



*public debate*

## More Europe, more green

Monday 15th February 2016  
11.00-14.00h  
Aula Europa, EU premises in Barcelona  
Passeig de Gràcia, 90

With

***Philippe Lamberts***  
Co-president of the Greens/EFA  
***Ernest Maragall***  
MEP Group of the Greens/EFA  
***Ernest Urtasun***  
MEP Group of the Greens/EFA

**Topic 1: Economical trade-off**, with **Jordi Angusto**, economist, as counter part

Grexit and Brexit constitute, even as menaces, a clear "less-Europe" tendency, while it is quite clear that a monetary union needs "more-Europe" to succeed—at least, a complementary fiscal and economic union. How this trade-off will be solved?

**Topic 2: Environmental trade-off**, with **Frederic Ximeno**, biologist and managing partner at ERF, as counter part

The peak-oil and its supposed ever rising oil prices helped greens to justify the need for an energy transition to renewable and an economical transition to de-growth in physical terms. Shale gas and oil have apparently postponed the peak oil and have brought oil prices to their minimum.

Open to Q&A from the audience

With the collaboration of:

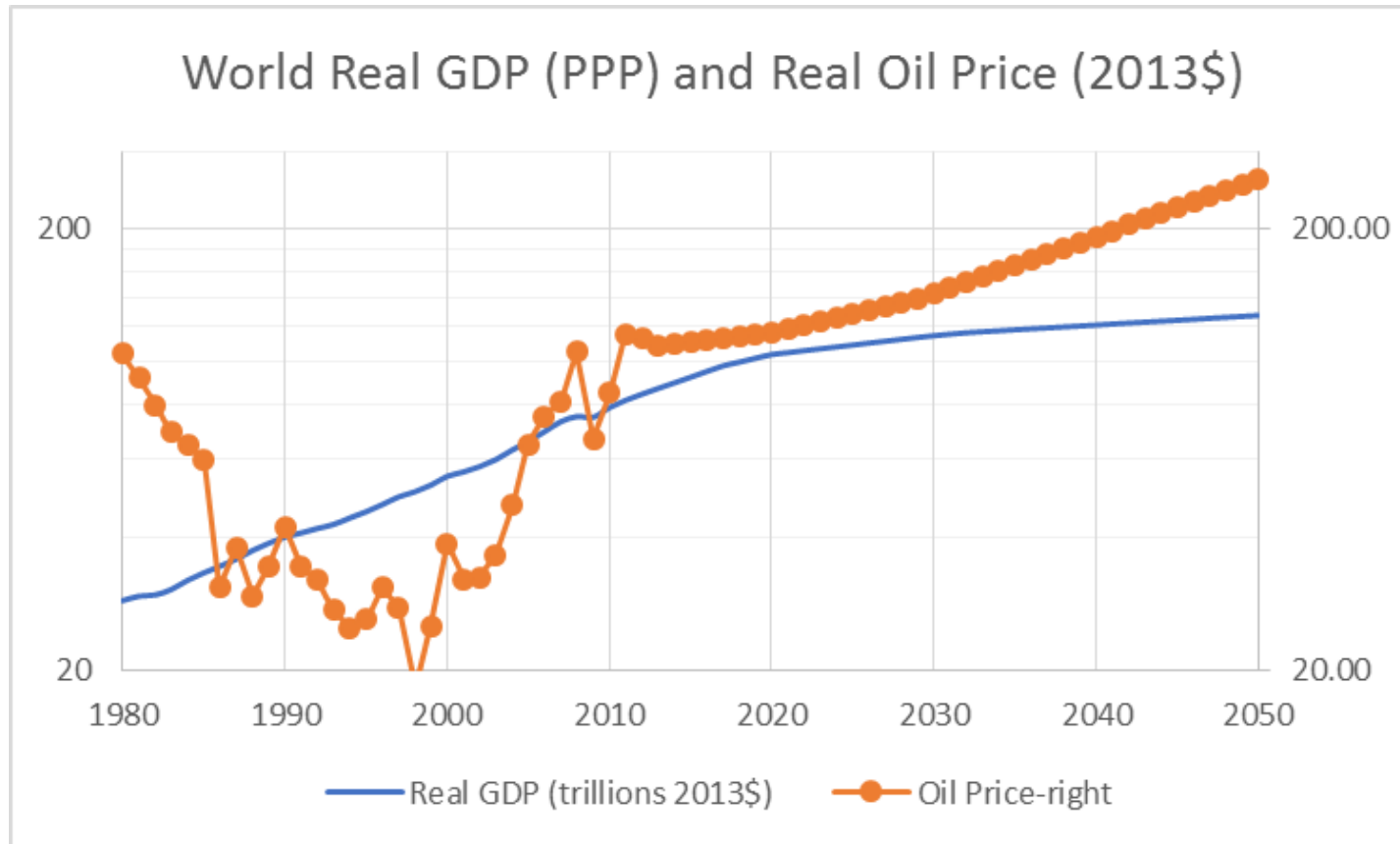


... Please confirm to [info@catalunyaeuropa.net](mailto:info@catalunyaeuropa.net)  
or by telephone to +34 93 238 89 32 ...

Frederic Ximeno  
ERF-Estudi Ramon Folch  
[fximeno@erf.cat](mailto:fximeno@erf.cat)

# Forecast fails

~~X~~ High oil price, over US\$ 200



# Forecast fails

~~X~~ High oil price, over US\$ 200

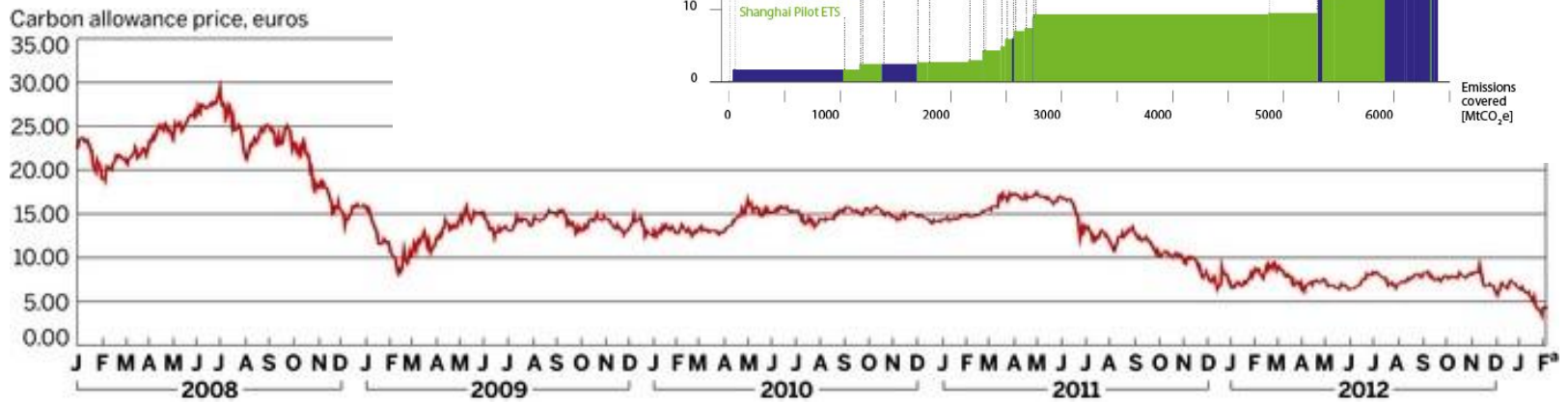
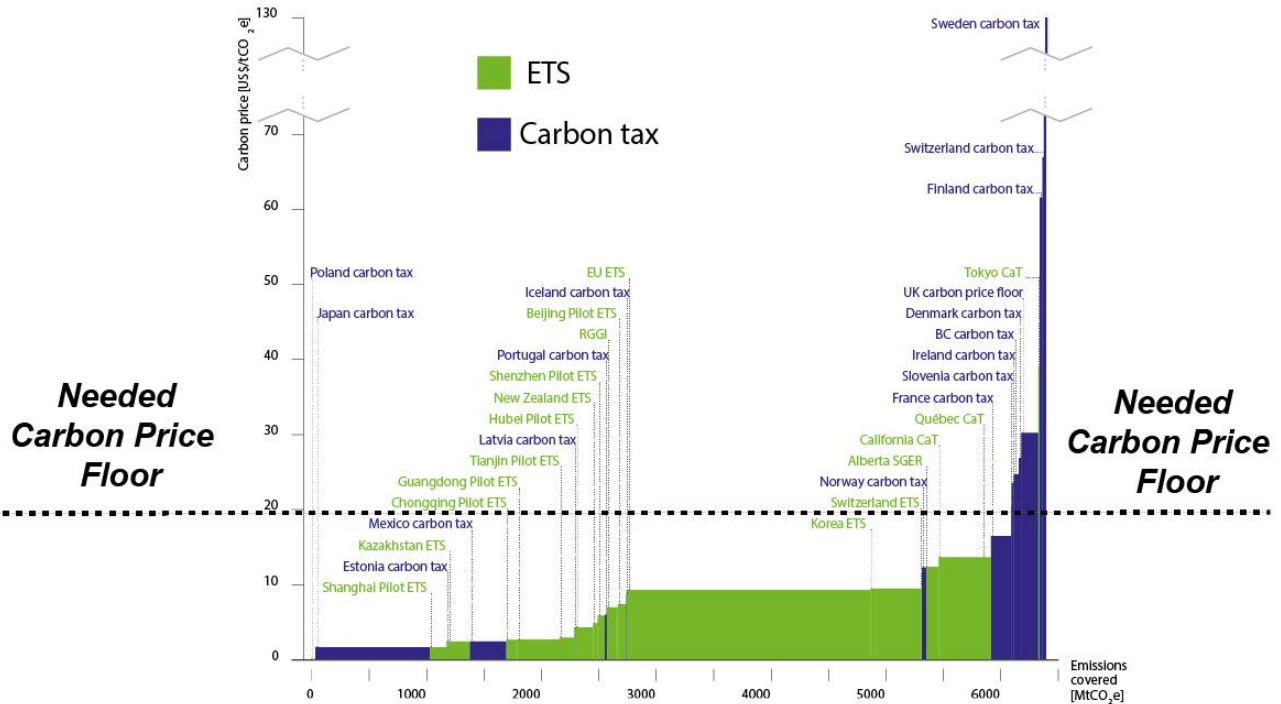
LIGHT CRUDE FEB5 CL/G5 : New York Mercantile Exchange



# Forecast fails



Market carbon price over 25€/tn (today is near 0!)

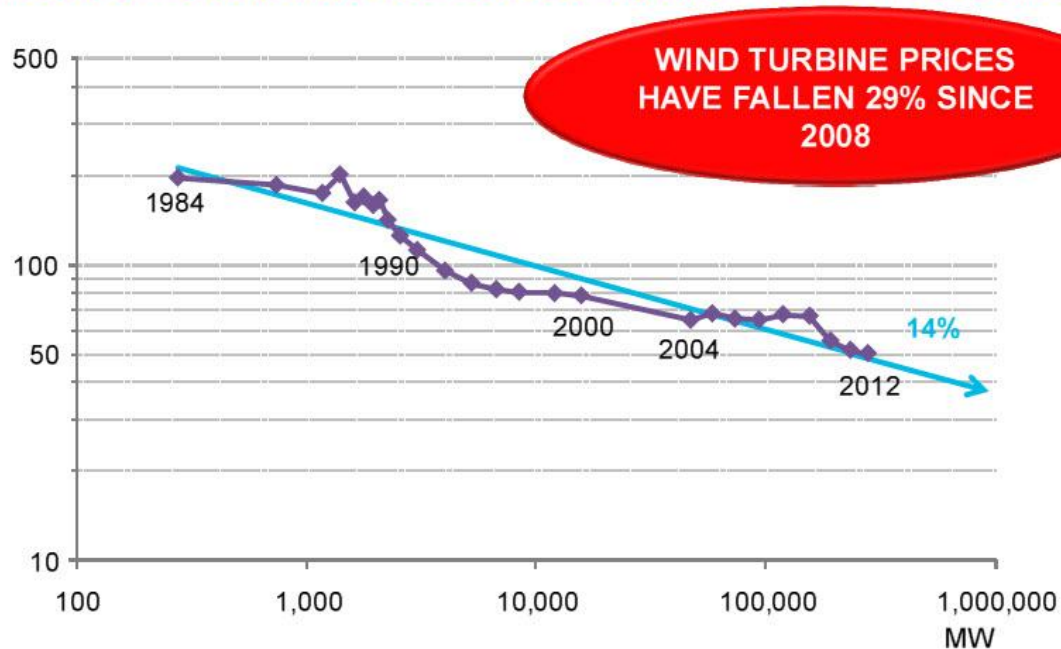


# Forecast fails



Lower wind power prices

## AVERAGE LEVELISED COST OF ONSHORE WIND, 1984-2012 (€/MWH)



Note: Learning curve (blue line) is least square regression:  $R^2 = 0.88$  and 14% learning rate.

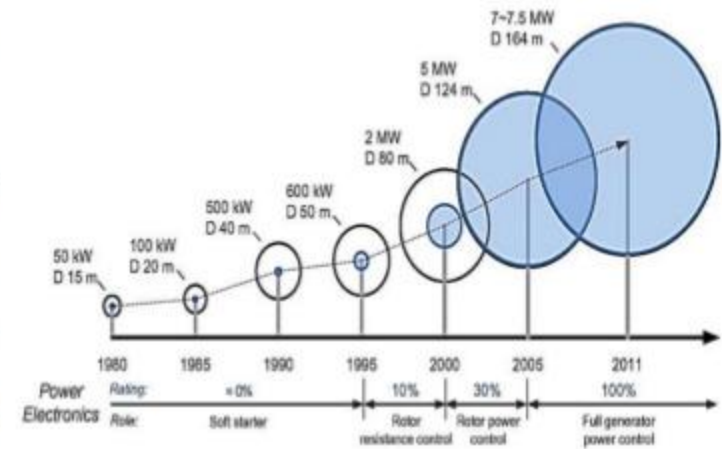
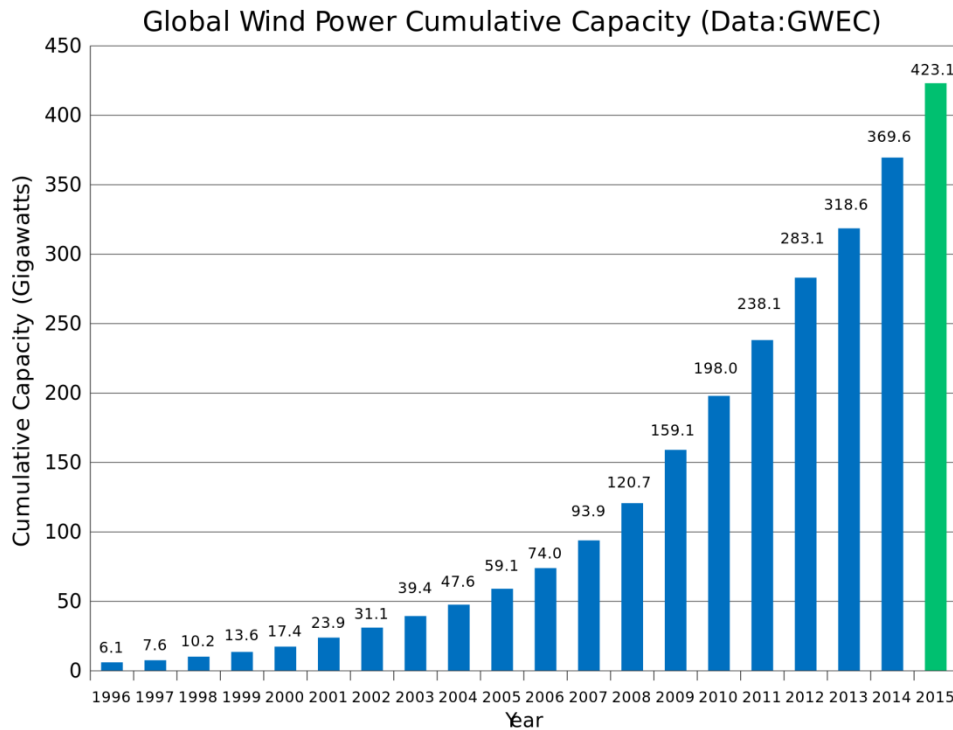
Source: Bloomberg New Energy Finance, ExTool

# Forecast fails



Quick wind power learning curve

## Wind turbine system evolution

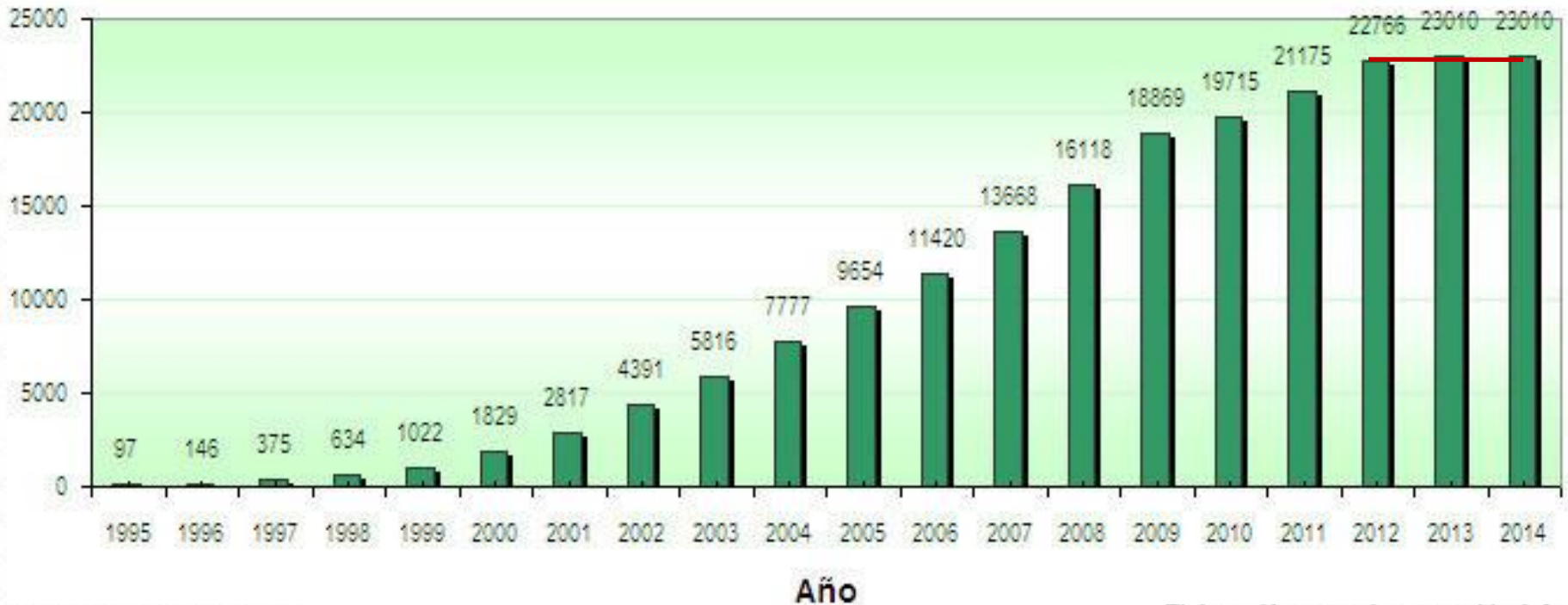


F. Blaabjerg and Z. Chen, "Power Electronics for Modern Wind Turbines," Morgan & Claypool Publishers, 2006, pp. 30-55

# Forecast fails

~~X~~ Spain leadership on wind power

Evolución de la potencia instalada procedente de energía eólica en España (MW)



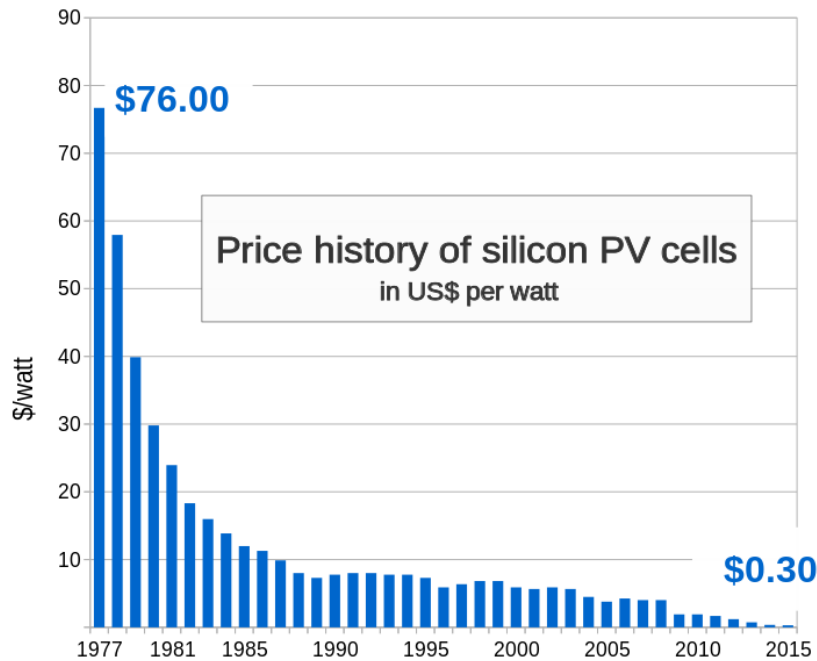
Fuente REE (16/07/2014)

Elaboración: energiasrenovablesinfo.com

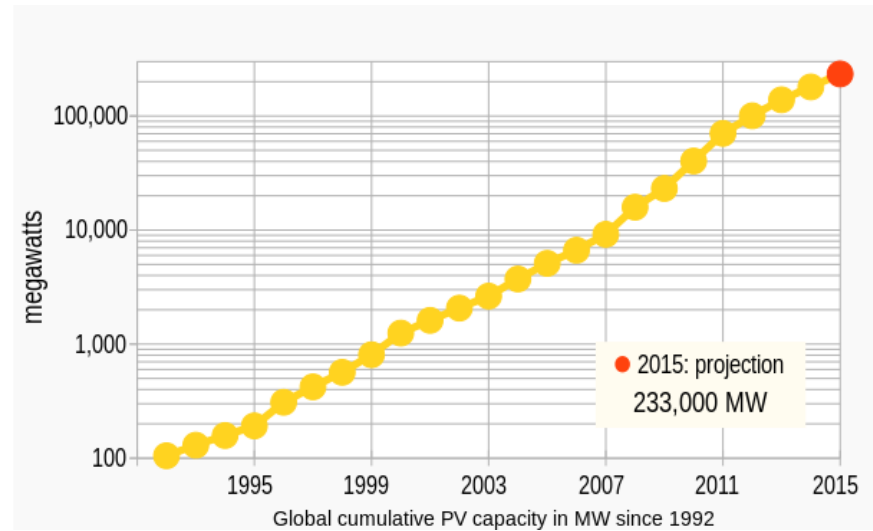
# Forecast fails



Lower solar power price



Source: Bloomberg New Energy Finance & pv.energytrend.com





# Forecast fails

 Quick solar power learning curve... and

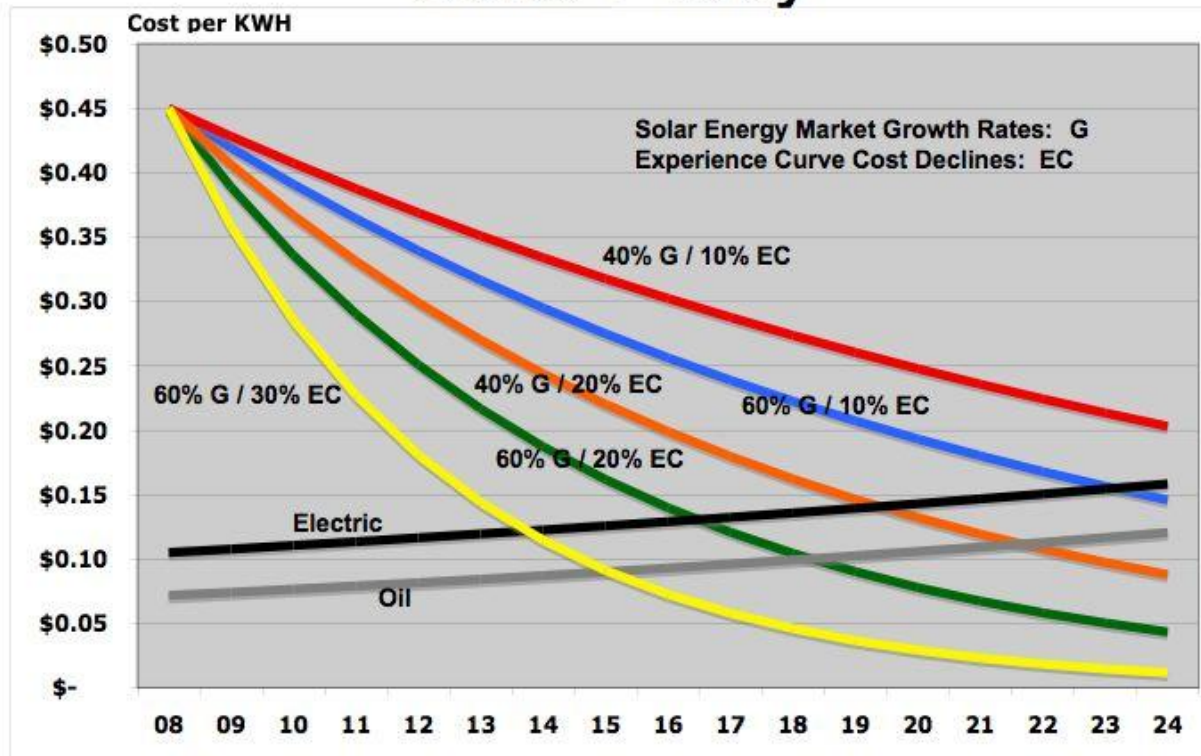
Classification	Efficiency
Cell (concentrator)	41.1 %
Cell at one-sun	35.8 %
Silicon cell (one -sun)	25 %
Module (concentrator)	27 %
Module (one-sun)	22.7 %
Module (production)	20.4 %**

 Social consensus about: where?

# Forecast fails

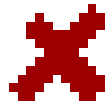
~~X~~ Near solar power grid parity

## Solar Parity

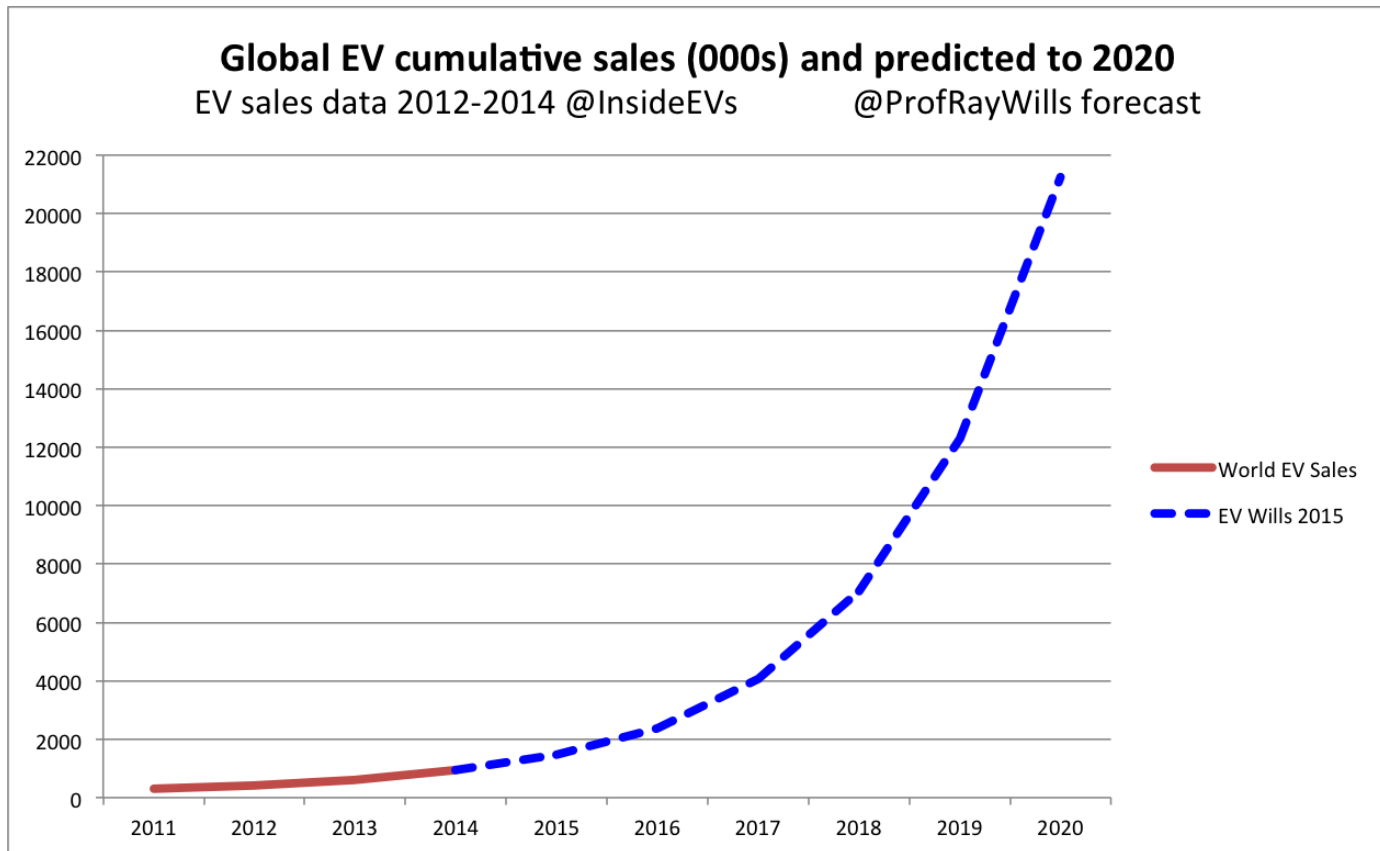


Source: Department of Energy, Green Econometrics research

# Forecast fails



Quick penetration of EV vehicles



# New roadmap?

- Market med-term signals based approach fails
- New framework: uncertainty
- Paris agreement: we have it.  
Instruments to be developed

# New roadmap?

- Energy efficiency (quick saves, security, authonomy)
- Immediate cut of fossil fuel subsidies
- Prosumers-selfconsumption-> comunity empowerment, green economy
- Carbon prizing – regulations
- Fossil fuel deinvest- share value creation.
- Clean air- health
- Social and economical adaptation to climate change efects as a driver
- Paris agreement: More ambition, quick new tools implemented



*public debate*

## More Europe, more green

Monday 15th February 2016  
11.00-14.00h  
Aula Europa, EU premises in Barcelona  
Passeig de Gràcia, 90

With

***Philippe Lamberts***  
Co-president of the Greens/EFA  
***Ernest Maragall***  
MEP Group of the Greens/EFA  
***Ernest Urtasun***  
MEP Group of the Greens/EFA

**Topic 1: Economical trade-off**, with **Jordi Angusto**, economist, as counter part

Grexit and Brexit constitute, even as menaces, a clear "less-Europe" tendency, while it is quite clear that a monetary union needs "more-Europe" to succeed—at least, a complementary fiscal and economic union. How this trade-off will be solved?

**Topic 2: Environmental trade-off**, with **Frederic Ximeno**, biologist and managing partner at ERF, as counter part

The peak-oil and its supposed ever rising oil prices helped greens to justify the need for an energy transition to renewable and an economical transition to de-growth in physical terms. Shale gas and oil have apparently postponed the peak oil and have brought oil prices to their minimum.

Open to Q&A from the audience

With the collaboration of:

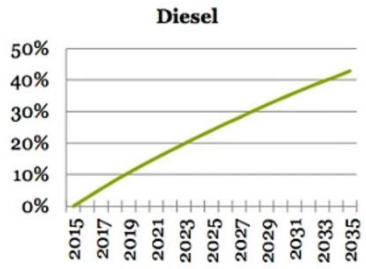
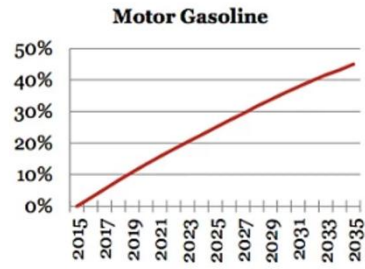
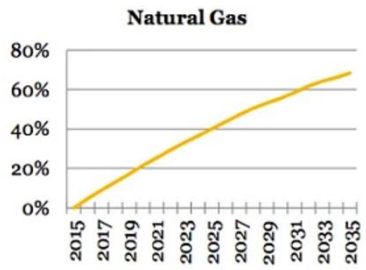
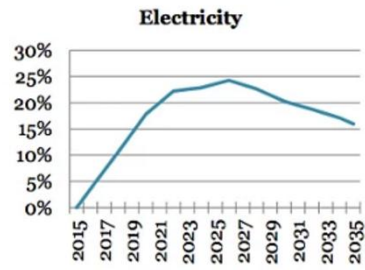


... Please confirm to [info@catalunyaeuropa.net](mailto:info@catalunyaeuropa.net)  
or by telephone to +34 93 238 89 32 ...

Frederic Ximeno  
ERF-Estudi Ramon Folch  
[fximeno@erf.cat](mailto:fximeno@erf.cat)

increasing cost create and widespread economic price increase steady as one would expect.

### Energy Commodity Prices (national level)



Most commodities see a linear increase in their prices relative to the baseline with the national level, linear increase in the rate. Electricity, on the other hand, can switch out of carbon-intensive coal and natural gas and into zero-carbon nuclear, wind, and solar, which reduces the impact in the 2020s and 2030s.



Crude Oil Price History Chart