



## Q2/13 Quarterly Report

April – June 2013

July 31, 2013

## Wholesale market

The average pool price in Q2/13 was \$123.41/MWh (\$167.67/MWh on-peak, \$34.90/MWh off-peak), approximately 207% higher than in Q2/12. The all hours, on-peak, and off-peak prices were the highest Q2 prices since 2000.

Pool prices were high as a result of a low supply cushion—the total amount of energy offered by market participants that is not called on by the Alberta Electric System Operator (AESO). It is a function of, among other things:

- Market demand
- Planned and forced outages
- Imports / exports<sup>1</sup>
- Wind generation
- Internal transmission congestion

		2012	2013	Change
Avg. Pool Price (\$/MWh)	Apr	41.69	137.66	230%
	May	29.46	127.66	333%
	Jun	49.30	104.77	113%
	<b>Q2 Total</b>	<b>40.15</b>	<b>123.41</b>	<b>207%</b>
Avg. Outages (MW)	Apr	3500	3830	9.4%
	May	3483	3868	11.1%
	Jun	3205	3975	24.0%
	<b>Q2 Total</b>	<b>3396</b>	<b>3891</b>	<b>14.6%</b>
Avg. Imports and Exports (MW)	Apr	564	498	-11.7%
	May	513	306	-40.4%
	Jun	519	373	-28.1%
	<b>Q2 Total</b>	<b>532</b>	<b>392</b>	<b>-26.3%</b>
Avg. Supply Cushion (MW)	Apr	1561	1179	-24.5%
	May	1784	1375	-22.9%
	Jun	1962	1271	-35.2%
	<b>Q2 Total</b>	<b>1769</b>	<b>1276</b>	<b>27.9%</b>

The low supply cushion compared to the period one year earlier was a result of three factors:

- Demand was an average of 232 MW higher
- Imports were an average of 140 MW lower as a result of:
  - A planned transmission outage on the BC intertie from April 30 HE 9 to May 12 HE 24
  - A planned transmission outage on the BC intertie from June 8 HE 7 to June 11 HE 17
  - 183 other hours where imports were restricted due to Calgary-region constraints<sup>2</sup>
- Planned and forced outages were as average of 495 MW greater:
  - Keephills 1 (KH1), with a capacity of 395 MW, was forced out-of-service on March 5, 2013; the projected in-service date is November 11, 2013<sup>3</sup>

### April

For the week Sunday, April 21, 2013 to Saturday, April 27, 2013 (see highlighted in the following charts) pool price averaged \$323.94/MWh, the second highest weekly average since October 2000, compared to an average of \$76.69/MWh the previous week. The high prices were caused by a decline in average supply cushion to 874 MW due to over 4,000 MW of forced and planned generator outages.

<sup>1</sup> The table lists the sum of the average import and the average export, not the average net import.

<sup>2</sup> [http://www.aeso.ca/downloads/2013-008R\\_Calgary\\_Area\\_Constraints\\_and\\_Total\\_Transfer\\_Capability\(3\).pdf](http://www.aeso.ca/downloads/2013-008R_Calgary_Area_Constraints_and_Total_Transfer_Capability(3).pdf)

<sup>3</sup> <http://www.transalta.com/newsroom/news-releases/2013-05-24/transalta-updates-return-service-dates-keephills-1-and-sundance-1>

## May

For the week Sunday, April 28, 2013 to Saturday, May 4, 2013 (see highlighted in the following charts) pool price averaged \$343.09/MWh, the highest weekly average since October 2000. Similar to the previous week, the high prices were caused by a decline in average supply cushion to 772 MW due to:

- Over 4,000 MW of forced and planned outages
- A planned transmission outage on the BC intertie, from April 30 HE 9 to May 12 HE 24, that reduced import capability by approximately 700 MW

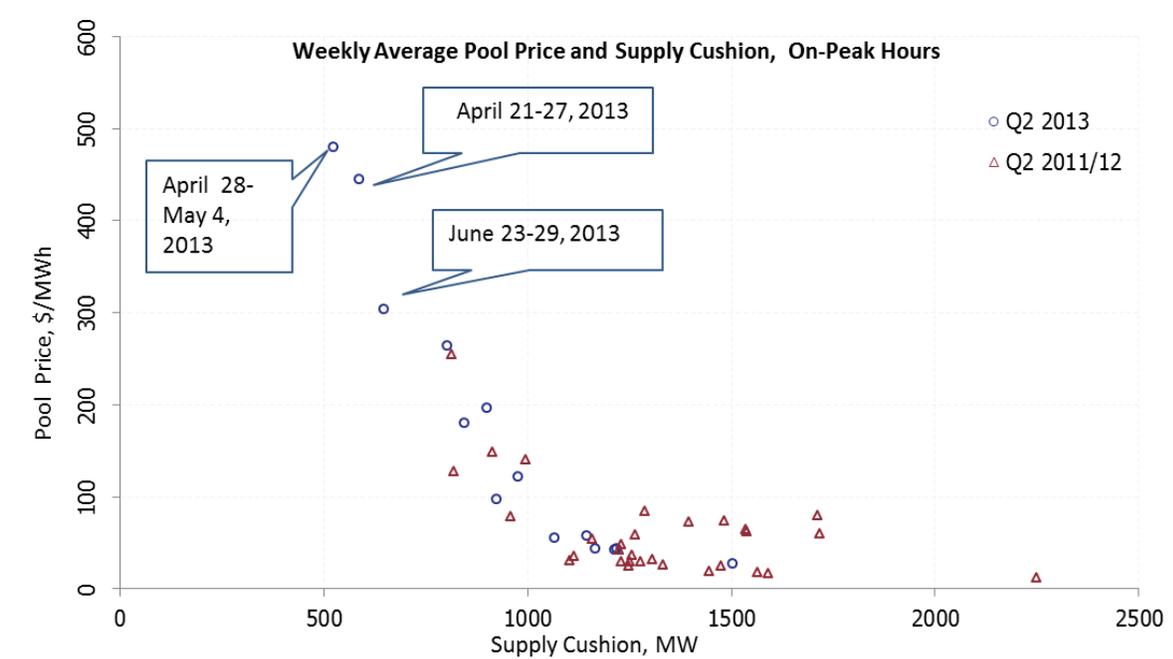
For the period May 12 through June 22 pool price averaged \$77.43/MWh as the average supply cushion across the period increased to an average of 1,478 MW due to:

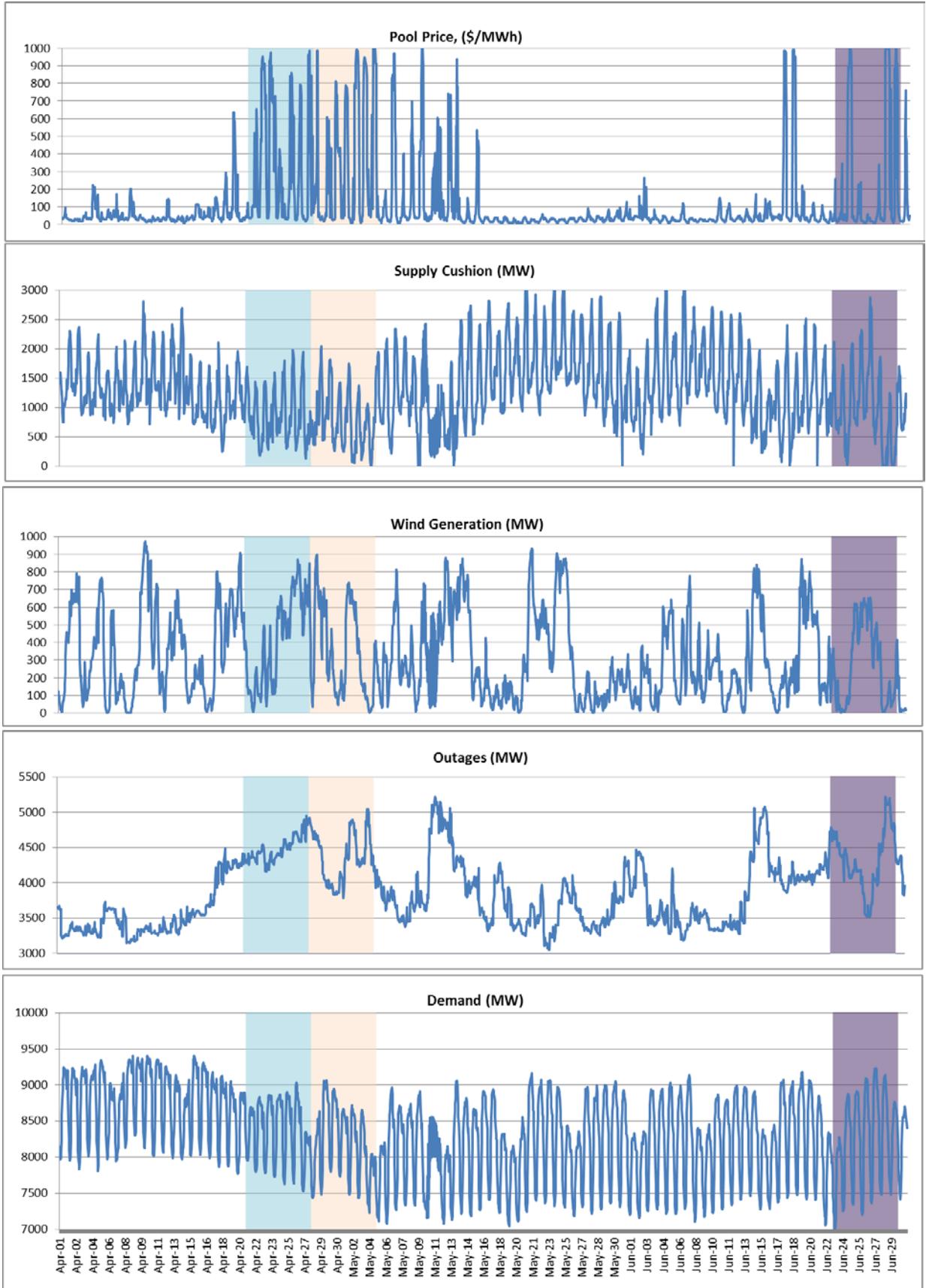
- Approximately 770 MW of reduced forced and planned outages across the period
- Wind decreased by 50 MW
- Imports increased by 100 MW

## June

For the week Sunday, June 23, 2013 to Saturday, June 29, 2013 (see highlighted in the following charts) pool price averaged \$213.85/MWh. Similar to the week April 28 to May 4, high prices were caused by a decline in average supply cushion to 988 MW due to over 4,000 MW of forced and planned generator outages.

The next figure presents the weekly average pool price and supply cushion at on-peak hours of the second quarters of year 2011 to 2013. Clearly, weeks of Q2 2013 observe less supply cushion than those for 2011/12.





## Wholesale forwards

### Trading activity

In Q2/13 there were approximately 13.9 TWh of forward trades, 10.8% greater than in Q2/12 and 4.9% greater than in Q1/13. April and May saw increases in liquidity over the previous year, while June saw a decline.

The MSA, as part of its ongoing monitoring of the forward market, finds it helpful to discuss a particular event.

On May 23, 2013 forward markets prices for July, August, and September 2013 contracts sharply increased as a result of an announced extension of the KH1 outage; the outage was extended from June 10, 2013 to November 11, 2013 due to a winding failure. The increase in forward market prices for the three months period averaged 19%. At the same time TransAlta announced the return of the Sundance 1 generator at the beginning of August<sup>4</sup>.

The MSA reviewed all forward trading activity around this time. Based upon the trading activity it would appear to the MSA that there was no evidence of advanced knowledge by the PPA owner or the buyer (KH1 is a PPA generator). The MSA is continuing to review other trades that occurred during this period.

	TWh Traded		
	2012	2013	% Change
April	3.29	5.1	54.71%
May	4.00	5.42	35.52%
June	5.28	3.42	-35.18%
<b>Q2 Total</b>	<b>12.57</b>	<b>13.94</b>	<b>10.84%</b>

	Forward Flat Contract Price Change		
	May 22	May 23	% Change
July	86.00	105.00	22.09%
Aug	83.00	97.00	16.87%
Sept	76.00	89.00	17.10%
<b>Q2 Total</b>	<b>81.67</b>	<b>97.00</b>	<b>18.78%</b>

<sup>4</sup> *Ibid.*

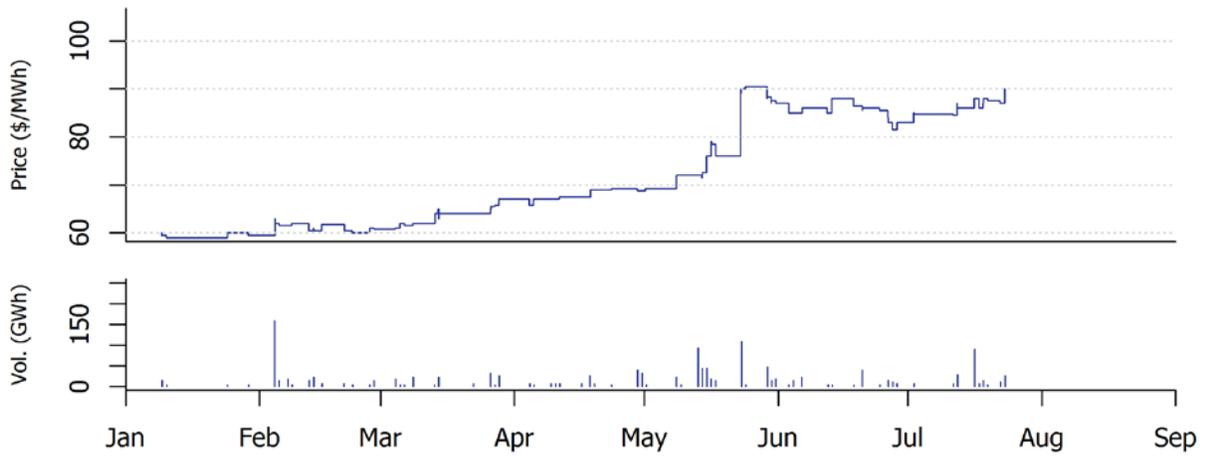
### July 2013 Flat Contracts



### August 2013 Flat Contracts



### September 2013 Flat Contracts



## Operating reserves

Operating reserves and ancillary services are critical components to the reliability of the AESO interconnected system. Operating reserves (OR) are classified in three different products: regulating reserve (RR), spinning reserve (SR), and supplementary reserve (SUP). Operating reserves are also split into active (which account for most of the expenditures) and standby. The market for active reserves typically clears at a discount to pool price.

Over the past few years, there has been a general trend of decreasing discounts (active reserve prices which are closer to pool price). However, as with Q1/13 there has been a marked increase in the discount compared to the previous year. Total OR costs increased in Q2/13 despite the increase in the discount because pool prices increased by an even greater amount.

Active RR contracts in Q2/13 cleared at much deeper discounts than they did in previous years, as a result of participants competing for market share. In both Q2/12 and Q2/13 three market participants collectively enjoyed 85% total market share; the third participant had secured an 18% share in Q2/13, up from 2% in Q2/12.

Activity in the operating reserve market will continue to be monitored and a report on this market is anticipated early in the new year.

Q2 Active Reserve Costs (\$ Millions)			
	RR	SR	SUP
2008	18.91	29.51	24.06
2009	6.24	5.58	2.130
2010	18.96	24.48	20.30
2011	12.66	19.00	17.12
2012	13.15	19.19	17.83
2013	27.03	55.72	54.63

Q2 Avg. Discounts to Pool Price (\$/MWh)				
	RR	SR	SUP	Pool Price
2008	-66.17	-71.28	-82.14	107.52
2009	-19.70	-30.79	-61.28	32.30
2010	-40.45	-43.32	-71.86	81.15
2011	-19.61	-18.59	-25.97	51.90
2012	-2.93	-6.44	-15.00	40.03
2013	-86.41	-26.50	-33.98	123.41

## Outage of natural gas-fired generators

The fundamental concept of outage scheduling in the Alberta market is that market forces will be the primary driver for generator maintenance. Accurate outage information plays a critical role in coordinating both generator and transmission outages. Reliable outage information also facilitates trading in financial markets.

Outage coordination is essential so that system reliability is maintained, transmission and generation restrictions are minimized, customer interruptions are minimized, and the costs associated with system losses and procuring ancillary services are managed.<sup>5</sup>

To facilitate coordination the AESO publishes a daily outage report using information provided by market participants with generators or loads with consumption capacities of at least 40 MW<sup>6</sup>. The report provides the daily expected amount of MW by fuel types<sup>7</sup> on outage for the current day and for the next three months. The outage report is based on the difference between each asset's maximum capacity and its most recently submitted available capacity (AC) and is updated whenever an update of AC is submitted by a market participant.<sup>8</sup>

There are always some discrepancies between the reported outage and the real-time realized outage, mostly due to unplanned new outages and derates that occur between the reporting date and the outage date. While forced outages are difficult to predict, derates of natural gas-fired generators, especially those due to high ambient temperature, can be roughly foreseen in the near future. The *AESO Report on the Load Shed Event of July 9, 2012* identifies areas for improvement in the management of supply shortfall events.<sup>9</sup> Among these is the recommendation that:

The AESO will work with GFOs to better understand the effect of ambient temperature on available capacity levels and determine whether it is appropriately considered in market operations, forecasting and long-term adequacy assessment.<sup>10 11</sup>

The MSA has observed substantial and consistent discrepancies in outages of natural gas-fired generators during Q2, 2013. The following figure reports the underreported MW of natural gas-fired generators on outage by days ahead<sup>12</sup>. In April, the reported natural gas-fired generators on outage 7 days ahead is an average of 354 MW less than the level in real time; the number increases to 653 MW for May and 741 MW for June.<sup>13</sup> As a comparison of the magnitude of the change, the average load during this period is 8,320 MW. At the one day ahead point, April, May, and June still observe an average of 202 MW, 397 MW, and 394 MW of under-reported natural gas-fired outages for the next day.

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<sup>5</sup> OPP 601, see [http://www.aeso.ca/downloads/OPP\\_601.pdf](http://www.aeso.ca/downloads/OPP_601.pdf)

<sup>6</sup> See [http://ets.aeso.ca/ets\\_web/ip/Market/Reports/DailyOutageReportServlet?contentType=html](http://ets.aeso.ca/ets_web/ip/Market/Reports/DailyOutageReportServlet?contentType=html)

<sup>7</sup> Load outage is also listed though rarely a nonzero number is observed.

<sup>8</sup> To disguise the identity of coal-fired generators, such generators are represented on outage by a generic 350 MW quantity and accordingly the reduced AC at a coal-fired generator is a proportion of the generic 350MW.

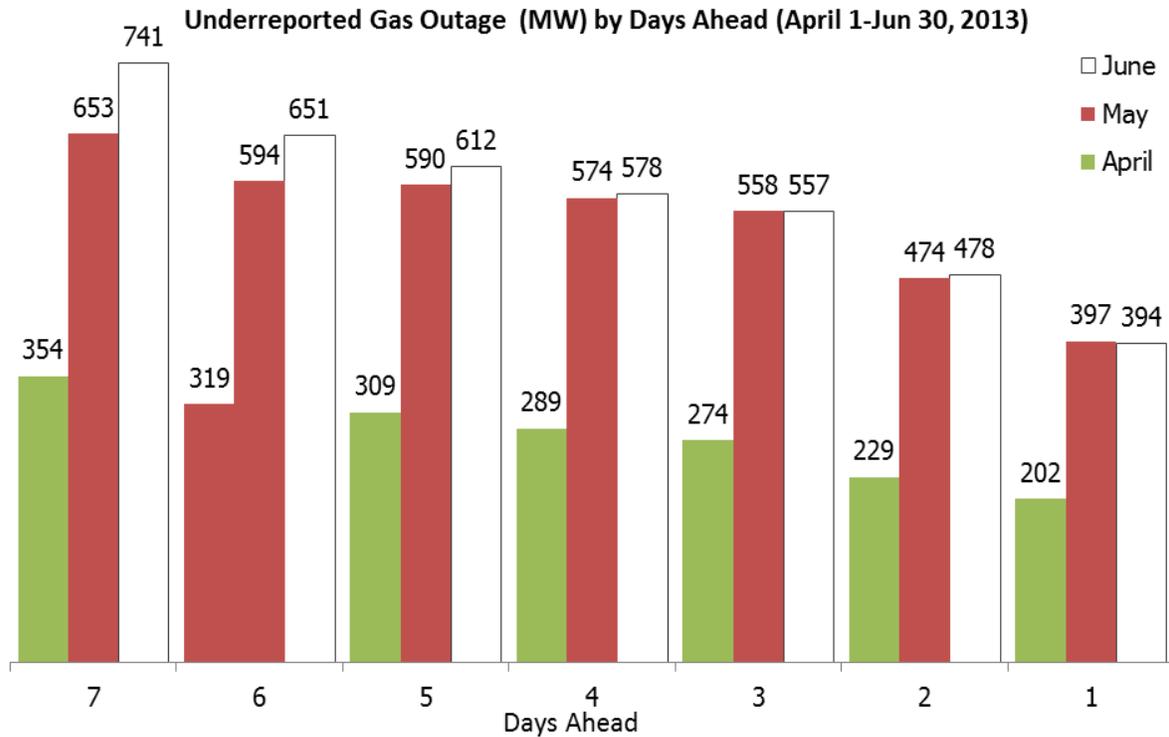
<sup>9</sup> See [http://www.aeso.ca/downloads/July\\_9\\_2012\\_supply\\_shortfall\\_report.pdf](http://www.aeso.ca/downloads/July_9_2012_supply_shortfall_report.pdf)

<sup>10</sup> Ibid, page 36.

<sup>11</sup> Subsequently, the AESO requested all legal owners of all generating units to review their maintenance practice, procedure and quality control program for temperature sensitive systems. See [www.aeso.ca/downloads/30May2013\\_Lessons\\_Learned.pdf](http://www.aeso.ca/downloads/30May2013_Lessons_Learned.pdf).

<sup>12</sup> In this figure, the outage is the MW reported at HE16 on reporting day. When there are multiple reports at HE16, the first one is chosen.

<sup>13</sup> Real time outage is the amount reported zero day ahead at HE 16.



As illustrated by the figure, underreported natural gas-fired generator outages steadily grow from April to June, with a greater number more days ahead. Though further study is needed to explore whether this trend is purely a result of temperature, this preliminary report clearly shows the space for improvement in outage reporting.

As market forces are expected to be the primary driver for generator outage co-ordination, the large consistent discrepancy in natural gas-fired generator outages may lead to an inaccurate assessment of the best placement of maintenance outages.

Section 6(2) of ISO Rule 203.1 states that “[a] pool participant must submit to the ISO any changes to the operating constraints of a source asset as soon as reasonably practicable”. Similar requirement can be found at section 2(1) of ISO Rule 203.3 which states:

[a] pool participant that submits an offer must ...submit an available capability restatement revising the available capability for the applicable hours, as soon as reasonably practicable.

In an effort to enhance the accuracy of the natural gas-fired generator outages, the MSA will continuously monitor the outage information and work with the AESO and market participants to improve the quality of AC restatement.

## Retail market

### Publishing retail market statistics

On May 29, 2013, the MSA hosted a roundtable discussion on retail market statistics that it might publish in its routine reporting to stakeholders; such reporting would ultimately replace that currently undertaken by the Alberta Department of Energy.<sup>14</sup> Following the roundtable, the MSA developed a publication schedule that was posted on its website on June 3, 2013. The proposal includes quarterly and annual components. It is anticipated that the quarterly reporting will be in a separate part of the MSA's website rather than as part of the quarterly reports.

The quarterly component will include, for each Load Settlement Area (LSA) and the province in total:

- Number of sites and consumption in monthly format on the applicable default supply option for each customer group. This would be done for both electricity and natural gas.
- Number of sites and consumption in monthly format on competitive supply options for each customer group. This would be done for both electricity and natural gas.

Detailed reporting is proposed on an annual basis:

- Market shares by anonymous retailers (by number of sites and by volume) for each customer category, for all retailers with >5% share (for each LSA and for electricity and natural gas).
- Retailer churn rates by customer group (for electricity and natural gas) in total across the competitive market.
- Percentages of residential and RRO-eligible commercial/industrial customers on fixed-price and floating-price contracts (by LSA).
- Percentages of residential and RRO-eligible commercial/industrial customers on dual fuel contracts, subdivided into those on fixed-price and floating-price contracts (by LSA).
- Percentage of residential customers on some form of 'green' electricity contract (by LSA).

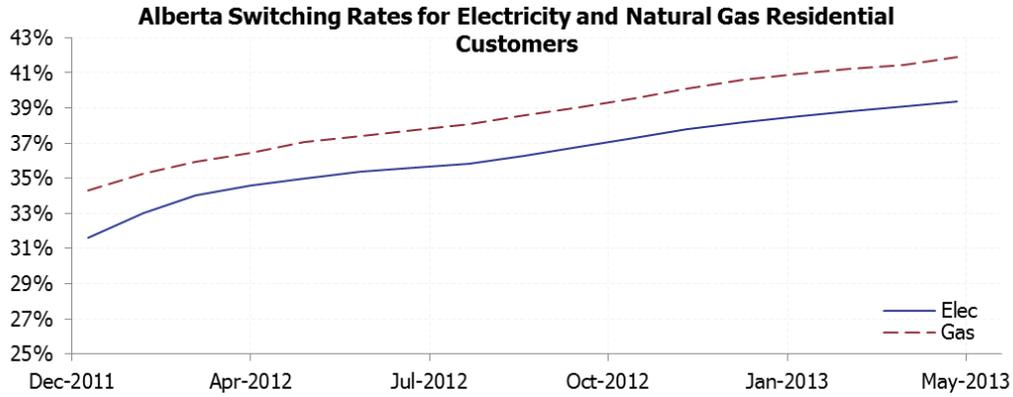
### Residential switching rates

Switching away from the regulated rates in both electricity and natural gas for residential customers has gradually increased over the past several years. The next figure shows the rates over the 17 month period ending May 2013. The switching rates increase steadily throughout the period. Natural gas switching rates remain about 2.5% higher than for electricity, a pattern similar to that in 2008.<sup>15</sup> One of the drivers of switching in electricity may be the volatility of prices in the wholesale market. Natural gas prices have not been volatile yet the switching rates show the same trend as for electricity. This may be due to customers choosing to switch for electricity and taking on a dual fuel contract at the same time, something the MSA will examine later in 2013.

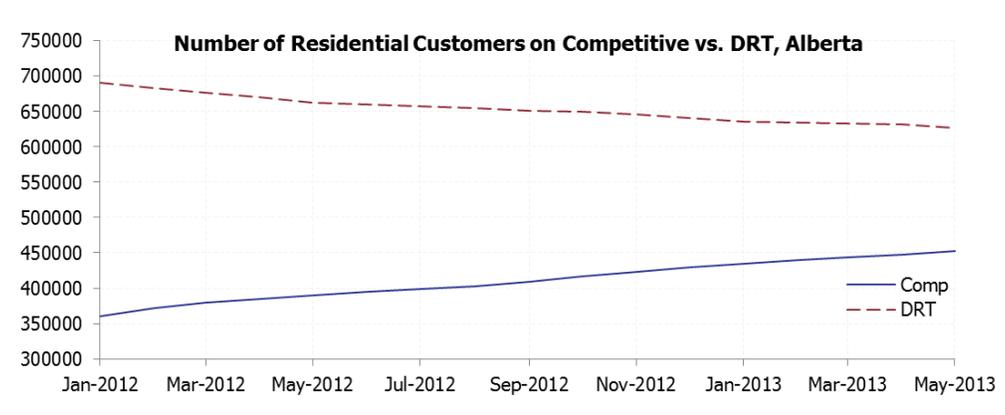
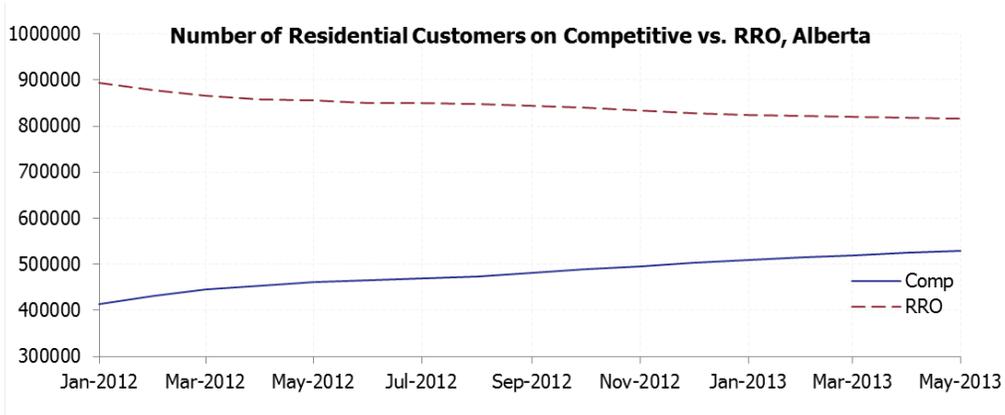
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<sup>14</sup> See [www.energy.gov.ab.ca/Electricity/1570.asp](http://www.energy.gov.ab.ca/Electricity/1570.asp)

<sup>15</sup> "Retail Review: Electricity & natural Gas", Figure 8, MSA Report, 2009.



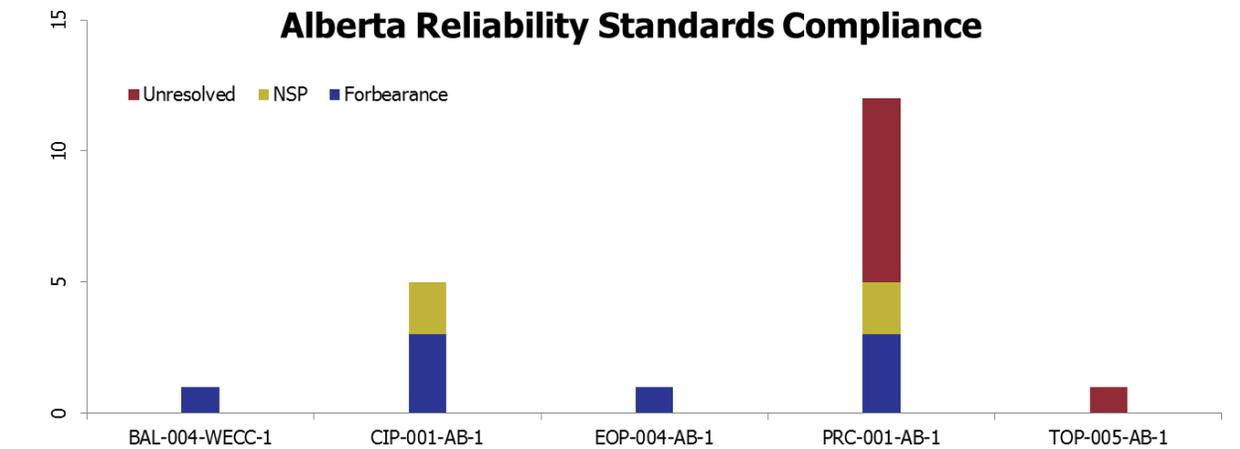
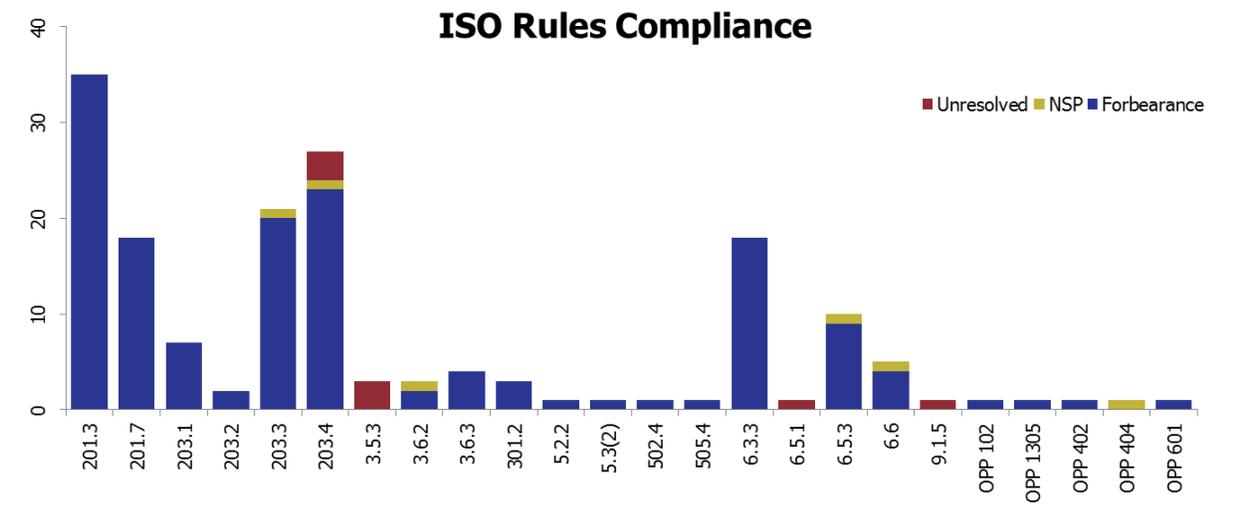
The month-to-month increases in switching rates are somewhat masked by the growth in Alberta’s population as manifest in the growing number of sites. When considered on a site count basis, as in the next two figures<sup>16</sup>, the growth of the competitive sector becomes clearer. Absent a slowing in switching rates, it will only be a matter of a few years before the competitive sector is larger than the regulated sector. There may be implications for customers as the regulated sector diminishes in size. Most consumers with poor credit ratings are in this category as competitive retailers are reluctant to serve them.



<sup>16</sup> RRO stands for Regulated Rate Option and DRT for Default Rate Tariff.

## Compliance

- The inventory of unresolved files was further reduced during the quarter. Over the quarter, unresolved ISO rules matters were reduced from 31 to 8.
- In relation to ISO rules section 201.3 (Offer Control Information), matters addressed during Q2 still related to December 2012 or early Q1/13 time frames. The matters with early Q1/13 time frames were more isolated instances of non-compliance as compared to most of the initial cases reviewed.
- During Q2/13, the MSA issued 6 notices of specified penalty in relation to ISO rules compliance matters and 4 notices of specified penalty in relation to reliability standards matters. Year to date, 20 NSPs were issued on rules matters vs. 27 during the same period last year and 6 NSPs have been issued on standards matters year to date relative to none in the first 6 months of 2012.



## **MSA activities and releases**

### **Market reporting**

[Notice re Market Share Offer Control 2013](#) (07/09/13)

[MSA Fast Facts: High Prices in April 2013](#) (05/02/13)

[MSA 2013 First Quarter Report](#) (04/19/13)

### **Presentations**

[Alberta Competition Issues - Presentation at IPPSA Competition Law Seminar, June 20, 2013](#) (06/27/13)

[Defining Harm - Presentation at IPPSA Competition Law Seminar, June 20, 2013](#) (06/27/13)

[Making "Energy Only" Markets Work - Presentation at Harvard Electricity Policy Group, 71st Plenary Session, June 13, 2013](#) (06/17/13)

[State of the Market 2012 Presentation](#) (04/05/13)

[Alberta's Energy Only Market Presentation](#) (04/04/13)

### **Consultations**

[Notice re Stakeholder Comments Regarding Draft Recommendation for Revision of the Historical Trading Report](#) (06/17/13)

[Notice re Revision of the Historical Trading Report: MSA Draft Recommendation and Response to Stakeholder Comments Regarding 'Strawdog' Report](#) (05/29/13)

[Notice re Stakeholder Comments Regarding Options for Revision of the Historical Trading Report \('Strawdog'\)](#) (05/09/13)

[Notice re Stakeholder Consultation: Amendment to MSOC Process-Final](#) (04/30/13)

[Notice re Stakeholder Consultation: Options for Revision of the Historical Trading Report \('Strawdog'\)](#) (04/17/13)

### **Other**

[Notice re Update: Retail Market Statistics – Roundtable Discussion on Reporting](#) (06/03/13)

[Notice re Retail Market Statistics-Roundtable Discussion on Reporting](#) (04/23/13)



The Market Surveillance Administrator is an independent enforcement agency that protects and promotes the fair, efficient and openly competitive operation of Alberta's wholesale electricity markets and its retail electricity and natural gas markets. The MSA also works to ensure that market participants comply with the Alberta Reliability Standards and the Independent System Operator's rules.