



COGATI 2019 review – technical working group #5 5 February 2020

The fifth working group meeting was held in Sydney on 5 February 2020.

The working group was formed by the Australian Energy Market Commission (AEMC) to provide advice and input into the progression of the COGATI 2019 review (EPR0073).

All enquiries on this project should be addressed to Tom Walker on (02) 8296 7829.

The attendees of the meeting are listed below.

Member	Organisation
Andrew Kingsmill	TransGrid
Angus Holcombe	Meridian Energy
Arista Kontos	Australian Energy Regulator (AER)
Ben Skinner	Australian Energy Council (AEC)
Bill Jackson	ElectraNet
Bradley Woods	TasNetworks
Dan Mascarenhas	AGL
Dan Sturrock	Australian Renewable Energy Agency (ARENA)
David Havyatt	Energy Consumers Australia (ECA)
Dean Gannaway	Aurizon
Georgina Snelling	EnergyAustralia
Gloria Chan	Clean Energy Finance Corporation (CEFC)
Greg Hesse	Powerlink
Henry Gorniak	CS Energy
Jevon Carding	Lighthouse Infrastructure
Jill Caine	Energy Networks Australia (ENA)
Joel Gilmore	Infigen
Katie Yates	AusNet Services
Kirsten Hall	Australian Energy Market Operator (AEMO)
Lillian Patterson	Clean Energy Council (CEC)
Panos Priftakis	Snowy Hydro
Peter Nesbitt	Hydro Tasmania
Robert Pane	Intergen
Ron Logan	ERM Power
Sally McMahon	Spark Infrastructure
Sarah-Jane Derby	Origin Energy
Steven Nethery	Goldwind Global
Verity Watson	Energy Networks Australia (ENA)
Will Taylor	NERA Economic Consulting – Conducting a cost-benefit analysis of reforms for the AEMC

The AEMC's project team attended and is listed below.

Name	Position
Victoria Mollard	Acting Executive General Manager – Security & Reliability
Jess Boddington	Adviser – Transmission and Distribution Networks
Orrie Johan	Adviser – Transmission and Distribution Networks
Russell Pendlebury	Senior Adviser – Retail and Wholesale Markets
James Tyrell	Senior Adviser – Transmission and Distribution Networks
Ella Pybus	Consultant – Cambridge Economic Policy Associates
Tom Walker	Senior Economist
Jessica Scranton	Lawyer

At the start of the meeting, the ‘competition health warning’ was read out, and copies of the protocol (attached) were given to each member of the working group.

The meeting focussed on four areas:

- 1) a project update and reflections on the COGATI access model
- 2) modelling of the access model
- 3) implementation and staging
- 4) case studies.

Project updates and reflections on the access model

- The COGATI team provided an update on the COGATI review, which included that:
 - An update paper was published in December, which provided an overview of stakeholder feedback on the review to date and key themes, an adjusted (and delayed) implementation date and an update on the quantitative analysis that is planned.
 - The project team is carrying out workshops and meetings with various stakeholder groups, including industry bodies, investor groups, consumer groups, and governments
 - A final report will be considered by the COAG Energy Council at its March 2020 meeting.
- The project team then discussed the problem that COGATI is intended to address:
 - In the context of the NEM replacing most of its generation stock by 2040 and the generation mix changing, signals about where to locate generation and storage in the transmission network and the ability to manage congestion and losses are more important than they used to be.
- The intended benefits of the COGATI reforms were discussed, including:
 - More efficient investment by:
 - encouraging all types of new investments to locate in the best places in the transmission network so the network is more effectively used
 - providing investors with more information about transmission capacity and price signals to inform their decisions
 - providing investors with the means to manage congestion and losses risks.
 - More affordable prices for consumers by:
 - making sure the transmission network is more effectively used
 - the sale of financial transmission rights directly offsetting transmission use of system (TUOS) costs that are currently paid for by consumers.
- The technical working group then discussed their reflections of the main concerns, potential benefits and questions regarding the COGATI access model.
- The key top three concerns raised by technical working group members were:
 - The proposed reform is not proportional to the problem. It is too complex, and the benefits are not clear. Questions were raised about whether there are other options? Or, do existing reforms underway reduce the need for the proposed model?
 - Different parties have different views and understandings of what the problem is and what the proposed solution is.

- That the current proposal for FTRs would not be for long enough, nor firm enough, which would mean that they would not provide investment certainty.
- The top three key potential benefits raised by technical working group members included:
 - Generators would be protected from congestion and loss risks through purchasing FTRs as a risk-management tool.
 - More efficient dispatch, and coordination of generation and transmission being in lockstep.
 - There would be improved information used in transmission planning, given the information from FTR auctions and LMPs on the network could be incorporated.
- The top three key questions raised by technical working group members regarding the reforms included:
 - What is the relationship between the COGATI reforms and other reforms underway, including the actioning the ISP and the 2025 work program?
 - What is the firmness of FTRs?
 - Can intending participants purchase FTRs? Can decommissioned participants purchase FTRs?

Modelling of the access model – AEMC and NERA presentations

- The COGATI team gave an update on the COGATI quantitative analysis of the proposed reforms.
- The COGATI team has engaged two consultants to provide quantitative analysis of the reforms, including of their costs and benefits.
- The three tasks the engaged consultants will be working on are:
 - A literature review to analyse the costs and benefits of similar locational marginal pricing (LMP)/FTR reforms in other jurisdictions. The consultant would then ‘map’ these costs and benefits to the National Electricity Market (NEM) to see how the scale and types of benefits may translate to our market
 - Historical analysis to quantify the impacts of congestion in the NEM to date i.e. scale, and also who is affected by it
 - Future looking analysis to quantify the net benefits that would occur in the NEM if the proposed access model was to be implemented, with an initial focus on distributional impacts and high-level benefits. This would evaluate the net benefits of introducing the COGATI access model in the NEM across different scenarios, using assumptions from the central case from the ISP.
- The literature review and future looking analysis will be carried out by NERA Economic Consulting, while the historical analysis will be carried out by Dr Leslie and Mr Katzen from Monash University.
- The results from the literature review and historical analysis are expected in February 2020.
- The results from the future looking analysis are expected between March and May 2020.
- There would be additional modelling as part of the next stage of the access model design.
- We also want to build a simplified model that stakeholders can ‘play with’ in order to help understand the model.
- Will Taylor, Associate Director from NERA Economic Consulting presented the approach for the literature review and the future looking analysis, which involves:
 - Benchmarking of the costs and benefits of similar reforms
 - Designing a full nodal model of the NEM using the market modelling platform PLEXOS, as well as AEMO Electricity Statement of Opportunities (ESOO) assumptions and the ISP central scenario. In this modelling, NERA are developing a nodal model of the NEM.
 - A combined qualitative and quantitative approach to assessing the impacts of the reform on contract market liquidity.
- This was set out for technical working group feedback.
- The key feedback provided by technical working group members regarding the modelling work included:

- For the benchmarking, it will be important to delineate the other differences between different markets designs overseas and the NEM (such as having a day-ahead market, connection queues or a capacity mechanism). It is also worth understanding the context for *why* different markets adopted LMP/FTR regimes e.g. was it at the same time as experiencing a significant transition in the generation mix. If so, what lessons can be learnt; if not, what lessons can be learnt.
- The benchmarking should also include discussion and assessment of analyses of the costs and benefits of LMP/FTR reforms overseas after their implementation occurred.
- It is important to make sure that there is an assessment of the costs of COGATI, as well as the benefits. Both NERA Economic Consulting and the project team agreed with this – this is the intent of the modelling.
- In relation to the future looking modelling, it was noted that the assumptions and inputs will be drawn from AEMO's ESOO central scenario, which is used for the ISP modelling.
- There were a number of questions about how the modelling will make decisions about what generation and transmission to build, and how this differs / is the same as AEMO's ISP. For example, how do we try and replicate "reality" in the theoretical model e.g. under the status quo there are some locational signals; how will these be factored into the model.
- There was also an interest in understanding how the physical constraints in the nodal model match with those of a regional model based on the current NEM.
- Participants wanted to explore how some of the more subjective elements would be quantified e.g. how will the cost of purchasing FTRs be accounted for in the investment decisions of generators; could you model the likely price of FTRs, as opposed to just their value, based on expected payouts?
- There was also a detailed discussion about how an estimate of the effects on the cost of capital would be quantified – it should not just be assumed that this will increase. This was agreed by NERA who noted that they would be reviewing material such as submissions from stakeholders; results from the AEMC's investor forum; as well as their own expert opinion in order to develop a view.
- There were also a number of detailed questions about the methodology (e.g. how do we allow for FTR revenue adequacy in relation to planned and unplanned outages?). Given the interest in the methodology questions, the AEMC agreed to set up a sub group of the technical working group, with a particular focus on modelling, and arrange a follow up meeting between that group and NERA's modellers in order to deep dive into some of these issues more.

Implementation and staging

- The COGATI project team noted that it published a COGATI Update Paper in December 2019. One of the main changes in that paper was changing the proposed COGATI implementation date, which proposed an alternative date of at least four years after any final COGATI rule changes and in coordination with other major reforms, in response to stakeholder feedback saying that a 2022 implementation date would be too soon.
- Some stakeholders have suggested exploring options to stage the introduction of the reform. The COGATI team considers that this could occur either by:
 - Geography
 - Design aspects – this could involve implementing certain 'optional' elements of the design later like dynamic losses or a volume-weighted average price, both of which would require changing AEMO's dispatch engine.
- The technical working group noted the following in discussing these options:
 - It was queried whether it would be possible for locational marginal pricing to be implemented without FTRs. The project team noted that while that was a possibility, it may have unintended consequences. In New Zealand, locational

marginal pricing was introduced without FTRs but this increased risk for participants without giving them a way to manage this.

- There were some concerns about geography staging e.g. staging reforms would reduce the benefits of the reform for areas that would have it implemented later; it would make it more costly and complex for market participants if one area had the reform and others didn't. It was suggested that there may be some merit in adopting a sandbox trial of the regime for a component of the grid, where FTRs are sold to the connection point between that part of the grid and the rest of the grid.
- The implications of potential staging or a trial on the implementation date of the reform would need to be considered.
- In relation to staging design, there were questions about whether not adopting dynamic losses initially would reduce the benefits of the reform. It was noted that while the benefits would be reduced, so would the costs, because less IT changes would need to occur. The introduction of VWAP was also discussed as an element of the reform that did not need to be introduced at the beginning – it was also suggested that generator-weighted average pricing could work as an alternative to load-based volume-weighted average pricing.

Case studies

- The COGATI project team has received a great deal of stakeholder feedback saying that it would be helpful to have some case studies of what would have happened if COGATI had been put in place before now.
- The COGATI project team provided two case studies for technical working group discussion on:
 - How LMP/FTRs would provide a better and more transparent investment signal
 - How LMP/FTRs would change a generation investment decision for an individual generator.
- The COGATI project team discussed these case studies with the technical working group members.
- The key feedback received included:
 - While it was appreciated that the case studies are simplified, more could be included about what else affects generator decisions under the status quo (e.g. MLFs, planning requirements). This information impacts on where generators connect, in addition to projections about spot prices and congestion. Similar to this, the case studies could better reflect some of the irrationality that exists in some generation decisions e.g. some generators may actively choose to locate in a constrained area because they expect that this will lead to additional transmission being built there – however, this is not guaranteed.
 - The case studies could better illustrate some of the operational benefits from COGATI, such as removing the incentive to engage in race-to-the-floor bidding
 - Some more granularity could be provided about how the economic regulation of transmission investment occurs e.g. under the current regime, if a RIT-T is passed, the AER still has various assessments to undertake.
 - The participants discussed whether or not there is a risk of a chicken-and-egg scenario under COGATI, for example, if FTR purchases are limited to physical market participants and then a generator is not able to purchase an FTR, it would be unlikely to get financing for its project. The converse view was also put that provided there is a sufficient, liquid market, then participants should always be able to purchase an FTR.
 - Others noted that the interaction between transmission and generation is currently taken into account by projections of congestion.
 - The case studies could include some of the granularity from the actioning the ISP draft rules about how the FTR/LMP would fit into that process e.g. when the

investment decision about transmission will be made; when FTR tranches will be released.

- There were also suggestions of additional case studies that could be developed:
1) including grandfathering; 2) where a generator purchased FTR for a lower price than the eventual value of the FTR; 3) considering market power concerns.

Next steps

- The project team noted that this was the last technical working group meeting of the current COGATI process, and thanked participants for their time and for providing input into the COGATI process.
- The COGATI project team again noted that a final COGATI review report will be considered by the COAG Energy Council at the March 2020 meeting, which will conclude the current COGATI review process.

Australian Energy Market Commission

Working group protocol

Context and purpose

The AEMC has convened this working group with energy industry members to discuss proposed access reforms being considered by the Commission in its COGATI review.

The Working Group is committed to complying with all applicable laws, including the *Competition and Consumer Act 2010 (CCA)*, during these discussions. Breach of the CCA can lead to serious penalties for members and for individuals involved in any breach (including large financial penalties and potentially also imprisonment for key individuals involved).

This Protocol governs the way in which Working Group discussions will proceed, and the Working Group agrees to adhere to this protocol in order to ensure compliance with the CCA.

Key principles

The purpose of this Working Group is solely to discuss the proposed reforms being considered by the review and for stakeholders to raise potential issues for the Commission's further consideration.

Each member **must make an independent and unilateral decision** about their commercial positions and approach in relation to the matters under discussion in the Working Group.

This Working Group **must not discuss, or reach or give effect to any agreement or understanding*** which relates to:

- **pricing** for the products and/or services that any member supplies or will supply, or the terms on which those products and/or services will be supplied (including discounts, rebates, price methodologies etc).
- **targeting (or not targeting) customers** of a particular kind, or in particular areas.
- **tender processes** and whether (or how) they will participate
- any decision by members:
 - about the purchase or supply of any products or services that other members also buy or sell
 - to not engage with persons or the terms upon which they will engage with such persons (i.e. boycotting); or
 - to deny any persons access to any products, services or inputs they require.
- **sharing competitively sensitive information** such as non-publicly available pricing or strategic information including details of customers, suppliers (or the terms on which they do business), volumes, future capacity etc
- **breaching confidentiality obligations** that each member owes to third parties.

* An "understanding" does not have to be formal; a "nod and a wink" is enough if one party commits to act in a particular way.

Communication & meeting guidelines

Members must ensure that **all communications** (including emails and verbal discussions) adhere to the Key Principles. All meeting between Working Group members should be conducted in accordance with the following rules:

- Agree and circulate an agenda in advance of each meeting. The content of each agenda should not include anything that could contravene the Key Principles set out in this Protocol, and try to avoid "any other business" agenda items.
- Ensure all members understand ahead of the meeting that any competitively sensitive matters must be subject to legal review before any commitment/agreement can be given.
- The below 'competition health warning' is read and minuted at any meetings or conference calls:
 - Attendees at this meeting must not enter into any discussion, activity or conduct that may infringe, on their part or on the part of other members, any applicable competition laws. For example, members must not discuss, communicate or exchange any commercially sensitive information, including information relating to prices, marketing and advertising strategy, costs and revenues, terms and conditions with third parties, terms of supply or access.*
 - For any new attendees – please note that participating in these discussions is subject to you having read and understood the Protocol including the Key Principles. If you have not yet done so, please do so now.*
- Accurate minutes are kept of all meetings, including details of attendees.
- If something comes up during a meeting that could risk contravening any Competition Laws, attendees should:
 - Object immediately, and ask for the discussion to be stopped.
 - Ensure the minutes record that the discussion was objected to and stopped.
 - Raise concerns about anything that occurred in the meeting with their respective legal counsel immediately afterwards.
- Any decision about whether, and on what terms, to engage with customers and suppliers is an independent and unilateral decision of each member.