Welcome to the AER's webinar: Draft guidelines to make the ISP actionable

10:00-11:30am, 4 June 2020

Item (presenter)	Estimated start
Welcome (Jim Cox)	10:00
Overview (Richard Khoe)	10:05
ISP cost benefit analysis (Nishana Perera)	10:15
Changes to the RIT-T (Lisa Beckmann)	10:45
Forecasting best practice guidelines (Lisa Beckmann)	11:15
Closing remarks (Jim Cox)	11:25

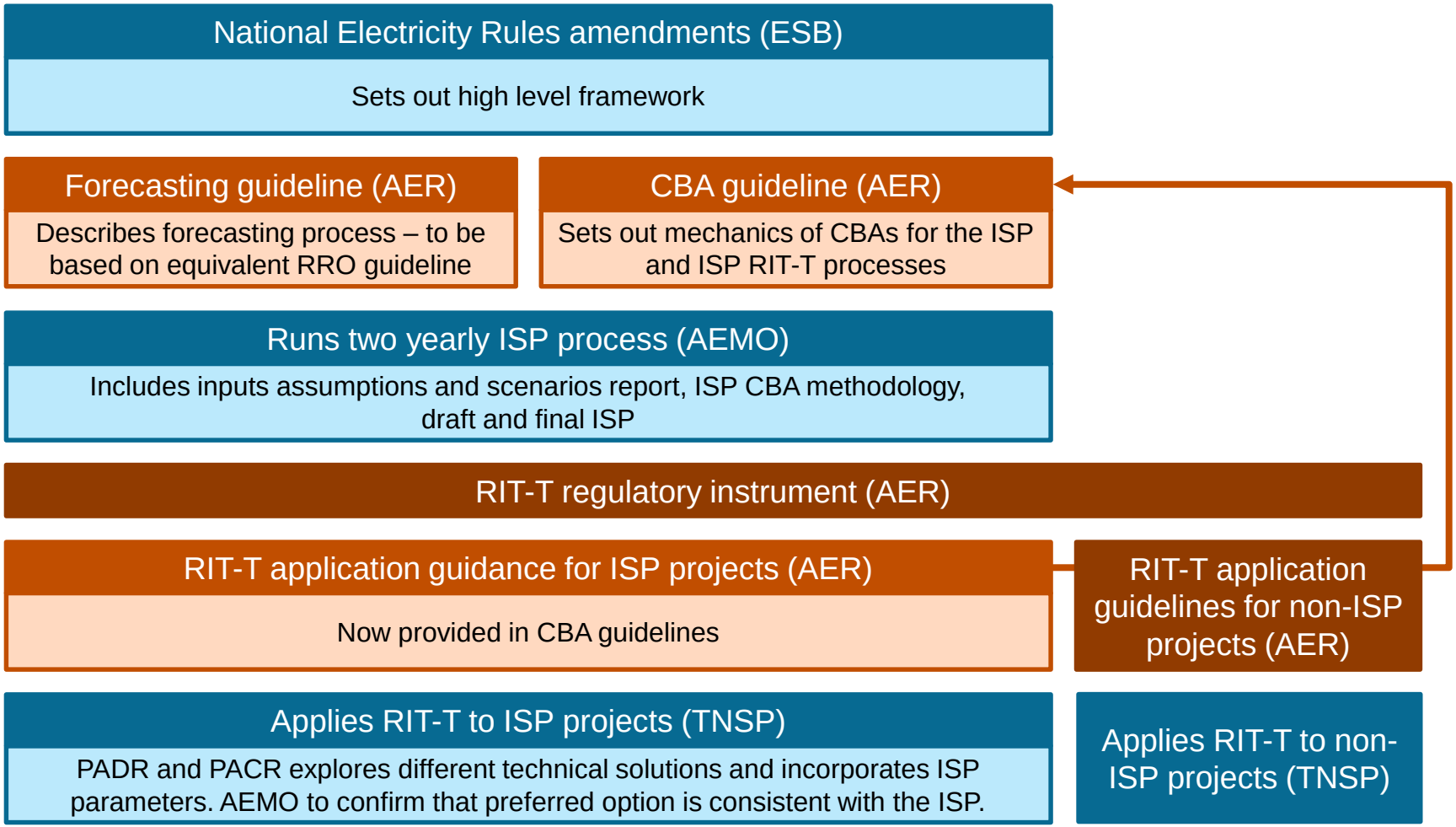
Richard Khoe

Introduction: Draft guidelines to make the ISP actionable

Overview and objective

- ISP guidelines are part of broader framework to make the ISP actionable
- ISP guidelines draw their power from ESB rules
  - The guidelines can’t change the rules
- Overall objective of guidelines is to provide certainty, transparency and accountability for AEMO, RIT-T proponents and stakeholders.

AER guidelines within the governance framework for the actionable ISP



New Existing (responsible party)

Key themes raised in submissions

- Key themes in submissions:
  - Mix of views on prescription v flexibility
  - Transparency and engagement in the ISP process
  - Alignment between ISP and RIT
  - Non-network options

Key elements of AER approach to guidelines

1. **AEMO flexibility** – given the uncertainty around the future of the energy market, AEMO needs flexibility in selecting an optimal development path.
2. **Transparency and engagement** – flexibility should be accompanied by transparency so the basis for decisions is clear and stakeholders can test conclusions.
3. **Rigorous cost benefit analysis** – testing costs and benefits of investments reduces the risk consumers will pay for inefficient investments.
4. **Streamlined process** – testing of investment options should proceed with an efficient process that minimises duplication
5. **Other considerations** – non-network options and staging.

Binding and non-binding elements of guidelines

- ESB rules empower the AER to include binding elements in its guidelines.
- Classification framework

Requirements	• Must always apply
Considerations	• May not apply in every instance, must explain why or why not applied
Discretion	• Not binding

AER role

- Monitor compliance and enforcement
  - Take action for non-compliance
  - Compliance reporting
- Transparency reviews
- Dispute resolution
- Set efficient capex.

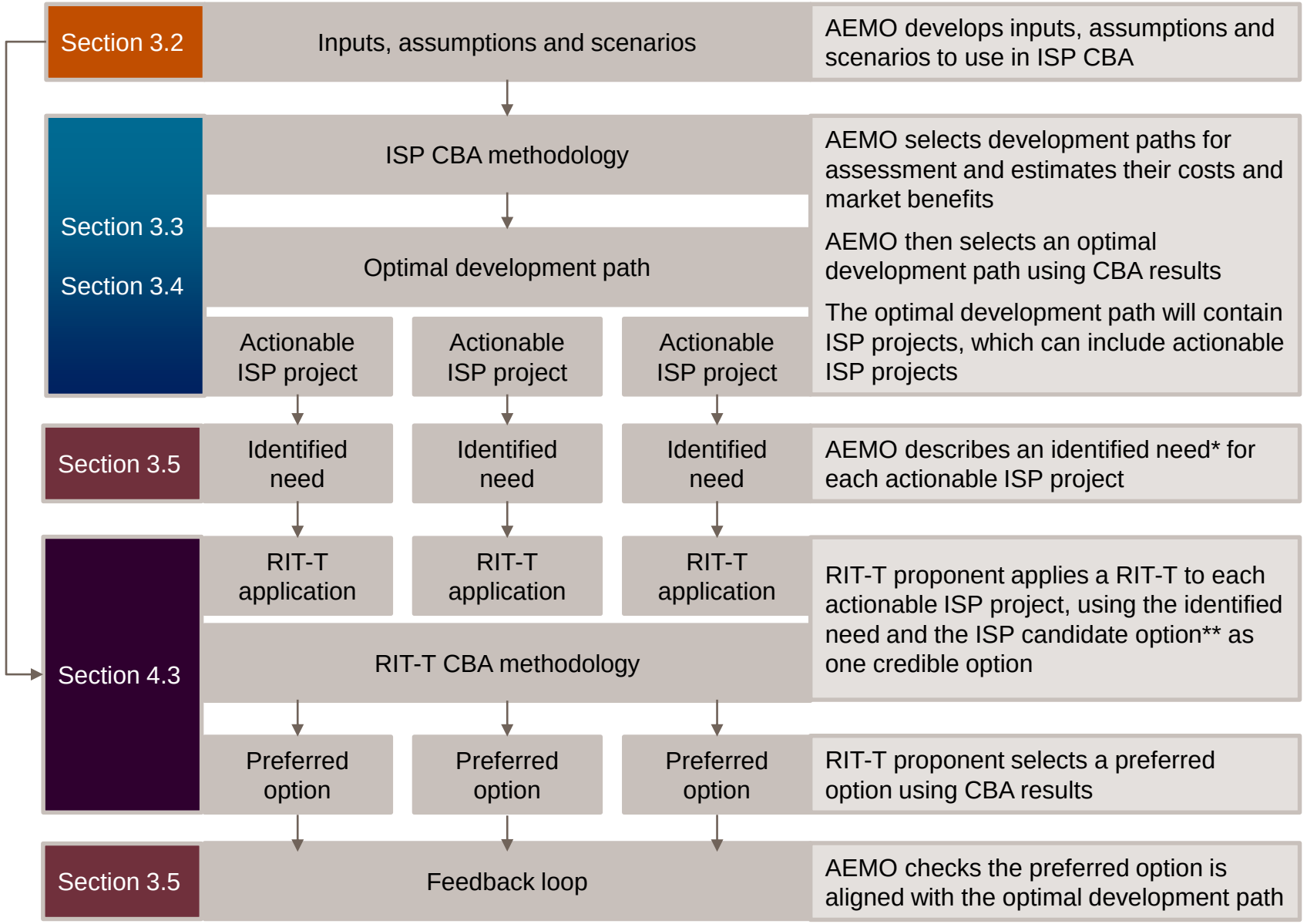
Transitionals

- Guidelines transitionals are different from rules transitionals
- **Rules**: An “in flight” project that is an actionable ISP project may move to the new framework.
- **Guidelines**: 2020 ISP will be finished before Guidelines finalised.
- **Guidelines**: ISP projects that have not yet reached a PADR will be bound by new guidelines.

Questions?

Nishana Perera

The ISP cost benefit analysis


Section 3.2
Inputs, assumptions and scenarios
AEMO develops inputs, assumptions and scenarios to use in ISP CBA
Section 3.3
Section 3.4
ISP CBA methodology
AEMO selects development paths for assessment and estimates their costs and market benefits
Optimal development path
AEMO then selects an optimal development path using CBA results
The optimal development path will contain ISP projects, which can include actionable ISP projects
Actionable ISP project
Actionable ISP project
Actionable ISP project
Section 3.5
Identified need
Identified need
Identified need
AEMO describes an identified need* for each actionable ISP project
Section 4.3
RIT-T application
RIT-T application
RIT-T application
RIT-T CBA methodology
RIT-T proponent applies a RIT-T to each actionable ISP project, using the identified need and the ISP candidate option** as one credible option
Preferred option
Preferred option
Preferred option
RIT-T proponent selects a preferred option using CBA results
Section 3.5
Feedback loop
AEMO checks the preferred option is aligned with the optimal development path

Inputs, assumptions and scenarios

- Key terms

Inputs and assumptions	Scenarios
In preparing an ISP, AEMO identifies a large number of inputs for its model. These inputs are forecasts over the 20+ year ISP planning horizon (or modelling period), and use different trajectories to match different scenarios. This involves a number of underlying assumptions.	Scenarios are different future external market environments that are used in a CBA to assess and manage uncertainty about how the future will develop. They are based on variations to input variables and parameters that drive supply and demand conditions (e.g. population growth, coal and gas prices, etc.). The market benefits of a given development path will change across different scenarios, and this allows AEMO to understand the impacts of key uncertainties on each development path.

Inputs, assumptions and scenarios (cont)

- Considered the overall governance framework in providing guidance – CBA guidelines, FBPG and AER transparency review all work together in governing inputs, assumptions and scenarios
- Stakeholders generally supported AEMO flexibility in developing inputs, assumptions and scenarios, subject to full transparency and effective consultation
- However, stakeholders were also concerned about the level of oversight over AEMO's development of ISPs. AER transparency review was introduced by the ESB as inputs and assumptions are perhaps the most critical drivers of ISP outcomes

Inputs and assumptions	Scenarios
• Identification of key inputs and assumptions, and their source (also supports transparency review) • Ex-post review (see FBPG) • Guidance on discount rate & VCR	• Exploring sectoral risks in a stretching but balanced way • Internal consistency • Presenting information on underlying range of scenario inputs

CBA methodology

- Identify a set of development paths
- Characterise the counterfactual development path, under which to compare development paths
- Quantify the estimated costs of each development path
- Identify and quantify the estimated market benefits of each development path
- Quantify the estimated net economic benefit of each development path in each scenario,
- identify an optimal development path, and test the results

- Maintained as much consistency as possible with steps in RIT-T application guidelines, as supported by several stakeholders
- Key difference is in the framework for selecting an optimal development path
- CBA steps are fairly straightforward
- Any steps to be further explained?

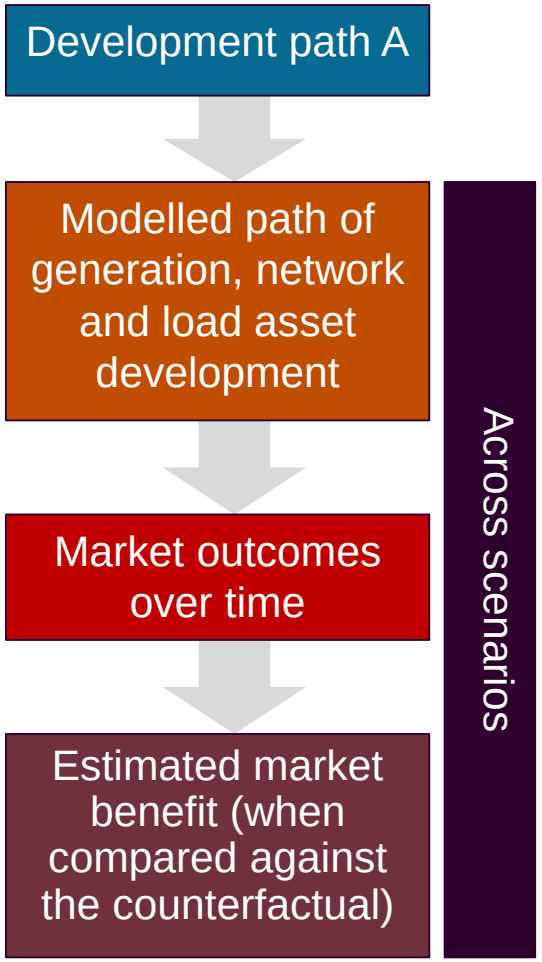
CBA methodology (cont)

- Key terms

Development path	Counterfactual	Costs	Market benefits	Net economic benefit
The different options AEMO assesses in the ISP CBA. Set of projects in an ISP that together address power system needs.	The status quo or base case that AEMO uses to compare development paths in the ISP CBA.	The present value of the estimated direct costs of building the projects in a development path.	The present value of the estimated economic benefits from the projects in a development path to those who consume, produce and transport electricity in the market.	The market benefits less costs of a development path.

Estimating market benefits

- The CBA is a market-wide assessment across a meshed and highly interdependent power system
- Any given development path will affect generation, load and network investment, operation and retirement decisions across the NEM and over time.
- Estimating market benefits requires market development modelling to simulate market outcomes (states of the world) over time with and without each development path, across scenarios.
- The market development modelling forecasts the lowest cost mix of generation, load and network investment flowing from each development path to meet power system needs under each scenario. This allows for coordination and co-optimisation across the power system.



Selecting an optimal development path

- Framework for selecting an optimal development path provides AEMO with significant flexibility (NER clause 5.22.5(e)(2))
- However, it must explain and justify its approach to risk – facilitates transparency and allows stakeholders to engage with AEMO's decision making (e.g. trade-offs between reliability and affordability)
- Many stakeholders supported more prescription in this area, and some supported less.

Risk neutral approach	Risk averse approach	Transparency and testing
Ranks development paths based on their expected value – weights the net economic benefit in each scenario based on the likelihood of the scenario occurring	Implicitly or explicitly weights the net economic benefit in each scenario to reduce variability or the risk of a negative outcome occurring.	• The potential 'cost' of selecting an optimal development path using a risk averse approach • Consistency with consumer risk preferences • Sensitivity testing, cross checks and distributional effects

Selecting an optimal development path (cont)

- AEMO must rank development paths using a risk neutral approach
- Then AEMO may apply other decision making approaches. It can rely partially or fully on a risk averse decision making approach

Scenario	Net economic benefit (present value)			Likelihood
	DP 1 ($, mil)	DP 2 ($, mil)	DP 3 ($, mil)	
Slow growth	-20	80	220	15%
Moderate growth (most likely)	180	220	195	50%
Fast growth	125	-20	-50	35%
Risk neutral ranking	1	2	3	

A **risk averse approach** can (implicitly or explicitly) increase the weight on a less likely scenario to reduce the risk of a negative outcome occurring – this can produce a different ranking of development paths and a different optimal development path

Questions?

Other aspects of the CBA

Externalities

- Are economic impacts (costs or benefits) that accrue to parties other than those who produce, consume and transport electricity in the market
- Funding contributions from registered participants count as a wealth transfer – so do not affect costs and benefits
- External funding contributions from other parties outside the market do affect costs and benefits

Non-network options

- Key theme in submissions was for non-network options to be assessed on an equal basis to network options
- Emphasis on early engagement in the ISP so non-network options can be factored into ISP development paths where possible – more robust assessment at ISP level (compared to streamlined RIT-T)
- Guidance around formal call for non-network proposals at draft SP stage is focused on transparency and consultation with consumers

Other aspects of the CBA (cont)

Option value and staging

- A market benefit that results from retaining flexibility where certain actions are irreversible (sunk), and new information may arise in the future
- Option value can manifest at both the development path level, and at an individual project level within a development path.
- Consistent with stakeholder submissions, aim is to maximise opportunities for option value in ISP and subsequent RIT-Ts
- The ISP needs to be able to respond flexibly to changing market conditions that may result in change(s) to its optimal development path
- Draft guidelines provide three avenues for option value:

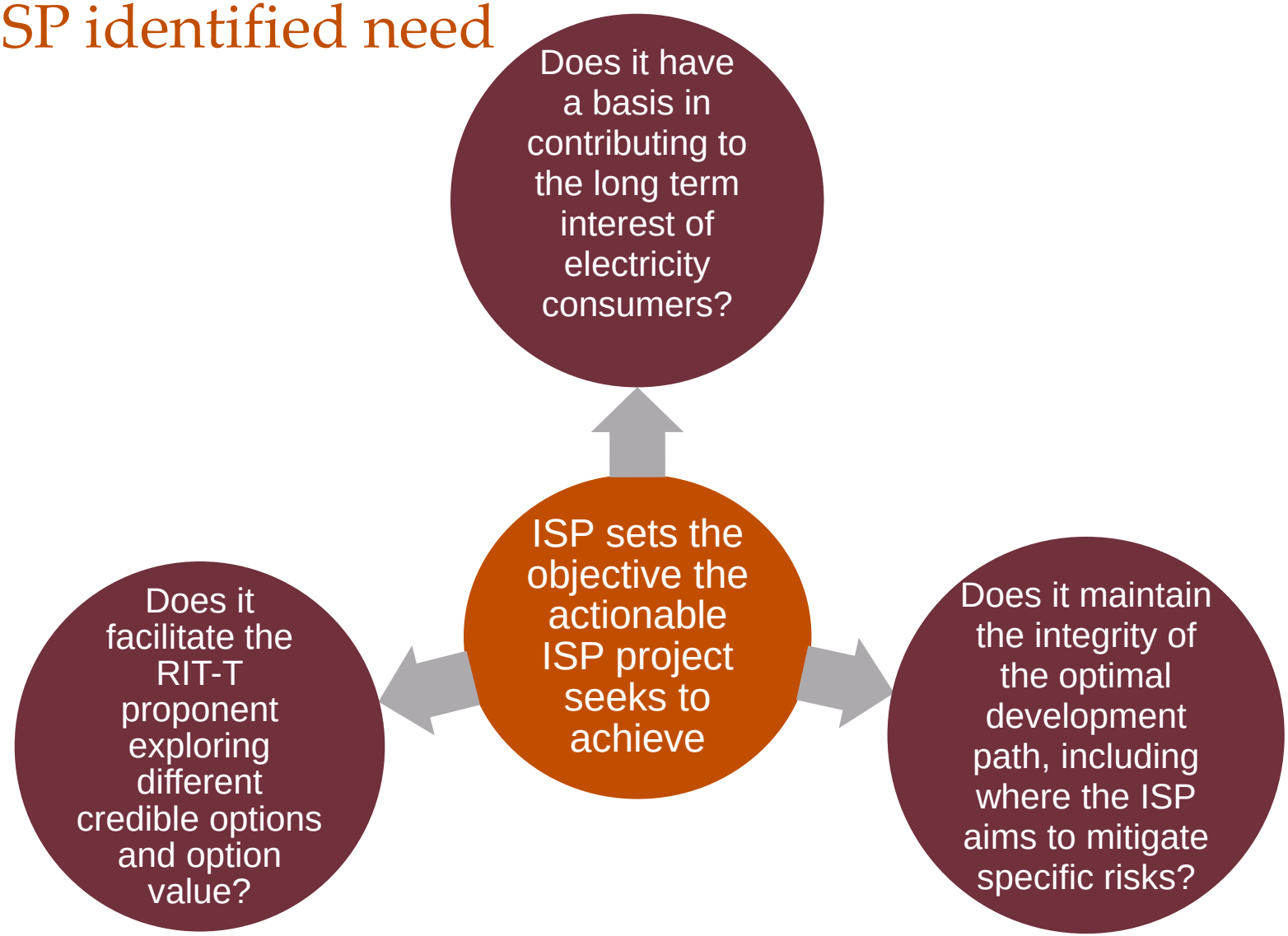
ISP can incorporate stages into multiple ISP projects	ISP can incorporate stages into single ISP projects	ISP must consider facilitating RIT-T exploration of more granular staging options

Questions?

Lisa Beckmann

Changes to RIT-T instrument and application guidelines

ISP identified need



Main changes to the current RIT-T framework

Area	For ISP projects*	For other RIT-T projects
Inputs and assumptions	Adopt from ISP. Only vary for changes in circumstances	Adopt from ISP. Only vary for changes in circumstances
Scenarios	Adopt the ISP scenario/s that AEMO identifies as relevant	Adopt from ISP unless a variation is needed, including where omitting scenarios is proportionate to the analysis
Scenario weightings	Directed by AEMO (must be proportional to likelihood)	No change
Market modelling	Must adopt from ISP where practicable. Include actionable ISP projects in all states of the world and other ISP projects where scenario-appropriate	May adopt from ISP where practicable. Include ISP projects where proportionate to scale/impact of analysis

* Other changes: 'PSCR' step removed, ISP specifies identified need and certain credible options to explore

ISP and RIT-T alignment

Alignment of inputs

- RIT-T adopts ISP inputs and assumptions. Only vary for changes in circumstances

Alignment of methodology

- CBA methodology steps are largely equivalent between the ISP and RIT-T
- RIT-T incorporates the risks mitigated in the ISP through AEMO's description of the identified need and assignment of scenarios

Alignment of outputs

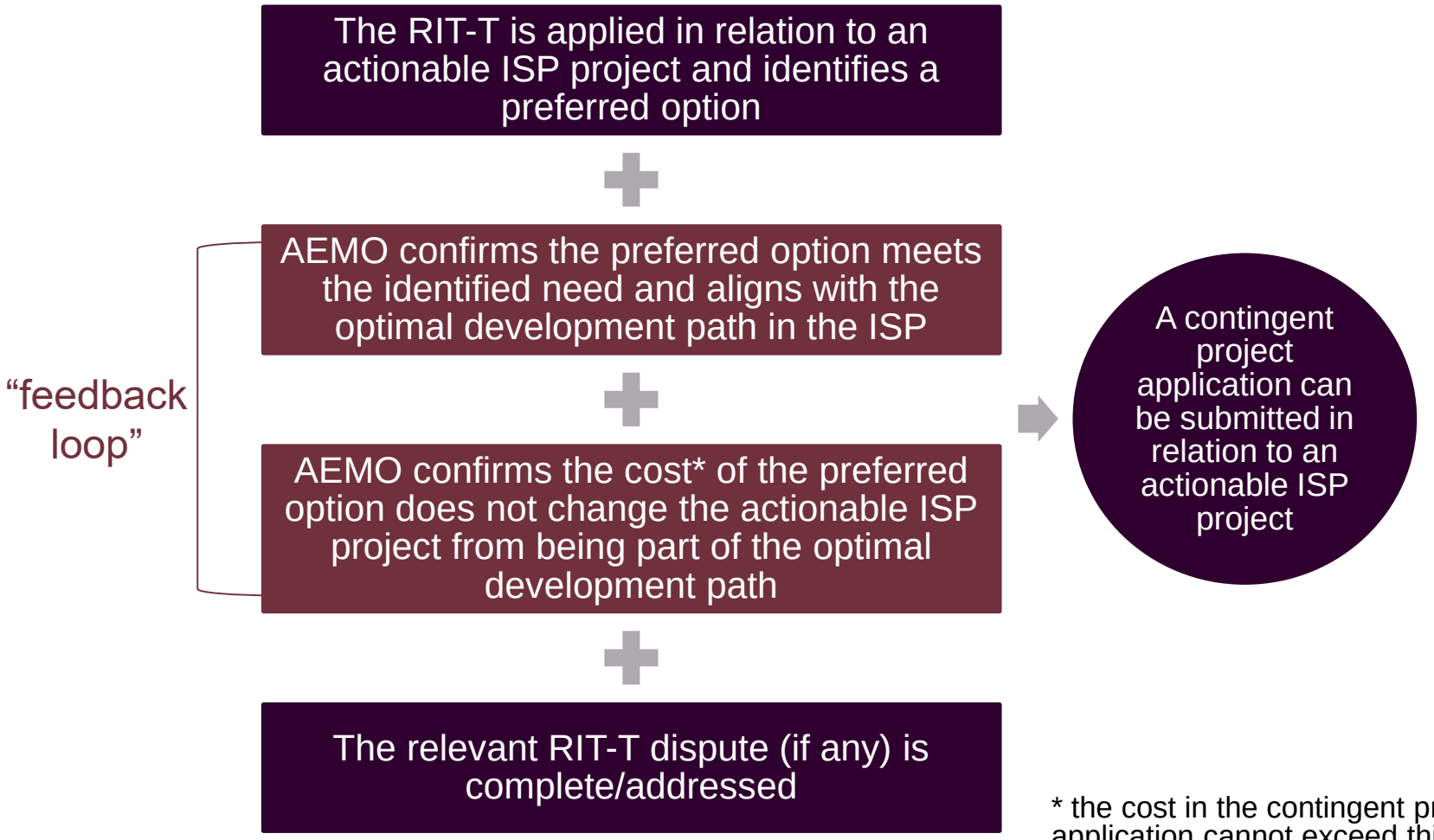
- Feedback loop checks the RIT-T preferred option is aligned with the ISP optimal development path

Assigning scenarios

- AEMO must assign one or more scenarios to each actionable ISP project – these are the only scenarios the TNSP may consider in the RIT-T.
- If more than one scenario is selected, AEMO must assign a **likelihood-based weight** to each scenario. These must be proportional to the weights used by AEMO in presenting a risk neutral decision making approach, as part of the framework for selecting an optimal development path. These weights must be used even if AEMO has selected the optimal development path based on a risk averse decision making approach.
- AEMO must explain its reasoning and seek stakeholder input
- AEMO's scenario choice should be informed by its approach to risk in selecting the optimal development path – should capture the risks it is prioritising in the ISP
- AEMO's scenario choice may facilitate the RIT–T proponent to explore option value through more granular staging considerations.

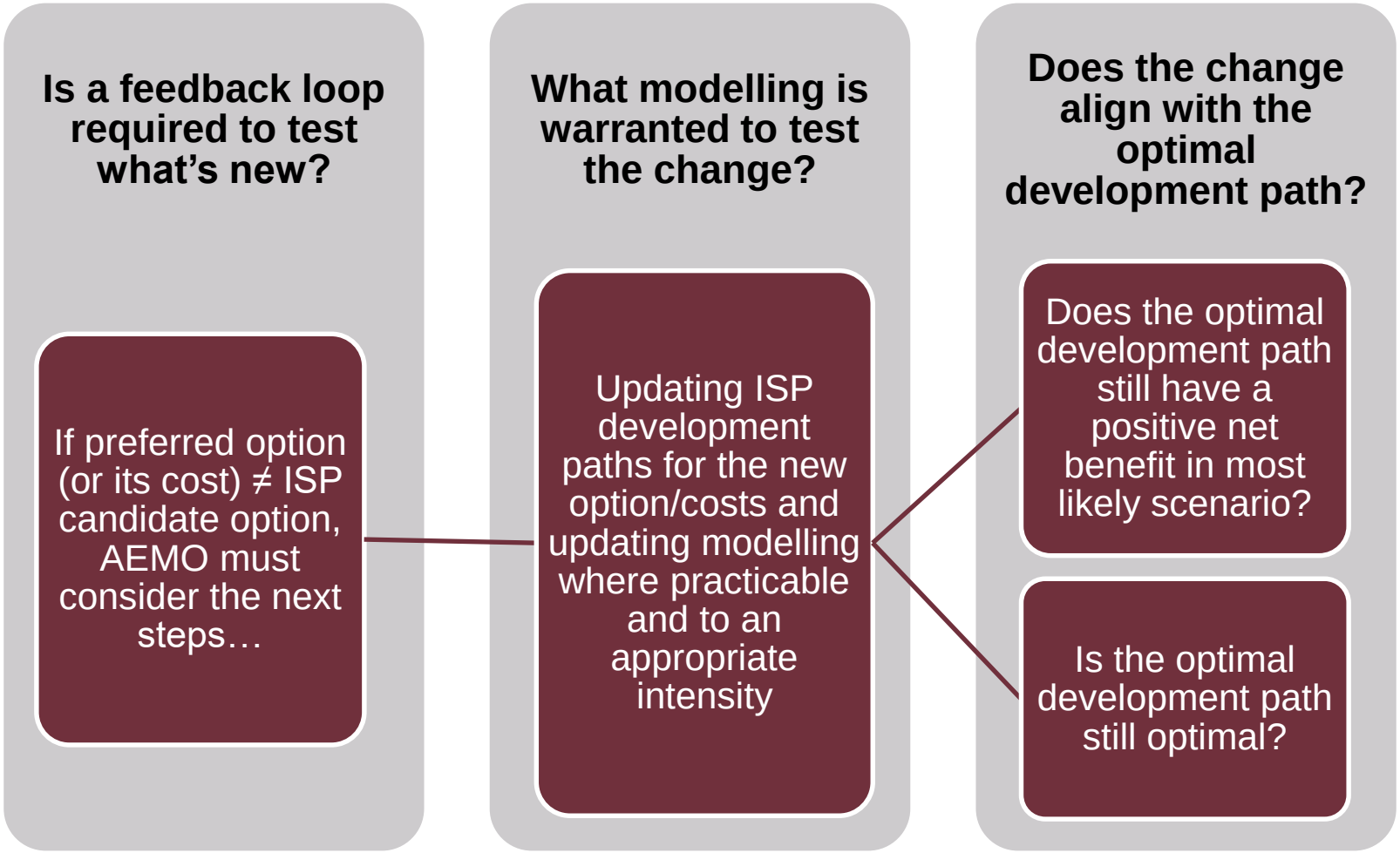
Questions?

Feedback loop



* the cost in the contingent project application cannot exceed this cost

Feedback loop

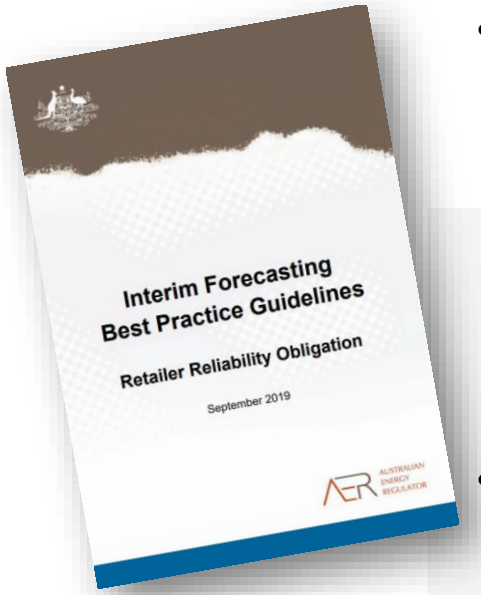


Questions?

Lisa Beckmann

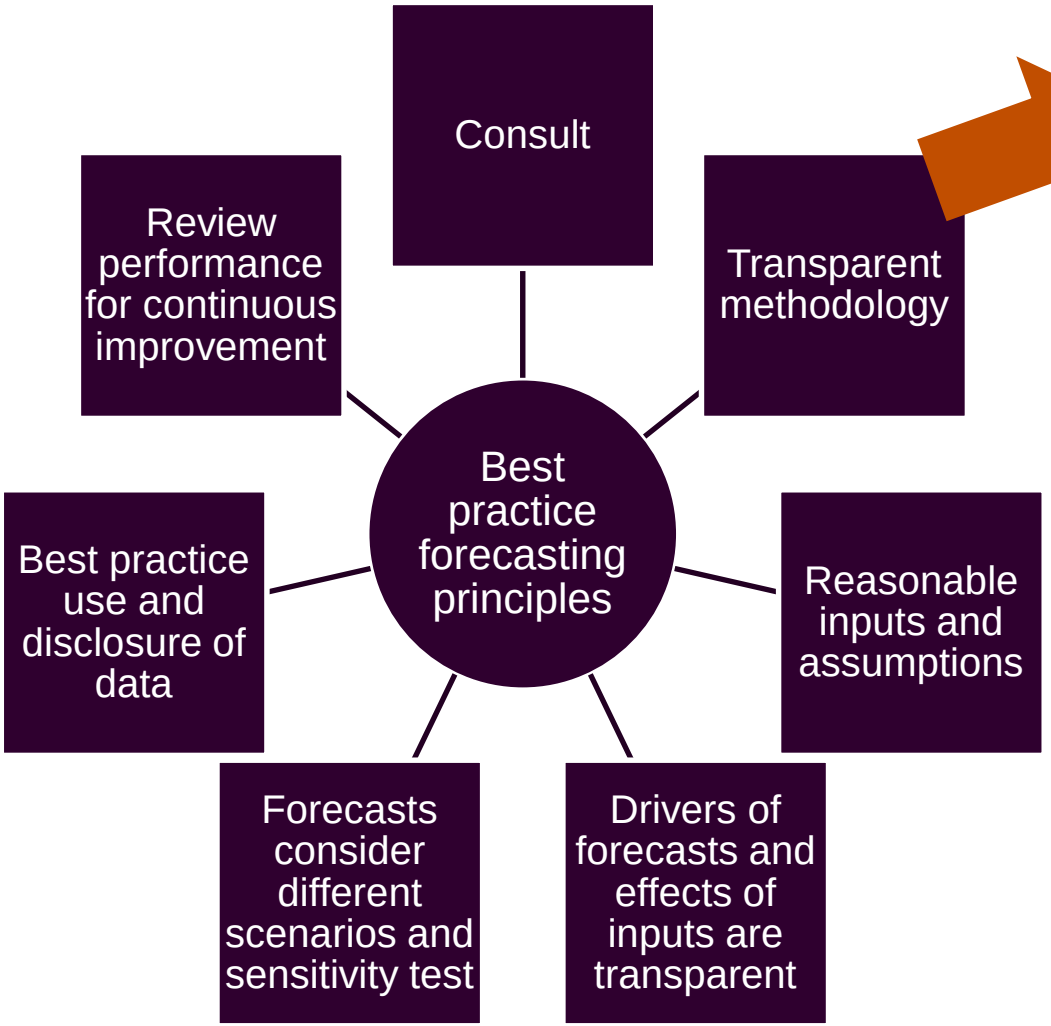
Forecasting best practice guidelines

Changes to the interim guidelines



- Binding requirements and considerations relating to the ISP
- Minimal changes to reliability forecast content:
  - Restructure
  - ‘Single stage’ consultation process defined for clarity
  - ISP binding elements cross over to Forecasting Approach
- Binding principles-based considerations
  - Consultation principles (new content for ISP)
  - AEMO’s Forecasting Approach and principles (content extended to ISP)
- Guidance on AER involvement, AEMO issues register, considering ISP as part of AEMO’s forecast performance

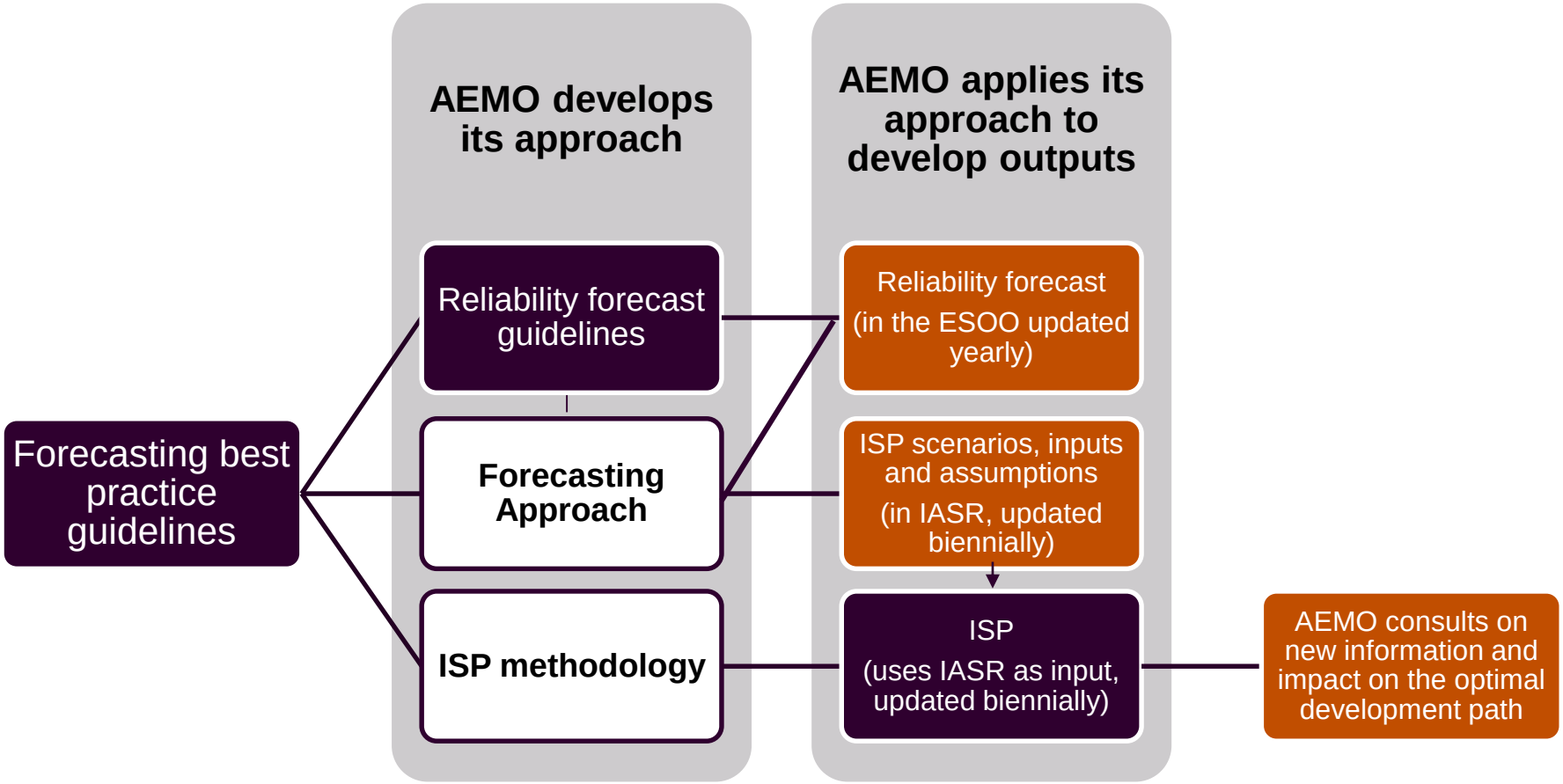
Forecasting Approach and forecasting principles



Forecasting Approach

- Suite of models
- How inputs determined
- How data used/handled
- How exogenous factors incorporated
- How resource and network constraints represented
- How stakeholders can engage with results
- Internal process for verifying approach/results

Consultation processes



Updated at least every 4 years with a 2-stage consultation process (or 1-stage for minor/more frequent updates)

Follows a 1-stage consultation process. AEMO can combine its processes to develop inputs and assumptions for ESOO and IASR.

Questions?

Jim Cox

3. Next steps

Thank you for attending our webinar!

- We will send a post-webinar survey
- We will publish a Q&A summary note and slide pack
- Project team will follow up unanswered questions
- Bilateral meetings and written submissions until COB 26 June 2020
- Email ISPguidelines@aer.gov.au to arrange a meeting or lodge a submission
- We aim to finalise the ISP guidelines 21 August 2020