



# Overview of Grid-Based Demand Side Management In Ireland

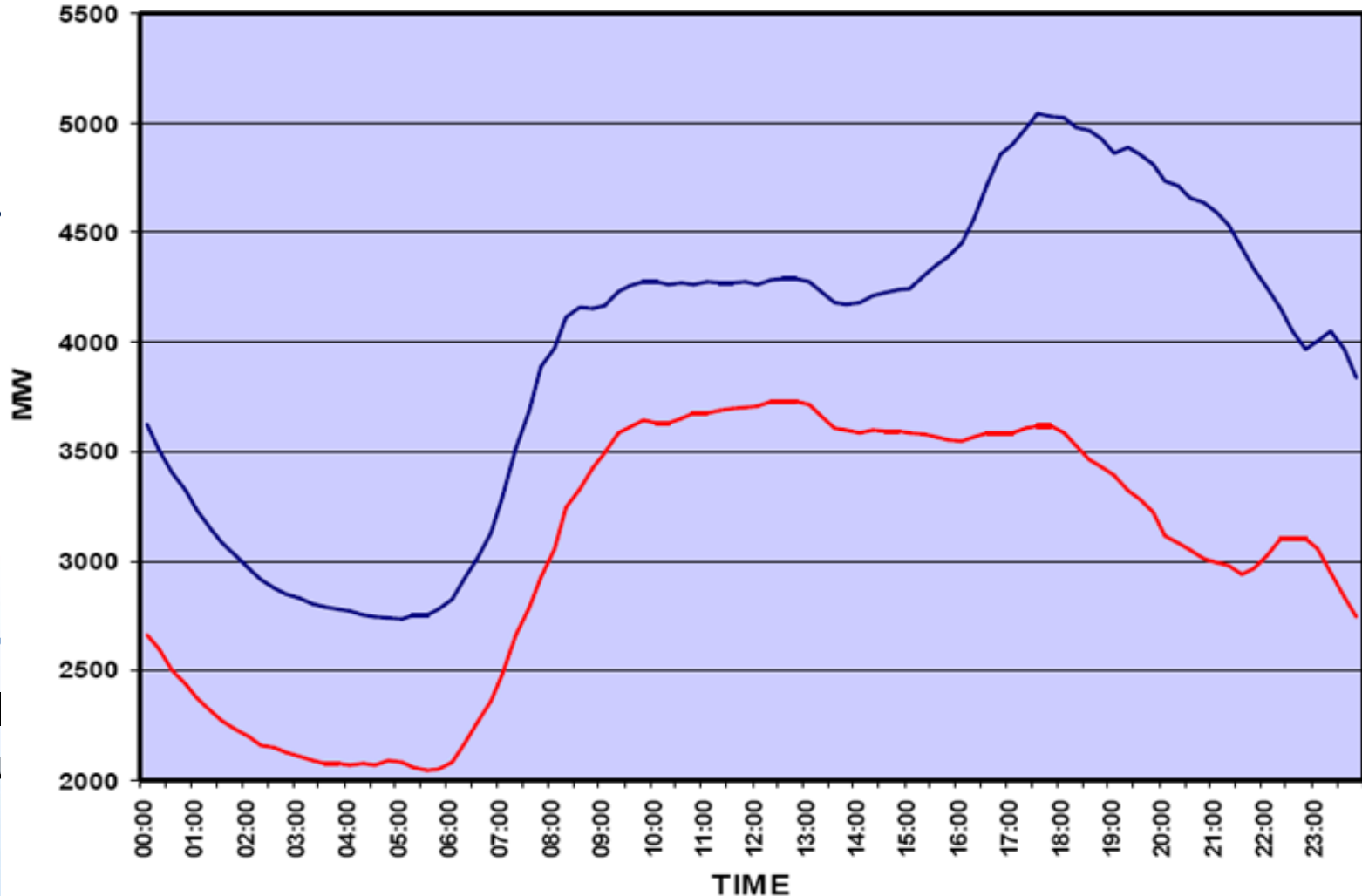
**ACTIVATION**ENERGY

# Activation Energy

- Established in 2006
- First Demand Side Unit (DSU) in ROI
- Contracted to Eirgrid as DSU
- Electricity Supply Licence from CER
- TSC Modifications Committee and Grid Code Review Panel

# Irish Electricity System Structure

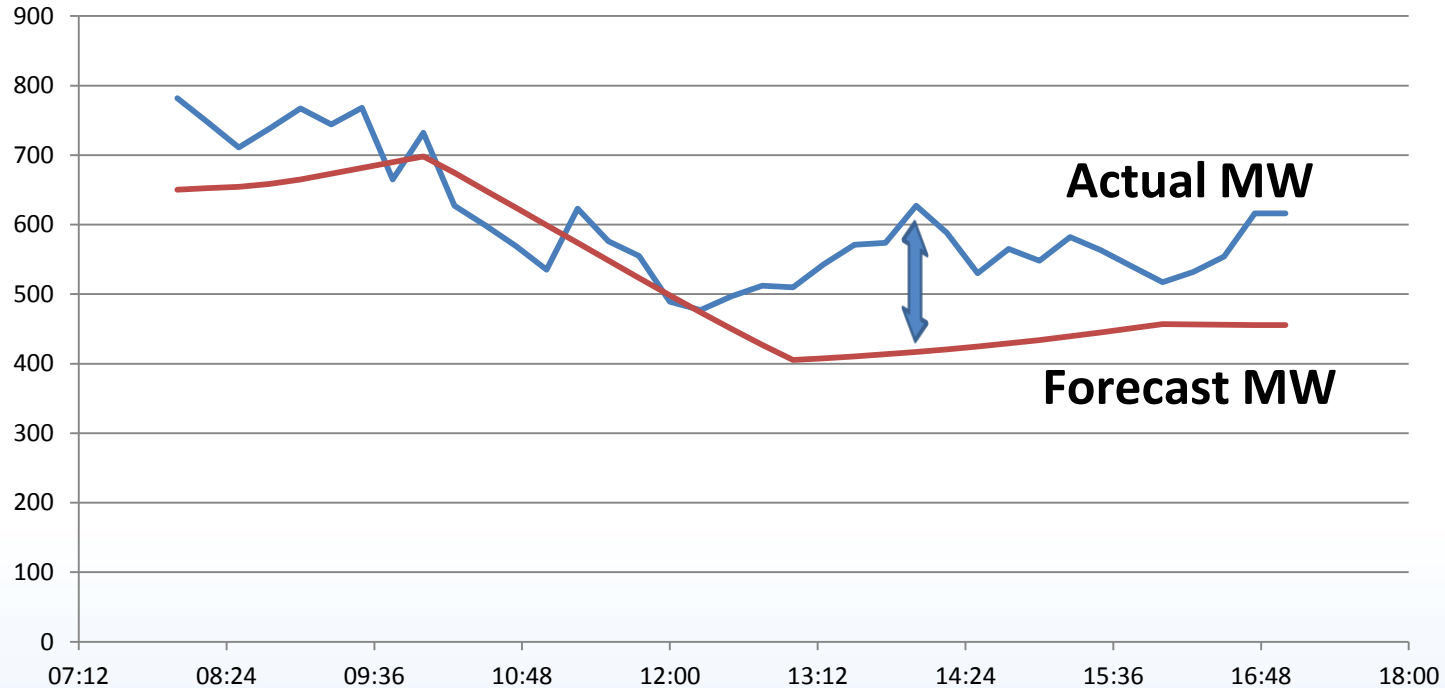
DAILY LOAD CURVES



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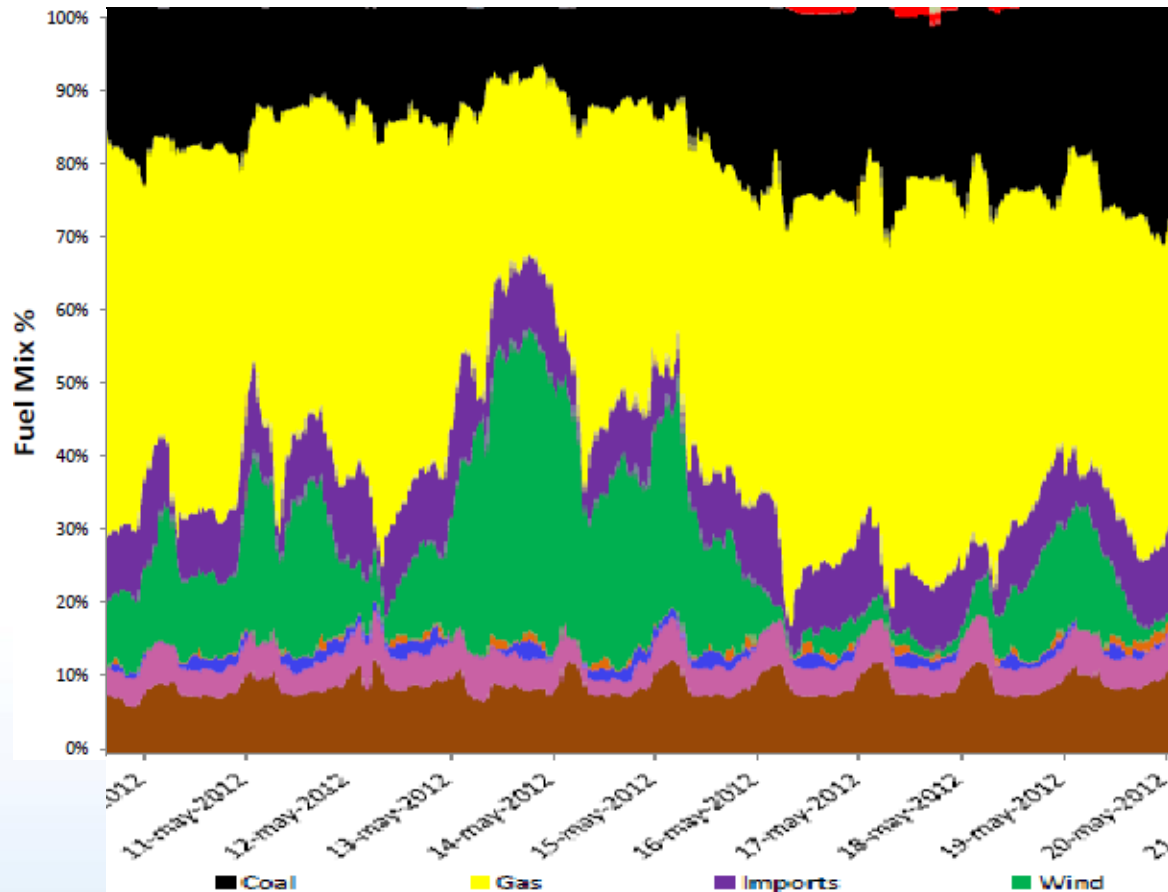
# Grid Profile Changes Caused by Supply

## Wind Actual Power Vs Forecast May 15th 2012



**40% Forecast Vs Actual Disparity in Exceptional Case**

# The Generation Mix challenge



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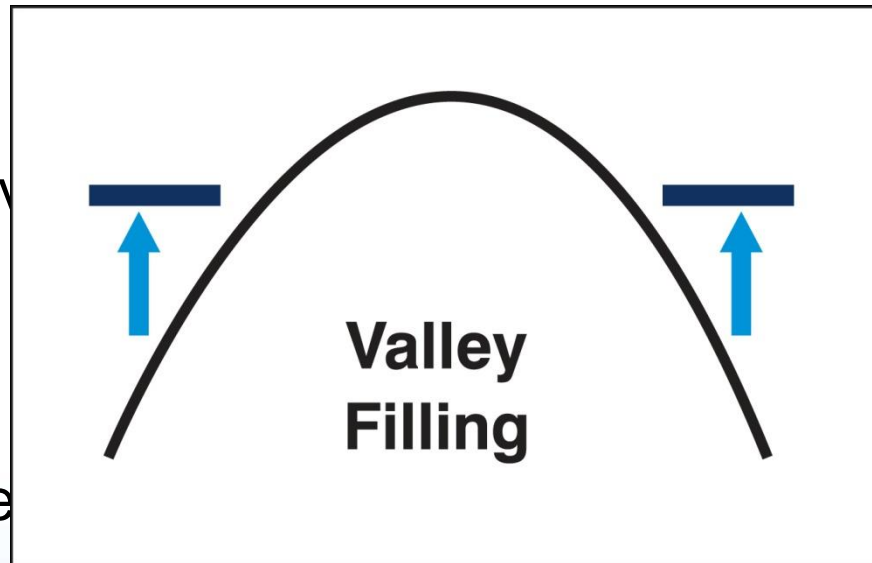
# What is Demand Side Management (DSM)?

- Activities that Change the Quantity and/or Time of use of Electricity

- Typically driven by

- Deployed in

- In Ireland, led



ralia

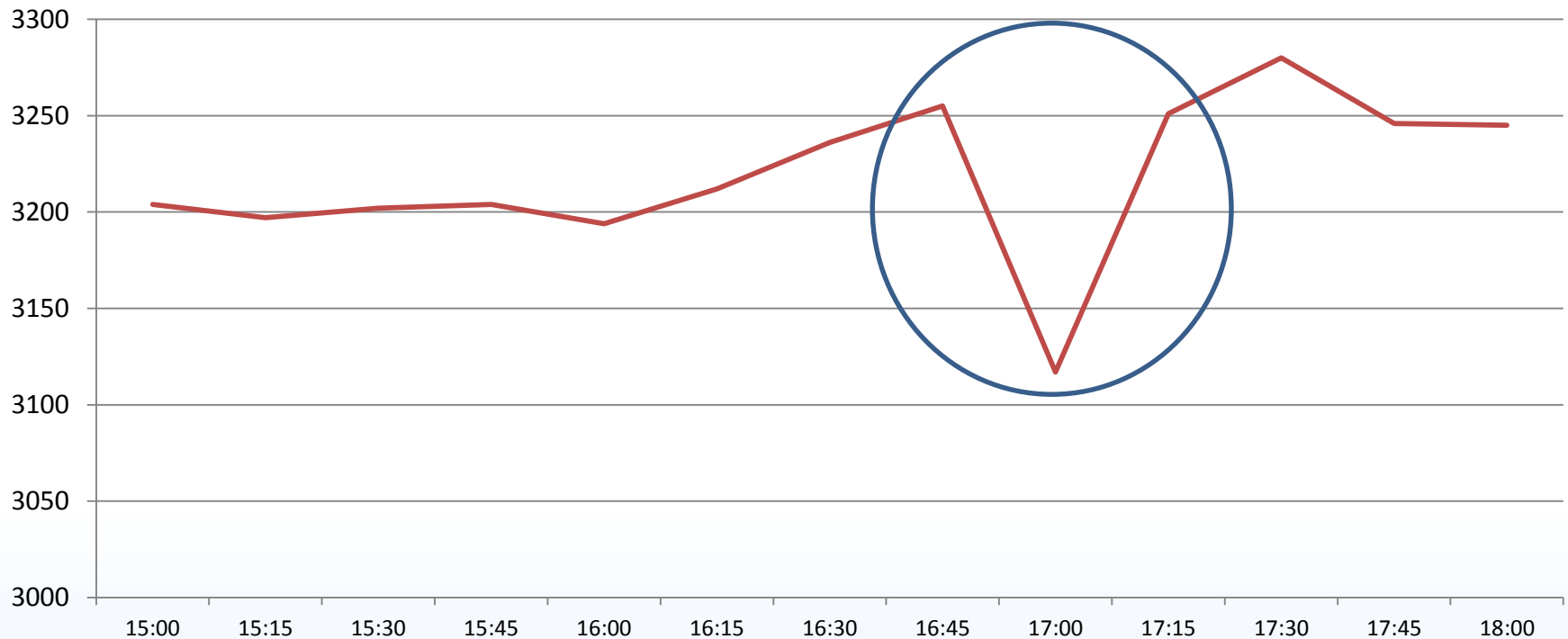
Powersave

- New to Irish Market - Demand Side Units

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# Demand Response in action

National Electricity Demand Profile (MW) - 9 Aug 2012



On August 9 2012, during Katie Taylors Olympic Final Eirgrid reported a 205MW Drop in Demand – 6% of National Demand !

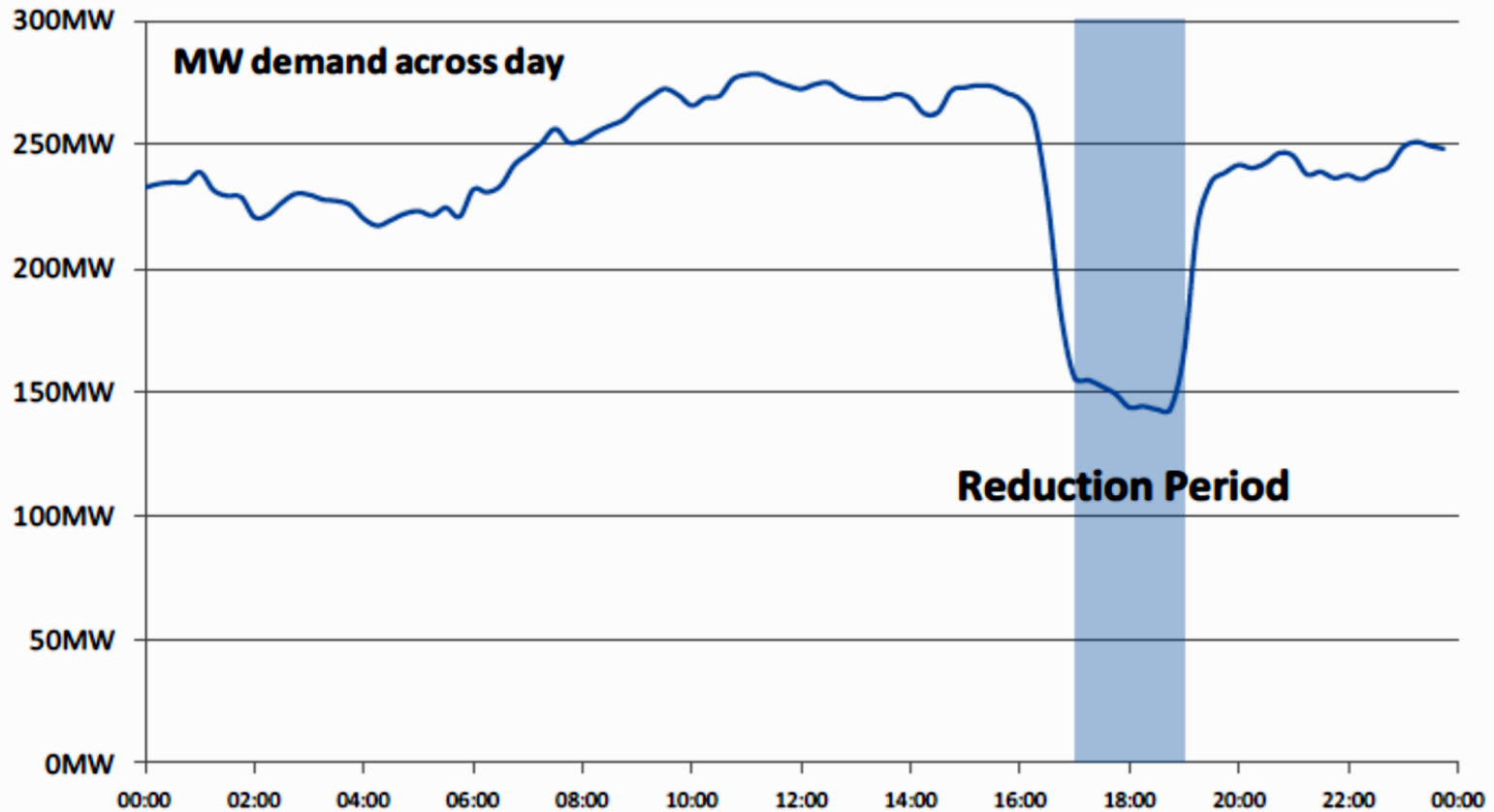
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# Previous Eirgrid Initiatives

- Winter Peak Demand Reduction Scheme
- STAR Scheme (interruptible Load)



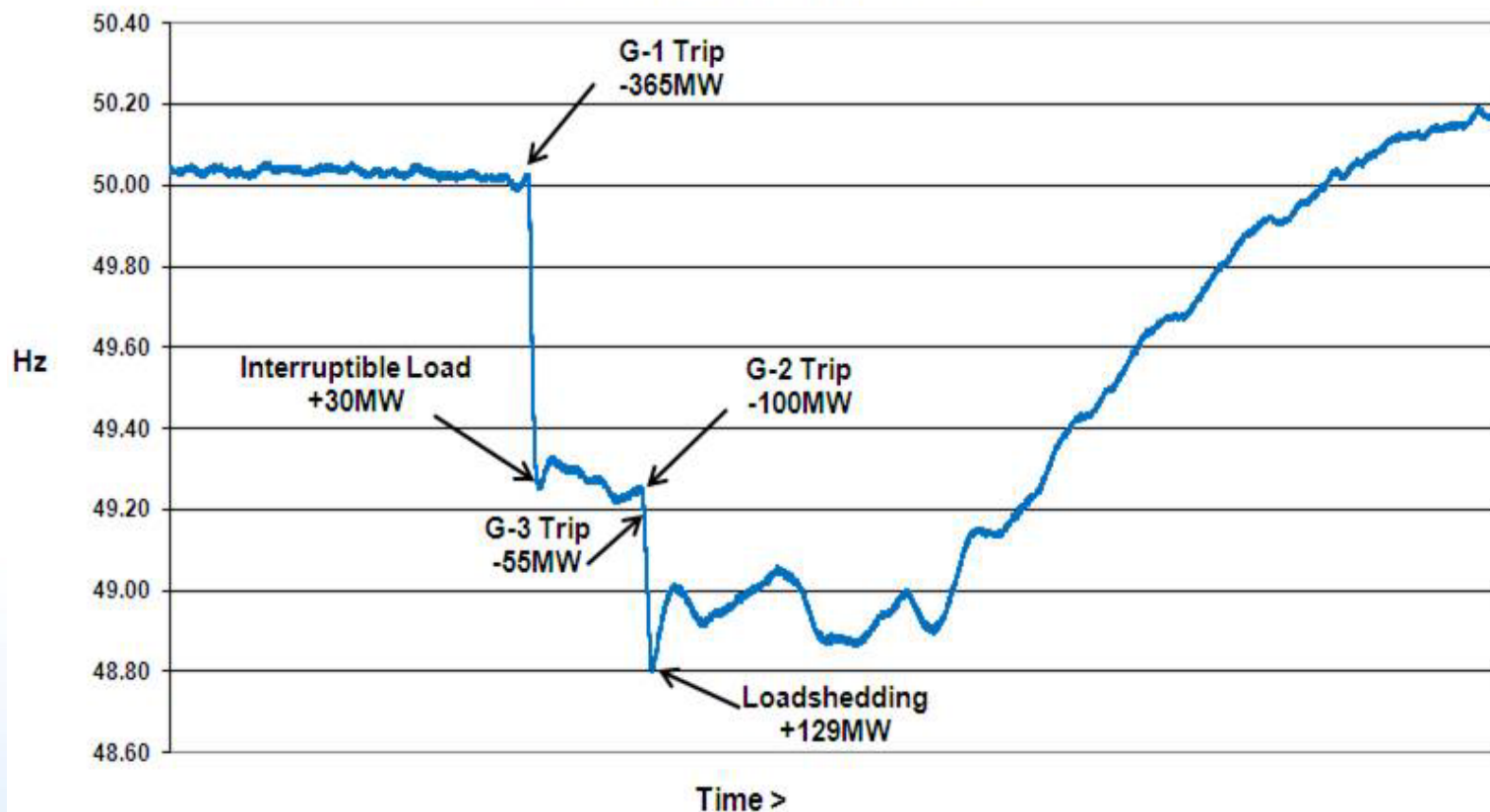
# Demand Side Management in Action - Scheduled



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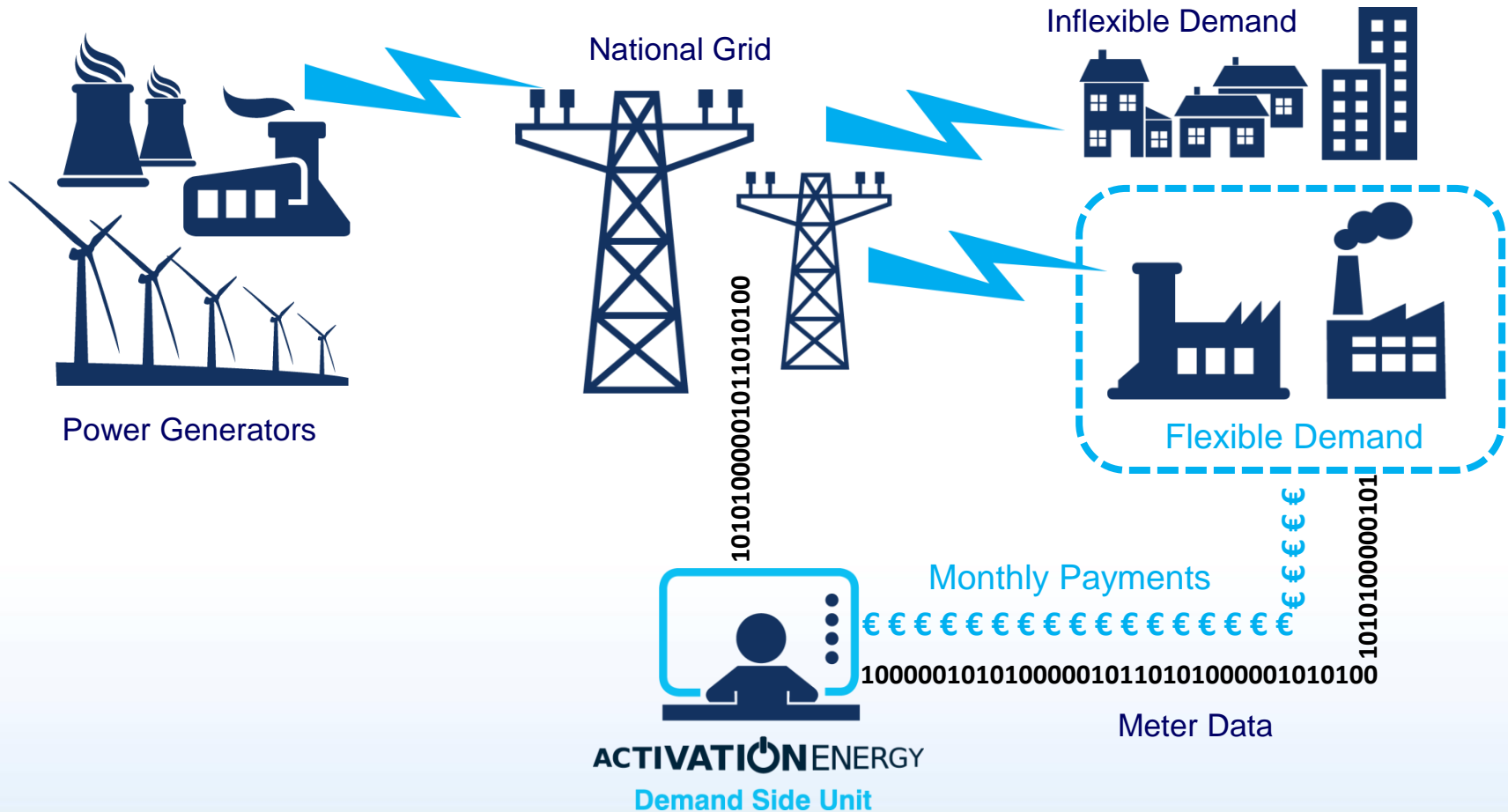
# Demand Side Management in Action - Unscheduled

Monday 5<sup>th</sup> Sept 2011



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# Demand Side Unit Explained



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# Demand Response Scheme Outline

- **Maximum of 2 hours per event.**
- Opt in/out
- Reduce within 30 minutes
- Monthly payments

# Demand Response Options at Sites

- **Direct Load Reduction**
  - Chillers/AHU
  - Mills
  - Motors
  - Compressors
  - Pumps
  - Production Plant etc
  
- **Back-Up Gensets**

# Payments to Participating Sites

- Paid for every 30 minute period Available
- Predictable demand component
- Reduce demand (30 mins notice)
- Revenue of €30,000 - €45,000 per MW, per year
- Differing kW quantities each time period

# Site Metering Requirements

- **TYPICAL METERING REQUIREMENTS:**

- 1) Main Incomer

- 2) Plant Items nominated for Demand Reduction

- 3) Generators

- **Costs paid by Demand Response Scheme**

# Demand Reduction Examples



Diesel Generators



Mills/Crushers/Dryers

Chillers





# Irish Demand Side Unit Example

## Example of site with 2MW Generator

(Available to Scheme 24/7)

Total Gross Revenue per annum	€ 80,000
Less	
Total Monitoring Equipment Set-Up Cost	€ 1,800
<hr/>	
<b>Net Revenue Receivable Year 1</b>	<b>€ 78,200</b>
<b>Net Revenue Receivable Year 2</b>	<b>€ 80,000</b>



Thank You

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