

Pipes & Wires

Thought leadership of critical energy & infrastructure matters
Issue 238 – June 2026

From the editor's desk...

Welcome to Pipes & Wires #238 ... this issue starts with 3 regulatory decisions from New Zealand, and then examines a big merger in the United States. We then examine a regulatory policy decision in New Zealand, and then examine the closure of one of New Zealand's major gas fields. We conclude with a look at the reshuffling of Britain's nuclear portfolio and a look at Sodium-Ion batteries.

So ... until next time, happy reading...

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Significant client projects

Significant client projects include...

Transaction advisory (\$12b and counting)

- Forecasting AugEx, RepEx and OpEx, advising on likely revenue cap implications.
- Identifying strategic, commercial and regulatory red-flags.
- Translating demand forecasts into AugEx.
- Reviewing procurement models and processes.

Climate governance and resilience

- Identifying the governance, strategy and risk programs required to align with TCFD.
- Compiling a client resilience framework for an electric distribution company.

Asset strategy and asset management practices

- Assessing the strength of an EDB's organizational culture, work process and asset management practices.
- Compiling a road map to guide an EDB on its asset management improvement journey.
- Identifying a range of structural and service delivery models for an electric company.
- Identifying best customer engagement practices on

Decarbonisation and energy transition

- Estimating the costs of DERMS (distributed energy resource management system) penetration for distribution feeders for a large US electric company.
- Identifying leading practices in behind-the-meter activities (eg. batteries, solar, smart data, VPP's etc) for a large US electric company.
- Identifying best Australian practices in EV charging for a large US electric company.
- Identifying key features of demand management in the Australian NEM for a large US electric company.
- Identifying best practices in grid-scale and community-scale batteries for an Australian distributor.
- Identifying best practices in EV charging on behalf of an Australian distributor.

Global trend and pattern analysis

- Identifying the global and regional trends facing transmission grid operators for a US client.

Regulatory analysis

- Reviewing the AER's recent treatment of network

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- Providing an independent assessment of network condition and spend adequacy.
- Providing an independent review of asset condition and spend forecasts for a distribution company investor.
- Advising on the regulatory implications of an aging timber transmission pole fleet.
- Identifying the learnings from the RIIO – ED1 reset on behalf of an Australian distributor.

Cool multimedia stuff

This [video about Battersea Power Station](#) in London is worth a watch. It is about 1 hour long, however the first 20 minutes about the planning and engineering are worth watching.

Network regulatory decisions

NZ – Draft Decision for the replacement HVDC cables

Introduction

The Commerce Commission recently published its [Draft Decision](#) on Transpower’s [Major CapEx Proposal](#) for the first stage of renewing the HVDC cables. This article looks at the key features of the Draft Decision.

The process to date

Transpower is progressing the HVDC Link Upgrade Program in stages through the Commerce Commission's Major CapEx Proposal process. Stage 1 has received draft approval, and Transpower expects to submit a separate Major CapEx Proposal in 2027 to replace the HVDC control system (Stage 2). Transpower is also currently considering the possible removal of the existing undersea cables once they are replaced (known as Stage 1A).

Recapping the preferred option for replacement

Readers may recall that the preferred Option was Option 3...

- Option 3 Increased capacity – replacement of the 3 existing cables with 4 new cables giving an increased capacity of 1,400MW.

This Option yielded the highest positive nett market benefits, and was therefore chosen as the preferred option.

Regulatory framework

The regulatory framework for Major CapEx Proposals is set out in the [Transpower Input Methodologies Determination](#), which are made pursuant to [s54S of the Commerce Act 1986](#).

Key features of Transpower’s proposal

Key features of the proposal, the Draft and Final decisions are...

Parameter	Proposal	Draft Decision	Final Decision
Replacement	Replace 3 aging submarine cables.	Approved.	
Expansion	Add a 4 th cable to increase capacity from 1,200MW to 1,400MW.	Approved.	
Renewals and enhancements	Replace cable termination stations on both sides of Cook Strait, spare cable storage facility, overload capacity for Pole 2.	Approved.	
Major CapEx Allowance	\$1,138,6m.	\$1,138.6m	
Timing	Cable manufacture begins mid-to-late 2029, installation and commissioning in early 2030’s.	Approved.	

Pipes & Wires will comment further as the Final Decision emerges.

Further reading

Readers might find the following references interesting...

- [Pipes & Wires #235](#) – Transpower submits regulatory proposal for new HVDC cables.
- [Transpower link upgrade program](#).
- [Pipes & Wires #231](#) – Transpower plans replacement HVDC cables.
- White Diamonds North by Peter Taylor (1990).
- Connecting The Country by Helen Reilly (2008) – chapter 8.
- [Cook Strait HVDC Submarine Cable Replacement and Enhancement – Project Information and Consultation](#).
- [HVDC Inter-Island](#) (Wikipedia).
- [High Voltage Direct Current: A History Of Innovation](#).
- [The history of high voltage direct current transmission](#).
- [HVDC history in New Zealand](#) (Hitachi).

NZ – cost of capital decisions

Introduction

The Commerce Commission recently [released the cost of capital determinations](#) that will apply to the following regulated infrastructure for the regulatory period starting on 1st October 2026...

- Gas distribution businesses.
- Gas transmission businesses.

This article examines the key features of those decisions.

Regulatory frameworks

The regulatory frameworks are set out in...

- Clauses 2.4.1 to 2.4.9 of the [Gas Distribution Services Input Methodologies Determination 2012 \(consolidated as of 23 April 2024\)](#).
- Clauses 4.4.1 to 4.9 of the [Gas Transmission Services Input Methodologies \(IM Review 2023\) Amendment Determination 2023](#).

Linkage to the Gas DPP4

The decision notes the Commission’s previous Draft Decision to adopt a 5 year period for the Gas DPP4. At the time of writing this article, the Commission had not yet reached its Final Decision on the Gas DPP4 period at the time of publishing this WACC decision, hence a 4 year WACC and a 5 year WACC were published.

Key features of the WACC’s

Key features of the gas distribution and gas transmission WACC’s include...

Parameter	4 year WACC mid-point	5 year WACC mid-point
Vanilla WACC	6.47%	6.64%
Post-tax WACC	5.90%	6.04%

As always, interested parties must examine the full Decision document.

NZ – the Final Gas DPP4 Decisions

Introduction

Pipes & Wires has been following the Commerce Commission’s compilation of the Gas DPP4 revenue control that will apply from 1st October 2026, and most recently noted the Draft Decision to adopt a 5 year period for the DPP4. This article examines the key features of the [Final Decision](#).

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Regulatory framework

The regulatory framework for the DPP reset is set out in the Commerce Act 1986 as follows...

- Subpart 6 of Part 4 specifies what a DPP must contain ([s53O](#)) and how starting prices, rates of change and quality standards must be set ([s53P](#)).
- Subpart 10 of Part 4 which sets out a wider range of requirements specific to gas pipelines.

Applicable pipeline businesses

The DPP4 will apply to the following gas pipeline businesses...

- GasNet.
- Powerco.
- Vector.
- FirstGas (distribution and transmission).

Comparison of the DPP3 and DPP4

The following table quickly compares the features of DPP3, the Draft DPP4 and the Final DPP4...

Parameter	Final DPP3	Draft DPP4	Final DPP4
Control period duration	4 years	5 years	5 years*
Accelerated depreciation	Yes	Yes	Yes
WACC	6.14%	6.59%	6.64%
Total revenue - GasNet	\$22.12m	\$33.9m	\$34.4m
Total revenue - Powerco	\$267.63m	\$405.4m	\$415.2
Total revenue - Vector	\$249.63m	\$399.8m	\$399.4m
Total revenue – First Gas (distribution)	\$140.41m	\$222.4m	\$220.3m
Total revenue – First Gas (transmission)	\$691.87m	\$1,118.08m	\$1,155.6m

* Five year regulatory period from 1st October 2026 to 30th September 2031.

This concludes Pipes & Wires examination of the Gas DPP4 ... as always interested parties must read the Final Decision and associated documents in full.

Further reading

Readers may be interested in the following further reading...

- [Pipes & Wires #236](#) – amending the gas transmission Input Methodologies.
- [Pipes & Wires #235](#) – further progress on the Gas DPP4.
- [Pipes & Wires #233](#) – resetting the gas pipeline price-quality path.
- [Pipes & Wires #231](#) – resetting the gas pipeline price-quality path
- [Pipes & Wires #229](#) – NZ gas under pressure.
- [Pipes & Wires #229](#) – Aus the Jemena gas distribution revenue reset.
- [Pipes & Wires #226](#) – NZ upholding the accelerated depreciation decision.
- [Pipes & Wires #225](#) – NZ appealing the gas pipeline WACC.
- [Pipes & Wires #224](#) – Aus gas under pressure in the West.

Industry reshuffling and capital allocation

US – NextEra’s proposed acquisition of Dominion

Introduction

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The US has seen a slow consolidation of large electric companies to form even larger electric companies. This article examines the proposed acquisition of [Dominion Energy](#) by [NextEra Energy](#) to set some context for future analysis.

A bit about NextEra

From humble beginnings as [Florida Power & Light](#) in 1925, NextEra Energy has grown to be one of the world's largest electric companies with annual revenues of about \$25b and with 16,700 employees. NextEra now operates a range of unregulated energy companies as well as the core regulated FPL business (which by itself is the third largest electric company in the US, supplying 5,900,000 customers across Florida).

A bit about Dominion

From humble beginnings as the [Virginia Railway & Power Company](#) in 1909, Dominion Energy has grown to supply 4,100,000 electric customers and 500,000 gas customers through its various regulated subsidiaries across Virginia and South Carolina. Dominion also operates 27,000 MW of generation, gas storage facilities and an LNG import terminal.

The proposed deal and the underlying strategy

In an all-stock deal worth about \$67b, NextEra has offered Dominion shareholders 0.8138 NextEra shares for every 1 Dominion share, along with a one-off cash payment of \$360m. The enlarged NextEra would have a RAB of about \$138b, and would be 74.5% owned by existing NextEra shareholders and 25.5% owned by existing Dominion shareholders.

The strategy behind the deal includes...

- Increased scale of operations, along with a \$2.25b bill credit to Dominion's regulated electric and gas customers.
- Improved credit ratings
- A sharpened focus on regulated activities in 4 of the fastest growing states in the US.
- An expected 9% growth in earnings per share.

Next steps

Pipes & Wires will comment further as the proposed acquisition proceeds, including shareholder and regulatory approvals (3 state regulators, FERC, NRC, SEC etc).

Regulatory setting and policies

NZ – Final Decision on the electricity distribution IM amendments

Introduction

Pipes & Wires #234 examined the Commerce Commission's early work on potential amendments to the [Electricity Distribution Services Input Methodologies Determination 2012](#) (commonly known as the IM's, and also referred to as the principal determination in the Commission's work). This article examines the Commission's [Final Decision](#).

Regulatory framework

The regulatory framework for the IM's is set out in Part 4 of the [Commerce Act 1986](#), specifically in [Subpart 3](#) of Part 4. Section 52V sets out the process that the Commission must follow for determining the IM's, which includes *inter alia*...

- The requirement for the Commission to publish a notice of intention.
- The requirement to publish a draft, consult on that draft and have regard to views received.

The Commission's Final Decision

The Commission's Final Decision includes the following amendments to the principal determination...

- Amend clause 1.1.4(2) of the principal determination to insert a definition of "shifted revenue".

- Replace clause 5.3.4(1) of the principal determination with a new definition that includes the effect of “shifted revenue”.

As always, interested parties must read the details of the Decision for themselves.

Further readings

Readers may be interested in the following back issues...

- [Pipes & Wires #234](#) – potential amendments to the Electricity IM’s.
- [Pipes & Wires #224](#) - NZ finalising the Input Methodologies decision.
- [Pipes & Wires #167](#) – NZ the Transpower CapEx Input Methodologies Review.

Energy mix and grid security

NZ – the end of Maui gas

Introduction

Most of us have some sense that the Maui gas field has been running down (of course it is ... there was only ever a finite volume of gas), however the recent news that Maui will cease production by the end of 2026 is perhaps a mix of surprise and no surprise. This article examines Maui’s wider context and then looks at the planned end of production and its implications.

A bit about Maui

The [Maui gas field](#) lies about 35km off the coast of Taranaki, in about 110m of water. It was discovered in 1969, with an estimated recoverable reserve of about 4,330 PJ’s. When commercial production of gas began in 1979, it was expected to be depleted in 30 years (so about 2010) however revised estimates and improved gas extraction techniques extended that expected life.

Maui is one of several fields in the wider Taranaki area that supply the [North Island’s 2,500km of gas transmission pipelines](#), and then to the gas distribution networks.

The expected end of Maui

In April 2026 Maui’s owner [OMV](#) formally notified the NZ Government that Maui is expected to cease production at the end of 2026. This is consistent with previous advice that Maui would cease around 2026 or 2027, and while the eventual closure has been signaled for many years, the formal notification has prompted a more specific and accelerated timeline.

Implications

The [Gas Industry Company](#) (the industry co-regulator) has advised that the Maui closure will increase security of gas supply risks and shortages. We can examine this end of Maui production across three areas...

- Electricity generation – [Huntly](#) will increasingly rely on coal, or possibly burn imported LNG (noting that a final decision on whether to build an LNG import terminal is imminent).
- End-use combustion – at least some of this will inevitably migrate to electricity, placing obvious upward pressure on electricity demand and hence generation.
- Chemical feedstock – this includes the almost certainty of [Methanex](#) closing its methanol plant at Waitara.

Gas production will increasingly shift to the remaining fields such as [Pohokura](#), McKee and other smaller fields, however many of those are also in decline.

Further reading

Readers may be interested in the following back issues...

- [Pipes & Wires #233](#) – NZ dwindling gas reserves.
- [Pipes & Wires #229](#) – NZ gas under pressure.

Britain – reshuffling the nuclear portfolio

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Introduction

This article follows Pipes & Wires previous examination of Britain's new nuclear power station fleet with a look at two recent events ... the continued decommissioning of [Hunterston B](#) in Scotland, and the possible third new station at [Wylfa](#) in North Wales.

Decommissioning Hunterston B

Hunterston B was a 1,250 MW station in North Ayrshire, with two 625 MW [advanced gas-cooler reactors](#) (AGR's) that were commissioned in February 1976 and March 1977 respectively. After generating a total of 287,000 GWh over 46 years, the two units were decommissioned in November 2021 and January 2022 respectively.

On 1st April 2026 [ownership of Hunterston B](#) passed from Electricité de France (EDF) to the Nuclear Decommissioning Authority, with the actual decommissioning work being done by [Nuclear Restoration Services](#) (which is already decommissioning many other first generation nuclear reactors).

New build at Wylfa

Readers might remember from [Pipes & Wires #228](#) that the British Government had announced Wylfa as the preferred site for the third nuclear station, alongside the existing 2 x 490 MW [Magnox](#) station. More recently (April 2026), the Government formally approved the start of the new station which will be based around three 470 MW [Rolls-Royce small modular reactors](#) (SMR's), with a total generation of 1,400 MW. Completion is expected in the mid-2030's (around the same time as [Sizewell C](#)).

Key reasons for adopting SMR technology as opposed to the [European Pressurised Reactor](#) (EPR) technology adopted for [Hinkley Point C](#) and Sizewell C include...

- Quicker construction times (3 to 5 years, as opposed to 10 to 12 years for an EPR).
- Lower capital costs.
- Reduced construction risks.

Further reading

Readers may be interested in the following further reading...

- [Pipes & Wires #237](#) – progress on Sizewell C.
- [Pipes & Wires #233](#) – approving Sizewell C.
- [Pipes & Wires #231](#) – progress on Hinkley Point C.
- [Pipes & Wires #228](#) – planning the third nuclear station.

Engineering & technology

Global – progress on Sodium-Ion batteries

Introduction

Following on from Pipes & Wires #232 examination of Lithium-Sulfur batteries, this article examines recent progress on Sodium-Ion batteries.

Overview of the Sodium-Ion battery chemistry

The following table describes the Sodium-Ion battery, with comparisons to other battery chemistries...

	Sodium-Ion	Lithium-Sulfur	Lithium-Ion	Lead acid
Anode	Hard carbon	Lithium	Graphite	Lead
Electrolyte	Liquid containing Sodium salts	Often based on cyclic ethers.	Conductive liquid, typically Lithium salts dissolved in an organic solvent.	Dilute sulfuric acid, typically 35% acid.
Cathode	Sodium-based, typically layered metal oxides containing Sodium	Sulfur	Often a Lithium oxide metal.	Lead dioxide

Key features of the Sodium-Ion battery chemistry

Key features of the Sodium-Ion battery, again compared to other battery chemistries, are...

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	Sodium-Ion	Lithium-Sulfur	Lithium-Ion	Lead acid
Energy density	Currently 0.1 to 0.16 kWh/kg, with progress towards 0.19 kWh/kg.	About 2.5 kWh/kg.	About 0.25 kWh/kg.	About 0.085 kWh/kg.
Cycle life	Currently 3,000 to 6,000 cycles, with advanced prototypes reaching 10,000 cycles.	Possibly 25,000 cycles (retains 80% of charge capability).	Between 2,000 and 3,000 cycles.	Between 200 to 1,500 cycles.
Cost	Currently \$80 to \$90 per kWh, with expected second generation cost of about \$40 per kWh.	Possibly as low as \$65 per kWh, due to low cost of Sulfur and high energy density.	About \$130 per kWh.	Typically \$50 to \$100 per kWh.
Coulombic efficiency	Ranges from 70% to 80%.	Ranges from 81% to 94%.	Observed to be between 80% and 90%.	Observed to be between 80% and 90%.
Safety	Considered much safer, including ability to fully discharge for shipping.	Some safety concerns around thermal runaway, but expected to be safer than Lithium-Ion.	Observed safety concerns, due to flammable electrolyte and thermal runaway.	Significant safety concerns, due to acid electrolyte and emission of Hydrogen gas during charging.

So it would seem that Sodium-Ion is also a promising chemistry, in part due to the prevalence of Sodium in sea water. Pipes & Wires will continue to examine new battery chemistries as they emerge.

Further reading

Readers may be interested in the following articles...

- [Pipes & Wires #232](#) – Global Lithium-Sulfur batteries.
- [Pipes & Wires #202](#) – Global competing battery chemistries.
- [Pipes & Wires #197](#) – Global declining battery prices and emerging chemistries.
- [Pipes & Wires #166](#) – Global declining battery costs and disruption.

General stuff

Guide to NZ electricity laws

I've compiled a "wall chart" setting out the relationship between various past and present electricity Acts, Regulations, Codes etc in sort of a chronological progression. To request your free copy, pick [here](#). It looks really cool printed in color as an A2 or A1 size.

A bit of light-hearted humor

What if price control had been around in the 1920's and 1930's ? A collection of classic historical photo's with humorous captions looks at some of the salient features of price control. Pick [here](#) to download.

Extending the above, a second collection of classic historical photo's with humorous captions looks at some topical issues of regulating emerging technologies. Pick [here](#) to download.

A potted history of electricity transmission

I've recently compiled a potted history of electricity transmission. Pick [here](#) to download.

Wanted – old electricity history books

Now that I seem to have scrounged pretty much every book on the history of electricity in New Zealand, I'm keen to obtain historical book, journals and pamphlets from other countries. So if anyone has any unwanted documents, please [email me](#).

House-keeping stuff

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