

# APER Forum 2018

## Theme 3 – Developments in the Authority's market monitoring

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# Overview

*Considering the trends of deregulation of energy markets, what kind of transactions are defined as “inappropriate”? How are such transactions surveilled and identified as “inappropriate” by energy regulators?*

## The Authority's four key functions

- Promote market development, enforce compliance, operate the electricity system and markets, monitor, inform and educate

## Discussion points

- Increasing understanding and scrutiny by improving transparency and providing access to tools and data
- The technology and approach we use to monitor the market

# New Zealand context

## Market characteristics

- Five large generator-retailers – majority of generation hedged by contracts
- Spot market mainly used as a balancing market
- Transmission system largely uncongested – but can have localised congestion at times

## The Authority and Code characteristics

- We own and develop the market systems
- Information gathering powers
- Obligations around hedge disclosure
- High standard of trading conduct rules
- We've developed our own clone of the market clearing model (vSPD)

# 1<sup>st</sup> limb - Curated charts, statistics and explanations for general audiences to increase engagement and literacy

A fundamental requirement of competitive and efficient electricity markets is access to reliable data and performance metrics.

This Electricity Market Information website (EMI) is the Electricity Authority's avenue for publishing data, market performance metrics, and analytical tools to facilitate effective decision-making within the New Zealand electricity industry.

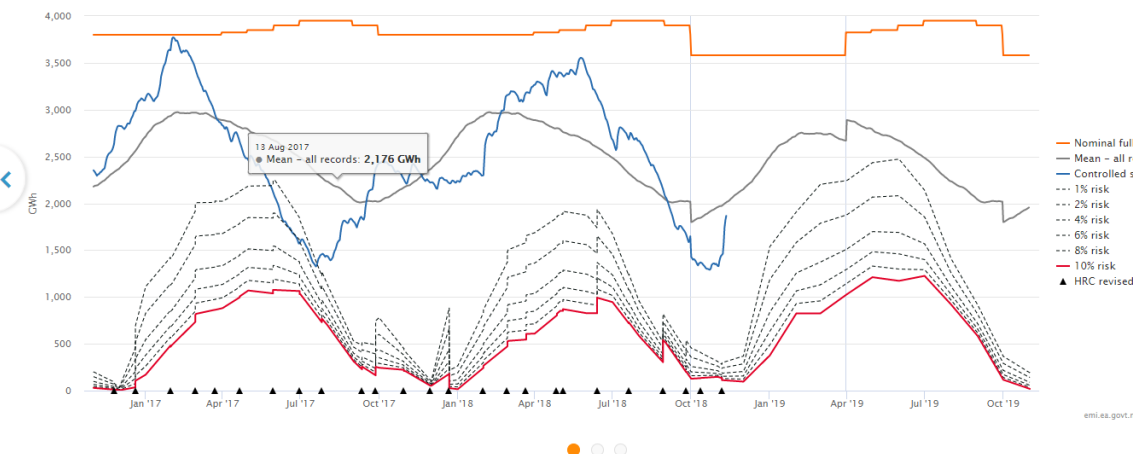
## Quicklinks

Retail reports	Wholesale reports	My dashboards
Retail dashboards	Wholesale dashboards	vSPD online
Forward market reports	Wholesale datasets	Glossary

## Market insights

### Historical hydro risk curves, New Zealand - updated 6 November 2018

Inflows into controlled storage have been low by historical measures since the start of September. These lower inflows coupled with reduced gas availability have resulted in hydro storage being drawn down to historically low levels for this time of year. The system operator also adjusted the treatment of Tekapo summer contingent storage (denoted as 1 October – 31 March) so that from 29 August 2018 it is excluded from the HRC framework. This change removes 220GWh from controlled storage over summer for New Zealand and the South Island. The change has brought the treatment of Tekapo contingent storage into line with the treatment of other contingent storage and the SoSFiP. Each update to the 2019 HRCs is presented in a [public dashboard](#) on EMI. Official curves and more information on security of supply forecasting is available on [the system operator's website](#).



### EMI news

**Reminder: FTP access to EMI datasets will be removed on 8 November**

Category - EMI features and tips 11 days ago

**New access arrangements to EMI datasets (retirement of anonymous FTP)**

Category - EMI features and tips 27 days ago

**Planned EMI outage, 4:30 pm Wednesday, 17 October**

Category - EMI features and tips 27 days ago

[See all](#)

### Trending reports

**Historical hydro risk curves**

Category - Environment 7k this week

**Wholesale energy prices**

Category - Wholesale 1.8k this week

**Market share trends**

Category - Retail 1.4k this week

**Installed distributed generation trends**

Category - Retail 662 this week

**Grid demand trends**

Category - Wholesale 640 this week

### Latest discussions

**New access arrangements to EMI datasets (retirement of anonymous FTP)**

Category - EMI features and tips 3 days ago

**What are 'customer withdrawn' switches?**

Category - Retail 5 days ago

# 450+ forum members can ask us anything



LATEST ACTIVITY

## Latest discussions



Category: [EMI features and tips](#)

### New access arrangements to EMI datasets (retirement of anonymous FTP)

Online

FTP

DATASETS

EMI NEWS

Latest by [davidw](#) 2 days ago. 5 229 0 0



Category: [Retail](#)

### What are 'customer withdrawn' switches?

SWITCHING

Latest by [David](#) 5 days ago. 4 410 0 0



Category: [Wholesale](#)

### Request for report on generation by type

GENERATION

FUEL TYPE

Latest by [Matthew Keir](#) 5 days ago. 1 59 0 0



Category: [EMI features and tips](#)

### Reminder: FTP access to EMI datasets will be removed on 8 November

Online

FTP

DATASETS

EMI NEWS

Latest by [Matthew Keir](#) 2 weeks ago. 0 152 0 0



Category: [Wholesale](#)

### Which solver to use with vSPD?

VSPD

GEM

TOOLS

Latest by [Phil Bishop](#) 2 weeks ago. 4 787 0 0

## Categories

- All categories
- EMI features and tips
- Retail
- Wholesale
- Forward markets
- Environment

## Find discussions by tag

- EMI NEWS 48
- API 10
- EDUCATION 17
- TOOLS 17
- VSPD 10
- FINAL PRICING 14
- GENERATION 11
- CONSUMPTION 10
- SWITCHING 9
- MARKET STRUCTURE 9
- MARKET BRIEF 8
- REAL-TIME PRICES 8
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- HYDROLOGY 3
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- LIGHTNING LAB 3
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- RETAIL PRICES 3
- GEM 2

See all

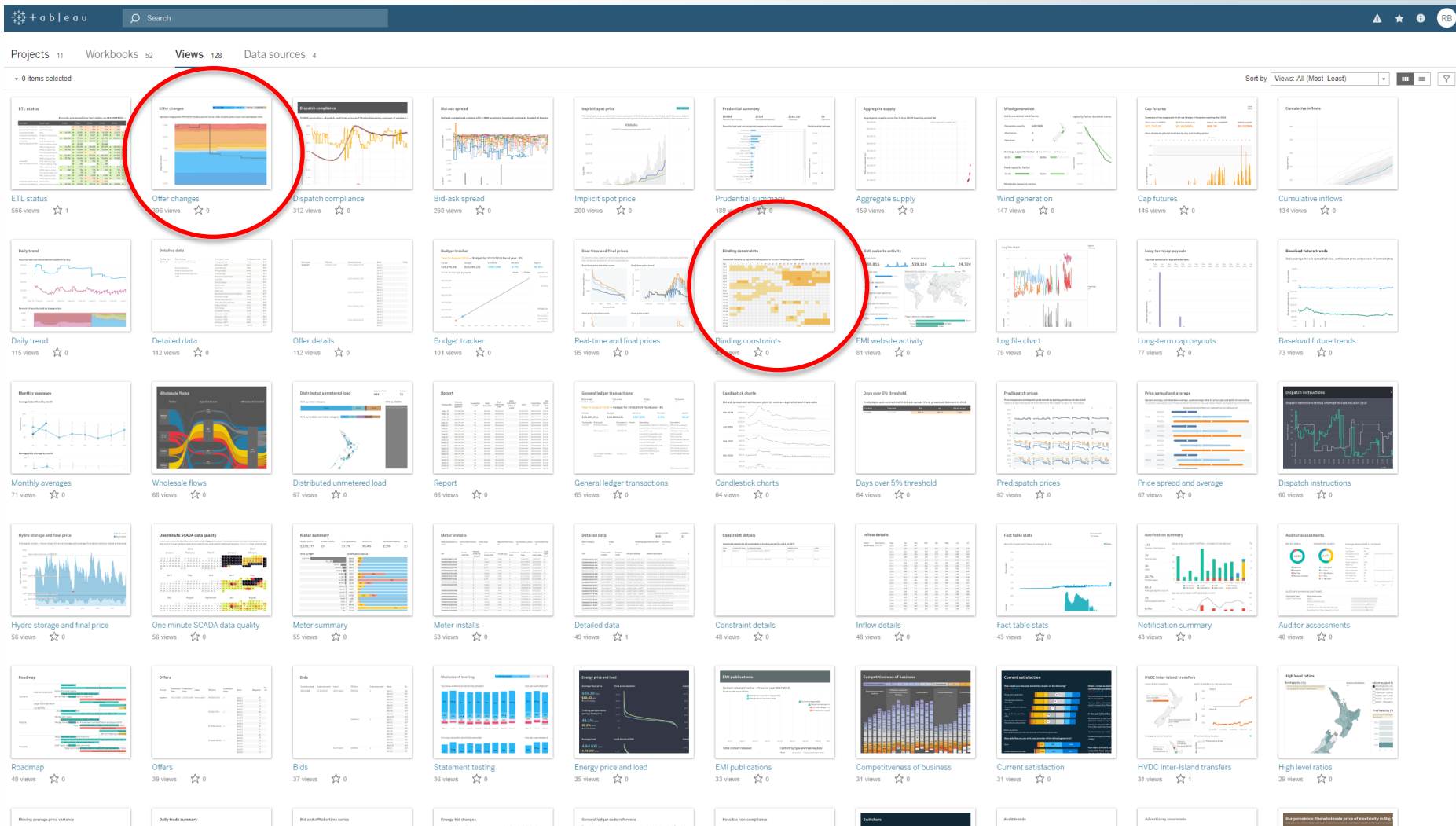
## Popular discussions

- 1 What are 'customer withdrawn' switches?
- 2 New access arrangements to EMI datasets (retirement of anonymous FTP)
- 3 Which solver to use with vSPD?
- 4 Request for report on generation by type
- 5 Reminder: FTP access to EMI datasets will be removed on 8 November

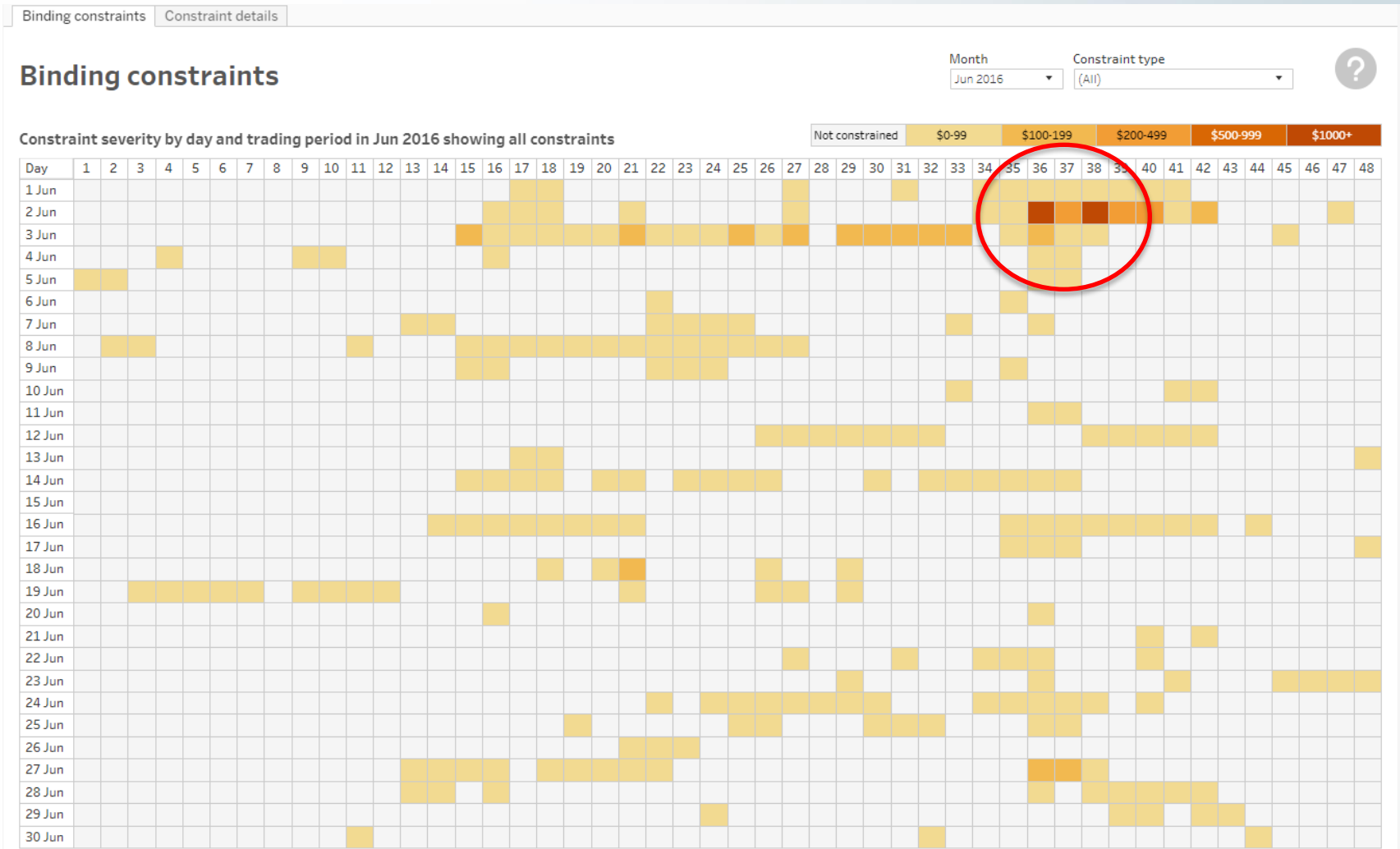
COMPETITION • RELIABILITY • EFFICIENCY



# 2<sup>nd</sup> limb – capture institutional knowledge into standard monitoring tools for staff



# Challenge is to distinguish the signal from the noise efficiently



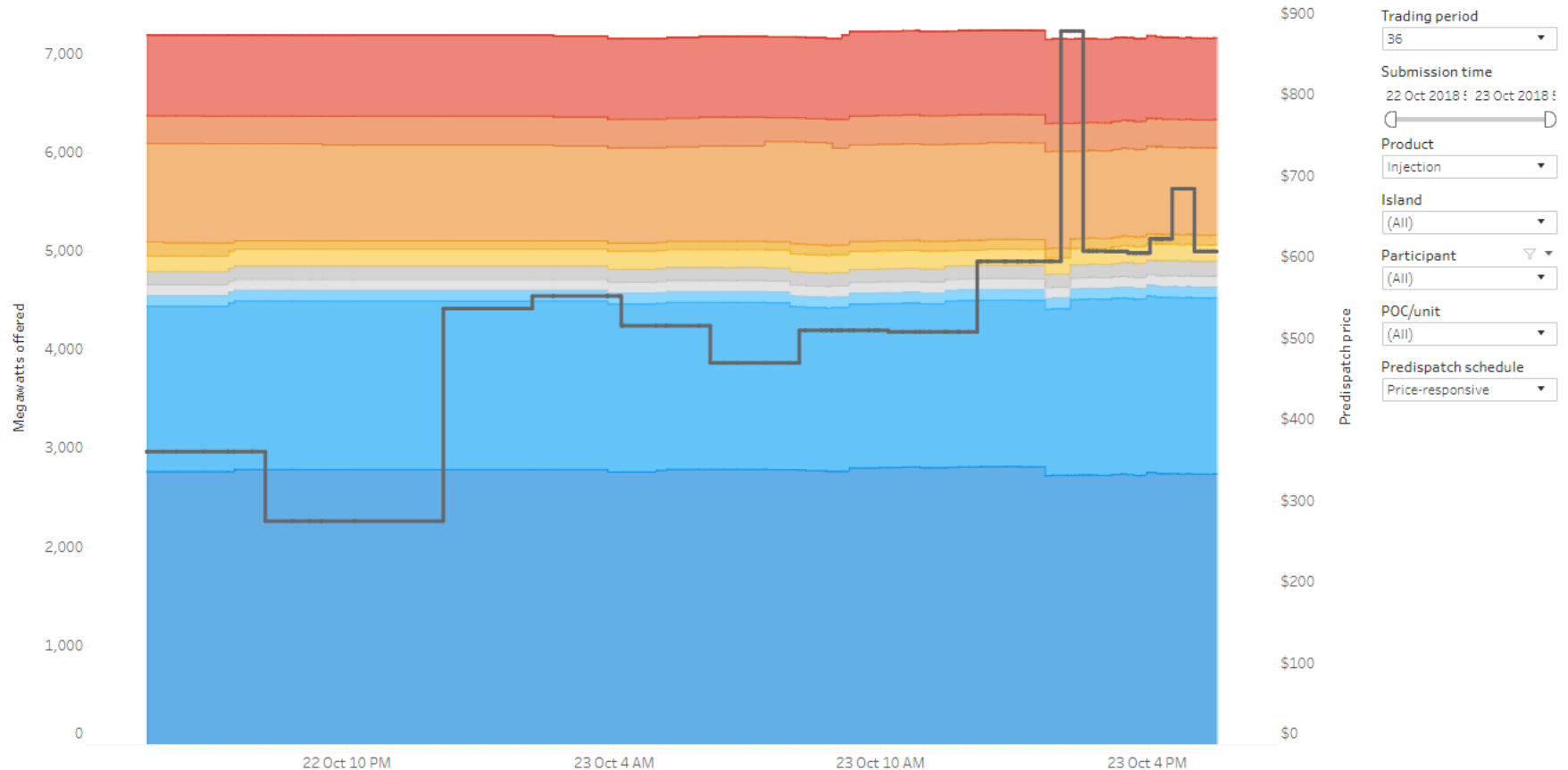
# Eventually you need reliable and scalable tools capable of quickly analysing millions of records

## Offer changes

\$0-0.01 \$0.02-0.99 \$1-19 \$20-49 \$50-99 \$100-199 \$200-499 \$500-999 \$1000-2499 \$2500-4999 \$5000+



Injection megawatts offered for trading period 36 on 23 Oct 2018 by price stack and submission time

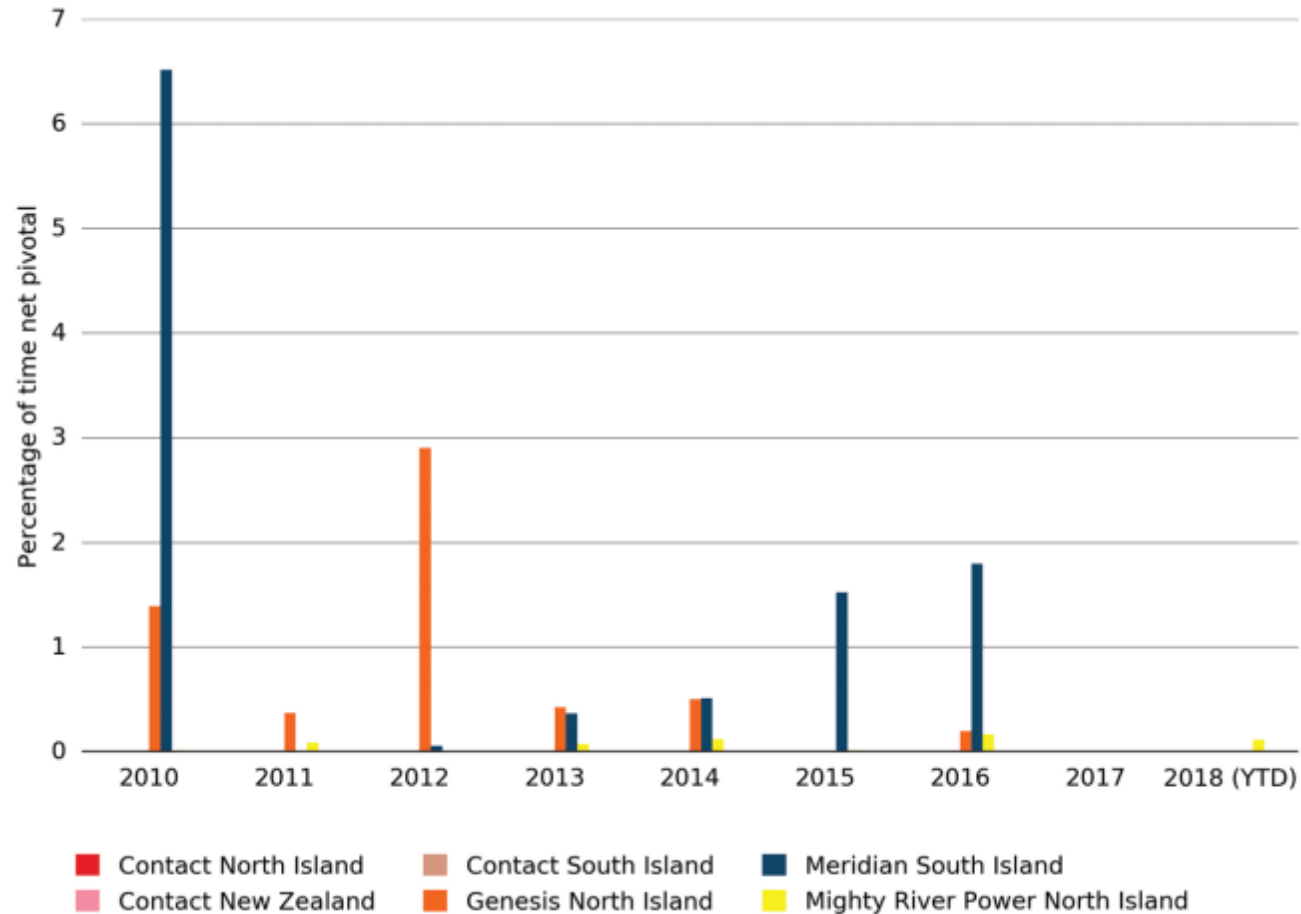


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## 3<sup>rd</sup> limb - bespoke analysis and simulations. vSPD is invaluable

Figure 12: Net pivotal analysis



Source: Electricity Authority