

# Renewables in the Changing Energy Situation

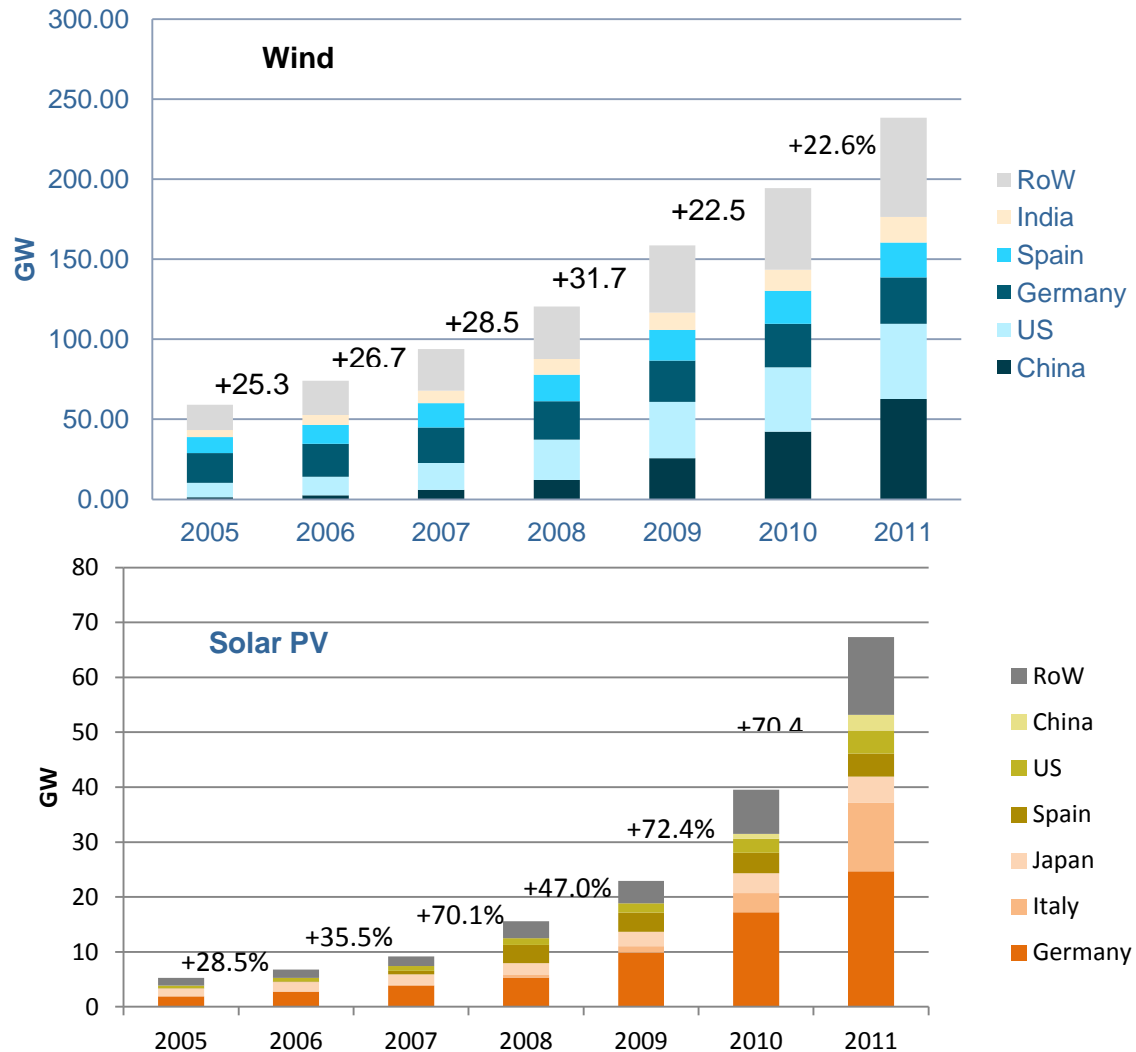
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Paris, OECD, 27 March 2012*



# Recent Trends in Renewables

- Strong growth continuing in 2011 despite uncertain economy
- Markets rapidly moving to different regions
- PV markets still concentrated in too few countries



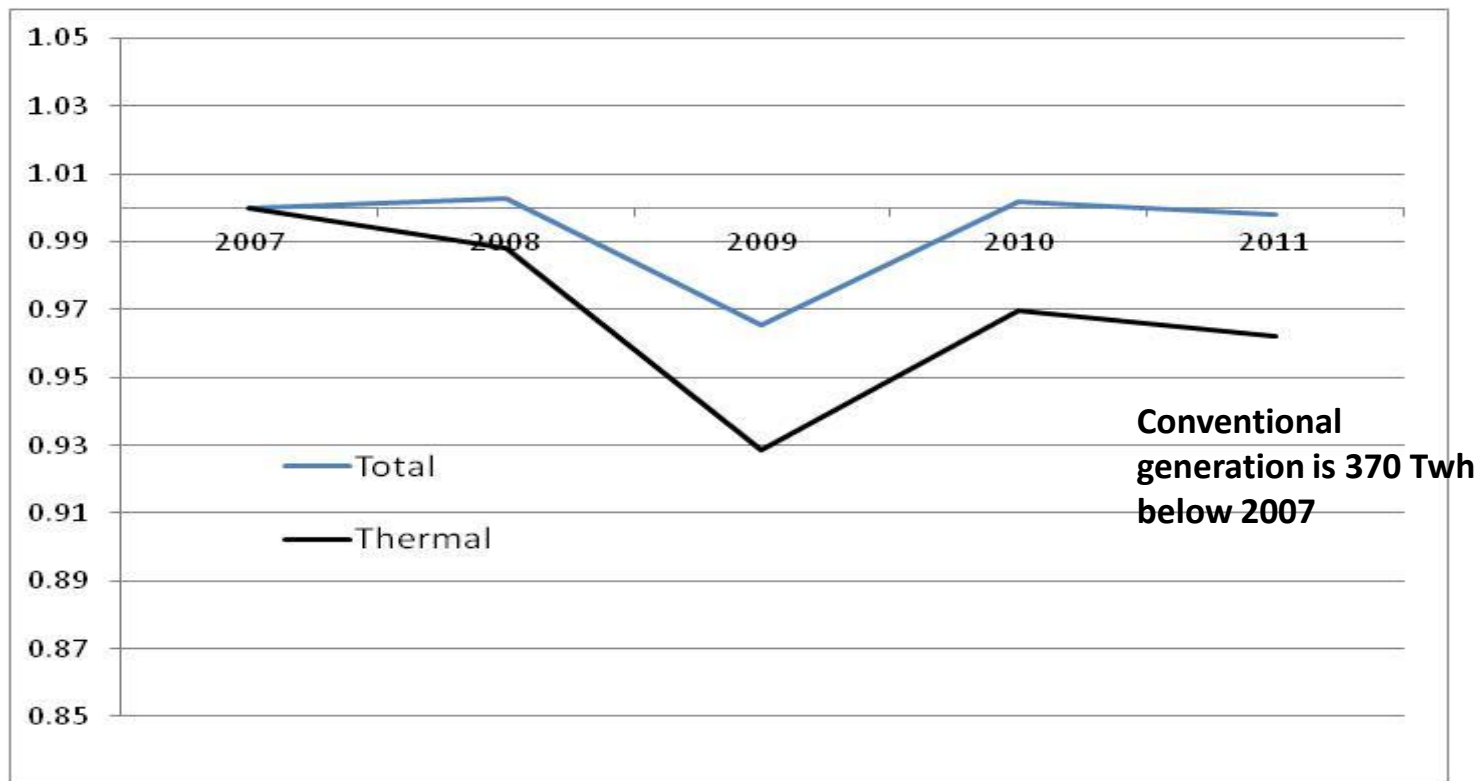


# Current context – Full of uncertainty

- **Uncertain economic recovery**
- **Geo-political turmoil in North-Africa / Iran and impacts on oil prices**
- **Unconventional gas in the US – and elsewhere?**
- **Post-Fukushima concerns on nuclear**

# Sluggish Electricity Demand

OECD power generation, 2007=1.00



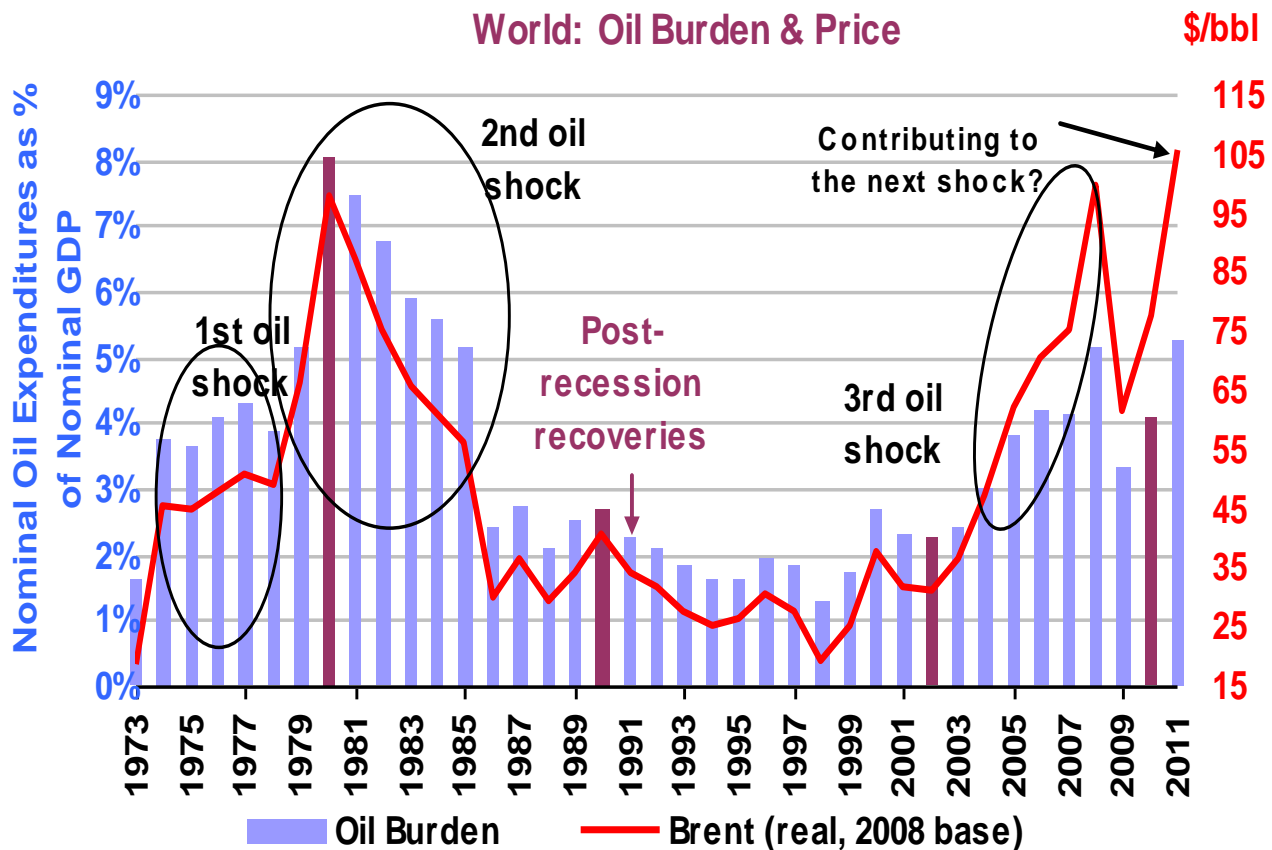
Total electricity demand in 2011 still below 2007 levels



# Impacts on RE

- **Very different impacts depending on robustness of RE policy support framework**
- **In some countries very low energy demand  
→ no additional capacity of any kind needed**
- **Cost of capital and access to credit more difficult  
→ higher costs of up-front capital intensive renewables**

# Oil price trends and burden on GDP



Source: IEA 2012





# Impacts of high oil prices

## ■ General:

- Strong driver for energy security and diversification
- Make gas more expensive via indexation
- BUT make unconventional production more profitable (oil shale, oil sands, GTL)

## ■ Electricity

- Around 1000 TWh produced worldwide → RES-E attractive

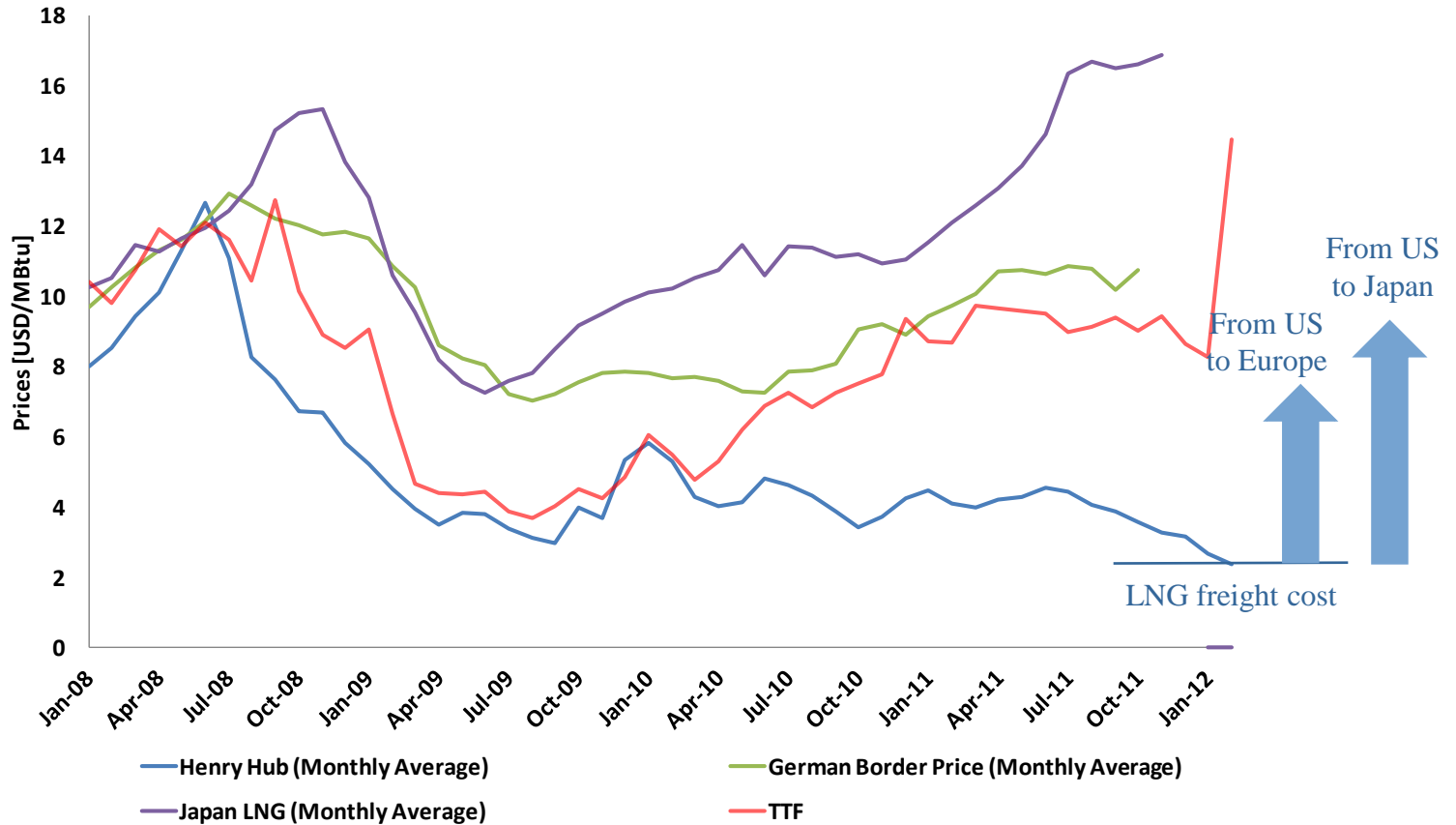
## ■ Transport

- In principle make biofuels more competitive (BUT also production of some biofuels more expensive via high oil and fertilizers price )
- Render electro mobility more attractive

## ■ Heat

- Make RES-H applications more competitive (23% of fuels for heat in OECD oil)

# Continuing deglobalisation of gas markets



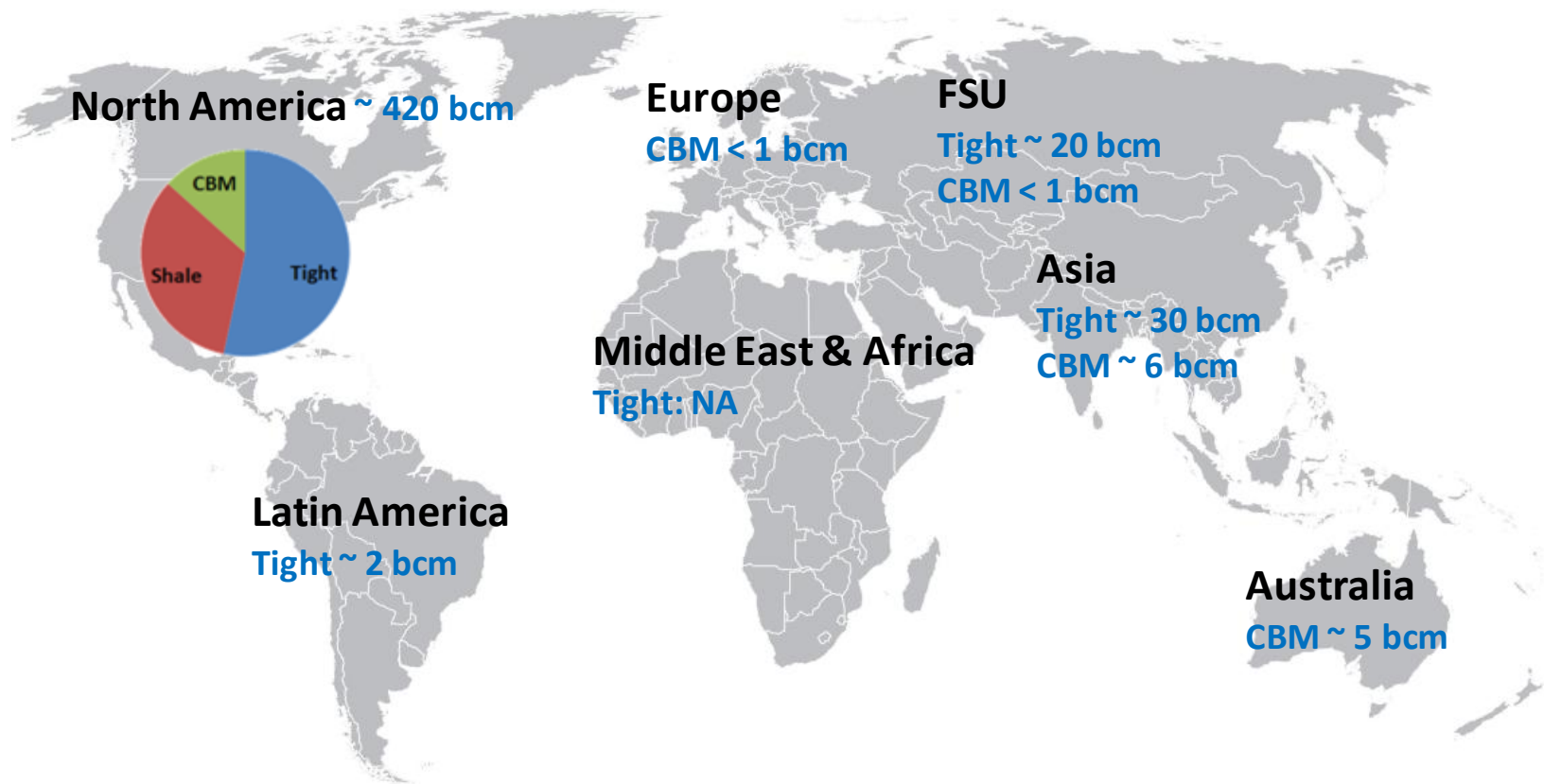
Source: IEA 2012





# Unconventional gas in the world

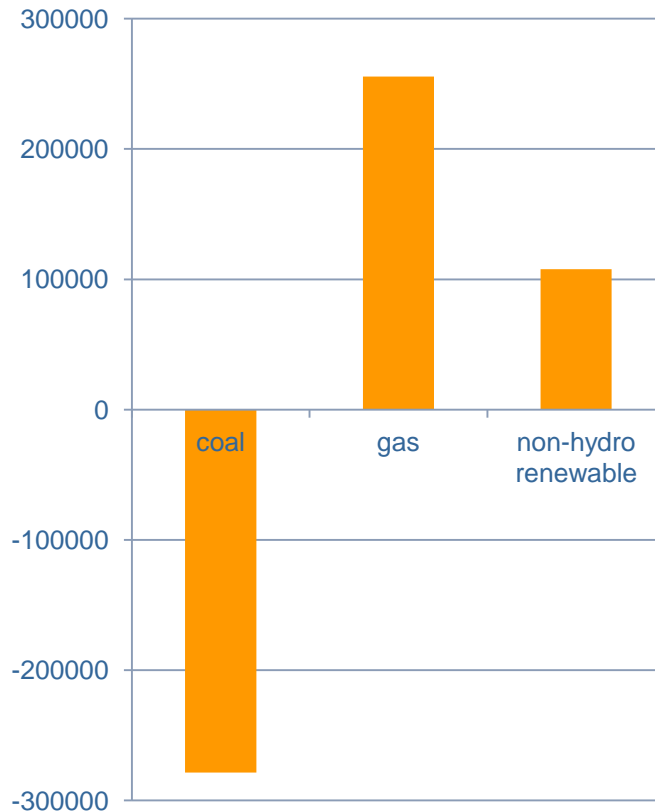
## The 2010 picture



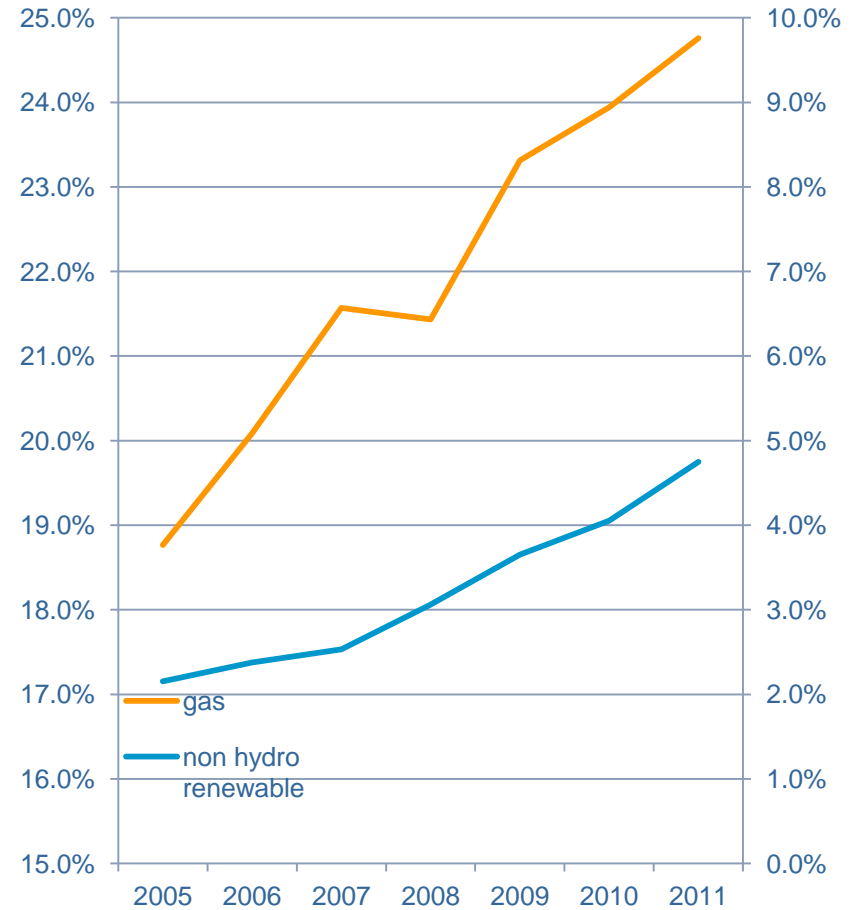
- So far, it is essentially a North American gas story... from the production point of view
- For how long?

# US: gas beats coal in conventional power generation, while renewables nicely grow

Cumulative change in power generation 2005-2011, Gwh

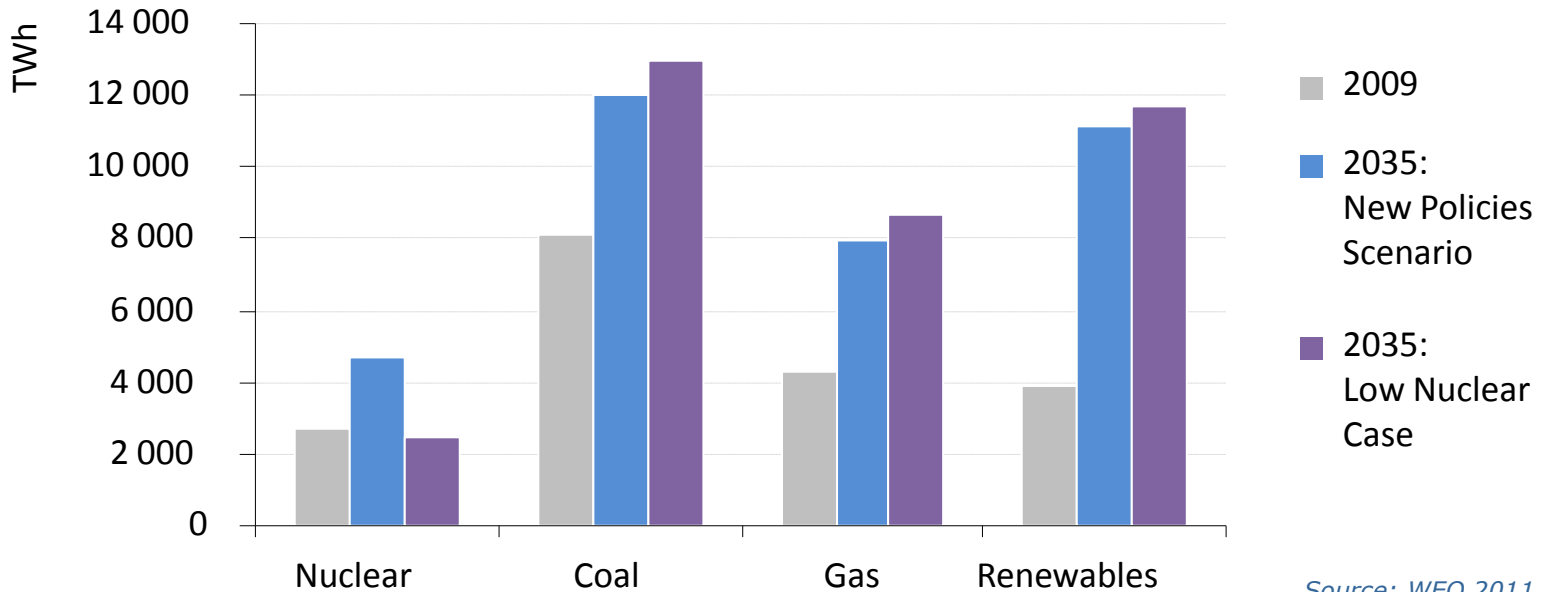


Share of gas and non-hydro renewables in the US



# Towards a low-nuclear scenario?

Power generation by fuel in the New Policies Scenario and Low Nuclear Case



Source: WEO 2011

- Overall, the biggest chunk of the lost nuclear generation is replaced by power generation from coal, leading to a 6% increase in CO<sub>2</sub> emissions in the power sector
- Impacts on RE strongly depending on country-specific factors and policies for renewables and climate change

# Conclusions

- Current uncertain context produces both opportunities and challenges for renewables
- Impacts strongly vary from country to country
- Economic crisis and sluggish energy demand outlook has largest impact on RE
  
- What will be the most important factors affecting RE outlook?