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[Empire Energy Group Ltd](#) (ASX:EEG, OTC:EEGUF)

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Empire Energy has role to play in feeding East Coast gas hunger

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The Beetaloo Sub-basin in Australia's Northern Territory is set to play a key role in supplying natural gas to the energy-hungry East Coast and there is considerable interest from majors and ambitious small caps alike in exploring and developing assets across the region.

Such are the basin's growing gas prospects, resources and reserves that they may also help quench the energy thirst of other nations, particularly in Asia.

One ambitious junior making considerable and impressive progress in the Beetaloo Basin is [Empire Energy Group Ltd](#) (ASX:EEG, OTC:EEGUF), which is taking strides toward kicking off gas sales in early 2025.

Strong NT foothold

Empire Energy holds 28.9 million acres of highly prospective exploration tenements in the NT's McArthur Basin and Beetaloo Sub-basin.

Work undertaken by the company since 2010 demonstrates that the eastern depositional trough of McArthur Basin, of which EEG holds around 80%, has considerable conventional and unconventional hydrocarbon potential.

The Beetaloo Sub-basin, in which Empire holds a substantial position, has world-class hydrocarbon volumes in place and a ramp-up in industry activity to appraise substantial discoveries already made by major Australian oil and gas operators is ongoing.





Managing director Alex Underwood, Deputy Chief Minister of the NT Nicole Manison and chairman Peter Cleary at NT Parliament House.

READ: [Empire Energy delivers increased gas flow rates at Beetaloo's C-3H well](#)

The company's focus is on the Carpentaria Pilot Project in the Beetaloo Sub-basin from which increased gas flow rates of up to 3.8 tera joules per day have been achieved at the Carpentaria-3H (C-3H) well.

C-3H, which was brought back online in early August 2023, after about five months of shut-in for soaking, demonstrated the material benefits to productivity of soaking, through significantly increased gas flow rates.

'Post-soak' average daily production rates increased 30% over the IP27 'pre-soak' test conducted during the March quarter.

Flow testing





C-3H extended production testing.

Flow testing is continuing at C-3H to further refine a production-type curve before incorporating it into Empire's ongoing Front-End Engineering and Design (FEED) process for the Carpentaria Pilot Project.

Empire managing director Alex Underwood said: "The Empire team is pleased to see increasing flow rates at C-3H which replicate the improvements in C-2H flow rates post-soaking.

"The technical learning that is occurring is rapidly building our understanding of how to develop the Beetaloo's Velkerri Shale.

"We believe that this will have positive implications for the productivity of future development wells."

Of course, finding the gas is one proposition but then there are the issues of bringing it into production, tying into infrastructure and delivering it to market and in this regard Empire Energy is very well placed.

READ: [Empire Energy in Beetaloo Sub-basin gas transportation infrastructure agreement with APA Group](#)

APA Group agreement

In August 2023, the company actioned an agreement with APA Group aimed at establishing exclusive midstream gas infrastructure early works, opening the door to proposed long-form agreements and the transport of up to 25 terajoules (TJ) of gas per day from the Beetaloo Sub-basin to market.

Subject to long-form agreements and approvals, APA Group will spend up to \$5 million on engineering and design concepts for midstream gas infrastructure facilities associated with the Pilot Project.

APA would then fund midstream gas infrastructure facilities under a proposed partner agreement which would also include transportation of large volumes of gas to East Coast markets.

The partnership is considering the potential construction of a new pipeline connecting the Beetaloo to APA's existing Carpentaria Gas Pipeline between Mount Isa and Ballera (Queensland).

This would have the potential to expand to meet growing market demand on the East Coast (more than 500 TJ per day) and would be the subject of further evaluation between Empire and APA.

"APA, Australia's leading energy infrastructure business, has demonstrated its desire to connect the Beetaloo Sub-basin to customers both domestic and international, underwriting Australia's energy security," Underwood said.



"APA potentially funding the midstream gas infrastructure facilities for Empire's Carpentaria Pilot Project, reduces the capital requirement to Empire, enhancing project economics."

Gas plant acquired

In December 2023, Empire's gas supply strategy was given a further boost with the company acquiring AGL Ltd's Rosalind Park Gas Plant (RPGP) for A\$2.5 million.

READ: [Empire Energy acquires gas processing plant for A\\$2.5 million to accelerate Carpentaria production](#)

The RPGP, which has a design capacity of 42 TJ per day and supported AGL's Camden Gas Project in NSW until it ceased production in August 2023, is a fit-for-purpose facility that has passed Empire's stringent technical due diligence.

Empire estimates that this acquisition may result in more than \$30 million in cost savings and reduce lead time by about 12 months compared to new-build alternatives.



Managing director Alex Underwood inspects the offline Rosalind Park Gas Plant with representatives of InGauge Energy and AGL.

"The Rosalind Park Gas Plant has been very well managed by AGL during its time processing gas for supply into the Sydney market and meets the specifications Empire requires for processing its low CO₂ Beetaloo gas for supply into NT market and Australian East Coast markets from the EP187 Carpentaria Pilot Project, and in future larger scale development scenarios," Underwood said.



Final investment decision

Empire believes it is fully funded to progress to the EP187 Carpentaria Pilot Project final investment decision (FID), which is imminent.

Underwood said: "We are making material progress on the Pilot Project, advancing field development planning, including identifying locations for and the design of development wells and surface facilities, pipeline access negotiations, a formal gas sales marketing process, regulatory and indigenous approvals, and planning for project financing.

"Empire's focus is on funding the Pilot Project in a manner that minimises dilution of shareholder's interests. To that end, Empire is discussing potential debt options with lenders and has commenced discussions with parties interested in acquiring a direct working interest in exchange for funding development activities."

Success at the Carpentaria Pilot Project would achieve two critical goals for Empire and shareholders - the generation of material cash flow to support ongoing growth and demonstration of the long-term deliverability of development wells in the Beetaloo Sub-basin while reducing the emissions that would otherwise result from flaring test gas.

"The Empire team continues its hard work progressing toward a FID and is targeting the field installation of the RPGP, drilling of development wells and connection of the project to the McArthur River Pipeline in the 2024 dry season," the MD said.

"In the success case, Empire may commence commercial production from the Beetaloo Basin by early 2025, a time when incremental gas supply into the Northern Territory and Australia's East Coast will be critical as existing sources of supply decline."

Global gas outlook

Empire is encouraged by the outlook for gas, as outlined in ExxonMobil's 'Global Outlook, our view to 2050' released during the September quarter of 2023.



This highlights that natural gas plays a vital role in satisfying the energy needs of consumers worldwide while helping mitigate the risks of climate change.

The report stated that choosing natural gas as a lower-carbon alternative to coal improves air quality and reduces carbon intensity. It stated that gas is a reliable and flexible fuel for electricity generation and a lower-carbon industrial fuel while also being convenient for home use.

Key points from the report:

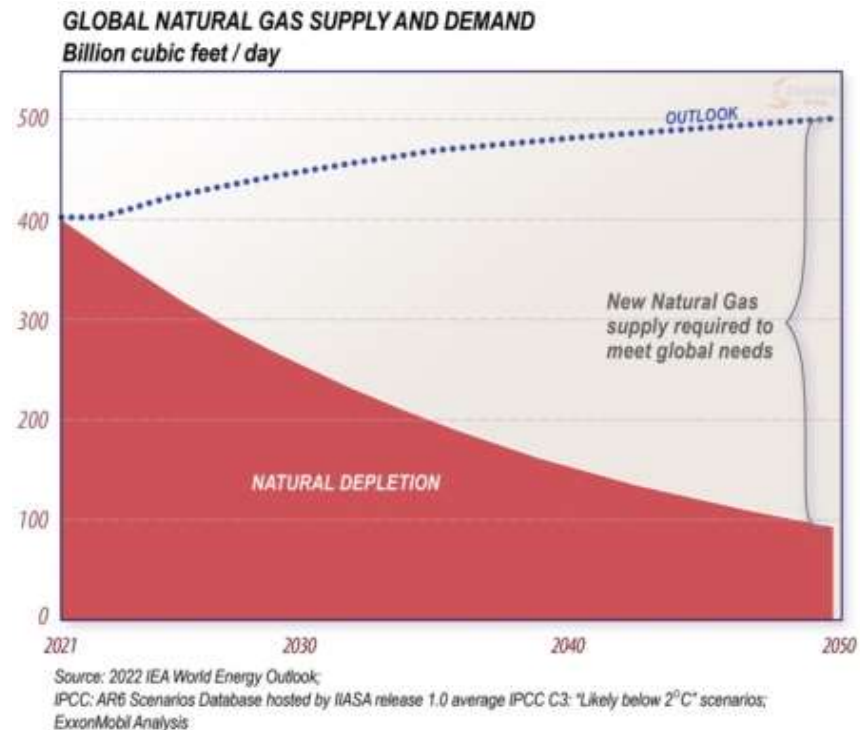
- ▶ In 2021, LNG trade met about 10% of global natural gas demand. By 2050, LNG trade will meet nearly 20% of the world's natural gas needs.
- ▶ Asia Pacific will absorb about 85% of the growth in LNG from 2021 to 2050, helping the region to reduce its carbon intensity while sustaining economic growth.
- ▶ India and other Asia Pacific importers are expected to look to LNG to supplement domestic natural gas production, often leveraging existing natural gas infrastructure.
- ▶ In China and other developing nations in the Asia Pacific region, natural gas demand is expected to double from 2021 to 2050.
- ▶ Outside of Asia Pacific, many developing countries are expected to leverage domestic natural gas supplies to meet rising electricity demand and fuel industrial growth.

Reduced emissions

Emissions reduction was also highlighted:

- ▶ With the same boiler efficiency, burning natural gas to produce heat emits about 40% less CO₂ than burning coal.
- ▶ Choosing flexible, highly efficient gas-fired electricity generation to replace older, inefficient coal plants can reduce CO₂ emissions by up to 60% while producing fewer air pollutants.
- ▶ Every 1% of global primary energy shifted from coal to natural gas can reduce energy-related CO₂ emissions by almost 1% in 2050.
- ▶ China's 'war on smog' and 'blue-sky' policies have led to measurable improvements in urban air quality while boosting demand for LNG imports.

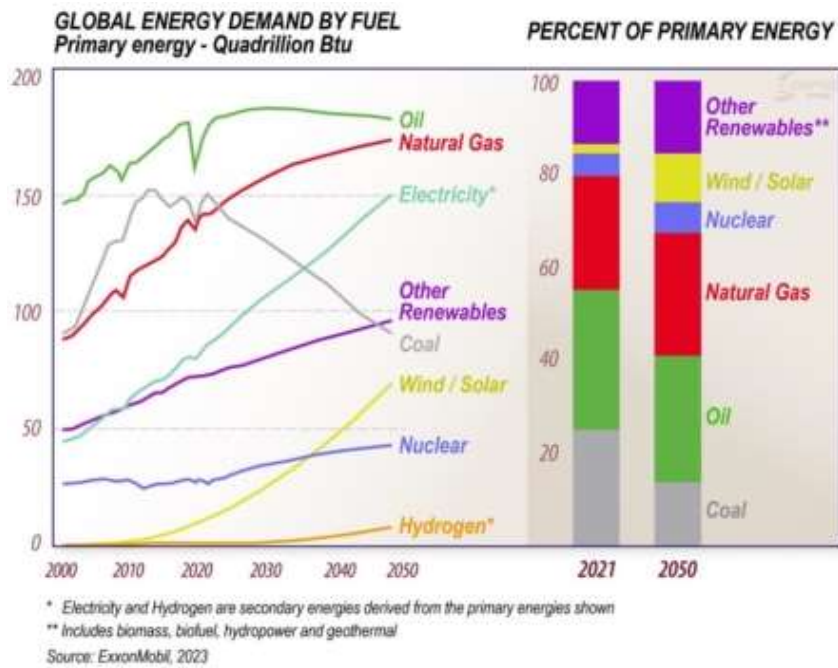
Without continued investment to sustain existing fields and develop new ones, the supply of natural gas is expected to decline. The estimated natural decline rate is 5% per year for natural gas.



As shown above, the decline rate creates a significant need for continuous investment just to sustain 2021 production levels.

Ceasing investment in gas could cause supplies to fall well short of demand, both for the near term and in the broad range of scenarios.





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