

Goldfields Regional Network: Commercial Working Group Meeting 1



Acknowledgement of Country

The Government of Western Australia acknowledges the traditional custodians throughout Western Australia and their continuing connection to the land, waters and community. We pay our respects to all members of the Aboriginal communities and their cultures; and to Elders both past and present.



PoweringWA



Agenda

| # | Item | Speaker(s) | Duration |
|---|--|---|----------|
| 1 | Introduction | Stephen Eliot – EPWA Ben Vanderwaal – EY | 10 min |
| 2 | Stage 2 – Footprint Analysis | Kate Lyons – EY | 15 min |
| 3 | Q&A Session 1 | All | 10 min |
| 4 | Stage 2 – Technical, Capital Expenditure and Reliability | Ben Vanderwaal – EY | 15 min |
| 5 | Q&A Session 2 | All | 10 min |
| 6 | Stage 2 – Commercial and Stakeholder Analysis | Ben Vanderwaal – EY Catherine Hong – EY | 15 min |
| 7 | Q&A Session 3 | All | 10 min |
| 8 | Next Steps | Stephen Eliot – EPWA | 5 min |

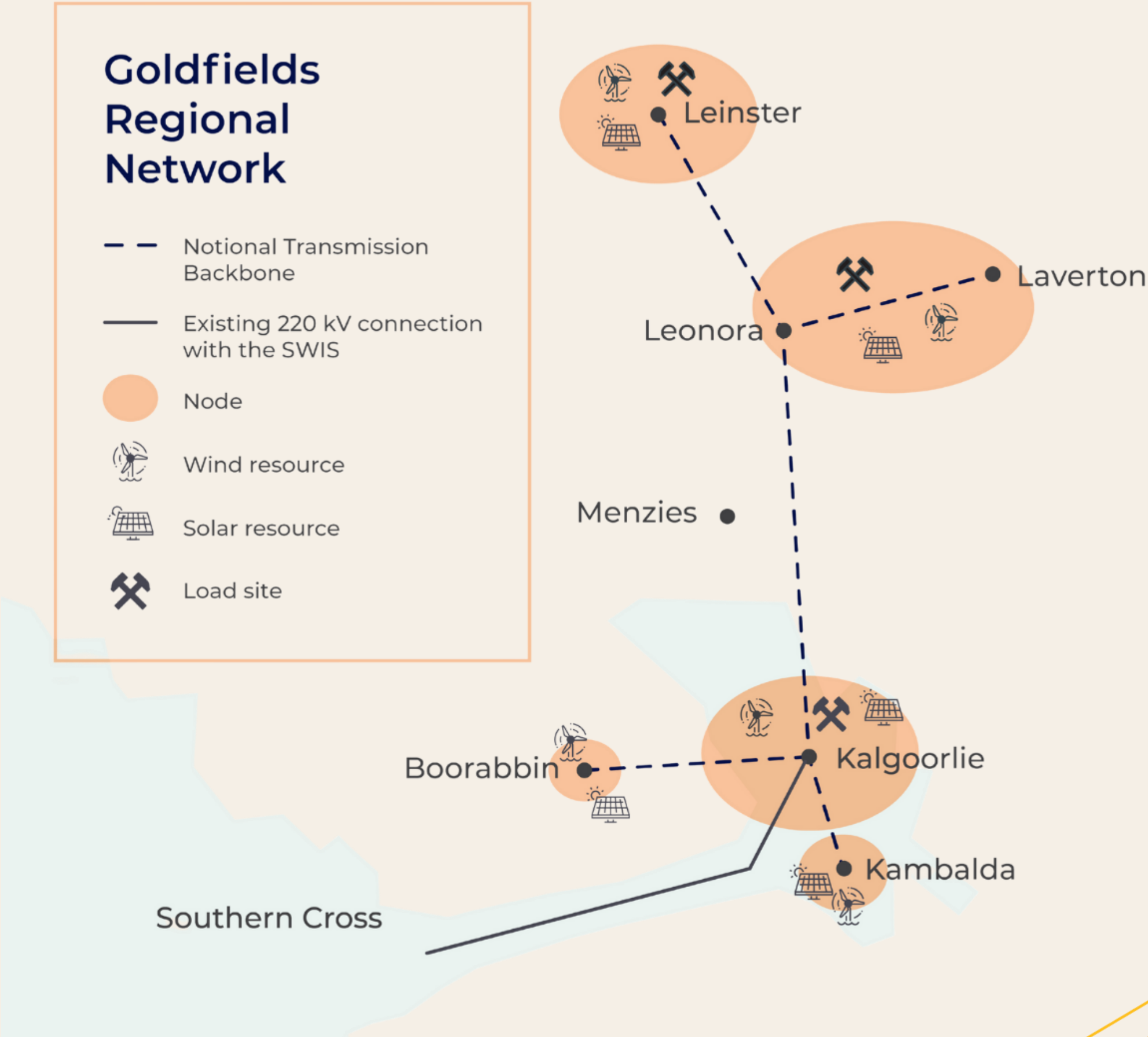
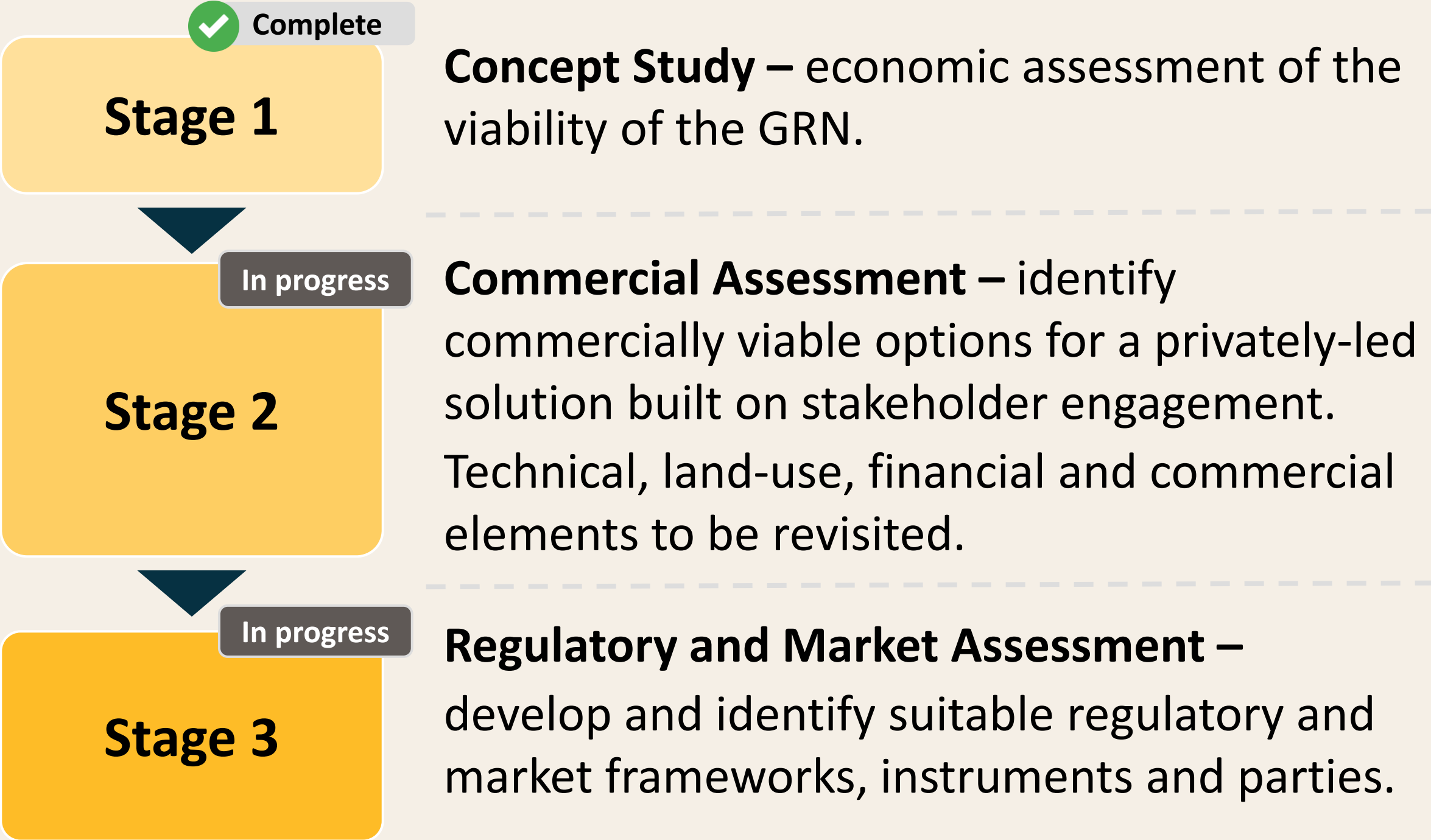
Introduction



The Goldfields Regional Network (GRN) Project

PoweringWA is progressing the investigation of the GRN – a privately owned common-use electricity network from Kalgoorlie to Leinster via Leonora

The GRN aims to provide the Goldfields region – one of the most significant mining areas in Australia – with access to reliable power and a pathway to cost-effective, low-emissions electricity.



GRN Working Groups

The Commercial, and Regulatory and Markets Working Groups will ensure the GRN Project is developed with input from stakeholders

| Terms of Reference |
|---|
| <ul style="list-style-type: none">• PoweringWA will chair and facilitate the Working Groups.• The Working Groups are an open forum to provide input into Stages 2 and 3 including:<ul style="list-style-type: none">– Discussions around risks, issues and opportunities associated with potential commercial, funding and financing arrangements for the GRN.– Developing a shared understanding between stakeholders of potential regulatory and market arrangements available for the GRN• The Working Groups ensure perspectives from stakeholders are captured to inform the Stage 2 and 3 outcomes.• Aboriginal groups are invited to the Working Groups. Separate consultation with native title holders and claim groups is being undertaken by PoweringWA. |

| Timeline | | | | | | | | | |
|---|--------|--------|--------|--------|--------|--------|--------|--------|--|
| Oct'25 | Nov'25 | Dec'25 | Jan'26 | Feb'26 | Mar'26 | Apr'26 | May'26 | Jun'26 | |
| Stage 2 - Commercial Assessment | | | | | | | | | |
| Stage 3 - Regulatory and Markets Assessment | | | | | | | | | |
| Future stages based on outcomes of Stages 2/3 | | | | | | | | | |

Recap of Stage 1

Stage 1 identified that the GRN can potentially deliver a lower-cost supply solution than standalone supply arrangements, while enabling a higher-reliability and lower-emissions electricity supply pathway

Key Outcomes

A GRN is more economic than the base case

Assumed simplified transmission and reticulation costs.

Calculated tariffs are competitive with market rates

Assumed non-blended fully-variable, or fully-fixed fee structures.

The SWIS reliability standard is met at a lower cost

Least-cost expansion modelling considered only one forced outage.

Lower emissions are observed in all GRN demand scenarios

Emissions outcomes were driven only by cost minimisation.

Stages 2 and 3 are interrogating the outputs from Stage 1:

- Current and future demand.
- Transmission infrastructure requirements.
- Capital expenditure and financial analysis.
- Tariff analysis.
- Levelised cost of electricity estimates.
- A societal, top-down view of costs and benefits.
- Impacts on reliability of supply and emissions.

Stage 2 Key Activities

Stage 2 of the GRN is grounded in a consultative approach to analysis and includes the following activities:

| | |
|--|---|
| Footprint Analysis | <ul style="list-style-type: none">• Identification and mapping of land constraints along a potential transmission corridor and surrounding terminal stations.• Development of preliminary technical requirements, and investigation of line path corridors. |
| Reliability Analysis | <ul style="list-style-type: none">• GRN infrastructure analysed in terms of unserved energy across multiple weather and forced outage events.• Technical specifications of the network updated. |
| Benefit Sharing Arrangements for Aboriginal Groups | <ul style="list-style-type: none">• Development of different benefit sharing models including jobs and skills training, revenue sharing arrangements and involvement in governance.• Exploration and assessment of potential financing mechanisms.• Research of international benchmarks and best practice. |
| Financing and Funding Options, and Tariff Analysis | <ul style="list-style-type: none">• Development of revised cost inputs.• Study of funding options, potential tariff structures, and development of revenue forecasts.• Simplified financial analysis to determine the financing available under forecast revenue scenarios. |
| Social, Environmental, Economic, Financial, Timing and Risk Analysis | <ul style="list-style-type: none">• Analysis of the GRN’s economic benefits for potential users and economic contribution analysis.• Researching appropriate transmission project case studies to identify key considerations and next steps from a risks, program and timing perspective. |

The above workstreams and activities are informed by:

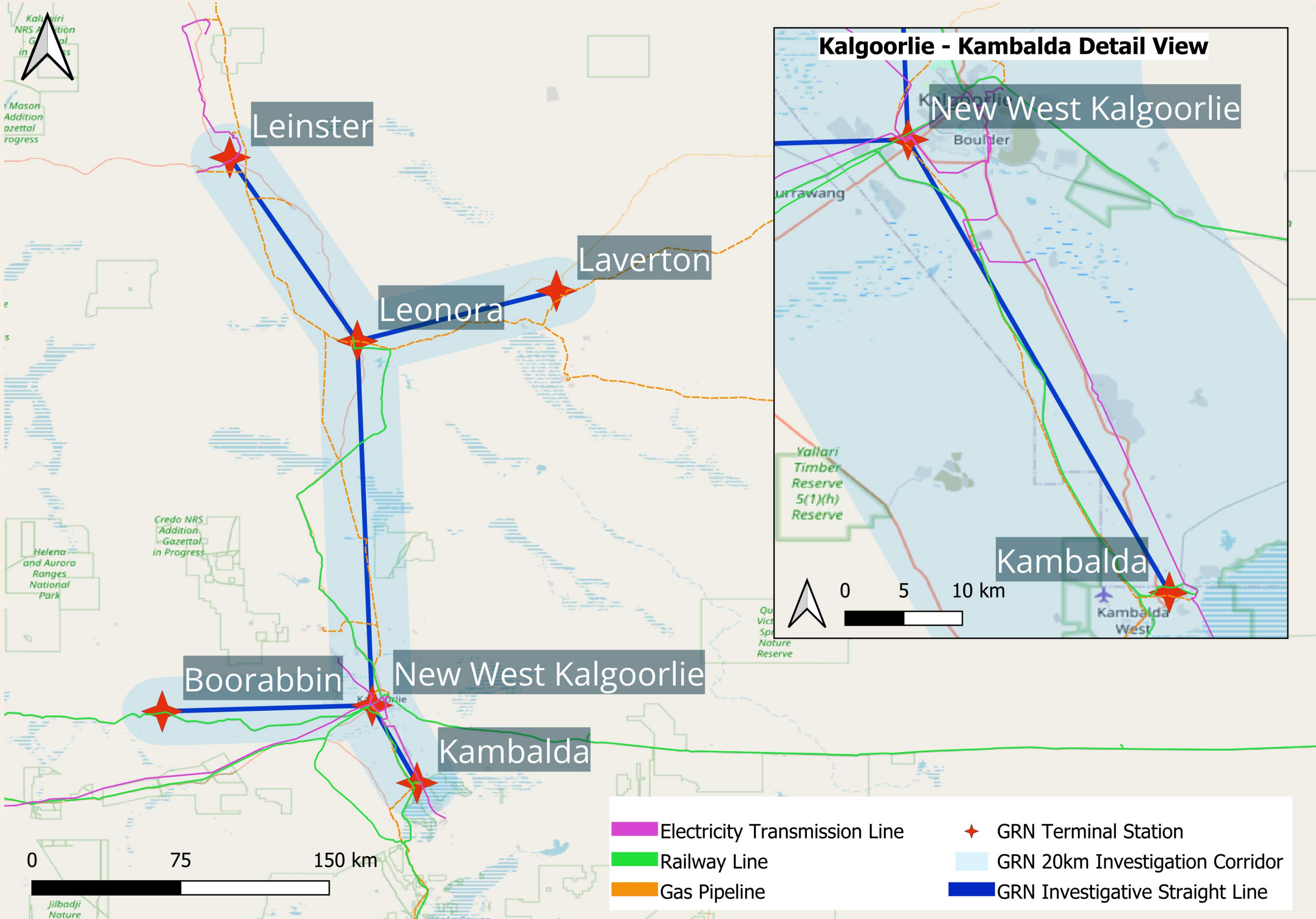
| | | |
|---|--|---|
| Technical RFIs ¹ to understand the energy needs of the Goldfields region | Commercial RFIs ¹ to identify current contracting/commercial arrangements | Ongoing consultation with Aboriginal groups |
|---|--|---|



Stage 2 – Footprint Analysis

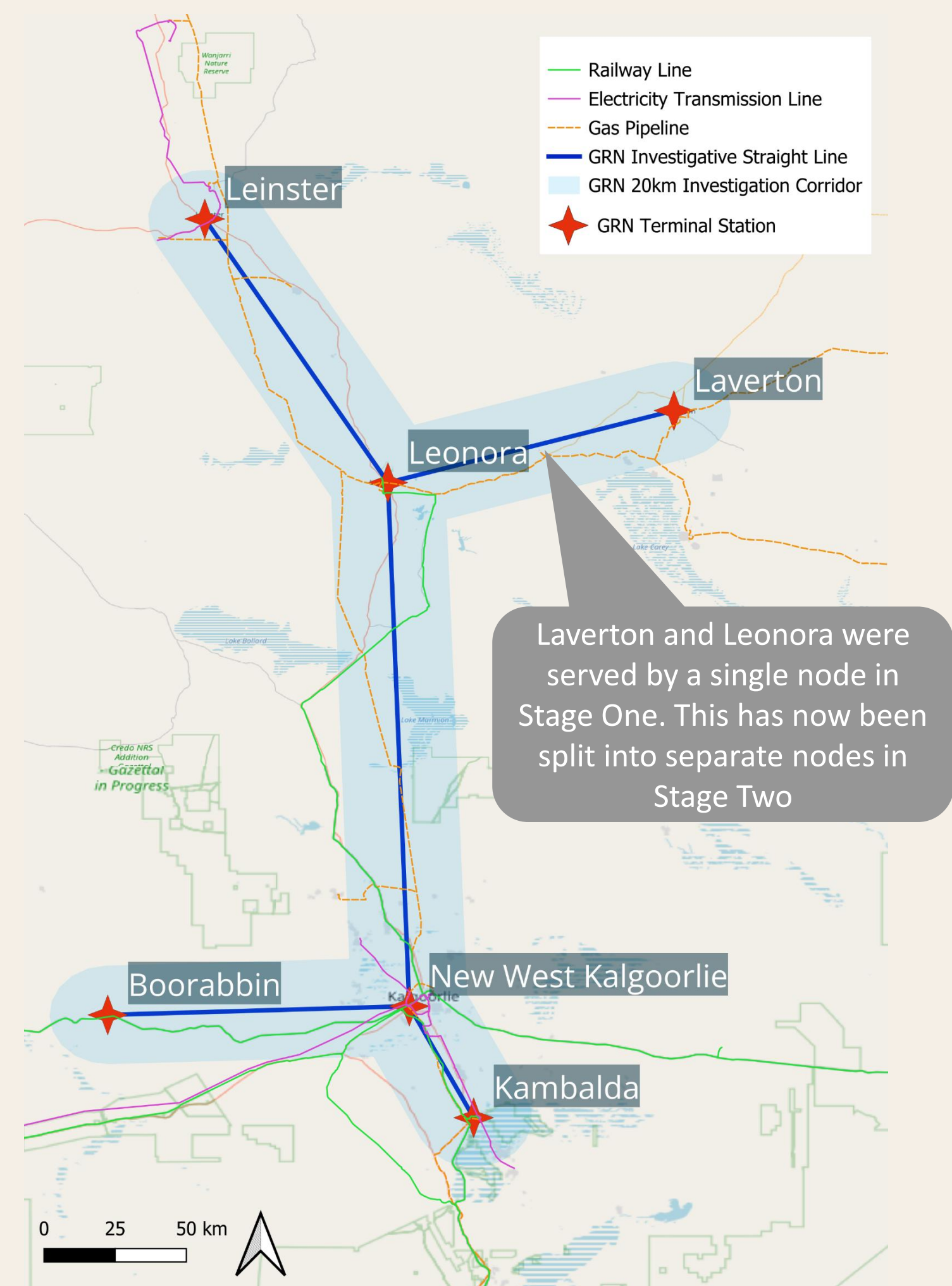
GRN Overview – Footprint Analysis

Footprint analysis was undertaken within a 20 km wide investigation corridor overlaying the potential line path. A closeup view of the investigation corridor between Kalgoorlie and Kambalda is shown to illustrate the approach.



GRN Overview – Footprint Analysis

The footprint analysis identified potential sites for the key transmission assets and to define a corridor for the transmission line.



| Land factor | |
|--|---|
| Existing Easements | <ul style="list-style-type: none">Corridor intersects with road and gas easements along the corridor.Engagement needed for easement and co-location discussions with infrastructure owners such as Main Roads, APA (gas line easement) and airport owners. |
| Mining Tenements and Pastoral Leases | <ul style="list-style-type: none">Pastoral leases cover some parts of the corridor.There are certain areas that would require negotiated access. |
| Crown Land and Tenure Complexity | <ul style="list-style-type: none">Mix of Crown, leasehold and freehold transfers.Coordinated negotiation and tenure resolution with multiple agencies (e.g., DPLH¹ and various leaseholders) will be required. |
| Native Title and Cultural Significance | <ul style="list-style-type: none">Highly constrained across terminal station locations, and route intersects with native title claims and Aboriginal Cultural sites.Early and sustained engagement with Aboriginal groups will be required. |
| National Parks | <ul style="list-style-type: none">Transmission line may need to bypass Goongarrie National Park and Wallaroo Rock Conservation Park. |
| State Planning Policy | <ul style="list-style-type: none">Transmission line corridor to be routed in accordance with SPPs² related to drinking water sources, bushfire and noise. |
| Topography | <ul style="list-style-type: none">Mix of flat and mountainous terrain, potential issues with lakes, gullies and reserves. |
| Other | <ul style="list-style-type: none">Land clearing required with potential ecological impacts and conservation sensitivities. |

Routing and site selection will be refined in future stages in consultation with relevant Government agencies and Aboriginal groups to avoid constrained areas, with approvals and timeline compatibility integrated into the corridor.



¹ Department of Planning, Lands and Heritage
² State Planning Policies

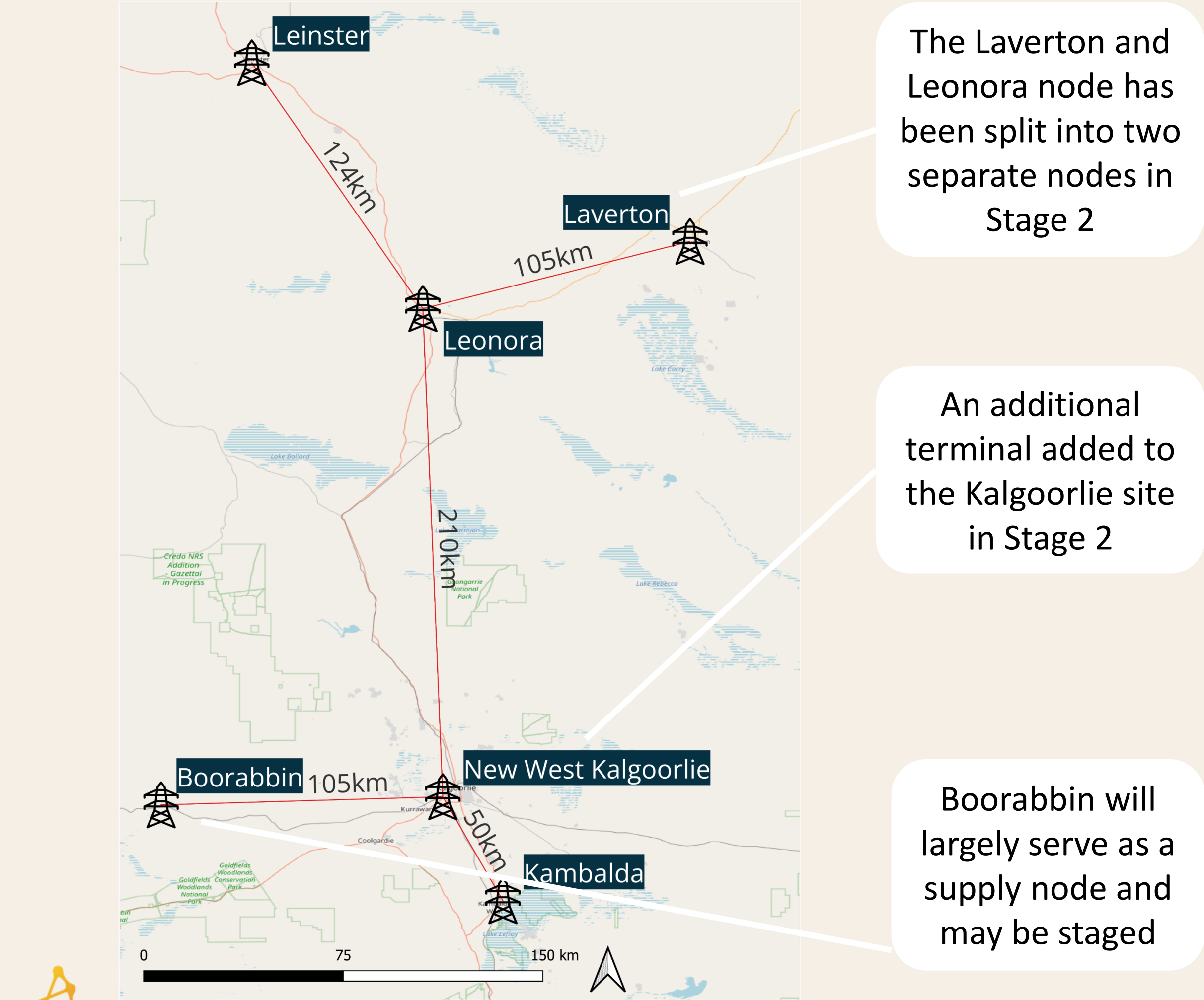
Q&A Session 1



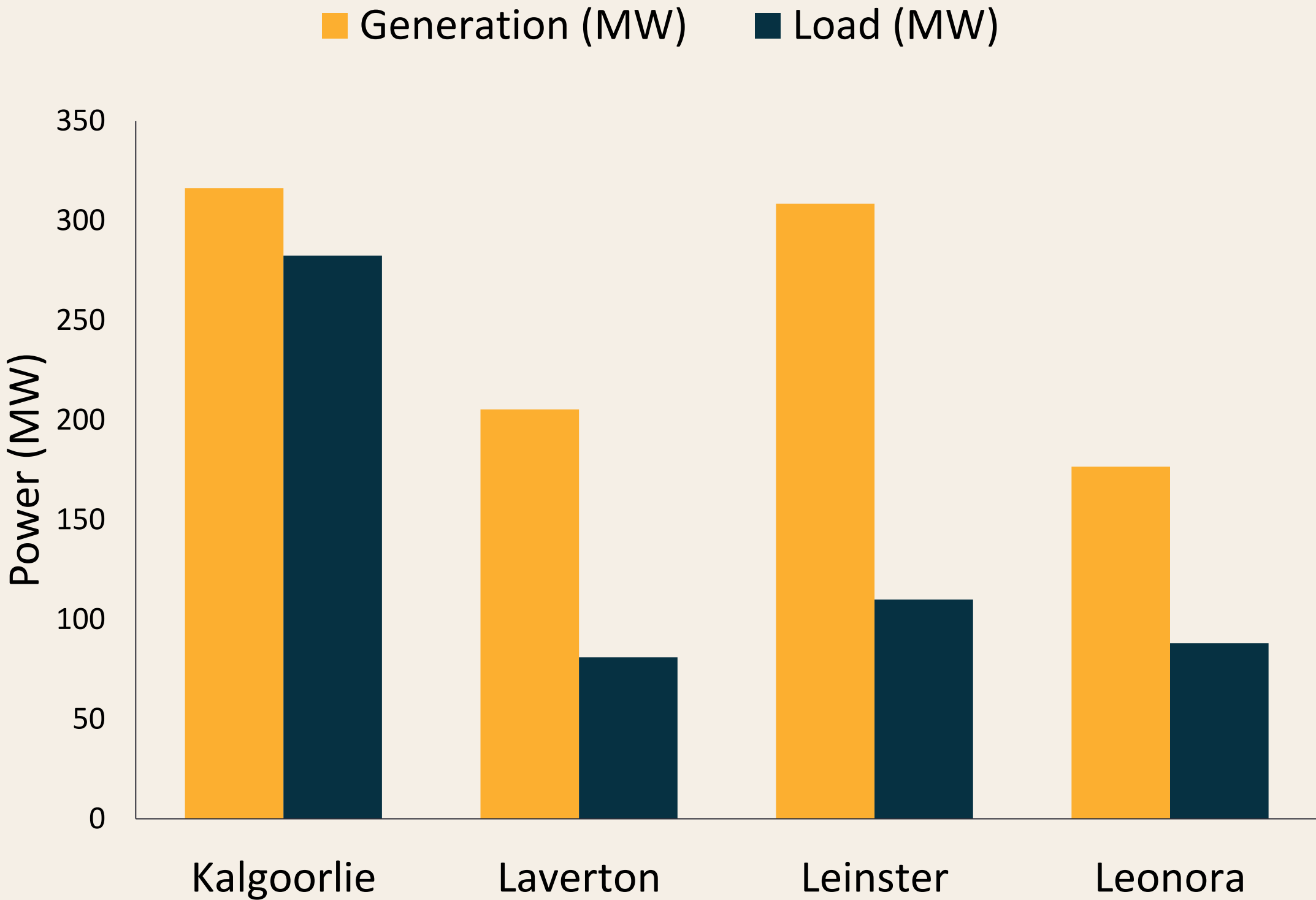
Stage 2 – Technical, Capital Expenditure and Reliability

Updated Technical Concept

The GRN could include six terminal stations, covering a generation capacity of ~1,300 MW and a corridor distance of ~600 km over the entire network.



Distribution of generation and load¹



Most of the load and generation is situated in Kalgoorlie

Laverton, Leinster and Leonora contribute generation, but significantly less load

¹ Inclusive of RFI responses received up to 18 August 2025, excluding ad-hoc updates

Updated Technical Concept

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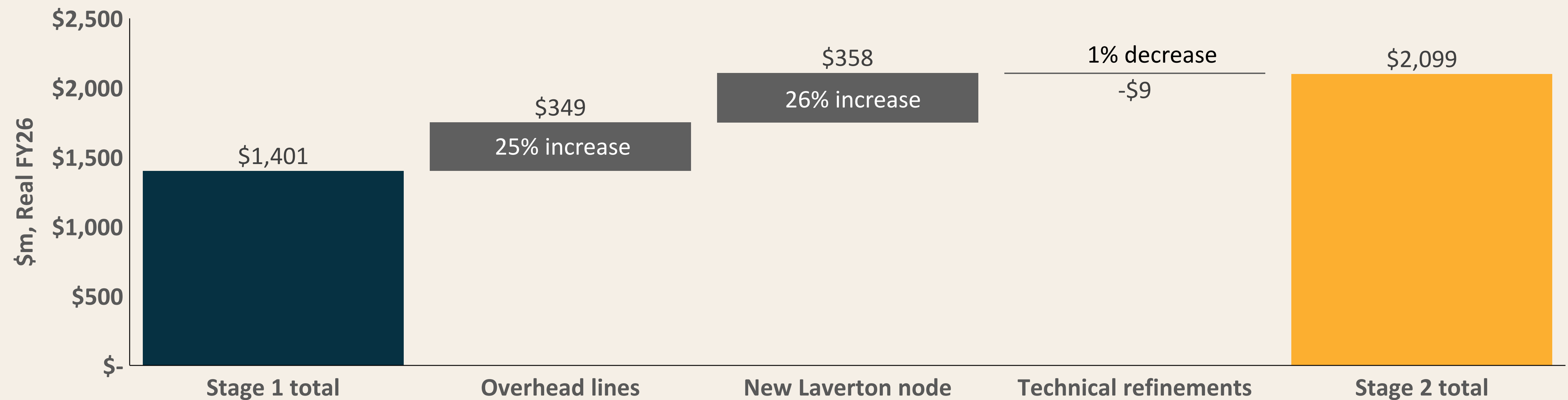
| Terminal Stations – Technical Summary | | | | |
|---------------------------------------|--------------|--------------|--------------|------------------------|
| Node | Voltage (kV) | Line entries | Transformers | Area (m ²) |
| New West Kalgoorlie | 132, 33 | 12 | 2 | ~109,000 |
| Boorabbin | 132 | 4 | – | ~29,000 |
| Kambalda | 132 | 4 | – | ~29,000 |
| Leonora | 132, 33 | 10 | 2 | ~109,000 |
| Leinster | 132, 33 | 11 | 3 | ~109,000 |
| Laverton | 132, 33 | 6 | 2 | ~45,000 |

- Terminal locations are indicative only
- Network transfer capacity of ~150–200 MW
- 132 kV rural double circuit steel pole
- Land areas based on desktop analysis of existing SWIS assets that serve similar purpose
- Need for network redundancy considered in substation busbar arrangements
- Number of line entries are based on a mature GRN concept (for generation and demand)
- Staging is being actively considered

¹ Inclusive of RFI responses received up to 18 August 2025, excluding ad-hoc updates

Updates to Capital Expenditure

A revised Stage 2 estimate of capital expenditure incorporates revised transmission 'building block' estimates, the additional Laverton node and an enhanced understanding of technical project requirements



- Revised transmission building block (AEMO TCD¹ 203 MW 132kV) raises unit cost (\$1.7m/km vs \$2.7m/km) and uplifts transfer capacity from 150MW
- Refined line lengths

- Additional equipment required at new terminal
- Additional line from Leonora to Laverton

- Costings for 6 terminals (up from 4)
- Refined equipment requirements and costs (circuit breakers, SVCs² and transformers)



Reliability Analysis

Stage 2 reliability analysis includes an assessment of expected unserved energy (EUE) as per Limb B of the WEM planning criteria.

The WEM planning criteria requires sufficient capacity in each forecast year to:

Limb A: Meet the forecast peak demand plus a reserve margin (measured in capacity credits)

Limb B: Limit EUE shortfalls to 0.0002% of annual energy consumption

Limb C: Requirement for sufficient capacity to meet the largest forecast Four-Hour Demand Increase, plus a reserve margin.

The quantification of annual EUE under the Limb B assessment is important for a power system transitioning from dispatchable capacity to weather dependent resources, which is a key part of the GRN concept.

An assessment of EUE is the most appropriate metric for quantifying reliability in the future GRN.

To assess the capability of the GRN to meet demand, the modelling has undertaken the same approach as per Limb B of AEMO's WEM ESOO reliability assessment.

An electricity market dispatch model considers a range of forced outage patterns over weather-driven renewable availability and demand patterns.

In total, 900 simulations were modelled for each year of the 20-year outlook period. The average annual unserved energy across the 900 simulations yields an EUE figure. EUE was measured across all five nodes of the GRN.

The modelling results showed that:

- Under the assumed supply mix, the GRN would meet the WEM reliability standard across almost the entire forecast horizon.
- EUE tends to occur during late afternoons to early morning periods, when solar and storage are not available, and wind is less effective. This is exacerbated under early retirement of generation assets.
- Unserved energy above the reliability standard occurred at the end of the study period (beyond 2040). This can be addressed by a combination of flexible demand side response by large energy users, aggregated DER or additional firming capacity.



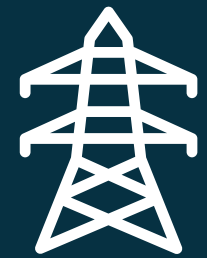
Q&A Session 2



Stage 2 – Commercial and Stakeholder Analysis

Commercial Objectives

The Stage 2 commercial analysis aims to build a tailored commercial strategy for the GRN, guided by the below objectives



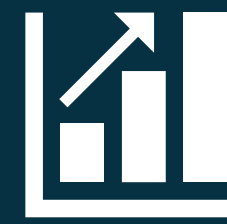
Enabling transmission investment

New transmission will incentivise and accelerate new and planned generation in the region.



Delivering at least the level of reliability users have today

Reliability must not decline for the GRN to be attractive to users.



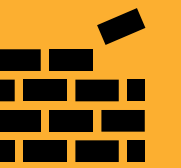
Maximising utilisation

High utilisation is beneficial to all users but must be accompanied by fair and reasonable access principles.



Ensuring the GRN represents a robust, commercial opportunity that:

- Could be privately financed, with investors assuming most project risks.
- Has appropriate risk sharing between the private sector and Government.



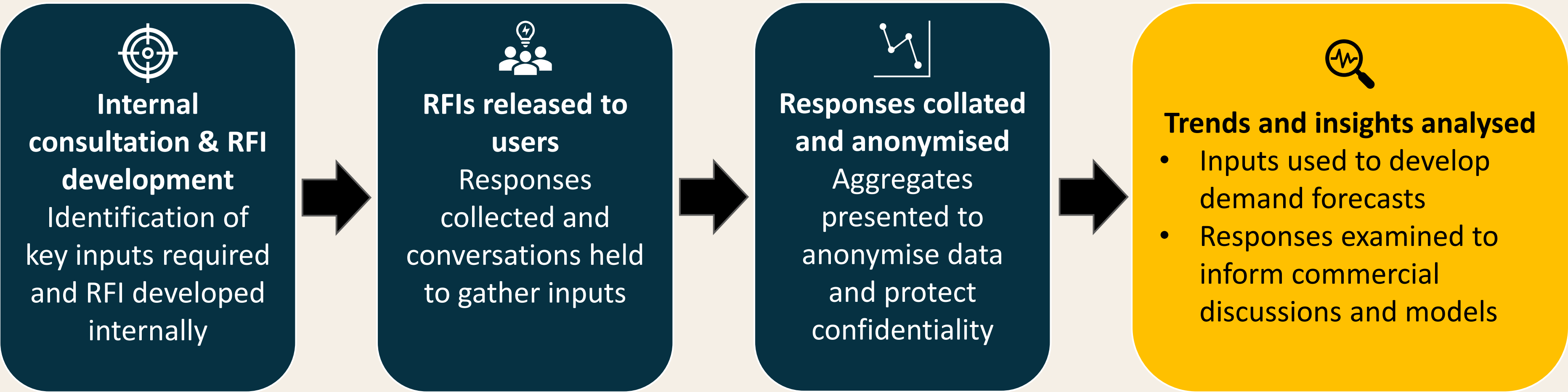
Balancing key commercial challenges:

- The distribution of costs, risks and benefits must be matched to a commercial structure that is suitable for each user type in terms of price, timing and tenure.



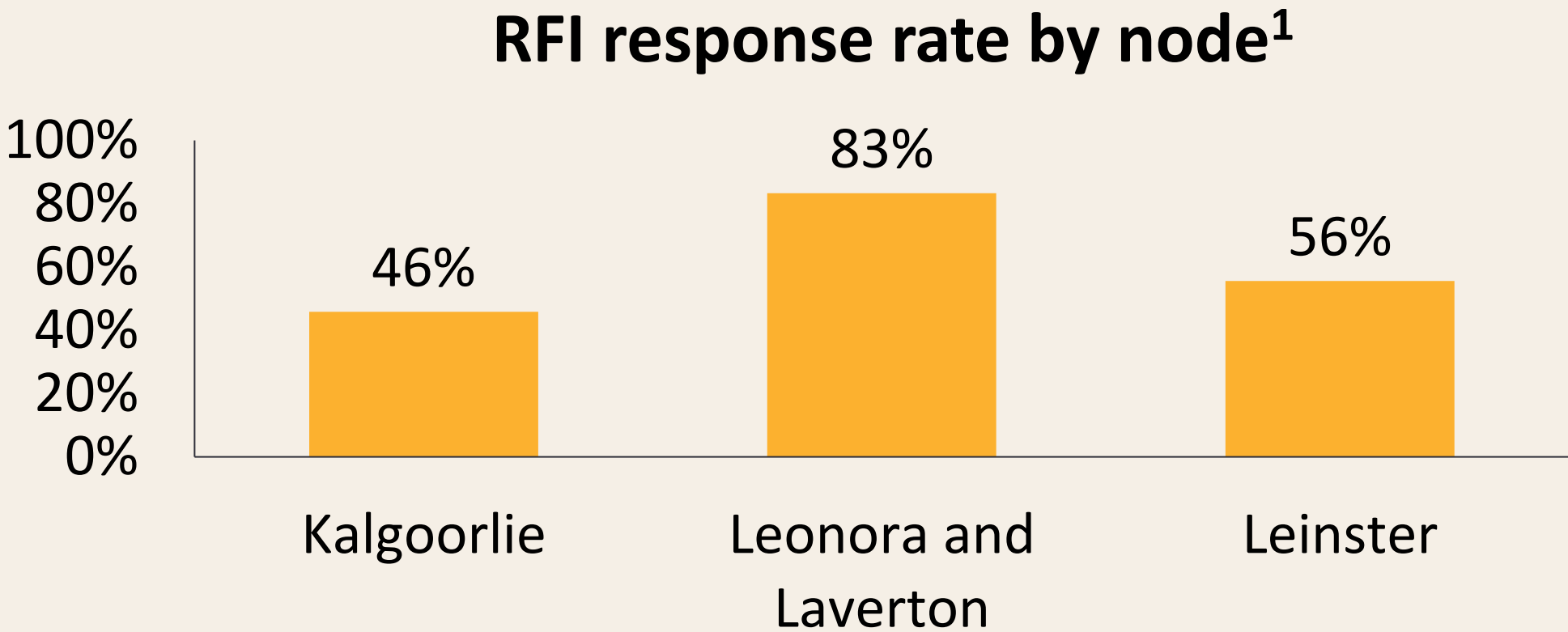
Stakeholder and Commercial Analysis – RFI process

An RFI process was undertaken to provide insight into the commercial needs of key stakeholders in the Goldfields region

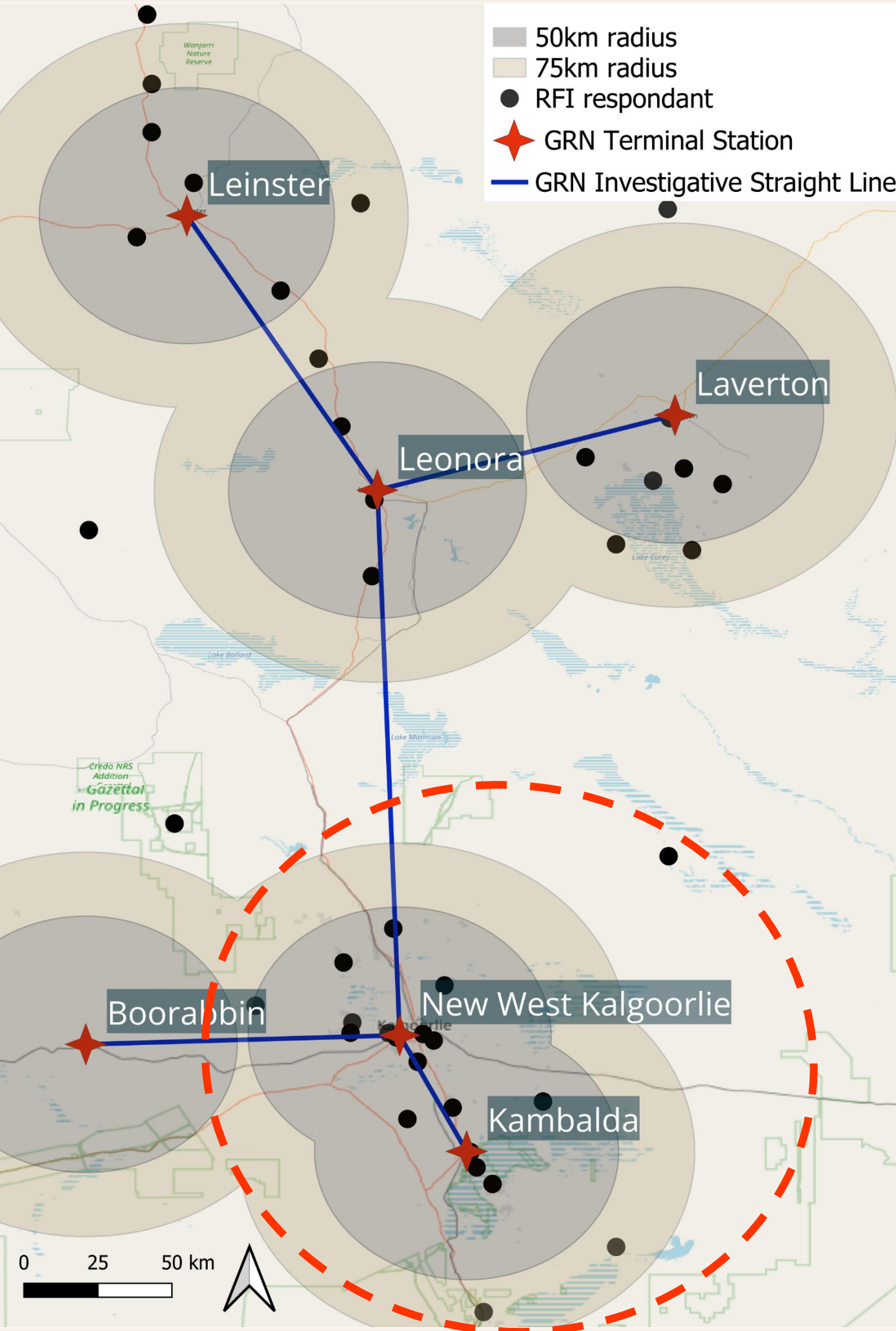


Some of the key technical and commercial inputs requested in the RFIs, in addition to the response rate per node are shown below:

| Technical | Commercial |
|-------------------------------|----------------------------------|
| Forecast load growth | Energy provider |
| Existing load and generation | Contract term and tenure |
| Planned load and generation | Energy asset ownership structure |
| Supply interruption frequency | All-in energy and fuel costs |
| Asset age and condition | Annual energy spend |



Stakeholder and Commercial Analysis – Kalgoorlie



What we heard

- Grid supply costs are expected to increase due to gas market price fluctuations in addition to increasing upkeep and maintenance costs.
- Grid supply dominates Kalgoorlie, with a limited amount of piped gas and diesel generation.
- Several users maintain backup diesel generation even when connected to the grid, reflecting concerns regarding security of supply.

All-in energy costs¹

~\$203/MWh

Tariff structure¹

~74% fixed

Reliability¹

~97% (ELPS²) to ~99% (CMD³)

Contract tenure¹

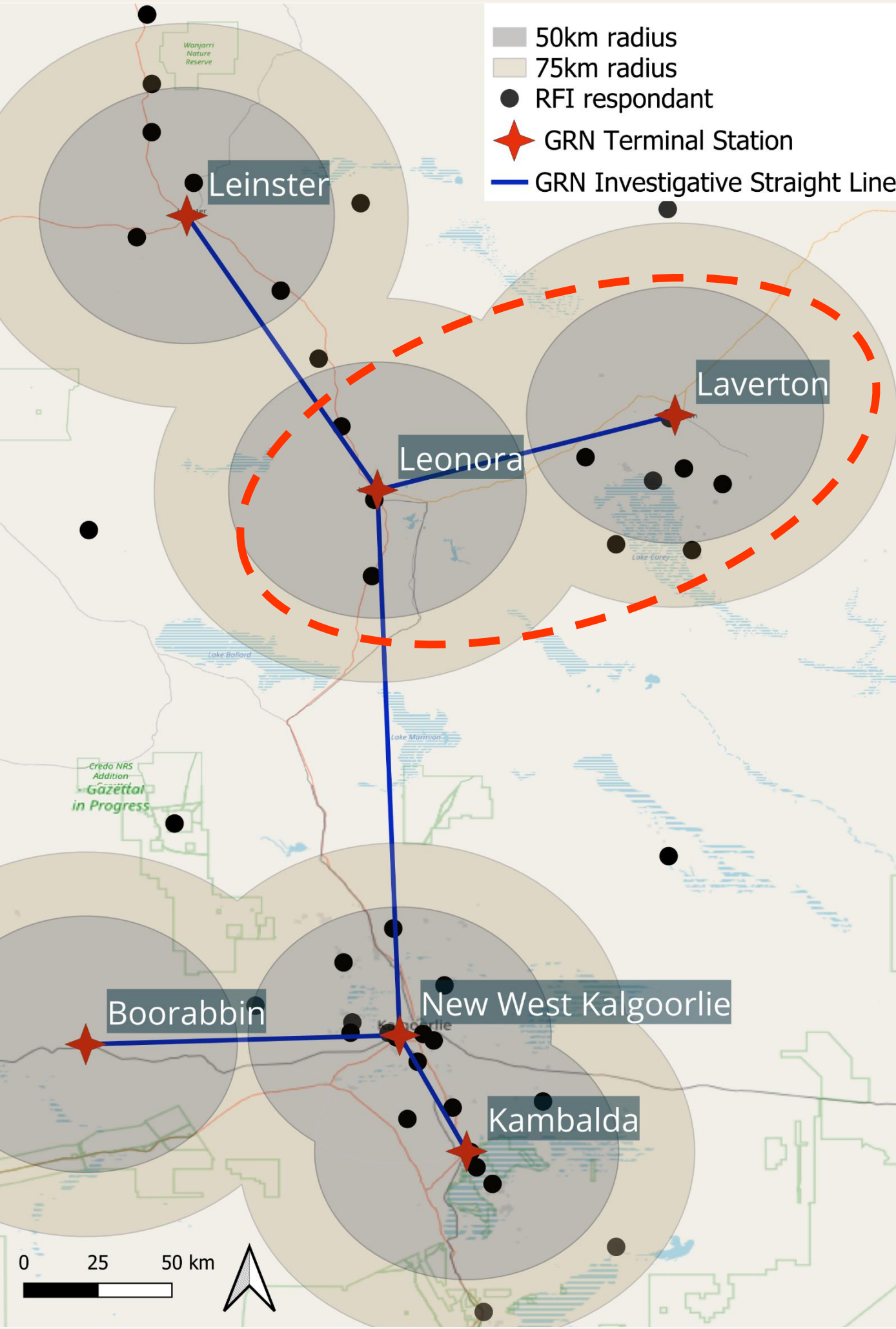
~9 years

¹ Values indicative only, aggregates provided

² Eastern Goldfields Load Permissive Scheme

³ Contract maximum demand

Stakeholder and Commercial Analysis – Leonora and Laverton



What we heard

- Piped gas supply, gas-hybrid solutions and diesel supply (onsite gensets) dominate the region.
- Most operations are supplied by Independent Power Producers (IPPs).
- Contract tenure is important as several users are tied into long-term gas supply or PPA contracts, limiting their ability to switch.
- Higher all-in costs in the region are attributed to higher gas/diesel transport costs.

All-in energy costs¹

~\$239/MWh

Tariff structure¹

~65% fixed

Reliability

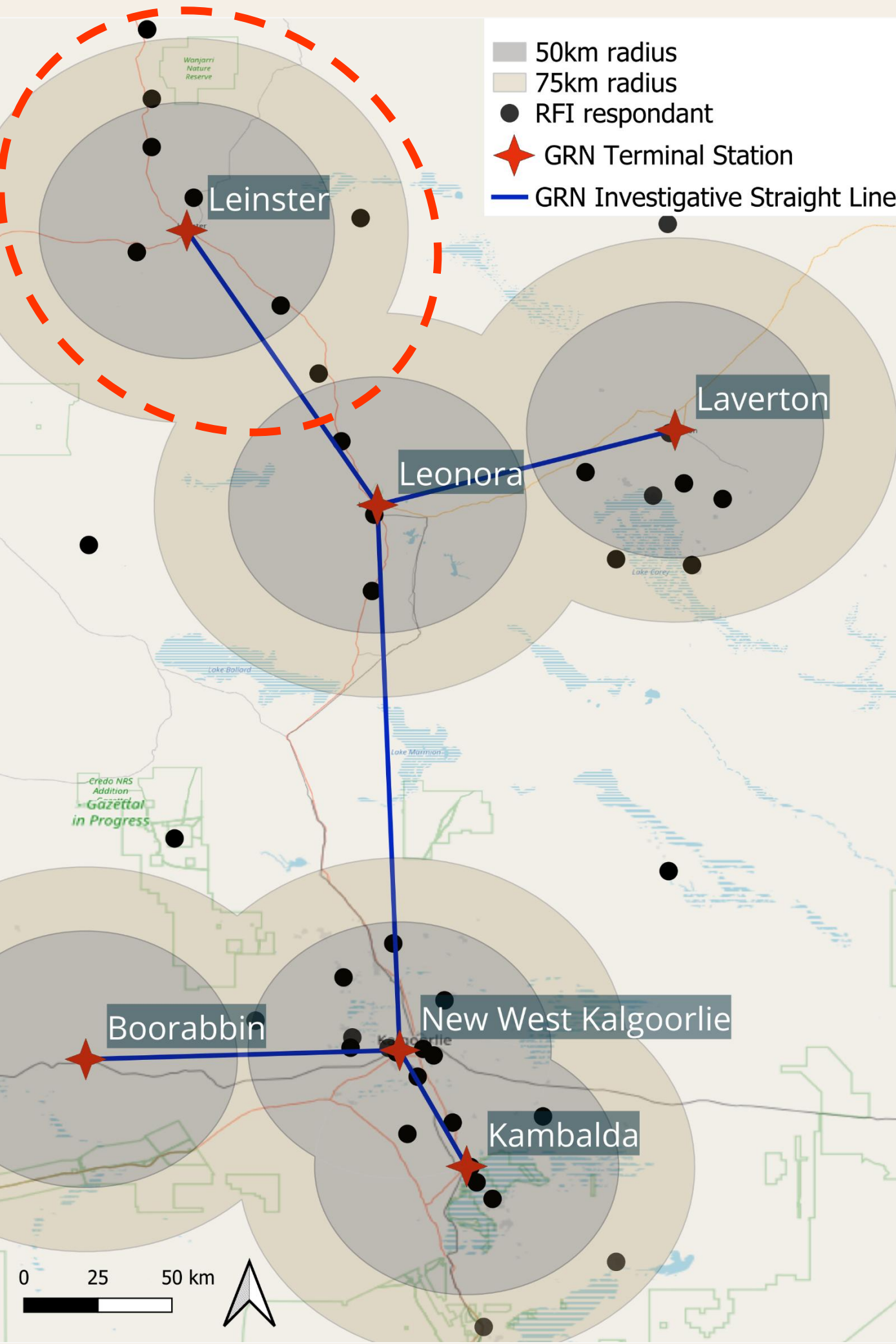
TBC

Contract tenure¹

~12 years



Stakeholder and Commercial Analysis – Leinster



What we heard

- Piped gas supply dominates the region due to proximity to the Goldfields Gas Transmission Pipeline.
- Contract tenure is important as a number of users have recently entered long-term supply contracts that carry significant termination fees.
- Gas hybrid generation² lowers overall costs but increases fixed charges.

All-in energy costs

TBC

Tariff structure²

TBC

Reliability

TBC

Contract tenure¹

~13 years



Stakeholder and Commercial Analysis – Key Findings

Key learnings from the RFI process include:

1

There is strong, ongoing interest in the GRN

- Users have consistently expressed interest in connecting to the network, provided it can deliver cost-effective electricity at a minimum of the same level of reliability as achieved today.

2

The importance of contract timing/tenure

- Many users have indicated that tenure on existing agreements is a key constraint, particularly for those on long-term contracts who may face termination penalties and therefore will delay joining the GRN.

3

Users face imminent investment decisions

- Respondents have noted that investment decisions regarding new generation and decarbonisation commitments are in-progress or imminent, which may impact the broader incentive and timing of connection to the GRN.

4

The GRN provides export potential

- Users with operational or in-development generation assets see value in the export of surplus/spilled energy via the GRN.

5

A flexible and consultative approach is required

- The Goldfields region's diverse user base requires a flexible commercial model that is closely aligned to the needs of the GRN's potential users.



Q&A Session 3



Next Steps

This session will be followed by a second Commercial Working Group to discuss:

- Tariff analysis
- Commercial analysis
- Scenario testing
- Funding and financing options

In the meantime, PoweringWA will continue to progress Stage 2 and 3 activities, including:

- refinement of commercial analysis used in the initial modelling;
- further development of tariff and financing analysis;
- consultation with Aboriginal groups in the region;
- development of market, transmission access and regulatory models; and
- economic benefits analysis.

If you have any questions, please reach out to PoweringWA@deed.wa.gov.au to:

- have a 1-on-1 meeting;
- make a direct submission; and/or
- have late input into the RFI process **(submissions due by 28 November)**.

Stay tuned for future communications regarding Working Groups and the next GRN Forum

