



Gas
Networks
Ireland

Industry Balancing Workshop

**The Clarion Hotel,
Cork**

20 April 2016

Agenda

- 1. Current Tolerances & Imbalance Prices**
- 2. Current Operational Balancing Procedures - GNI**
- 3. Industry Presentation – IOOA**
- 4. Industry Discussion**
- 5. Agreed Next Steps**

1. Current Tolerances & Imbalance Prices

Current Entry & Exit Tolerances – First Tier

Entry Point	Current Entry Tolerance %
Moffat (OBA Day)	0
Inch	1.5
Bellanaboy	1.5

Sector/Size (Annual Quantity)	Current Exit Tolerance %	Pre 1 Oct '15 Exit Tolerance %
LDM>1,500,000,000 kWh (LDM1)	3.5	4.5
LDM>260,000,000 to 1,500,000,000 kWh (LDM2)	9	12
LDM>57,500,000 to 260,000,000 kWh (LDM3)	19	25
DM	30 of DM Exit Allocations	40 of DM Exit Allocations
NDM	2.5 of NDM Exit Allocations	2.5 of NDM Exit Allocations
Inch Storage Exit Point	1.5	1.5
S/N IP (OBA Day)	0	1.5
Sub-sea I/C >1,500,000,000 kWh (I/COff1)	3.5	4.5
Sub-sea I/C >260,000,000 to 1,500,000,000 kWh (I/COff 2)	9	12
Sub-sea I/C < 260,000,000 kWh (I/COff 3)	19	25

Current Imbalance Prices

- Positive First Tier Imbalance: $SAP * 0.98$
- Negative First Tier Imbalance: $SAP * 1.02$
- Positive Second Tier Imbalance: Lower of: $SAP * 0.95 / SMP \text{ Sell}$
- Negative Second Tier Imbalance: Higher of: $SAP * 1.05 / SMP \text{ Buy}$

- Note: Transportation Costs included in Second Tier Price

2. Operational Balancing Procedures



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GNI Transmission's Management of Balancing Gas

April 20th 2016

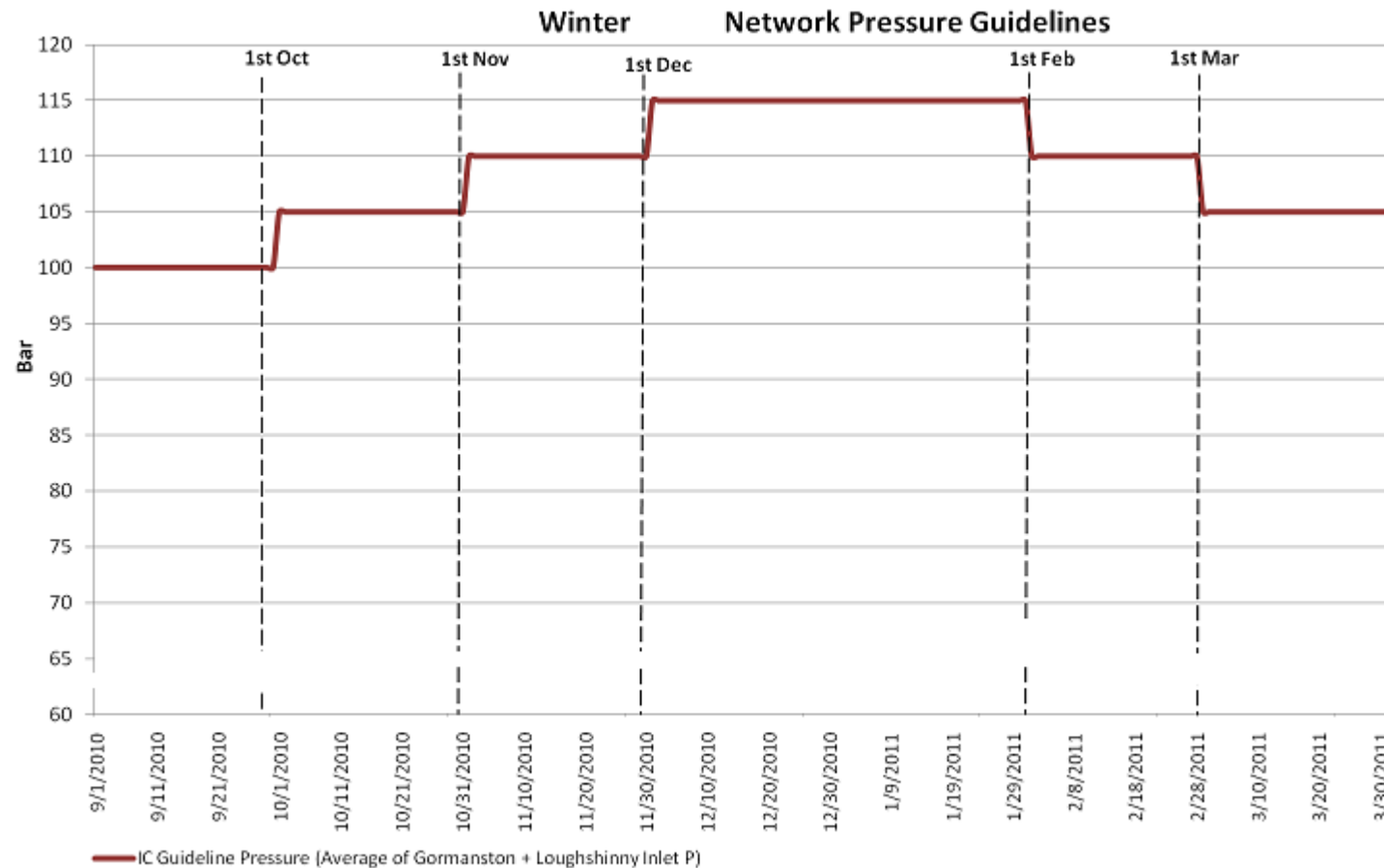
Objectives

- Maintain key operating pressures within a safe operating range
- Maintain linepack levels within an acceptable range
- Address supply-point deficits & major GNI Transmission plant failures short of declaring a Restricted Capacity Day

Linepack Levels in GNI / GNI(UK) Trans. Network

- Rol on-shore Network
 - Linepack level in Rol Trans. network maintained relatively constant arising from operation close to maximum operating pressures at Entry Points to this section of overall Trans. network – i.e. at Bellanaboy / Cappagh South*, Inch, Loughshinny, & Gormanston
- South West Scotland Onshore System [SWSOS]
 - Linepack level in SWSOS maintained relatively constant arising from operation close to maximum operating pressure of 80 bar for SWSOS
- Interconnectors [IC1 & IC2]
 - Pressure – and, hence, linepack level – allowed to vary per ‘Winter Network Pressure Guidelines’ [see slide no. 4]

Winter ICs Pressure Guidelines



**→ +/- 5 bar tolerance to be applied to all target pressures to allow for imbalances and c.v. variations

***→ +/- 5 day tolerance to be applied to all target dates to allow for commercial and operational flexibility

Criteria for Consideration of a Balancing Sell

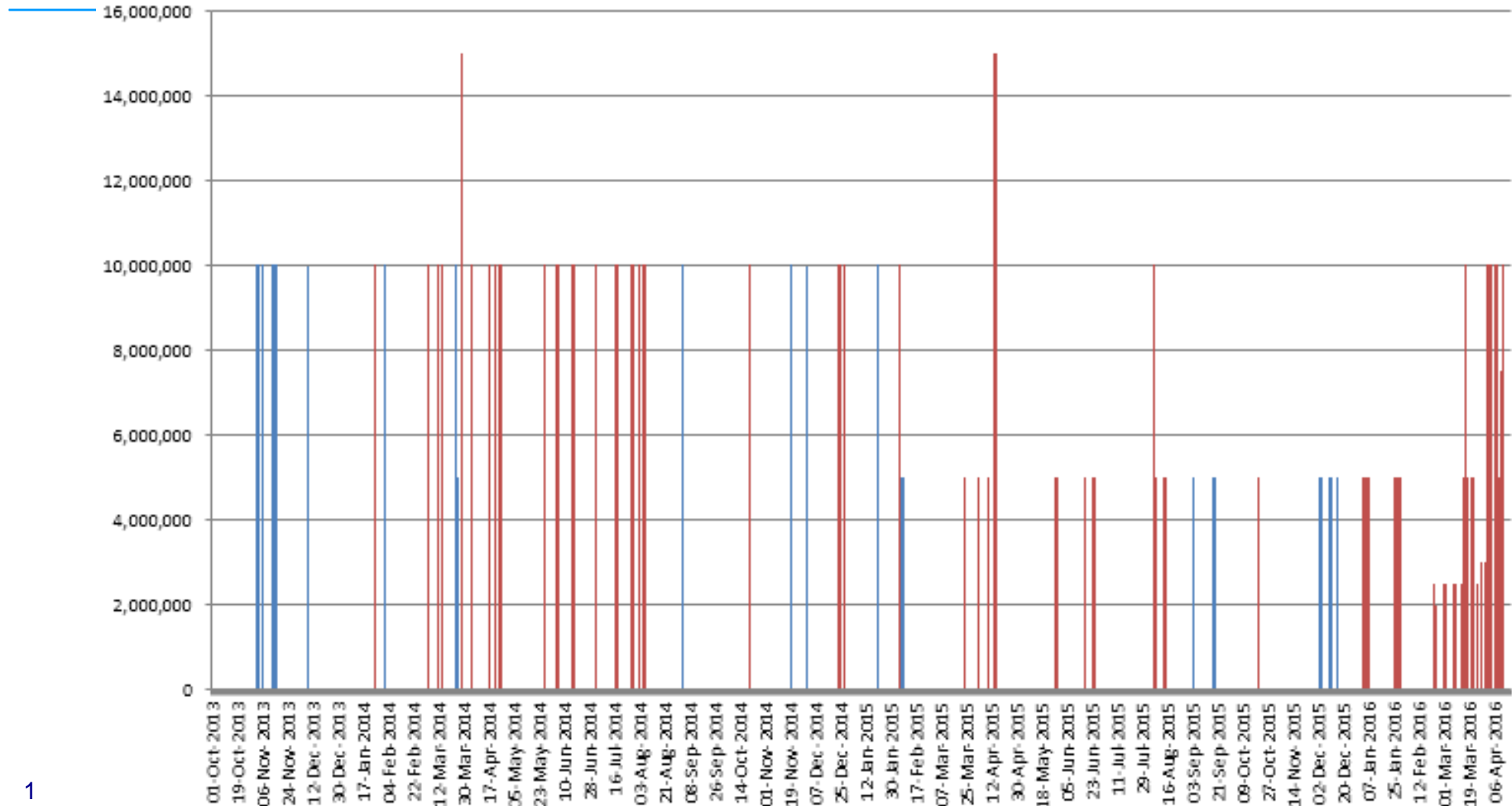
- Key system pressure(s) expected to be exceeded
- National Grid / KEL / Shell advise of a supply deficit [i.e. GNI to consider if consequent supply-deficit for its network may be averted by taking a Bal. Gas sell action]
- GNI experiences a compressor station failure or compressor(s) trip(s)**
- Linepack level exceeds acceptable range for prevailing demand

Criteria for Consideration of a Balancing Buy

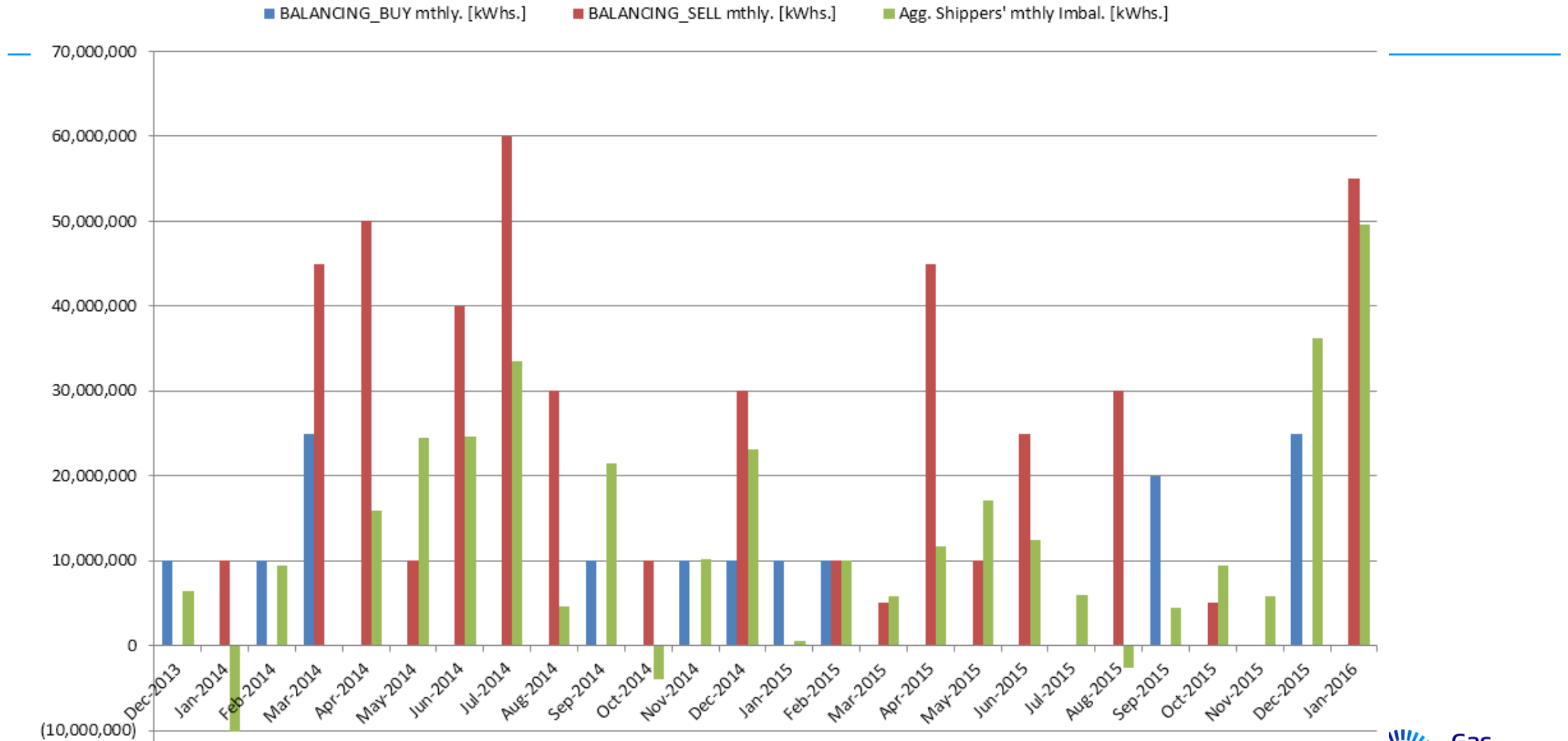
- Maintenance of ICs' pressures as given in 'Winter Network Pressure Guidelines' – see slide no. 4
- Linepack below acceptable level for prevailing system demand
- Operational requirements – e.g. pigging operations

Daily Balancing Gas Actions - Oct. '13 -> Apr. 18th '16

BALANCING_BUY [kWhs.] BALANCING_SELL [kWhs.]



Aggregate mthly. Balancing Gas Actions & Aggregate Shippers' mthly. Imbalance - Dec. '13 -> Jan. '16



3. Industry Presentation



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IOOA Presentation at Industry Balancing Workshop

20 April 2016

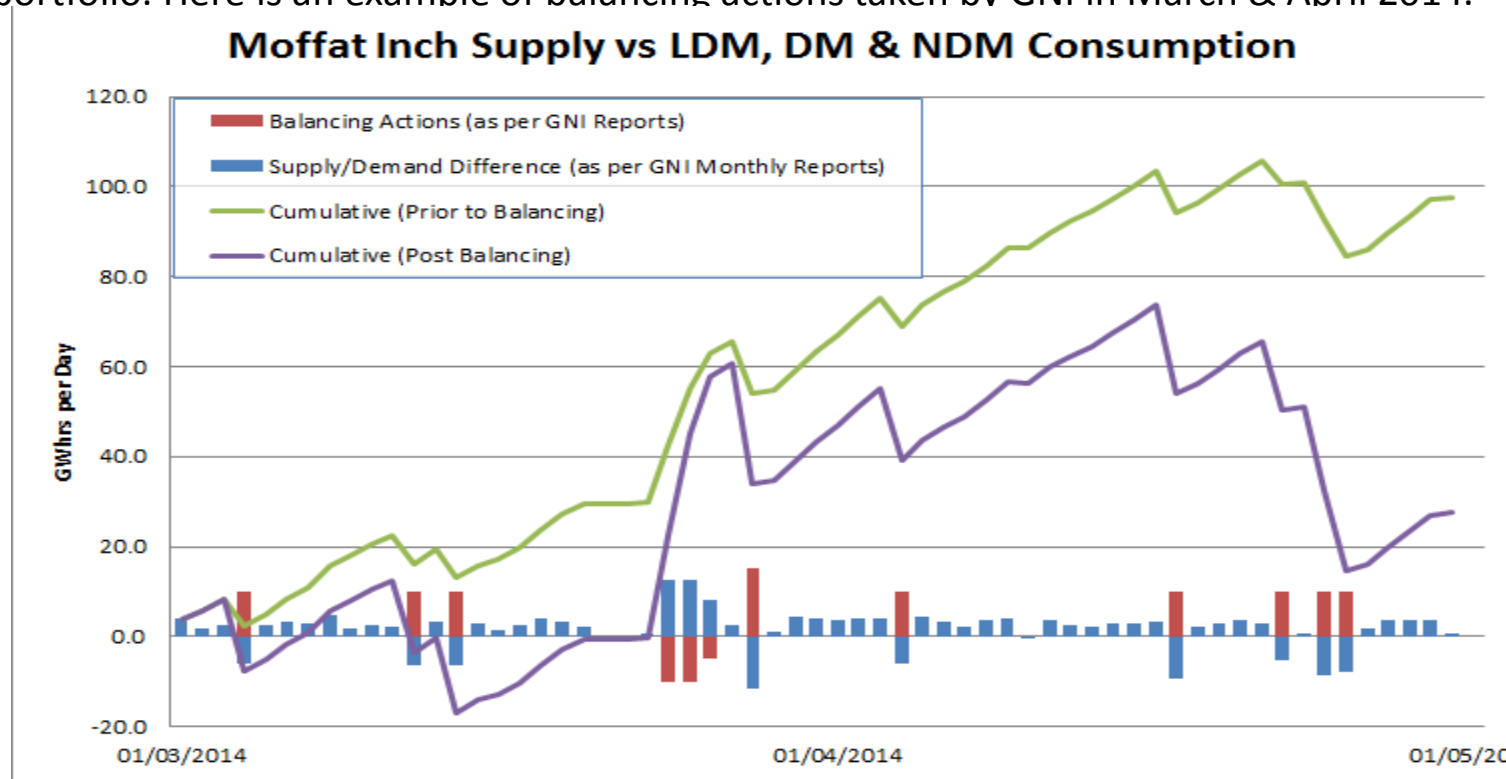
Introduction



- GNI have expressed their view to become compliant with EU BAL NC from 2019
- As part of IOOA we feel the timeline can move forward significantly and we've replied to their Balancing Options Assessment stating this view.
- We believe Balancing Services Contract should only be used as a last resort because the market should be incentivised to balance their system by transparent market prices and updated system statuses (Line Pack)
- At a recent code mod. on 9th March GNI said January 2016 was their worst month in terms of system imbalances. Compliance with BAL NC this year would solve a lot of these issues as shippers would be incentivised to balance more efficiently.
- This is a window of opportunity to harmonise IBP with other EU Markets.

Options

- There are currently no system status updates (Line Pack) in Ireland. This should show the current imbalance in the market and provides a clear signal to shippers to balance their portfolio. Here is an example of balancing actions taken by GNI in March & April 2014.



Options continued.



- In other EU Markets we receive a combination of real time data (Netherlands) and hourly (NBP). TSO's would rely on shippers to balance the system themselves or take action (Buy/Sell) on a trading platform to balance the system.
- These actions set the imbalance price (cash out) which is usually the weighted average of trades carried +/- a differential set by TSO or the highest price buy action/lowest price sell action.
- It is our view this should be done in Ireland by utilising a Trading Platform combined with the removal of tolerances would force shippers to balance using this platform. This would improve liquidity in the Irish market by incentivising shippers to balance and enable GNI to have a better picture of their network.
- If there was a lack of liquidity on the Trading Platform then TSO contracts with shipper of last resort and this sets cash out price.
- If there was no trades on a day on the Trading Platform and no balancing actions required then TSO should use SAP +/- a differential as default cash out price.

Screenshot of NBP Market on ICE Endex platform



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ice Intercontinental Exchange™ (ICE) - ssshepard @ Statoil [LL: 11.04.16 18:46]

Kill All Activate All Live Only Hold Bids Hold All Hold Offers Excel Search...

Orders Deals Positions Options UPS UK Gas OCM Dutch TTF Gas Spot Belgian ZTP Gas Spot European Gas Spot Spreads Dutch TTF Gas Storage Belgian ZTP HIGH and LOW Cal TTF new ZTP new Power Futures Italian Fin Pwr

Search... Live Only Hold Orders (inactive)

Status	Product	Hub	Strip	RFQ	+	-	B.Loc/Mtr	B.Lead Time	Sell	B Qty	Bid	Offer	O Qty	Buy	OI	High	Low	Last	WAP	Volume	Block Vol	Settlement	Change	Mkt State	E Status	B...	B Qty	Bid	Offer	O Qty		
	OCM TITLE DAY	NBP	THU 14-APR-16						Hit	50 000	28.35	28.60	100 000	Lift				29.10	27.90	28.60	28.61	2615000		0.00	28.60	Open								
									Sw...	18 000	28.30	28.65	6 000	Sw...						28.50														
									Sw...	100 000	28.25	28.95	100 000	Sw...						28.30														
									Sw...	100 000	28.20	29.00	100 000	Sw...						28.65														
									Sw...	100 000	28.00	29.75	100 000	Sw...						28.80														
	OCM TITLE DAY	NBP	FRI 15-APR-16						Hit	100 000	28.30	28.85	100 000	Lift								0.00			0.00		Open							
	SMP-Buy Current Day	Index	THU 14-APR-16																	28 7218 p/ht				0.00	28 7218	Close	Default							
	SAP Current Day	Index	THU 14-APR-16																	28 6111 p/ht				0.00	28 6111	Close	Current							
	SMP-Sell Current Day	Index	THU 14-APR-16																	27 5004 p/ht				0.00	27 5004	Close	Default							
	SMP-Buy Next Day	Index	FRI 15-APR-16																	28 7932 p/ht				0.00	28 7932	Close	Default							
	SAP Next Day	Index	FRI 15-APR-16																	27 6825 p/ht				0.00	27 6825	Close	Default							
	SMP-Sell Next Day	Index	FRI 15-APR-16																	26 5718 p/ht				0.00	26 5718	Close	Default							
	OCM PHYSICAL DAY	NBP	THU 14-APR-16																					0.00		Open								
	OCM PHYSICAL DAY	NBP	FRI 15-APR-16																					0.00		Open								
	OCM LOCATIONAL DAY	NBP	THU 14-APR-16																					0.00		Open								
	OCM LOCATIONAL DAY	NBP	FRI 15-APR-16																					0.00		Open								

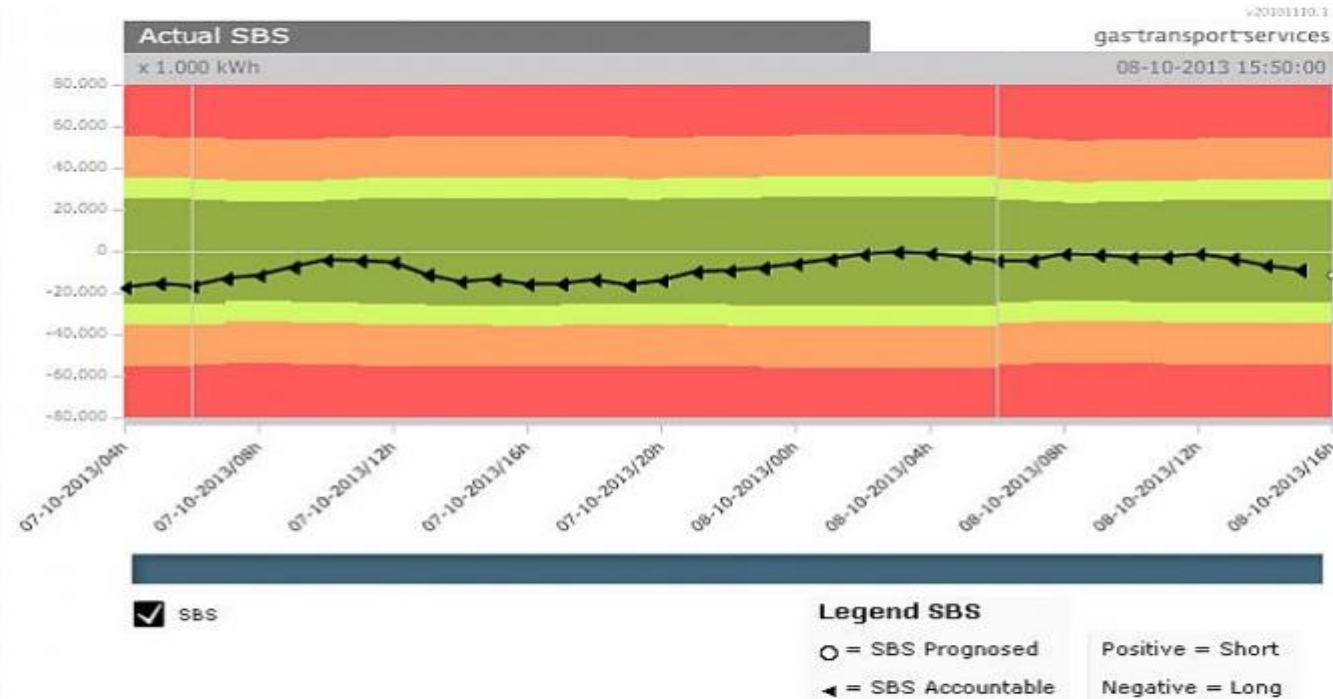
Options Alarms

SMP-Buy Next Day - Index - FRI 15-APR-16, 0 @ 28.7932 19:00:36 CEST
 SMP-Sell Next Day - Index - FRI 15-APR-16, 0 @ 26.5718 19:00:36 CEST
 SAP Next Day - Index - FRI 15-APR-16, 0 @ 27.6825 19:00:36 CEST
 SMP-Sell Current Day - Index - THU 14-APR-16, 0 @ 27.5004 19:00:36 CEST
 SMP-Buy Current Day - Index - THU 14-APR-16, 0 @ 29.7218 19:00:36 CEST
 SAP Current Day - Index - THU 14-APR-16, 0 @ 28.6111 19:00:36 CEST
 OCM TITLE DAY - NBP - THU 14-APR-16, 14/04/2016 05:00 BST, 15/04/2016 05:00 BST, 50 000 @ 28.60, 0, 19:00:34 CEST
 SMP-Buy Next Day - Index - FRI 15-APR-16, 0 @ 28.7932 18:58:46 CEST
 SAP Next Day - Index - FRI 15-APR-16, 0 @ 27.6825 18:58:46 CEST
 SMP-Sell Next Day - Index - FRI 15-APR-16, 0 @ 26.5718 18:58:46 CEST
 SMP-Buy Current Day - Index - THU 14-APR-16, 0 @ 29.7220 18:58:46 CEST
 SAP Current Day - Index - THU 14-APR-16, 0 @ 28.6113 18:58:46 CEST
 SMP-Sell Current Day - Index - THU 14-APR-16, 0 @ 27.5006 18:58:46 CEST
 OCM TITLE DAY - NBP - THU 14-APR-16, 14/04/2016 05:00 BST, 15/04/2016 05:00 BST, 100 000 @ 28.50, 0, 18:58:44 CEST
 SMP-Sell Next Day - Index - FRI 15-APR-16, 0 @ 26.5725 18:54:00 CEST
 SMP-Buy Next Day - Index - FRI 15-APR-16, 0 @ 28.7939 18:54:00 CEST
 SAP Next Day - Index - FRI 15-APR-16, 0 @ 27.6832 18:54:00 CEST
 SMP-Sell Current Day - Index - THU 14-APR-16, 0 @ 27.5051 18:54:00 CEST
 SMP-Buy Current Day - Index - THU 14-APR-16, 0 @ 29.7265 18:54:00 CEST

Examples - Netherlands



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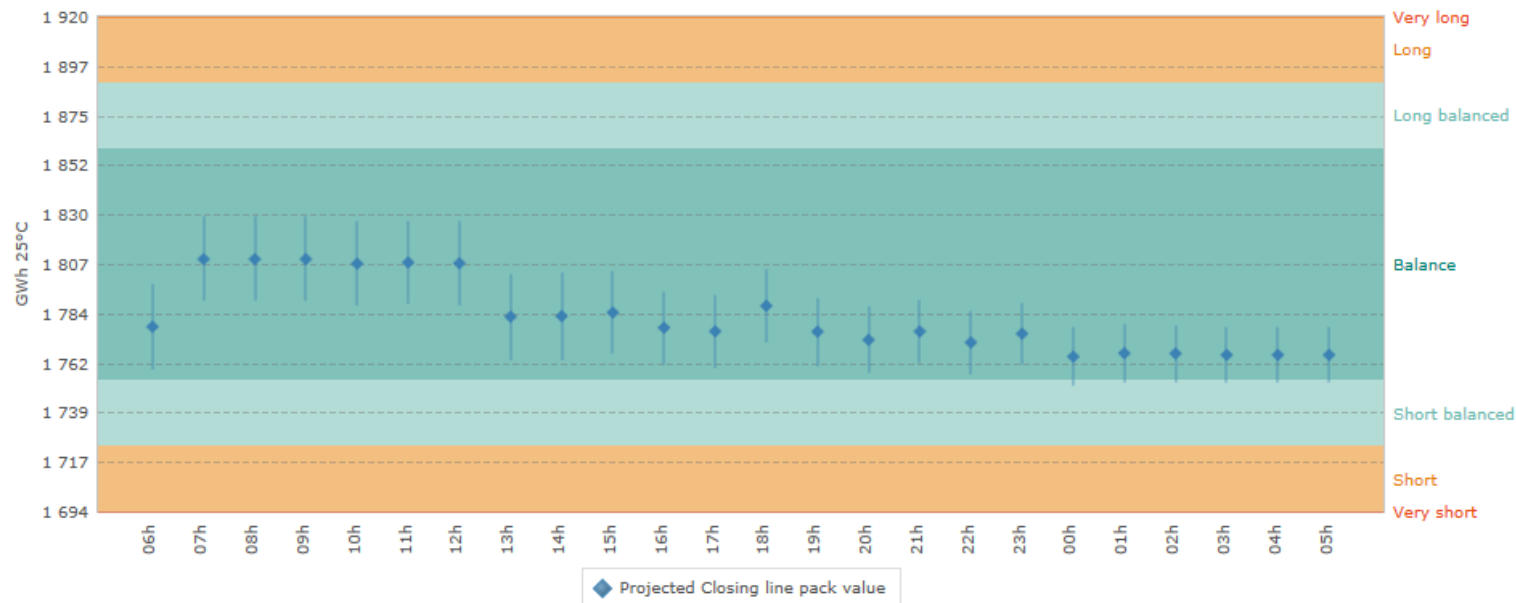


Example - France



North	Projected Closing line pack value (GWh)
Projected Closing line pack value at the end of current gasday (withinday)	1 755,255
Projected Closing line pack value at the end of next gasday (dayahead)	

North - Projected Closing line pack - From 14-03-2016



Ireland – IOOA Proposal



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- We would like to see system imbalance statuses via GNI Web portal – hourly,
- We propose for GNI to take balancing actions via Trading Platform 3 times per day (11:00, 16:00 & 23:00) this would ensure shippers have enough time to utilise Moffat for imbalances considering the 2 hour lead time for re-nominations. Is 23:00 sufficient enough time for the final balancing action or does it need to be sooner?
- System Tolerance levels – GNI can handle plus or minus X GWH/day before they take a balancing action. Discuss.
- This would set cash out prices. SAP plus 1.1p/Therm or highest price action/lowest price sell action.
- Live system prices should be accessible by shippers at all time on GNI web portal & Trading Platform.

4. Industry Discussion

5. Agreed Next Steps