

*The role of LNG infrastructures in a low carbon economy*

**GIE Annual Conference**

**Luis Ignacio Parada / Enagás**  
**25<sup>th</sup> June 2010**

## ● Security of Supply - EU Energy policy



**Treaty of Lisbon** (1 Dec 2009)  
Art. 194 new energy article  
spirit of solidarity



J. A. VINOIS

J. STERN

M.

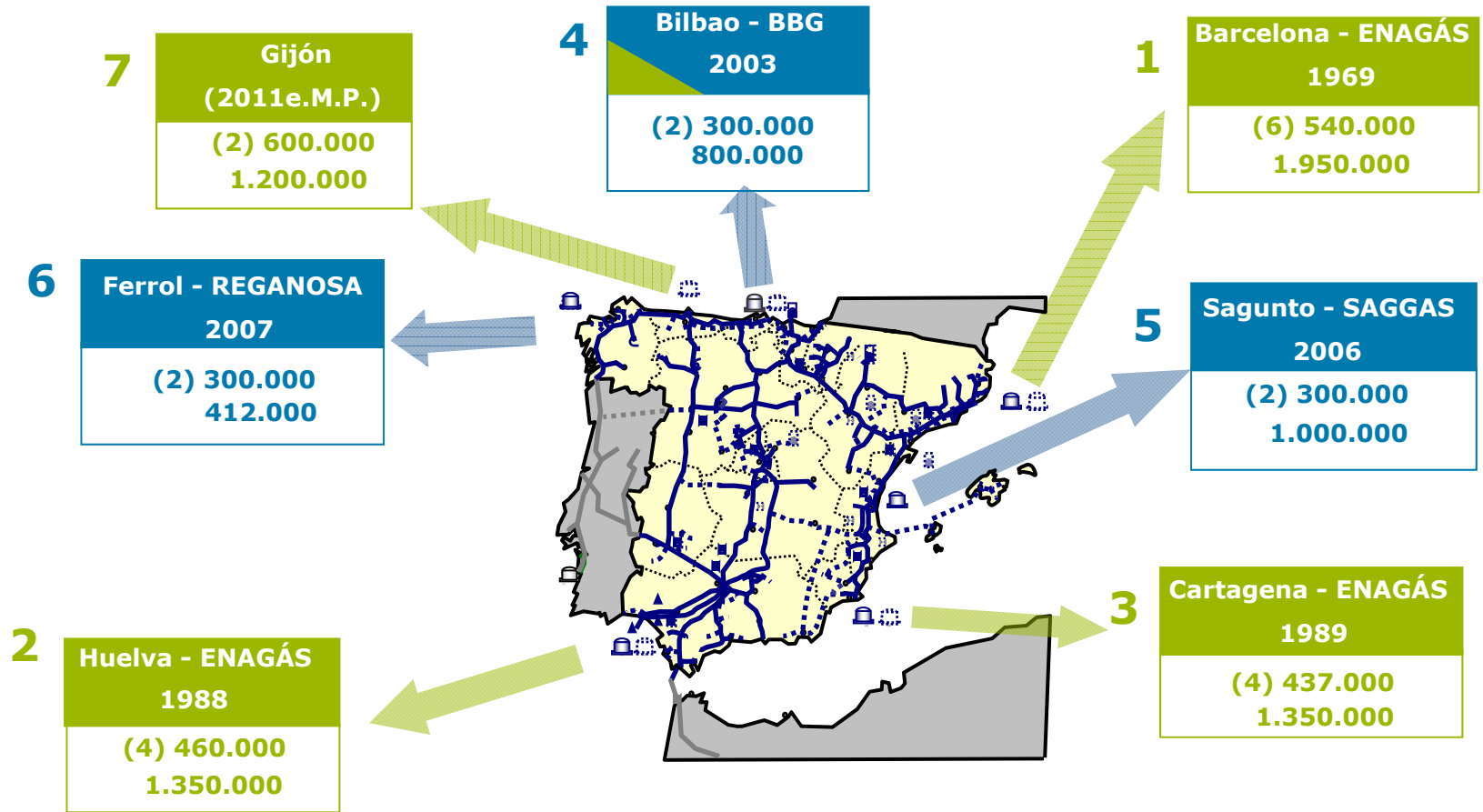
# A sunset industry?



- The empire on which the sun never sets.



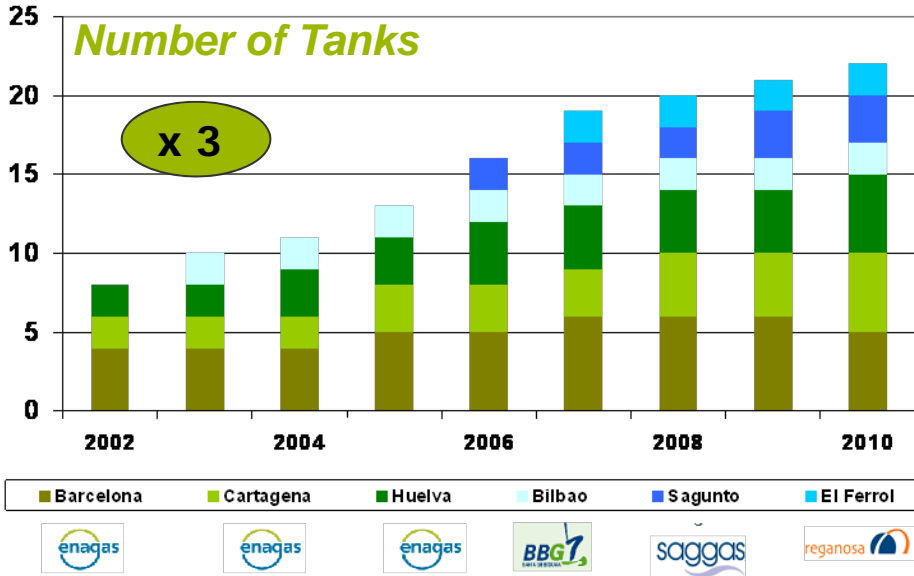
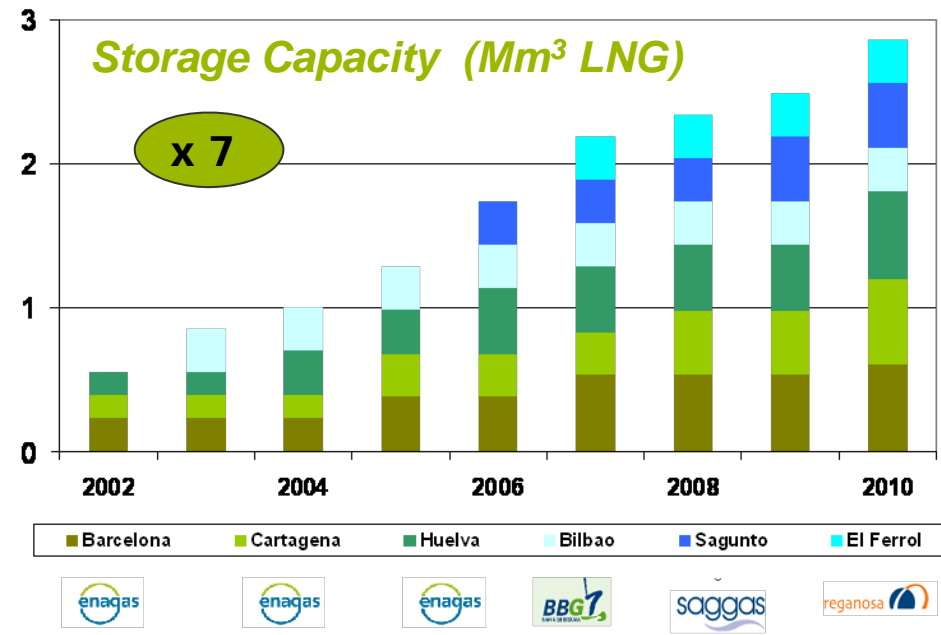
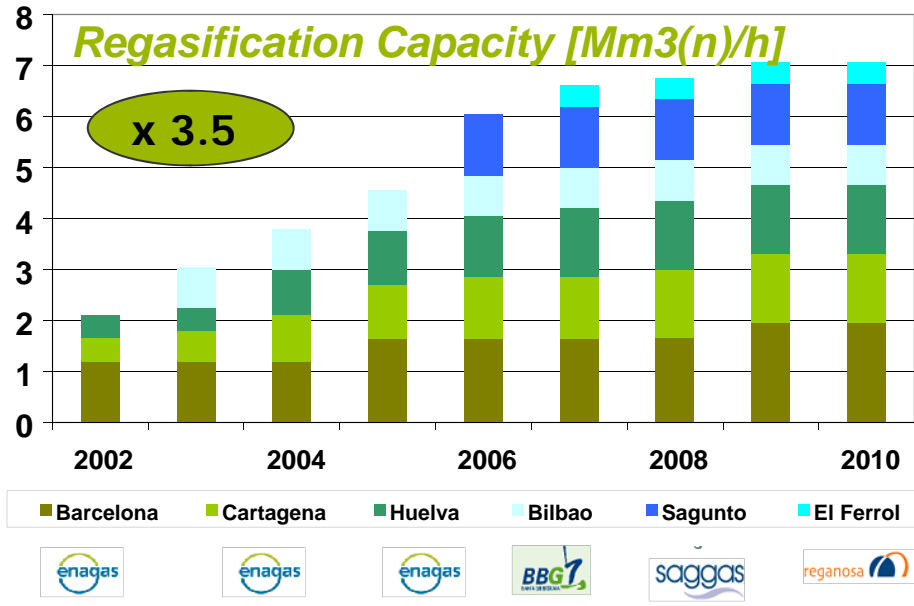
# LNG Terminals in Spain

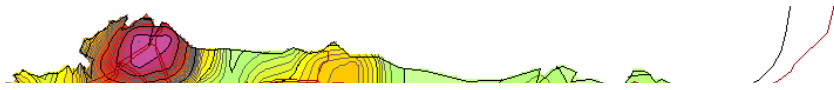


Current: 22 LNG tanks, 2,337 Mm<sup>3</sup> LNG capacity

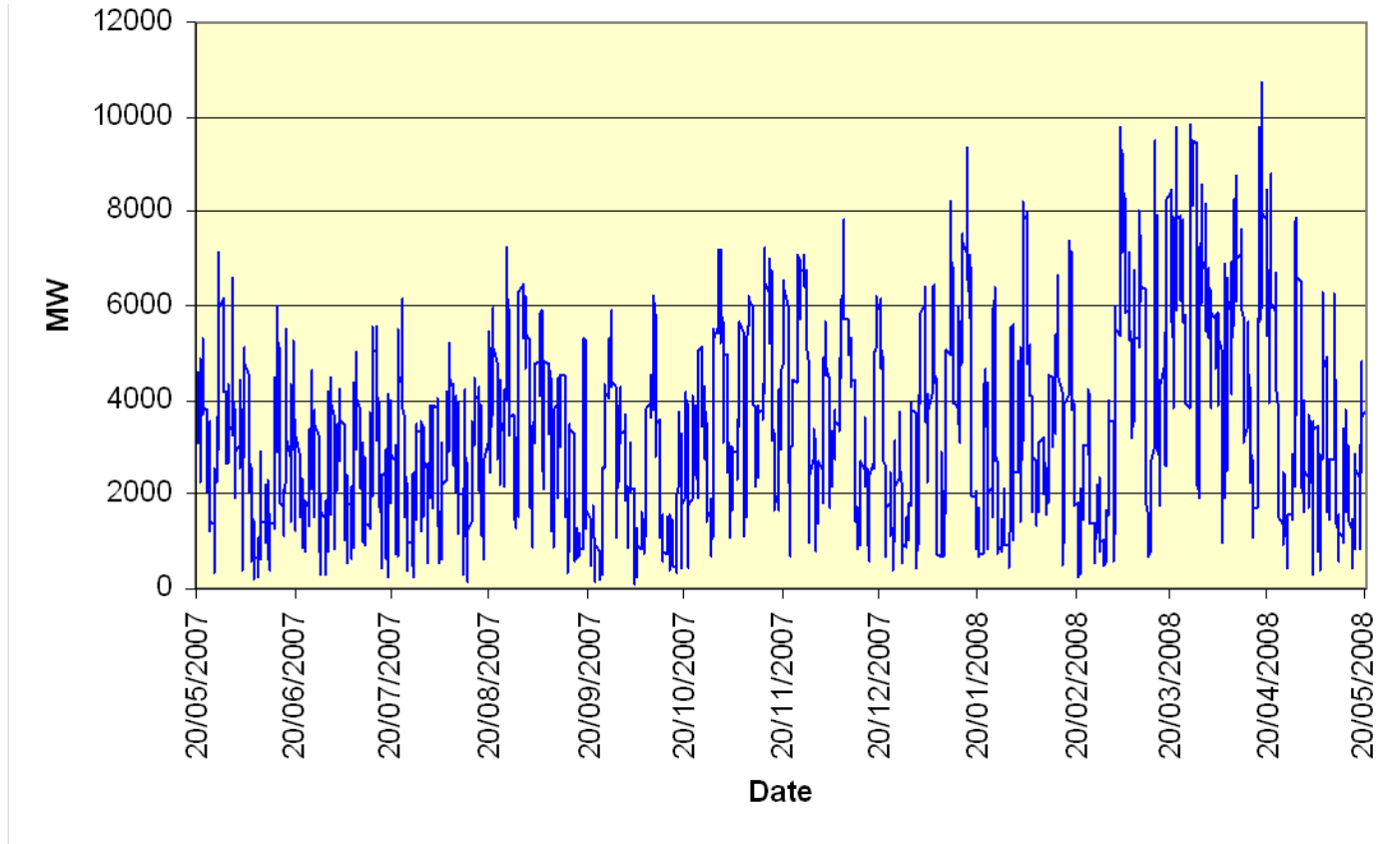
LNG plant	Owner/Operator / Promotor
Starting operation (Real/ Mandatory planing)	
Current (n/a) LNG Storage (m <sup>3</sup> )	
Current Send out (m <sup>3</sup> (n/a))	

# Capacity at LNG terminals





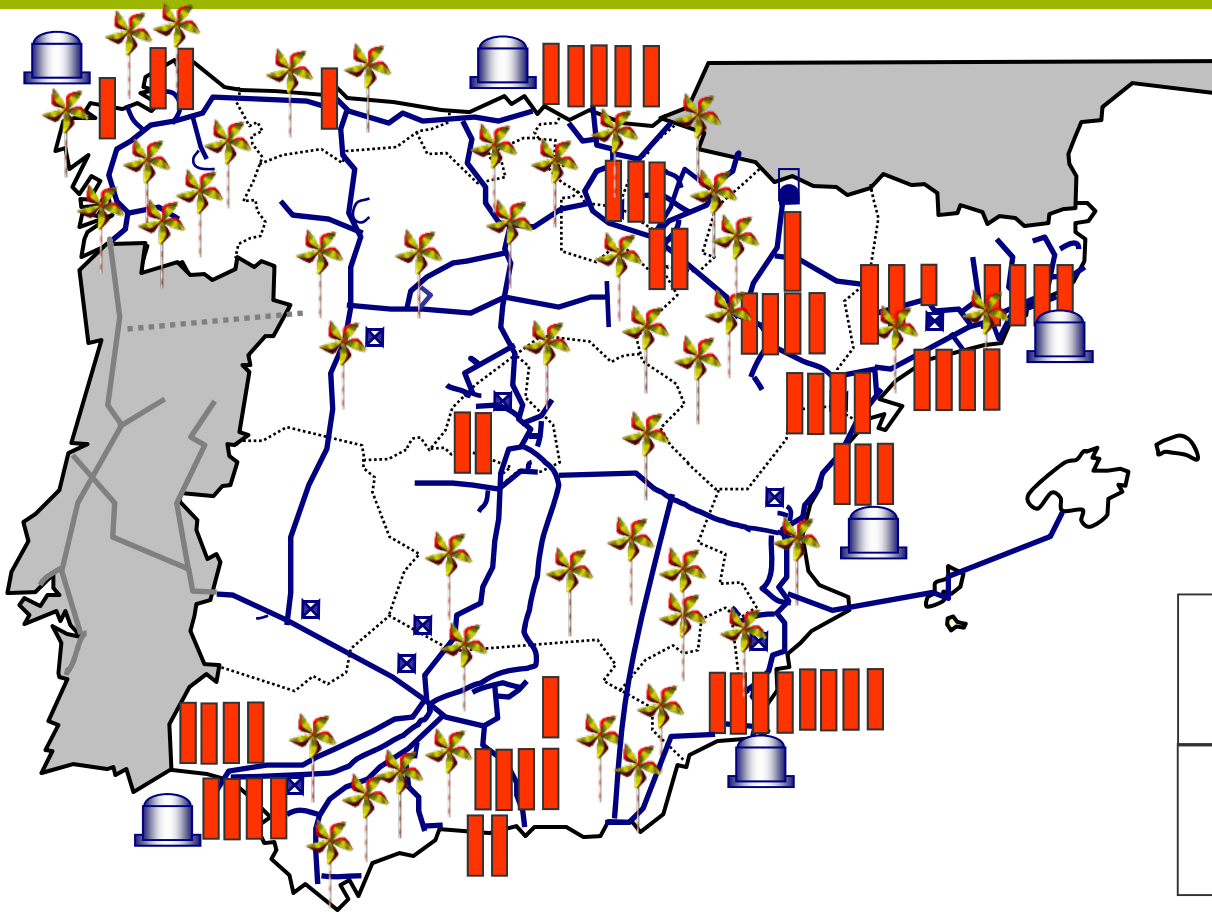
## Wind Power variability



0  
kW/km<sup>2</sup>

## Installed Wind Capacity January 2009

# Wind Power & CCGTs in Spain

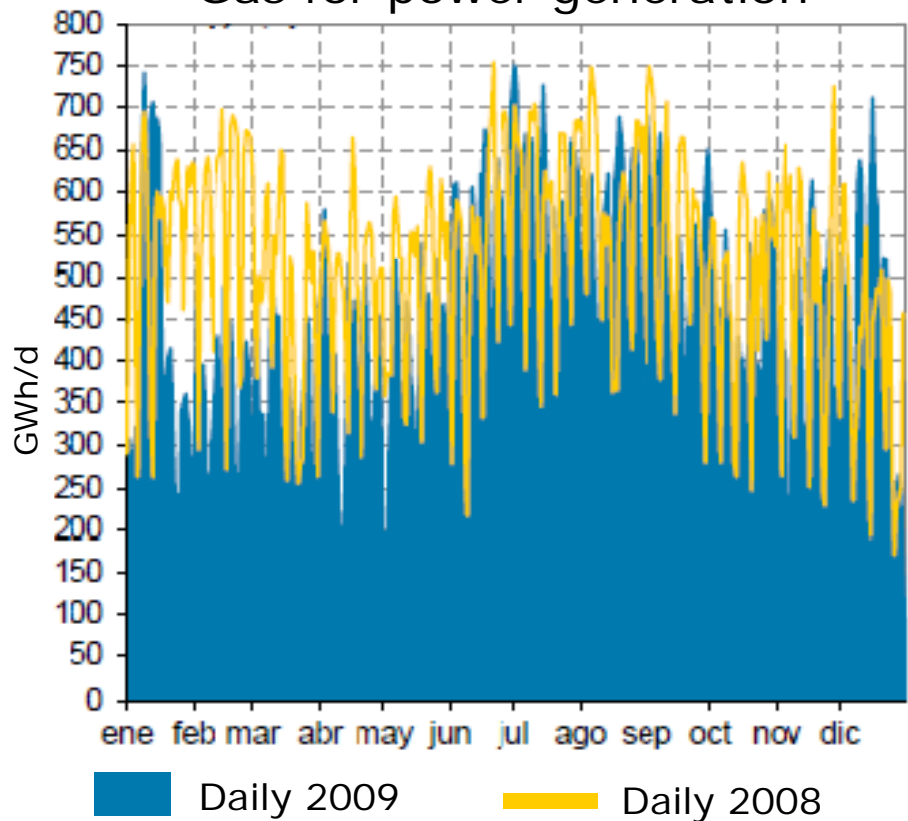


**Flexibility is  
Paramount!**

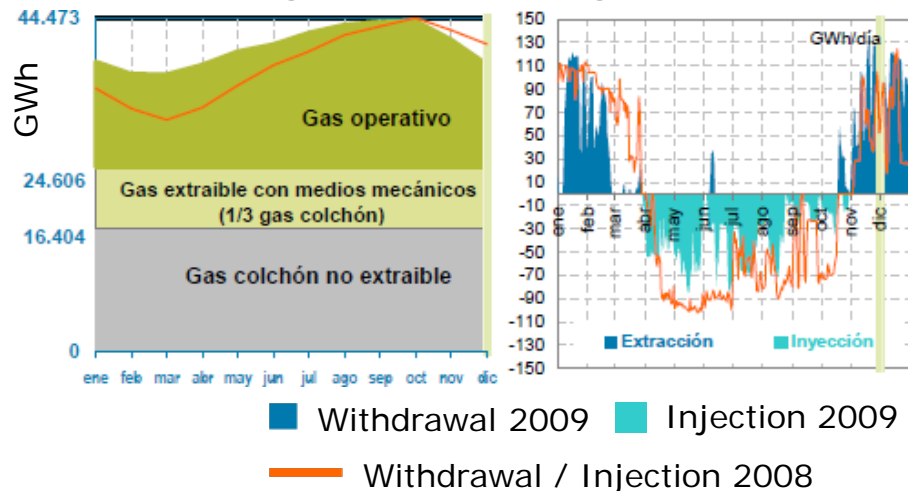
	Installed Capacity
<b>CCGTs</b>	<b>24 GW</b>
<b>Wind Power</b>	<b>19 GW</b>

- Wind Power entails a high level of intermittent production.
- Wind Power generation is backed-up by CCGTs.
- CCGTs are backed-up by flexible gas storage.

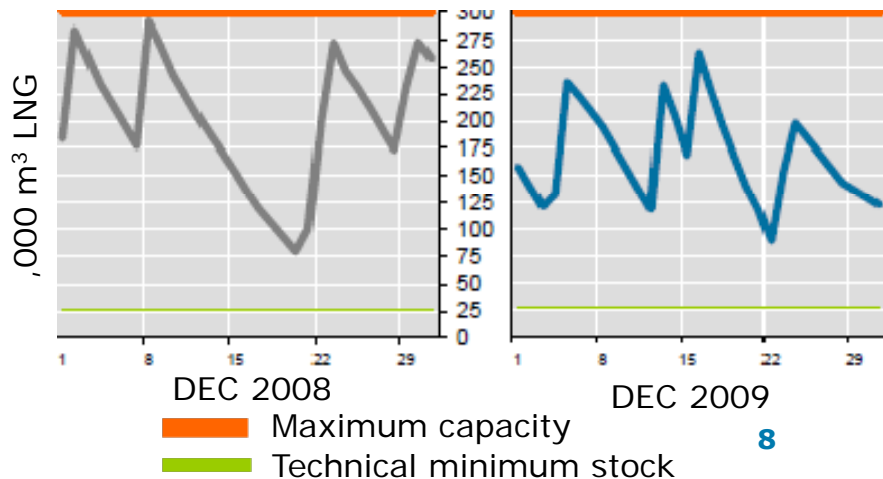
## Gas for power generation



## Underground storage in 2009



## Daily LNG stocks (Bilbao)

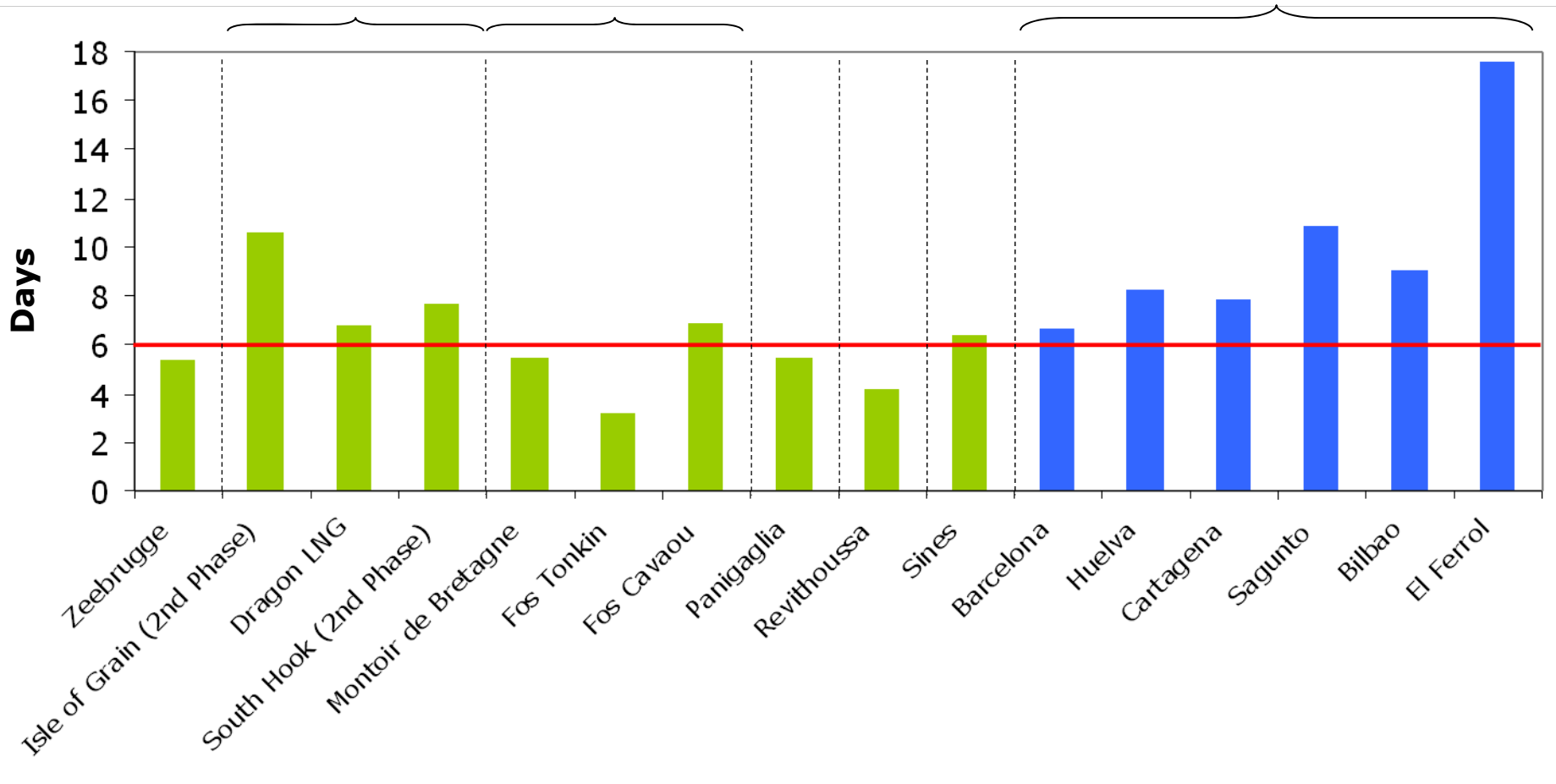


CCGTs are the back-up of windmills

LNG terminals the back-up of CCGTs

# High relative LNG storage capacity

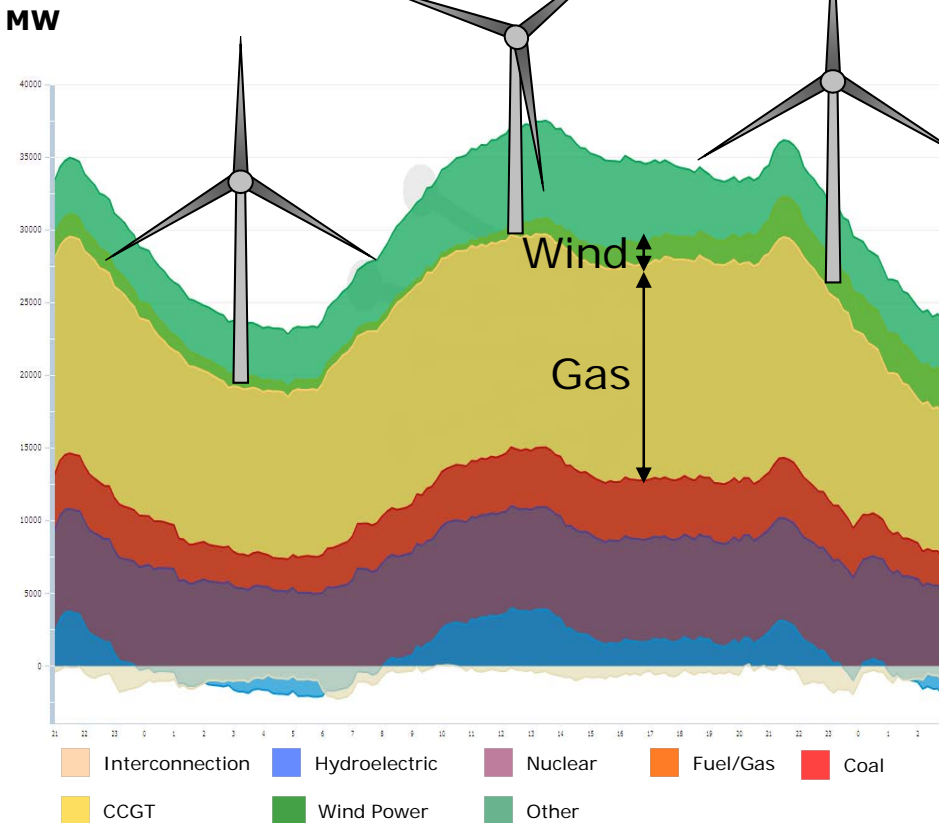
## LNG storage capacity / daily regasification capacity



# Electricity Generation

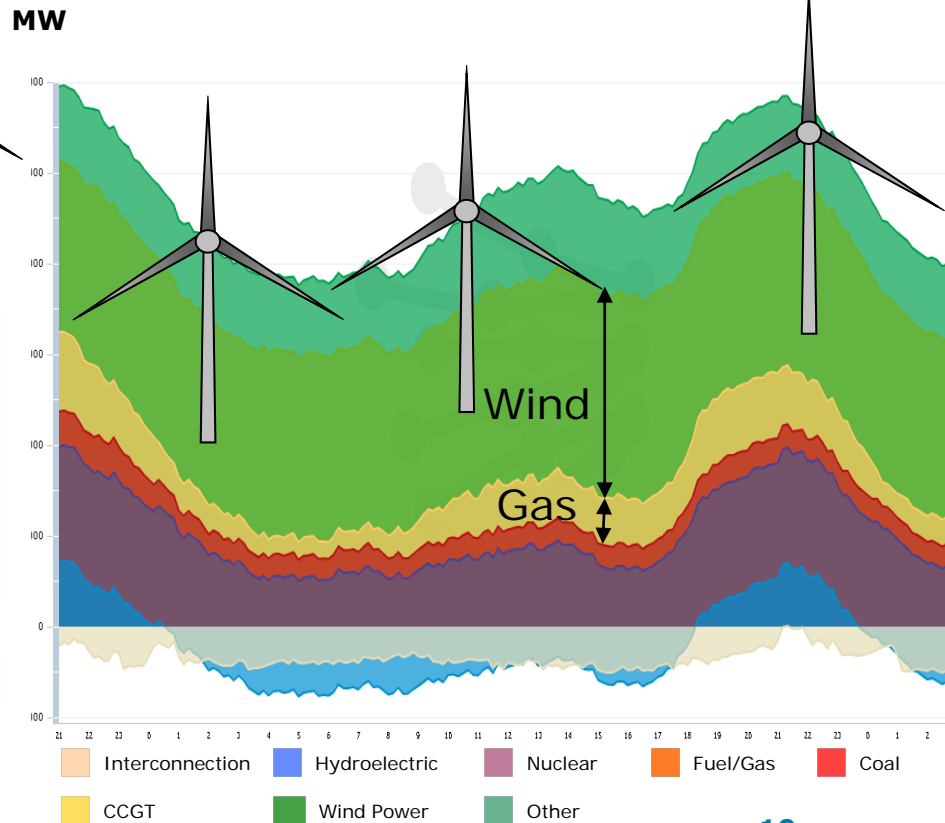
27-August-2009

Wind Power **1%**



8-November-2009

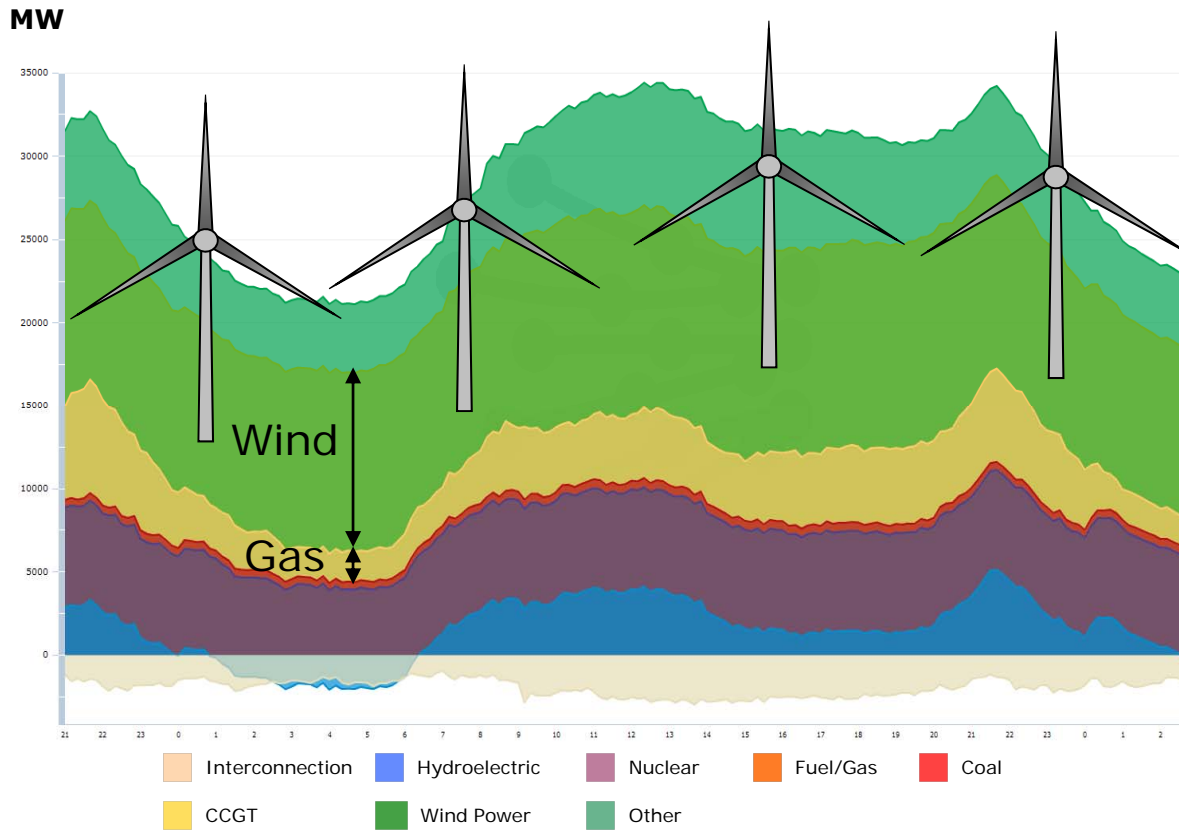
Wind Power **45%**



# New Record On Wind Power Generation

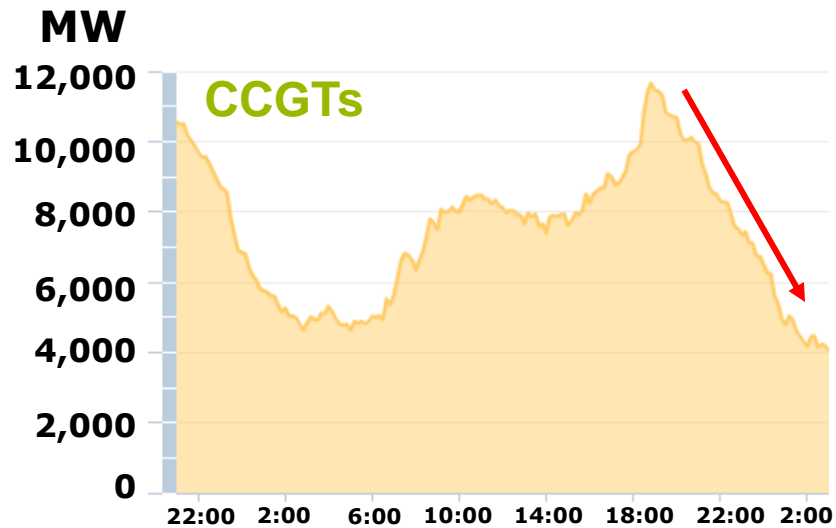
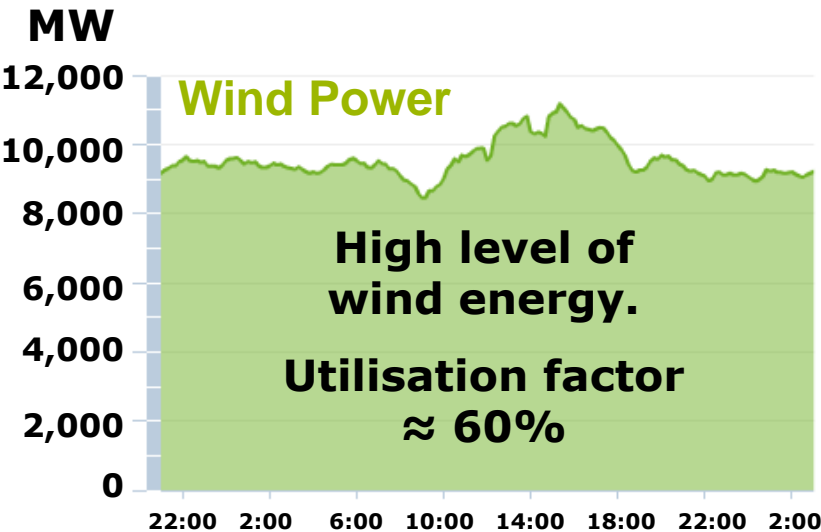
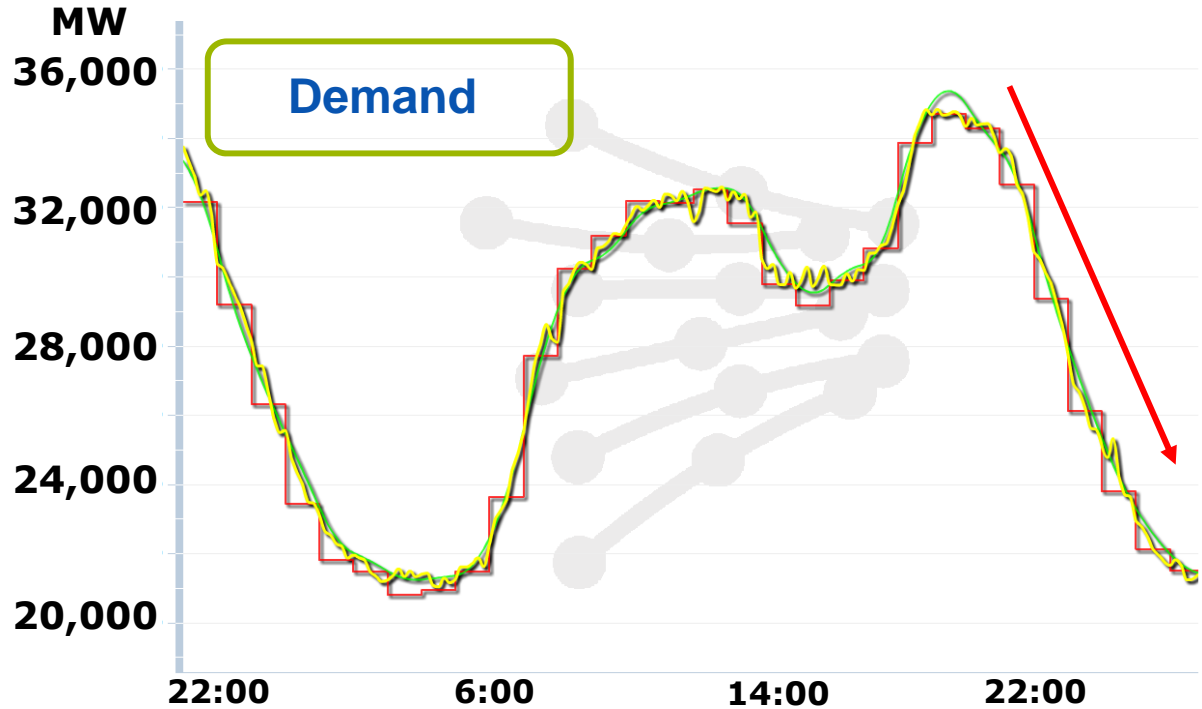
4-May-2010

Wind Power: 278.5 GWh (**40%**)



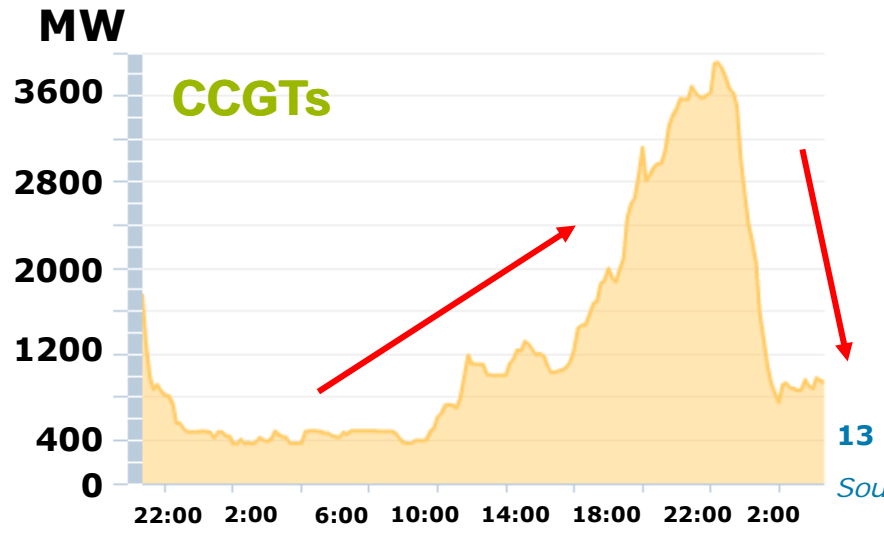
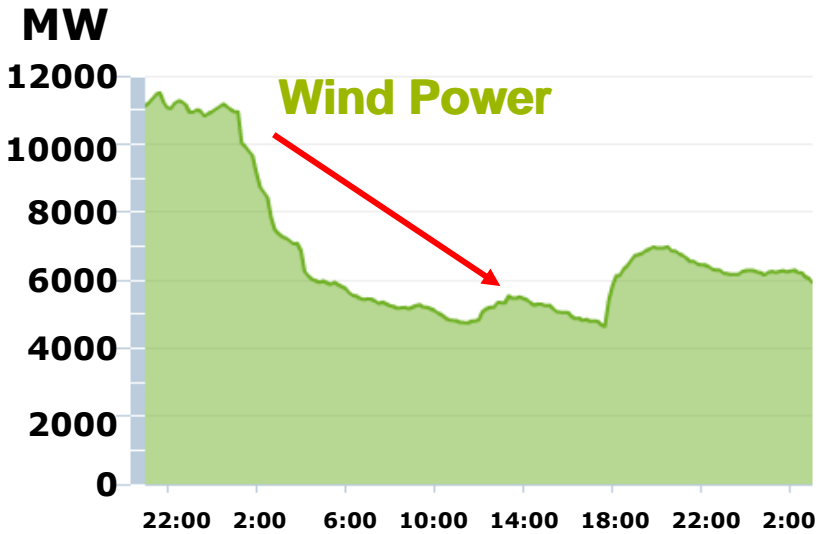
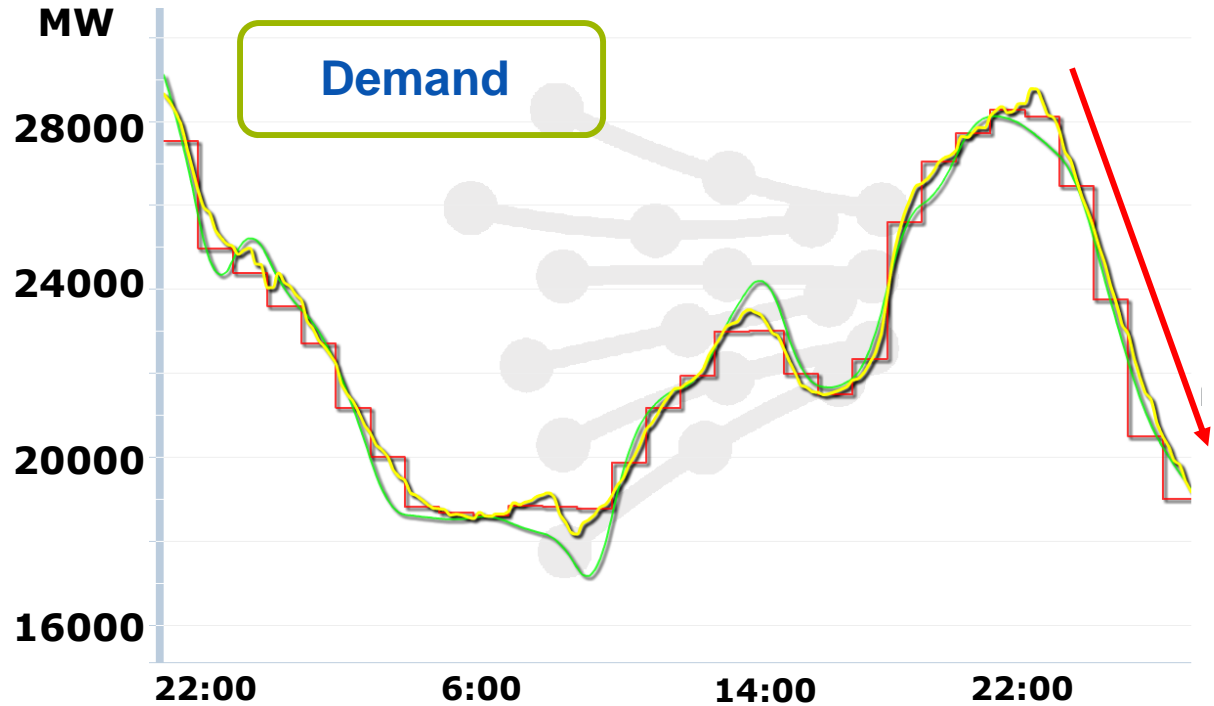
# Wind Power vs CCGTs

04-November-2009



# Wind Power vs CCGTs

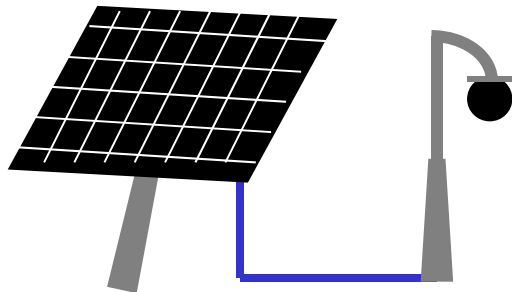
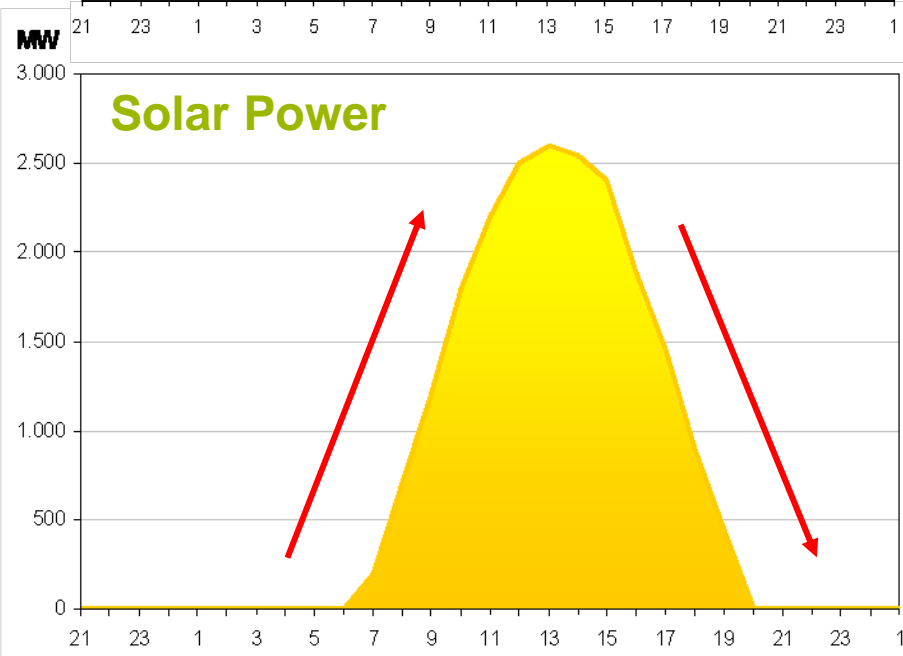
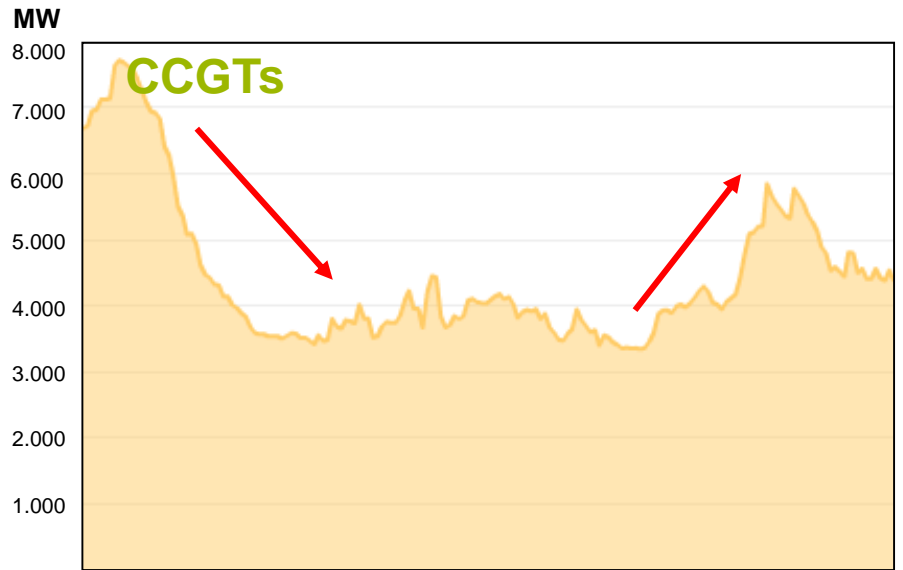
01-January-2010



Source: REE.

25-April-2010

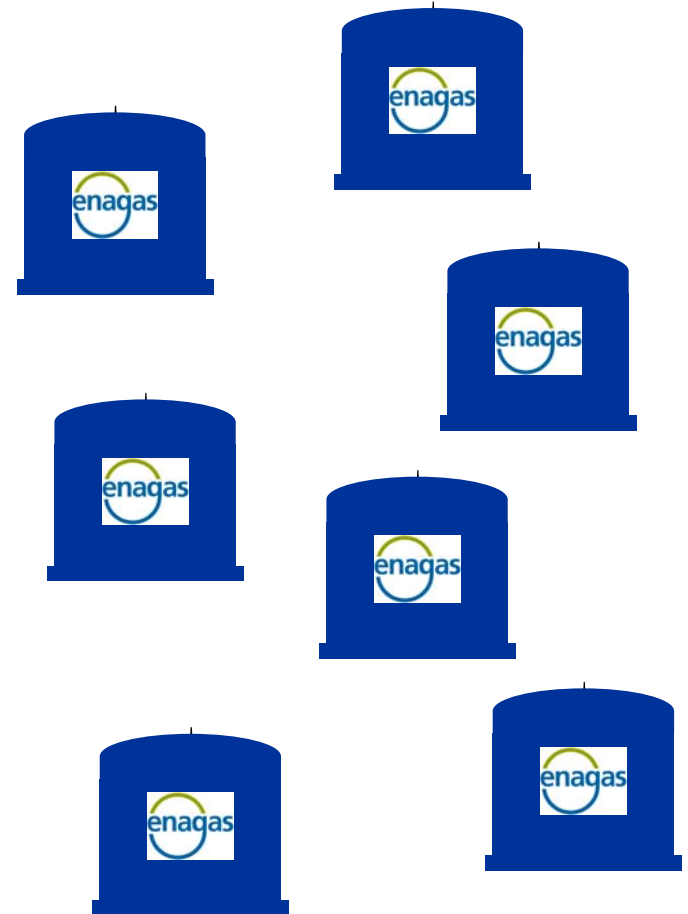
	Installed Capacity
CCGTs	24 GW
Solar Power	>3 GW



# Tilting at windmills

Take care, sir.  
Those over  
there are not  
LNG tanks but  
windmills.

Do you see over yonder, friend Sancho, those hulking  
LNG tanks? I intend to do battle with them and slay  
them.



If regulators do not ensure an adequate regulatory framework for LNG terminals...



...they might put at risk the renewables policy



Thank you for your kind attention

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**Questions?**