Draft 2022 Integrated System Plan – Marinus Link

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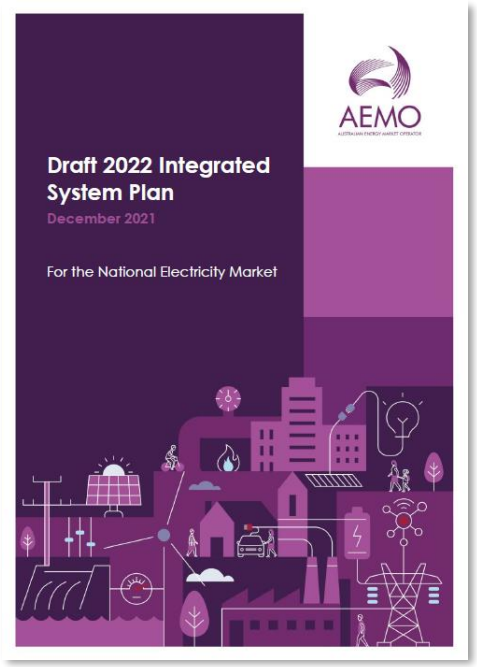
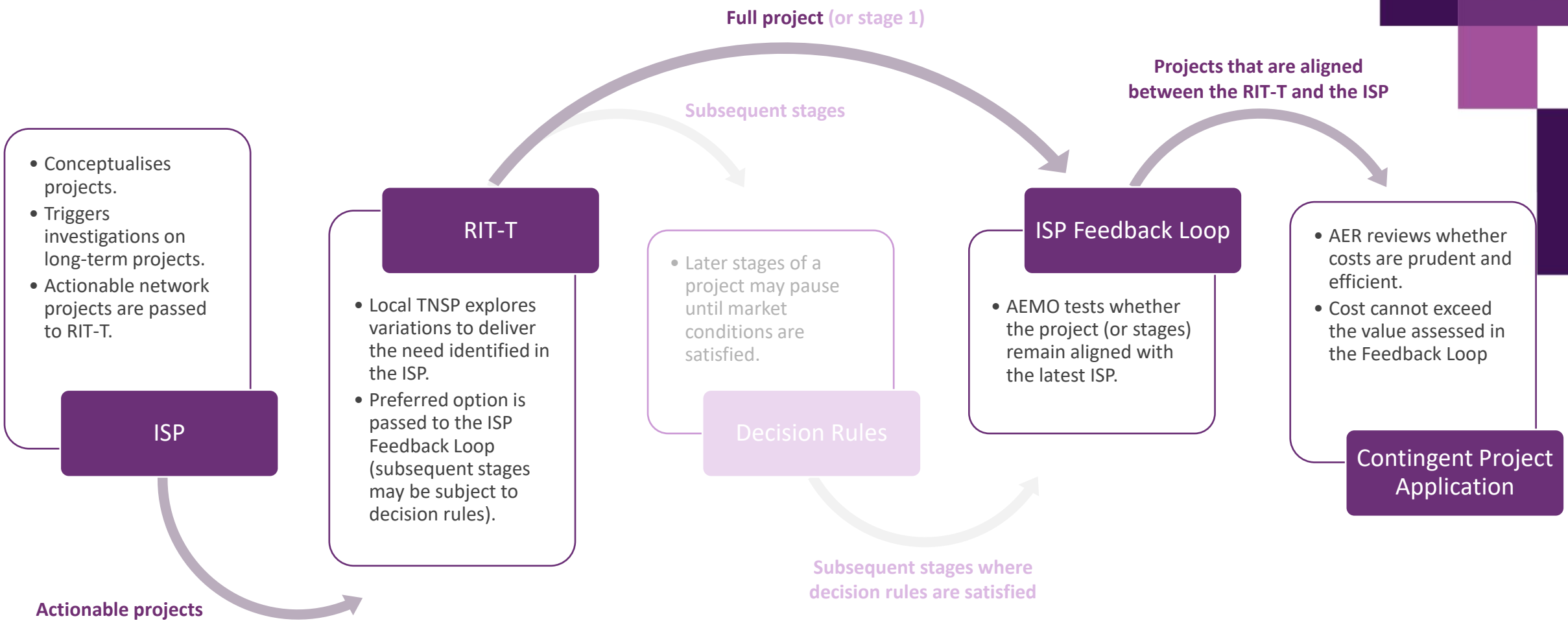
April 2022

About the Integrated System Plan (ISP)



- **Whole-of-system** plan
- Informs policy makers, investors, consumers, researchers and other energy stakeholders
- Serves regulatory purpose of justifying actionable and future new transmission
- Maximises value to end consumers
- Optimal development plan/roadmap

Projects mature throughout the regulatory framework



Conceptual → **Feasibility** → **Budget approval**

The ISP Process

Scenarios / Inputs & Assumptions / Methodology

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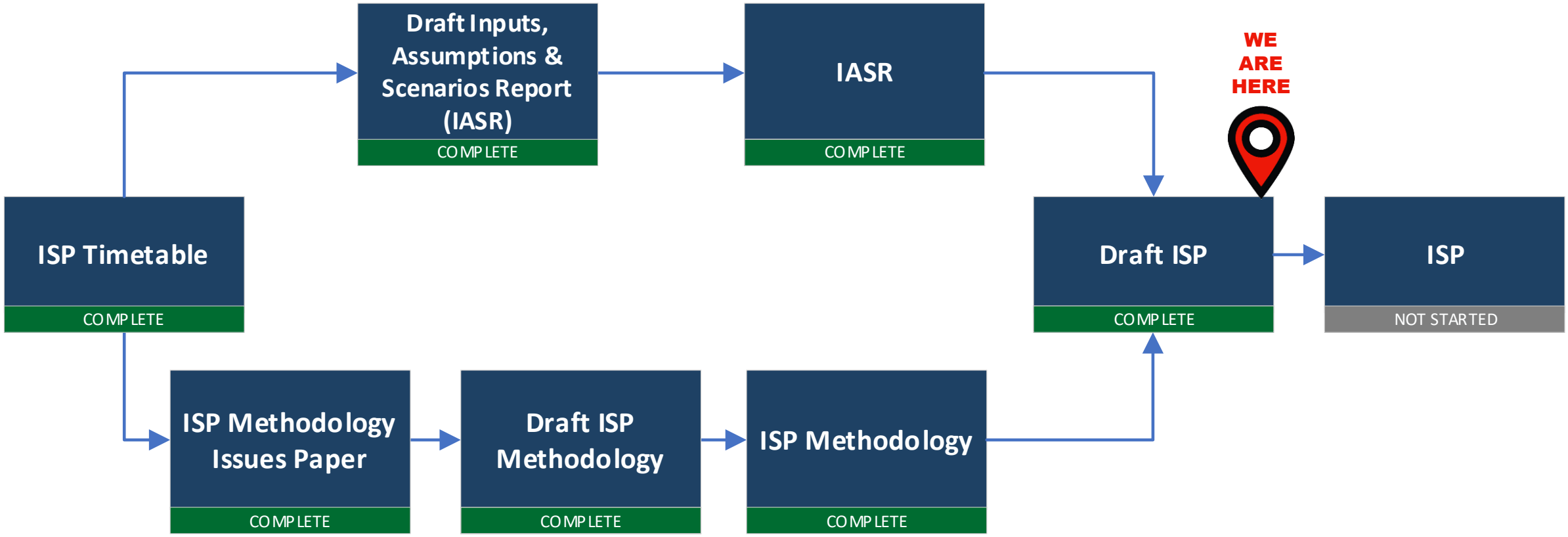
The ISP development process



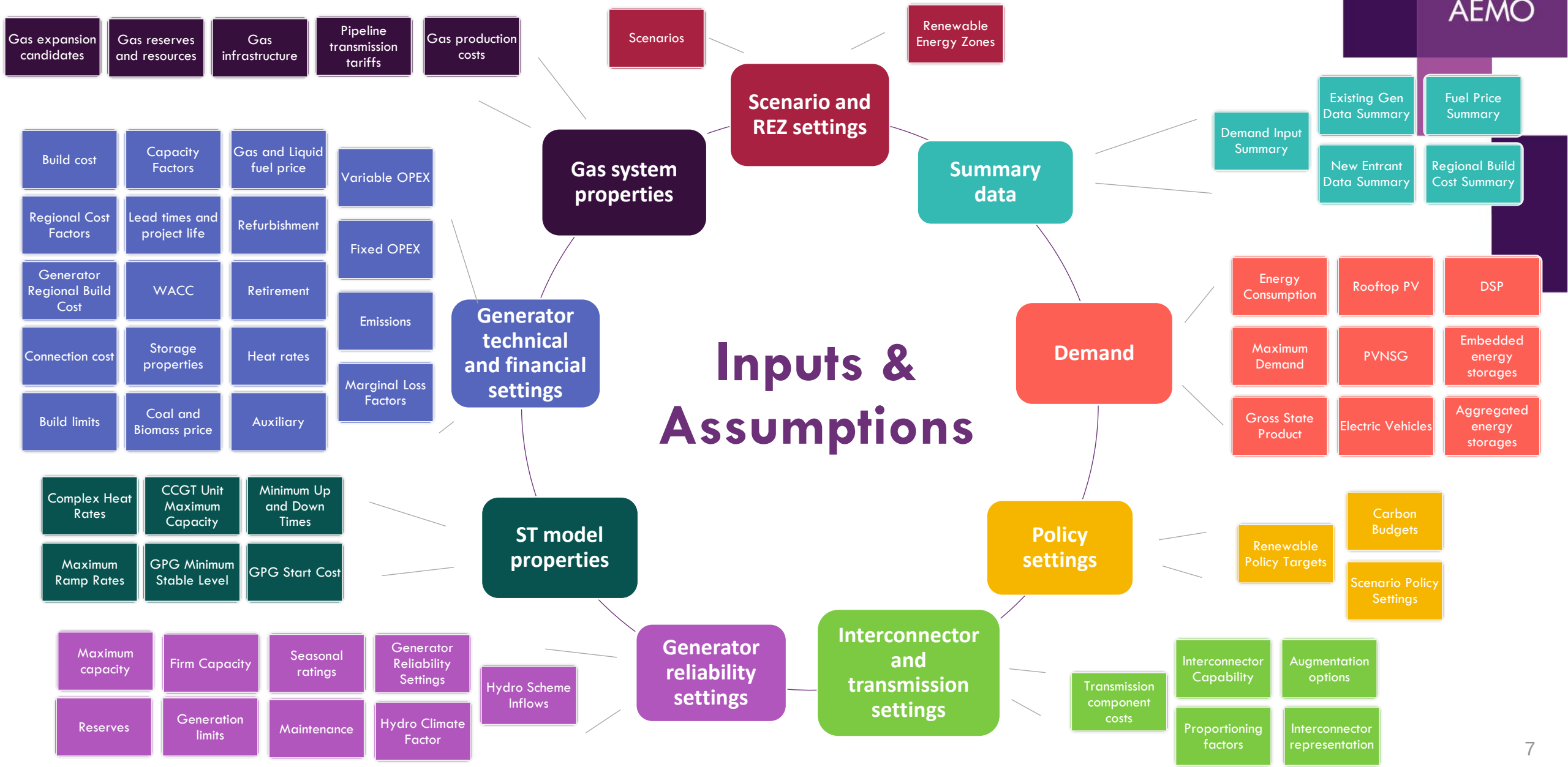
We plan across a wide range of scenarios

	Slow Change		Progressive Change		Step Change		Hydrogen Superpower	
DEMAND								
Electrification	2030	2050	2030	2050	2030	2050	2030	2050
- Road transport that is EV (%)	2	36	5	84	12	99	18	94
- Residential EVs still relying on convenience charging (%)	82	58	75	44	70	31	66	22
- Industrial Electrification (TWh)	-24	-21	4	92	27	54	37	64
- Residential Electrification (TWh)	0	0	0.2	15	4	13	2	4
- Energy efficiency savings (TWh)	8	19	14	40	22	55	22	56
Underlying Consumption								
- NEM Underlying Consumption (TWh)	163	213	201	394	222	336	243	330
- Hydrogen consumption - domestic (TWh)	0	0	0	32	0.1	58	2	132
- Hydrogen consumption - export, incl. green steel (TWh)	0	0	0	0	0	0	49	816
- Total underlying consumption (TWh)	**163**	**213**	**201**	**425**	**223**	**394**	**294**	**1,278**
SUPPLY								
Distributed PV Generation (TWh)	39	58	39	80	45	93	51	112
Household daily consumption potential stored in batteries (%)	3	5	5	22	12	38	13	39
Underlying consumption met by DER (%)	24	27	20	19	20	24	17	9
Coal generation (% of total electricity production)	34	5	38	2	21	0	6	0
NEM emissions (MT CO_2-e)	57.4	12.1	77.8	23.6	48.3	7.2	19.0	5.6
2020 NEM emissions (% of)	40	9	55	17	34	5	13	4

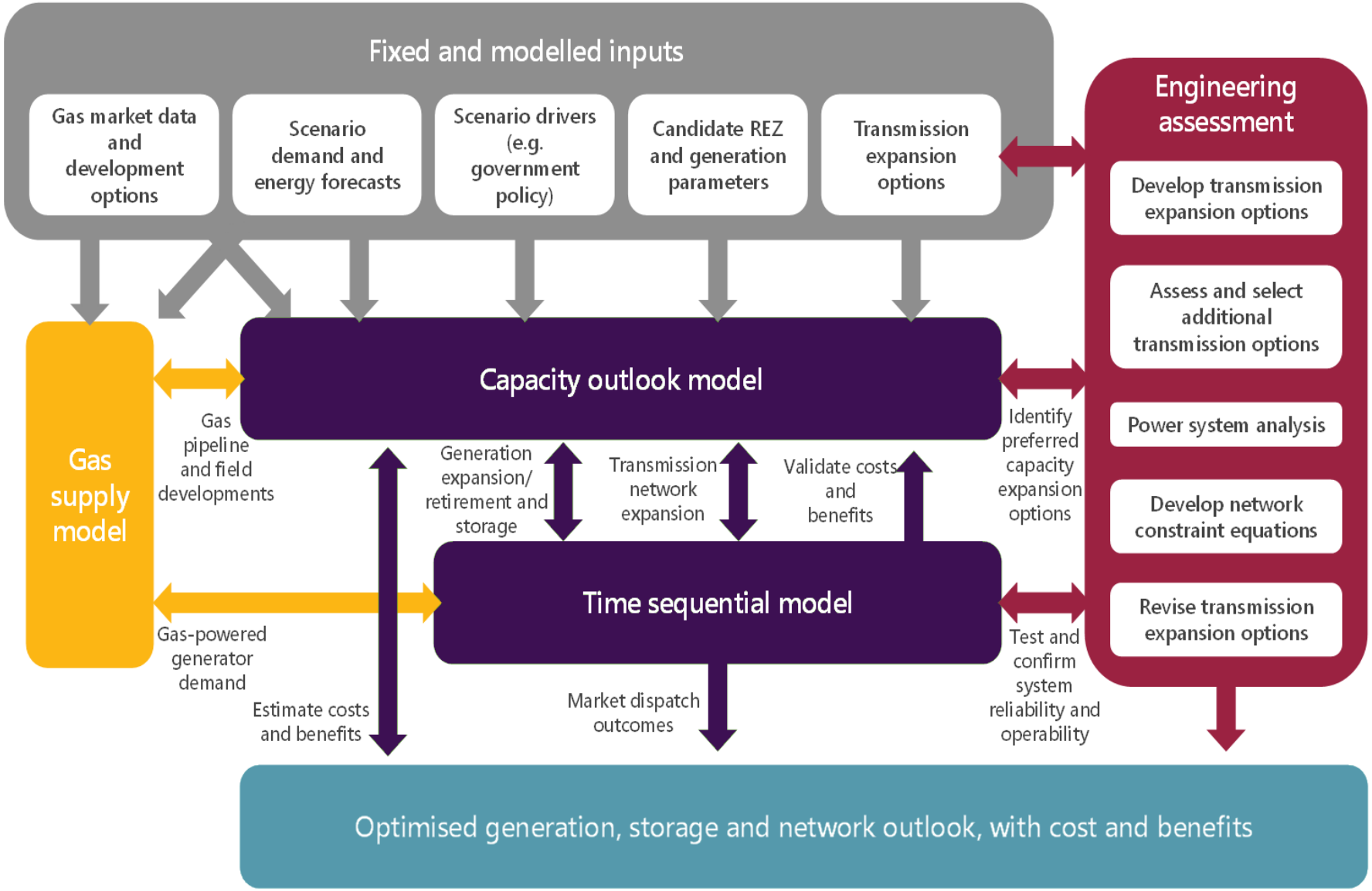
Level of change

Likelihood 4% 29% 50% 17%

We consult on lots of inputs & assumptions



Our methodology is complex but transparent



The Draft 2022 ISP Results

Generation outlook / Optimal transmission investments

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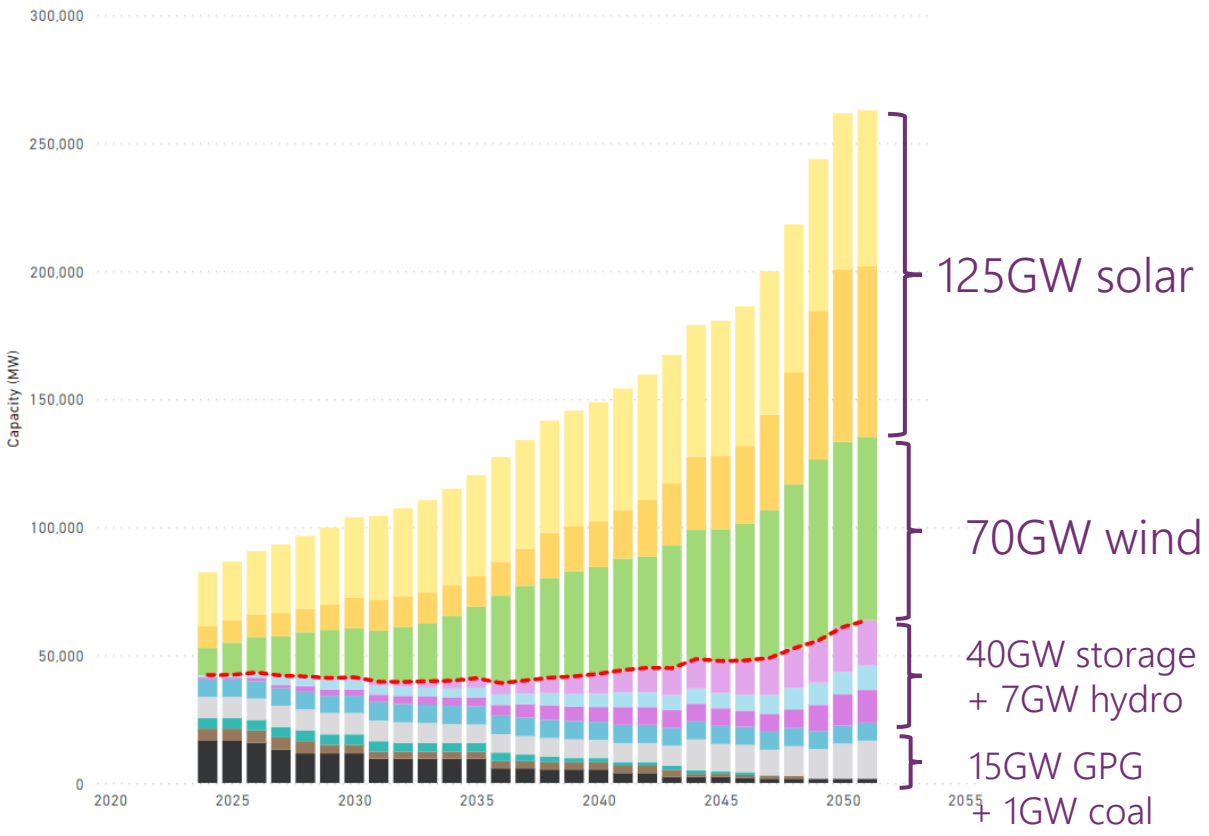
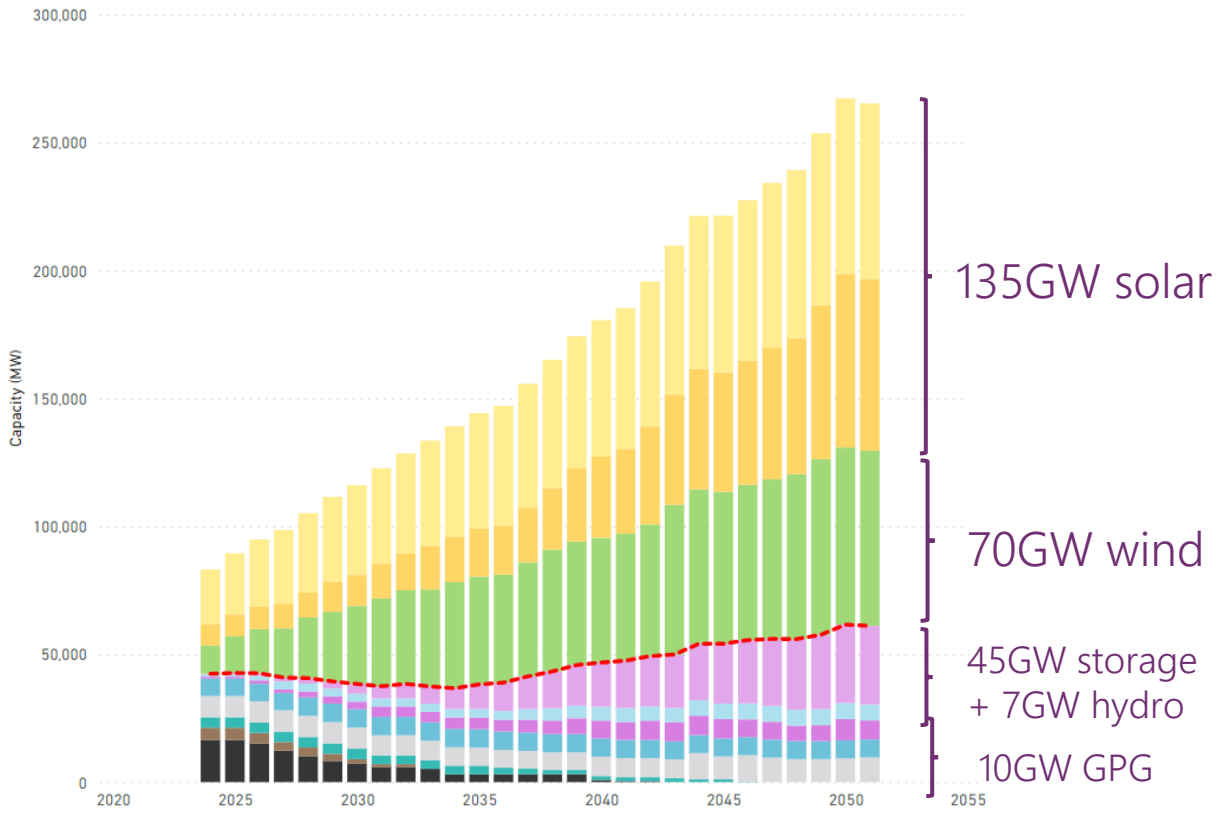
Renewable generation capacity to at least double every decade from now to 2050 …

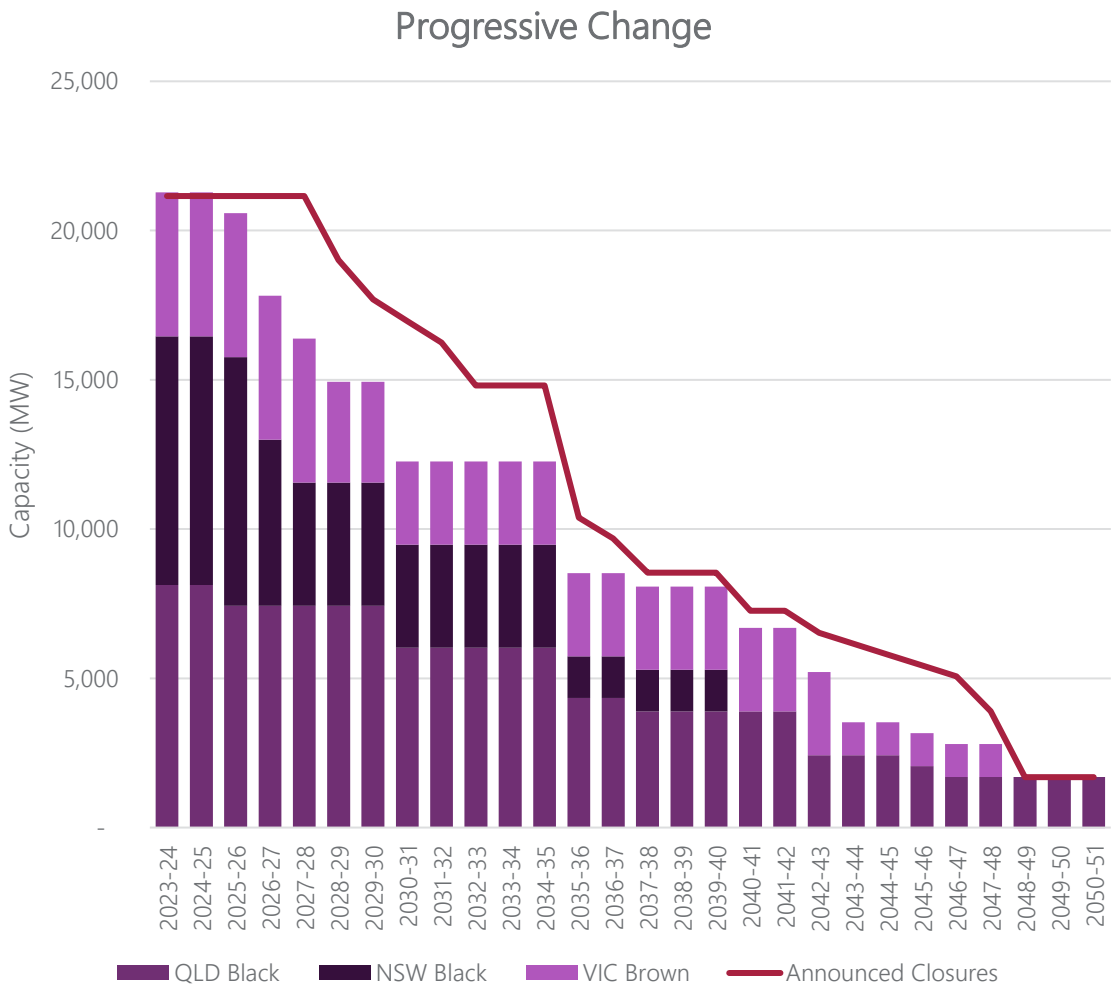
Progressive Change

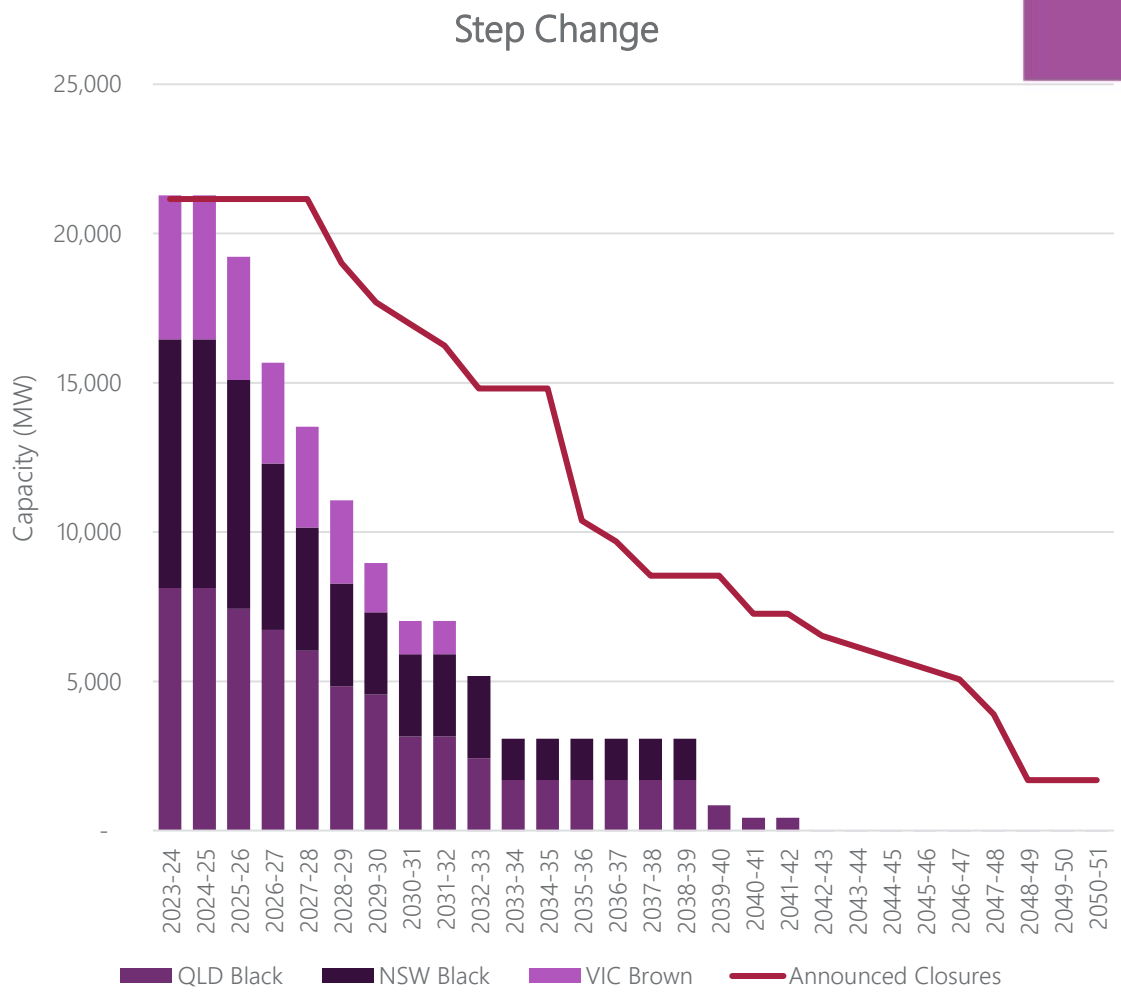


Step Change



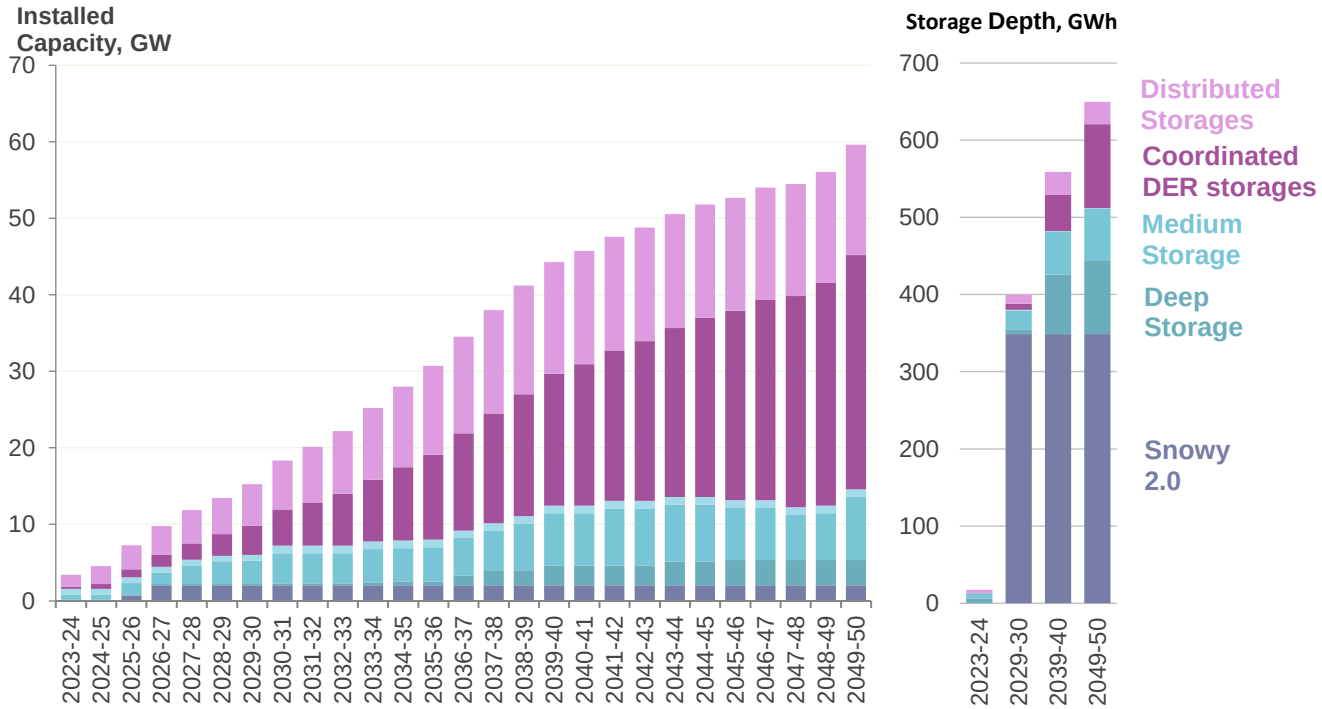
…coal likely to withdraw much sooner than expected…



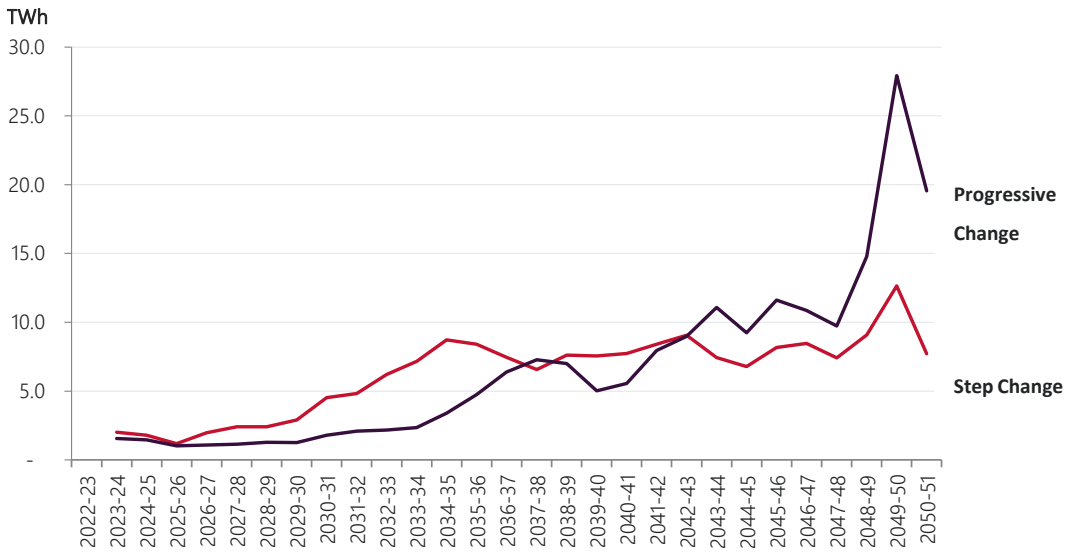


..requiring substantial storage and gas to firm renewables…

New storage of all depths is needed



Gas operation increases as VRE penetration increases

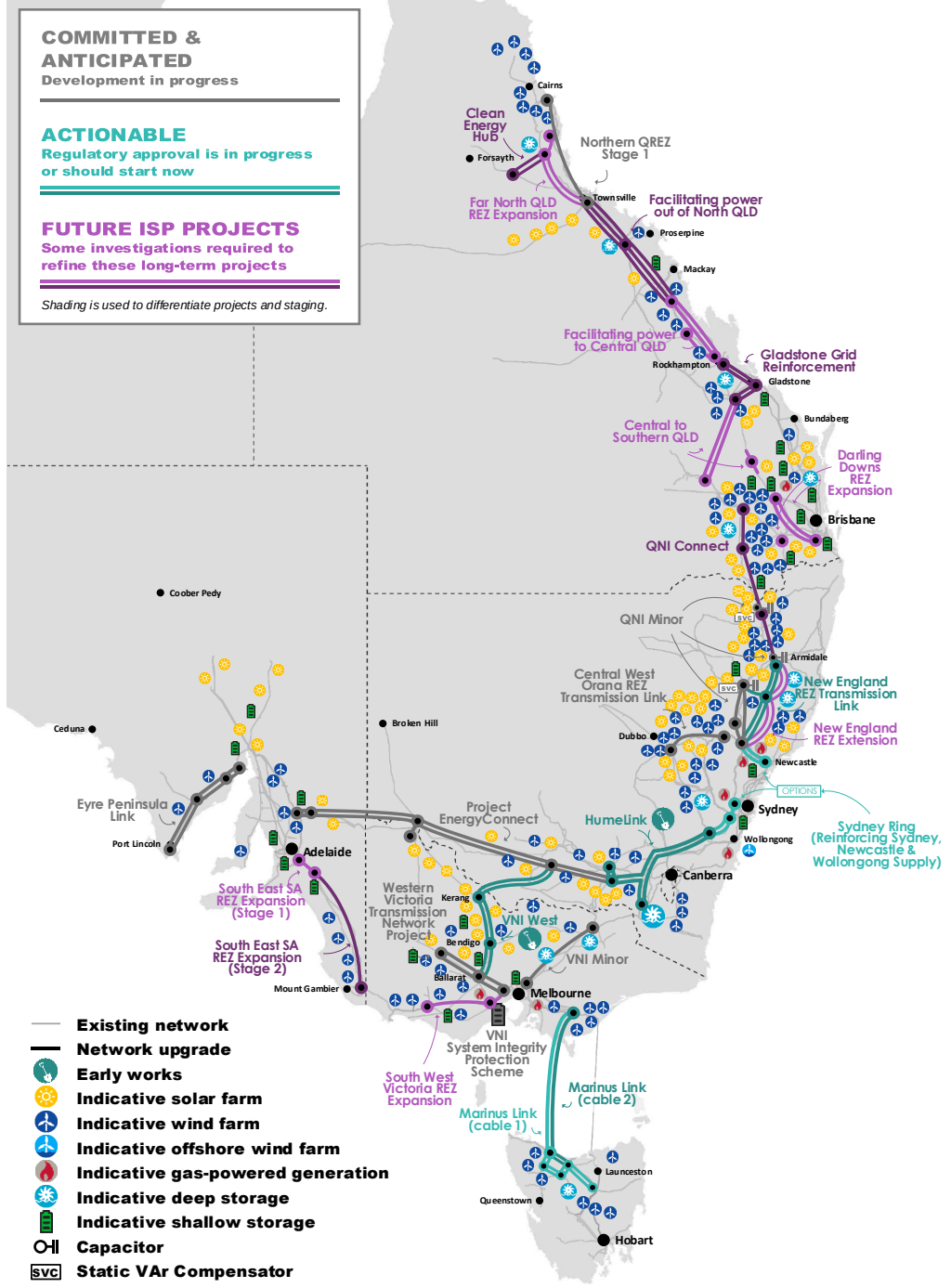


The draft optimal development path enables an efficient transition

The draft optimal development path (ODP) delivers ≈$29 billion in net market benefits

Retains flexibility to facilitate a faster NEM decarbonisation by 2030 if desired

Helps mitigate risk of earlier than expected coal closures



†Additional projects to expand REZs and upgrade flow paths after 2040 are highly uncertain, vary significantly between scenarios, and are not shown in this map. See Appendix 5 for more information.

Marinus Link

Project / cost / benefits / TRET

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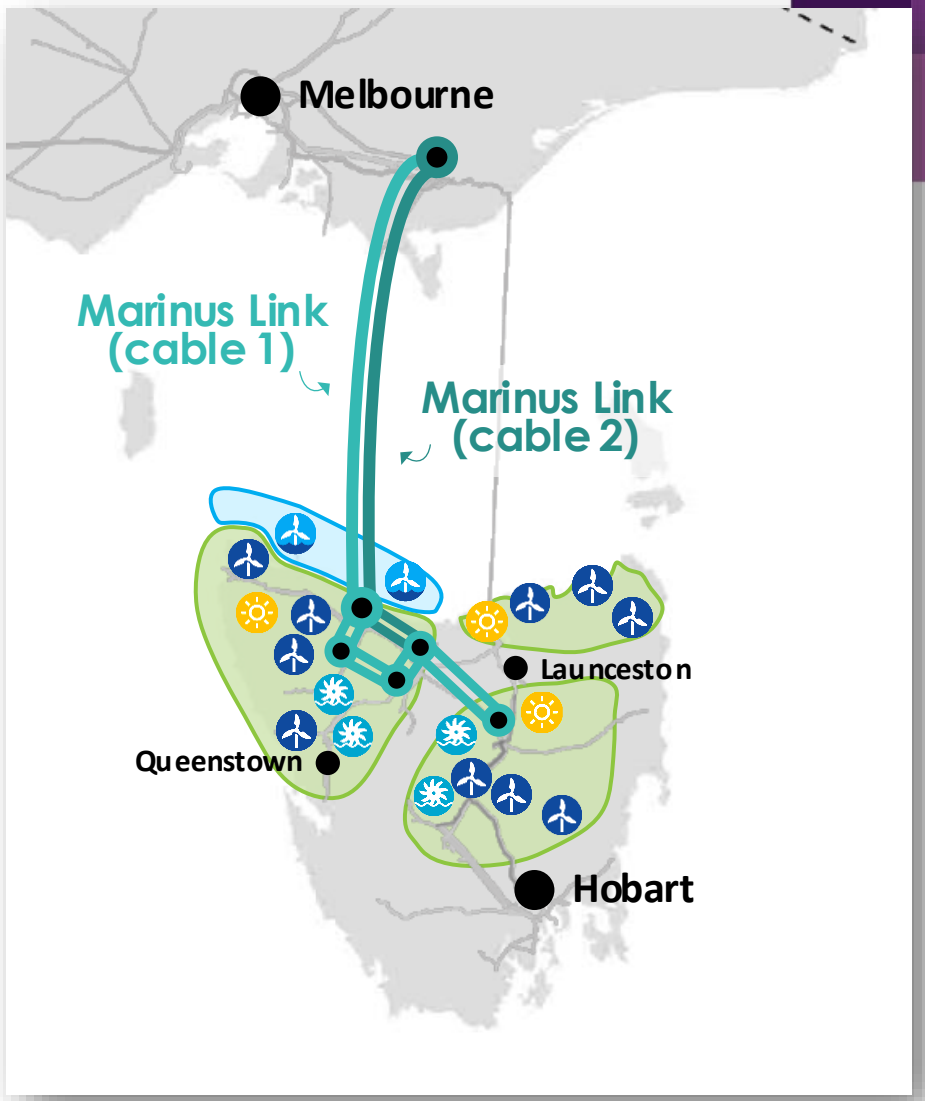
The project

- Actionable ISP Project – optimal project that could deliver benefits to consumers if delivered soon.
- Cable 1:
  - $2.3 billion ±15% (2021 dollars)
  - 750 MW in 2029
  - +450 MW REZ capacity in Central Highlands
  - +350 MW REZ capacity in North West
- Cable 2:
  - $1.3 billion ±15% (2021 dollars)
  - 750 MW in 2031
  - +800 MW REZ capacity in North West

- AEMO reviewed AC network costs at class 4 accuracy. Insufficient cost data was available to independently verify cable costs.



The benefits

- Access to Tasmanian resources:
  - Wind resources are high quality and diverse to mainland resources.
  - Improved access to existing hydro storages.
  - Efficient development of new deep storage.
- Contributes $4.6 billion of the $26 billion in net market benefits delivered by the Draft ODP in the most likely scenario.
  - Marinus Link exists in all high-ranking candidate development paths.
  - The Draft ISP assumed delivery in 2027 and 2029, and found that the optimal timing may be delayed if costs rise by 15%. With earliest delivery now pushed to 2029 and 2031, cost sensitivity will need to be revisited.
  - Actionable status is not affected by materially higher discount rates, materially lower gas prices, or any other variations in inputs tested through sensitivity analysis (see Section 6.4).

The influence of TRET

Marinus Link benefits with different TRET assumptions ($ billion)

Modelling approach	Step Change	Progressive Change
Assume TRET is met regardless of Marinus Link being built (excess generation is spilled)	4.63	2.54
Assume TRET is met only if Marinus Link is built	3.37	1.13
Ignore any influence of TRET	3.34	1.34

We've received lots of feedback

- The Draft 2022 ISP was published on 10 December 2021.
- Submissions to the draft closed on 11 February 2022.
- We received approximately 80 submissions – published on our website.
- The final ISP will be published by 30 June 2022.
- Visit our website.

Thankyou !

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