FACTSHEET

MONDARRA GAS STORAGE FACILITY

15PJ
STORAGE CAPACITY

70TJ/DAY
INJECTION CAPACITY

150TJ/DAY
WITHDRAWAL CAPACITY

APA Group (APA) is Australia's largest natural gas infrastructure business, owning and/or operating $19 billion of energy assets which deliver approximately half the nation's gas usage

APA Group's Mondarra Gas Storage Facility provides flexibility in the Western Australian gas market, giving buyers and sellers more options to manage their gas production and consumption.

Being strategically located at the intersection of the Dampier to Bunbury Natural Gas Pipeline and APA's Parmelia Gas Pipeline, the facility's customers can take advantage of competition between the two pipelines to enhance security of supply and create cost-effective options.

Large-scale gas storage is more cost-effective than pipeline park and loan facilities, contributing to the development of a more dynamic gas market for Perth and south-west WA.

As WA's only commercial gas storage facility, it provides customers with flexibility to:

- minimise gas costs by taking advantage of spot price opportunities
- minimise exposure to high-priced gas during periods of peak consumption
- manage commissioning and maintenance phases of gas production
- improve security of supply by enhancing the ability to maintain operations in the face of energy outages and reduce costly requirements to store diesel in case of emergency
- manage emergency and/or security of supply issues by borrowing up to 100 terajoules of gas
- facilitate separate marketing by large joint venture domestic gas producers by assisting with gas balancing.

Peak power producers can also take advantage of peak electricity prices to generate for longer periods than is possible with pipeline storage.

Importantly, the facility also mitigates short-term supply risks such as experienced in 2008 with the Varanus Island incident. The resultant loss of gas supply caused an energy supply crisis in Perth lasting several months.

HOW MGSF WORKS

The facility makes use of a depleted natural gas reservoir to store up to 18 petajoules of gas. The gas is stored 2,700 metres below the surface in a porous sandstone reservoir capped by an impermeable layer of shale. Gas can be held in the reservoir indefinitely without leakage or deterioration in quality.

Three wells access the reservoir and, boosted by the use of two compressors, allow the injection of up to 70 terajoules or the withdrawal of up to 150 terajoules of gas per day. Associated processing equipment ensures the extracted gas meets all pipeline specifications. The facility can be expanded by tying-in additional wells, compressors and gas processing equipment.

Mondarra offers firm and as available storage services, with customers also able to access flexible transport options to support their use of the facility.

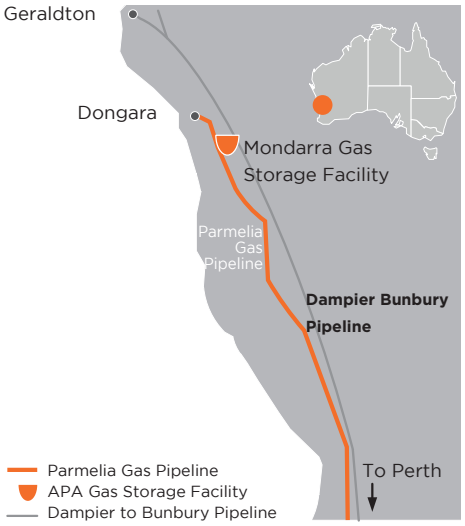
INLET POINT:

Dampier to Bunbury Natural Gas Pipeline

OUTLET POINTS:

Parmelia Gas Pipeline

Dampier to Bunbury Natural Gas Pipeline



HISTORY

1968	Mondarra gas field discovered by West Australian Petroleum Trust
1972–94	Mondarra produced 25 PJ of gas
1994	Mondarra was converted into a gas storage facility
2004	APA acquires the MGSF
2008	Perth energy crises following the Varanus Island explosion and North West Shelf Group Dampier Domgas outage
2010	APA sub surface appraisal to underpin expansion
2011	APA committed to construction of surface works
2013	Facility expansion completed by APA

FURTHER INFORMATION

Mondarra Business Development

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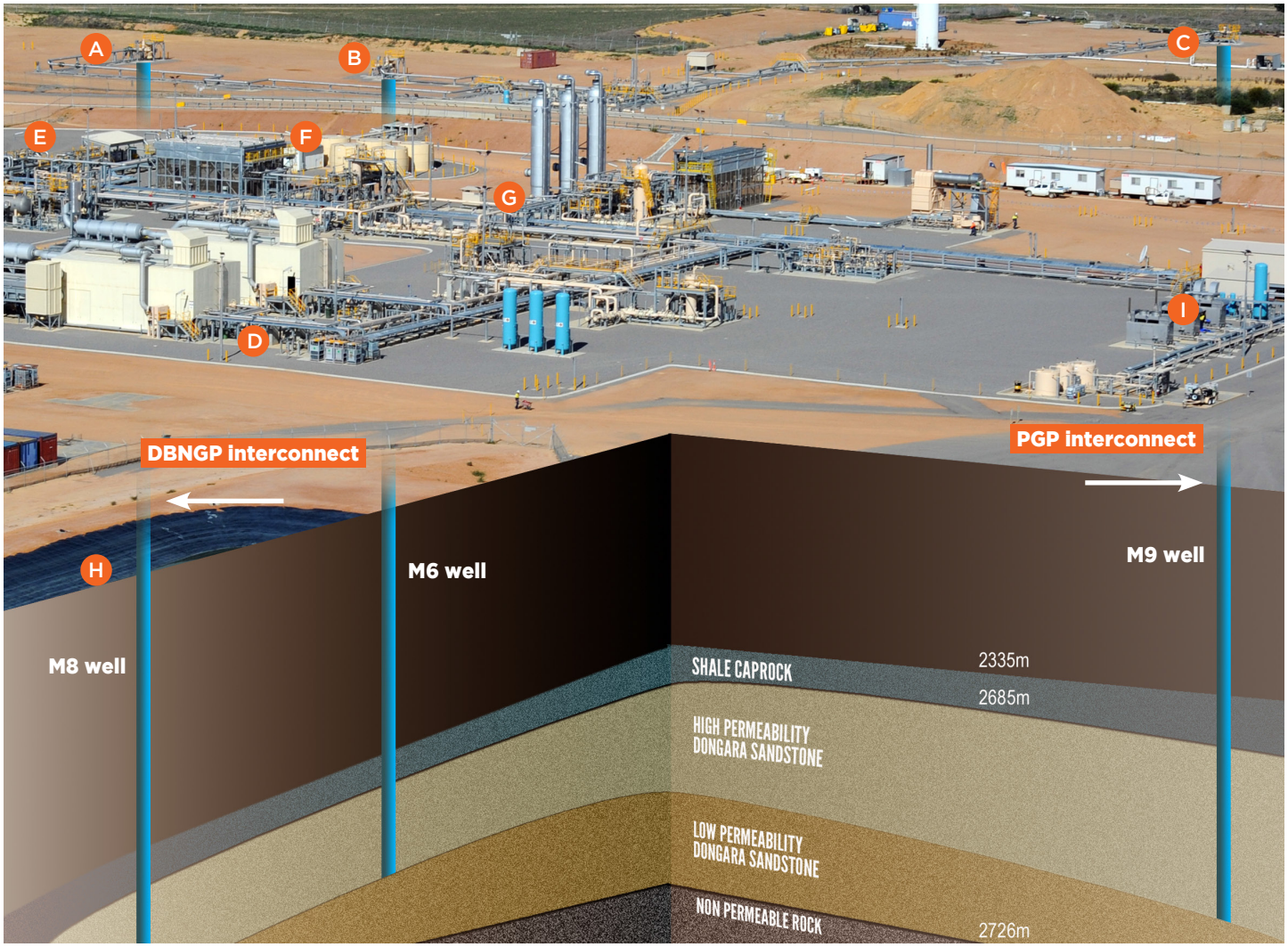

MGSF components:

- **A** **M8 well**
- **B** **M6 well**
- **C** **M9 well**

All 3 wells can be used for both injection and/or withdrawal
Each well is approximately 2.7 kilometres in depth

- **D** 2 x **Aerial reciprocating compressors** driven by Caterpillar 3612 gas engines including filtration facilities used for both injection and withdrawal. The reservoir is operated at a higher pressure than gas in pipelines.
- **E** **Raw Gas Processing** ("slug catcher") removes any free liquid that is produced in the wells during withdrawal as part of the gas stream.
- **F** **Production Cooler and Separator** – gas being withdrawn from the reservoir can be up to 100°C. The production cooler cools the hot gas to pipeline temperature specification. The separator captures any liquid that is knocked out of the gas stream when it is cooled by the production cooler.
- **G** **Silica Gel Gas Conditioning Package Unit** – this package dries and conditions the gas to ensure it meets pipeline specifications. Gas is streamed through the compressors and production filter before entering into either the DBNGP or PGP.
- **H** All water and impurities captured in the slug catcher and production separator are sent to the **evaporation pond** where disposal is via natural evaporation.
- **I** **Gas Engine Alternators** – gas engines that generate all the electrical power to the site.