Future of Utility Finance in the 2010s – talk to Future Energy Strategies

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Agenda

- **EU Energy Policy**
  - Policy assumptions
  - Capex requirements
- **The investment environment**
- **New Nuclear in the UK**
- **The US Energy Revolution**
- **End Game**

Changing Role of the Power Utility Sector

Historically the sector has had three goals

1. Deliver affordable energy
2. Deliver reliable energy
3. Deliver safe energy

But now the sector is also expected to

1. Deliver climate change goals (for the whole economy)
2. Drive an industrial renaissance
3. Create jobs and drive growth

An Environmentally Driven and Very Complex Policy Matrix

- GHG Reduction Directive
- Renewable Energy Directive
- Energy Efficiency targets
- EUTS
- LCDP
- IED
- ROCs
- ECC
- EPS
- CPF
- EMR
  - CfDs
  - Capacity payments
- Gas Strategy

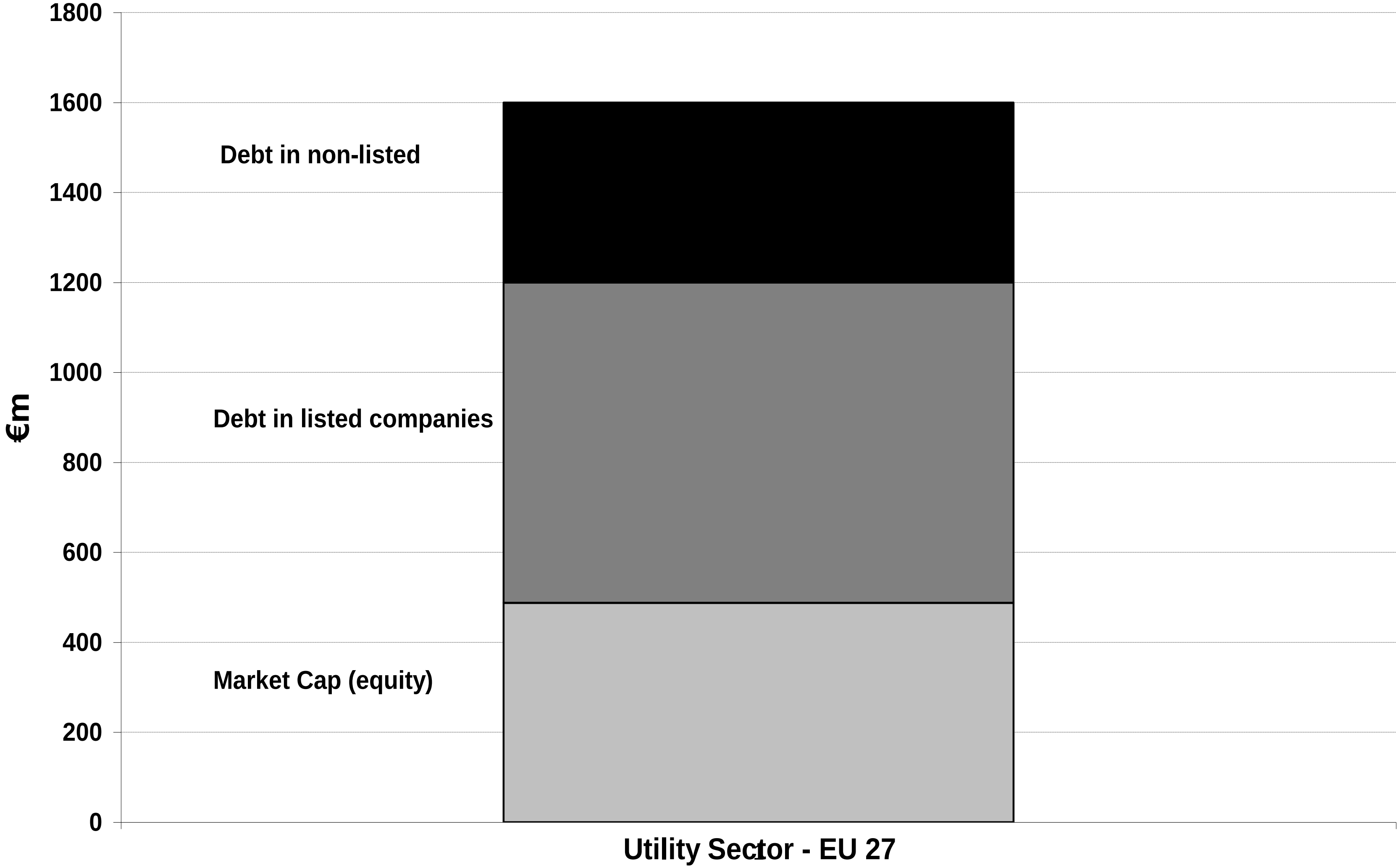
How do all these instruments interact?
What impact do they have on the value of new and existing assets?
What is left to the ‘market’ to decide?

EU Energy Policy: The Key Assumptions

- Energy policy should be largely driven by the climate change objective
- Private sector can and will finance €1.2trn capital cost to 2020
- The consumer will be able and willing to pay for the investment via tariffs
- No significant loss of competitiveness in Europe versus ROW because key trading partners will adopt similar policies, and / or
- Fossil fuels are increasingly scarce and therefore prices will continue to rise for ever
- Favoured technologies can be deployed on an industrial scale and costs will fall
- Power system integrity can be maintained through transition period and beyond
- De-carbonisation of energy sector will be a huge net economic benefit partly via first mover advantage

Economically Europe is effectively taking out a massive Futures Contract (€3trn) on high fossil fuel prices

European Utility Capital Structure - EU 27

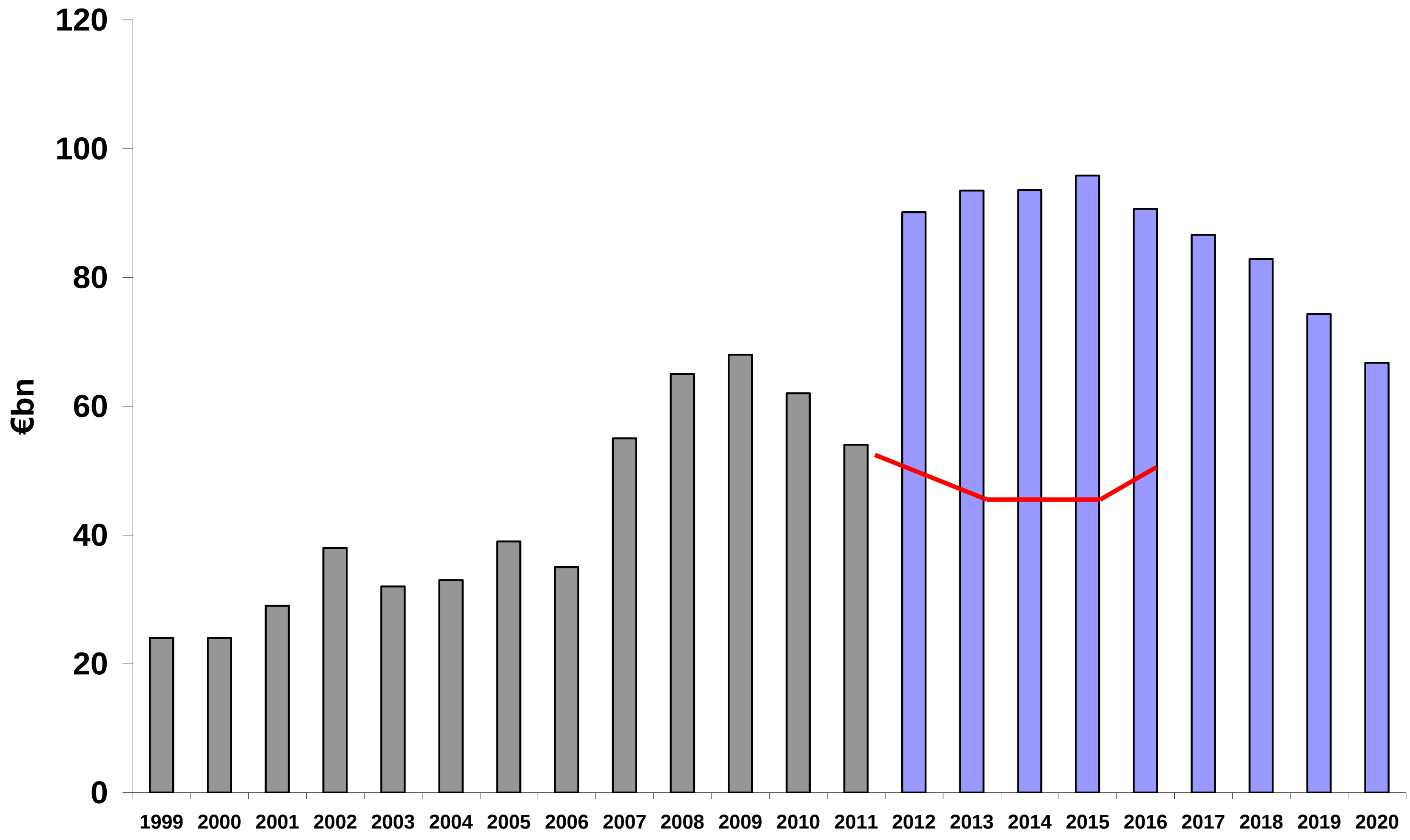


Total UK Utility Capex 2011-2020 (£241bn / €298bn)

	MW	Cost (£bn)	Replacement / Renewal	Environmental Targets
On shore wind	12,000	16.1	0	16.1
Off shore wind	15,000	49.5	0	49.5
Gas	10,000	7.0	3.5	3.5
Coal (CCS)	1,000	1.6	1.6	0.0
Nuclear	6,400	25.6	0	25.6
Bio Mass	6,000	2.4	0	2.4
Electricity Distribution Network		16.0	11.2	4.8
Gas and Elec Transmission Network		28.0	14.0	14.0
Off shore transmission		9.9	0	9.9
Gas Distribution Network		16.8	16.8	0.0
LNG		1.0	1.0	0.0
Water		44.0	33.0	11.0
Smart Meters		5.0	0	5.0
Gas Storage		3.0	3.0	0.0
Energy Efficiency		13.0	0.0	13.0
IED Expenditure		3.0	0	3.0
Total		241.9	84.1	157.8

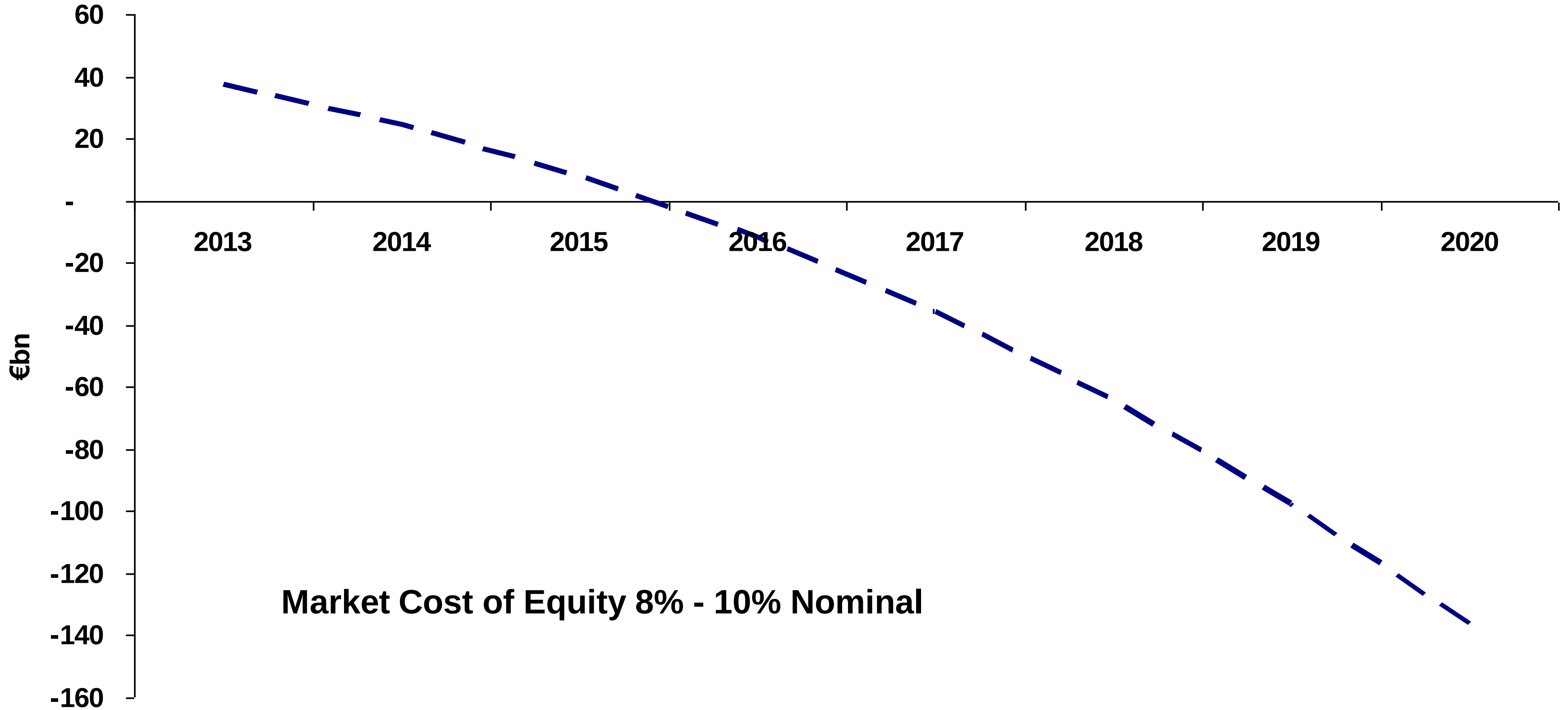
Source: Citigroup Investment Research and Analysis

Utility Sector Annual EU Energy Capex – actual and required



Source: CIRA

€277bn funding deficit



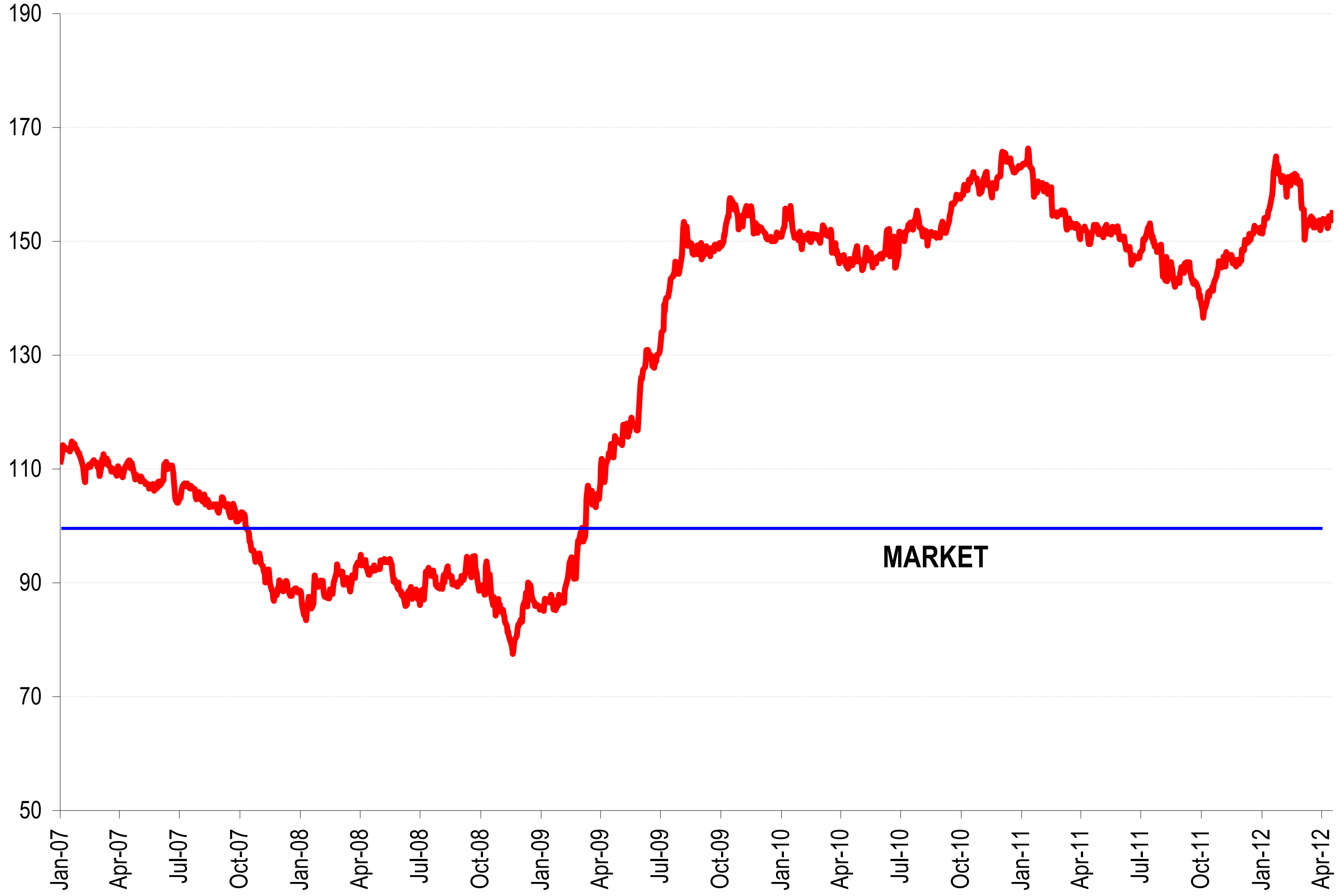
Source: Datastream, CIRA

The View from the Capital Markets

European Utilities Sector has been de-rated

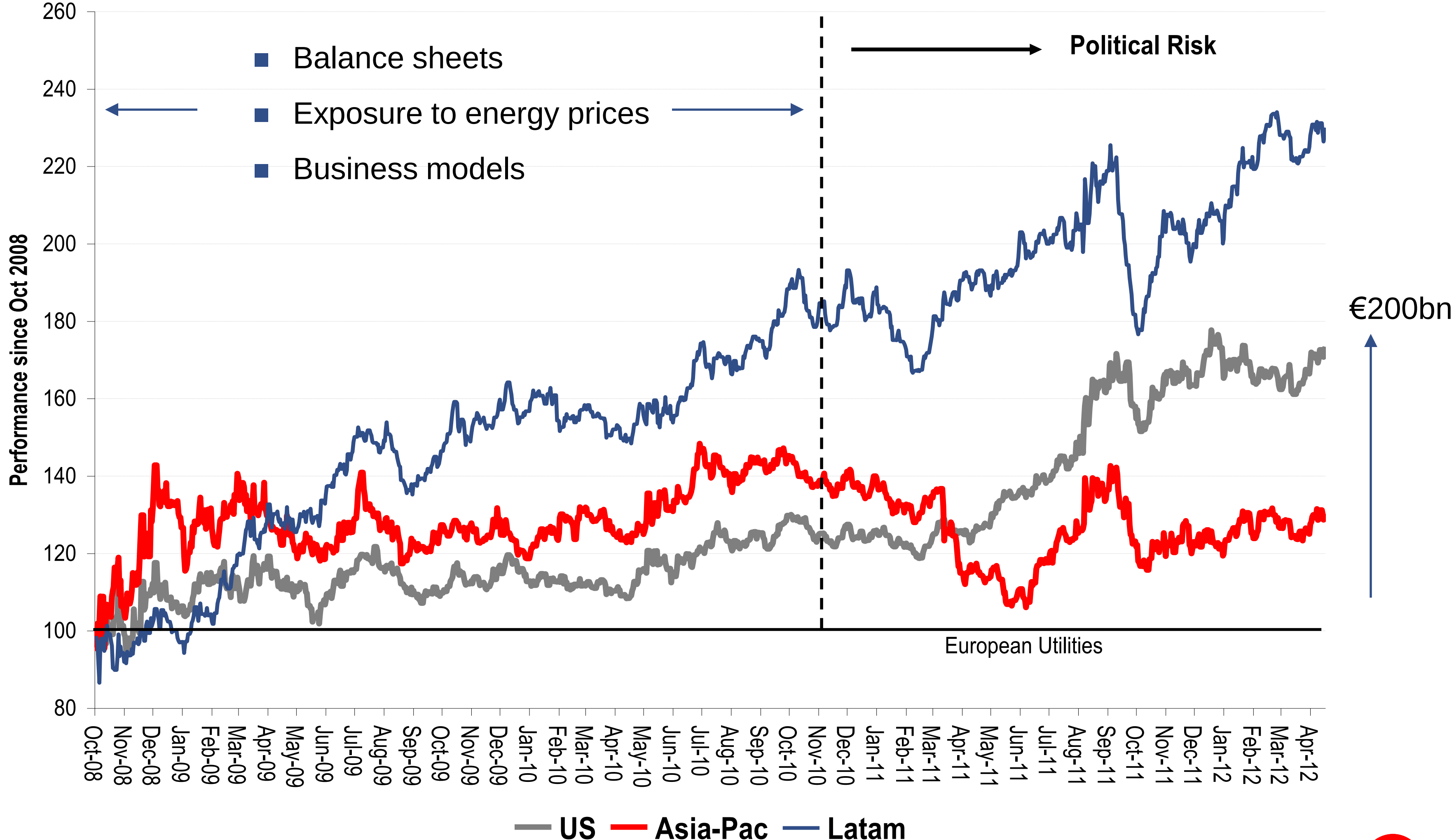
Source: Bloomberg, CIRA

Yield Relative Moving in Wrong Direction



Source: Datastream, CIRA

Europe De-rated Relative to ROW



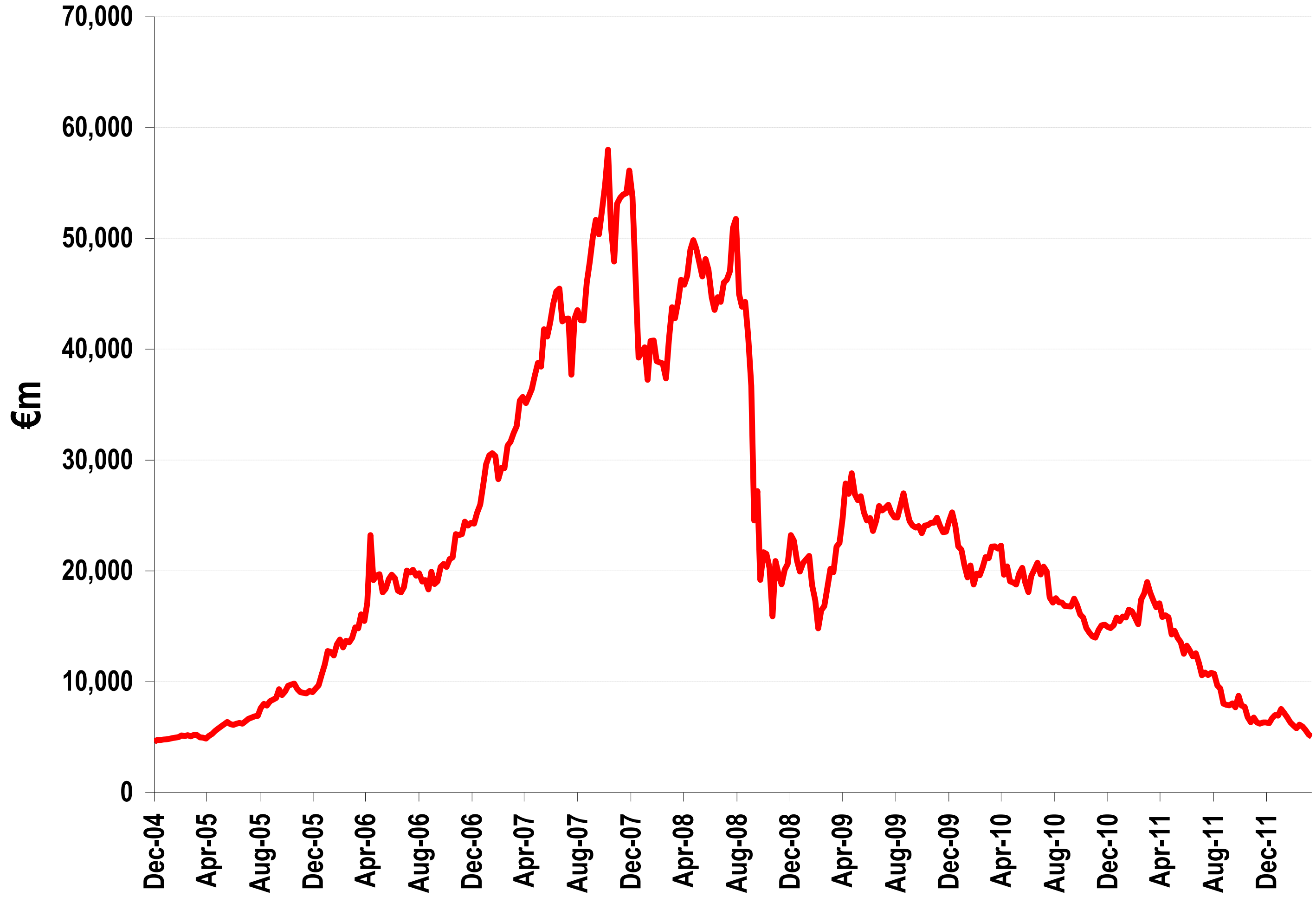
Source: Datastream, CIRA

Political Risk – two elements

- **Tax grab**
  - Governments in trouble tax companies that can't leave easily
  - Italy, Germany, Finland, Czech Republic, Belgium, Spain
  - €bn taken from the sector by 2010 – 2014

- **Energy Policy bumps into reality. In our view,**
  - Massive capex requirements
  - Consumer affordability key for investors – huge scepticism
  - Immature and difficult technologies
  - Unrealistic targets
  - Utilities being asked to do too much too fast

Market Cap of EU Renewable Energy Stocks



Source: Datastream, CIRA

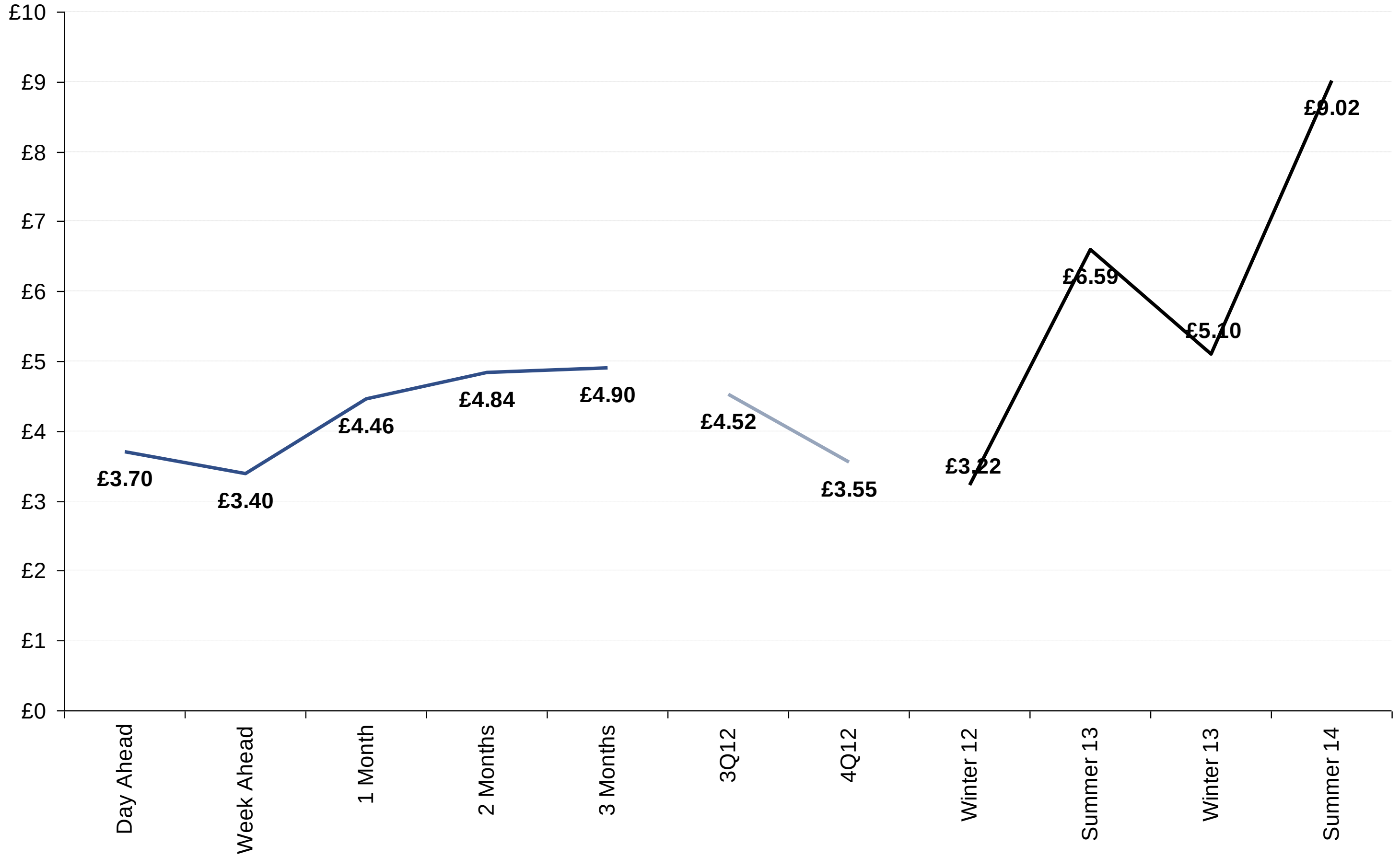
Vestas Share Price

Source: Reuters, CIRA

Fossil Plant Getting Crushed

Source: Endessa

UK Forward Spark Spreads



Source: Datastream, CIRA

Banks Stressed

- Many of Europe's top commercial and investment banks have been bankrolling countries hardest hit by recession
- Greek crisis and fear of "domino" effect has shaken confidence in all but the strongest economies of Europe
- Significant exposure to Greek and other sovereign paper has led to pressure on the ratings of many major European lenders
- This in turn has led financial institutions to focus on internal liquidity and impacted severely on the liquidity of the interbank market which has in the past been a mainstay of banks' funding strategy
- Access to capital markets has been prohibitively expensive so many financial institutions have turned to deleveraging to strengthen their balance sheet

Reduced liquidity = increased cost of funds = funding constraints and increased margins

Basle 3

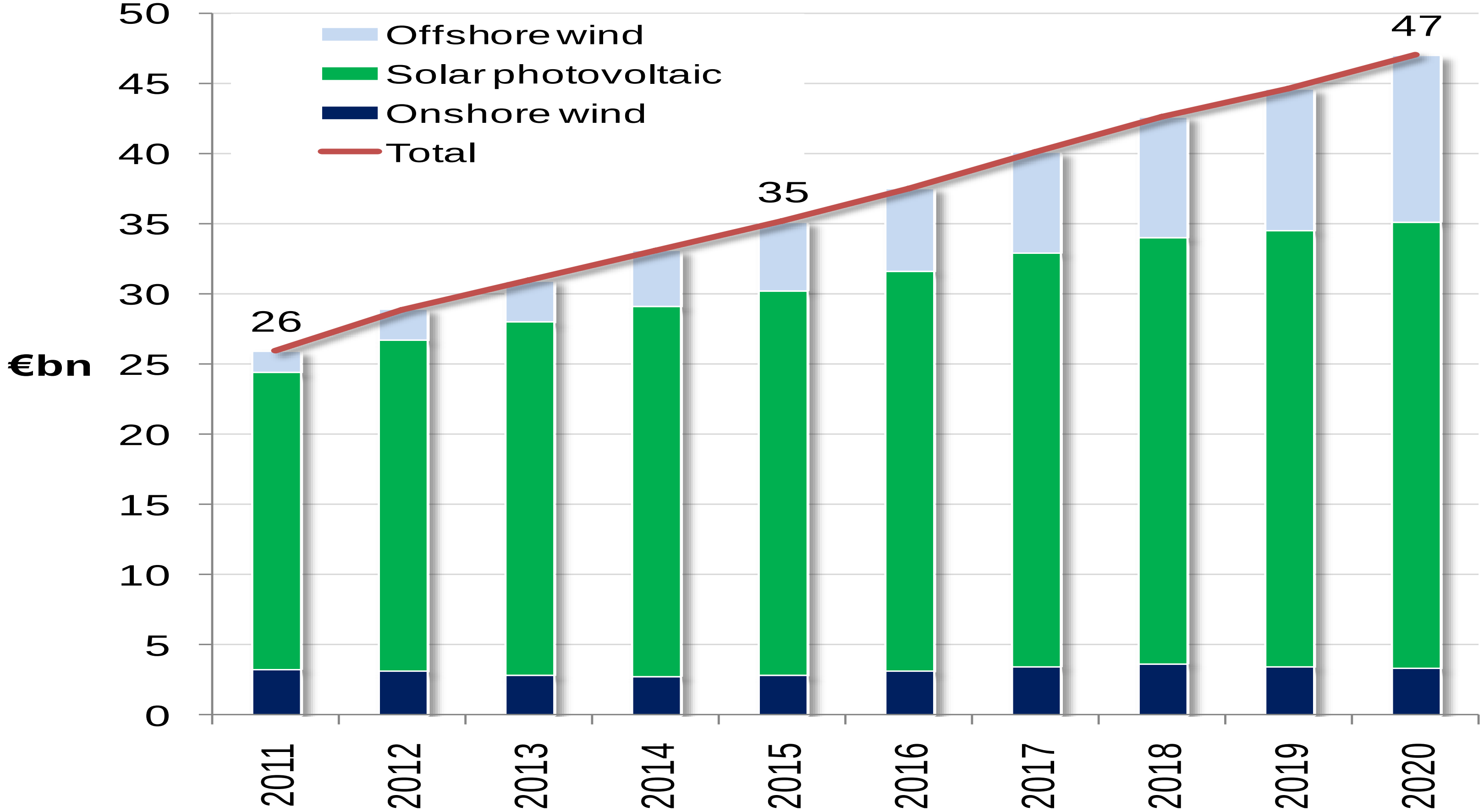
- **Basle 3 has had a fundamental impact on the way financial institutions operate:**
  - **Capital adequacy ratios** are tighter than the level at which many banks have been operating
    - Need for institutions to increase capital at a time when capital is less available
    - Imperative to meet “stress test” associated with implementation of Basle 3
    - Need to satisfy rating agencies that Basle 3 requirements will be met
  - **Capital allocation** against lending under Basle 3 is changing the way banks lend
    - Steep curve of capital allocation versus credit quality drives banks to better rated business
    - Treatment of longer term lending makes short tenor debt more attractive
    - Project finance now very difficult
- **Impact more wide ranging but these issues have a crucial impact on the financing of large scale infrastructure which has traditionally attracted long tenor debt on relatively highly geared financing structures**

The Key Issue of Affordability

- Energy policy has three drivers: climate change, affordability, security of supply
- EU energy policy based on climate change driver
- Investors became concerned in 2009 as costs escalated
- Govt estimates of impact on consumers not credible
- 2010 / 11 several European governments try and rebalance between climate change driver and affordability
- When faced with a choice, politicians have, in our view, sided with consumer over investor

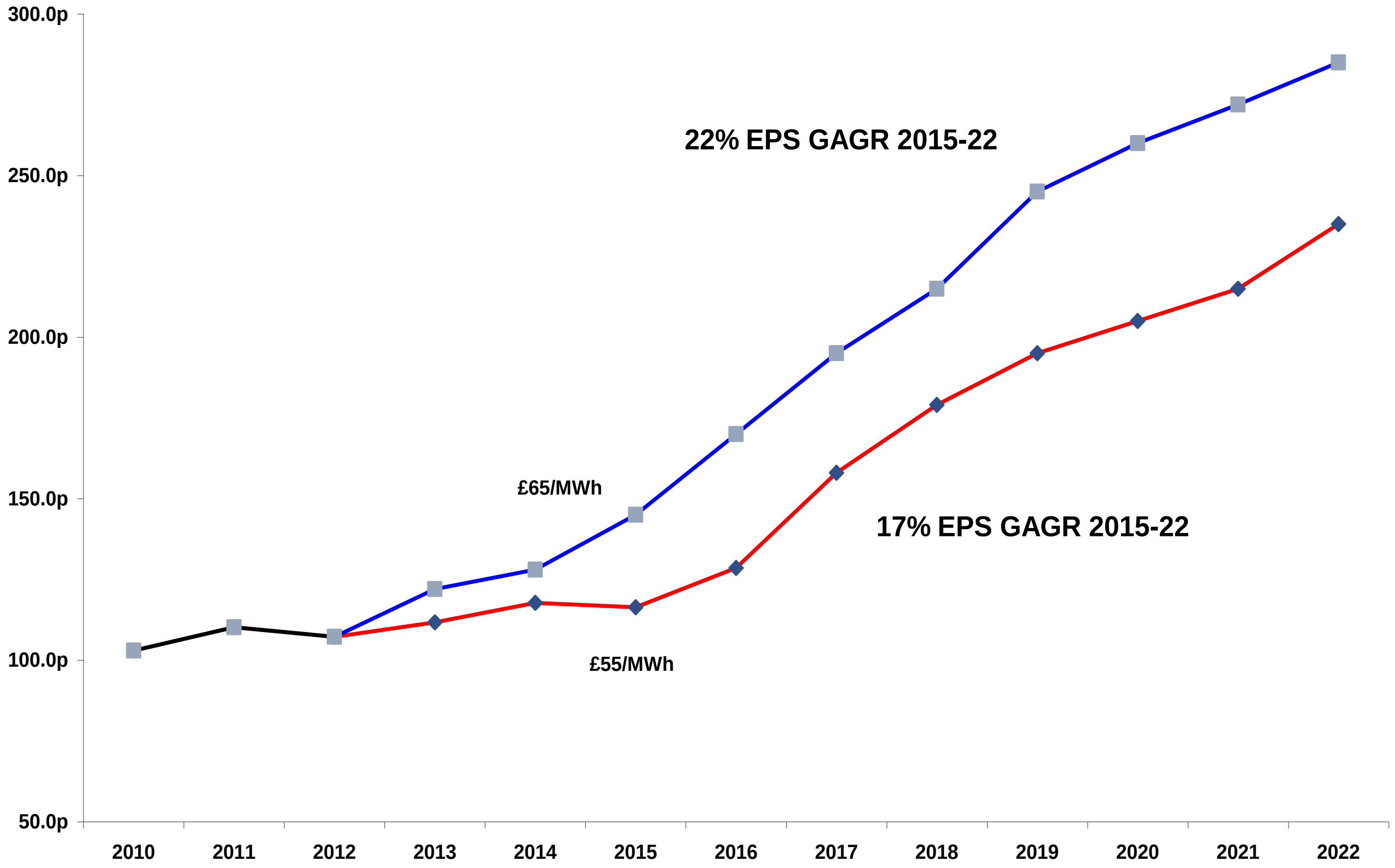
Will UK ministers in 2018 defend record prices & record profits?

Annual Renewable Subsidy Five largest EU Countries – 2009 Money



Source: CERA

EPS Scenarios for SSE (£4bn pa Capex)



Source: CIRA

New Nuclear in the UK

The Five Big Risks for Nuclear Power Developers

1. Planning
2. Construction – potential corporate killer
3. Power Price (revenue) – potential corporate killer
4. Operational (output & safety) – unique systemic risk & potential corporate killer
5. Waste and decommissioning

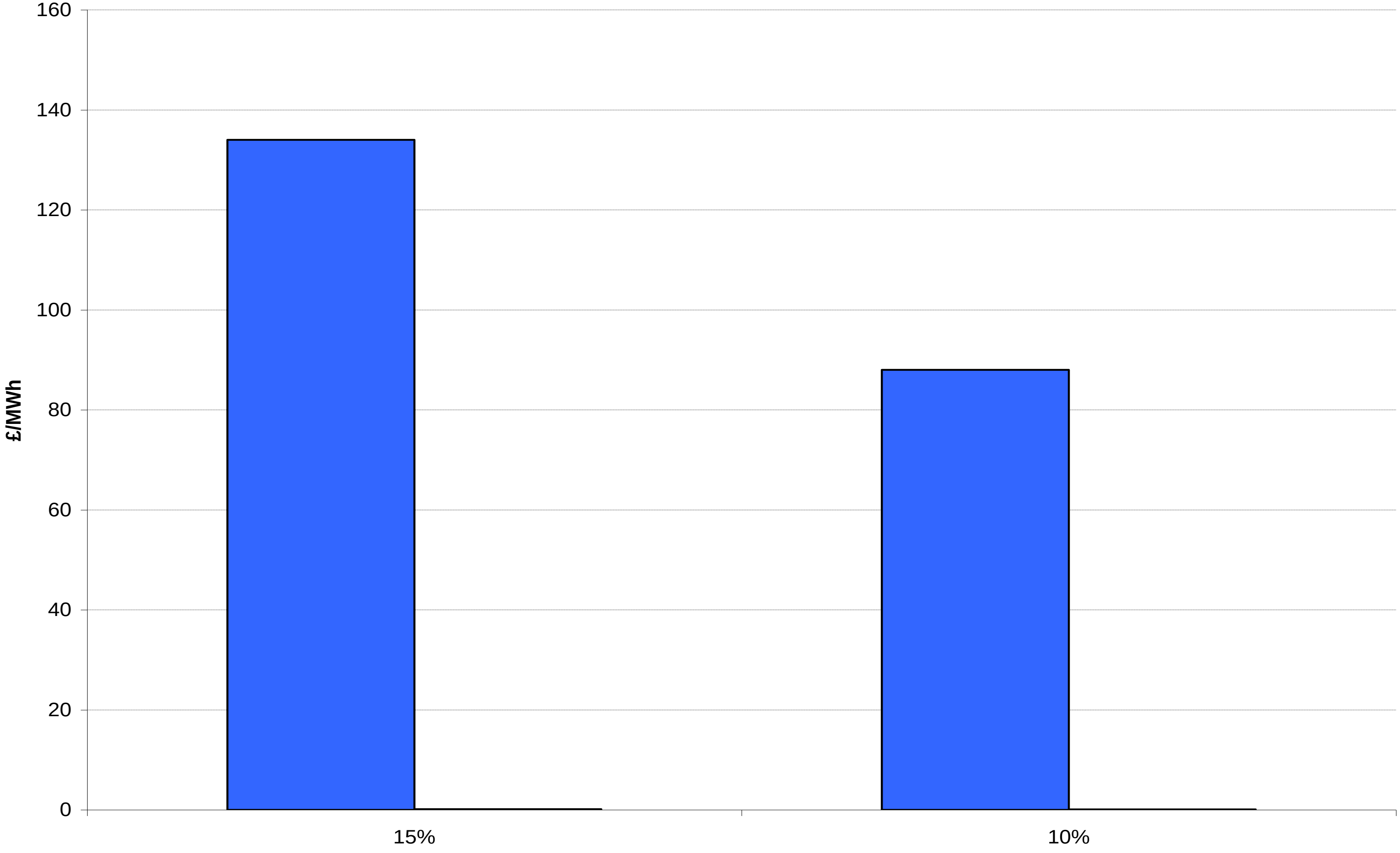
New Nuclear is Not Commercially Viable

- If it were, you wouldn’t need EMR
- The risk / reward balance for private sector investors is hugely negative
- But Nuclear power provides two important public goods
  - Low carbon base load generation
  - Security of supply
- These public goods have no monetary value to private sector investors
- So the public must pay for them – only then can new nuclear work for private investors

But does EMR Help?

- EMR seeks to mitigate the Power Price (revenue) risk by transferring it to the consumer
- But EMR does nothing for Construction Risk – indeed may increase it
- Also EMR does nothing to lower Operating (output & safety) Risk
- EMR does not “guarantee returns” merely underpins revenue
- Therefore questionable whether EMR reduces cost of capital

Required Power Price (2017 money)



Source: CIRA

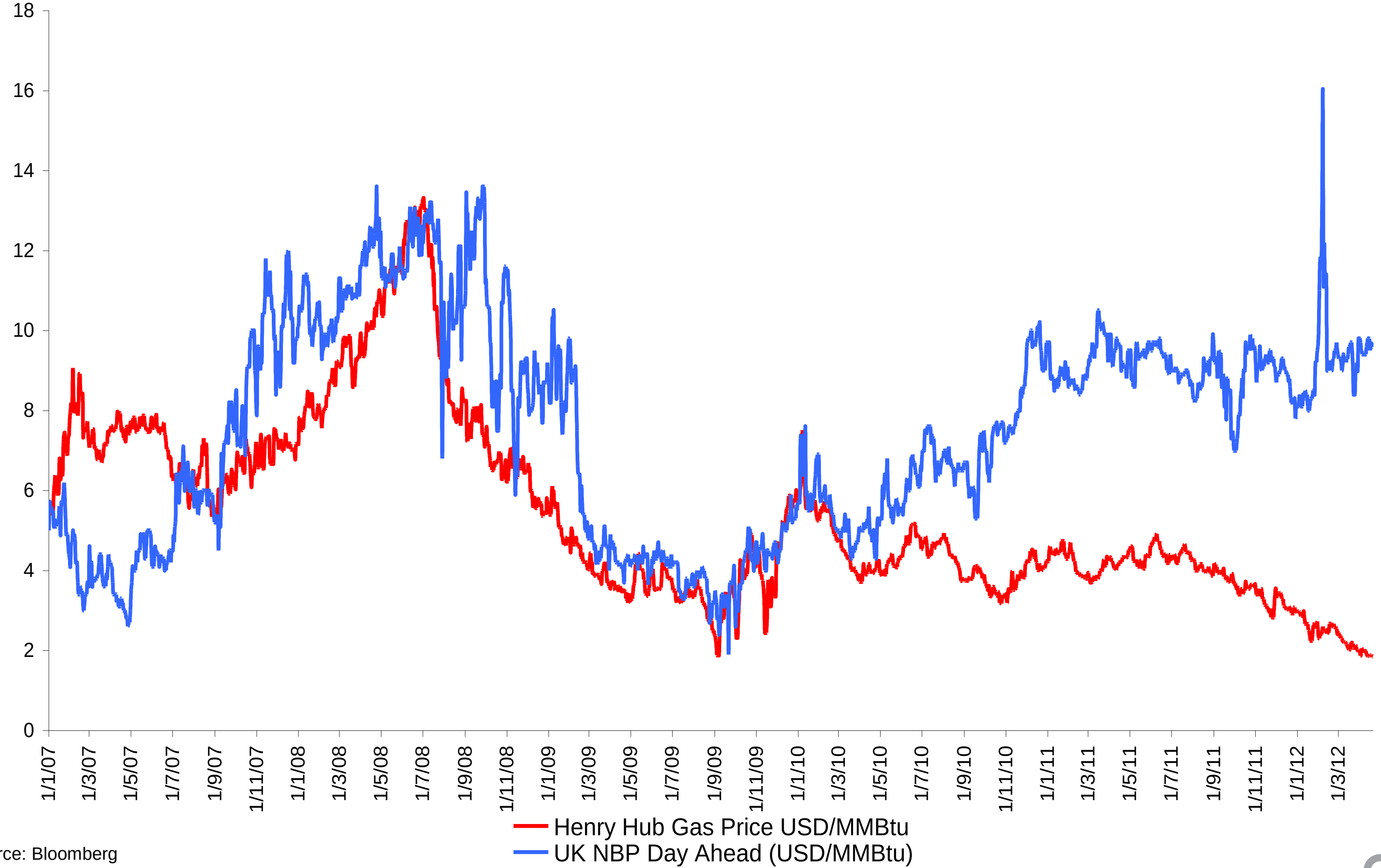
US Energy Revolution

Implications for Europe

Impact of Energy Revolution in the US

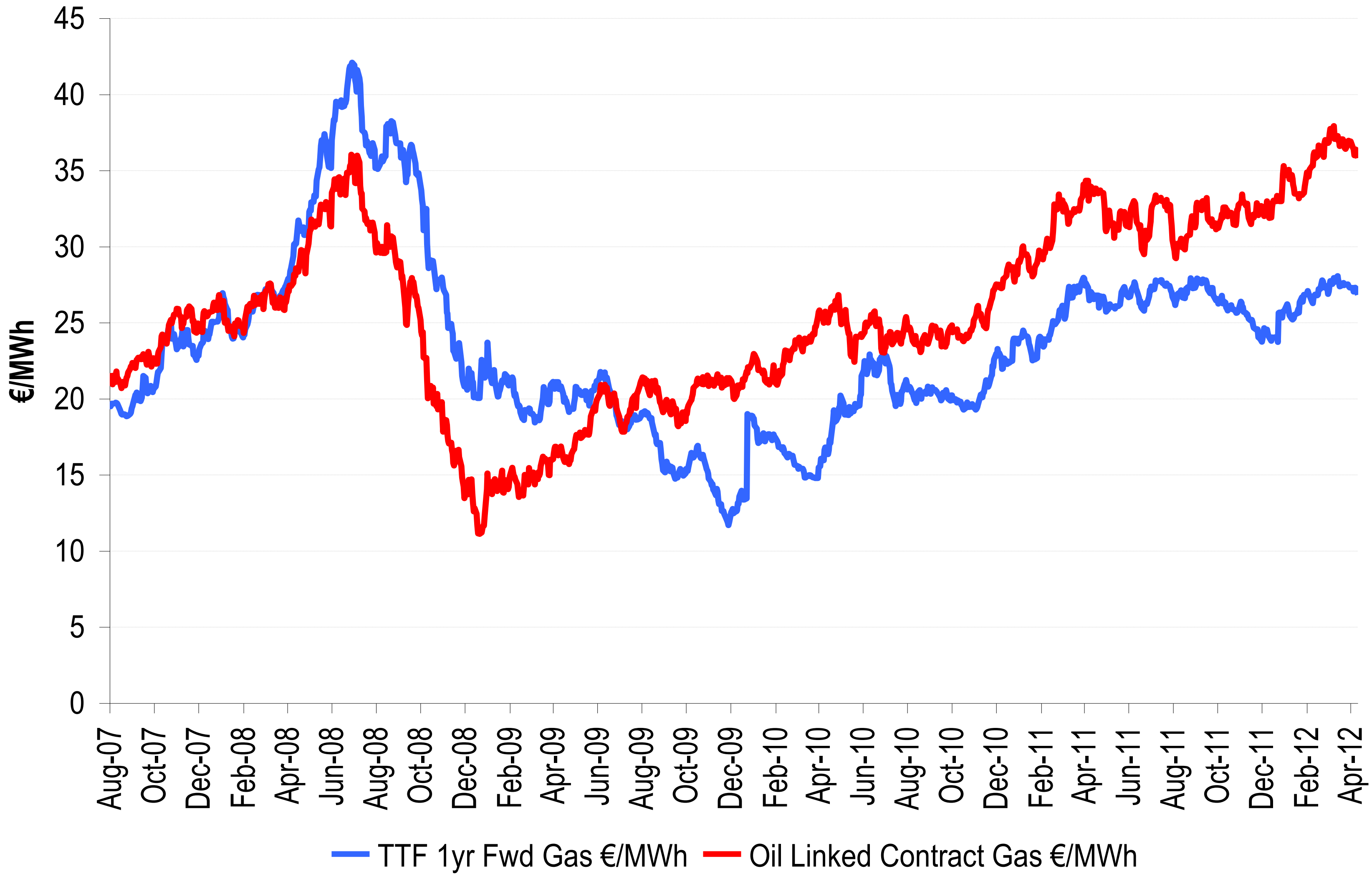
- The US heading for sub $2.00/mmbtu gas this summer
- 100 years of exploitable gas reserves
- Citigroup Commodity and Economic Strategists Forecast:
  - US becomes self sufficient in oil by 2017 and a substantial exporter by 2020
  - Oil / gas boom adds 0.5% per annum to US GDP
  - Re-industrialisation of America with heavy industry returning
  - 3.5m to 4.5m new jobs created by 2020
  - US trade deficit reduced by 56%
  - Geo-political implication
- GHG emissions are falling faster than in Europe
- EU governments are in denial
- EU making a 20 year €3trn bet that fossil fuel prices will keep rising forever and ever and ever
- The bet already looks a poor one to us

US Versus UK Natural Gas Prices ($/mmbtu)



Source: Bloomberg

Oil Index versus Spot Gas in Europe



Source: Datastream

Summary - the problems are wide and deep

- EU energy policy highly politicised – investors rightly, in our view, don't trust politicians
- Policies seem to be driven almost exclusively by climate change agenda. Affordability and security of supply were largely ignored in policy
- But in practice governments discovered that affordability was a very big issue after all – trying to rebalance without changing the targets
- Utilities being asked to do too much too fast – financially and technically
- Power markets becoming unrecognisable as markets - distortion layered upon distortion
- Value of existing assets being destroyed
- But could be worse – could have brought renewable stocks!

If only we had stability they cry!

- **But can stability ever really be guaranteed?**
  - 1990 pre-privatisation sector re-organisation – horizontal separation
  - 1992 privatisation
  - NFFO
  - dash for gas
  - 1997 vertical re-integration begins
  - 1997 windfall tax
  - gas moratorium
  - 2000 NETTA
  - 2003 BETTA
  - ROCs
  - 2004 Climate Change directive
  - Energy efficiency targets
  - 2007 Renewables directive
  - 2012 EMR

And stability may not be a good thing

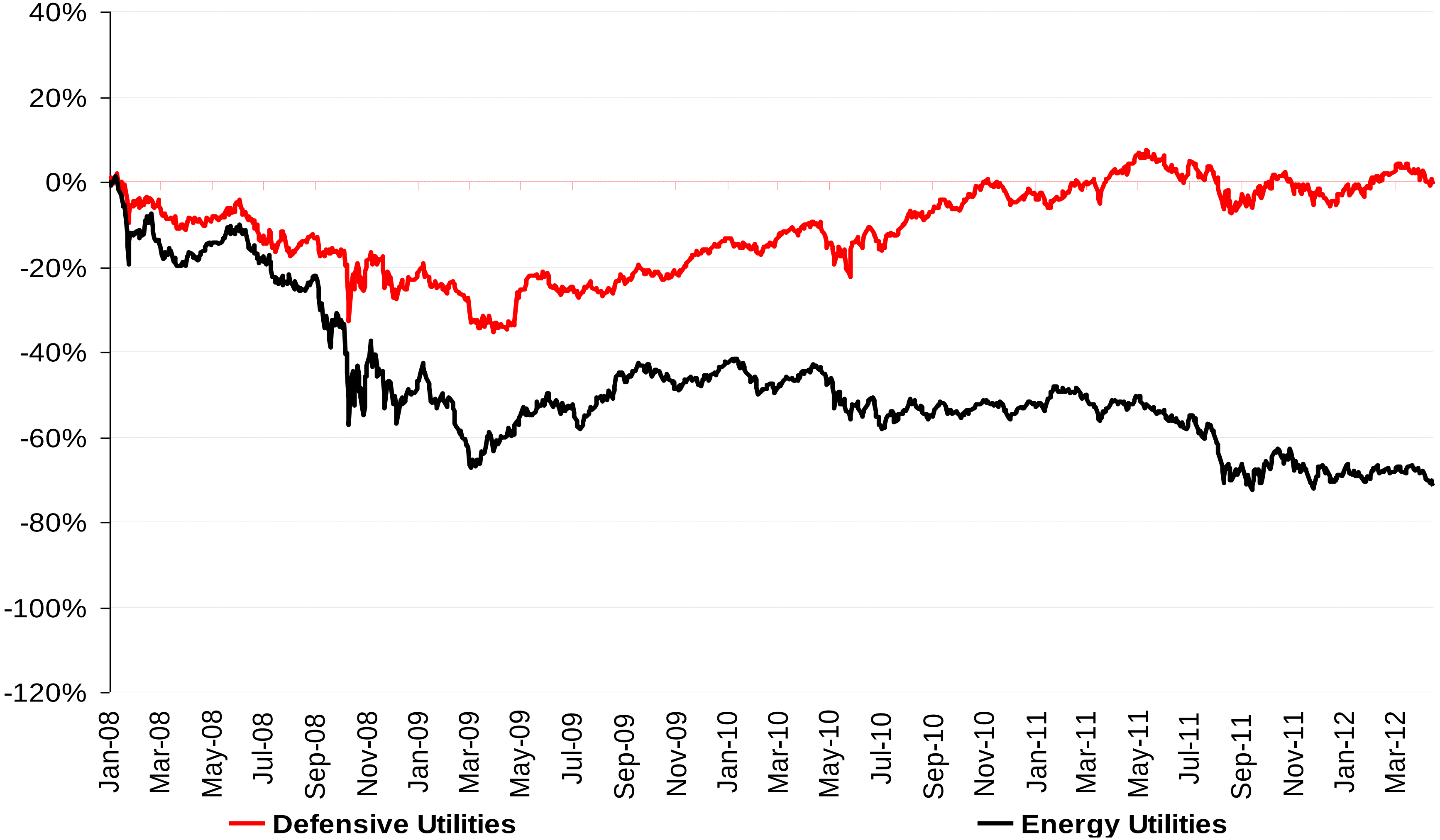
- EU targets set 2004 – 07 but quite a lot has changed
  - Banking financial crises
  - Utility sector credit downgrades
  - Sovereign credit crises
  - Utility sector worse performing 2010,2011,2012
  - Collapse in value of renewable manufacturing companies
  - Rise in renewable costs
  - Poor load factor performance data from wind in Europe
  - Fukushima
  - Tax grab on sector
  - Recession and reduced demand
  - Carbon price collapse
  - US energy revolution
  - Falling energy demand
  - Green jobs myth

But EU and UK targets and objectives have not changed one iota

The Stability Problem in an nut shell

- Utility companies are being asked to do things that, we think, are fundamentally not commercial or economic
- Returns are therefore entirely driven by public policy
- Payback periods range from 8 to 25 years
- Public policy very unlikely to be stable over 10 to 20 year periods
- Because governments change, circumstances change, and public opinion changes
- EMR is the 5^{th} (or 6^{th}) major market overhaul since 1990

European Utilities: Defensives vs Energy



Source: Datastream

Solutions

The current policy mix is not working and will create mounting problems

Two options going forward in our view

1. **Change Policy Direction:** Major re-think of policy to explicitly rebalance between climate change / affordability / and security of supply; and to take account of the events of the past 3 years ie. massive change in economic conditions, rise in political risk, utility company significant under-performance, collapse in value of renewable companies, rise in cost of renewable assets, sceptical public, green jobs mirage; or

2. **Regulated Assets tip to toe:** Massive transfer of risk from private to public sector – make the required investments regulated, giving guaranteed returns. Re-regulate existing assets.

SSE PLC

Valuation

We have set a target price of 1,280p based on a long-term DCF fundamental valuation which value SSE's thermal power station assets at £130-284/kW, renewables at c.£2,500/kW, retail customers at £267/cust (including SME) and the regulated networks at a 7.5% to 8.5% premium to RAB. At 1,280p SSE would trade at 10.8x P/E for FY13E.

Risks

Key risks to our target price include: 1) SSE's G&S business is likely to be a key driver of growth. We believe SSE has a high degree of control over earnings in this division, although movements in commodity prices will still have an impact. Higher-than-expected electricity/gas prices could lead to upside if SSE can pass these through to customers. If commodity prices fall, earnings growth could flatten depending on how quickly retail prices come down. 2) SSE will have regulatory reviews affecting its electricity transmission and gas distribution businesses in the next two years. There is uncertainty over future allowed returns and capital expenditure requirements, which will affect earnings growth. 3) SSE is viewed as a potential acquisition target and could itself become involved in M&A, including branching out into new areas such as water distribution. If the impact on the company from any of these factors proves to be less/more negative than we anticipate, the stock could materially outperform/underperform our target price.

SSE.L (Neutral, £13.21)

Appendix A-1

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Fundamental Research

Analyst: Peter Atherton

	Date	Rating	Target Price	Closing Price
1	15-May-09	1L	*13.80	11.34
2	17-May-10	1L	*13.20	10.83
3	22-Oct-10	1L	*12.54	11.28
4	12-May-11	*2L	*13.50	13.68
5	7-Oct-11	Stock rating system changed		
6	8-Oct-11	*2	13.50	13.46
7	13-Jan-12	2	*12.80	12.51

* Indicates change

Rating/target price changes above reflect Eastern Standard Time

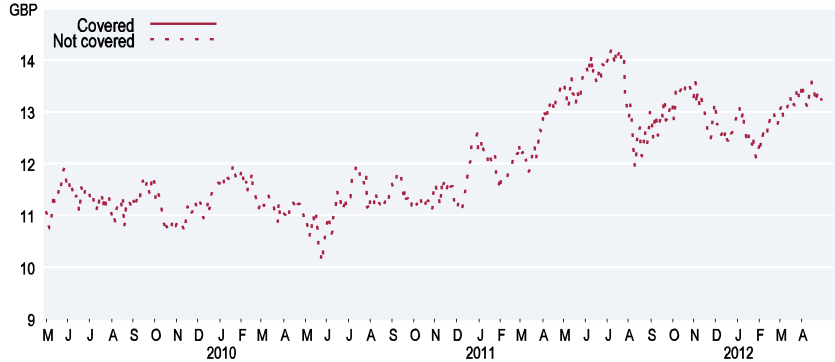
SSE PLC (SSE.L)

Ratings and Target Price History

Best Ideas Research

Relative Call (3 Month)

Analyst: Peter Atherton



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