

# East West Interconnector

Customer Conference  
31<sup>st</sup> October 2013  
Aidan Corcoran  
Manager EWIC



# Agenda

- Project Completion
- Asset Management
- Commercial Aspects of EWIC

# East West Interconnector



**500 MW** of power output which is equivalent to a modern large generator

**300,000** households can be supplied by the Interconnector

**264 km** in total length from the Irish to GB Electricity Grids

**187 km** of subsea cable installed below the Irish Sea bed

***FACT:** EWIC has the Capability to 'black start' both electrical transmission systems in the event of a major system-wide outage.*



# East West Interconnector



**45 Months** to complete the project from the placing of contracts to commercial operation

**285 Contractors** employed during the project life-cycle

**2.2 Million hours** worked to deliver the Project

**3,700 People** worked on the project during its lifecycle

***FACT:** Over 200 marine permit conditions were discharged on the project in 6 separate licences over 4 distinct licencing areas.*





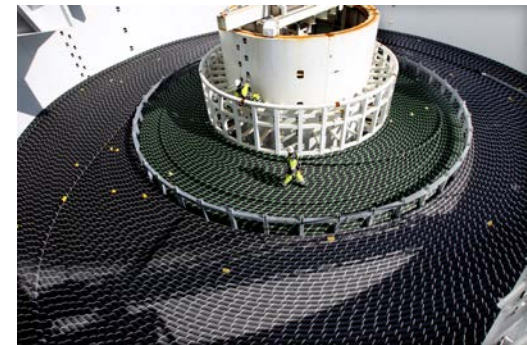
# East West Interconnector



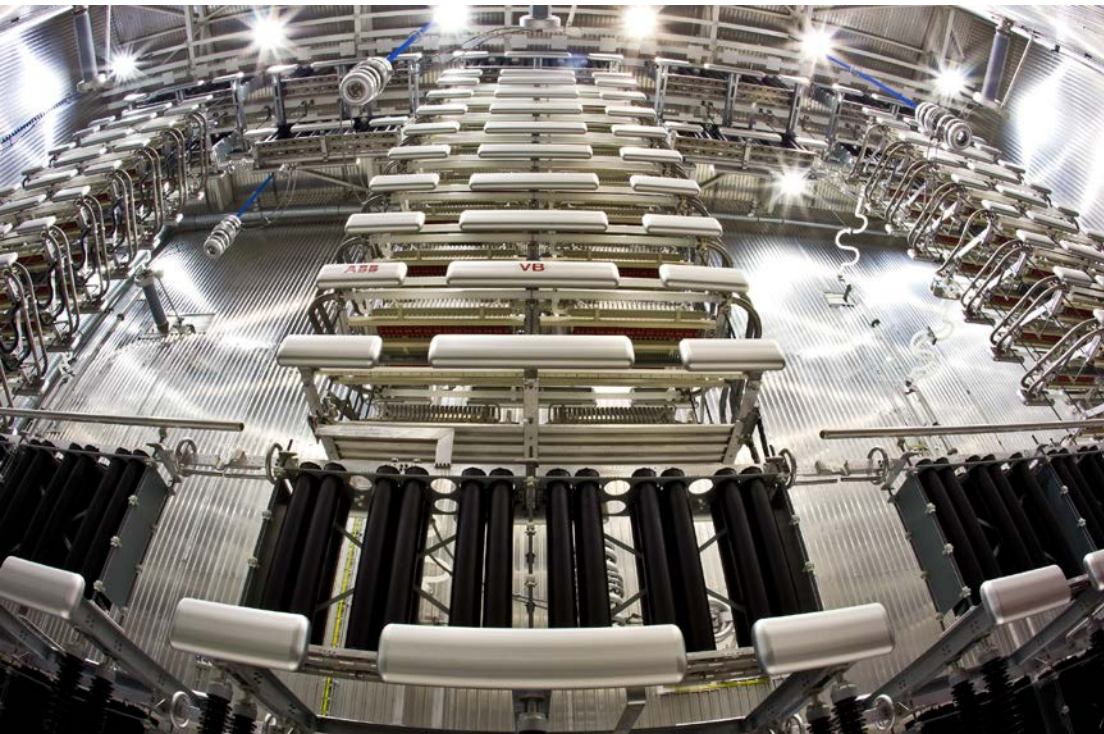
## Marine Installation

- **186 km** of power cable and high speed fibre cable laid across the seabed
- **30 plus vessels** used during the Marine Installation and burial of the cable below the seabed for protection
- **1 Million man-hours** worked without a Lost Time Accident

**Above:** The “AMC Connector” - Worlds Largest cable laying vessel



# East West Interconnector



## HVDC Conversion

Latest generation of HVDC technology implemented to provide the optimum economical and technical solution

Core technology is based on the use of high power transistors which, when switched in the correct sequence, achieve the conversion of AC power to DC power and vice versa

**FACT:** While converting AC electricity to DC (and vice versa) the **2,460 IGBT** valves (pictured above) switch **1,650 times** per second and are controlled via fibre optic cables.

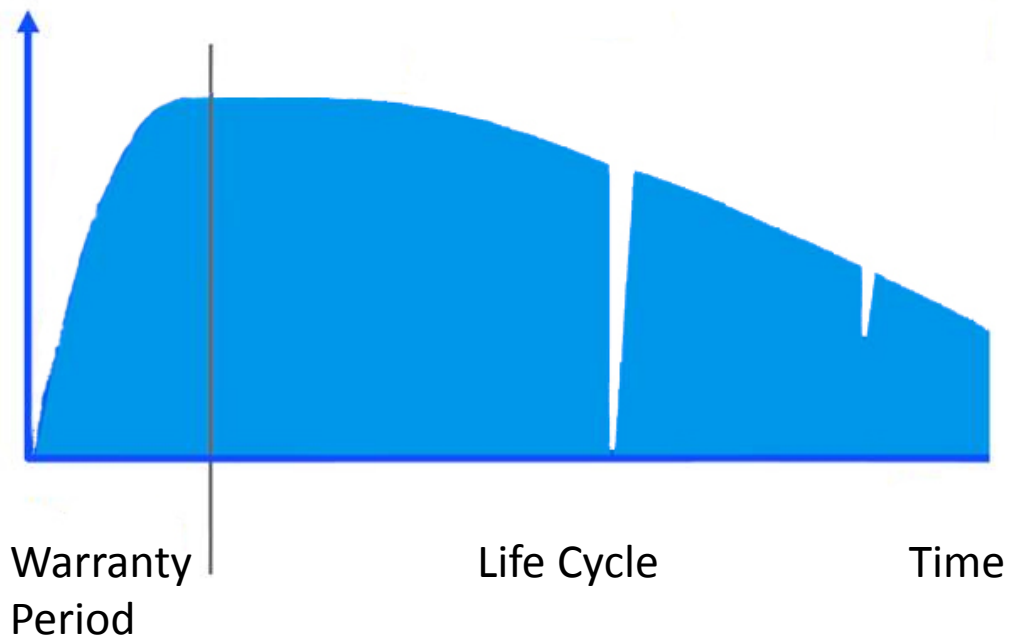


# Asset Management

# Facility Life Cycle Philosophy



Facility  
Availability



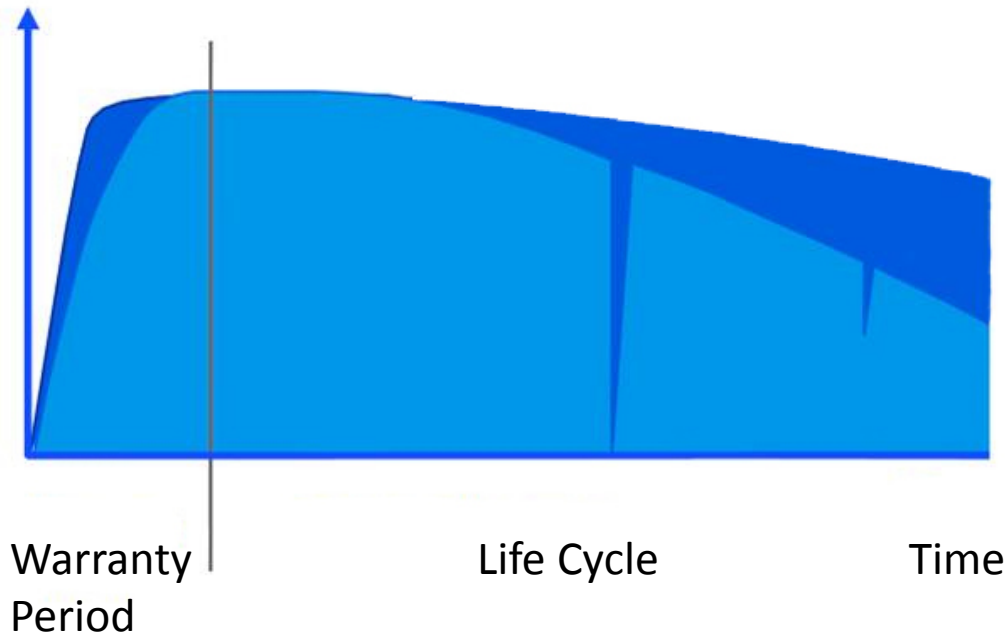
Insufficient or no  
maintenance



# Facility Life Cycle Philosophy



Facility  
Availability



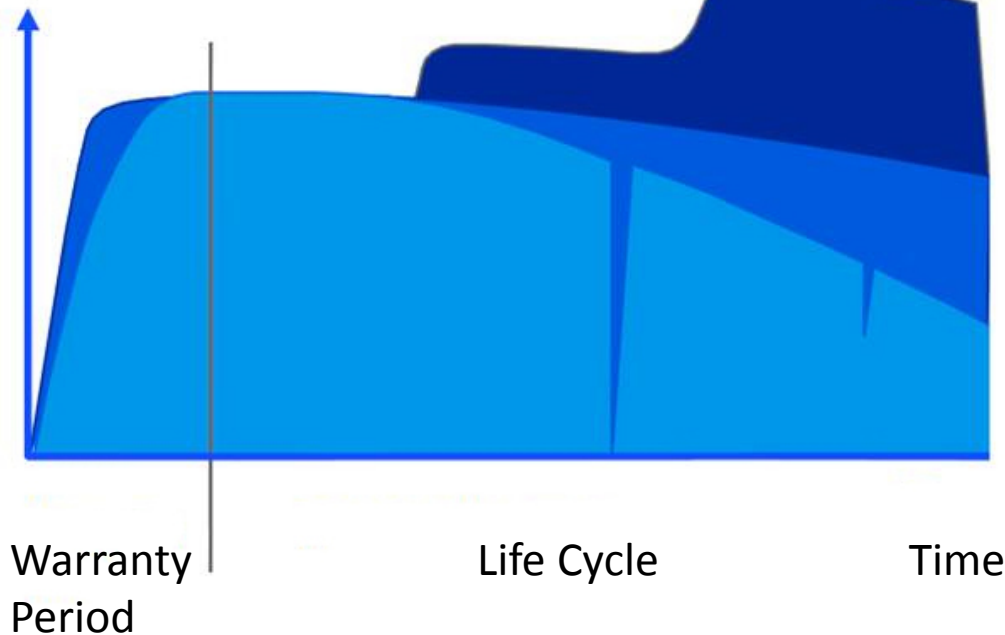
Maintenance and  
support



# Facility Life Cycle Philosophy



Facility  
Availability



Regular upgrades and  
developments



# Asset Management

- Converters (Portan and Shotton)
- Cables Asset Management
- Liverpool Storage Facility
- Upwards of 30 separate contracts to be managed by EWIC Asset Management



# Annual Outage (10<sup>th</sup> - 12<sup>th</sup> Sept)



- Planning started in May 2013
- 800 separate tasks identified
- 50 people working on site for duration of the outage
- All tasks successfully completed
- A number of follow up corrective maintenance tasks to be carried out
- Scheduled during outage starting 18th November





# Forced Outages

- 13th Sept
- 24th Sept to 27th Sept
- 29th Sept to 2nd Oct
- **All technical issues resolved**

# Significant Upcoming Events



- Post Annual Maintenance Outage corrective maintenance (Nov 2013)
- **Marine Survey – 2014**
  - Assess in situ status of cables
  - Budgeted €1m
  - Procurement of consultants and contractor
- Next Annual Outage – September 2014



# Commercial Operation

# Commercial Overview



- EWIC has been commercially operational with unrestricted power flows since 1st May 2013
- Power is predominantly flowing as imports (GB to IE)
- Active SO countertrading to facilitate priority dispatch





# Operation of the Interconnector



500 MW

East West Interconnector

Dublin

Liverpool

530 MW

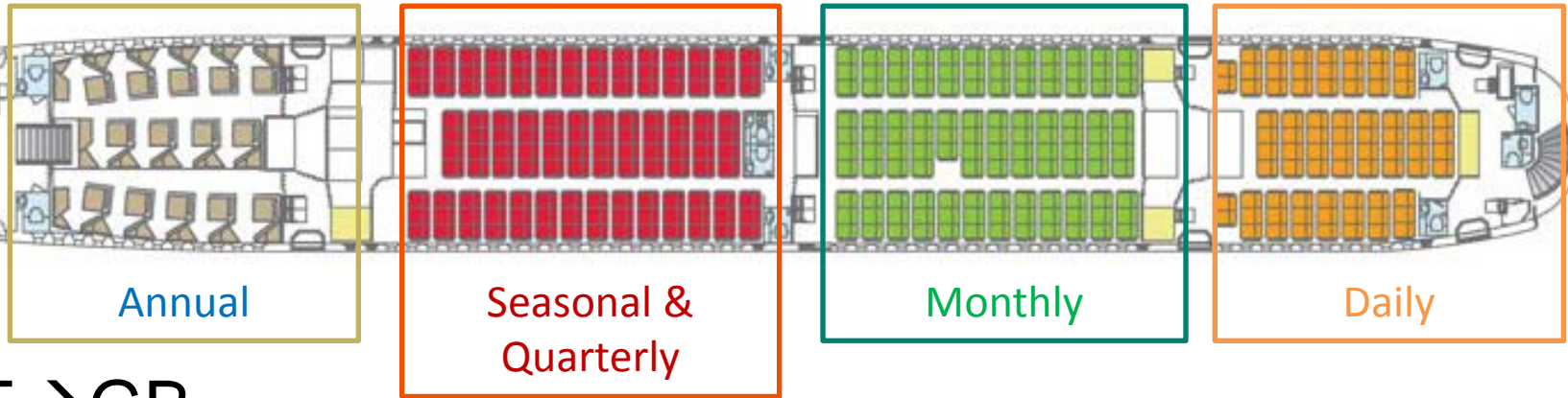
EWIC Ownership & Operation Boundary

BETTA / SEM Market Boundary

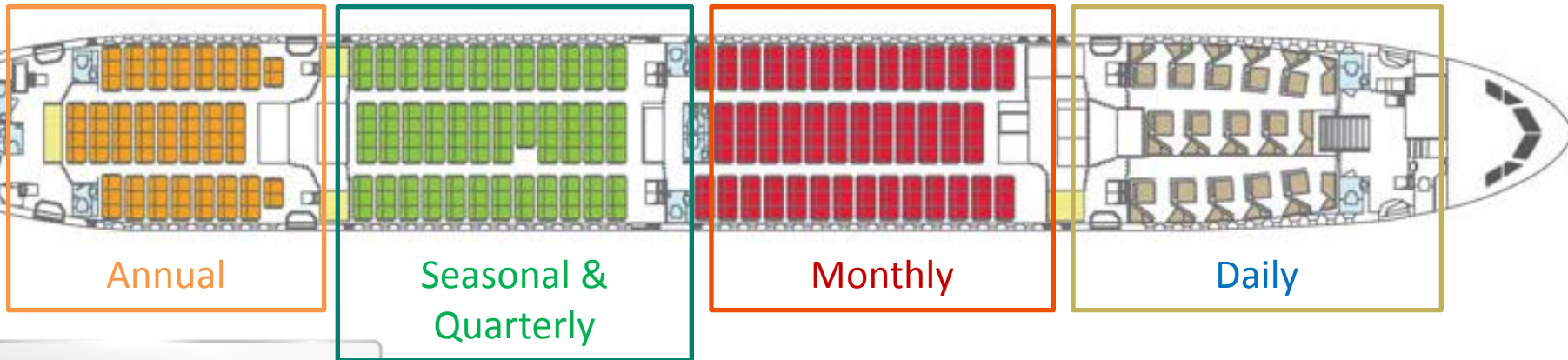
# Capacity Auctions



- GB→IE



- IE→GB



# Our Customers



Currently Registering



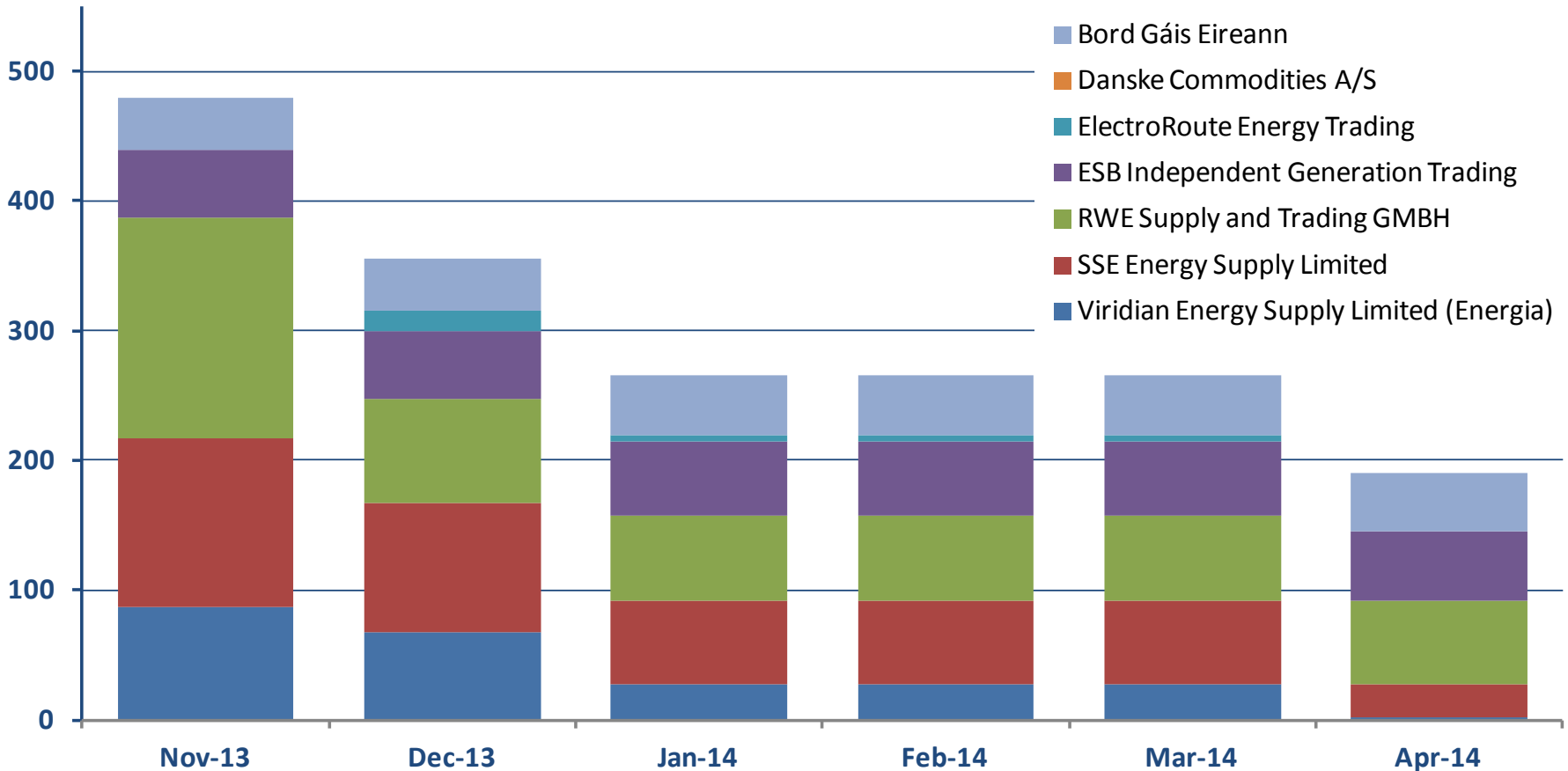
Currently Registering



New customer group.....buying capacity products

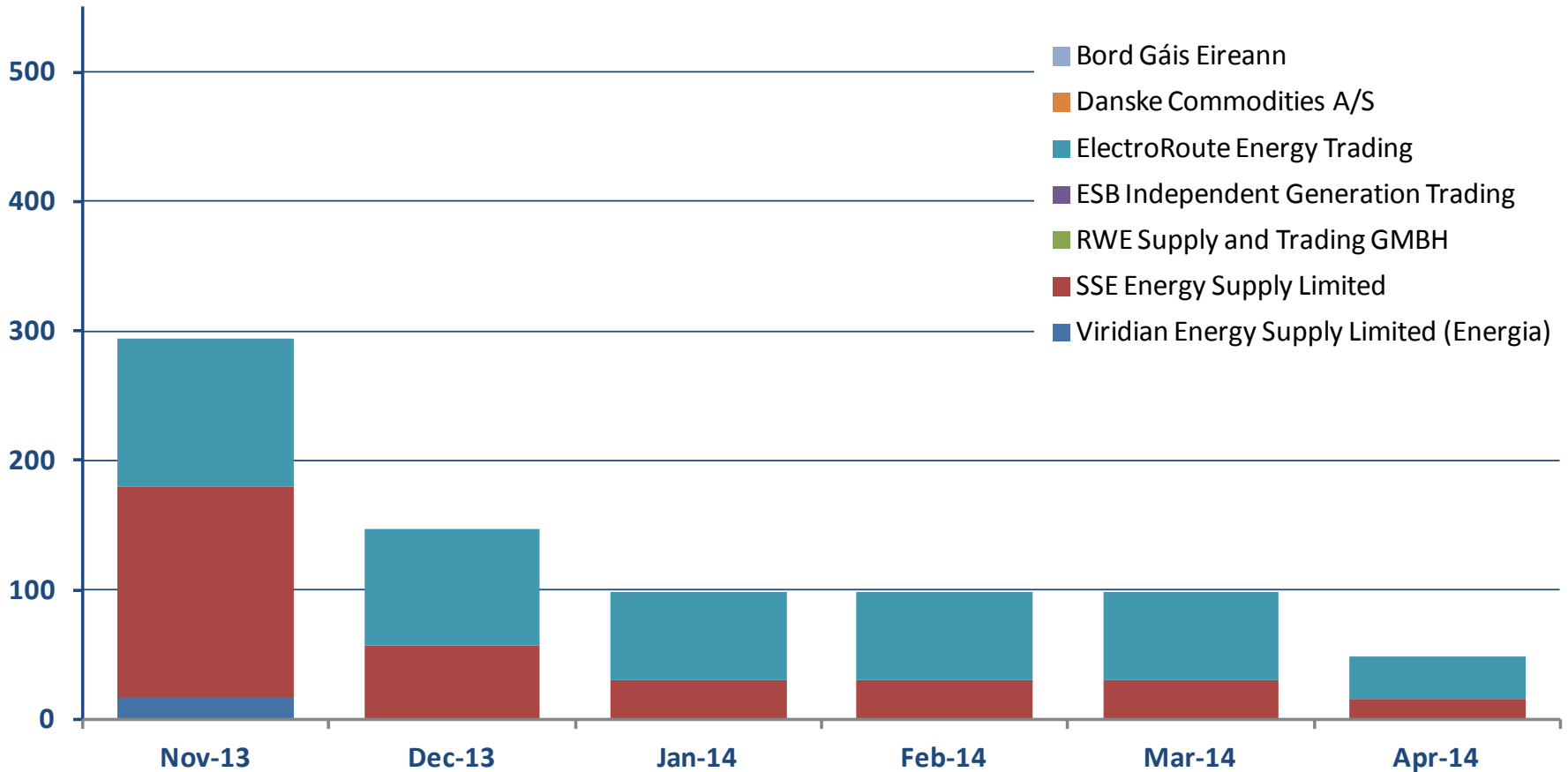


# Allocated Import (GB-IE) Capacity (MW)

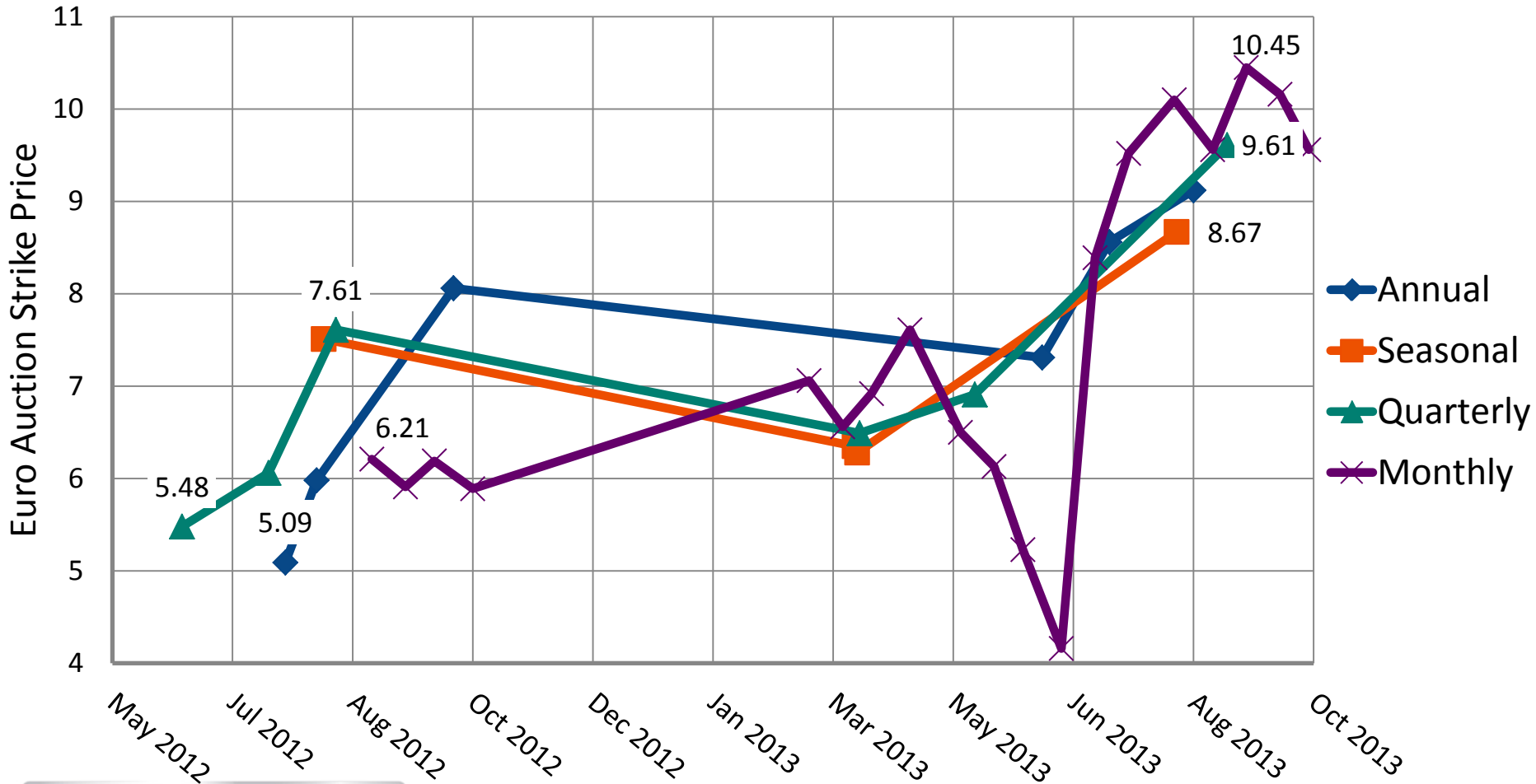




# Allocated Export (IE-GB) Capacity (MW)



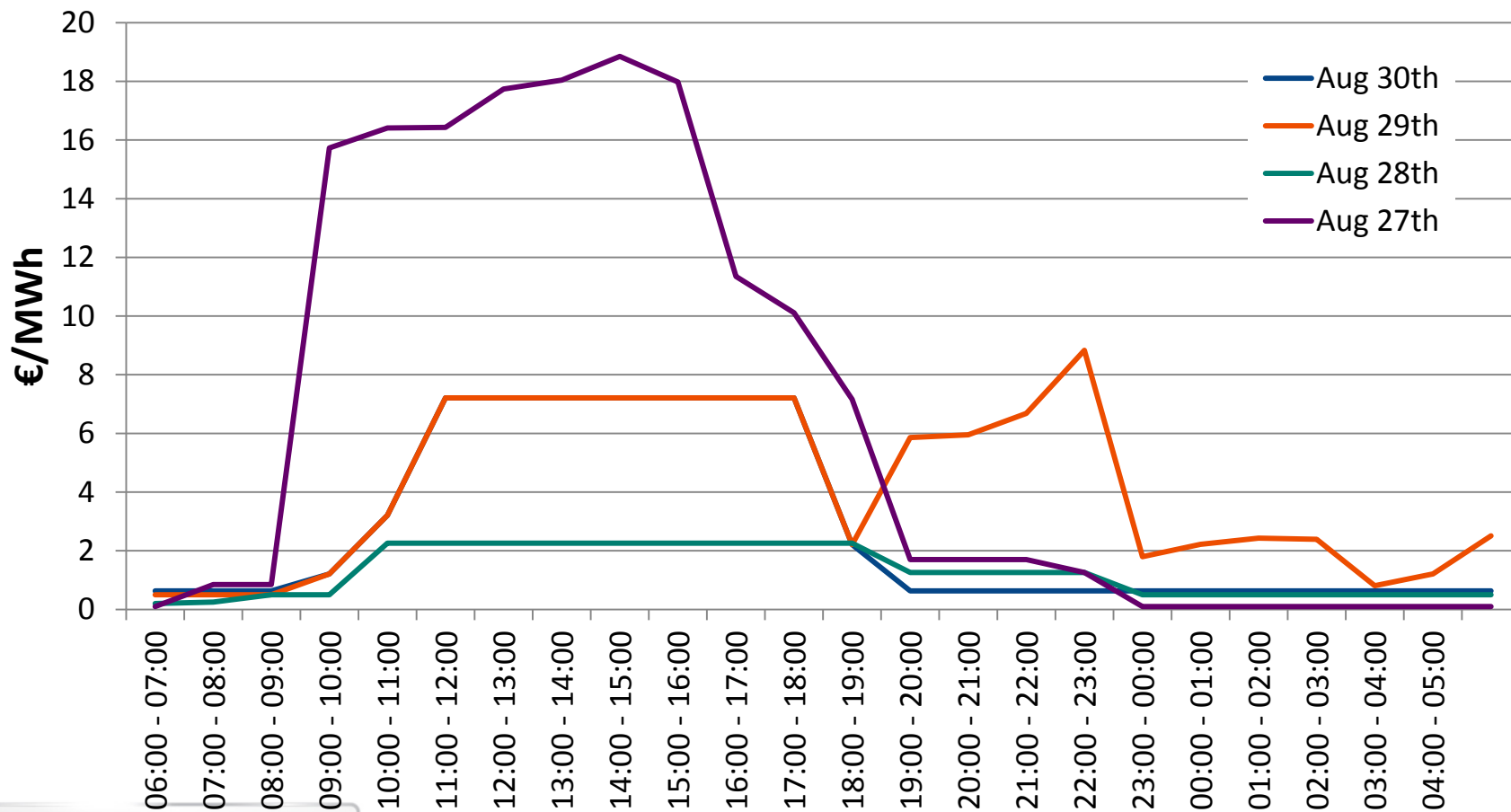
# Prices per LT Capacity Product Type by Auction Date



# Daily Auction Price Spread



## Daily Auction Price Variations

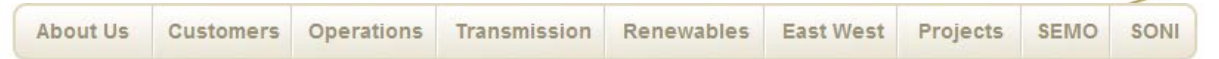


# Customer engagement

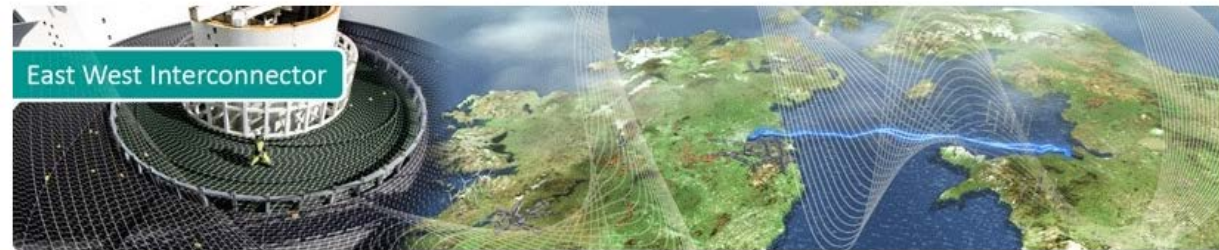


Updated web page

- Forced outages
- Protocol on communicating during a FO
- Upcoming planned outages



You are here: [East West](#) > [Outage Information](#)



## Forced Outages

In the event of a forced outage of the East West Interconnector, the Net Transfer Capacity (NTC) will be set to 0 MW GB-IE and IE-GB in the Auction Management Platform as soon as is practicable after the event occurs. NTC updates relating to a forced outage event will be available to view in the public version of the Auction Management Platform under 'Minute NTC' immediately after the update occurs:  
[Minute NTC](#)

Note: Minute NTC data is displayed per SEM trade day and will only include data for trade days on which there was a forced outage of the East West Interconnector or for days on which a forced outage extension occurred.

An overview of the communications which will issue during a forced outage and prior to return to service is available in the following document: [Communications During Forced Outage](#)

## Planned Outages

Planned outages of the East West Interconnector are coordinated between EirGrid Interconnector Limited, EirGrid Plc. and National Grid Electricity Transmission. The following table lists the planned outages which are currently scheduled.

Outage Reason	Start Date	Start Time	End Date	End Time
Maintenance	18/11/2013	00:00	21/11/2013	23:59
Annual Maintenance	09/09/2014	00:00	11/09/2014	23:59
Annual Maintenance	08/09/2015	00:00	10/09/2015	23:59
Annual Maintenance	06/09/2016	00:00	08/09/2016	23:59

### East West

- » [Shortlisted for Project of the Year](#)
- » [Auction Calendar](#)
- » [Auctions and Results](#)
- » [SEMO - Participation/Eligibility Requirements](#)
- » [BETTA - Participation/Eligibility Requirements](#)
- » [Consultations](#)
- » [Outage Information](#)
- » [Publications](#)
- » [East West Flow Graph](#)
- » [News](#)
- » [Contact Information](#)

### Quick Links

- [GRID25](#)
- [Gate 3](#)
- [Publications](#)
- [System Performance Data](#)





# Ancillary Services



## EirGrid

- Static Reserve (Frequency Response)
- Reactive Power
- Black Start

## National Grid

- Static Reserve (Frequency Response)
- Reactive Power



# Summary

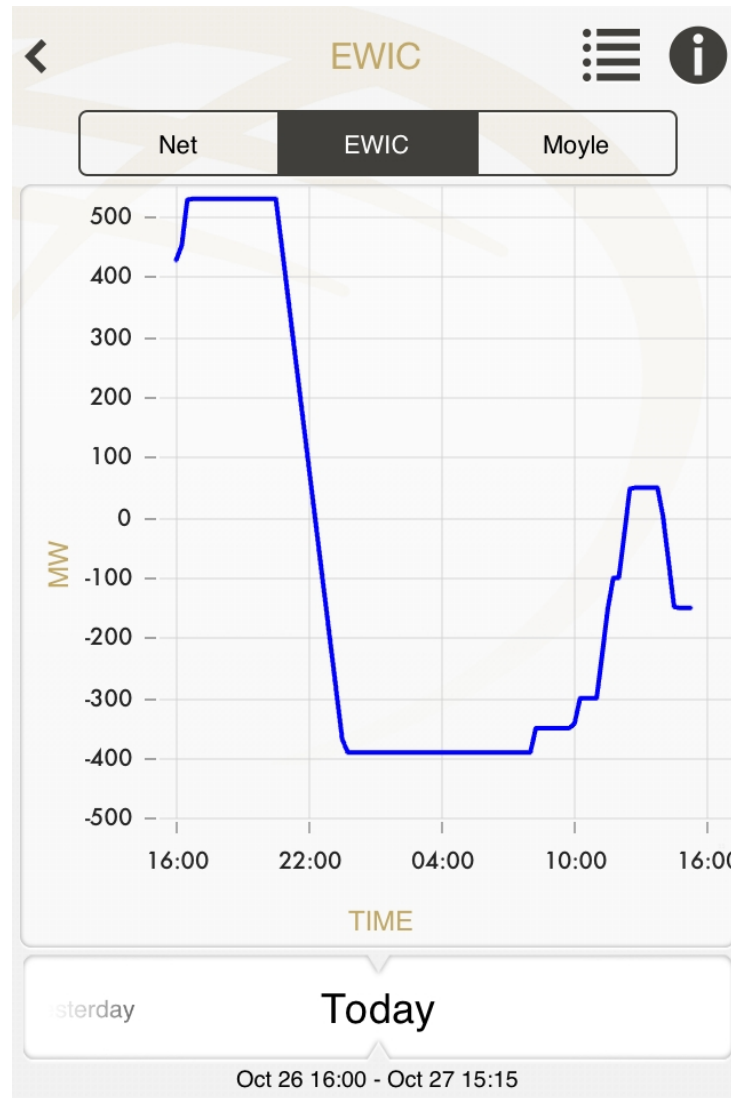
- EWIC is operating successfully
  - Technically and commercially
- Significant Asset Management tasks underway
- Sales are buoyant and the market players are importing heavily – early indications are downward pressure on SEM prices.
- Enhanced procedure developed for communication during EWIC outage – now published on web.



- EWIC Nominated as Project of the Year
- Public Vote
- Closes 7<sup>th</sup> November
- [www.engineersireland.ie](http://www.engineersireland.ie)

End

# Countertrading



Yesterday Today  
Oct 26 16:00 - Oct 27 15:15