2021 Gas Statement of Opportunities (GSOO)

Scenarios, Inputs, Assumptions and Approaches
September 30th FRG meeting

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Agenda

1. Summary of the scenarios to be used for 2021 GSOO
   - Alternative futures to be explored as sensitivities
2. Consumption forecast methodology update
3. Plan to identify solutions to forecast shortfalls
4. Discussion

Scenarios for GSOO 2021

- The 2021 GSOO will be based on scenarios described in the 2020 Inputs, Assumptions and Scenarios Report (IASR). These are broadly consistent with those applied in the 2020 GSOO.
  - Central
  - Slow Change
  - Step Change

- Consultations for the forecasting and planning scenarios to be used in upcoming 2021-22 publications will be commencing shortly, but the 2021 GSOO will published before that consultation closes.

August 2020
GSOO consumption forecast modelling commences

30 September 2020
GSOO Forecasting Reference Group (FRG) meeting

October 2020 to February 2021
GSOO modelling

March 2021
GSOO publication

After the GSOO
ISP modelling

Application of the scenarios to GSOO modelling

Driver	Slow Change	Central	Step Change*
Population growth	Low	Medium	High
Economy	Weak global and domestic demand	Neutral global and domestic demand	Strong global and domestic demand
Energy efficiency	Weak energy efficiency measures adopted	Moderate energy efficiency measures adopted	Aggressive energy efficiency measures adopted
Fuel switching	Weak economic case for fuel switching	Average economic case for fuel switching	Strong economic case for fuel switching
Gas price	As per Lewis Grey Associates presentation		
Foreign Exchange Rate – AUD to USD	As per BIS Oxford Economics presentation		
Electricity generation mix	As per 2020 ISP		

** Note: There is a decarbonisation target for the electricity sector, but not the gas sector in this scenario*

In addition to the scenarios, the GSOO will explore the effect of changes in the system, such as additional infrastructure and lower gas prices. An alternative future sensitivity with strong hydrogen uptake will also be explored. No material penetration of hydrogen will be assumed in any of the core scenarios in the 2021 GSOO.

Consumption forecast methodology update

GSOO Consumption forecast methodology

Overview

AEMO applies a scenario component-based model for each market segment:

- Tariff V (Residential and Small Commercial)
  - MIRN connections
  - Energy efficiency
  - Fuel switching
- Tariff D (Industrial and Large Commercial)
  - Large industrial load (LIL) customers based on surveys and interviews
  - Remaining segment based on macroeconomic indicators
- Gas Powered Generation (GPG)
- Liquified Natural Gas (LNG) from LNG consortia information

Refer to 2020 GSOO FRG presentation in October 2019 and 2020 Gas Demand Methodology Information Paper for further information

GSOO Consumption forecast methodology

Proposed updates for 2021 GSOO

- Scenario sensitivities and COVID-19 impacts
- Tariff V (Residential and Small Commercial)
  - Update to MIRN connection forecast. Based on updated residential building stock model that uses historical NMI connection data growth rates in the short term, and ABS household data in the long term
  - Additional questions in the distribution surveys to assist with scenario sensitivities
- Tariff D (Industrial and Large Commercial)
  - Shift from using transmission surveys to Gas Bulletin Board (GBB) data for improved accuracy and identification of LILs
  - Additional questions in LIL surveys and interviews to assist with scenario sensitivities

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Pulling it all together

Moving from identifying adequacy shortfall to identifying potential solutions

- The GSOO is explicitly a report on supply adequacy.
- This year the GSOO will take a small but important step further than past GSOOs. Solutions to respond to the shortfalls will be identified and compared.

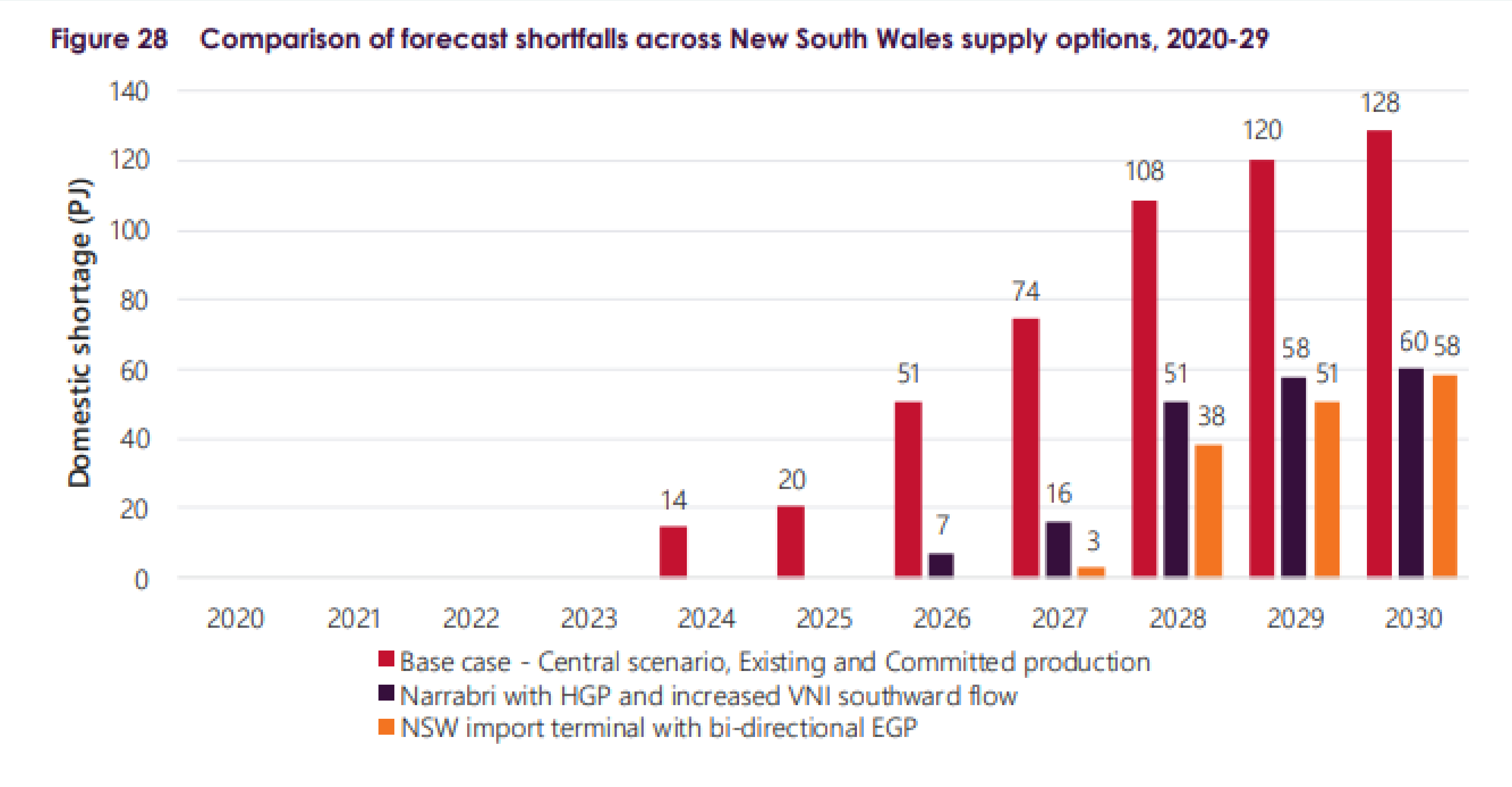

Figure from 2020 GSOO showing impact of proposed projects on various shortfalls

Discussion points

- Is there anything that's unclear?
- Is there anything that we've missed?
- Do you have a key insight you would like us to consider?
- Is this consistent with expectations?

- Given the consistency with the current ISP and GSOO 2020 scenarios, is there any particular feedback you'd like us to consider?
- Do you have any feedback on the proposed consumption methodology?
- Do you have any feedback on the proposed direction for identifying solutions?

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