

Experience sharing on broader  
issues dealing with EU ETS and  
overlapping policies

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Alstom China

# Alstom = low-carbon infrastructure



## Alstom Thermal Power



## Alstom Grid



## Alstom Renewable Power






## Alstom Transport



# EU 2020 Climate and Energy framework



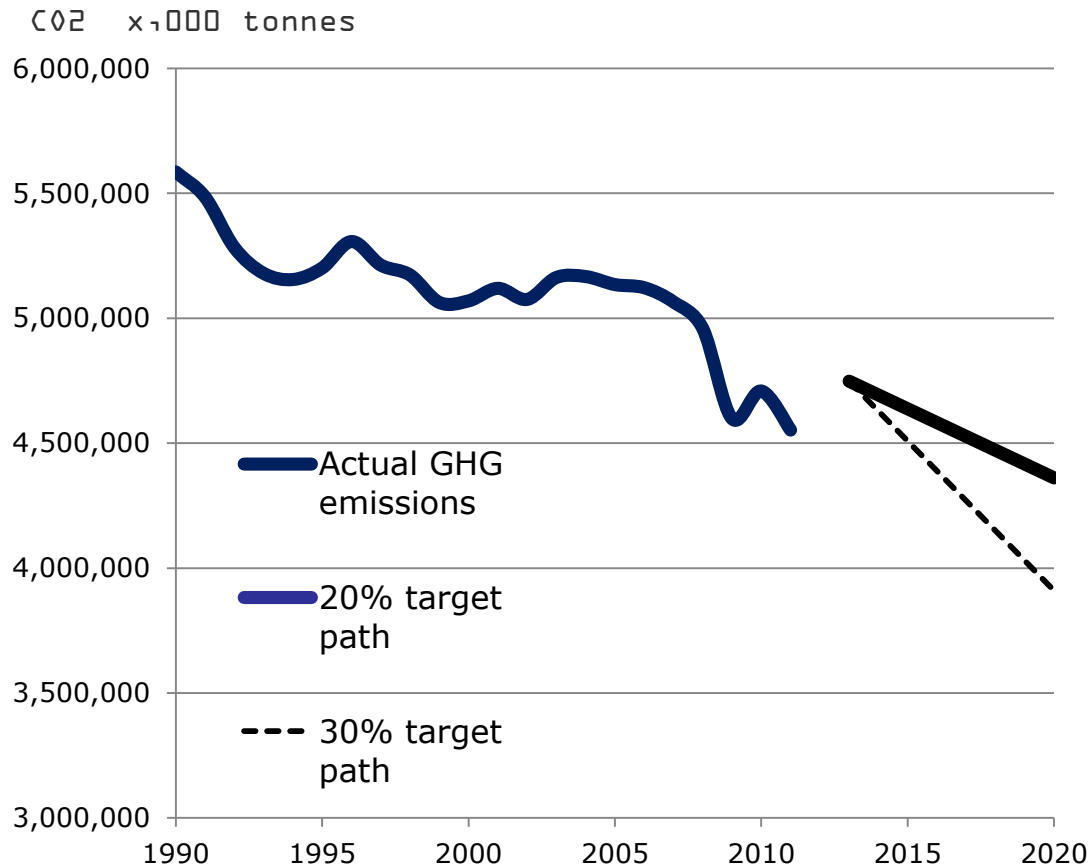
Instrument / Policy	Covers which sectors	Target	Status in 2020 ?
EU ETS Directive	Power and industry: 45% of EU emissions	Reduce emissions by 21% by 2020 compared to 2005  BINDING	
Renewables Directive	Power and transport	Renewables to be 20% of energy consumption by 2020  BINDING	
Energy Efficiency Directive	Whole economy  Up to Member States to deploy (transposition on going)	Improve by 20% by 2020 vs. business as usual  NOT BINDING	

... and there are other policies



- **Greenhouse Gas « Effort-Sharing »**
  - 10% target to reducing for the other 55% of emissions by 2020 on 2005 levels
  - broken down by 27 binding national targets
- **Fuel Quality:** 6% target for reducing GHG emissions from fuels by 2020 on 2010 levels
- **Vehicle CO2 Standards**
  - cars: 130g/km by 2015 and 95g/km by 2020
  - vans: 175g/km by 2017 and 147g/km by 2020.
- **Eco-Labeling rules**
- **Eco-Design standards:** for energy related products
- **Energy Taxes:** minimum rates for energy taxes in heating electricity and motor fuel

# Overall CO2 progress "good"



- 1990-2011:  
EU GDP up  
48%,  
emissions  
down 18.5%

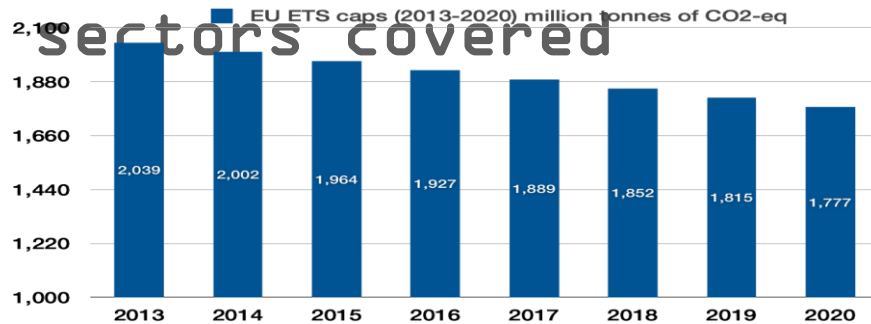
- Close to 20%  
target for  
2020

# Progress on EU ETS ?



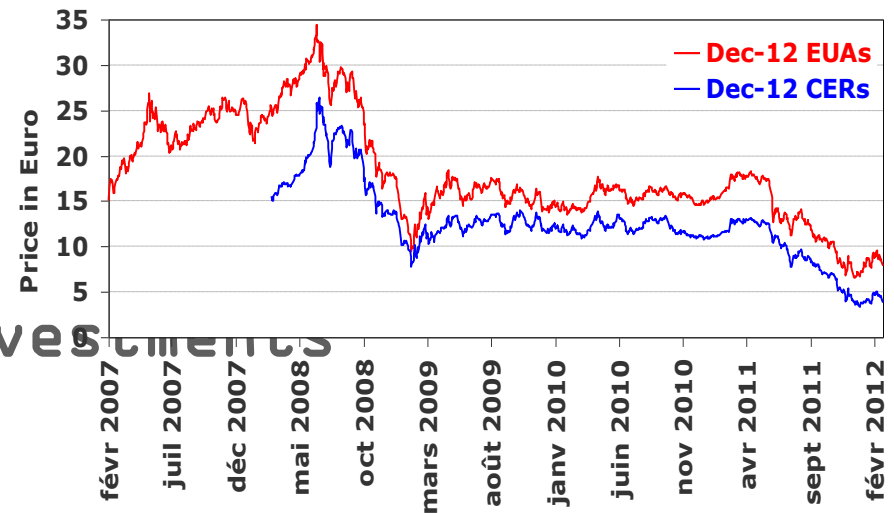
## Good

- will deliver 21% emissions reductions in sectors covered



## Not so good

- price not driving investment
- low auction revenues



# Progress on Renewables ?



## Good

- good progress towards targets (see next slide)
- important contribution to emission reductions
- technology costs down, especially in PV and onshore wind

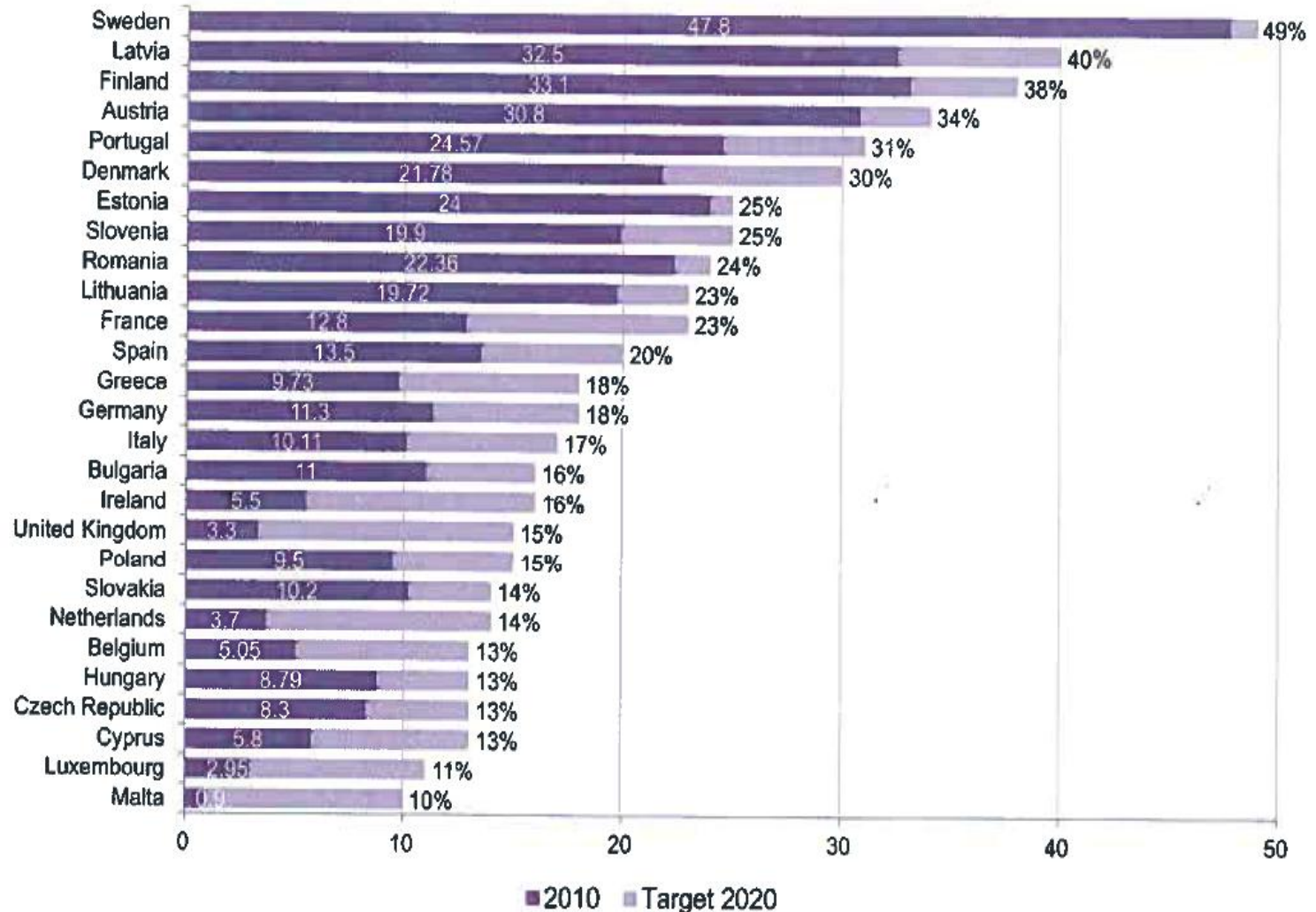
## Not so good

- high cost of support schemes not politically sustainable



# Progress on Renewables ...

Figure 1: Renewable energy share from final consumption in 2010 and the 2020 target (%)





# Progress on Energy Efficiency ?



## Good

- vehicle CO<sub>2</sub> standards will be met
- new efficiency standards and labelling for lighting and appliances
- recent adoption of Energy Efficiency Directive (October 2012)

## Not so good

- EU unlikely to meet 20% energy efficiency target for 2020
- more finance needed, especially for the

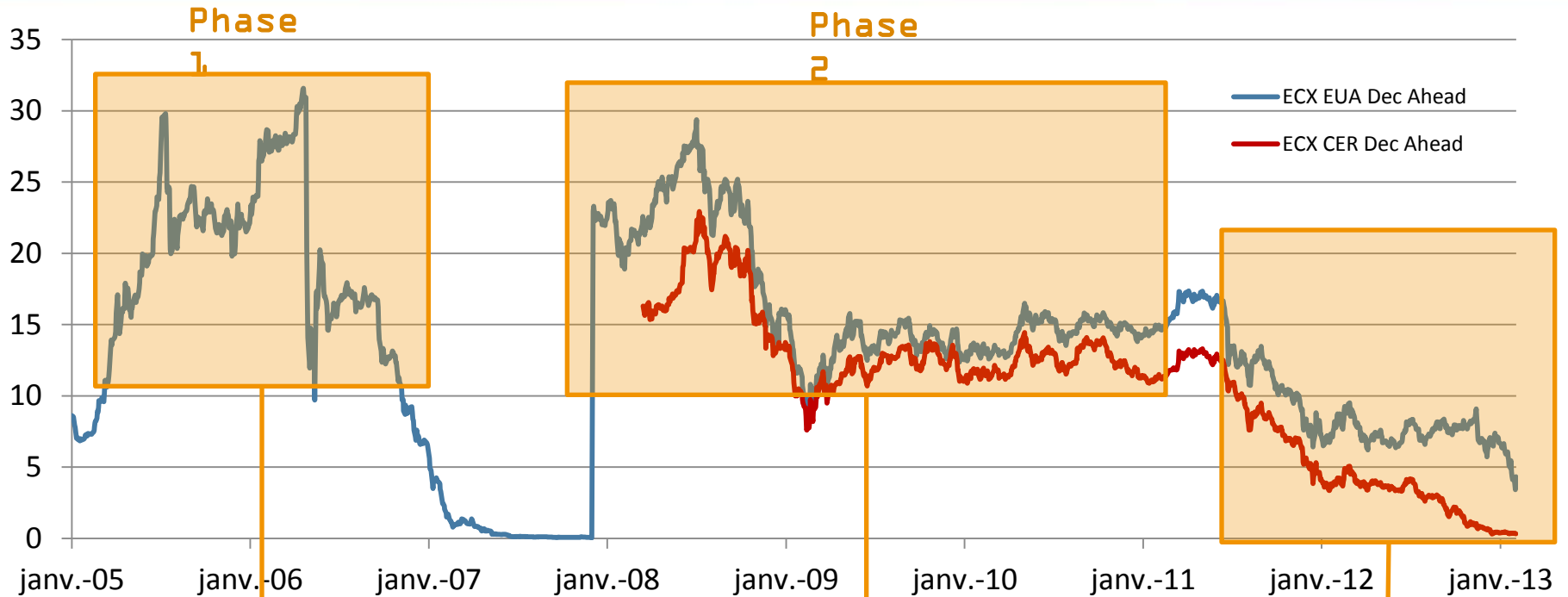
# Interaction of ETS with Renewables and Energy Efficiency



- CO<sub>2</sub> price not high enough to drive investments in either
- Renewables have relied more on national support schemes: feed-in tariffs and green/white certificates
- Energy efficiency improvements have relied on regulation, e.g. on cars and appliances
- ETS cap failed to take full account of progress in renewables deployment and energy efficiency:

# What's actually happening out there

... . .



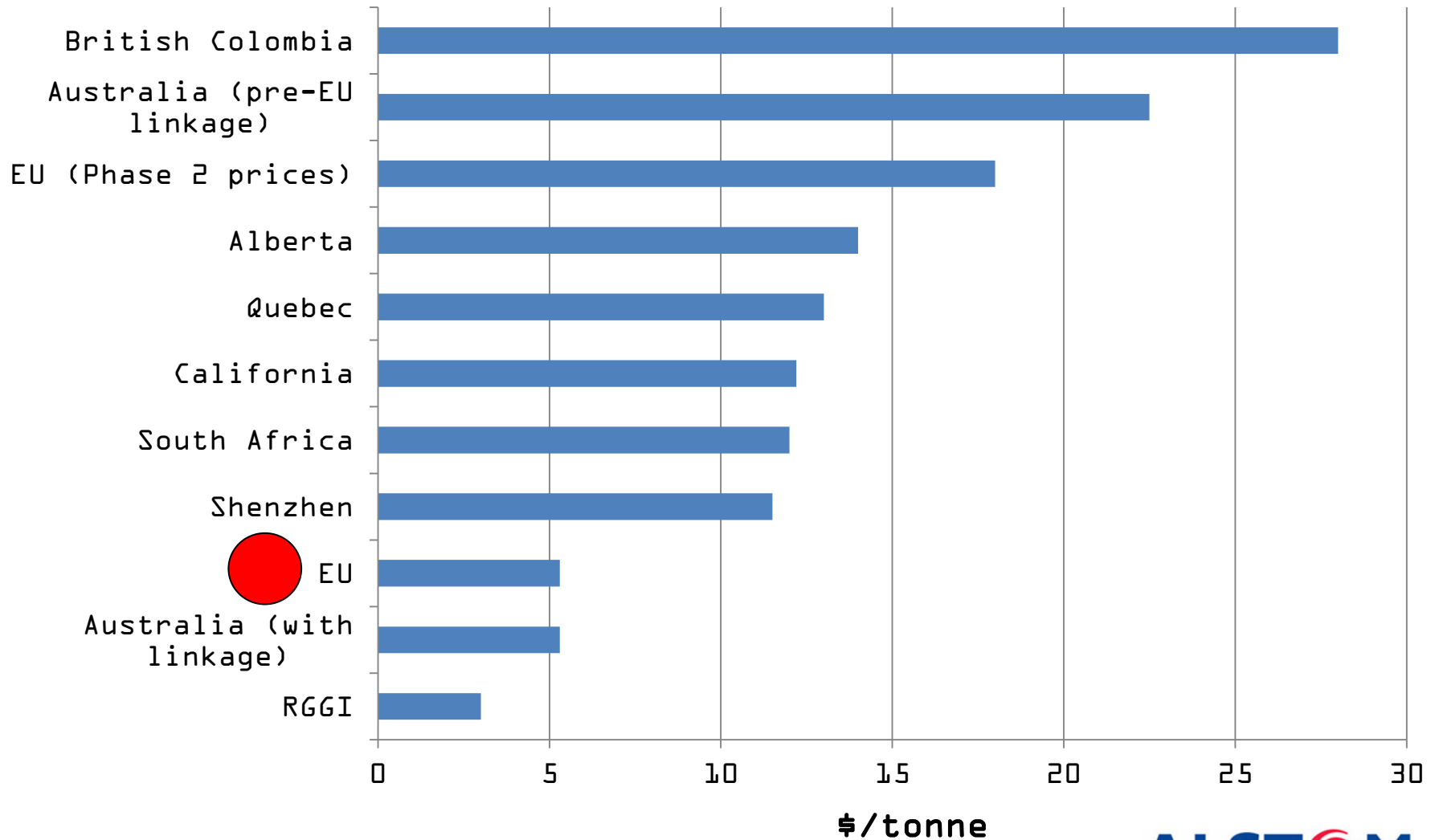
1 Increased interest in renewables and gas

2 Increased interest in CCS

3 Fuel switching from gas to coal




# EU CO2 price now well below international norm




# A weak ETS may encourage additional taxes at Member State level




 Tax on emissions

- 150 USD/tonne CO<sub>2</sub>
- Does not cover electricity generation

 Tax on coal consumption

- €12.95 per 1000 kg of coal
- Concerns electricity production

 Since 2012  
Carbon price floor in addition

- In parallel with the ETS April 2013 - £4.94/tonne CO<sub>2</sub>
- Combined ETS and Price Floor value will be £30/tonne CO<sub>2</sub> in 2020 and £70/tonne in 2030

Too early to say if double taxation on emitters works

ETS is the most cost efficient and environmentally efficient tool

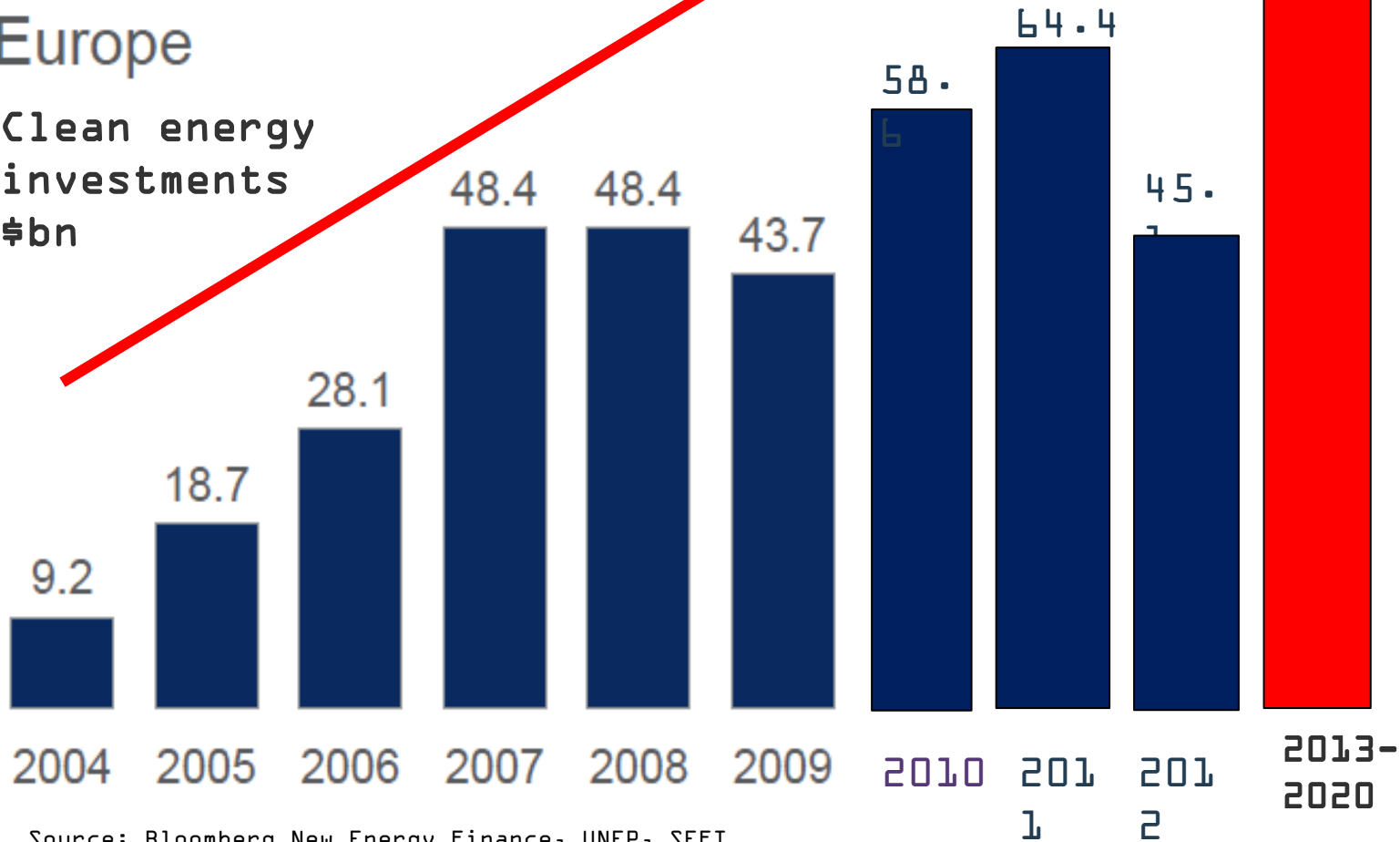
... and investments insufficient



\$140  
billio

## Europe

Clean energy  
investments  
\$bn



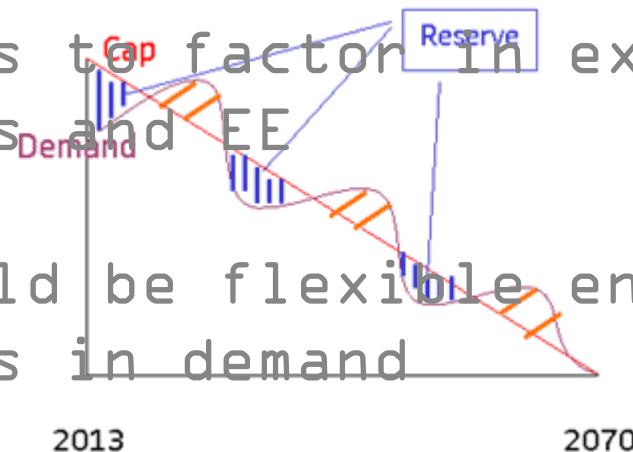
Source: Bloomberg New Energy Finance, UNEP, SEFI



# Lessons learned from EU policies

- ETS needs scarcity of allowances to give price signal for investments
- This will reduce dependence on renewables support schemes
- ETS need to be co-ordinated with other policies.

- ETS cap needs to factor in expected progress in renewables and EE
- ETS cap should be flexible enough to respond to variations in demand



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