

Overview of FTRs

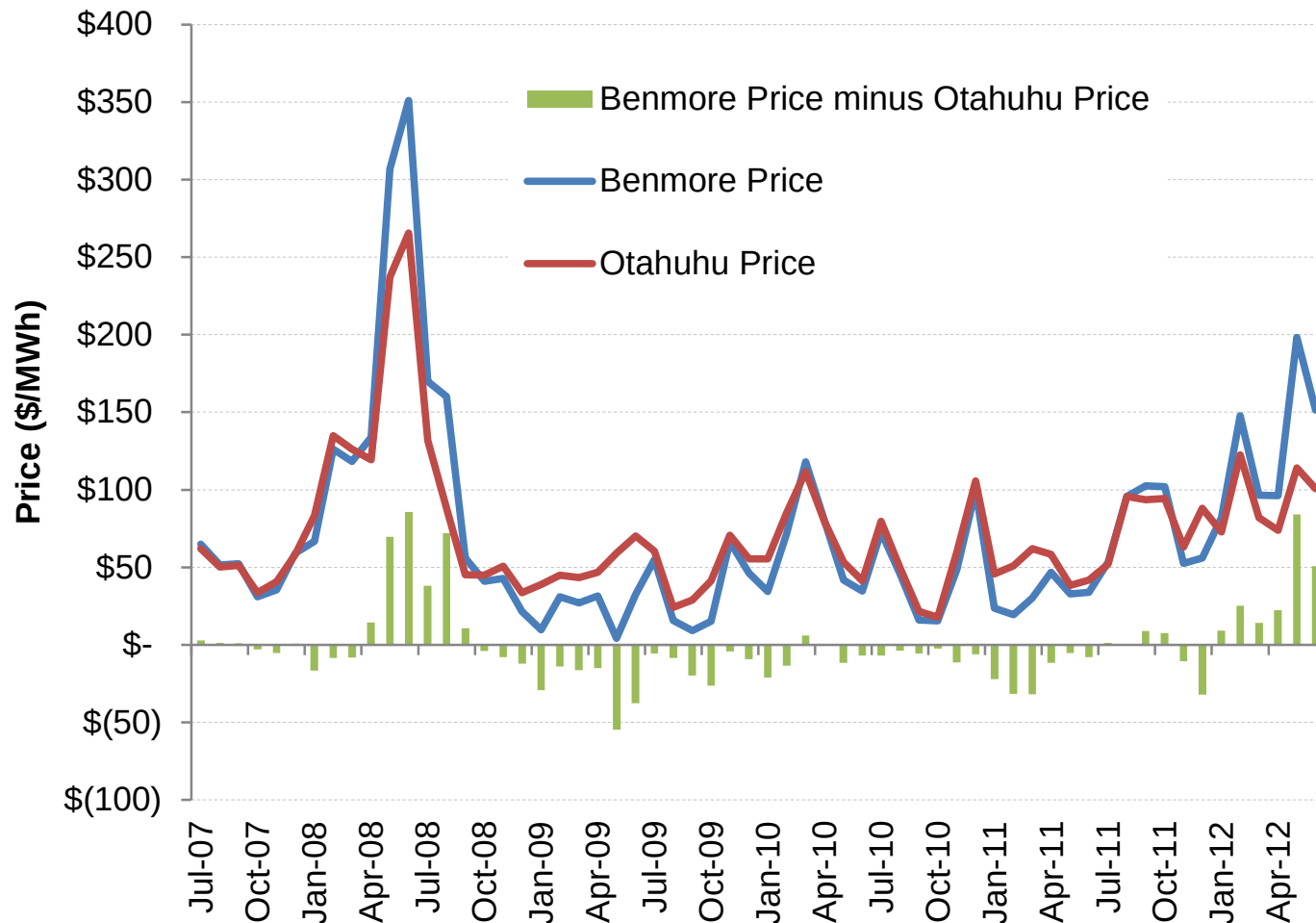
Electricity Authority Board Briefing
1 August 2012

Key issues

1. Locational price risk
2. Why is locational price risk an issue?
3. What causes locational price risk?
4. What is an FTR?
5. FTR design
6. Debated issues
7. Next steps

Locational price risk

Price differences (monthly ave)



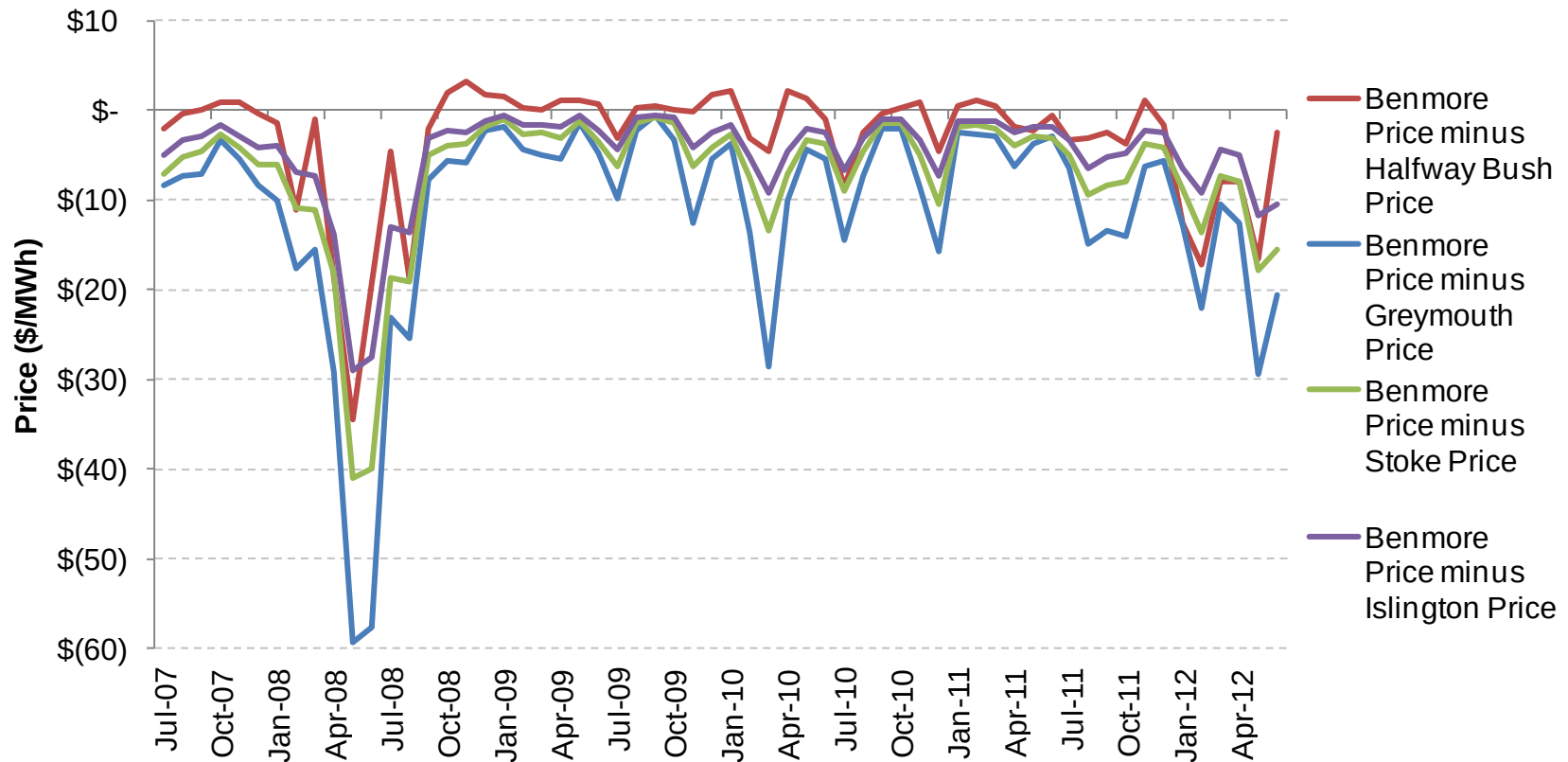
**Max +ve
difference =
\$86/MWh**

**Average
difference =
\$0.35/MWh**

**Max -ve
difference =
\$55/MWh**

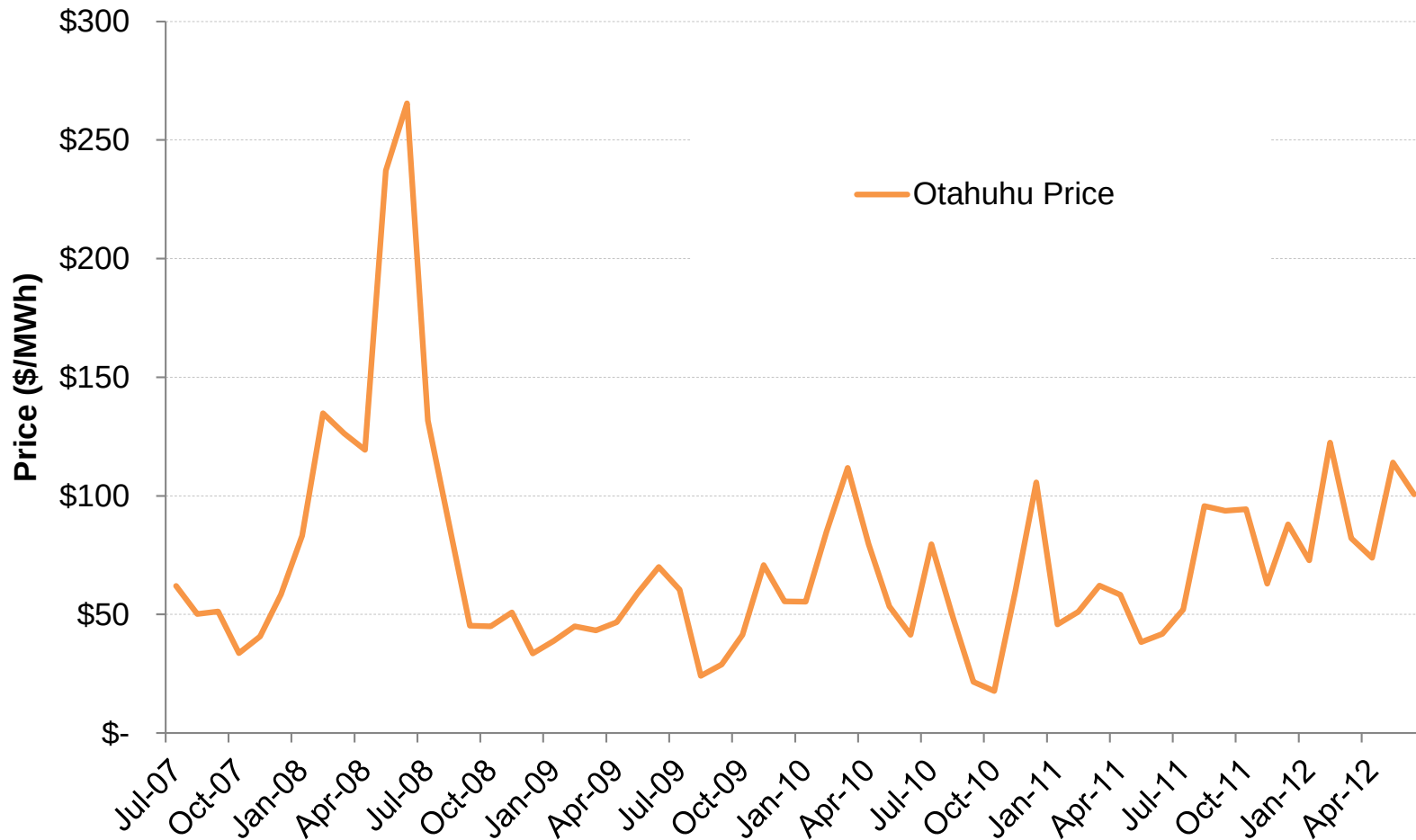
Price differences (monthly ave)

Intra - island

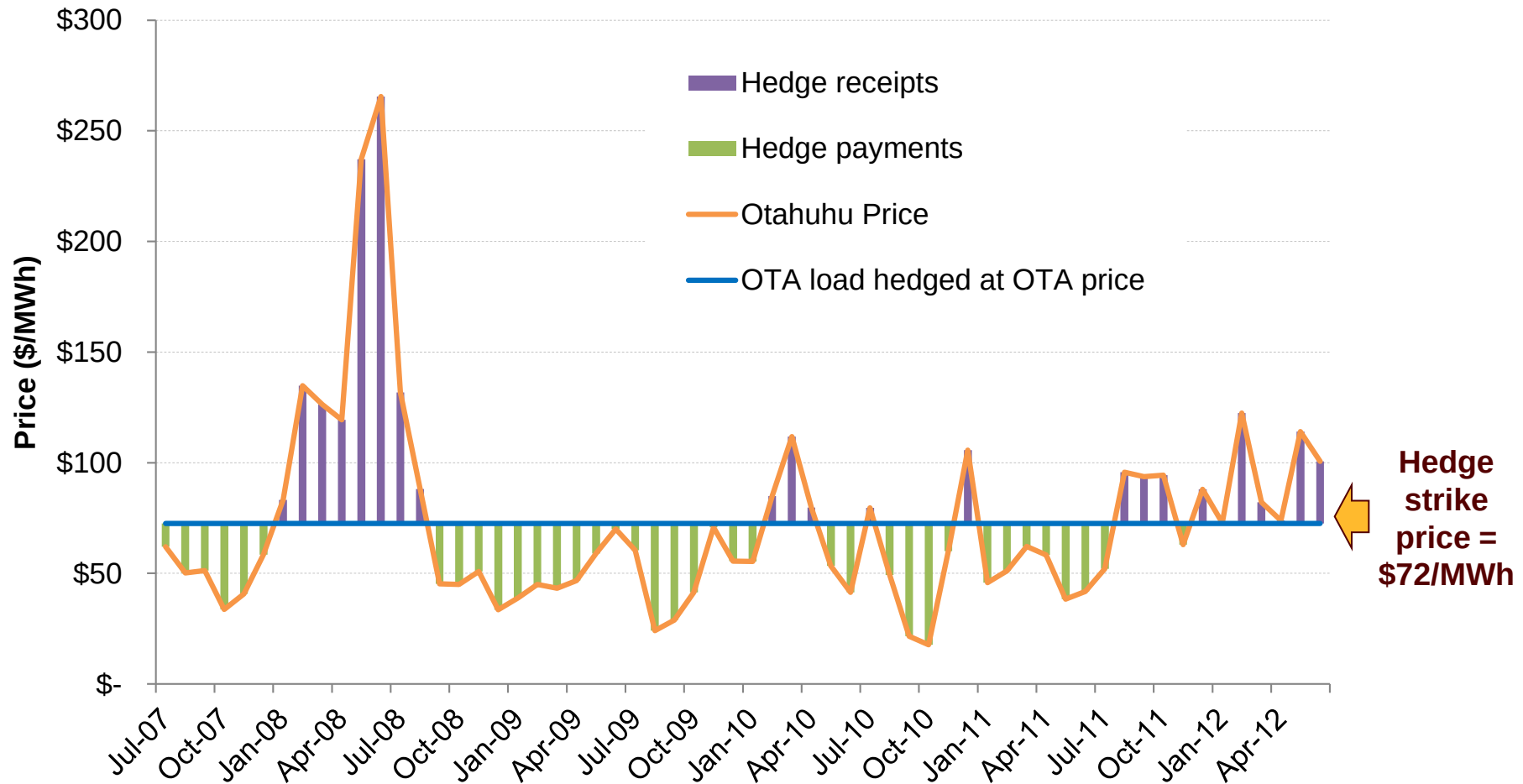


Why is locational price risk an issue?

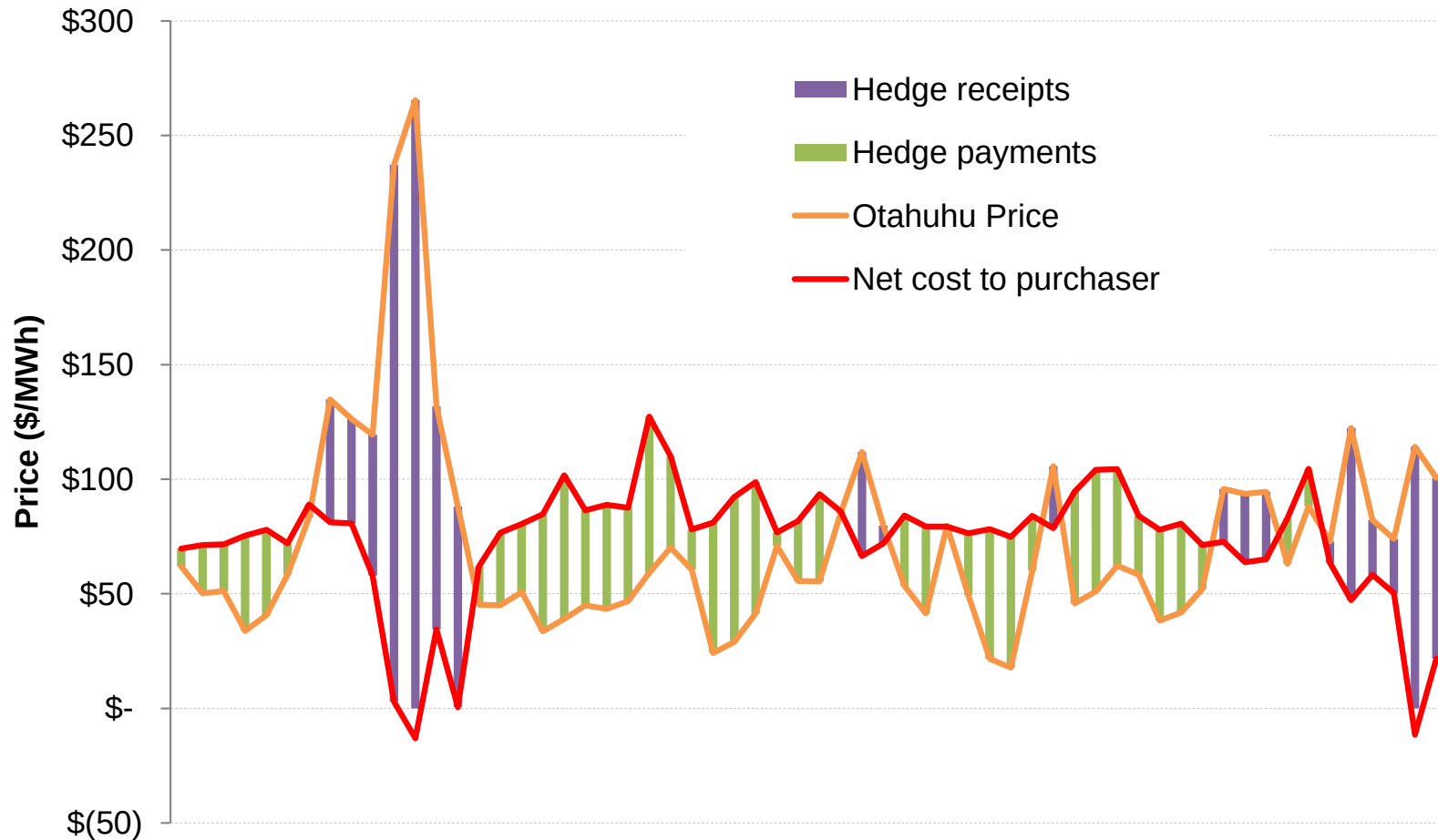
Example – purchaser at OTA



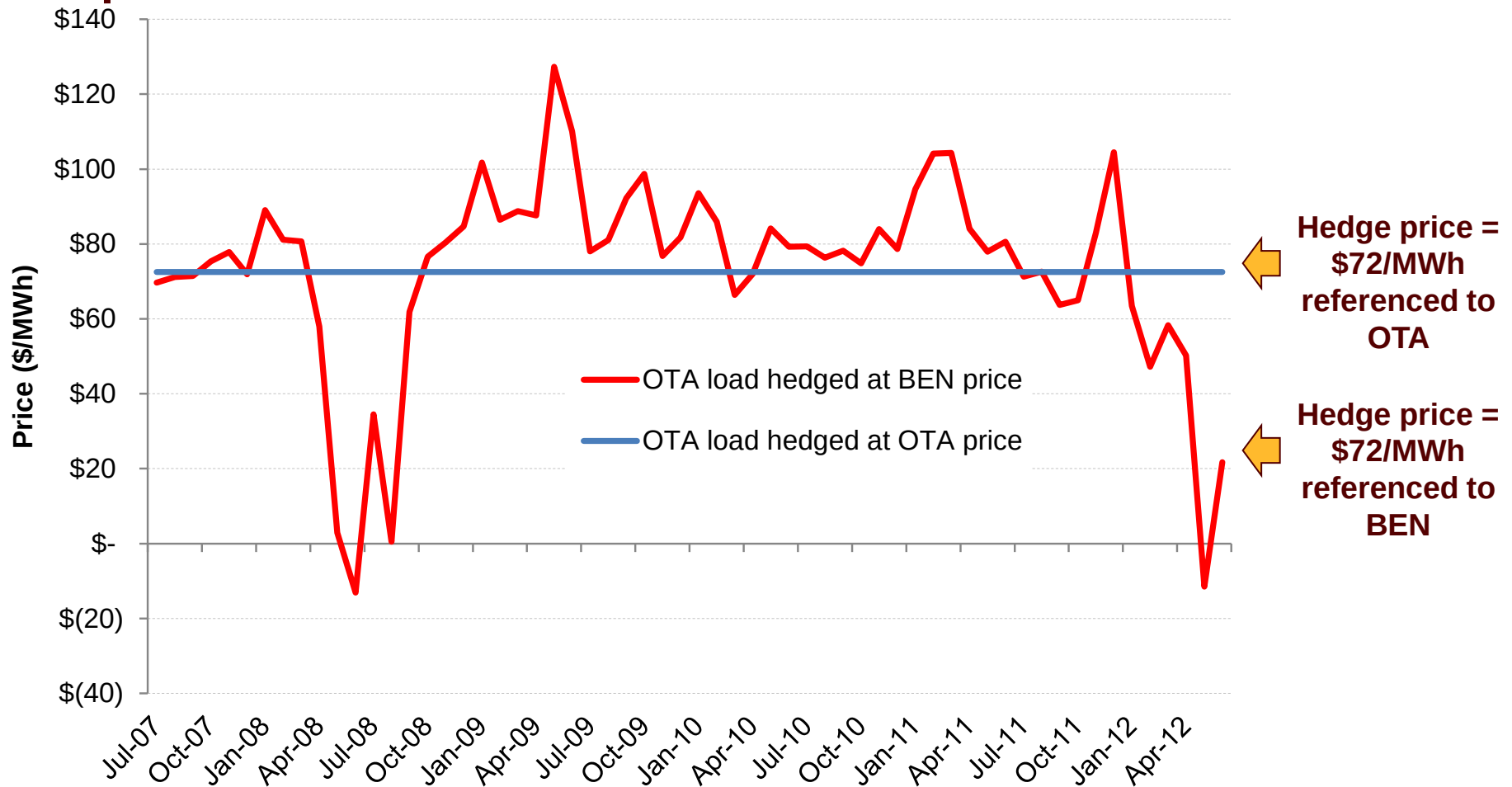
OTA purchaser hedged at OTA



OTA purchaser hedged at BEN



Example - locational price risk for purchaser at OTA



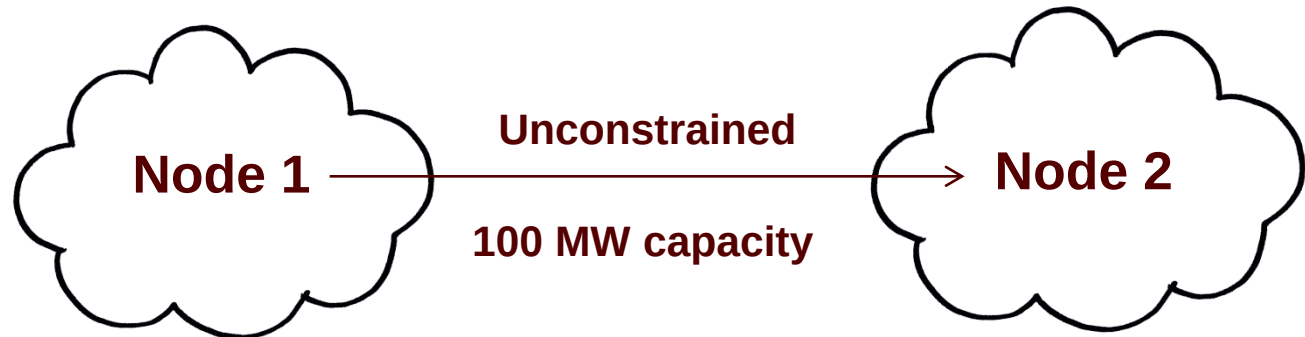
Overall effect on market

- Retail sector – weakens competition in areas subject to higher locational price risk
- Hedge market – makes it harder for buyers to shop around for competitive offers
- Dynamic effects – tends to encourage fragmented market

What causes locational price risk?

Example – no locational price difference

**Excludes
loss
effects**

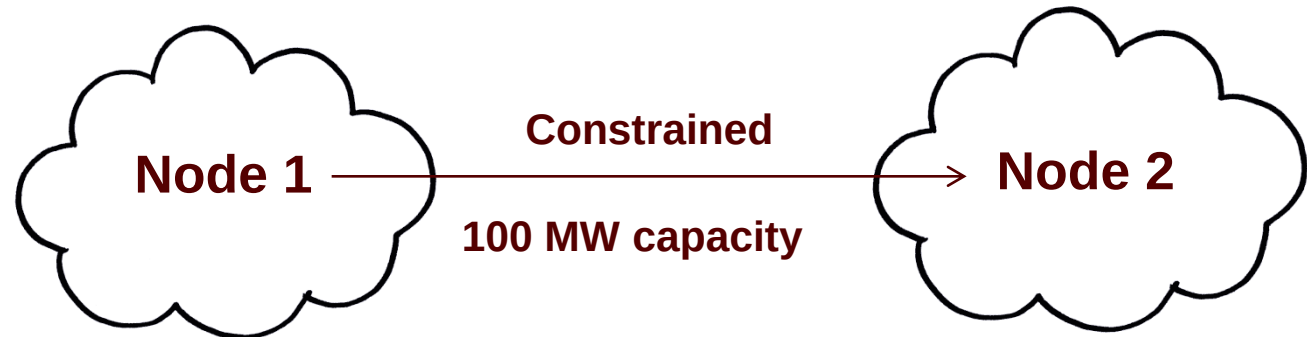


Demand	100 MW	100 MW
Generation offer	300 MW @ 50 \$/MWh	300 MW @ 100 \$/MWh
Generation dispatch	200 MW @ 50 \$/MWh	0 MW @ 100 \$/MWh
Price	50 \$/MWh	50 \$/MWh
Purchaser Payments	50 x 100 = \$5,000	50 x 100 = \$5,000
Generator Revenue	50 x 200 = \$10,000	50 x 0 = \$0
Loss & constraint excess	(\$5,000 + \$5,000) – (\$10,000 + \$0) = \$0	

Total purchaser payments equal total generator revenue

Example – locational price difference

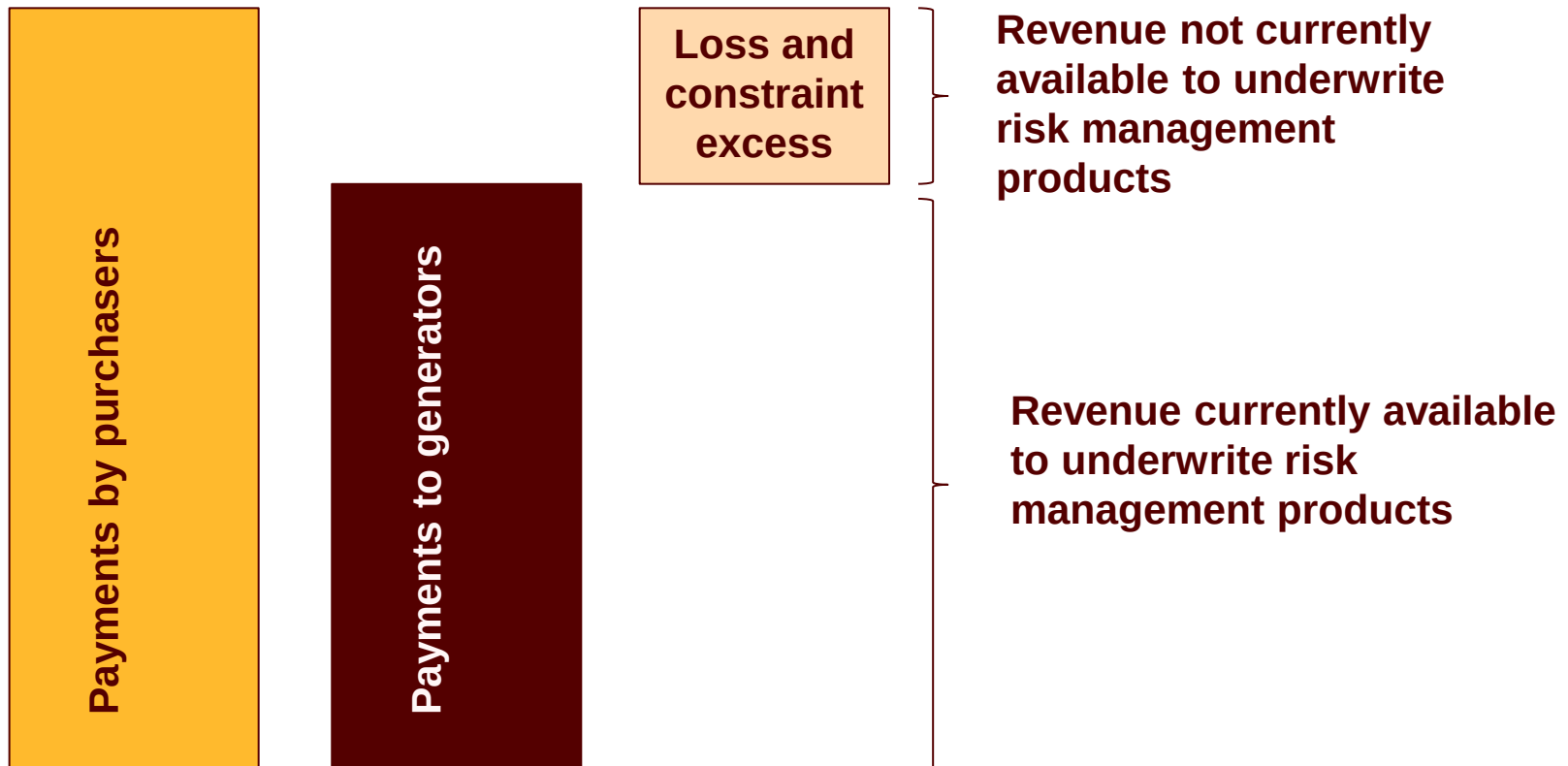
Excludes
loss
effects



Demand	100 MW	Increase by 100MW → 200 MW
Generation offer	300 MW @ 50 \$/MWh	300 MW @ 100 \$/MWh
Generation dispatch	200 MW @ 50 \$/MWh	100 MW @ 100 \$/MWh
Price	50 \$/MWh	100 \$/MWh
Purchaser Payments	50 x 100 = \$5,000	100 x 200 = \$20,000
Generator Revenue	50 x 200 = \$10,000	100 x 100 = \$10,000
Loss & constraint excess	(\$5,000 + \$20,000) – (\$10,000 + \$10,000) = \$5,000	

Total purchaser payments exceed total generator revenue

Effect on risk management

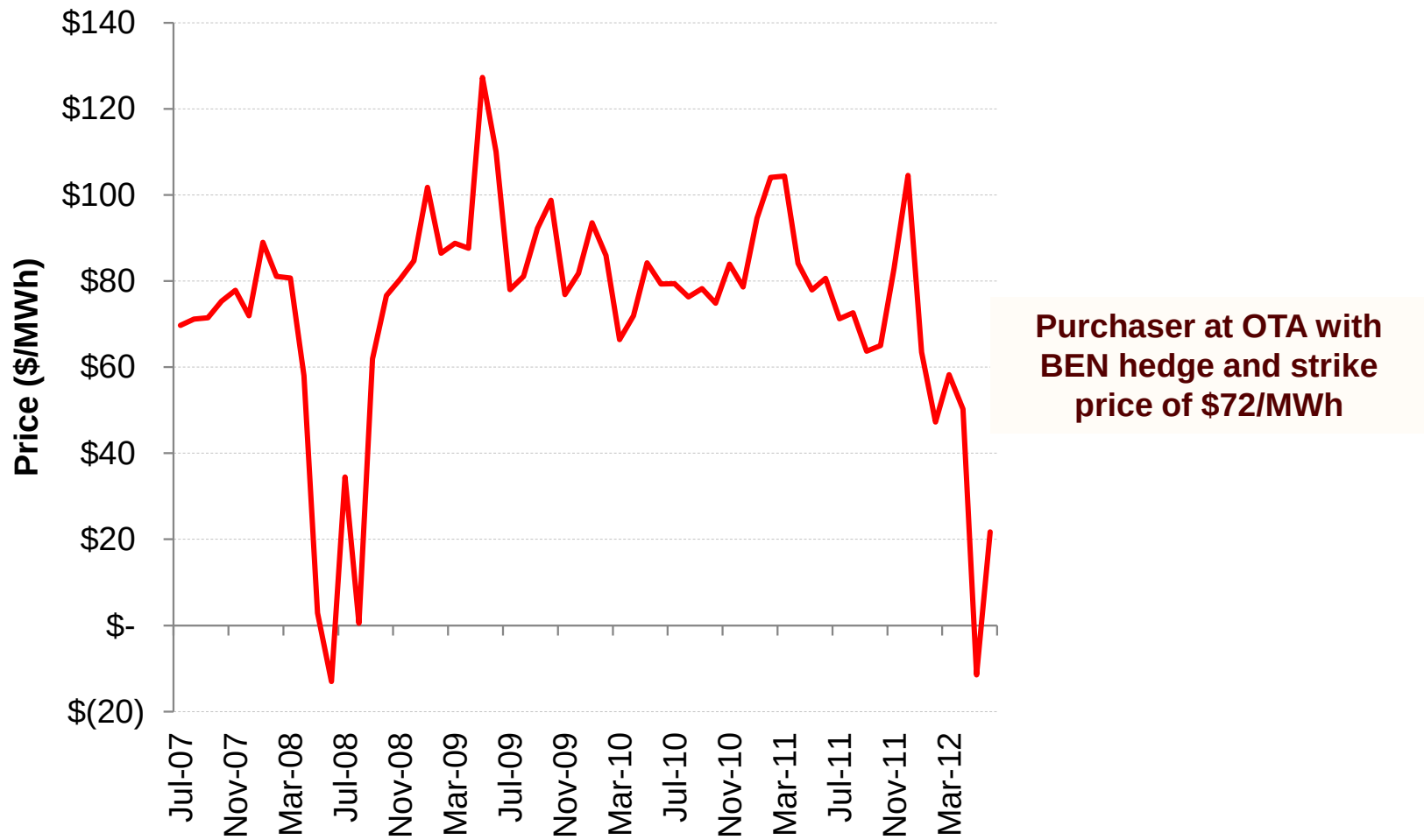


What is an FTR?

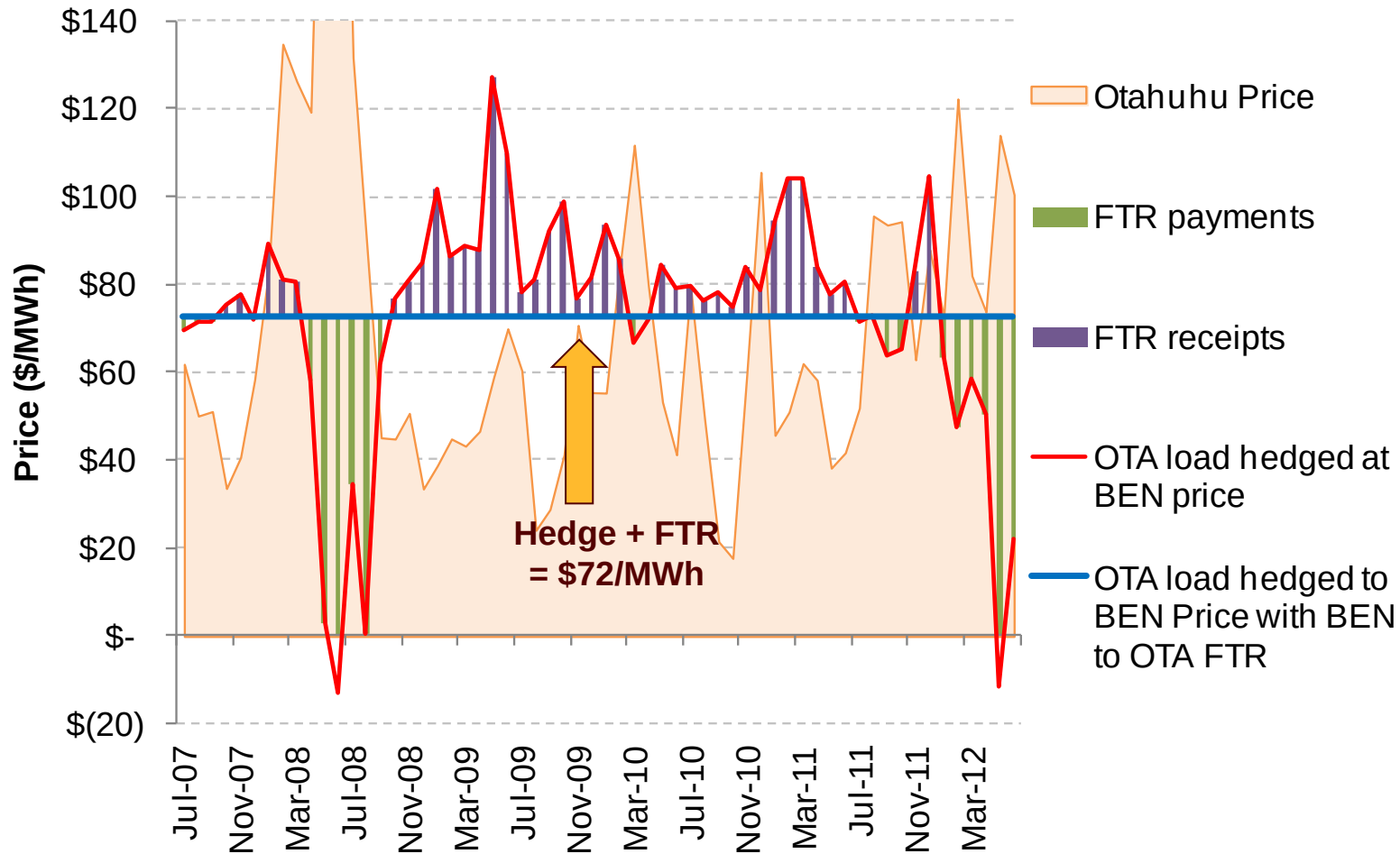
Key concepts that describe an FTR

- FTRs give holders the right to a cash payment defined as the difference in spot price between two nodes – in this case between Benmore and Otahuhu
- FTR settlement is (largely) funded from a portion of the loss and constraint excess
- FTR funding allows more FTRS to be sold in one direction than in the other direction

Example – OTA purchaser



Effect of FTRs



FTR design

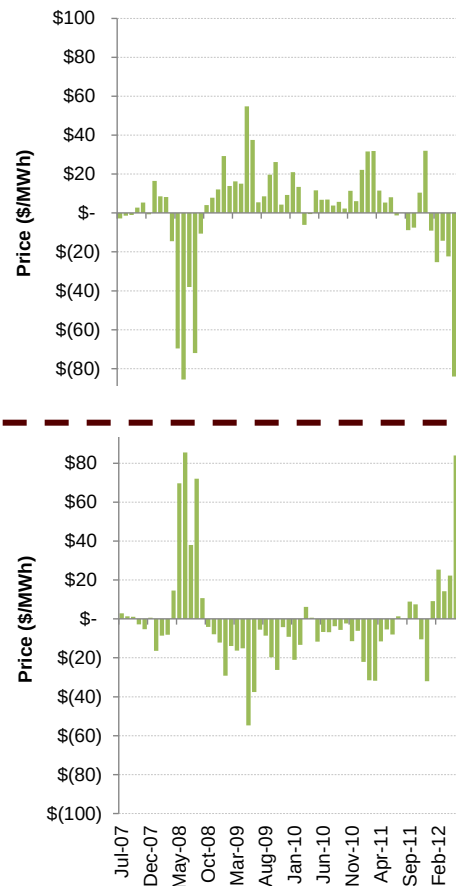
FTR market design

- Initial market for NZ has following features:
 - Two pricing nodes : OTA, BEN
 - Each FTR contract has monthly term, initially offered out one year
 - Progressive auction mechanism
 - Independent FTR manager (EMS)
 - Settled by clearing manager (NZX)
 - First auction May 2013
 - Four products offered

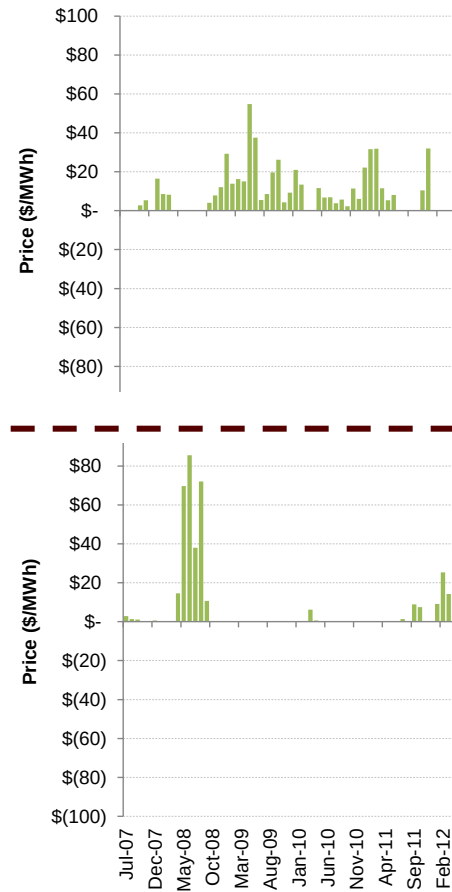
Four initial products

BEN to OTA
(OTA price minus BEN price)

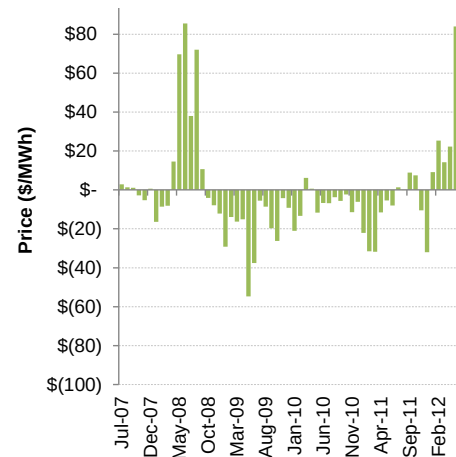
Obligation FTRs



Option FTRs



OTA to BEN
(BEN price minus OTA price)

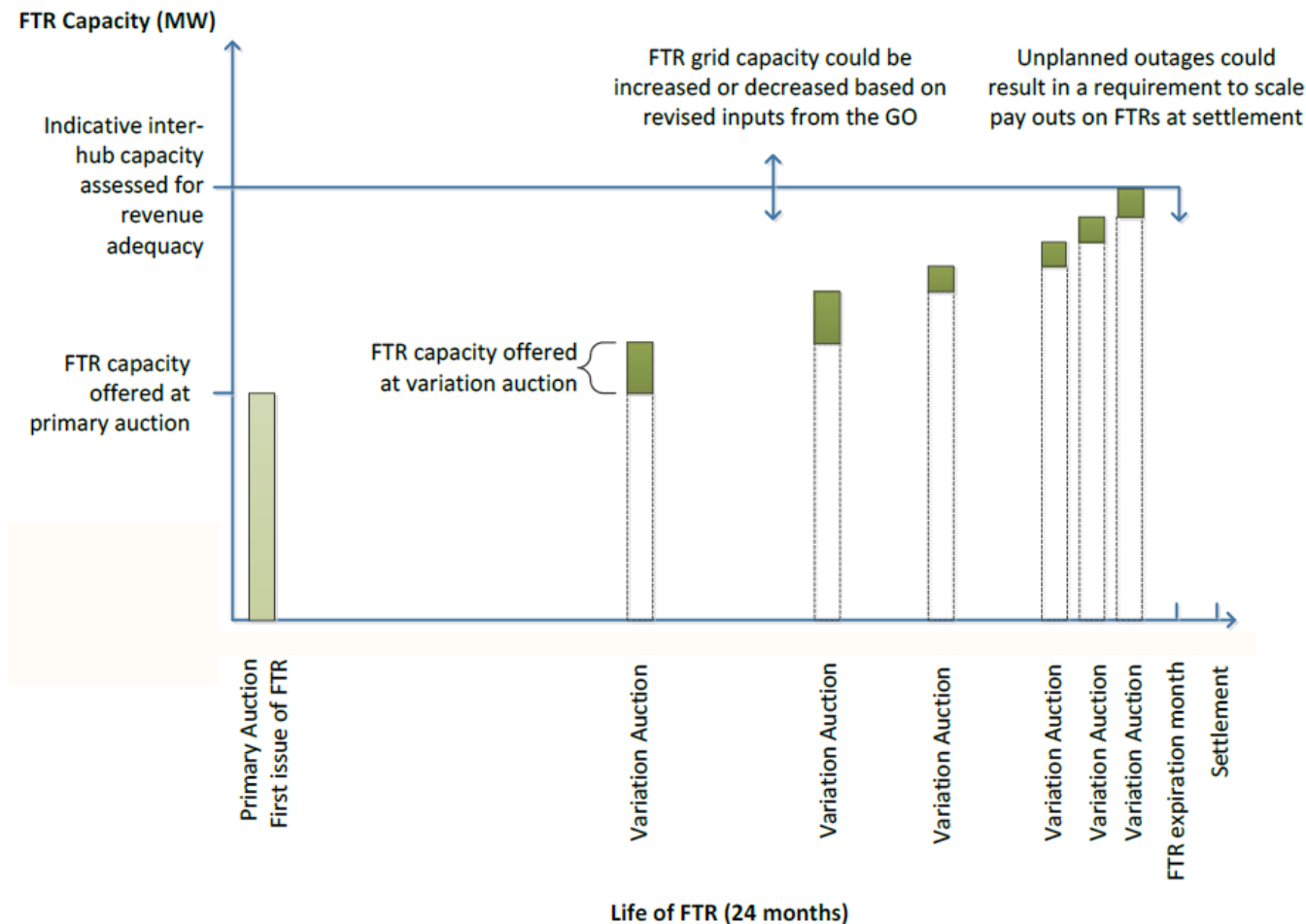


Please note these are stylised graphs, and that since settlement of Option FTRs is by trading period (rather than averages per month) that the shape of Option payments will typically be greater than that shown for Obligation FTRs.

‘Firmness’/’Revenue Adequacy’ of FTRs

- High degree of ‘firmness’ to FTR payments
 - FTR volume offer represents portion of grid capacity (to cover expected grid outages & average transmission losses)
 - FTR payments funded from loss and constraint excess and auction revenues
 - Each FTR will be progressively auctioned through time
 - Later FTR auctions may be reduced/cancelled
- Ultimately, any shortfall in revenue to meet FTR payments would lead to scaling for relevant month
- FTR manager responsible for managing the volume of FTRs – consistent with Code

FTR – life cycle



FTRs will be offered in quarterly groups to coincide with ASX quarterly products

Capacity release profile will be published in FTR calendar

Benefits of FTRs

- Dovetails with energy risk management products (futures, CFDs)
- Promotes hedge market competition
- Promotes retail competition
- Can be used to satisfy prudential security

Debated issues

Do FTRs add to market power?

- Concern expressed by some that FTRs might increase market power
- Initially offered to only two nodes
- Traded markets and transparency generally promote competition
- Nonetheless, Authority will include as part of wider market monitoring

Cost of FTR market

- FTR market establishment and operation costs met initially from levy
- Authority has announced intention to consider other options as market matures
- May transition to trading participants meeting costs

Effect on dynamic efficiency

- Near term benefits of FTRs are clear
- Potential longer-run dynamic benefits
 - Counter tendency for market to remain fragmented
 - Promote ‘national market’ mind-set among participants
 - Increase size of opportunities for new entrants

Next steps

Technical amendments

- Currently considering technical Code amendments:
 - Scaling rules for FTRs in revenue shortfalls
 - FTR treatment if default occurs
 - FTR invoicing issues
 - FTR treatment if delay occurs in publishing final prices

Go-live date

- First auction May 2013
- Activities:
 - FTR allocation plan and FTR prudential security assessment methodology released
 - Software being developed & tested
 - Training will begin
 - Registration will begin

Potential developments

- FTRs could be expanded in future:
 - Better facilitate secondary trading
 - Reconfiguration auctions
 - Intra-island solutions
 - New pricing nodes
 - Locational rental allocations (LRAs)
 - Treatment of losses/firmness/term
 - Continue to align with forms of energy hedges