Department of Energy, Mines, Industry Regulation and Safety
Energy Policy WA
GOVERNMENT OF WESTERN AUSTRALIA

Meeting Agenda

Meeting Title:	Evolution of Pilbara Network Rules Working Group
Workstream	Workstreams 1 and 2
Date:	28 March 2024
Time:	9:30am – 11:00am
Location:	Online, via TEAMS In person attendance, EPWA Office, 66 St Georges Tce, Level 1

Item	Item	Responsibility	Type	Duration
1	Welcome and Agenda	Chair	Noting	2 min
2	Meeting Apologies and Attendance	Chair	Noting	2 min
3	Competition Law Statement	Chair	Noting	2 min
4	Introductions	Chair	Discussion	15 min
5	**EPNR Project and EPNR Working Group** (a) Project Scope (b) EPNRWG Terms of Reference (c) EPNRWG Meeting Schedule and indicative forward agenda	 Chair Chair RBP	Discussion	20 min
6	**Modelling Approach** (a) Purpose of modelling (b) Similarities and differences from previous modelling (c) Modelling method	RBP	Discussion	15 min
7	**Canvas of HTR issues** (a) Participant led discussion of existing HTR issues and gaps for inclusion in HTR workstream	Chair All	Discussion	30 min
8	General Business	Chair	Discussion	2 min
9	Next steps	Chair	Noting	2 min
	Next meeting: 15 April (PNR workstream) 9 May (HTR workstream)			

Competition and Consumer Law Obligations

Members of the PAC's Evolution of the Pilbara Network Rules Working Group (**Members**) note their obligations under the *Competition and Consumer Act 2010* (**CCA**).

If a Member has a concern regarding the competition law implications of any issue being discussed at any meeting, please bring the matter to the immediate attention of the Chairperson.

Part IV of the CCA (titled "Restrictive Trade Practices") contains several prohibitions (rules) targeting anti-competitive conduct. These include:

(a) **cartel conduct**: cartel conduct is an arrangement or understanding between competitors to fix prices; restrict the supply or acquisition of goods or services by parties to the arrangement; allocate customers or territories; and or rig bids.

(b) **concerted practices**: a concerted practice can be conceived of as involving cooperation between competitors which has the purpose, effect or likely effect of substantially lessening competition, in particular, sharing Competitively Sensitive Information with competitors such as future pricing intentions and this end:

- a concerted practice, according to the ACCC, involves a lower threshold between parties than a contract arrangement or understanding; and accordingly; and
- a forum like the EPNRWG is capable being a place where such cooperation could occur.

(c) **anti-competitive contracts, arrangements understandings**: any contract, arrangement or understanding which has the purpose, effect or likely effect of substantially lessening competition.

(d) **anti-competitive conduct (market power)**: any conduct by a company with market power which has the purpose, effect or likely effect of substantially lessening competition.

(e) **collective boycotts**: where a group of competitors agree not to acquire goods or services from, or not to supply goods or services to, a business with whom the group is negotiating, unless the business accepts the terms and conditions offered by the group.

A contravention of the CCA could result in a significant fine (up to $500,000 for individuals and more than $10 million for companies). Cartel conduct may also result in criminal sanctions, including gaol terms for individuals.

Sensitive Information means and includes:

(a) commercially sensitive information belonging to a Member's organisation or business (in this document such bodies are referred to as an Industry Stakeholder); and

(b) information which, if disclosed, would breach an Industry Stakeholder's obligations of confidence to third parties, be against laws or regulations (including competition laws), would waive legal professional privilege, or cause unreasonable prejudice to the Coordinator of Energy or the State of Western Australia).

Guiding Principle – what not to discuss

In any circumstance in which Industry Stakeholders are or are likely to be in competition with one another a Member must not discuss or exchange with any of the other Members information that is not otherwise in the public domain about commercially sensitive matters, including without limitation the following:

(a) the rates or prices (including any discounts or rebates) for the goods produced or the services produced by the Industry Stakeholders that are paid by or offered to third parties;

(b) the confidential details regarding a customer or supplier of an Industry Stakeholder;

(c) any strategies employed by an Industry Stakeholder to further any business that is or is likely to be in competition with a business of another Industry Stakeholder, (including, without limitation, any strategy related to an Industry Stakeholder's approach to bilateral contracting or bidding in the energy or ancillary/essential system services markets);

(d) the prices paid or offered to be paid (including any aspects of a transaction) by an Industry Stakeholder to acquire goods or services from third parties; and

(e) the confidential particulars of a third party supplier of goods or services to an Industry Stakeholder, including any circumstances in which an Industry Stakeholder has refused to or would refuse to acquire goods or services from a third party supplier or class of third party supplier.

Compliance Procedures for Meetings

If any of the matters listed above is raised for discussion, or information is sought to be exchanged in relation to the matter, the relevant Member must object to the matter being discussed. If, despite the objection, discussion of the relevant matter continues, then the relevant Member should advise the Chairperson and cease participation in the meeting/discussion and the relevant events must be recorded in the minutes for the meeting, including the time at which the relevant Member ceased to participate.

Government of **Western Australia**
Energy Policy WA

Evolution of the Pilbara Network Rules Working Group

Meeting 2024_03_28

28 March 2024

Working together for a **brighter** energy future.

Meeting Protocols

- Please place your microphone on mute, unless you are asking a question or making a comment
- Please keep questions relevant to the agenda item being discussed
- If there is not a break in discussion and you would like to say something, you can ‘raise your hand’ by typing ‘question’ or ‘comment’ in the meeting chat
- Questions and comments can also be emailed to EPWA - Energy Markets energymarkets@dmirs.wa.gov.au after the meeting
- The meeting will be recorded and minutes will be taken
- Please state your name and organisation when you ask a question
- If you are having connection/bandwidth issues, you may want to disable the incoming and/or outgoing video

5. EPNR Project and Working Group

EPNR Working Group

The EPNRWG is convened to:

- support the PAC to advise the Coordinator on the EPNR – including Energy Policy WA's delivery of the EPNR Project (Workstream 1)
- consider the evolution and development of the HTR (Workstream 2)

The HTR workstream will be driven by members, but will feed into the PNR workstream at the appropriate time.

Working group ways of working and role:

- Neither the working group nor the PAC is a decision-making body. Consensus is desirable, but not required. Minutes and reports to the PAC will capture consensus and differing views (if these emerge)
- Members are expected to work constructively, listen and seek to understand different views and establish consensus where possible

EPNR Project Scope

Most of the Pilbara electricity system is vertically integrated, with weakly interconnected, self-sufficient power systems, and predominantly gas generation. The current PNRs were designed around this situation (e.g. with load following obligations, etc).

Decarbonisation means a transition to intermittent renewable generation plus firming. That is likely to require changes to the existing arrangements.

Stage	Status/Timing
Stage 1: Establish the Working Group	Working group established
Stage 2: Scenario development and modelling	March – June
Stage 3: Assessment of PNR	July – December
Stage 4: Implementation Plan	Jan – Feb 2025

Project workplan – approach

Seek working group input early in each activity and discuss most items at least twice. Topics:

- Modelling scenarios – setting the scenarios, initial results, final results
- Identifying and prioritising PNR development initiatives – initial list, final list
- Scope and design of each initiative. Discuss design options at one meeting, then present and discuss a preferred option at another meeting
- Implementation plan – likely one meeting only

Final policy package:

- Public consultation paper (on which WG members can submit)
- Submissions inform final policy decisions in a public information paper (with implementation plan)

PAC:

- Updates from WG, identifying views/feedback and areas of consensus or contention
- Draft consultation paper
- Draft implementation plan

Project workplan – Stage 2

Modelling:

- Confirm and document approach (end March)
- Collate data (end March)
- Develop and run base model (end April)
- Discuss scenarios with working group (15 Apr) and finalise (early May)
- Develop and run scenarios (end May)
- Discuss initial scenario outputs with working group (23 May)
- Finalise modelling and discuss with working group (10 Jun)

Project workplan – Stages 3 and 4

Development initiatives:

- Detailed PNR review (Jun/Jul)
- Develop initiative list, drawing on roundtable work, in conjunction with working group (27 Jun), and finalise (end Jul)
- Discuss final initiative list with working group and prioritise (29 Jul)
- Develop design proposals for selected initiatives (Jul-Sep), and discuss with working group (29 Jul, 15 Aug, 26 Sep, 21 Oct)
- Develop and publish Consultation Paper (mid Nov)
- Develop and publish Information Paper and Implementation Plan (Feb 2025), including discussion with working group (23 Jan)

6. Modelling approach

Purpose of EPNR modelling

The main purpose of the EPNR modelling is to explore the impact of different levels of operational coordination/integration in a variety of possible futures.

The focus is on the commercial aspects of the sector – energy exchange and settlement. The goal is not to identify specific transmission or generation projects, it is to assess the size of the the system-wide benefit pool. Specifically:

> How much new build/curtailment/emissions/unserved energy could be avoided by sharing generation resource/ESS/transmission infrastructure to deliver energy to multiple currently separate or lightly integrated power systems.

If the potential is large, then mechanisms to enable greater sharing should be progressed.

Comparison to previous modelling

The 2023 modelling:

- focused on potential capacity expansion, network security and reliability
- identified future demand profiles, generation mix, generation location, and transmission expansion options to enable a decarbonised Pilbara electricity sector
- did not focus on commercial structuring, market design, or operational feasibility.

This 2024 modelling:

- focuses on commercials, market design, and operational considerations
- applies a detailed dispatch model down to hourly resolution
- can use scenario assumptions developed in 2023 to assess economic implications of different market arrangements.

Modelling approach

Modelling will use RBP's fundamental dispatch tool WEMSIM (see appendix).

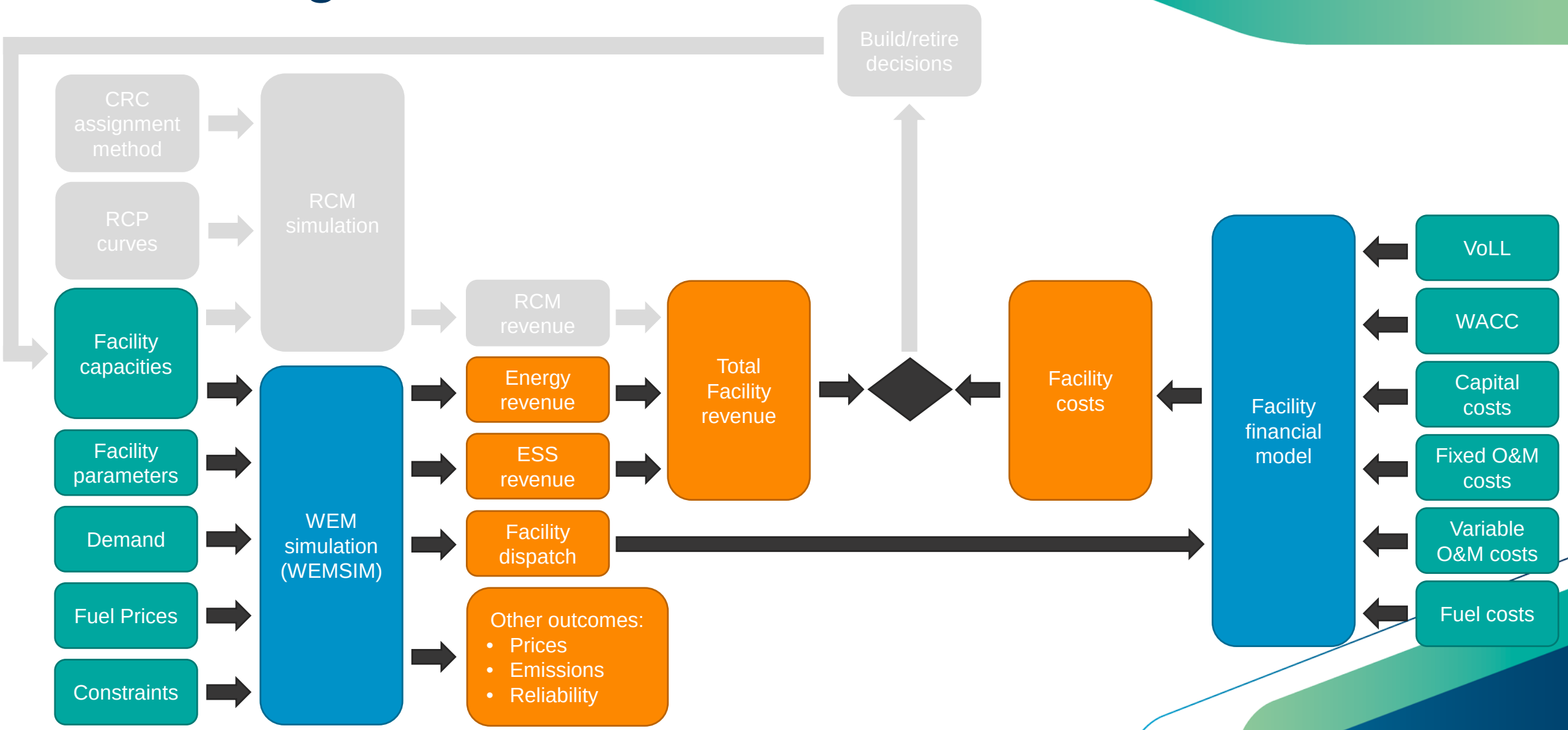
Key items to explore:

- Overall cost to serve
- Different levels of demand growth/renewable penetration
- Different extents of operational integration/coordination
- Potential savings/costs by vertically integrated entity

Key assumptions:

1. Demand is taken as a given. Generation will be built to service entity demand and avoid unserved energy.
2. Unconstrained transmission investment – generation location is less important than its quantity.

Modelling market outcomes



Possible Scenarios

We will discuss modelling scenarios at the next meeting. In the meantime, please start thinking about scenarios to explore.

Potential input data options:

- Use the five scenarios from 2023 modelling as a base
- Demand growth (high/med/low)
- Fuel price/carbon cost (high/med/low)
- Planting proportion wind:solar:storage:demand response:other
- Specific interconnection options

Potential coordination options:

- Distributed dispatch with self-supply (status quo)
- Centrally coordinated balancing only (top-up and spill)
- Centralised balancing and dispatch with limited balancing participation
- Day ahead net pool
- Real-time gross pool

7. Canvas of Harmonised Technical Rules issues

Discussion

What general issues exist with respect to the HTRs?

What areas do the HTRs not cover but should? (e.g. integration of new technologies)

What issues/developments should be included in the scope of the HTR review?

8. General Business

9. Next steps

General Business

Any general business

Next steps

4 April – Deadline to provide input on HTR issues

15 April – PNR workstream meeting (scenarios)

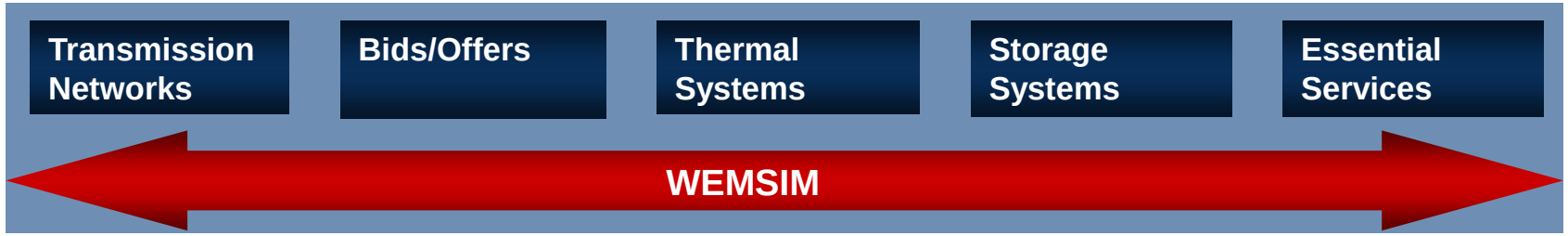
9 May – HTR workstream meeting

Questions or feedback can be emailed to energymarkets@dmirs.wa.gov.au

Appendix A. Introduction to the Modelling Tool

Overview

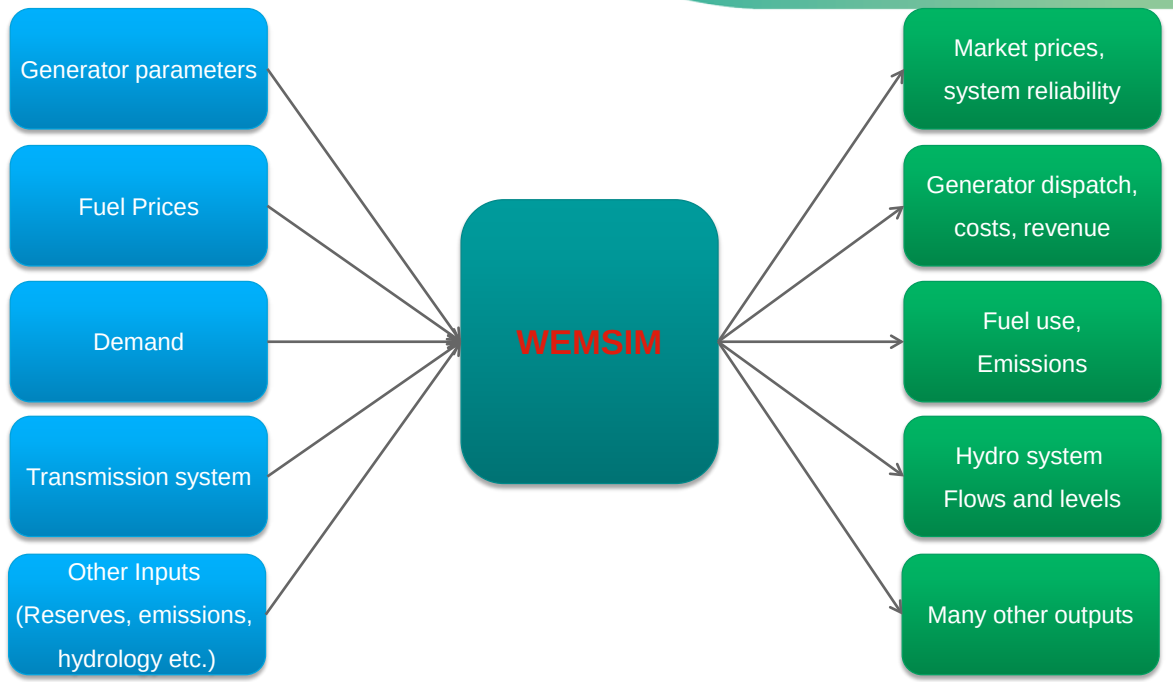
Wholesale Electricity Market Simulation (WEMSIM) is a linear programming modelling tool used to simulate cost- and bid-based electricity markets



- Flexible in its level of aggregation:
  - Time steps
  - Time horizons
  - Plant operational details
  - Transmission details
- Has been used to simulate power market outcomes in Australasia, Asia, Middle East, Europe and Central America
- Projects have included pool pricing analysis, revenue estimation and asset valuation, transmission constraint analysis, fuel contract structure comparison, market sensitivity, storage resource management, and policy analysis

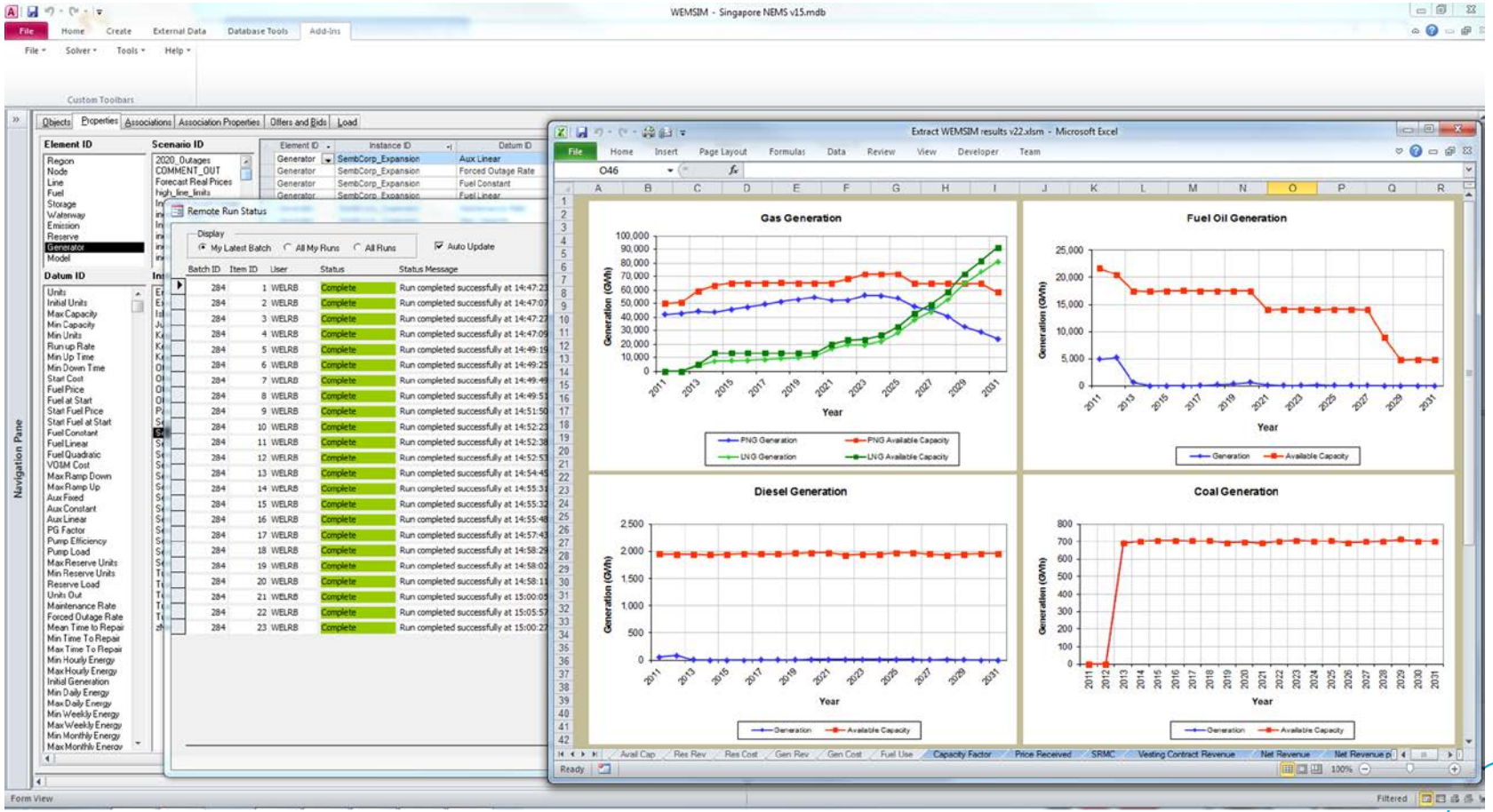
The Dispatch Simulation Model

- **WEMSIM (Wholesale Electricity Market Simulation):**
  - Simulates the dispatch of thermal, renewable, and storage resources in a multi-regional transmission framework
  - is an analytical dispatch planning and analysis tool with an optimization engine based on linear and mixed integer programming
  - Simultaneously optimizes generation dispatch, reserve provision (and, in MIP mode, unit commitment)



Rich Outputs

Outputs available include: period-by-period energy and ESS prices, dispatch, fuel use, emissions, revenue, capacity factors, unserved energy, storage volumes, network flows, and transmission constraints



Supporting Modules

- The Market Clearing Engine Simulator is the core of the platform, performing security constrained economic dispatch with ESS co-optimization
- The Demand Forecast Model transforms a given demand shape and long-term peak and energy forecasts into realistic demand data that captures both long-term trends and short-term volatility
- The Generator Build/Retirement Model can take manual entries where known or expected, and supplement with economic build/retirement decisions
- The Generator Offer Model can provide for offers based on cost, market power (Bertrand gaming), water values/stored energy values for hydro/storage systems, or derived from historic data