Hedge Market Development Project – Project update and development of metrics

Presented to the Wholesale Advisory Group

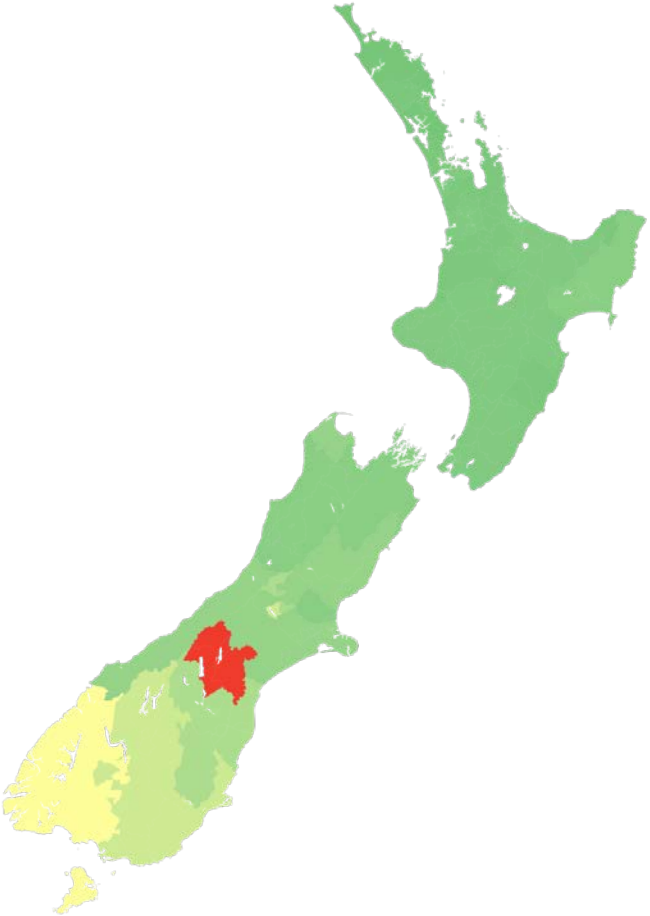
20 February 2014

Data areas for exploration

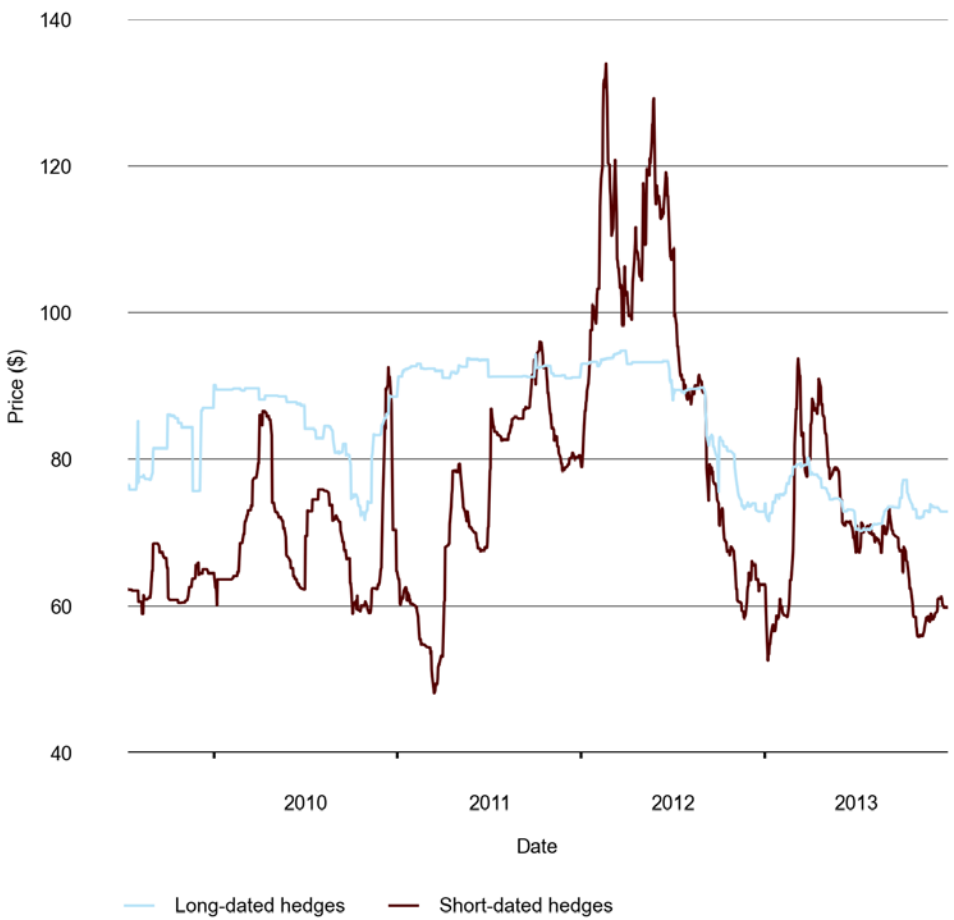
- Price
- Volume
- Liquidity
- Barriers

Price

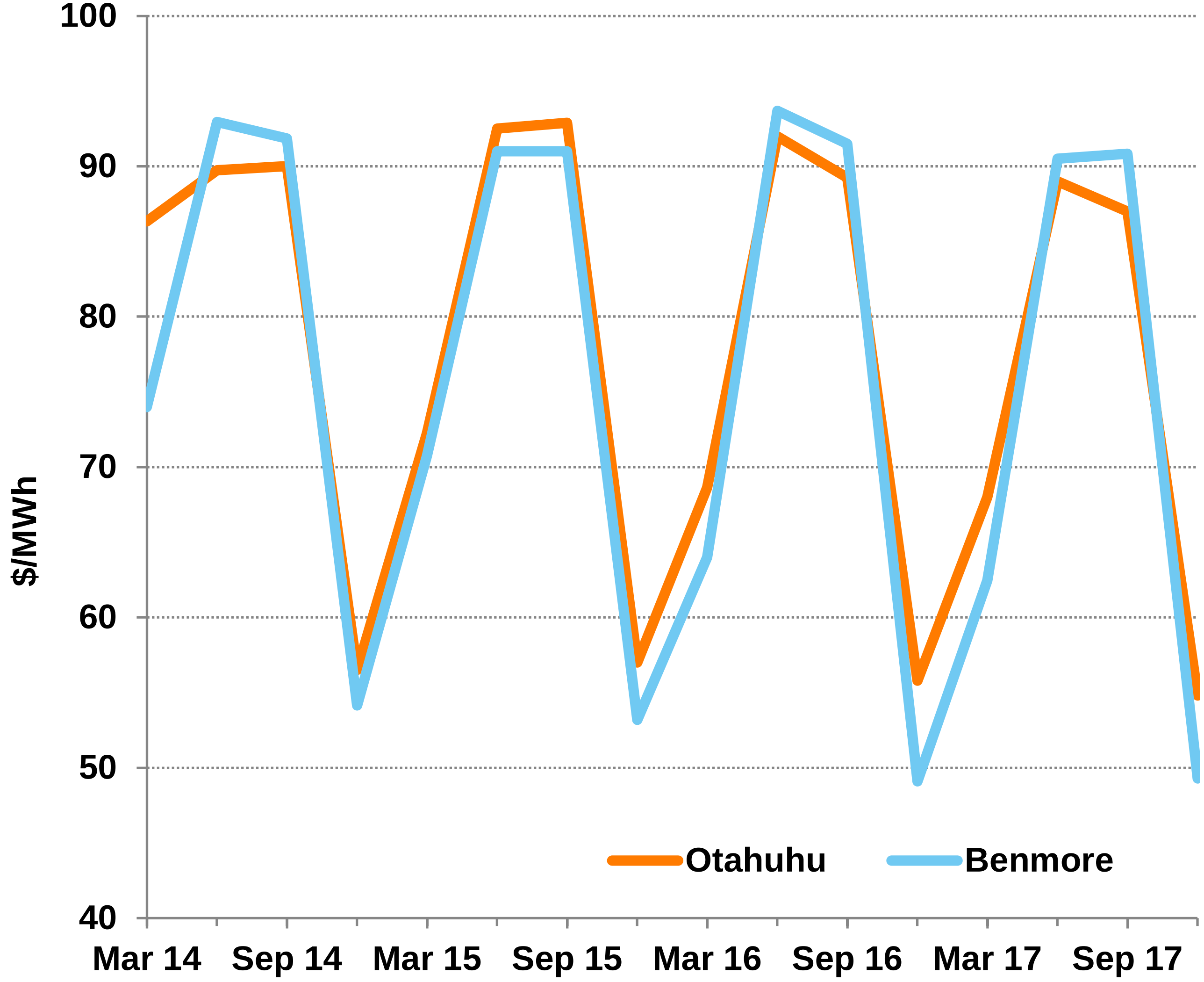
Price: Map by GXP area



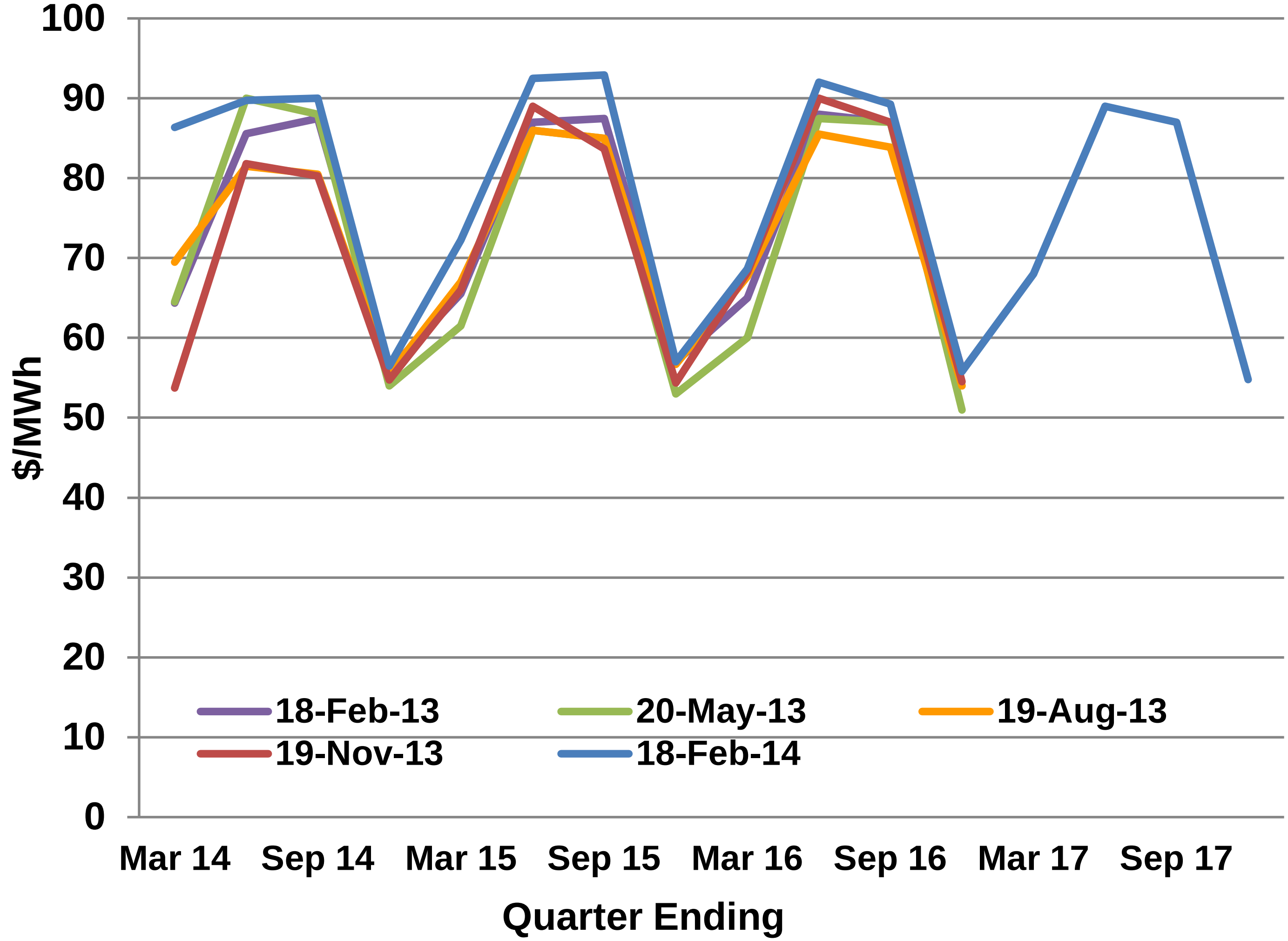
Price: Short/long dated ASX futures price change



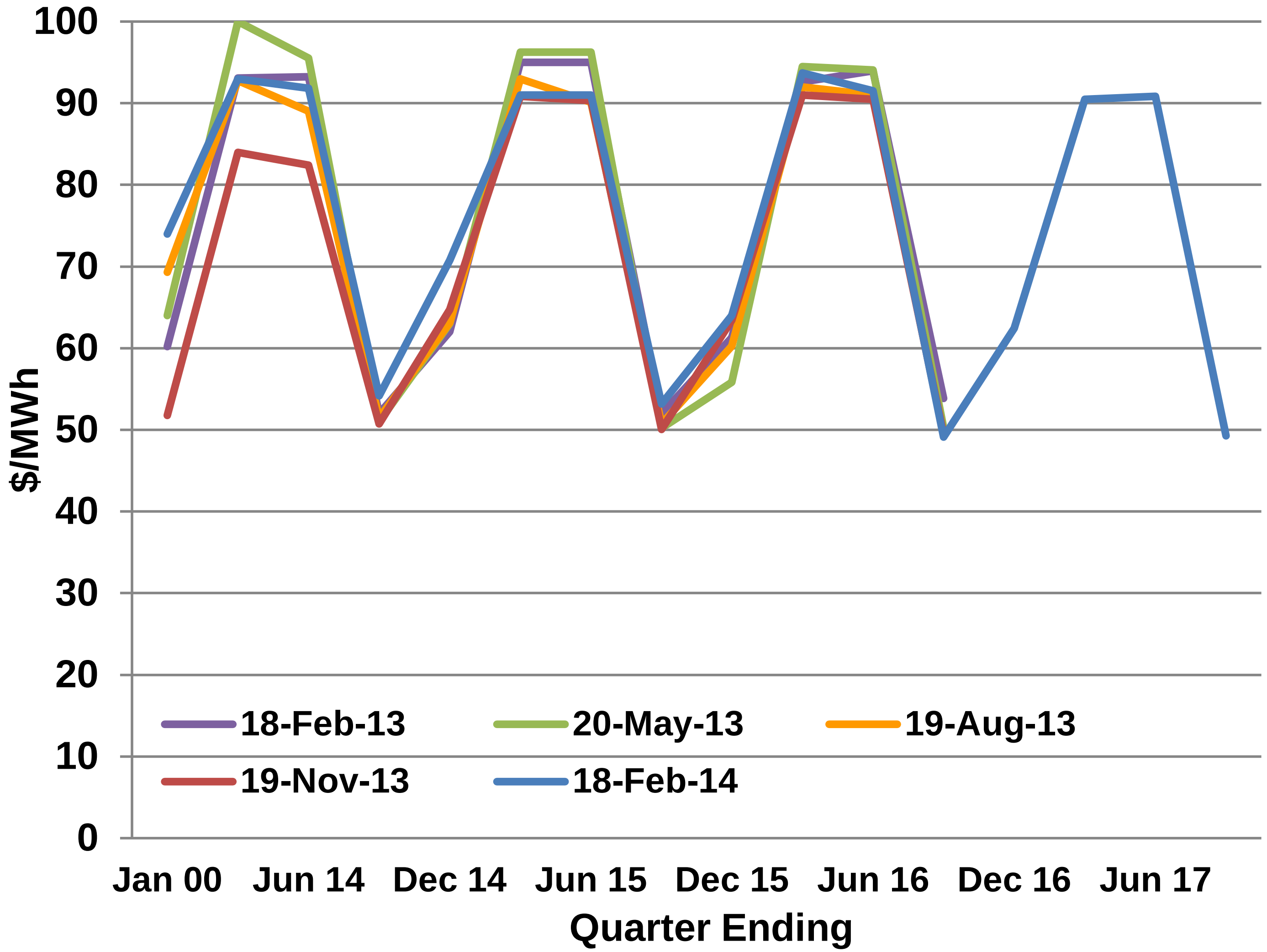
Price: ASX futures prices as at 17 February 2014



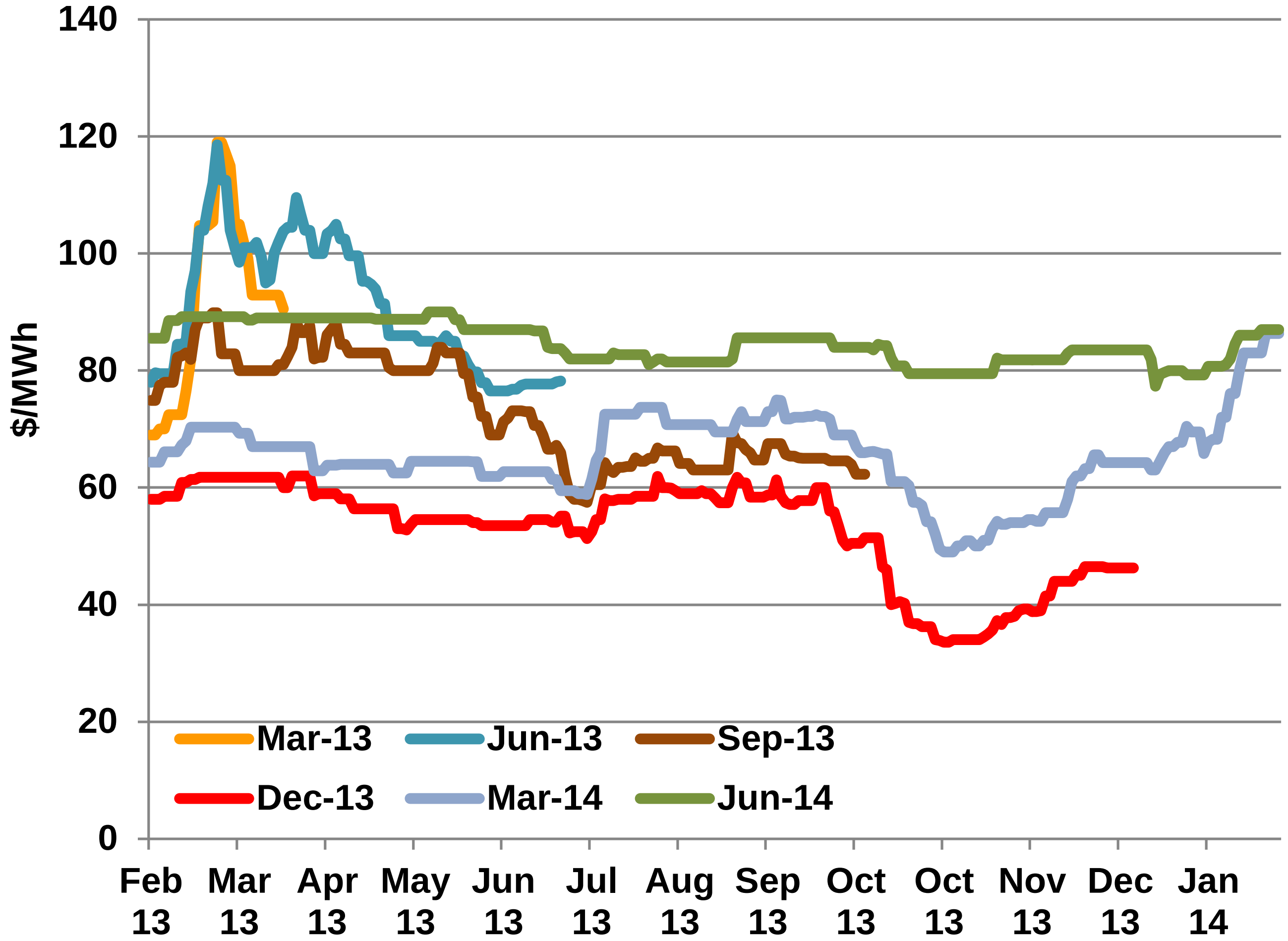
Price: ASX Otahuhu futures prices over time



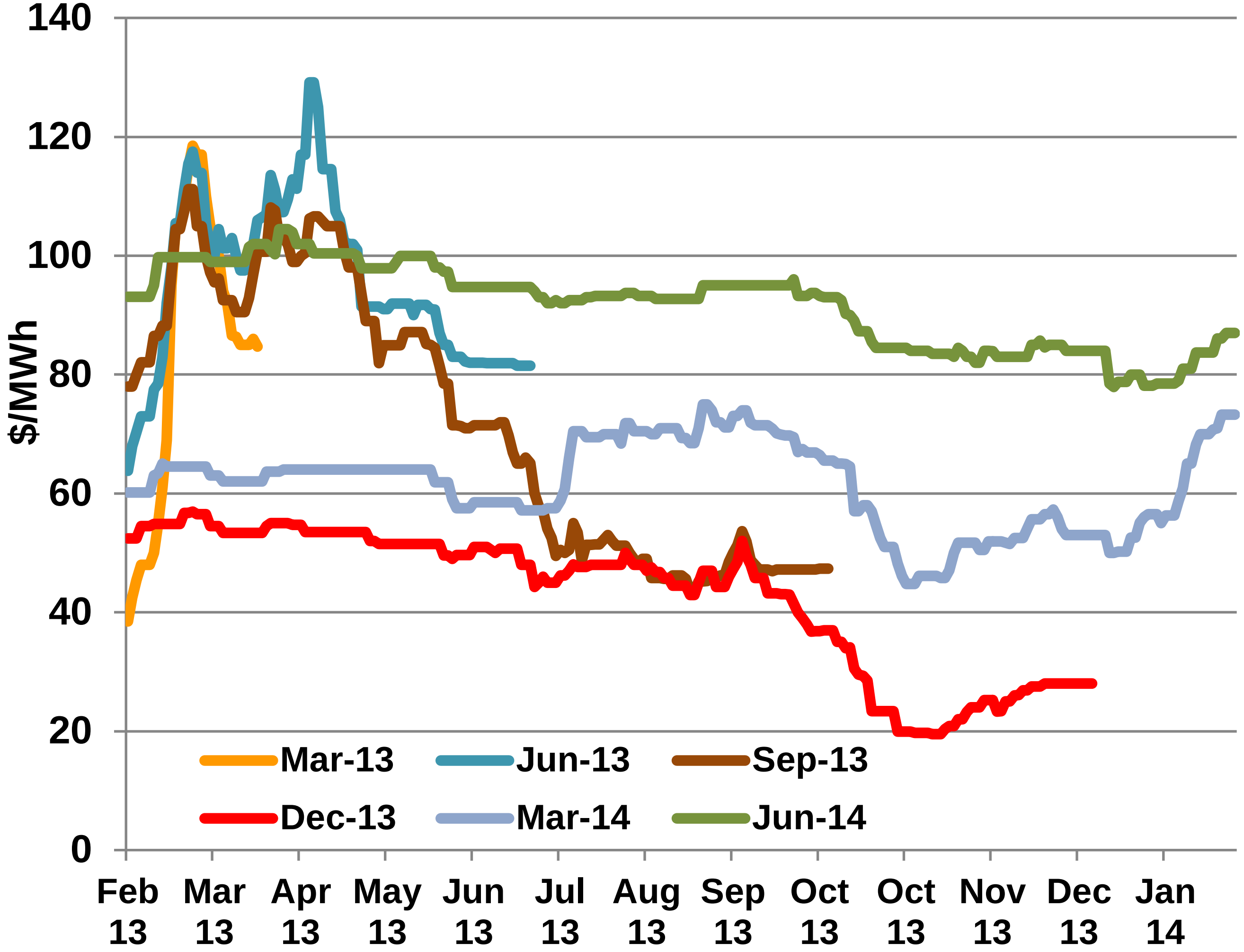
Price: ASX Benmore futures prices over time



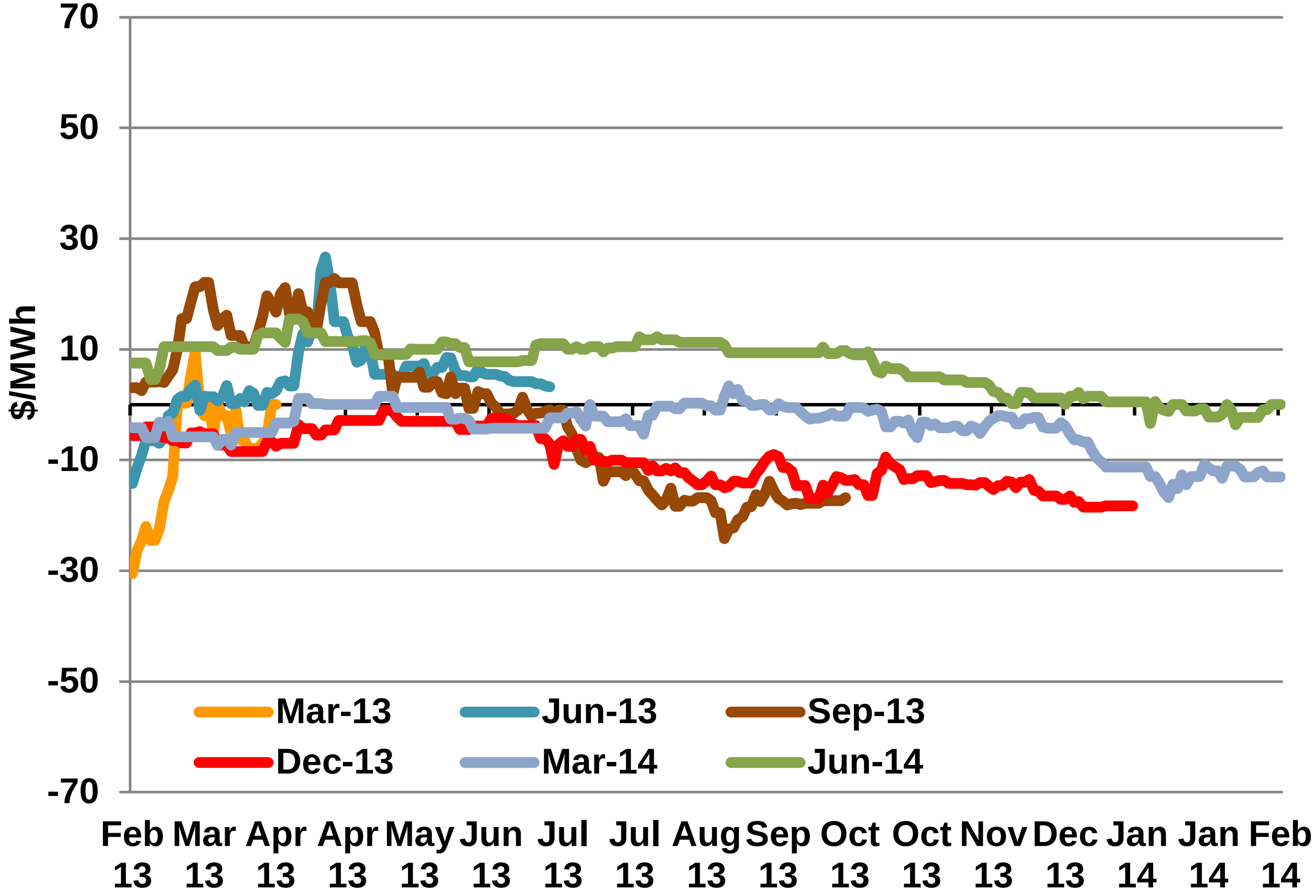
Price: ASX Otahuhu futures quarterly prices over time



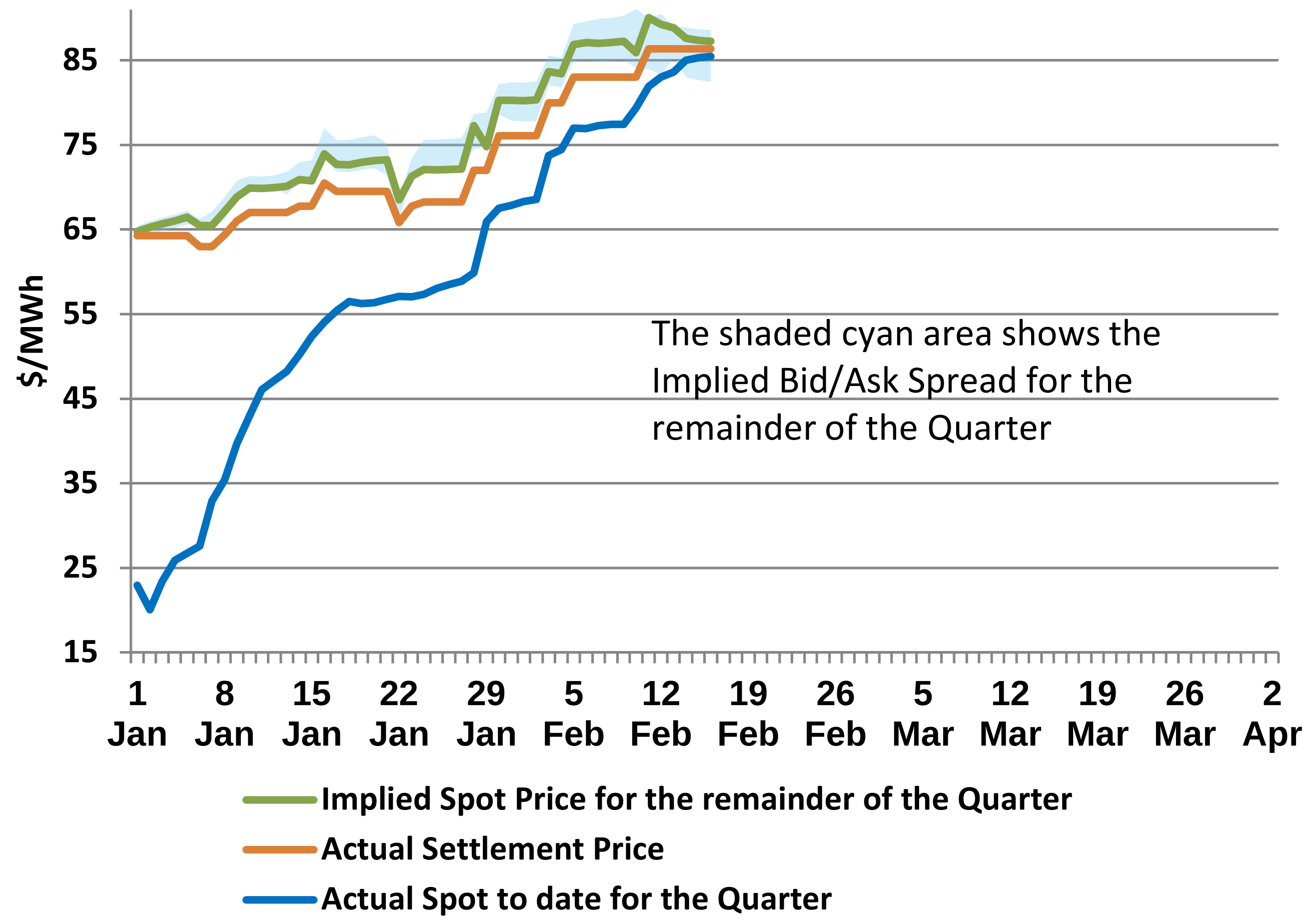
Price: ASX Benmore futures quarterly prices over time



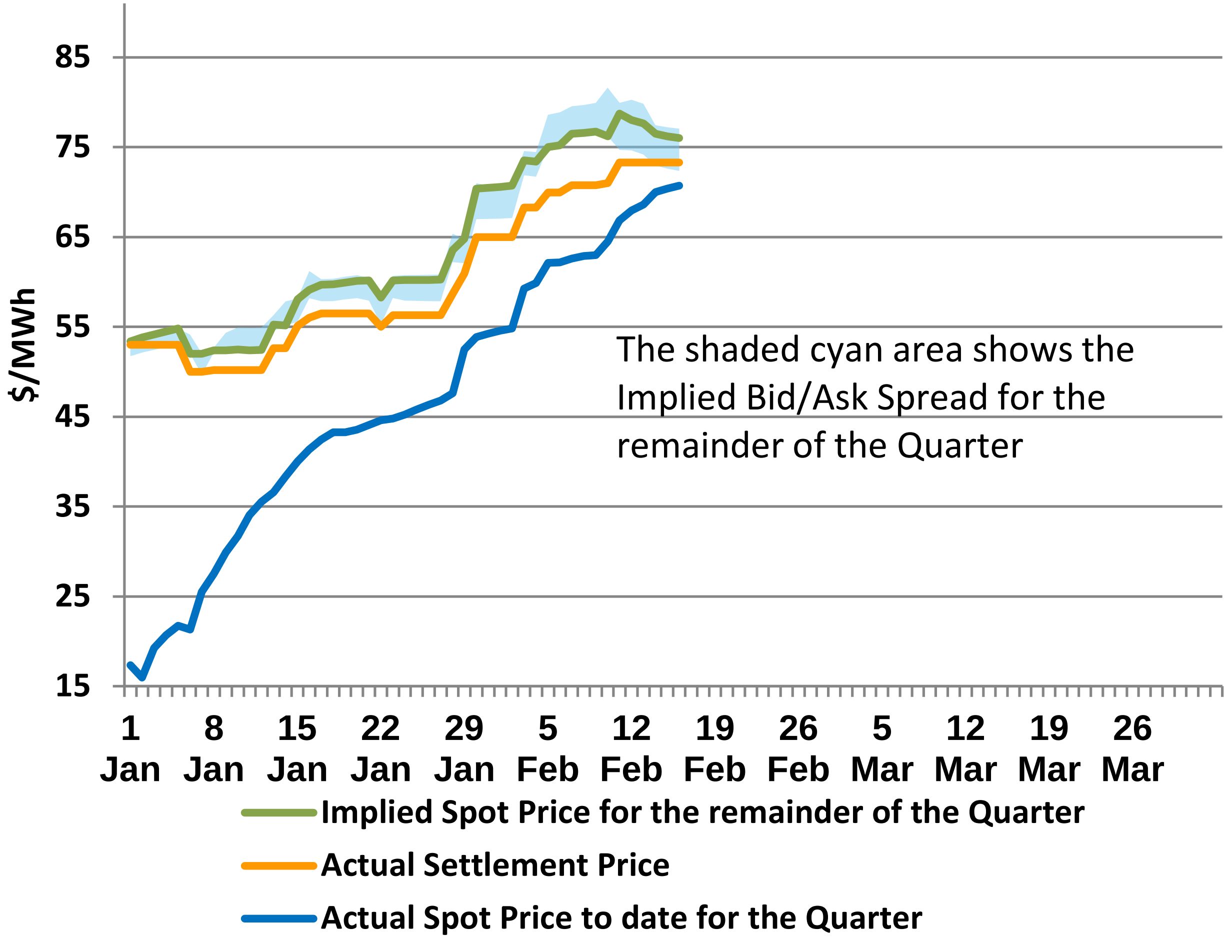
Price: ASX Otahuhu less Benmore futures quarterly pricing differential



Price: ASX Otahuhu implied spot price for remainder of quarter



Price: ASX Benmore implied spot price for remainder of quarter



Price: Weekly generation weighted spot prices

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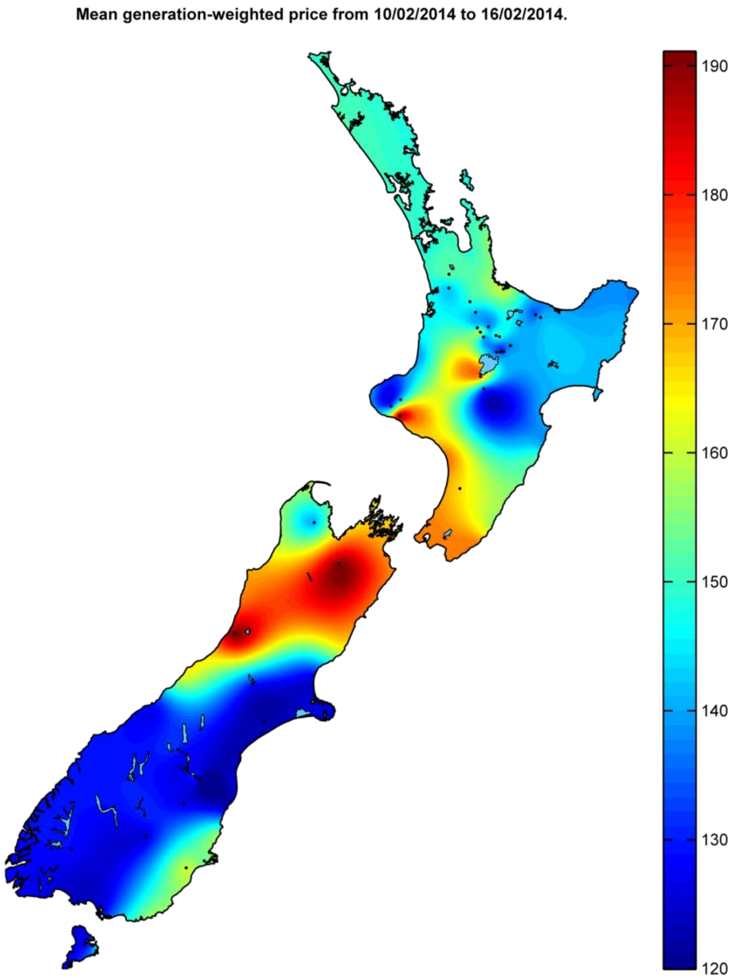


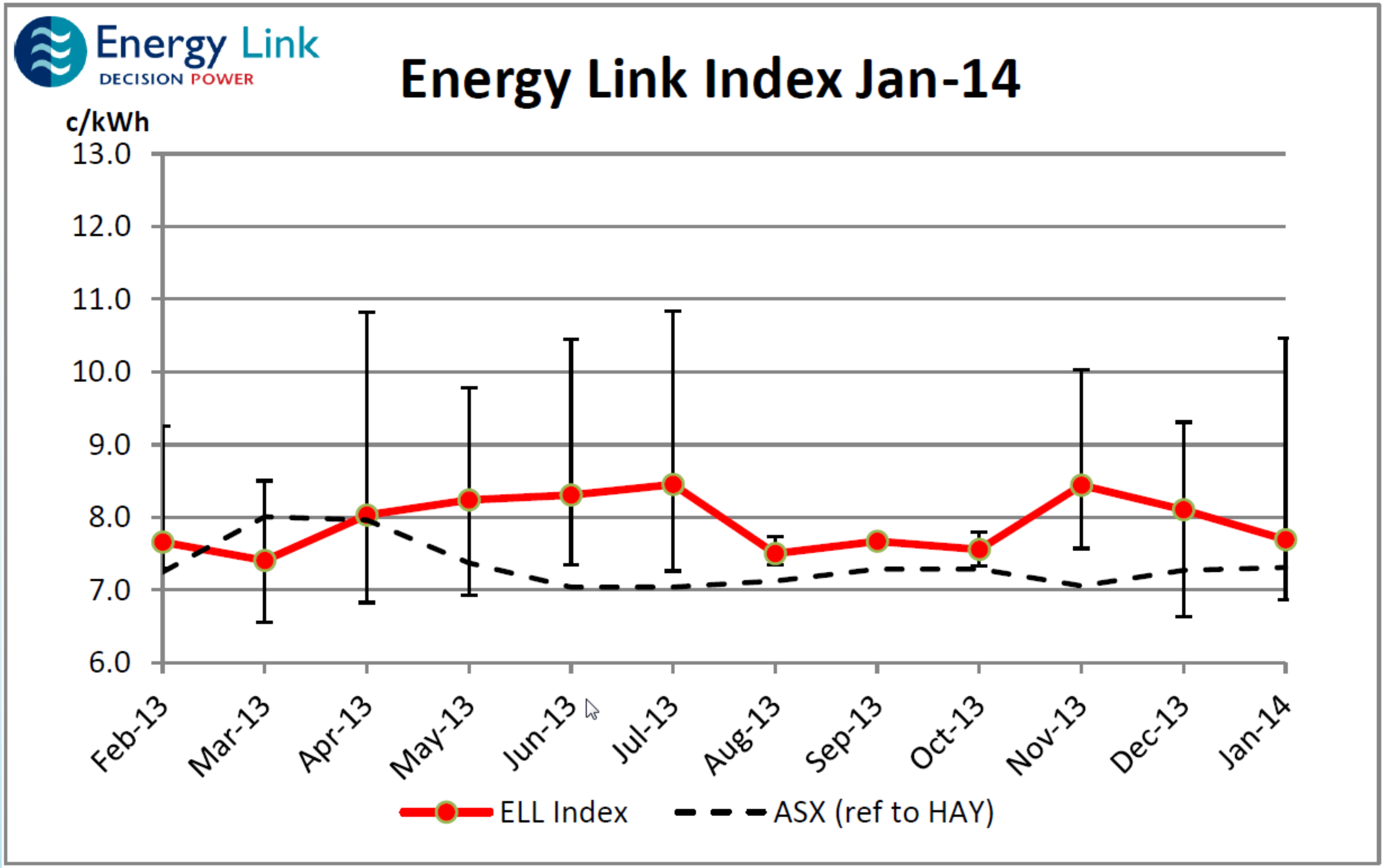
Price: FTR auction report

Jan_PRI

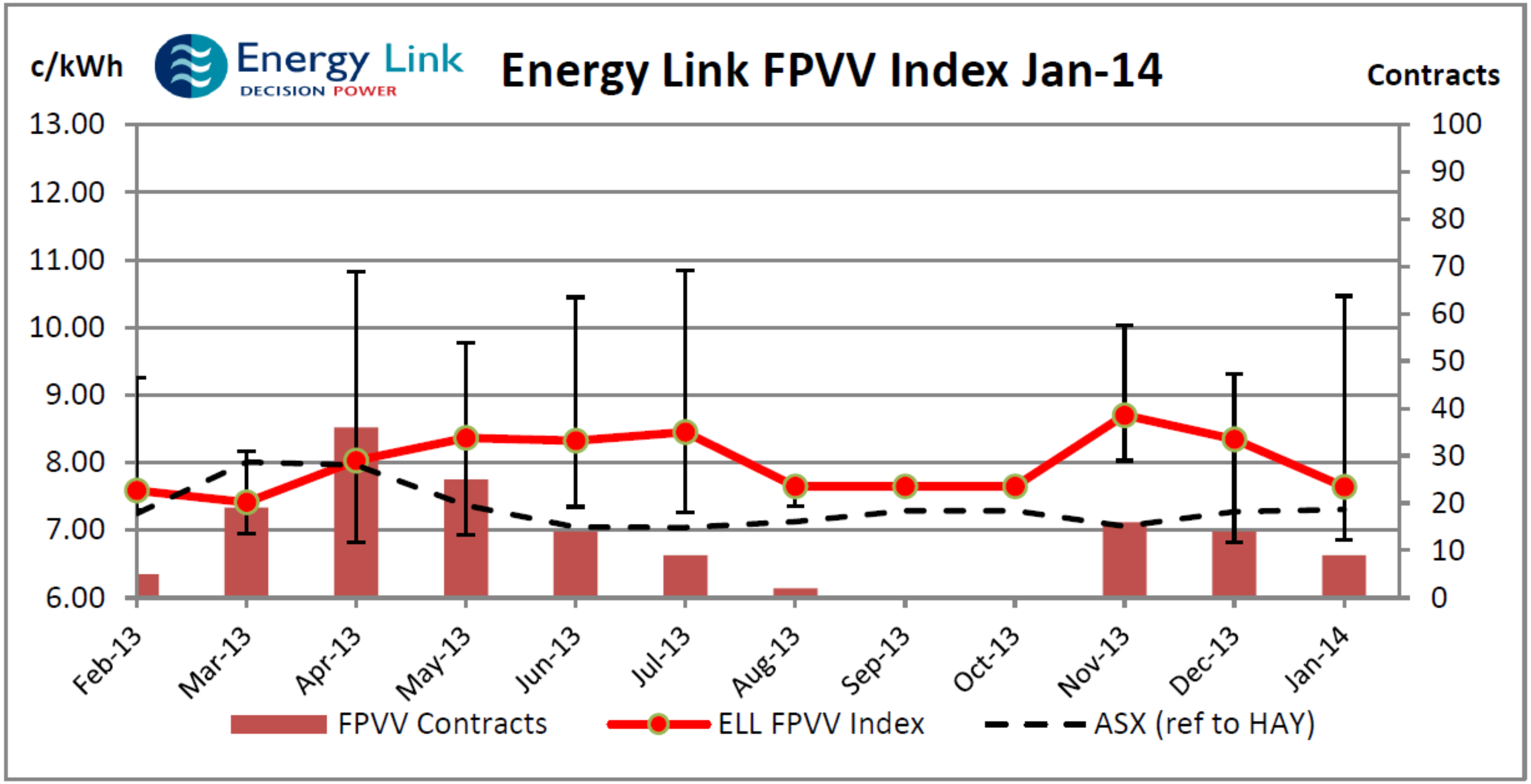
		ASX Implied Price	Cleared Price	Cleared Volume	FTR participant volume DEUT	CTCT	MRPL	TRUS	MERI	GENE	GENF	PUNZ	OMFM
Jan-15	BEN_OTA options		$5.12	48.4		14.8	8	9	11.1				5.5
	BEN_OTA obligations	6.30	$4.37	0									
	OTA_BEN options		$0.75	48.4		8.2	2	9	0		18.5		10.7
	OTA BEN obligations	-$1.50	-$4.37	0									
Feb-15	BEN_OTA options		$5.81	41.3		13.2	7.4	2	15.4				3.3
	BEN_OTA obligations	$6.30	$4.81	0									
	OTA_BEN options		$1.00	41.3		8.2		4	9.3		1.9		17.9
	OTA BEN obligations	-$1.50	-$4.81	0									
Mar-15	BEN_OTA options		$5.61	41.2		13.2	6.6		14.5				6.9
	BEN_OTA obligations	$6.30	$4.23	0									
	OTA_BEN options		$1.38	41.3		8.2	10.9	12					10.2
	OTA BEN obligations	-$1.50	-$4.23	0									

Implied prices only

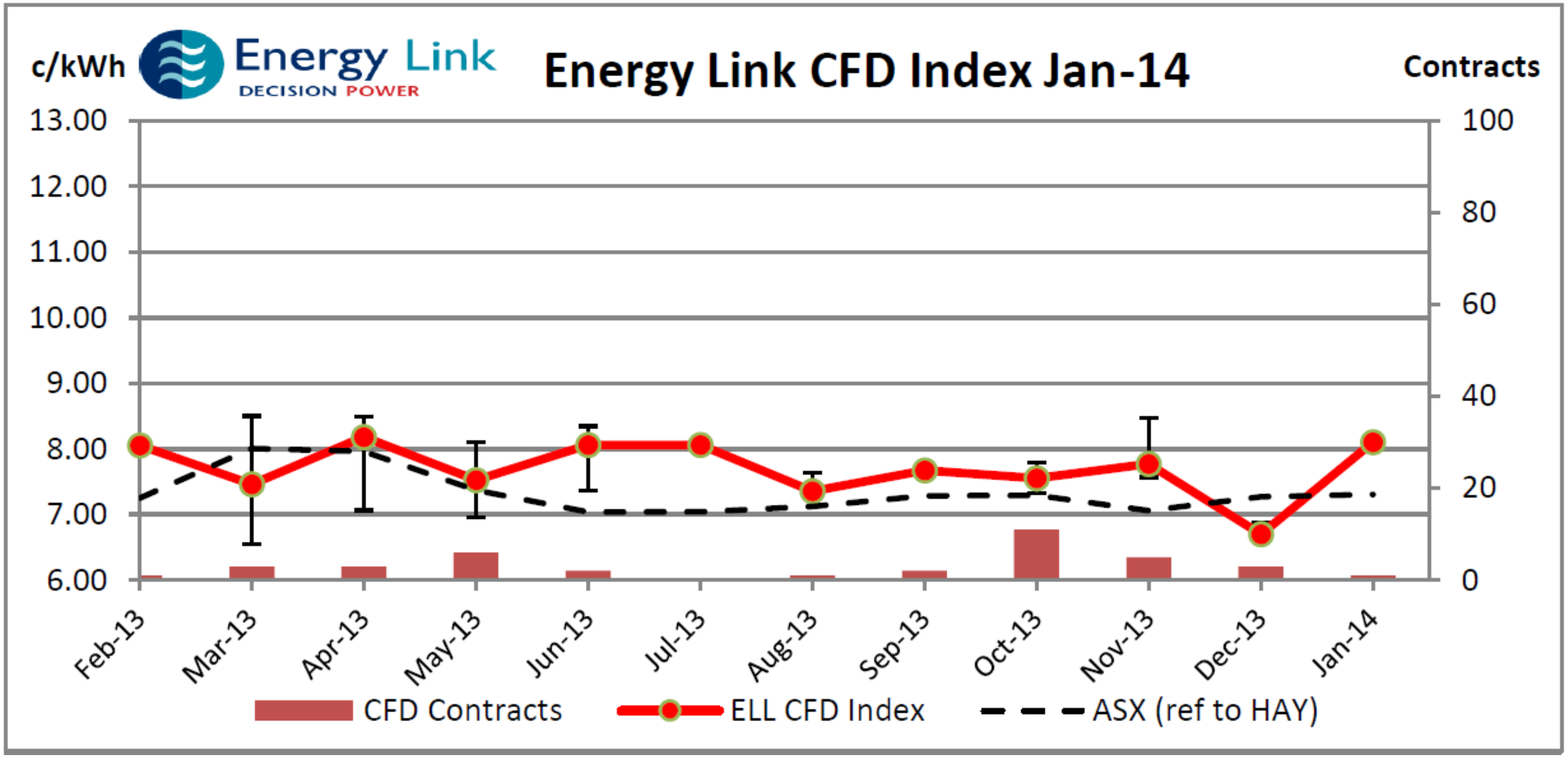
Price: Energy Link Electricity Contract Index



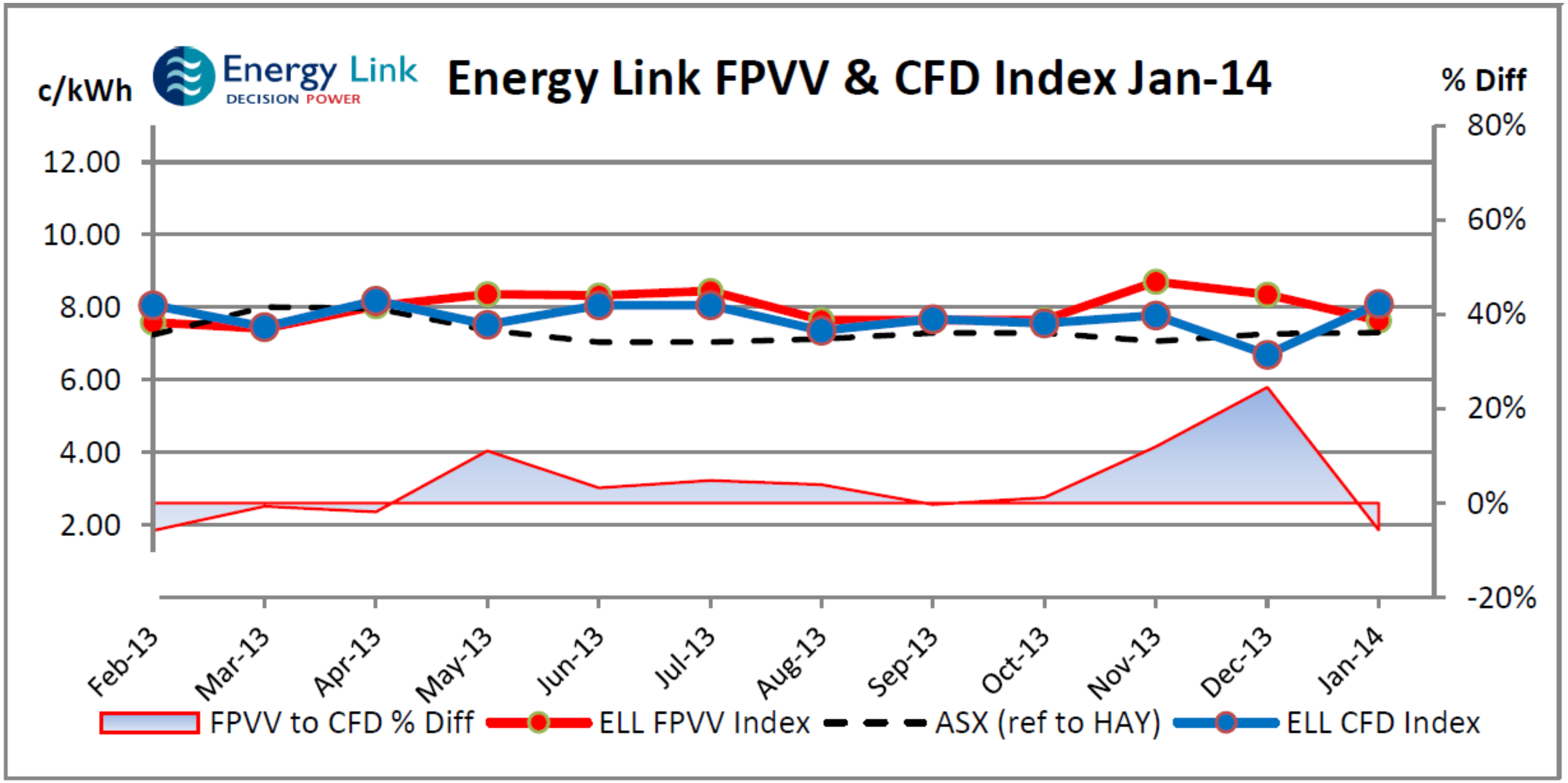
Price: Energy Link FPVV Index



Price: Energy Link CFD Index

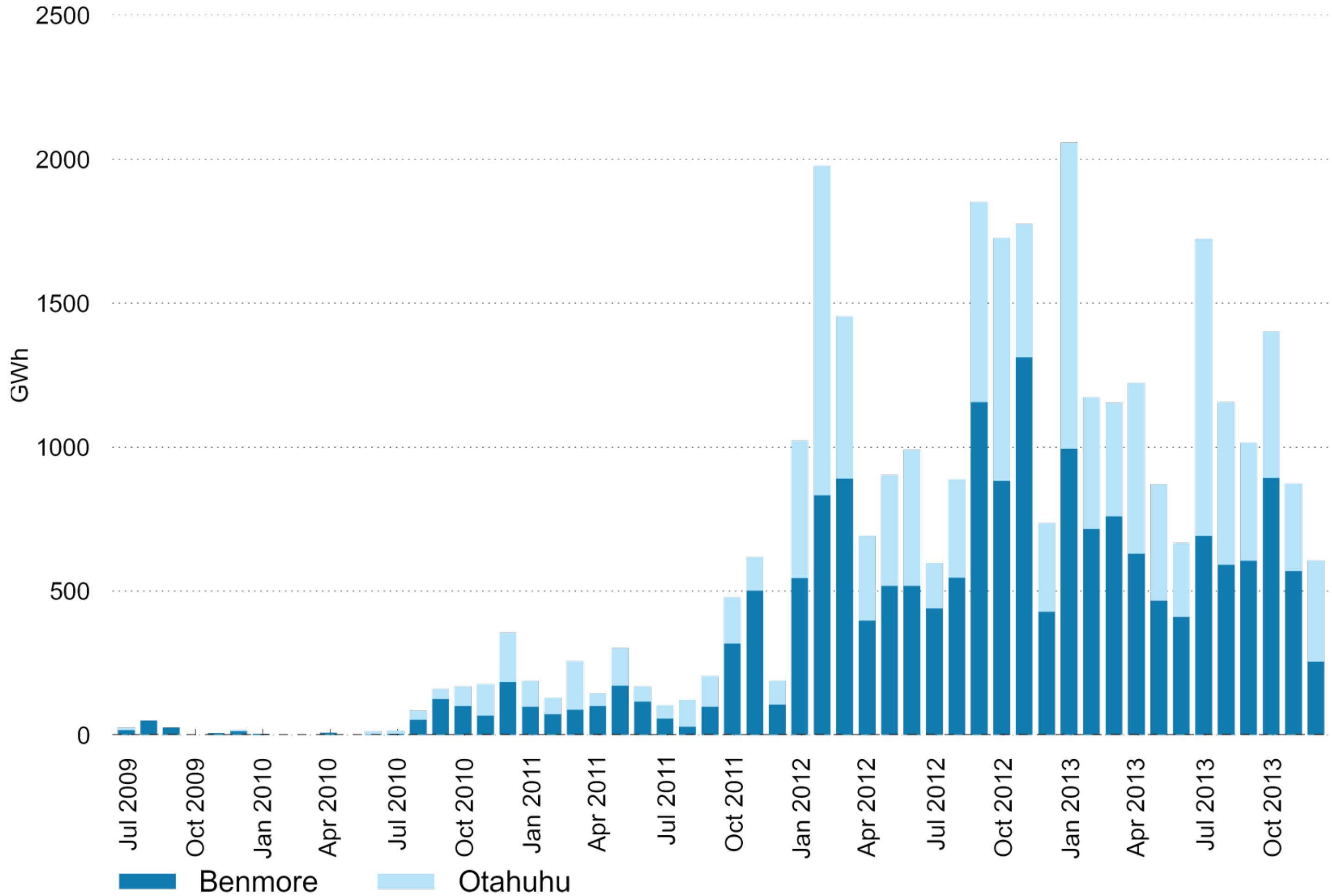


Price: Energy Link FPVV & CFD Index

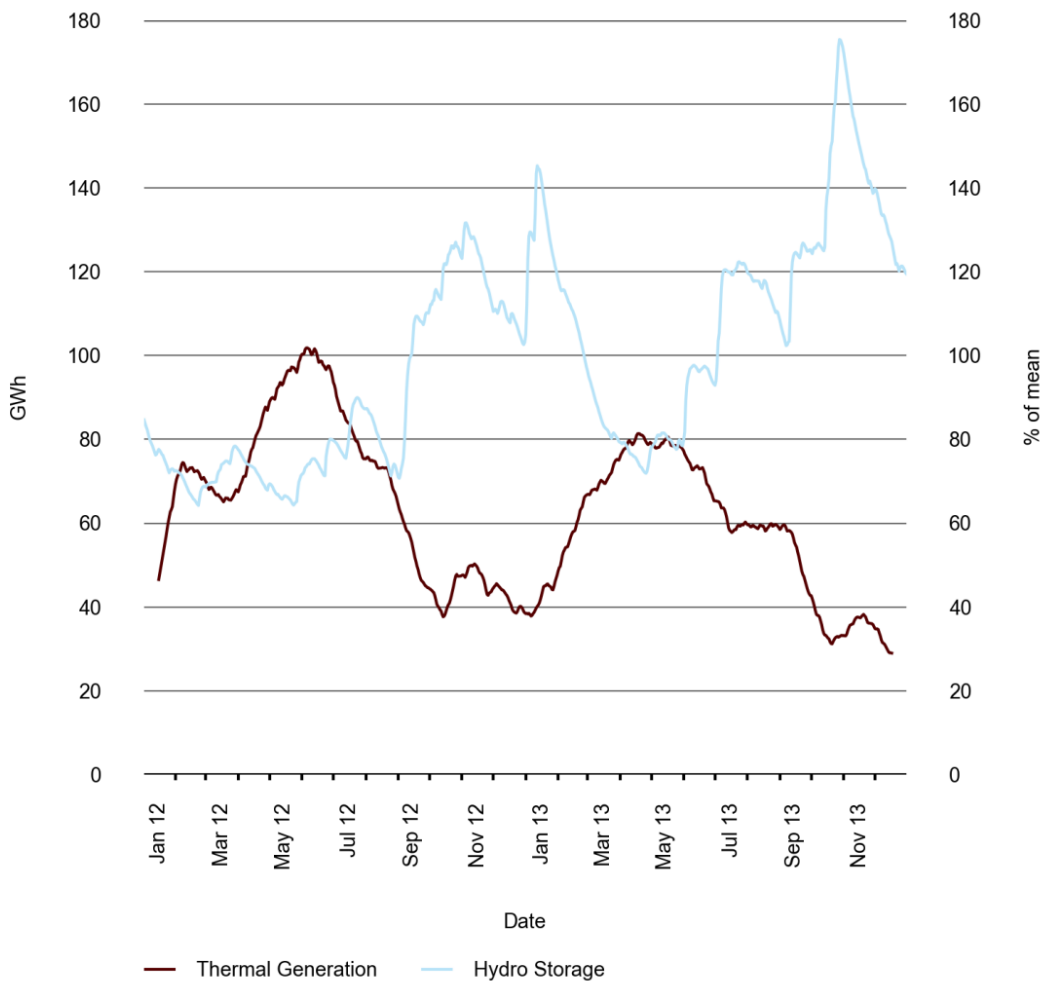


Volume

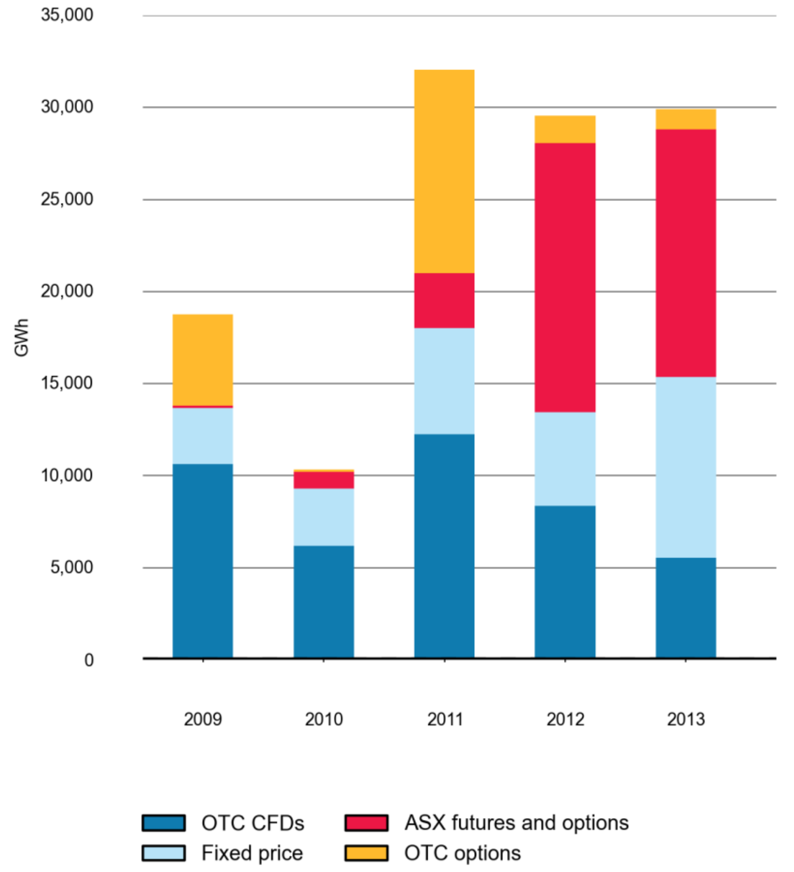
Volume: ASX futures and options transactions



Volume: Thermal generation and hydro storage

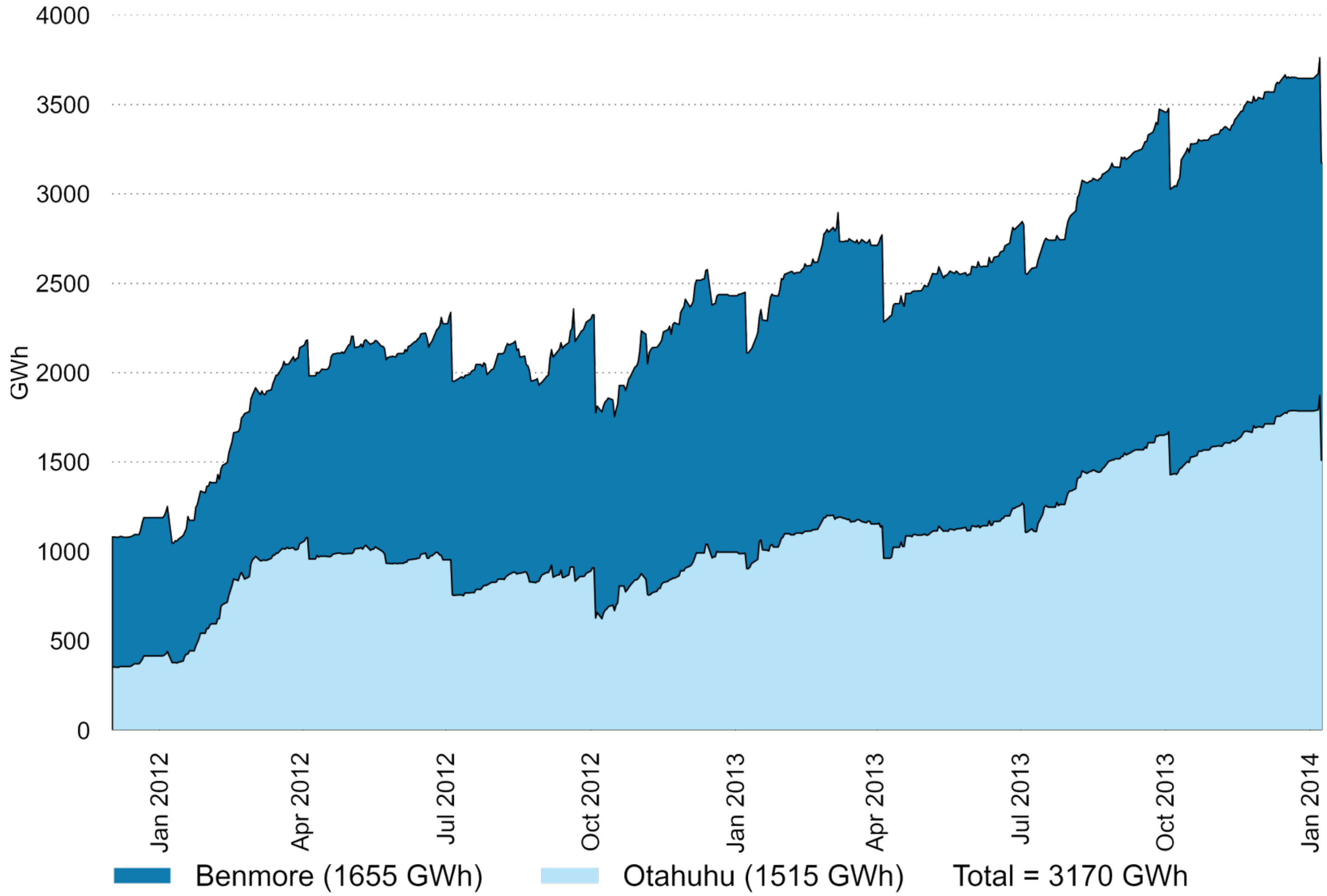


Volume: ASX and OTC transaction GWh by year



Liquidity

Liquidity: ASX futures and options UOI



Liquidity: ASX weekly table

Otahuhu				UOI	UOI	Benmore				UOI	UOI	UOI as
				Futures	Options					Futures	Options	% of
Expiry	Bid	Offer	Spread	GWh	GWh	Expiry	Bid	Offer	Spread	GWh	GWh	Load
Mar-14	85.40	88.05	3.1%	421	0	Mar-14	73.00	74.75	2.4%	287	0	7.4%
Jun-14	88.50	90.75	2.5%	230	0	Jun-14	91.00	93.25	2.5%	295	0	5.2%
Sep-14	90.00	91.25	1.4%	178	0	Sep-14	91.10	93.95	3.1%	274	0	4.1%
Dec-14	54.80	57.25	4.5%	238	0	Dec-14	52.50	54.65	4.1%	71	0	3.1%
Mar-15	72.00	73.25	1.7%	112	0	Mar-15	70.00	70.85	1.2%	78	0	2.0%
Jun-15	91.00	93.85	3.1%	55	0	Jun-15	90.00	94.00	4.4%	149	0	2.0%
Sep-15	90.50	94.50	4.4%	49	0	Sep-15	89.70	93.50	4.2%	161	0	1.9%
Dec-15	55.25	57.75	4.5%	149	0	Dec-15	52.75	54.00	2.4%	60	0	2.1%
Mar-16	66.95	70.00	4.6%	81	0	Mar-16	62.50	64.75	3.6%	63	0	1.5%
Jun-16	89.00	93.00	4.5%	37	0	Jun-16	92.00	96.05	4.4%	41	0	0.8%
Sep-16	87.25	91.10	4.4%	62	0	Sep-16	90.30	94.50	4.7%	75	0	1.3%
Dec-16	55.30	56.50	2.2%	66	0	Dec-16	47.75	49.50	3.7%	46	0	1.1%
Mar-17	66.00	69.00	4.5%	7	0	Mar-17	60.75	63.45	4.4%	0	0	0.1%
Jun-17	86.40	90.50	4.7%	13	0	Jun-17	88.70	92.90	4.7%	33	0	0.5%
Sep-17	86.50	88.00	1.7%	13	0	Sep-17	89.00	91.50	2.8%	46	0	0.5%
Dec-17	53.30	55.65	4.4%	7	0	Dec-17	48.05	50.15	4.4%	42	0	0.5%
Min			1.4%						1.2%			
Mean			3.5%						3.6%			
Max			4.7%						4.7%			
Otahuhu open interest						**Benmore open interest**						
Contract Equivalents		785				Contract Equivalents		786				
GWh		1,718				GWh		1,721				
Total open interest												
Contract Equivalents		1,571										
GWh		3,439										

Liquidity: Consumers active in the physical electricity market (possible example)

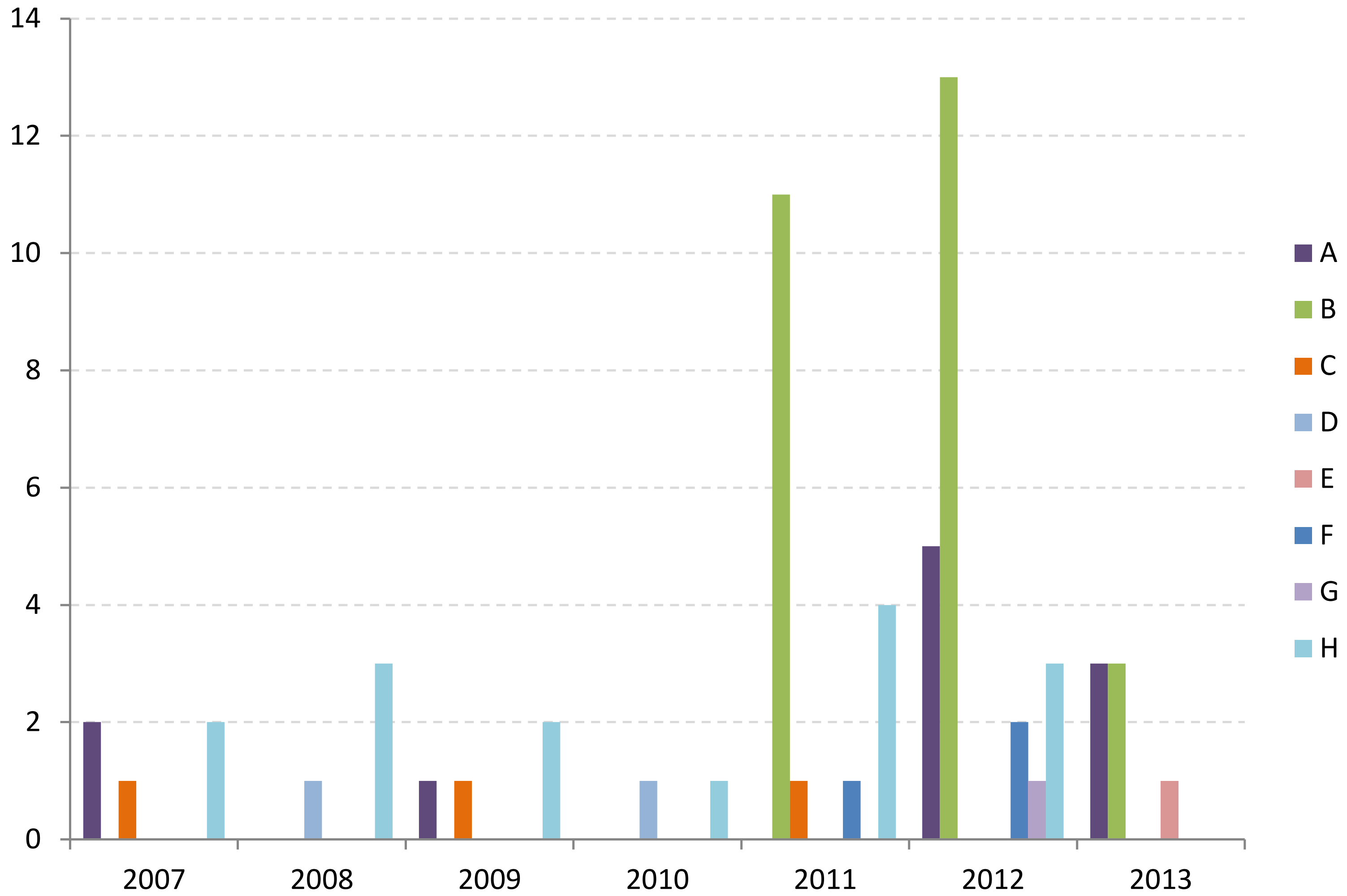
		Number of customers
Spot (some portion of load		500
FPVV	- Simple Tariff	1,500,000
	- TOU Tariff	120,000
	- Negotiated arrangement	350
PPA		20

Liquidity: Consumers active in the derivatives market indexed to electricity spot prices (possible example)

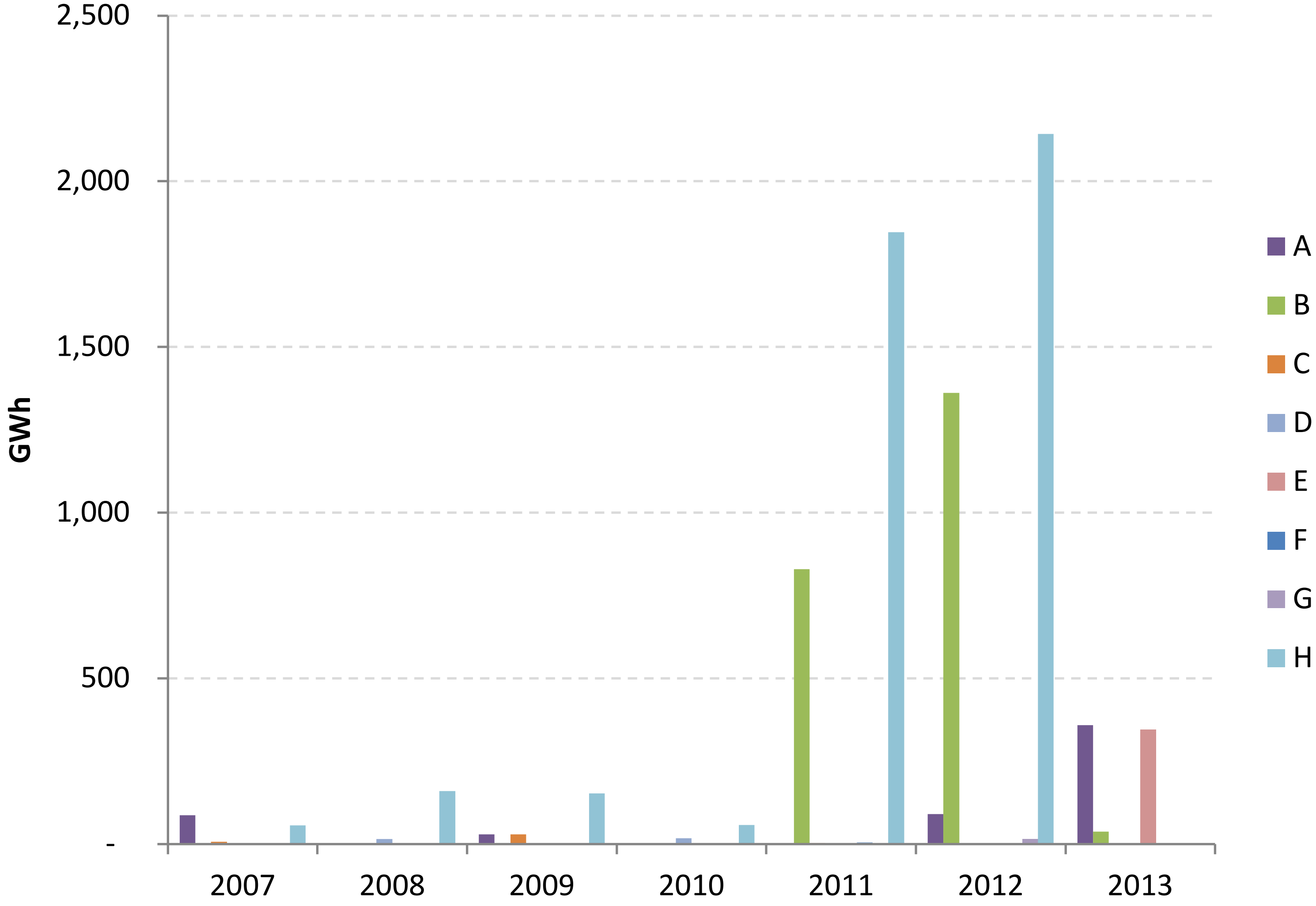
Exchange traded	- ASX Futures	10
	- ASX Options	3
	- FTRs	8
OTC	- CfDs	50
	- Options	5
	- FTRs	1

Barriers

Barriers: Number of HSAs by trade year and holder



Barriers: HSA quantities by trade year and holder



Question 1

Does the WAG agree that the project timeline should be changed so that recommendations are provided to the Authority Board by the end of the 2014 calendar year?

Question 2

Does the WAG agree with this shorter list of parties to approach to make a presentation at future meetings?

Are there other parties the WAG would be particularly interested in hearing from?

Question 3

Does the WAG agree with the suggested scope of “hedge market” for the purposes of the Hedge Market Development project?

Does it agree that the FPVV market is an important consideration?

Question 4

Does the WAG agree with the definitions included in the attached glossary?

What definitions should be revised?

Are there any additional terms that need to be included?

Question 5

Are there any high-level aspects of the project that the WAG thinks should be clarified at this point?

Question 6

What does the WAG consider to be the features of a high-performing hedge market?

Question 7

What information could be used to measure the extent to which a high-performing hedge market exists, or is progressing to that end?

Question 8

What qualities does any data need to have in order to meaning fully track achievement and progress over time?

Question 9

What information on pricing would the WAG find useful?

Is there any information the Authority hasn't identified that could provide useful insights?

Question 10

What information on hedge market volumes would the WAG find useful?

Is there any information the Authority hasn’t identified that could provide useful insights?

Question 11

Does the WAG envision any particular difficulties obtaining volume information?

Question 12

What information on liquidity would the WAG find useful?

Is there any information the Authority hasn't identified that could provide useful insights?

Question 13

What information on credit and prudential arrangements would the WAG find useful?

Is there any information the Authority hasn't identified that could provide useful insights?

Question 14

What information on levels of knowledge and understanding of the market would the WAG find useful?

Is there any information the Authority hasn't identified that could provide useful insights?

Question 15

Are there any other sources of information that the Authority should consider investigating?

Question 16

Can WAG members provide any assistance in gathering useful data for the groups’ use for this project?

Question 17

To what degree is confidentiality a concern with regard to data required for immediate purposes of this project, and for ongoing monitoring?

Question 18

What should the Authority's role be in providing ongoing data and analysis on the hedge market and related issues?