

Central Highlands Development Corporation
Turning the corner in coal
Emerald, 25 July 2014

New era, new opportunities for coal
(but you're gonna have to fight for them!)



Michael Roche

Chief Executive

Who is the Queensland Resources Council?

- > The Queensland Resources Council (QRC) is a not-for-profit peak industry association representing the commercial developers of Queensland's minerals and energy resources
- > 81 full members – explorers, miners, mineral processors, site contractors, oil and gas producers, electricity generators
- > 169 service members - providers of goods or services to the sector
- > Building a network of regional partners around the state, including CHDC

Aberdare Collieries
 Adani Mining
 Allegiance Coal
 Altona Mining
 Anglo American
 Anglo American Exploration
 Aquila Resources
 Areva Resources Australia
 Arrow Energy
 Bandanna Energy
 Beach Energy
 Bengal Coal
 BHP Billiton Cannington
 BHP Billiton Mitsubishi Alliance
 Caledon Coal
 Cape Alumina
 Cape Flattery Silica Mines
 Carabella Resources
 Carbon Energy
 Carpentaria Gold
 Cement Australia
 Chinova Resources

Civil Mining and Construction
 Coalbank
 Cockatoo Coal
 ConocoPhillips Australia
 Downer EDI Mining
 Eagle Downs Coal Management
 Ensham Resources
 ERM Power
 Evolution Mining
 Exco Resources
 Glencore Coal
 Glencore Copper
 Glencore Zinc
 Guildford Coal
 GVK
 International Coal
 Investigator Resources
 Isaac Plains Coal Management
 Jellinbah Resources
 Jindal Steel & Power
 John Holland

Kalimati Coal Company
 Leighton Contractors
 Linc Energy
 Lucas Group
 Macmahon Holdings
 Mastermyne
 Metallica Minerals
 MetroCoal
 Millmerran Power Management
 Minerals and Metals Group
 Mitsubishi Development
 New Hope Group
 Norton Gold Fields
 Origin Energy
 Paladin Energy
 Peabody Energy
 QCoal
 QER
 QGC
 Queensland Coal Investments
 Rio Tinto Alcan
 Rio Tinto Coal Australia

Rockland Resources
 Santos/TOGA
 Senex Energy
 Shell Development (Australia)
 Sibelco Australia
 Sojitz Coal Mining
 Stanmore Coal
 Summit Resources
 Thiess
 U & D Mining Industry (Australia)
 Vale
 Valiant Resources
 Wesfarmers Resources
 Westside Corporation
 Whitehaven Coal
 Yancoal Australia

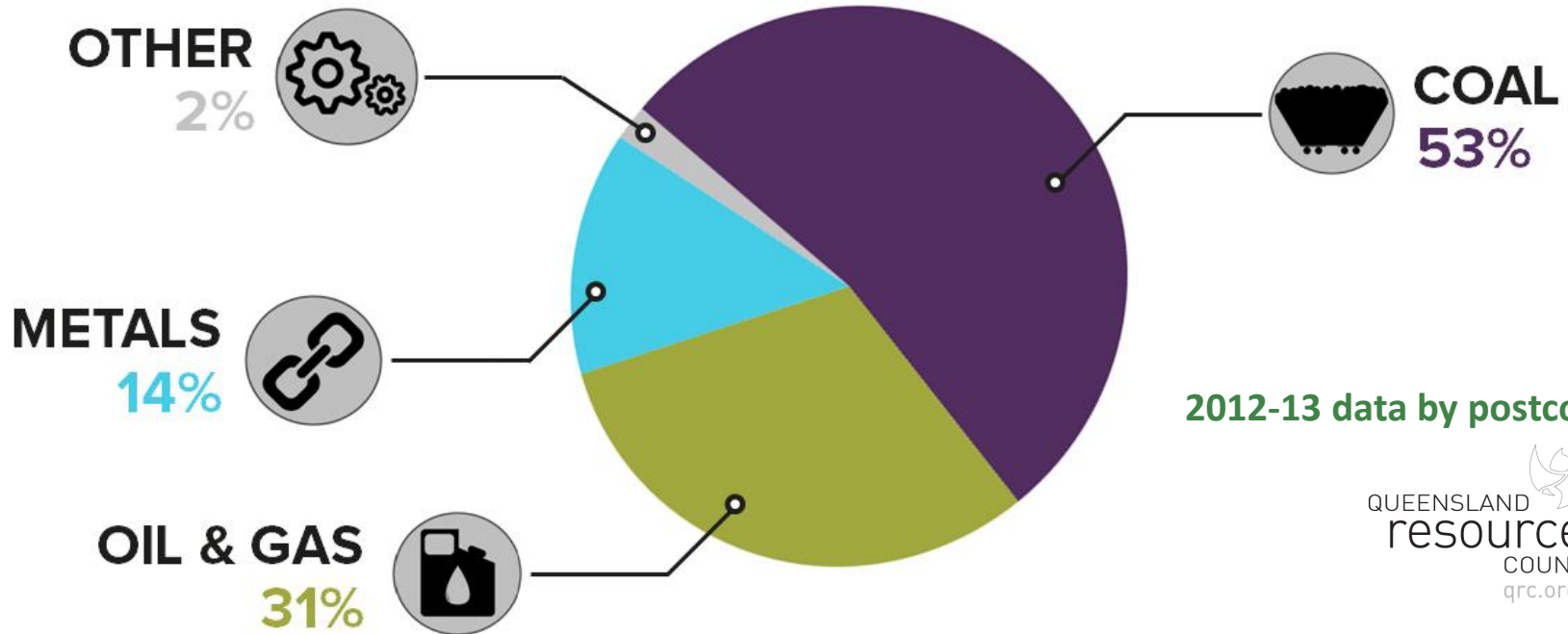
**81
full
members**

**169
service
members**

**39
associate
members**

\$37.9 BILLION

SPEND BY SECTOR



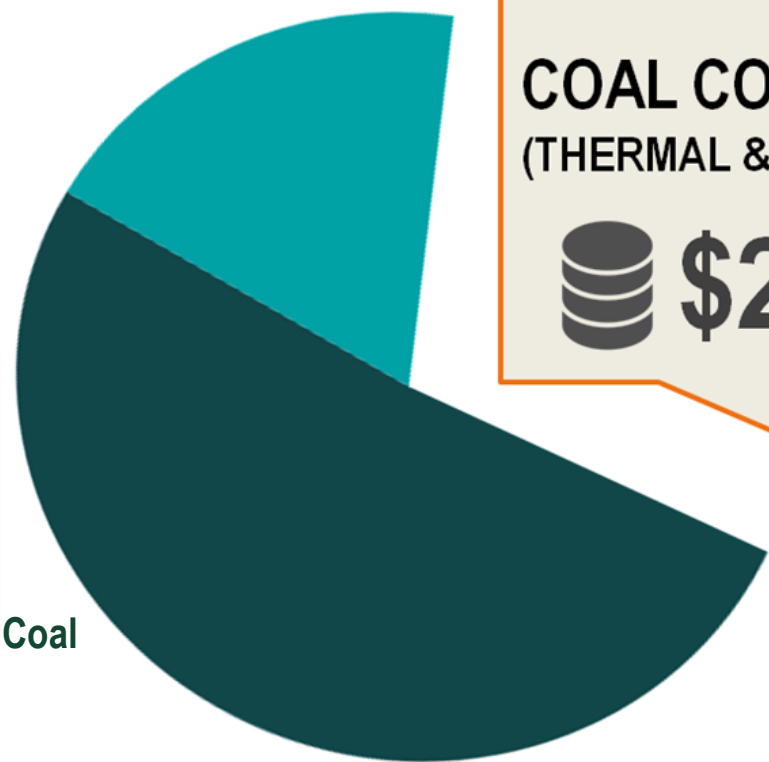
2012-13 data by postcode

Queensland resources sector forecast value of production 2014


\$35 BILLION

Black Thermal Coal
\$US6.6 Billion

Black Prime Coking Coal
\$US18 Billion



COAL CONTRIBUTION
(THERMAL & PRIME COKING)

 **\$24.6 BILLION**

70%

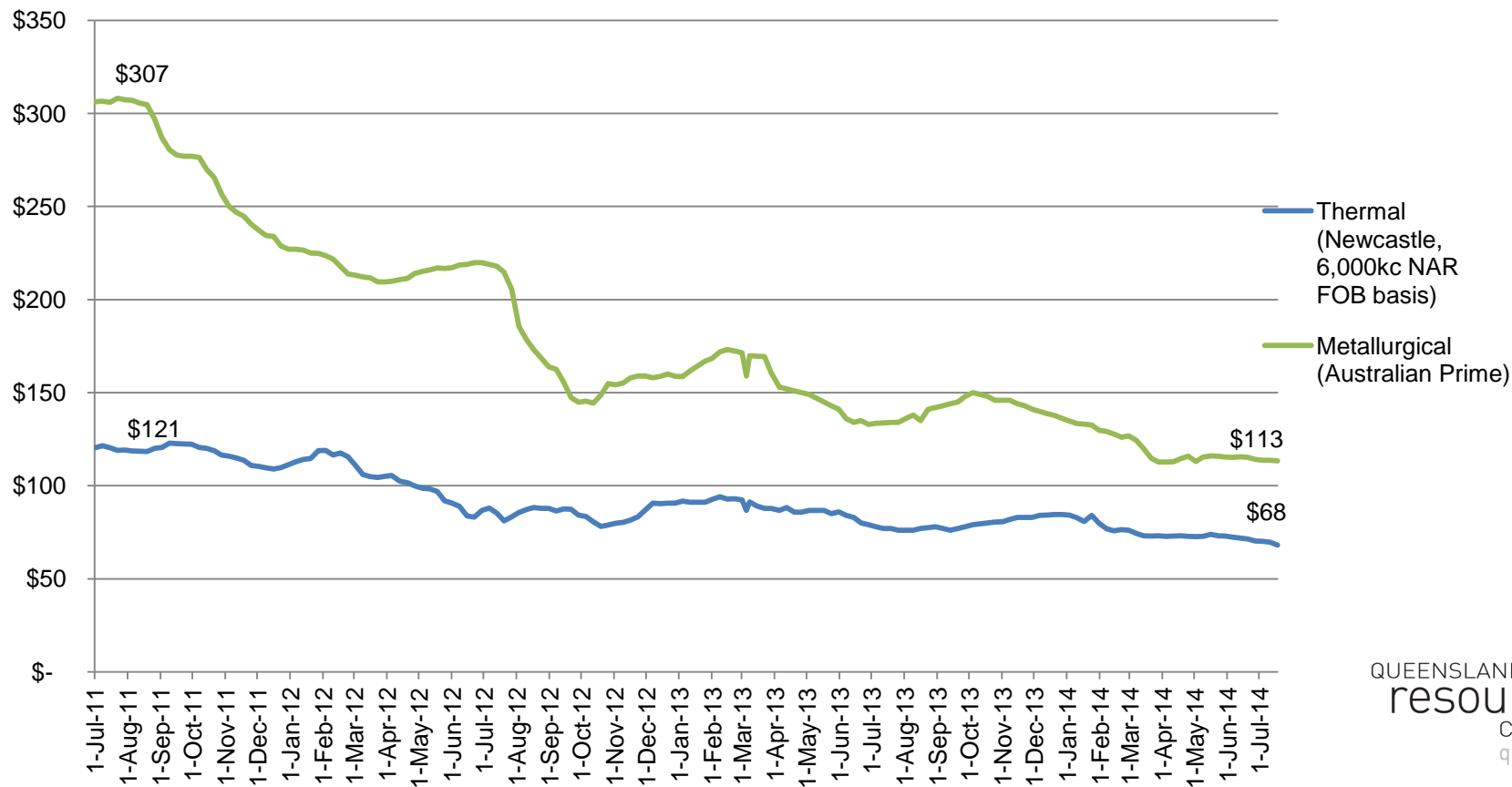
Source: BREE, IHS McCloskey

Coal market imbalances the 2014 reality

- > Thermal and coking coal prices weak as market over-supplied
- > Demand still growing steadily – global thermal coal trade up by 5% pa – driven by India and China. Japan desperate to ensure supply given nuclear uncertainty.
- > Marginal suppliers to Asia (e.g. USA) being squeezed out
- > Costs and shareholder returns focus
- > Australian producers waiting for someone else to blink, but can it last?
- > Signs that rail providers willing to share some pain on ‘take or pay’
- > ***25 per cent of all Qld coal produced at a loss (and half of all thermal coal)***
- > ***10 per cent of all Qld coal produced at a loss of more than \$US14/tonne***

Coal prices' long journey south

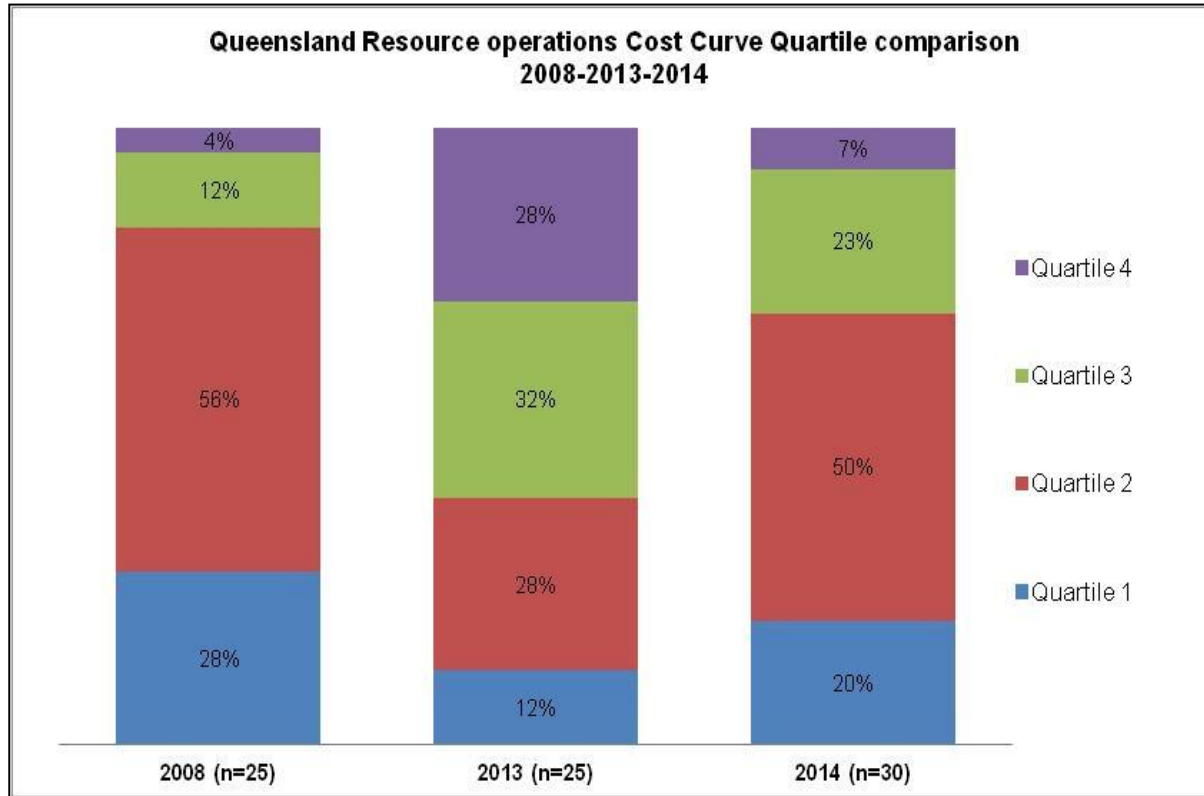
Source: IHS McCloskey



Industry response to tough outlook

- > Current investment cycle peaked in 2013 – now in production phase
- > Companies working their way back down global cost curves
- > Improved productivity from best resources/targeted operations
- > Higher production counter to low prices and fixed costs
- > Long-term demand fundamentals for minerals and energy remain positive
- > State and federal governments delivering some relief e.g. QLeave, carbon tax
- > Ideological opposition (masking as environmental activism) a serious risk

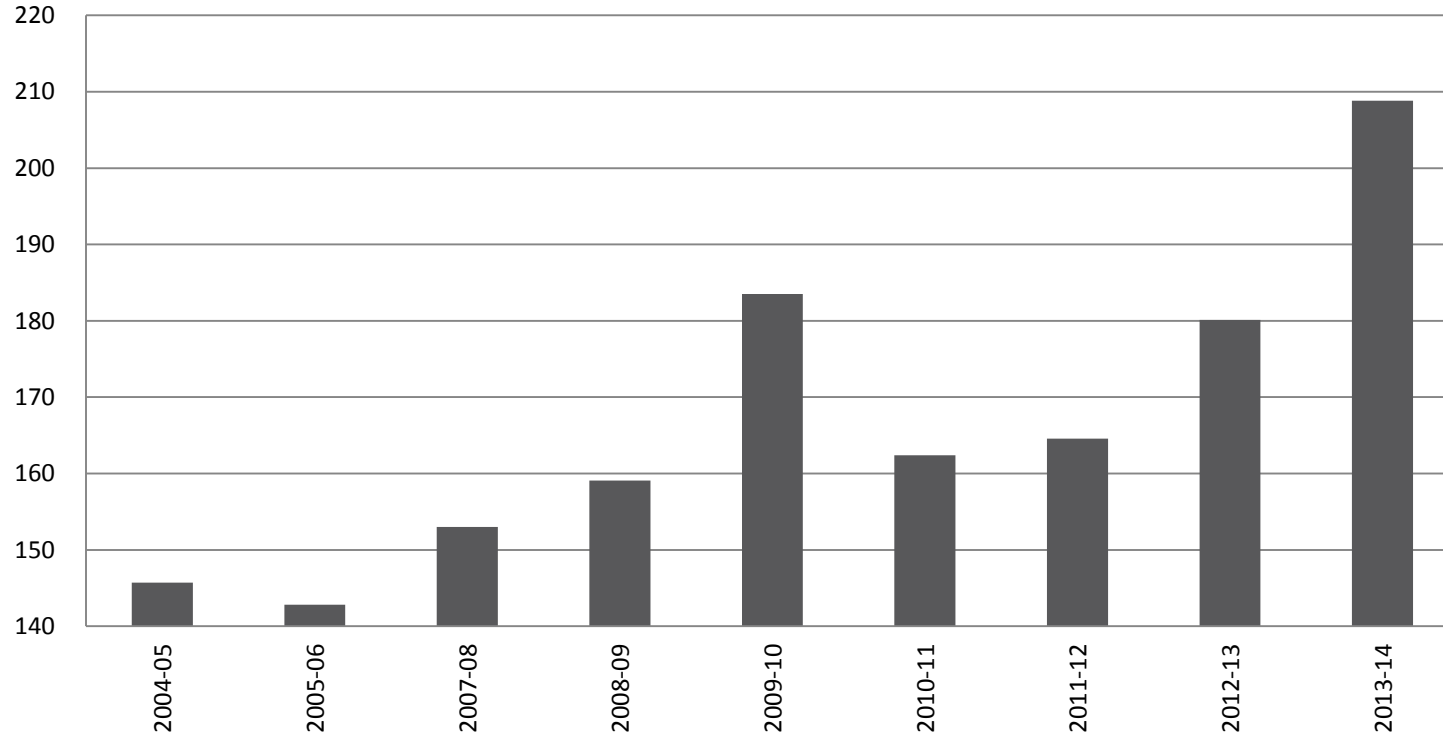
Clawing our way back down the global cost curve



Source: QRC survey of CEOs

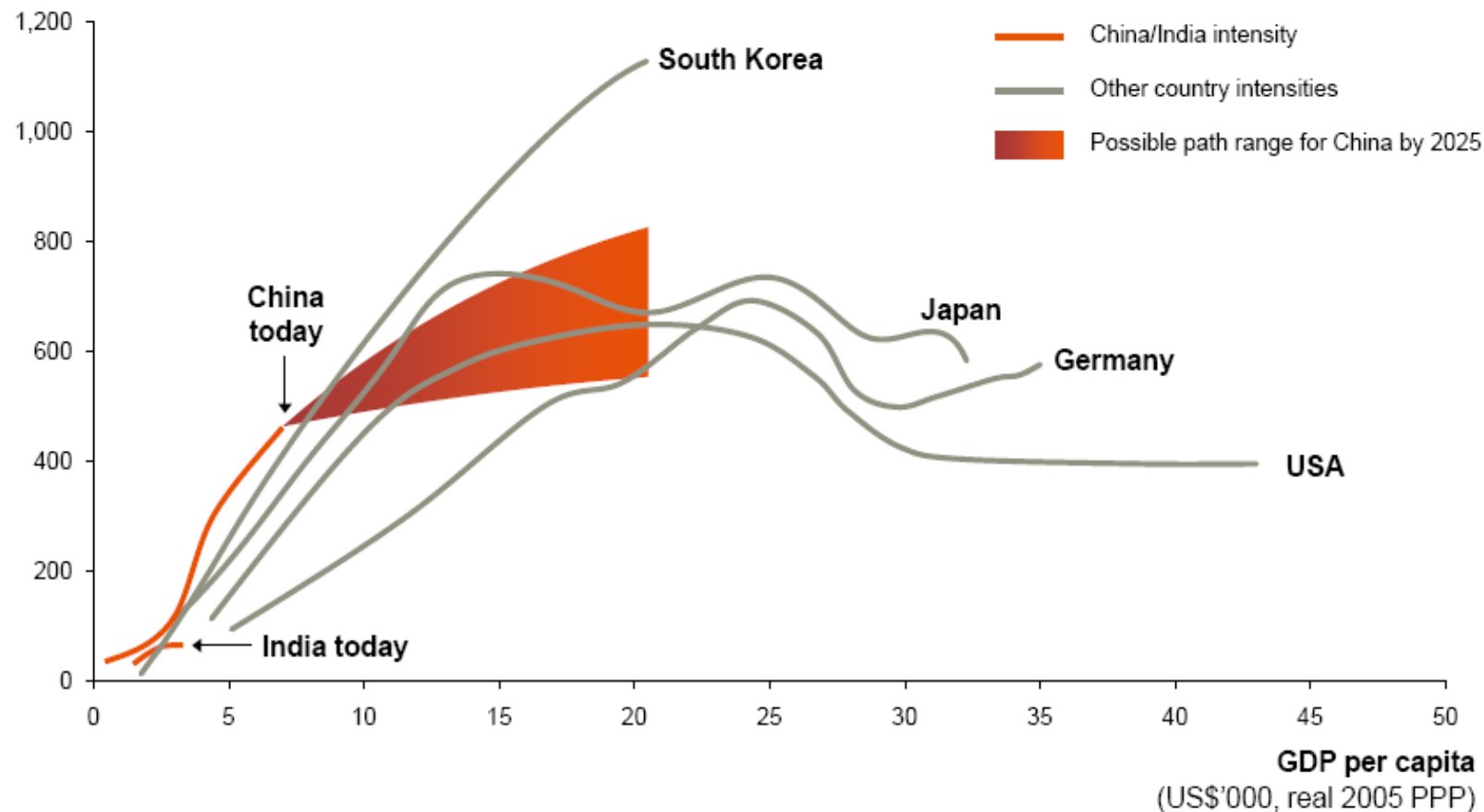
Substituting record volumes for lousy prices

Total Qld coal exports (mt)



Industrial development & steel consumption¹ (kg per capita)

Global demand fundamentals

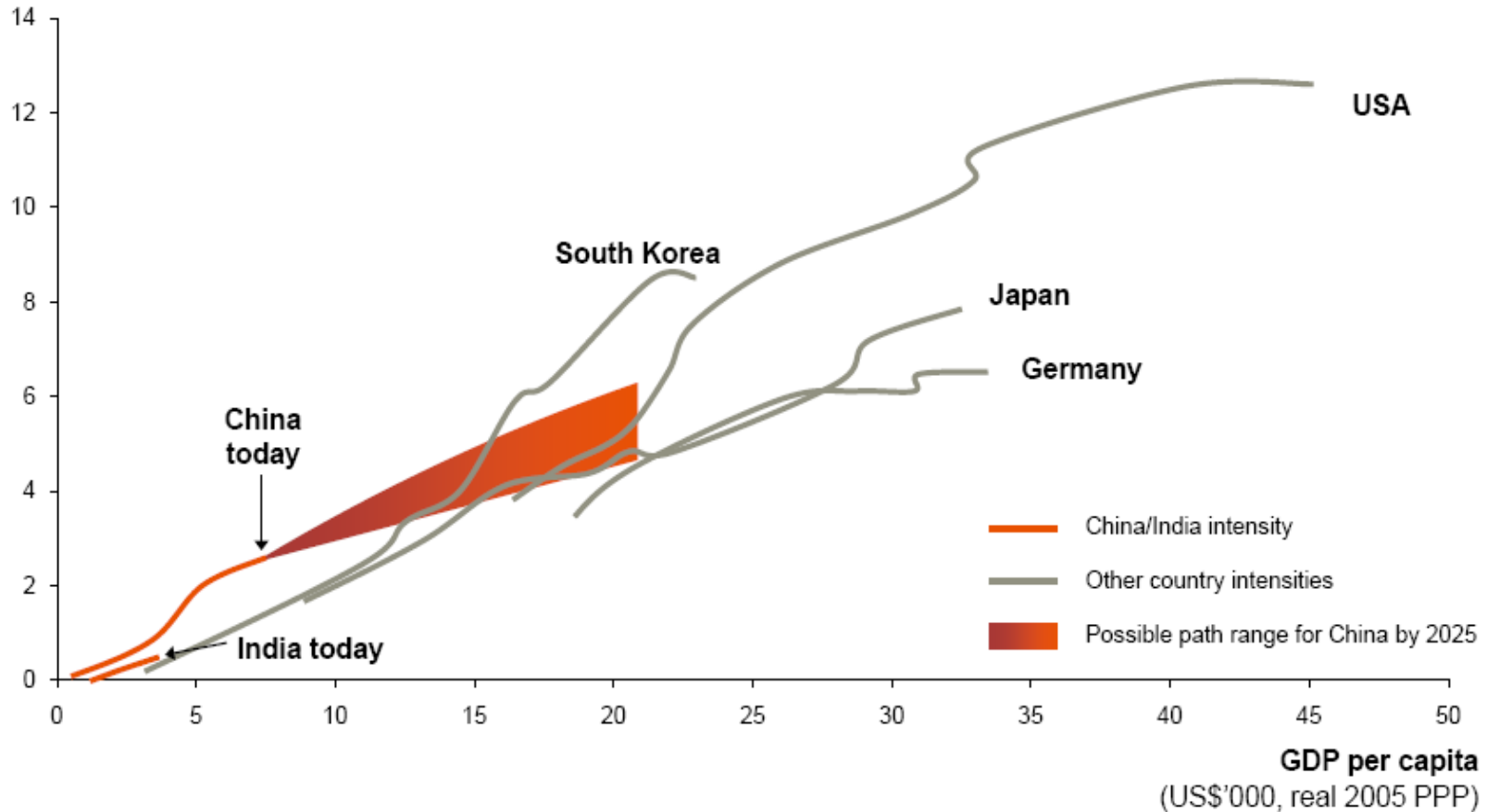


Source: CISA; worldsteel; Global Insight; JBS; BHP Billiton analysis.

1. Steel consumption on a crude steel equivalent basis.

Electricity consumption
(MWh per capita)

Global demand fundamentals



Coal hard facts

Metallurgical Coal

- > Queensland the leading seaborne exporter of high quality met coal
- > One tonne of steel needs 800kg of coal. No disruptive technology on radar
- > Qld has a met coal inventory of 11 billion tonnes (4 billion suited to open-cut)
- > Large suite of potential projects of high quality coal when current over-supply resolved

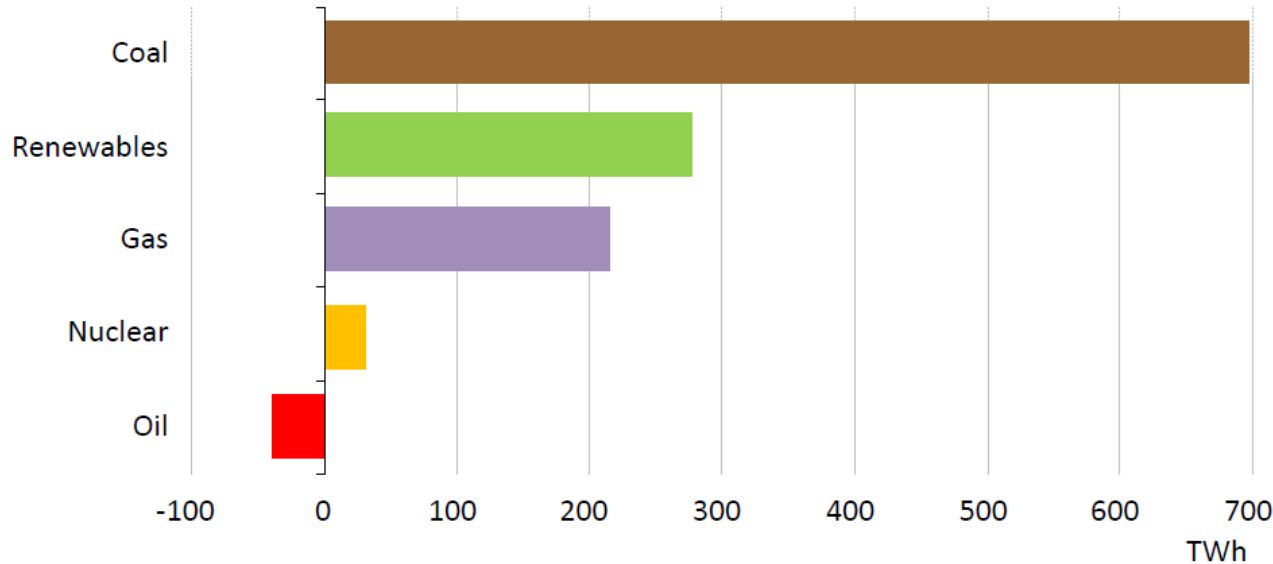
Thermal Coal

- > Coal preferred fuel for power generation in Asia due to availability, economics
- > In Japan, coal-fired power generation half cost of gas-fired generation
- > Asian import demand for thermal coal more than doubles to 2030 (HDR Salva)
- > India's import demand to lift from 138mt (2013) to 425mt (2030) (HDR Salva)
- > **Now is good time to build a new mine, with the right cost structures**

The power sector is fundamental to the energy outlook of Southeast Asia

SOUTHEAST ASIA
ENERGY OUTLOOK
WEO Special Report

ASEAN incremental electricity generation by fuel, 2011-2035



Electricity generation increases by more than the current power output of India; coal emerges as the fuel of choice, accounting for 58% of the growth

Coal and gas under coordinated attack

Orchestrated global/domestic ENGO campaign aimed at shutting Queensland coal and gas industries

- > **Misrepresent threat to Great Barrier Reef** from shipping, dredging, port development, developments on Curtis Island
- > **Litigation:** use the courts to stop or delay projects
- > **Change the story of coal:** change the perception of coal and gas as backbone of the economy
- > **Create investor uncertainty:** create perception of risk over fossil fuel investments
- > **Create a powerful link in the public mind between coal , gas and health problems**

Stopping the Australian Coal Export Boom



Funding proposal for the Australian anti-coal movement

John Hepburn (Greenpeace Australia Pacific)
Bob Burton (Coalswarm)
Sam Hardy (Graeme Wood Foundation)

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ACTIVISTS CAMPAIGN

NOT LETTING FACTS INTERVENE

OBJECTIVE Shut down Queensland Coal and Gas industries

HOW? Exaggerating dangers to GBR from shipping and port development
UNESCO declaration of GBR as World Heritage property 'in-danger'

FACTS

AIMS 2012

27 YEAR STUDY FINDINGS

**CORAL COVER HAS
BEEN LOST DUE TO**

48% STORM
DAMAGE

42% CROWN OF
THORNS STARFISH

10% CORAL
BLEACHING

2013 SCIENTIFIC CONSENSUS STATEMENT FINDINGS

**GBR ECOSYSTEMS SHOWING DECLINING
TRENDS IN CONDITION DUE TO**



CONTINUING POOR
WATER QUALITY



CUMULATIVE IMPACTS
OF CLIMATE CHANGE



INCREASING INTENSITY
OF EXTREME EVENTS

Don't let the facts get in the way

- > **TV claim:** 7,000 coal ships 'criss-crossing the Reef' by 2020
- > **Fact:** According to AMSA, by 2020 there could be 2,450 coal and 500 LNG ships using ports adjacent to the Reef. That's 8 ships a day. Another 3,000 ships carry sugar, grain, cattle, other minerals and essential imports
- > **Claim:** Only 65% of coal port capacity being used so why do we need new and expanded ports?
- > **Fact:** in 2013-14 84% of port capacity was used and all signs are that it will move close to 100% over the next few years



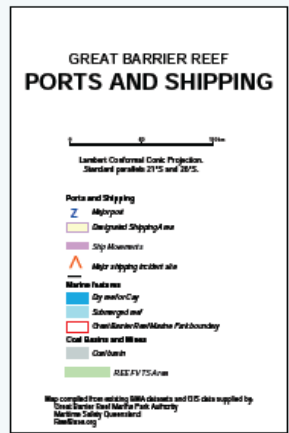
www.fightforthereef.org.au

QRC pushing back with facts

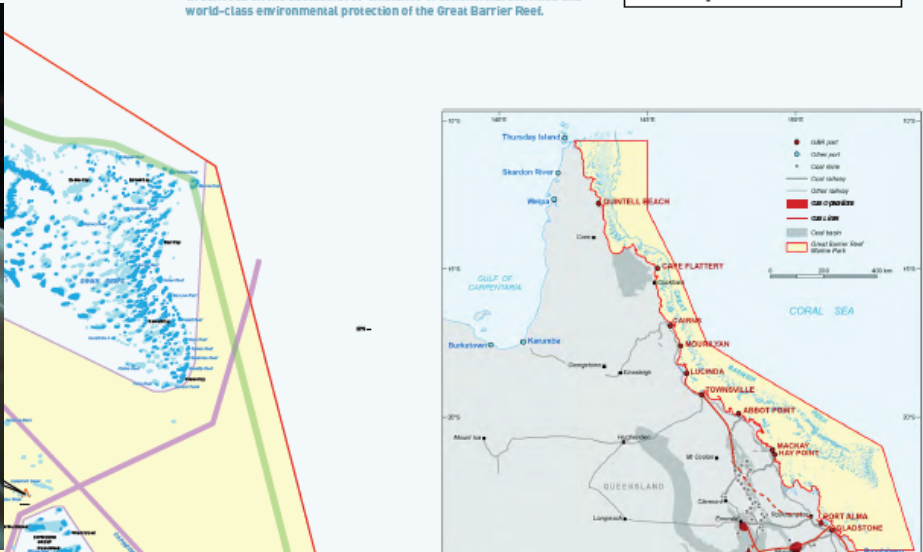
**WORKING
ALONGSIDE
THE GREAT
BARRIER REEF**

REEF FACTS

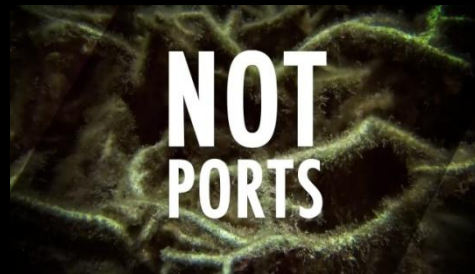
- The Great Barrier Reef (GBR) was declared an Australian Marine Park in 1975 and in 1981 was added to the UNESCO World Heritage List.
- The marine park extends along 80 percent of Queensland's eastern coastline, covering 348,000 square kilometres.
- Eleven commercial trading ports are incorporated in the GBR's World Heritage listing. The ports are fundamental to Queensland's global trade in coal, metals, gas, sugar and grain—worth \$40 billion in 2012. They are also entry points for imports including oil, general cargo and tourist shipping.
- In 2012, the Australian Institute of Marine Science reported 'a significant loss' of GBR coral cover over the preceding 27 years. It was attributed to storm damage, climate change effects and continuing Crown of Thorns starfish outbreaks.
- Neither an increase in shipping traffic nor port dredging has been scientifically recorded as contributing to coral cover loss or a historical decline in the environmental health of the GBR. Dredging occurs in shallower port areas. It does not occur in the outer reef areas where deep and wide shipping channels exist naturally.
- Around the clock navigation services include automated position reporting, an automatic ship identification system and decision-support tools along the entire length of the GBR. Despite a substantial increase in ship movements since 1996, groundings have reduced from one per year to just a single incident in the ensuing 10-year period.
- Almost one million Queenslanders live adjacent to or rely for their livelihoods on the successful co-existence of commercial activities and world-class environmental protection of the Great Barrier Reef.



REEFVTS 24/7 ship monitoring, Townsville



'Get the facts' focus of TV advertising



www.reeffacts.qld.gov.au

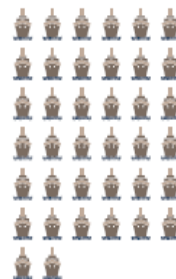
Great Barrier Reef

**reef
FACTS**

Great state. Great opportunity.



Port expansion project
reduced
in scale from



38
million
cubic meters



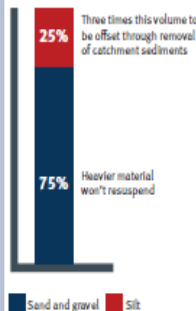
3
million
cubic meters

Monitoring:

- Independent group to oversee dredging and disposal operations.
- Long-term monitoring program established to detect any changes to the environment.



Components of dredged material



Disposal to occur in
three phases, over seven years.
Disposal volume limited to a maximum of
1.3 million m³ year.

Testing:

- All material destined for disposal is tested by accredited laboratories to comply with strict requirements under National Assessment Guidelines.
- Testing has confirmed there are no identified contaminants in the dredged sediments.



Port Facts

- Natural deep water port, **operating for 30 years.**
- Jetties extend **2.8km** to deepwater, minimising dredging requirements.
- **No dredged navigation channels required.**
- Dredging undertaken for ship berths only.

Disposal zone

- **No coral or seagrass** in disposal zone.
- Disposal zone is located about **40km** from the nearest offshore reef.
- Average depth of disposal zone is **35-40 metres.**
- **75%** of dredged material is sand and gravel and will not re-suspend in the ocean.
- **25%** of silty sediment to be offset through removal of nearly **2 million m³** of catchment sediments.
- Disposal constrained to **4 months in autumn** to avoid seagrass growth and coral spawning.
- Disposal zone located to ensure **Catalina World War II wreck remains protected.**



Causes of coral loss in the Great Barrier Reef

- Major causes of coral loss:
 - **48%** storms and cyclones
 - **42%** crown-of-thorns starfish
 - **10%** bleaching from ocean warming



- Nitrogen from agricultural activities promotes crown-of-thorns starfish plagues.

- Port development and dredging impacts are relatively minor by comparison.



source: Australian Institute of Marine Science

Count on the debate intensifying...

Leonardo DiCaprio weighs in on Great Barrier Reef health

June 18, 2014

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UNESCO World Heritage: Great Barrier Reef status still in limbo after years of wrangling

Posted Wed 19 Jun 2014, 10:31pm AEST

UNESCO first threatened to list the Great Barrier Reef as a World Heritage site "in danger" in a highly anticipated report released in June 2012.

RELATED STORY: UNESCO defers decision on Great Barrier Reef danger status
MAP: QLD

The report into the management of the reef said the Federal Government needed to implement a strategic assessment before considering future developments around the reef.

It recommended an independent review into the management of Gladstone Harbour and Curtis Island and said action was needed to secure the reef's long-term health.

The report said the unprecedented scale of development posed serious concerns for the reef's long-term conservation.

It urged the Queensland Government to refuse approval of any new port development or associated infrastructure outside of existing ports until 2015.

The decision on its status has been deferred for 12 months, giving the Federal and Queensland Governments another year to show that progress is being made on the reef.

Federal Government reports to UNESCO

In February 2013, the Federal Government submitted a report back to UNESCO, outlining actions it was taking to preserve and protect the reef.

The State Party Report addressed conservation issues such as the effects of climate change, trawling, coastal development, ports and shipping on the reef.

The report said the Federal Government was

Why is World Heritage important?

Confused grief over Great Barrier Reef

THE AUSTRALIAN | JUNE 21, 2014 12:00AM

SAVE



Graham Lloyd
Environment Editor
Sydney

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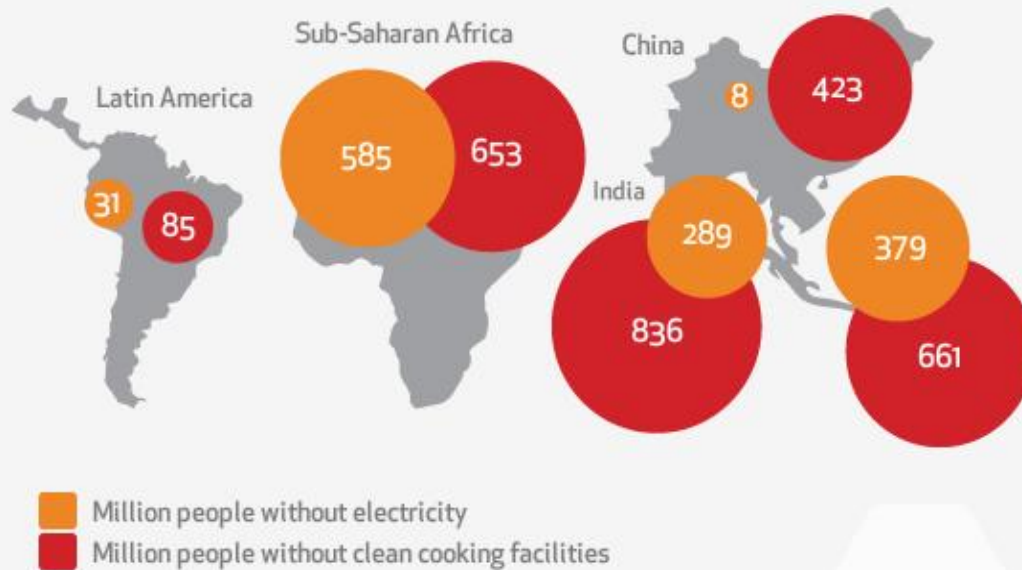


only a rich source of tourist dollars but increasingly a pawn in a campaign to



Addressing energy poverty IS socially responsible

Global energy poverty



Source: International Energy Agency, World Energy Outlook 2011

Current renewables can't deliver reliability and scale to lift billions from poverty

Skyrocketing electricity demand dictates we must make more from everything we have – coal, gas, uranium, renewables.

1.3 bn people without electricity; 2.7 bn without clean cooking facilities

Where is the high moral ground (ignoring ¼ the world's people)?



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Michael Roche

Chief Executive