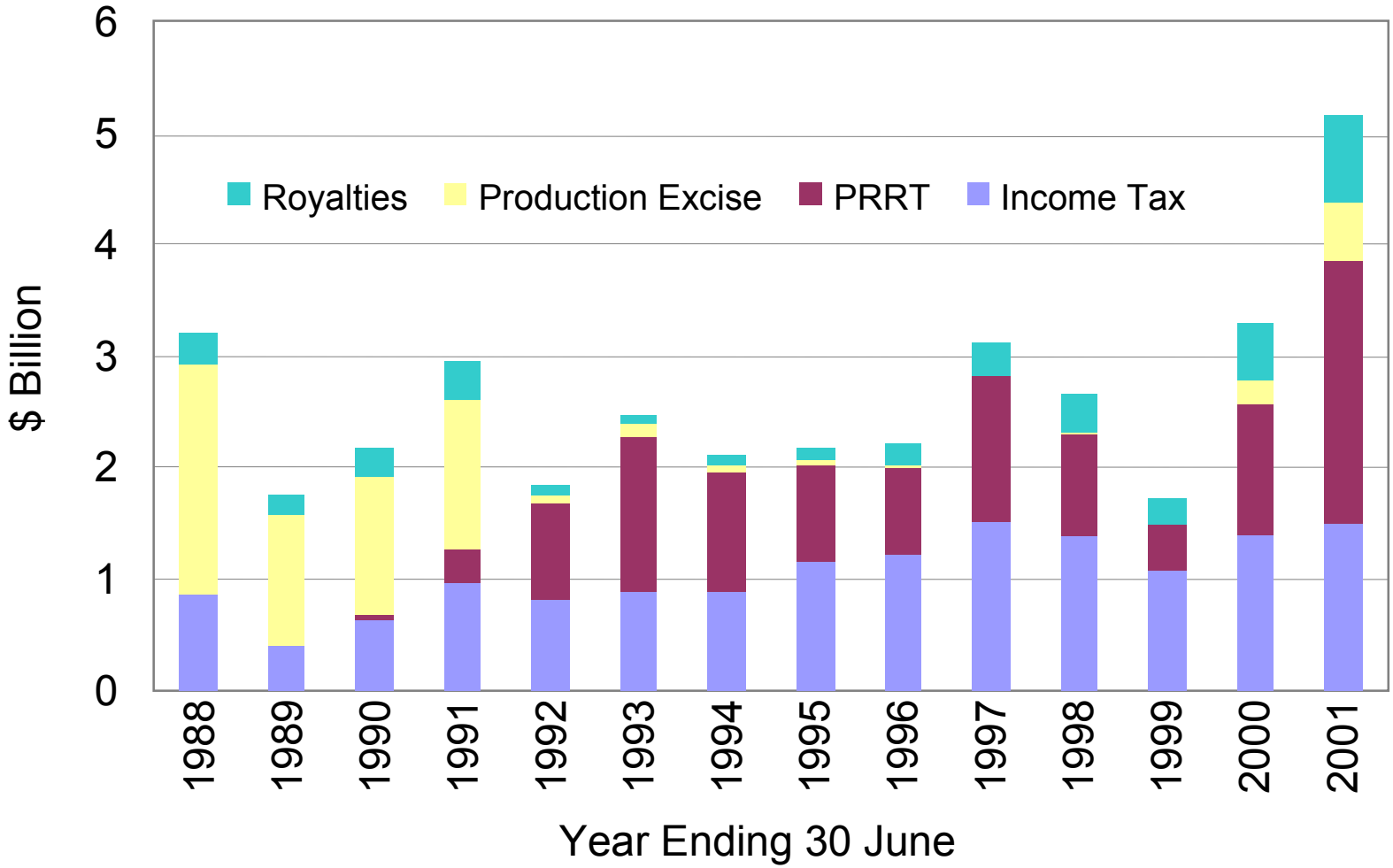
  Every 100 jobs created (or lost) in WA oil and gas industry leads to ~300 jobs created (or lost) elsewhere in WA.

- **Government Revenues:**

  Next slide.

Source: ABARE Energy Projections, Oct 2001, GeoScience Australia

Commonwealth Tax Collections from the Upstream Petroleum Industry



Source: APPEA, Budget Papers

So What can be Done?

- Increase Exploration.
- Increase Recovery from Existing Resources.
- Increase Fuel Substitution - to gas and others.
- Reduce Liquid Fuel Demand - technology.

but

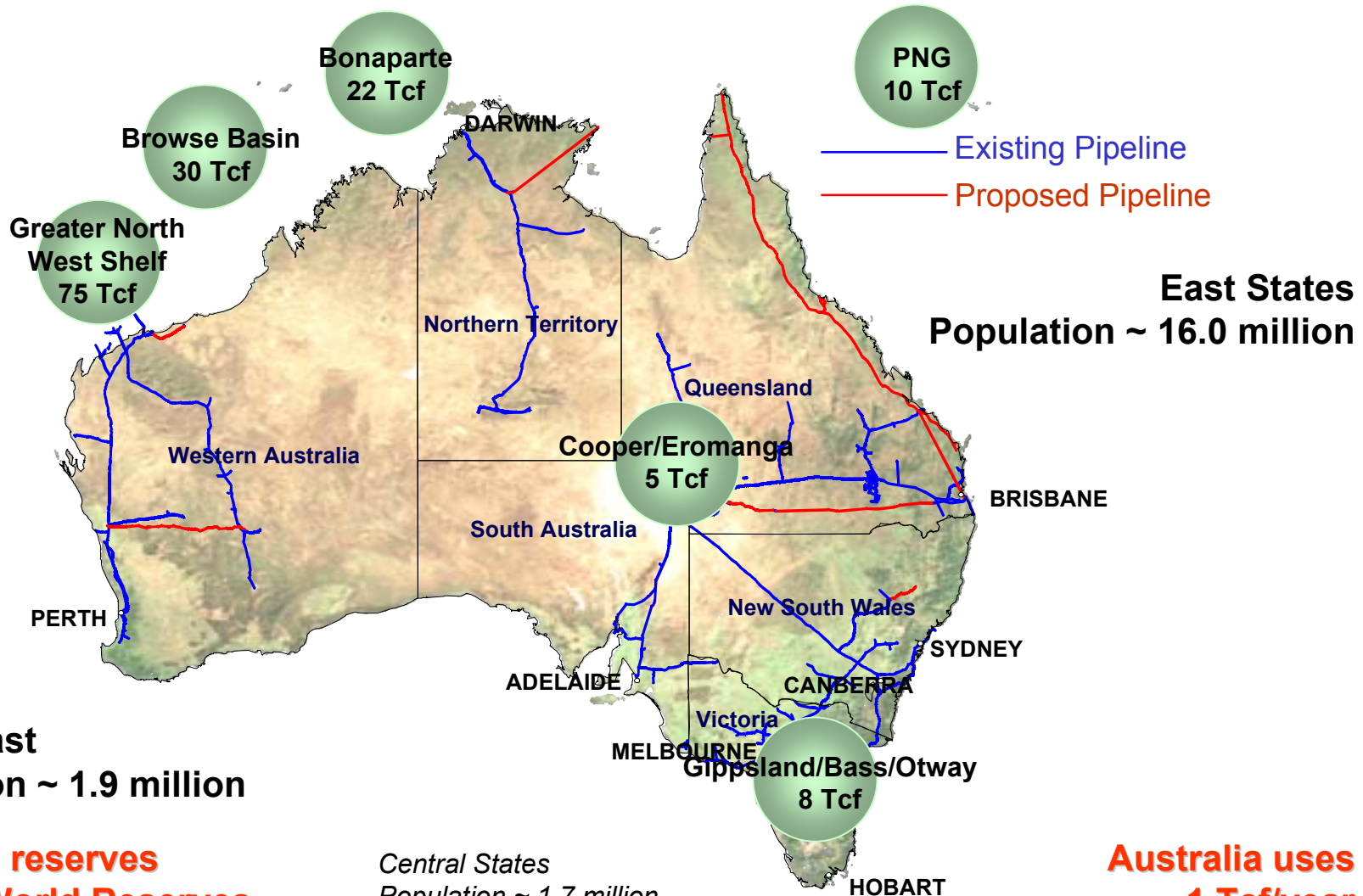
There is little chance to return to self sufficiency

Australian Petroleum Exploration

- Australia has relatively low oil prospectivity compared to other parts of the world.
- Fields are generally smaller and technically more challenging - ie expensive and riskier - heavy oil, deep water, etc.
- Other countries have more attractive terms.

Proved Gas Reserves - Global Picture (2001)

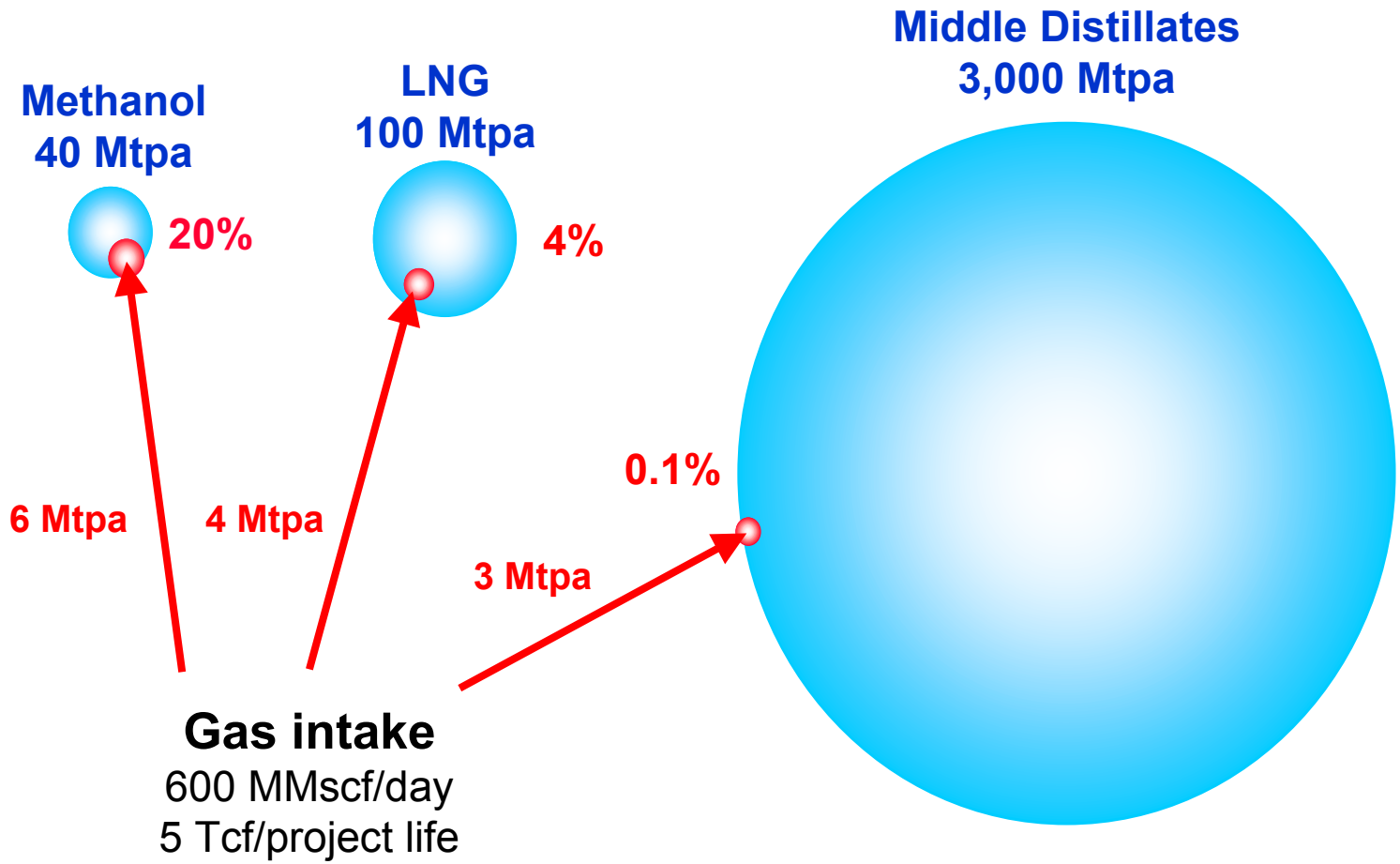
Australia's Gas Resources and Population Density



Fuel Substitution with Gas

- Create a new source of automotive fuels - gas-to-liquids.
  - But marginal economics where gas has market value.
- Increase balance of payments and revenues by reducing oil imports and increasing gas exports (LNG).
- Increase security of supply.
- Reduce GHG emissions - coal to gas and oil to gas.

Gas to Liquids



Gas to Liquids offers the opportunity to tap almost unlimited markets when compared to LNG alone

Gas to Liquids

Strategic Drivers

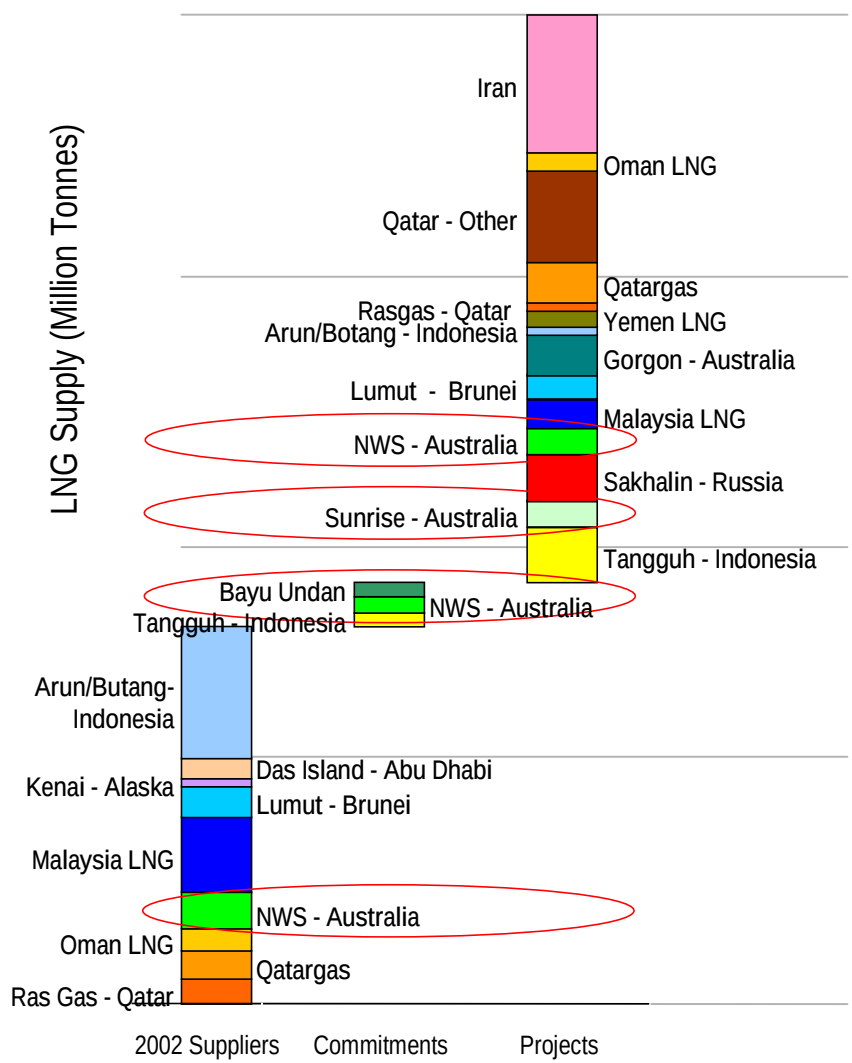
- Abundant remote gas reserves
- Stable investment climate
- Complementary to LNG – Strategic Diversification
- Growing demand for clean fuels

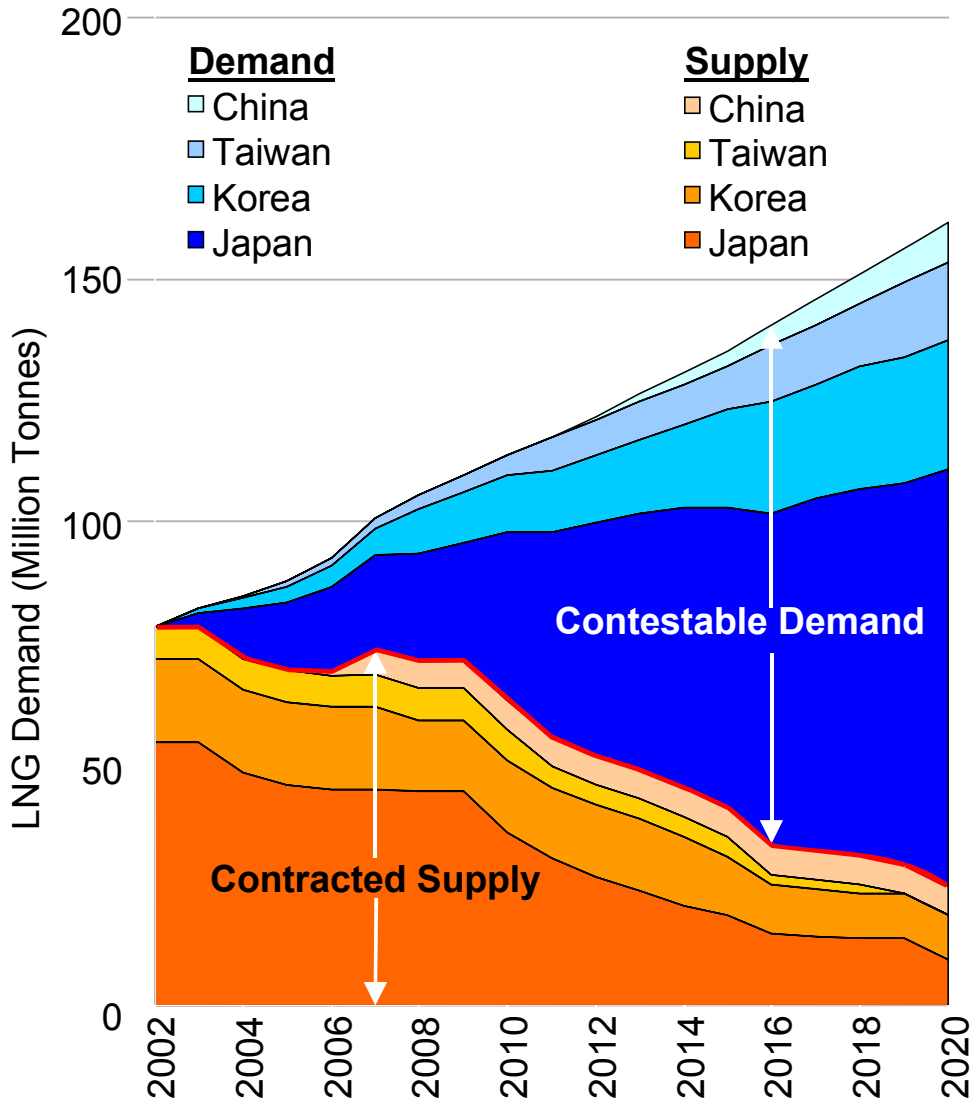
Economic hurdles

- Capital costs of construction
- Gas into plant price- offshore remote gas is an economic challenge
- Fiscal regime
- Local synergies (infrastructure, power, water)

GTL can be a key enabler for the future development of Australia's gas resources

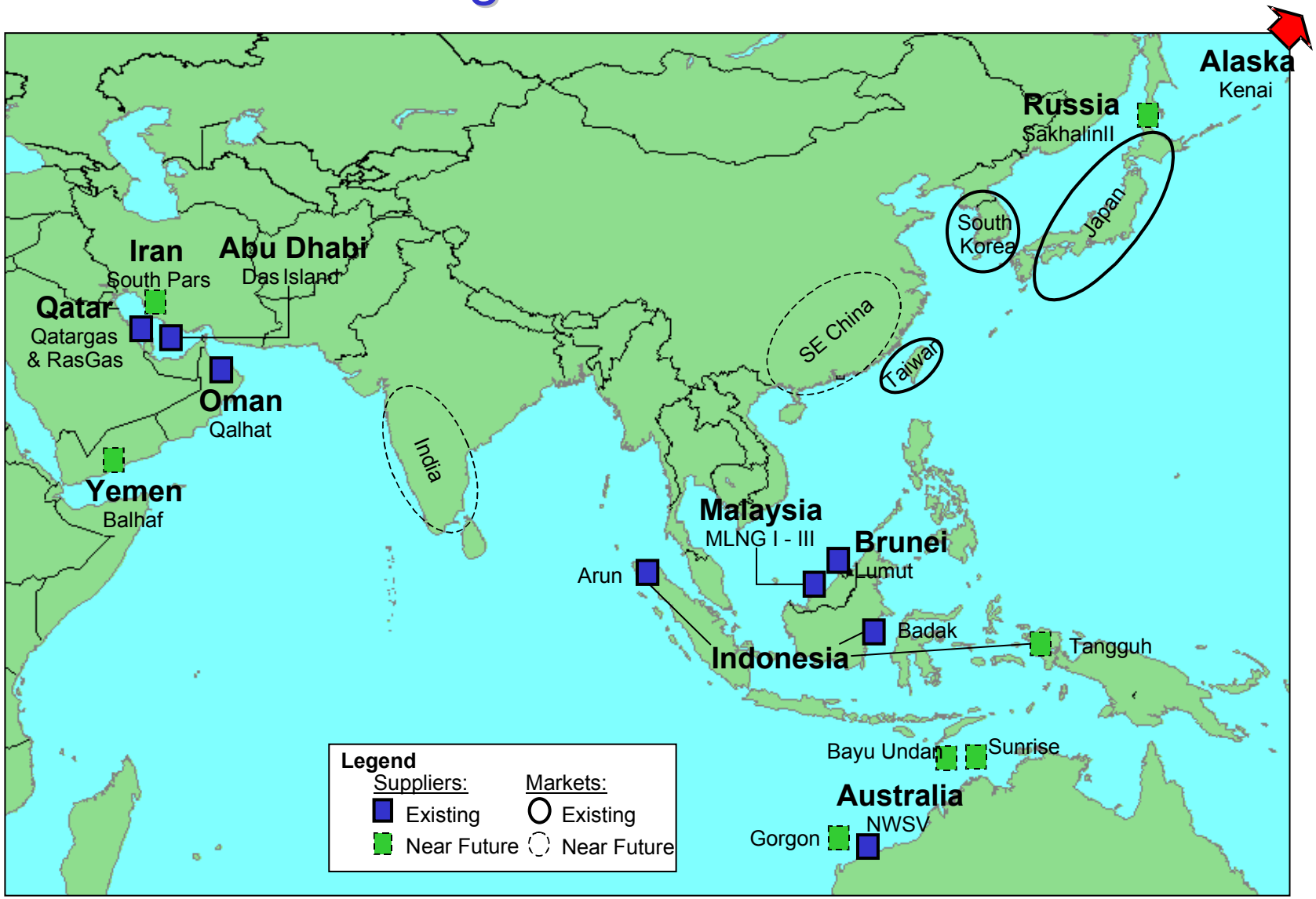
East Asia LNG Supply/Demand



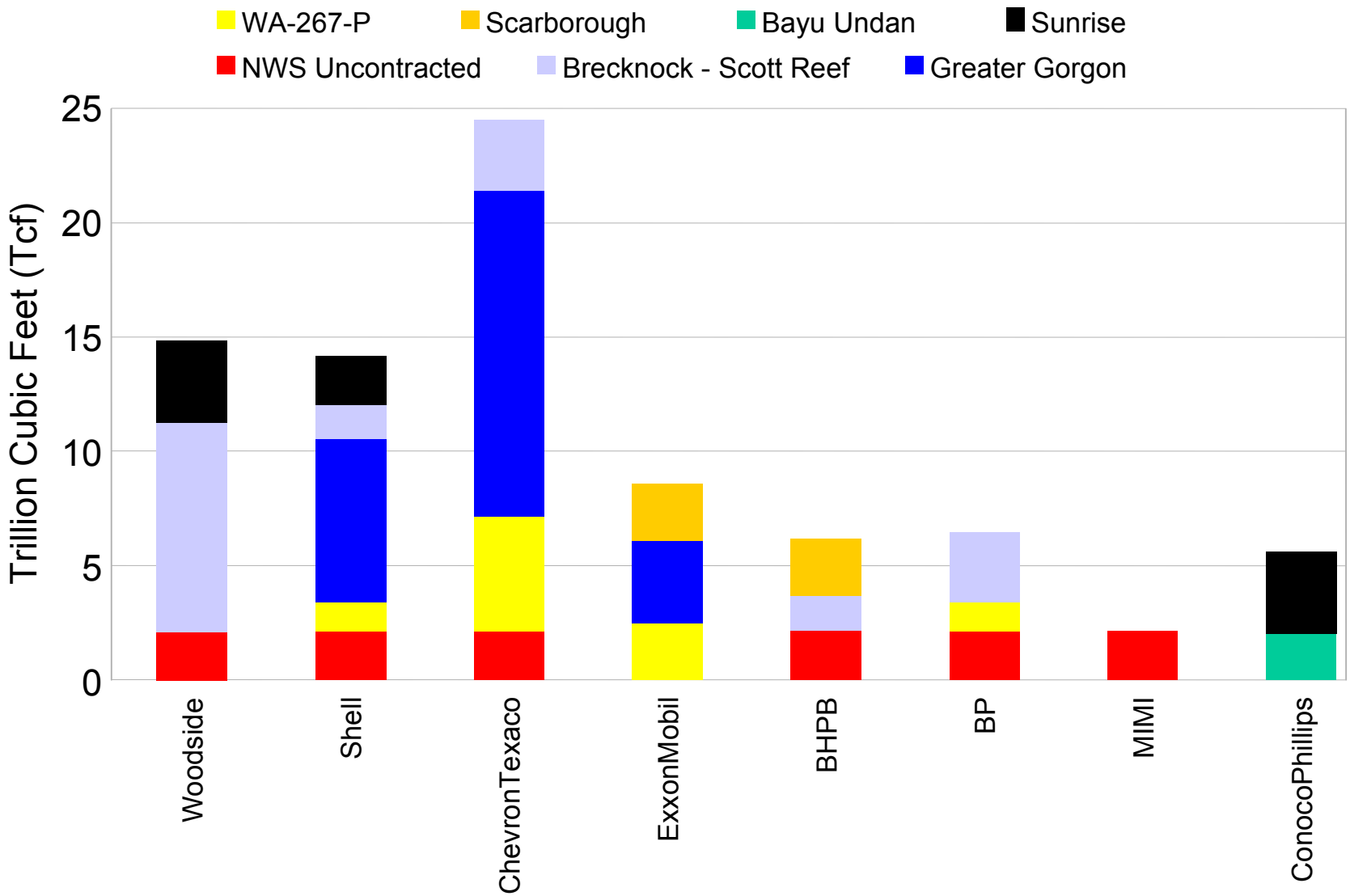


Source: CERA - December 2002

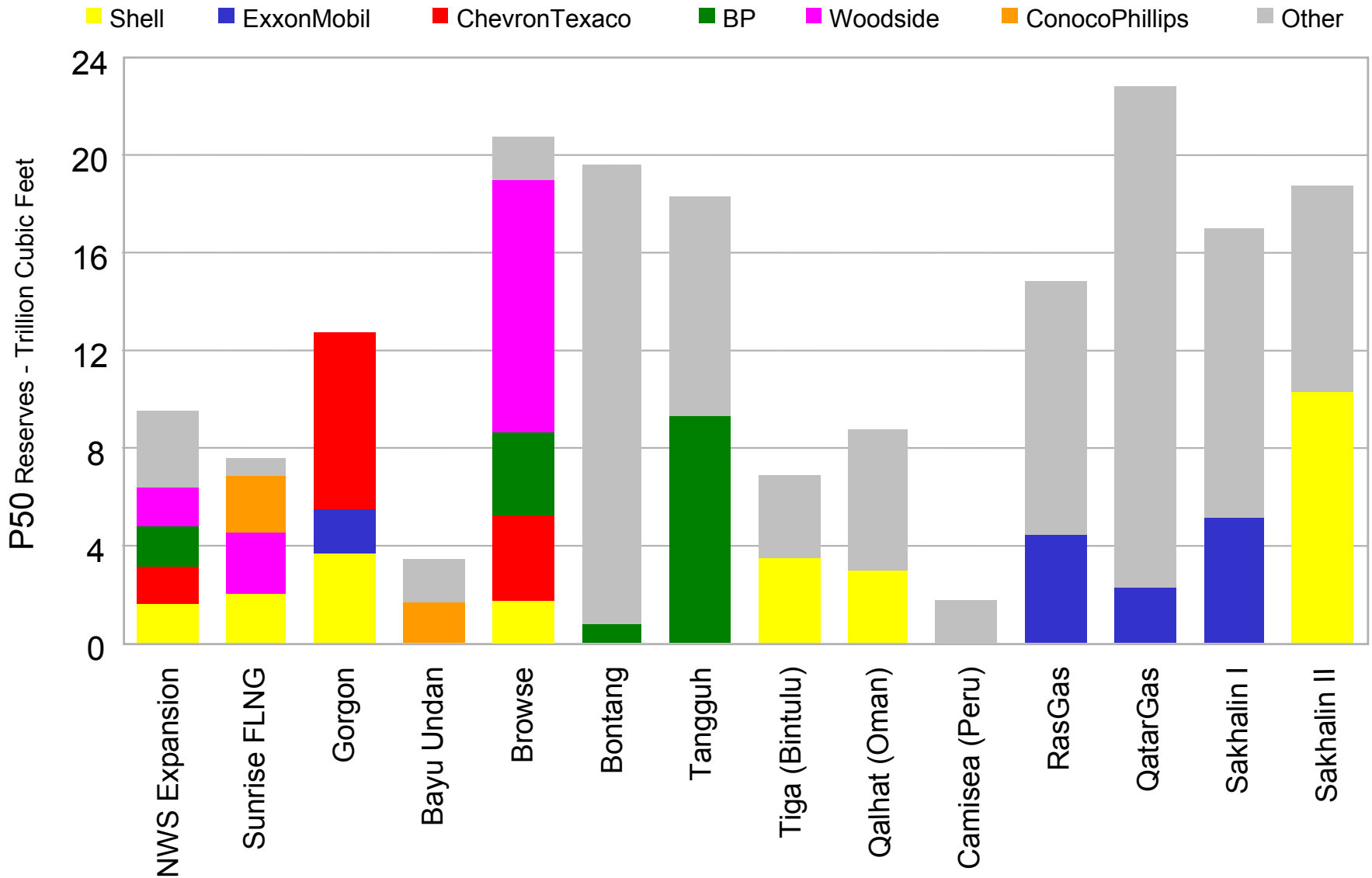
Regional Resources



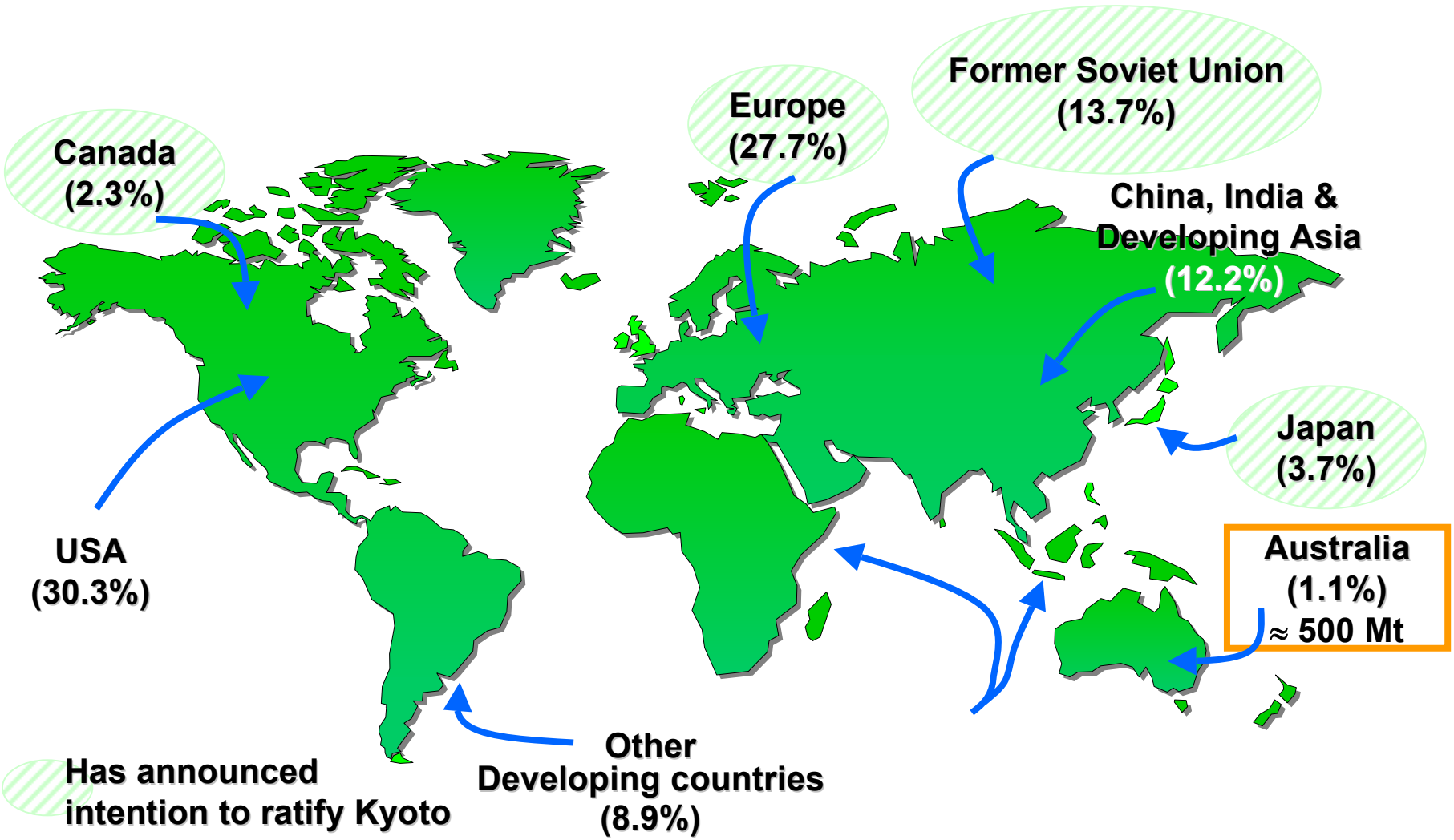
Australia's Gas Resource Ownership



Competing Uncommitted Reserves Interests of Majors



World Emissions by Region



Source: World Resources Institute, 1999

Australia Projections

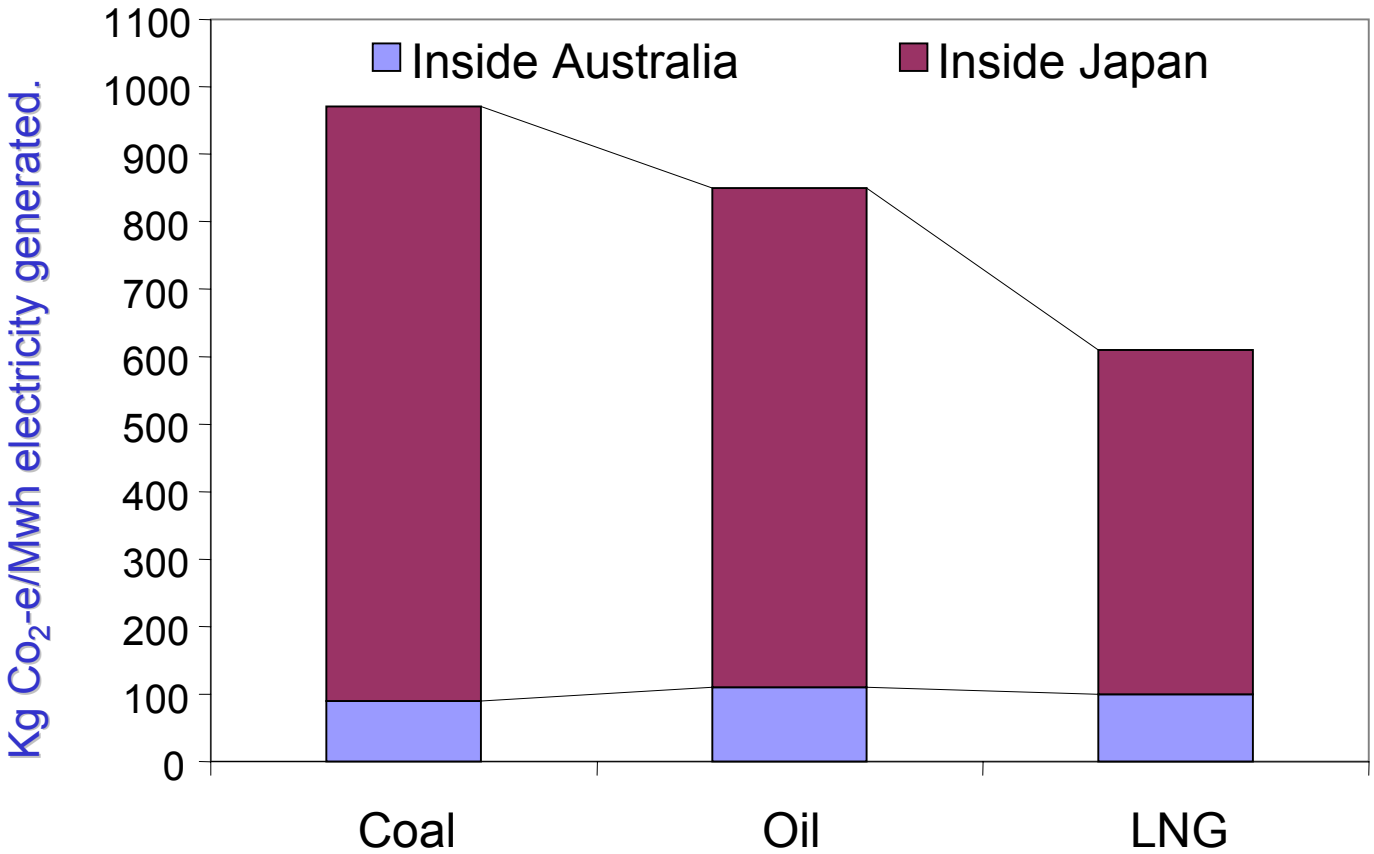
1990 to 2010 Projections:

- 116% accounting for land use changes and forestry.
- 130% without accounting for land use changes.
- 144% if no abatement and business as usual.

Greenhouse Gases

- Australia/Global have accepted the need to reduce Greenhouse Gas emissions.
- Woodside operations have voluntarily reduced emissions intensity by 45% between 1996 and 2002.
- Need to approach Greenhouse Gas abatement with a national and international perspective.
- Need to address the flaws in Kyoto protocol.
- Need to develop a longer term plan for addressing GHG to improve business investment certainty.

Lifecycle Emissions Comparison



Source: CSIRO

Note: oil emissions calculated using Middle Eastern oil (Australian oil is expected to produce slightly lower CO_2 emissions)

Clean Energy Exports

Kyoto Protocol has no mechanism to recognise the global environmental benefits of Clean Energy Exports (CEE).

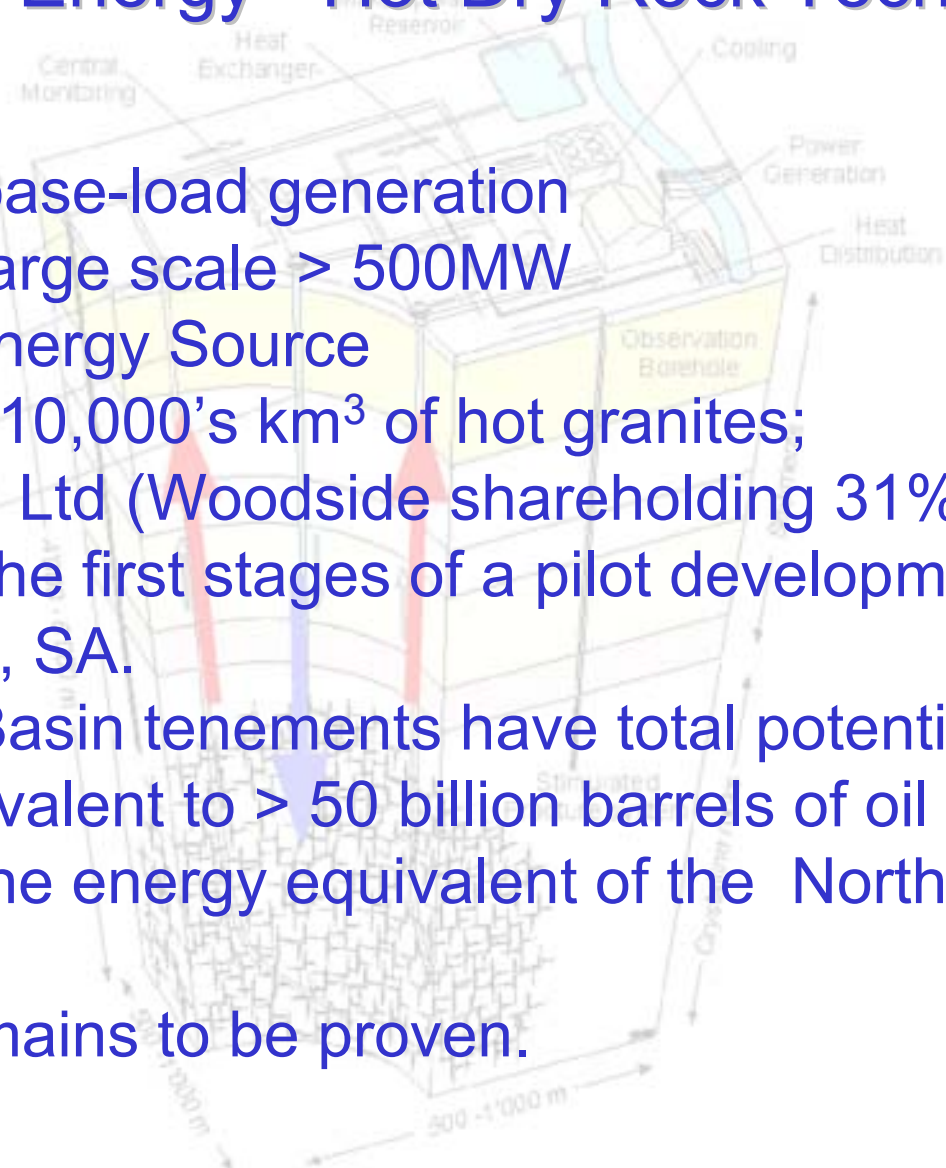
Limitations of Kyoto Protocol

- Emissions inventories are confined within country boundaries.
- Does not accommodation trans-boundary energy movements.
- Only developed countries have Assigned Amounts.

Implications for Australia

- Australia bears the emissions burden, while contributing to a global solution.
- Kyoto compliance leads to Australia de-industrialisation.

Renewable Energy - Hot Dry Rock Technology



- Potential for base-load generation
- Potential for large scale > 500MW
- Renewable Energy Source
- Australia has 10,000's km^3 of hot granites;
- Geodynamics Ltd (Woodside shareholding 31%) has commenced the first stages of a pilot development in the Cooper Basin, SA.
- The Cooper Basin tenements have total potential reserves equivalent to > 50 billion barrels of oil equivalent (or 12 times the energy equivalent of the North West Shelf)
- Feasibility remains to be proven.

Summary

- Australia's oil reserves replacement and production will fall drastically over the rest of the decade.
- Increased imports will effect balance of payments, jobs and security of our energy supply.
- We need to incentivise explorers plus increase use of gas as a substitute fuel.
- Australia is blessed with very large gas reserves namely the North West of Australia.
- Gas exports will help the balance of payments and job creation.
- Gas to liquid research could lead to an alternative source of transportation fuels, but economics are difficult
- Substitution of coal and oil power stations with gas will reduce GHG emissions.
- Recognition of transboundary energy movements is required to create a genuine global solution.
- Other energy sources will be researched and developed - eg Hot Dry Rock Technology, solar, wind.