



DIRIO
gas & power

Electricity in PNG: Downstream Opportunities

Dirio Gas & Power Company Limited

Agenda

- 1 Who is Dirio?
- 2 PNG's Electricity Sector
- 3 Off-Grid Opportunities
- 4 Wrap Up

Dirio Gas & Power

- 100% nationally-owned
- Part of the MRDC Group of Companies
- 45MW OCGT plant operational
- Borne out of PNG LNG-affected communities
- Named after Dirio River, SHP
- Licenses for DCPPS, and Kikori District

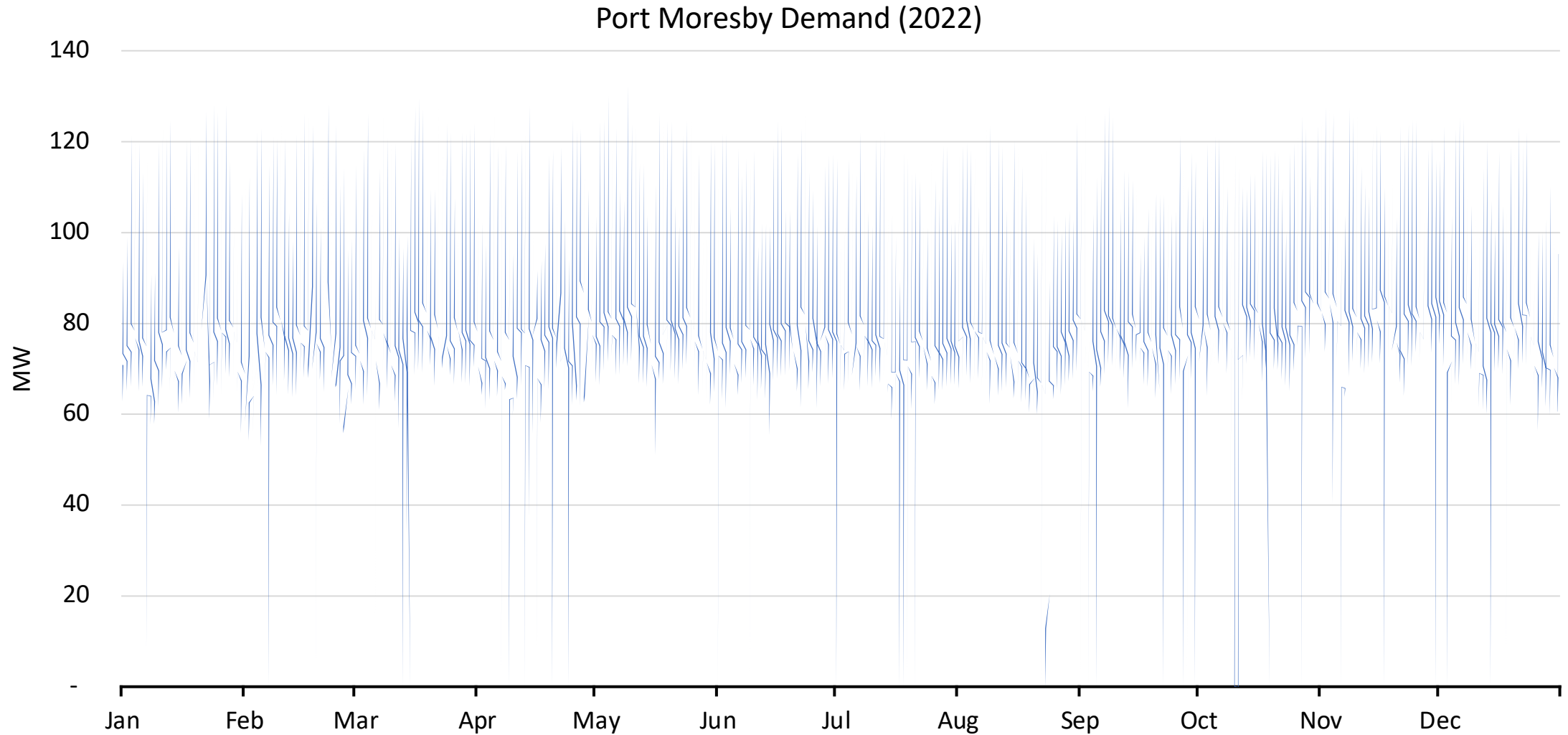


PNG's Electricity Sector

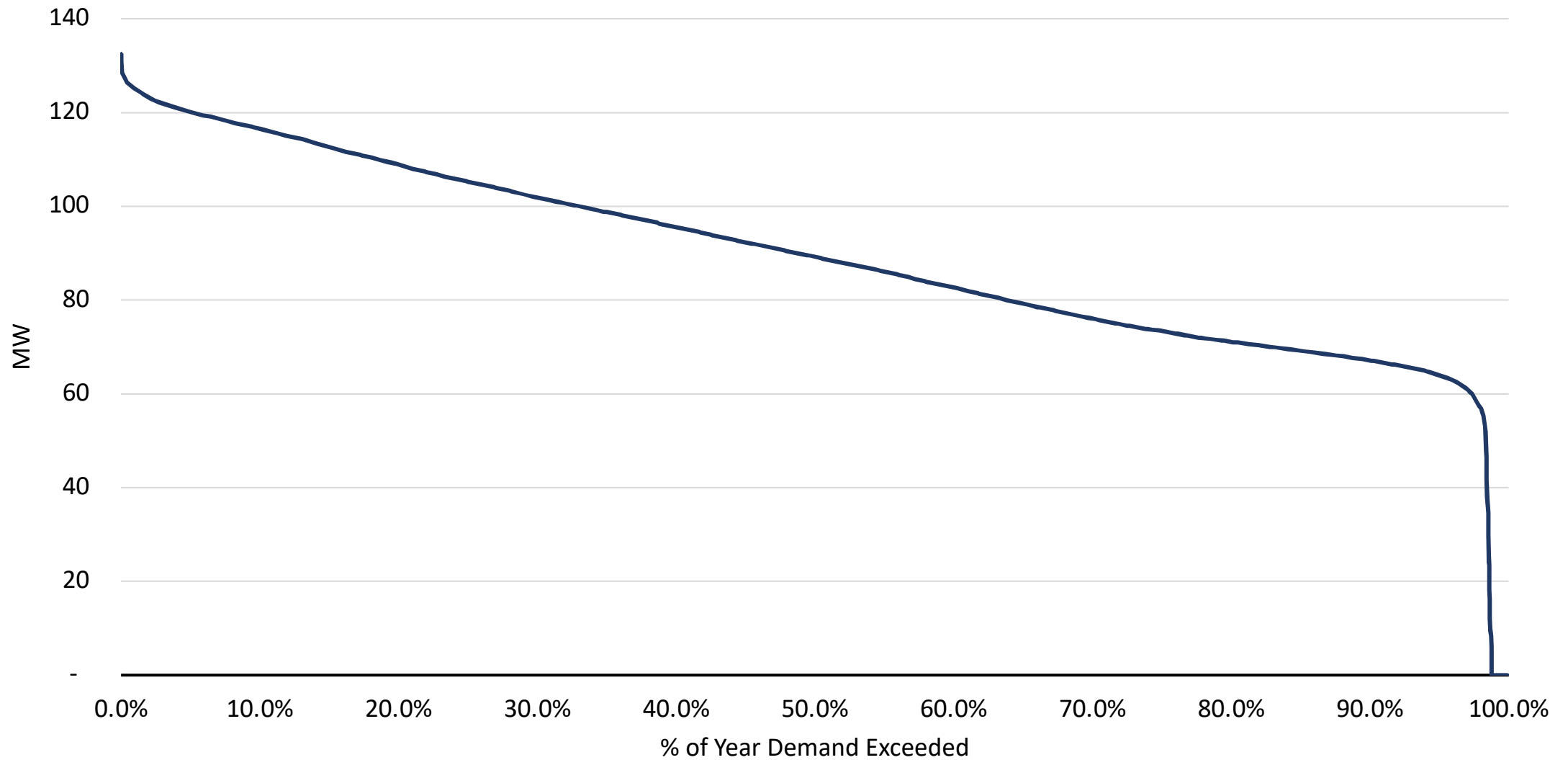
	MW Installed	MW Available	MTDP IV Target (MW)	Difference to Target (MW)
BioGas	0.9	0.7	22.0	21.1
Diesel / HFO	310.9	182.7	150.0	-160.9
Gas	133.8	88.8	156.0	22.2
Hydro	264.6	175.4	520.0	255.4
Solar	0.1	0.1	22.0	21.9
Total	710.3	447.7	870.0	

- Approximately 710MW of installed on-grid capacity, c. 63% available for dispatch
- MTDP IV (2023) targets for 2027 across different generation technologies
- How sensible are these targets in terms of generation mix?

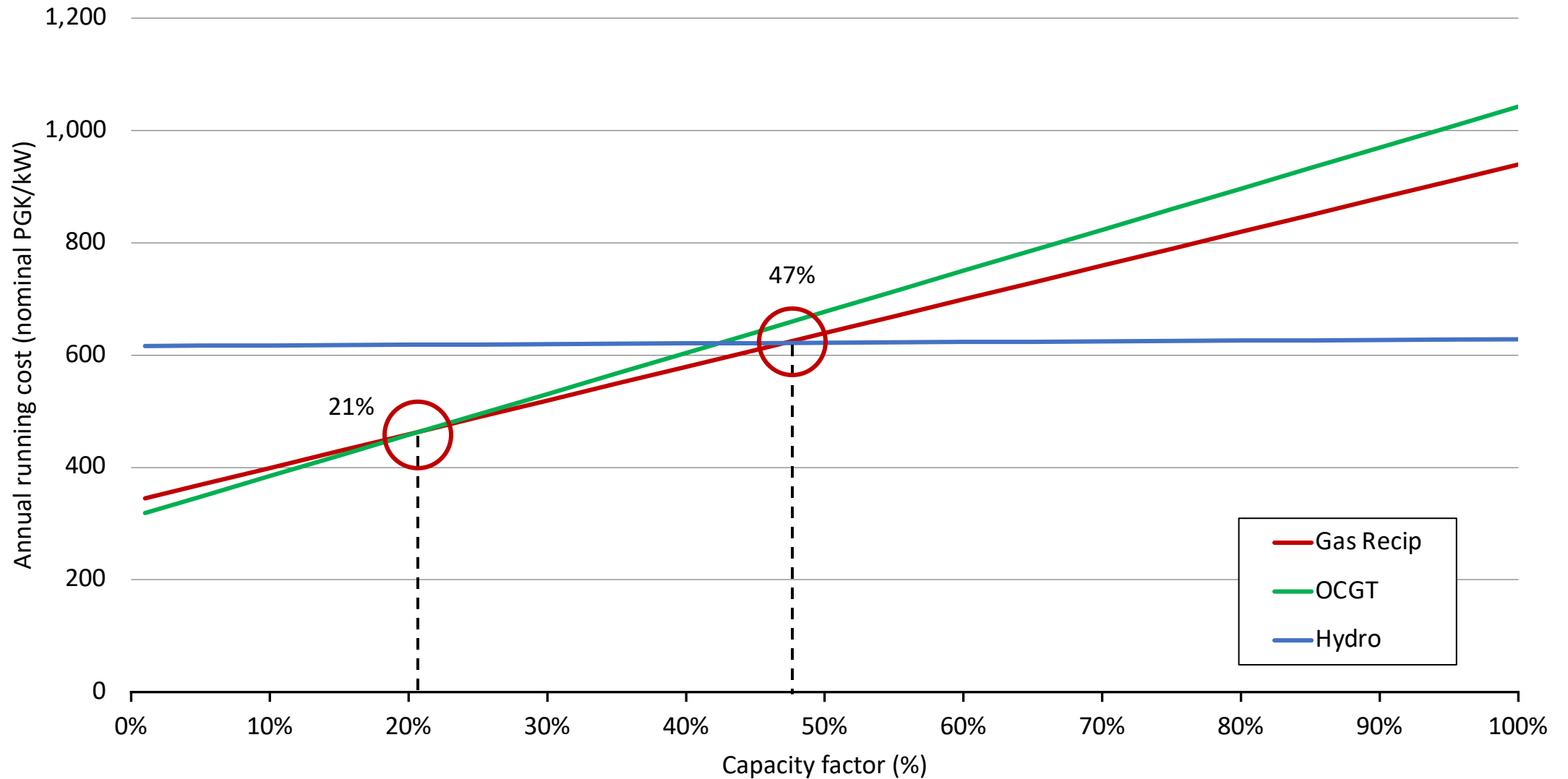
PNG's Electricity Sector (cont.)



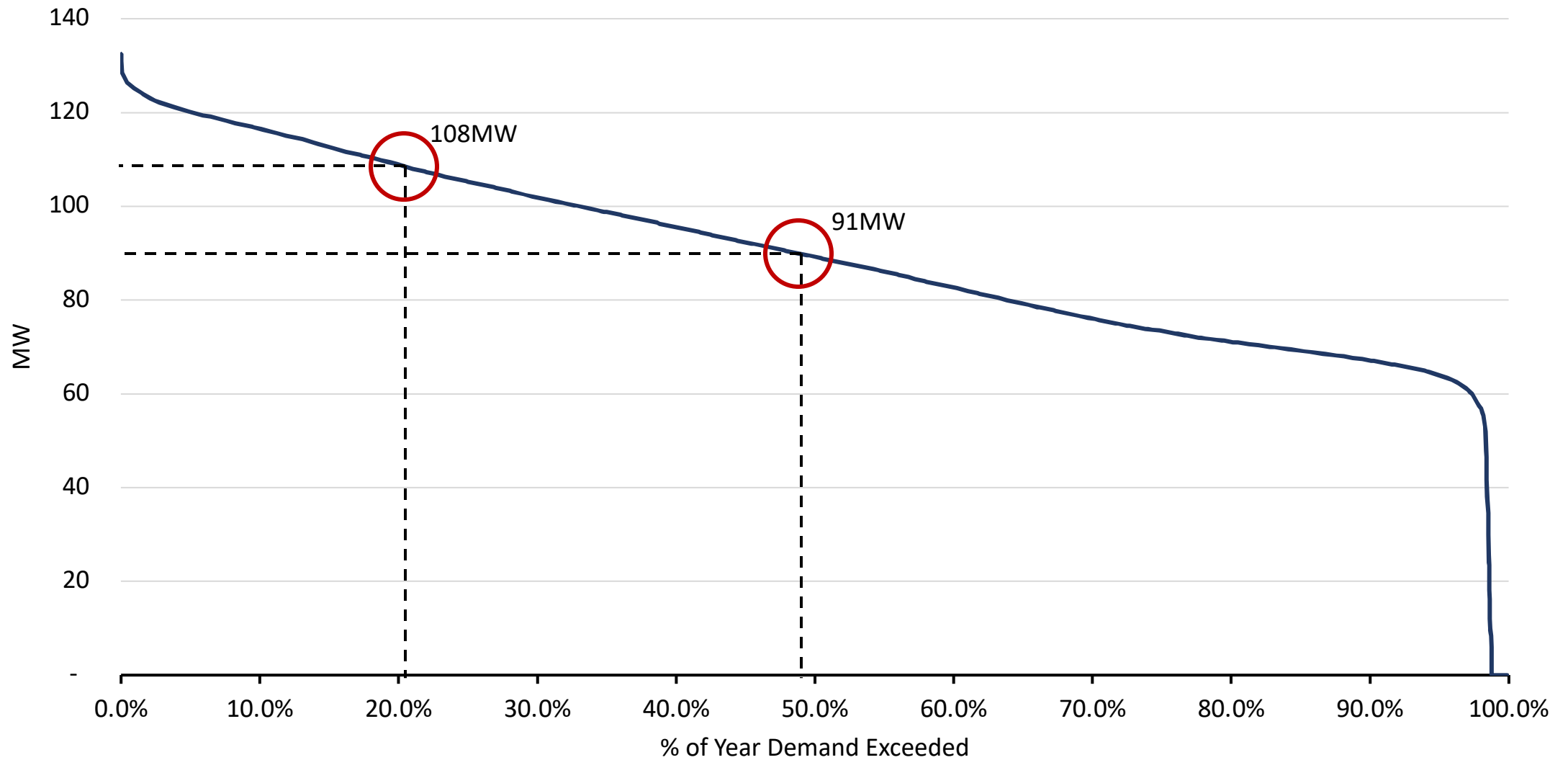
PNG's Electricity Sector (cont.)



PNG's Electricity Sector (cont.)



PNG's Electricity Sector (cont.)



PNG's Electricity Sector (cont.)

- Port Moresby, using 2022 demand, would theoretically require c. 24MW of OCGT, c. 17MW of gas reciprocating engines, and 91MW of hydro for least cost energy supply
- This doesn't account for reserve margin required given seasonality of hydro availability, or other technical considerations such as frequency control and other ancillary services
- Introducing solar, batteries, and wind into the mix will also change the optimal generation mix
- Being able to purchase gas under Domestic Market Obligation will also change these dynamics

Off Grid Opportunities

- PNG electricity sector legislation framework is clear: contracting with users greater than 10MW is allowed
- For smaller users, the regulatory framework becomes quite detailed and prescriptive
- Dirio, for instance, has been issued licenses to generate, transmit, and retail electricity across Kikori District. This required detailed feasibility studies and technical assessments to be able to apply for these licenses
- As with larger grids, such as Port Moresby, these rural electrification projects require a mix of generation technologies to deliver least cost electricity to users
- They also require partnerships to assist in funding the development, and larger users who can act as anchor customers to help underpin the investment

Wrap up



Sector Targets — MTDP IV is clear on what needs to happen private sector needs to provide the how



Portfolio Diversity — a broad portfolio of generation technologies benefits end users through reliability and cost



Off Grid — huge unserved market at household level, and project-scale. Reliability and affordability crucial considerations to address



Dirio's Role — to utilise Papua New Guinea's natural resources to provide affordable, reliable, and sustainable electricity across PNG and the Pacific

James Nelson
Chief Executive Officer
Dirio Gas & Power Company

