

TRADING RENEWABLES IN I-SEM AND OTHER MARKETS

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INTRODUCTION

Introduction to Enerco

Trading wind in I-SEM

Lessons learned from elsewhere

Summary

INTRODUCING ENERCO

Ireland's largest independent
renewable energy generator

Thirteen windfarms currently in
operation, totalling 500MW
capacity

Current annual output around
1.5TWh

Further projects due to go live in the
near future

Dedicated in house trading and
operations teams to support the
output of our windfarms



TRADING IN I-SEM — THE BASICS

Four ex ante markets, one continuous market and a balancing mechanism

Renewable support schemes, and long term contracts, indexed against the Day Ahead market, which accounts for the majority of our traded volume

Further auctions ,and the continuous market , represent the chance to balance the position – e.g. due to changes in wind forecast

Balancing market accounts for difference between final traded position and actual generation

The Integrated Single Electricity Market Project



TRADING IN I-SEM — INITIAL THOUGHTS

Day Ahead market has worked very well, consistently delivering demand reflective pricing, and excellent liquidity

Other intra day auctions have also worked well, though with much lower volumes

Liquidity in the continuous market has been poor, even within business hours

Early extreme balancing mechanism prices (Oct 9th: €1453.09/MWh, Jan 24th €3773.69/MWh and two others > €1000/MWh) combatted by market modification in May

GB imbalance prices topped £1000/MWh 20 times in the first 6 months, peaking at £5000/MWh — and that was 2001 money!



CHALLENGES FOR RENEWABLES

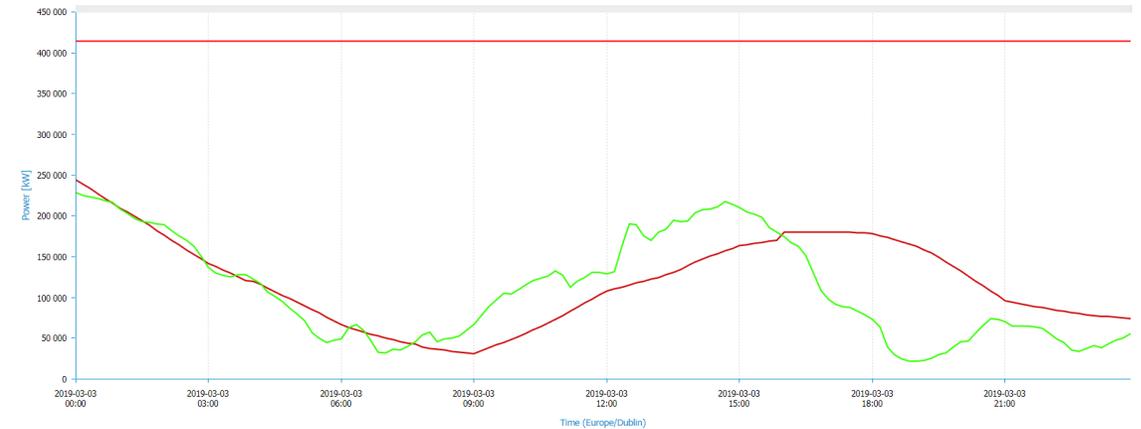
Changing wind conditions

Market liquidity, the ability to trade out of an earlier position is key to resolving such issues when they do occur

Curtailment – when the system operator reduces the output of wind units due to system wide issues

Constraints – when the system operator reduces the output of wind units due to local issues

Loss of support scheme revenue under curtailment and constraint on non firm capacity



Forecast and outturn wind – March 3rd

Ctrct	▲	Cur	Phas	State	BAcc	BQty	Bid	Ask	AQty	AAcc
								38.58	2.9	65.3
15H2		EUR	CONT	ACTI	25.0	25.0	-20.00	32.00	20.0	20.0
								33.00	14.0	34.0
								50.00	25.5	59.5
16H1		EUR	CONT	ACTI	25.0	25.0	-20.00	35.00	30.0	30.0
								39.00	20.0	50.0
								45.92	4.1	54.1
16H2		EUR	CONT	ACTI	25.0	25.0	-20.00	100.00	25.0	25.0
SEMOpX_17-19		EUR	CONT	ACTI						
17H1		EUR	CONT	ACTI				498.99	10.0	10.0
								499.01	10.0	20.0
17H2		EUR	CONT	ACTI				498.99	10.0	10.0
18H1		EUR	CONT	ACTI				498.99	10.0	10.0
18H2		EUR	CONT	ACTI				498.99	10.0	10.0

I-SEM Continuous Market – Thursday, Sept 5th

LESSONS LEARNED FROM ELSEWHERE

There are tools available in other markets to combat these issues

Connecting into the pan European XBID continuous trading platform would solve the lack of liquidity

Wind actively bidding into the balancing mechanism, as in GB, would ensure that it was remunerated fairly for constraint and curtailment

Forward market to allow generators and suppliers to forward hedge their energy needs and fix costs and margins

Area	Ctrct	Cur	Pha	Sta	BAcc	OIBid	BIQty	OBid	BVWA	BQty	Bid	Ask	AQty	AVWA
NG	2H190905-4B	G	●	●										
NG	1H190905-13	G	●	●										
NG	HH190905-27	G	●	●										
NG	HH190905-28	G	●	●	5.0				30.37	5.0	30.37	41.50	95.0	41.50
NG	1H190905-14	G	●	●										
NG	HH190905-29	G	●	●	25.0				28.52	25.0	28.52	34.50	25.0	34.50
NG	HH190905-30	G	●	●	20.0				28.50	20.0	28.50	40.00	13.0	40.00
NG	4H190905-5	G	●	●	2.0				34.31	2.0	34.31	36.90	5.0	36.90
NG	2H190905-5A	G	●	●	50.0				30.00	50.0	30.00	32.00	50.0	32.00
NG	1H190905-15	G	●	●										
NG	HH190905-31	G	●	●	40.0				23.20	40.0	23.20	44.96	5.0	44.96
NG	HH190905-32	G	●	●	50.0				23.20	50.0	23.20	29.96	5.0	29.96
NG	1H190905-16	G	●	●										
NG	HH190905-33	G	●	●	43.0				25.25	43.0	25.25	45.00	5.0	45.00
NG	HH190905-34	G	●	●	7.2				32.25	7.2	32.25	64.00	50.0	64.00

GB Continuous Market – Thursday, Sept 5th



SUMMARY

I-SEM implementation has, generally, gone well

There are issues, but these have been solved elsewhere, and should be implementable in I-SEM

More challenges to come as we move towards the 2030 renewables targets

