



LIBERUM CAPITAL

Is UK Energy Policy Plausible?

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The Investment Background - Utilities

The European Utility sector is the worst performing of the major sector since Jan 2009

The Utility sector has even underperformed the banks

Cash flow, balance sheets, and profit and loss accounts under stress

Renewables depressing wholesale prices in Spain / Germany

Capex budgets slashed and investment shifted outside W Europe

No prospect that Utilities could raise equity to fund investment in renewables

The European renewable manufacturing sector index down 90%

Governments across Europe have broken promises to investors – political risk remains very high

Power and gas demand has fallen and govt policy is for it to fall much further

Politicians and media in the UK are very hostile to the existing levels of profits made by utility companies

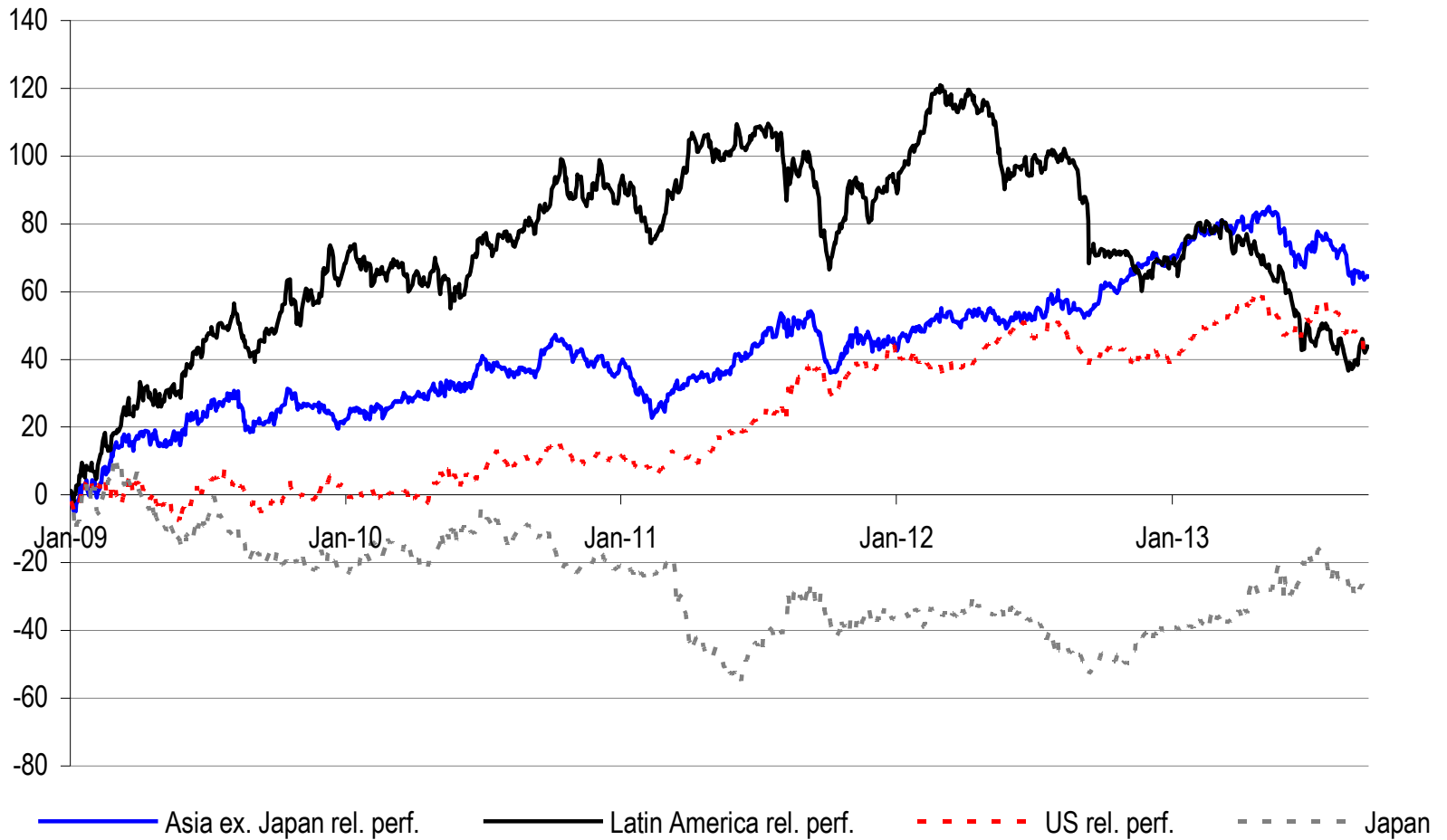
What's not to like?



Pan Europe Utilities and Banks vs Market



European Utilities vs RoW



But is the Policy Plausible?

*“Based on the latest evidence on costs and feasibility, we continue to conclude that aiming to achieve a carbon intensity of around 50 gCO₂/kWh in 2030 through investment in a portfolio of low-carbon technologies is **feasible** and desirable.”*

Committee on Climate Change – 23 May 2013



The Plan – 4th Carbon Budget

To hit the 60% GHG reduction target by 2030 the plan is:

1. 15% of energy from renewables by 2020 (circa 33% of power)
2. Reduce the carbon intensity of power from 530g CO₂ per KWh to around 50g
3. Electrify transport with 60% of new car / van sales being electric and 31% of all stock by 2030
4. Electrify heating with 25% of residential and 60% of commercial heating using heat pumps by 2030

Unless carbon intensity of electricity is brought down to 100-50g range then the rest of the plan does not work

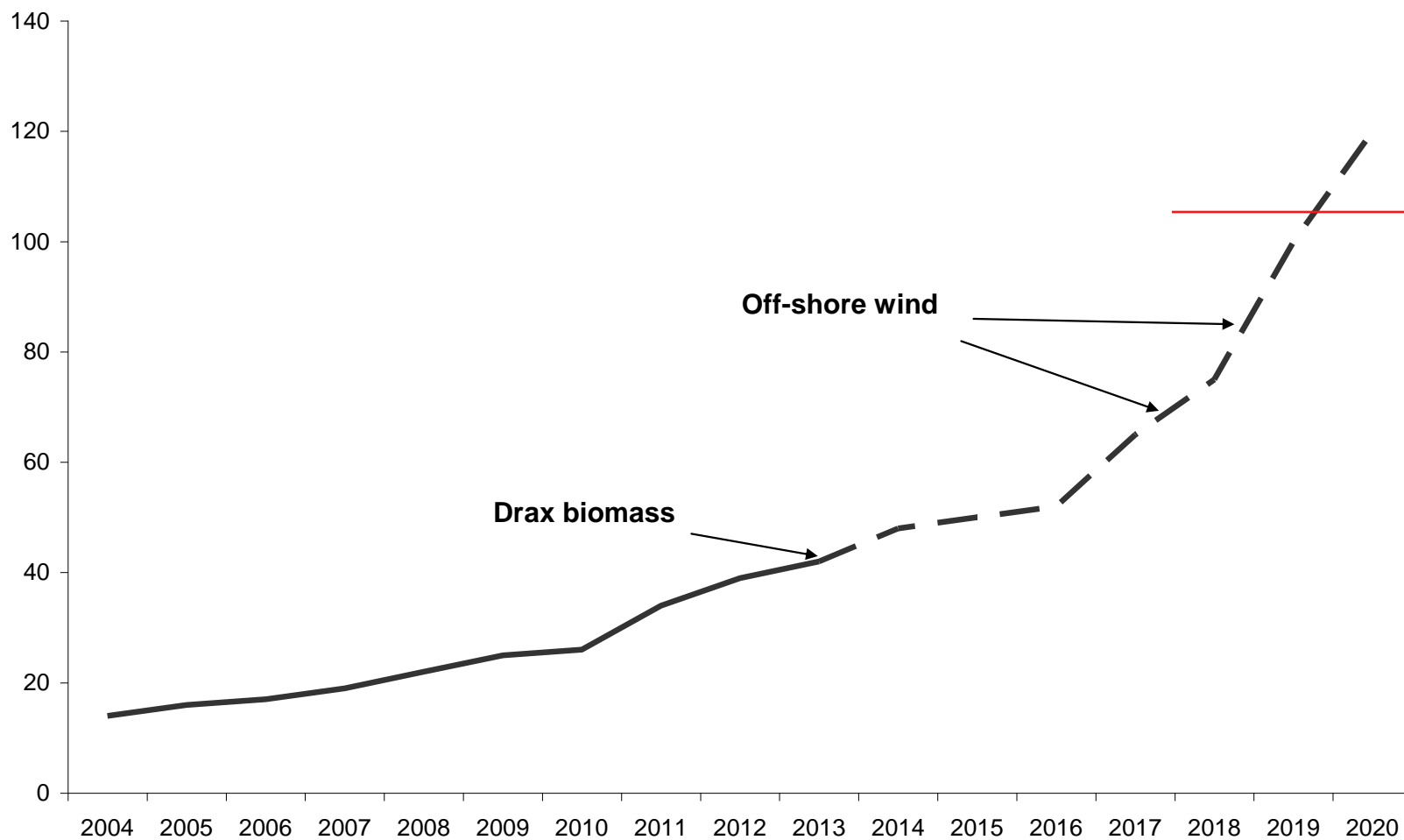


The Energy Bill – To Deliver 2030 Target

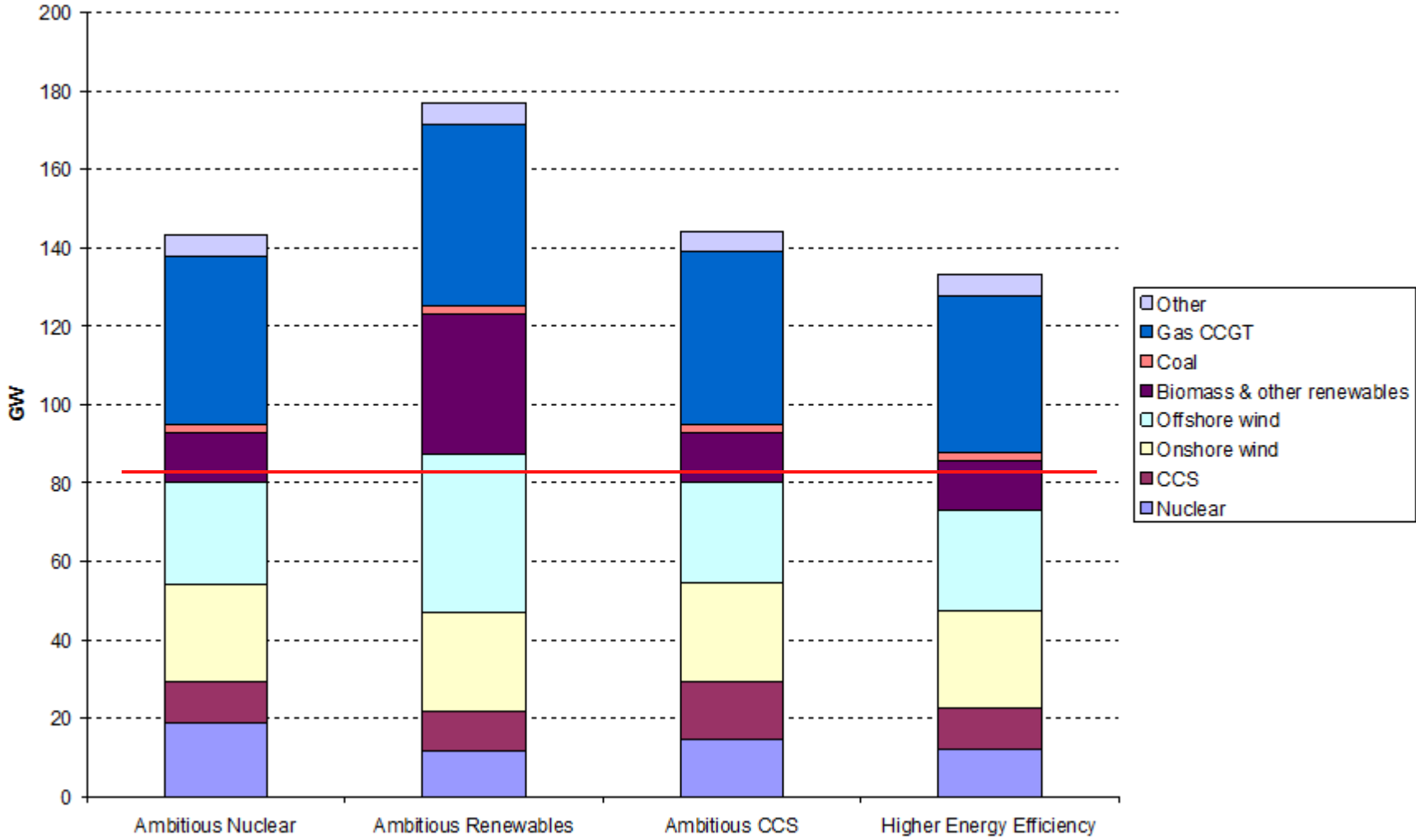
1. Is not about policy – that was established in 2003 and put into domestic law in 2008
2. The Bill is about delivery mechanisms and will establish two new major interventions in the market
 - The Cfd contract for low carbon generation
 - A capacity market
3. The aim of the Bill is to transfer risk from developers to consumers in the hope that:
 - Developer CoC will be reduced
 - That traditional utility companies will invest more
 - That non-traditional investors will be attracted to invest



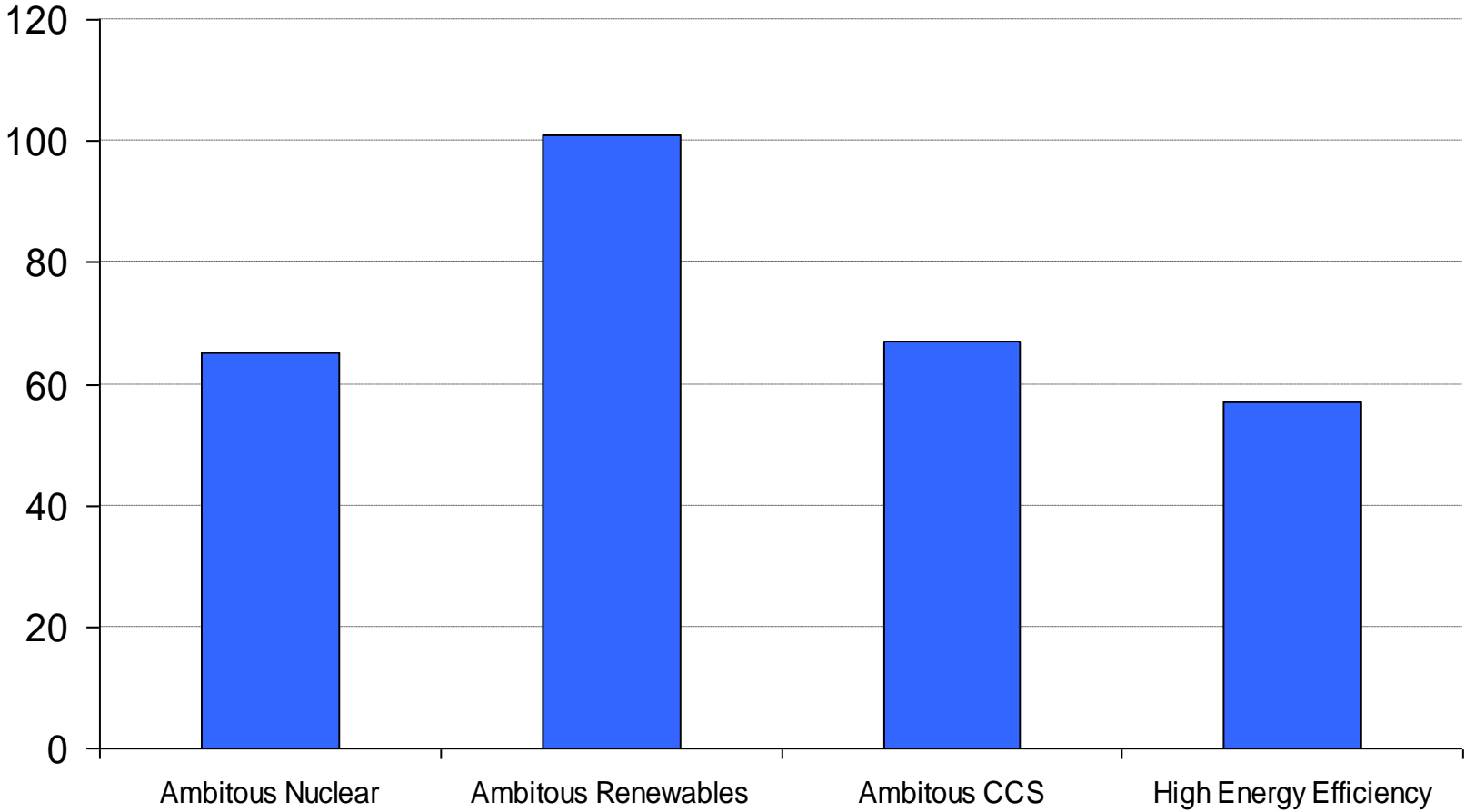
Scale of the transformation – 2020 Renewables Target



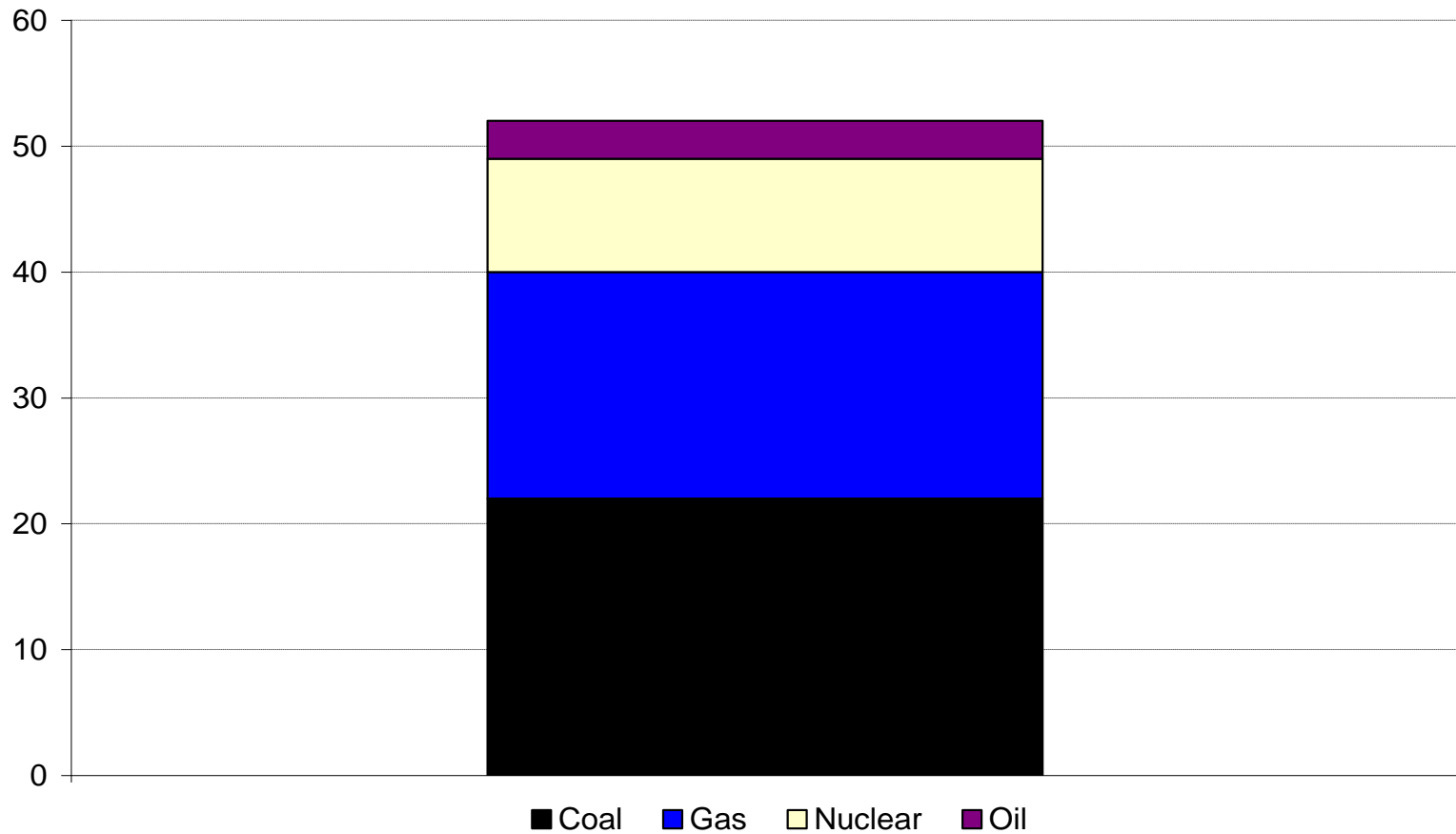
CCC Latest Generation Scenarios (23 May 2013)



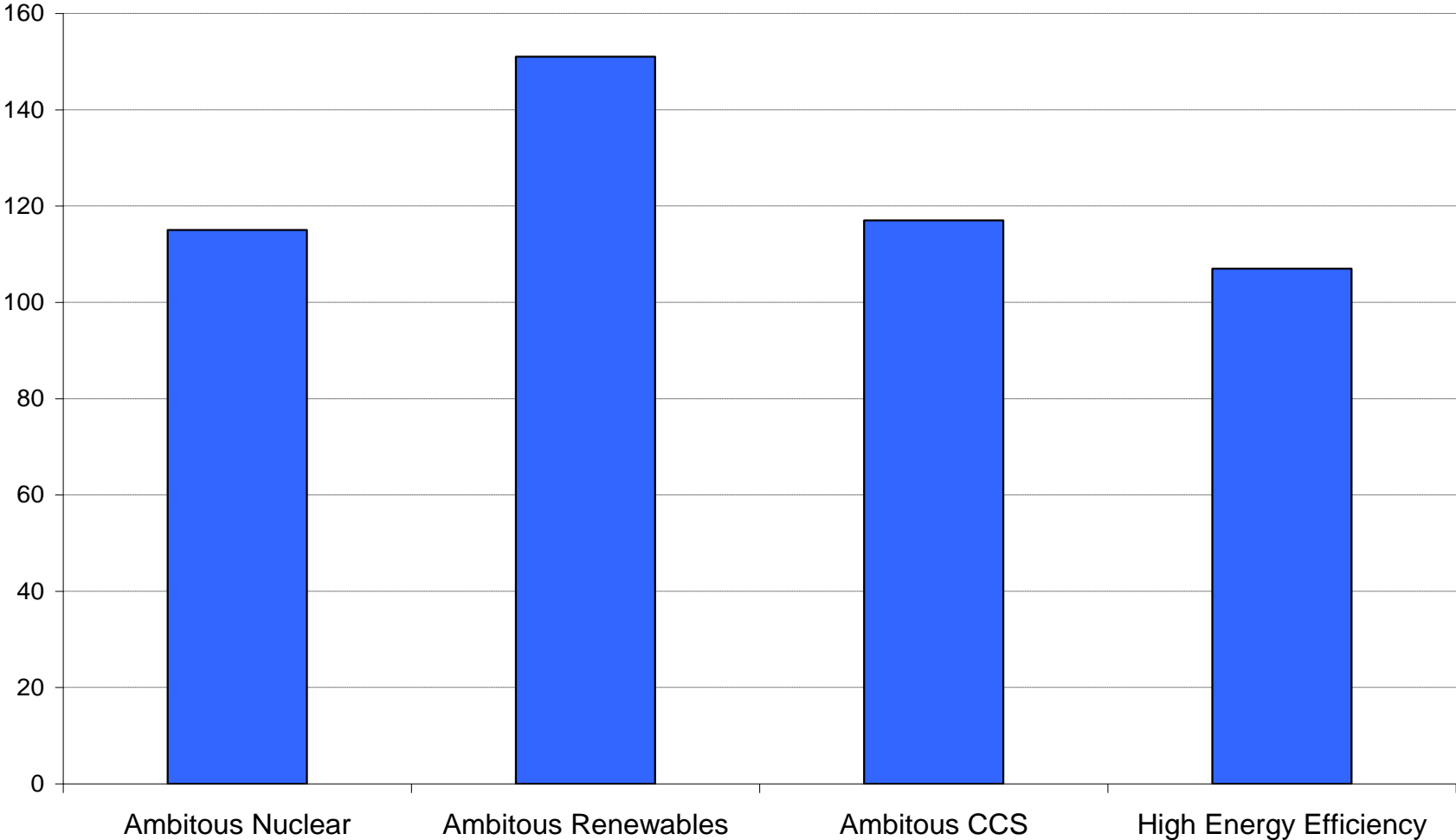
Net New Build Required (GW)



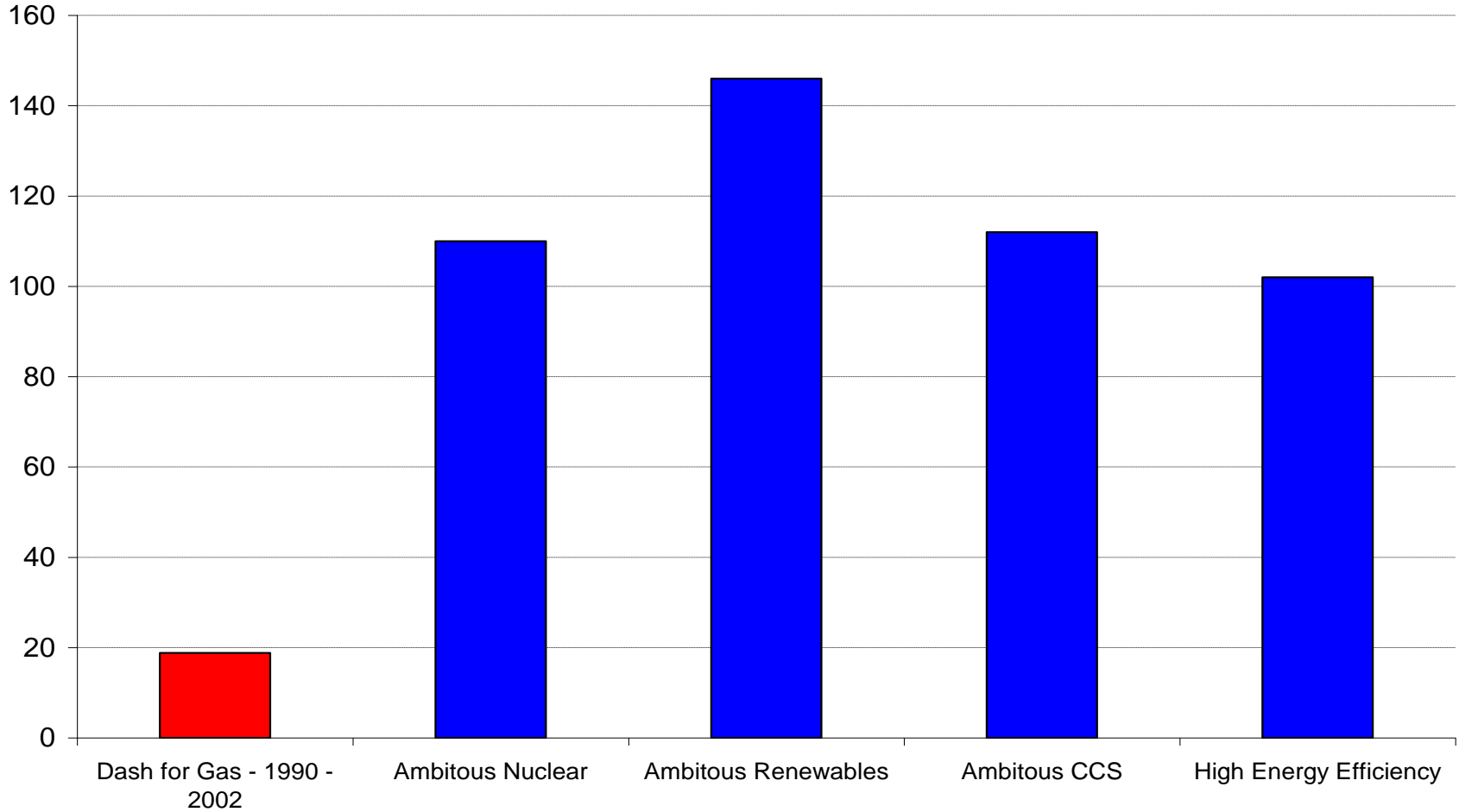
Likely Closures 2013 – 2030 (GW)



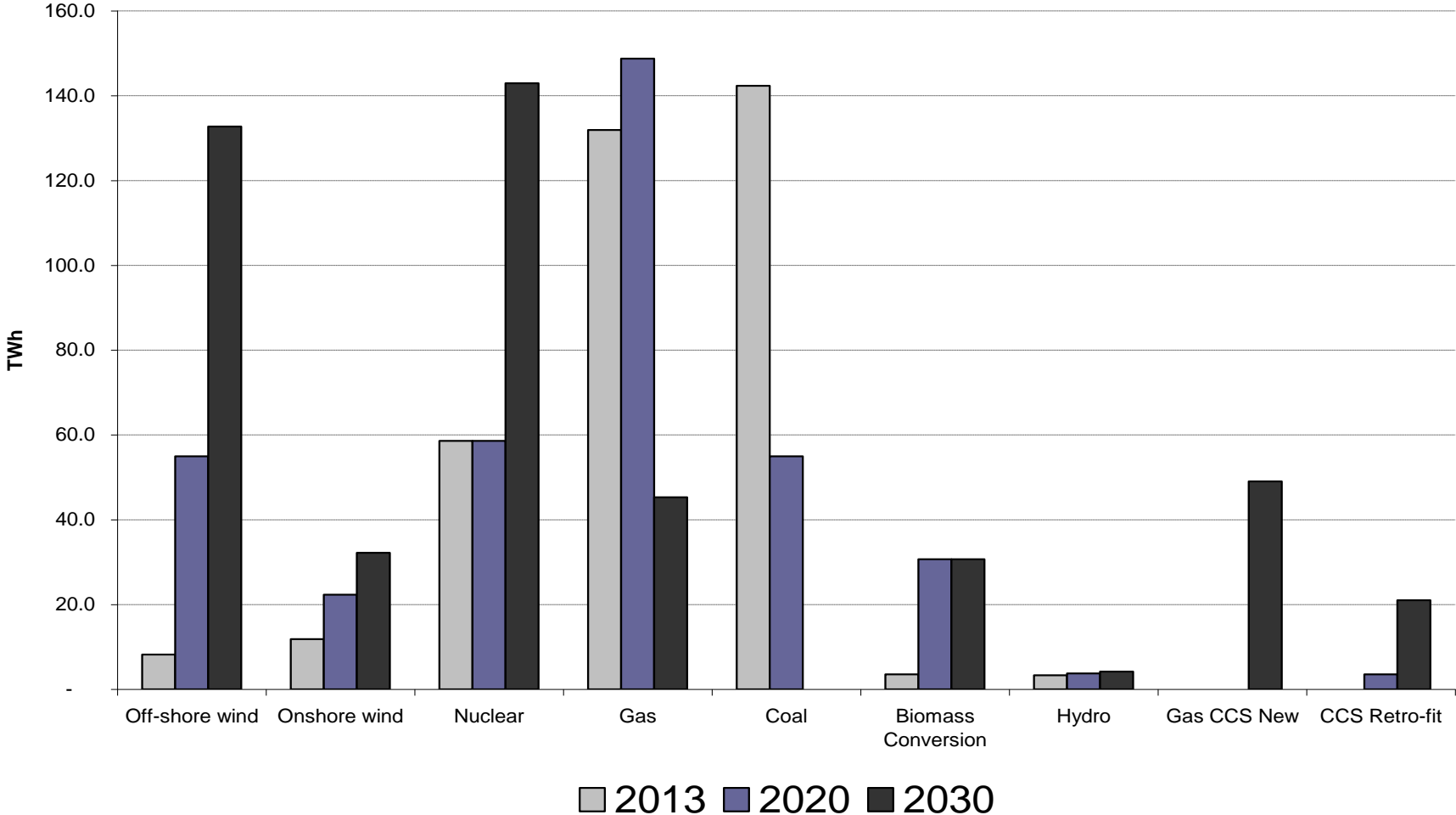
Gross Build (GW)



Gross Build vs Dash for Gas (GW)



Scale of the transformation (TWh)



Power & Gas Investment Required (£bn)

	2012-20	2020-30	Total
Off-shore wind	46	54	100
Onshore wind	7	3	10
Hydro	1	1	2
Nuclear	15	39	54
Gas	8	8	16
Gas CCS New	0	14	14
CCS Retro-fit	1	5	6
Biomass Conversion	3	0	3
Biomass New	0	0	0
Smart Meters	12	2	14
Elect Transmission	17	12	30
Off-shore Transmission	9	11	20
Gas Transmission	4	4	8
Elect Distribution	16	40	56
On-shore Wind Connection	1	1	2
Gas Distribution	2	4	6
Gas Storage	2	5	7
IED	4	2	6
Energy Efficiency	14	10	24
Total	161	215	376
Water	35	44	79
Total Inc. Water	196	259	455



The Profit Problem

Estimated 2013-2020 Total Investment £161bn

@ 8.0% pre-tax return = £13bn of profit per annum

Estimated 2013-2030 Total Investment £376bn

@ 8.0% pre-tax return = £30.8bn of profit per annum

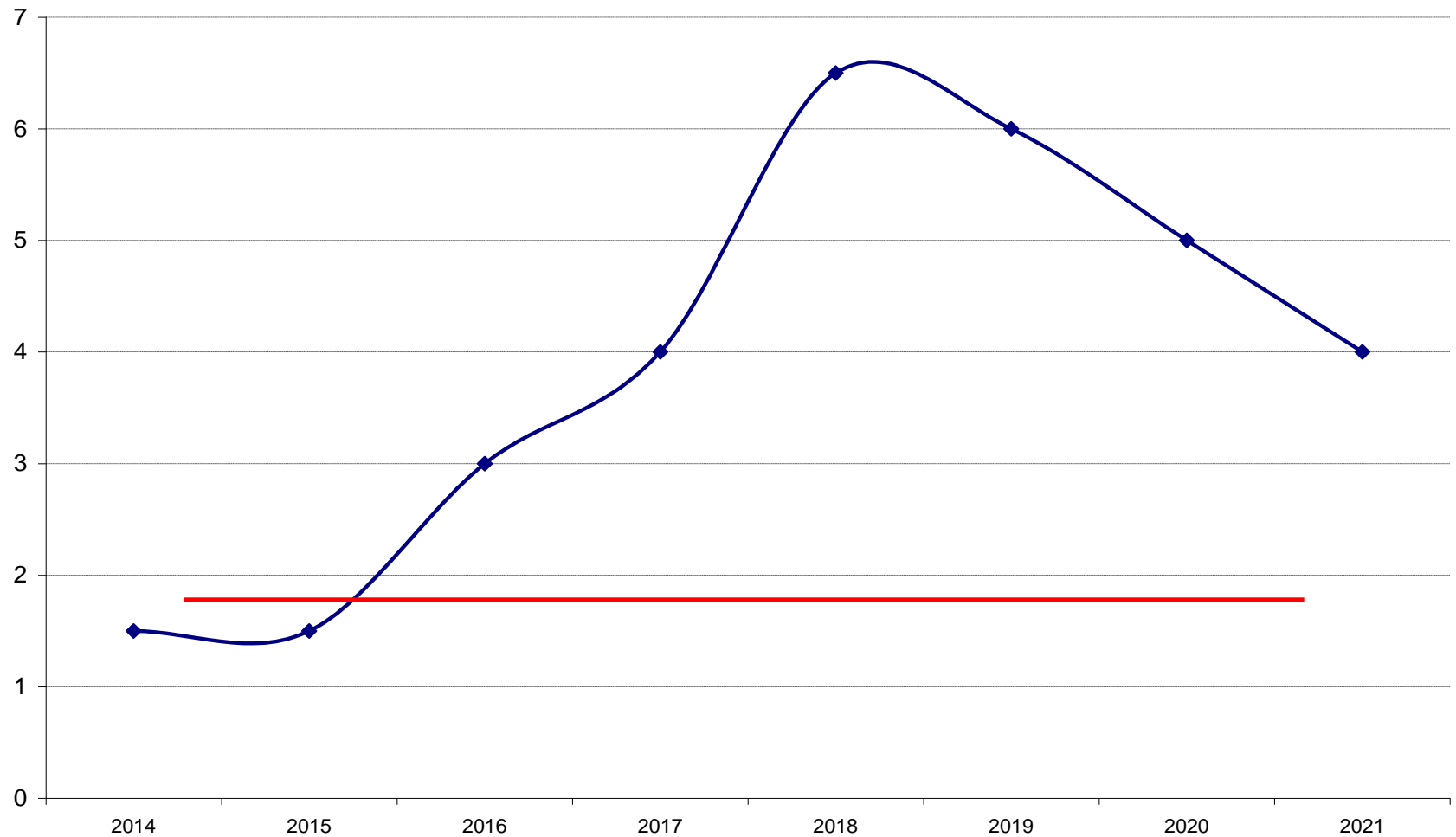
Estimate Cost of 1 EPR nuclear reactor £6.5bn

@ 10.0% pre-tax return = £650m of profit per annum

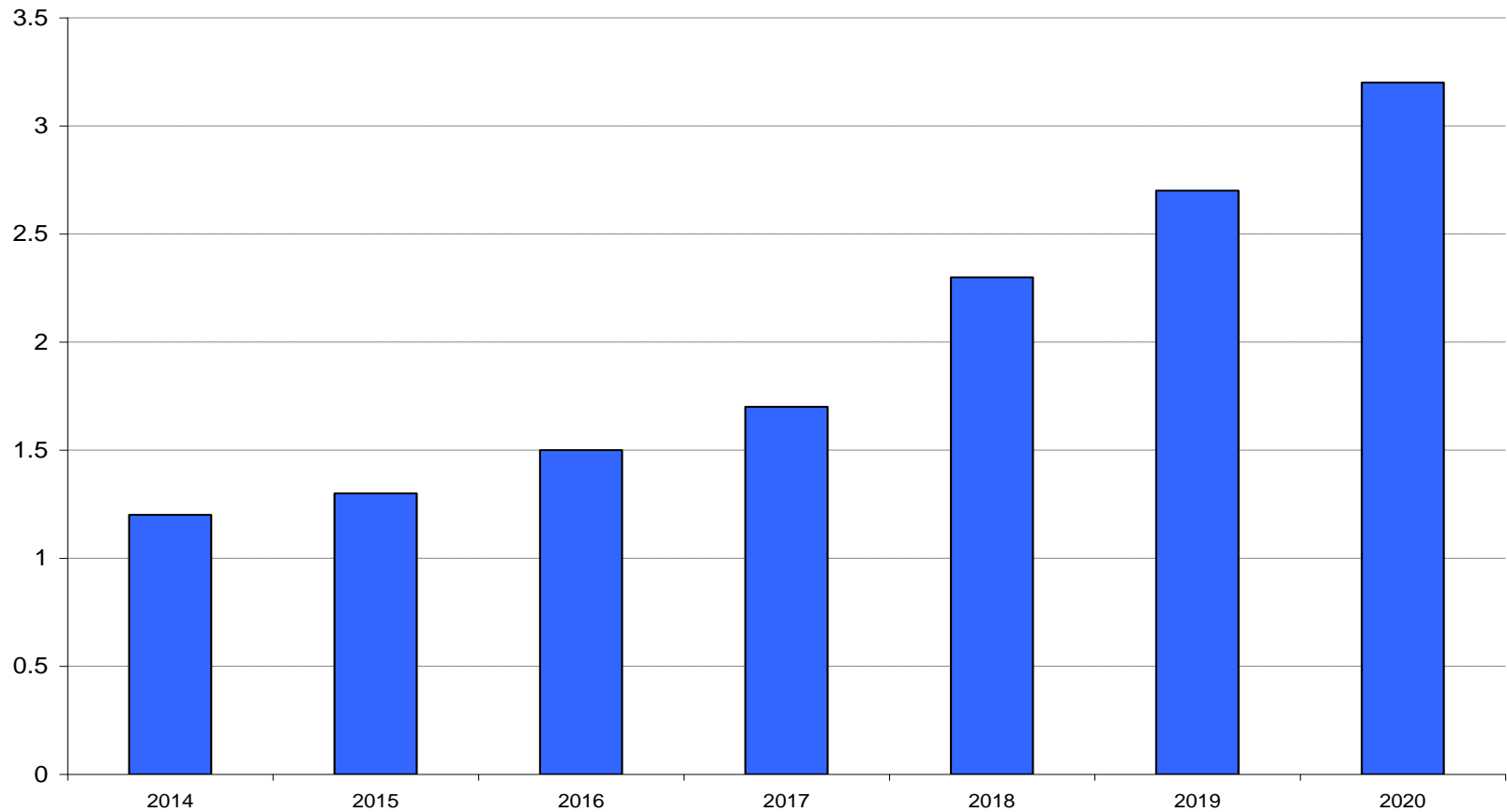
British Gas Operating Profit 2012 = £606m



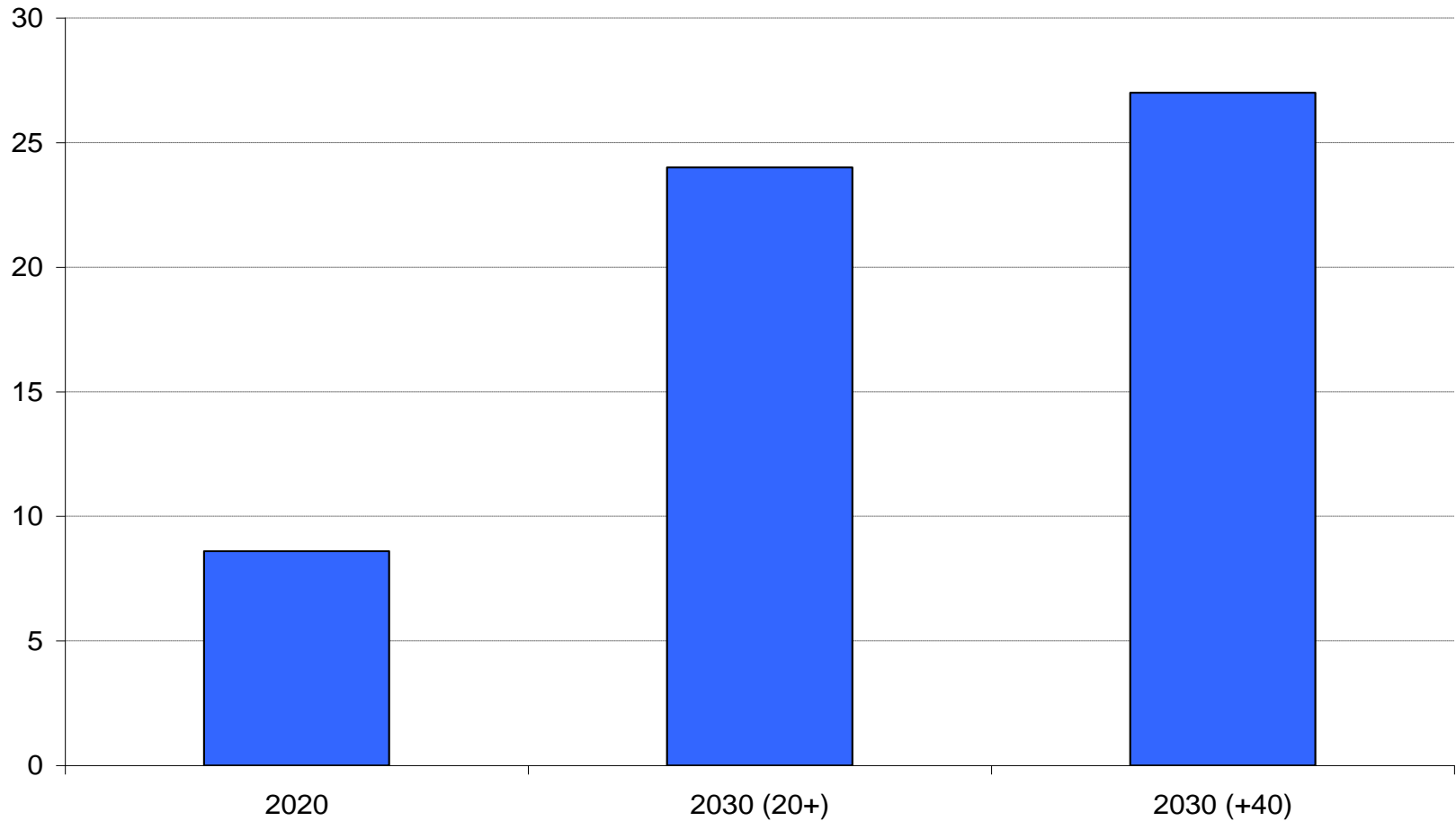
SSE – Capex Profile (£bn)



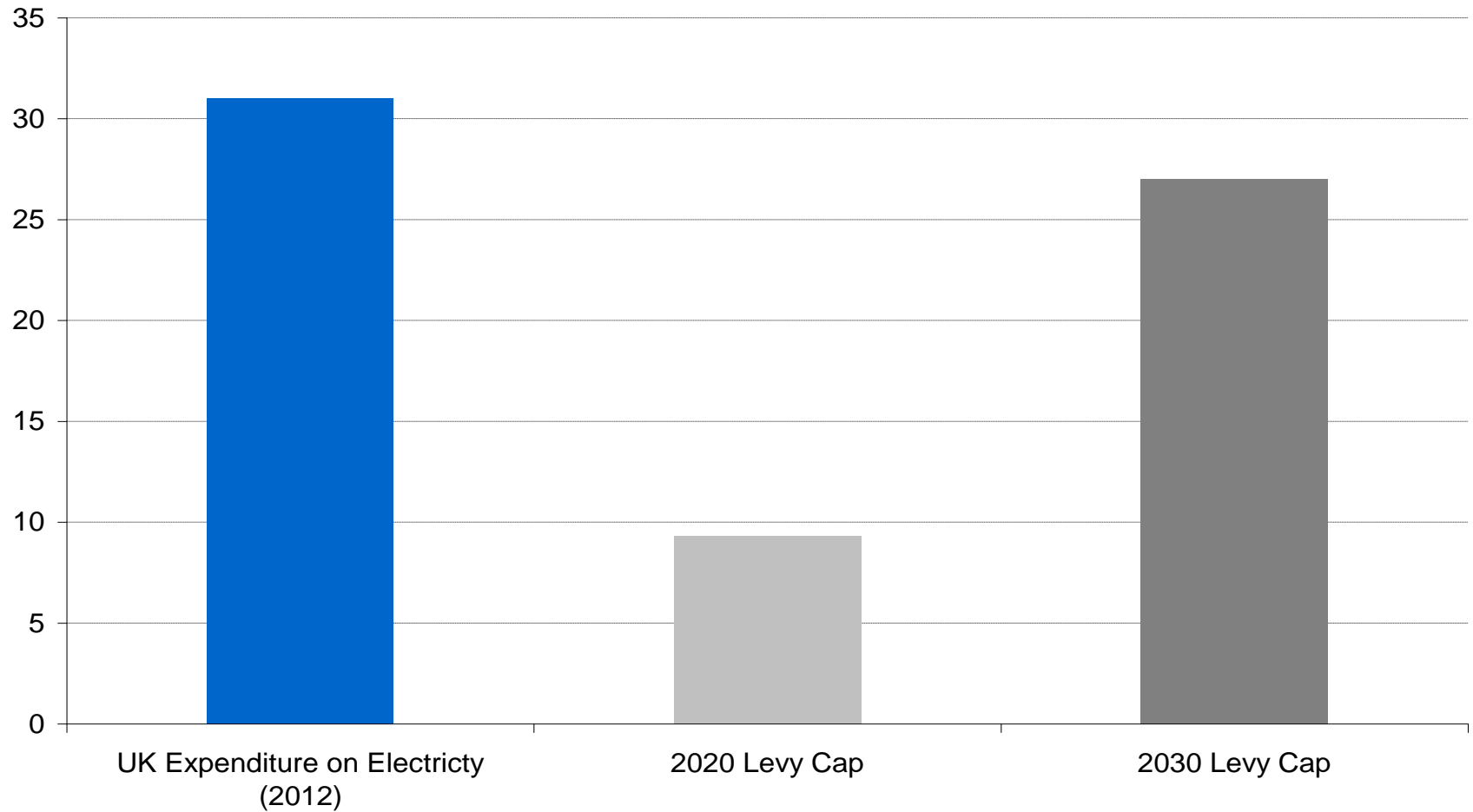
SSE: Post Tax Profit Scenario (£bn)



Cost to the Consumer – The Levy Cap (£bn)



The Cost to Consumers



UK Energy Policy is not Plausible

- EU policy has grossly underestimated the engineering, financial, and economic challenges posed by the drive to decarbonise the electricity sector by 2030
- The EU's climate change driven energy policy does not / can not take proper account of security of supply and affordability
- £160bn cost to 2020 and £376bn to 2030 not financeable at a cost that the public is likely to be willing to bear
- Policy requires firms to build assets that are fundamentally not economic. Therefore govt has had to intervene in ever more aggressive ways into the energy market. Intervention has begot intervention
- It is now impossible for any power station to be built unless govt underwrites economics
- Economic rationale for being in the vanguard of decarbonisation looks weak to extremely poor



Five Key Questions for Investors

Have UK policy makers learnt the lessons from Europe over the past 5 years and adjusted policy accordingly?

Is UK energy policy robust across the political cycle?

Are you certain that UK consumers are able AND willing to pay the costs?

Are you certain that future UK governments will support BOTH the inevitable rise in bills & the rise in profits

Can you properly price political risk?



Other Conclusions

- EU policy makers have failed to take into account of the huge changes in the economic, commodity and financial environments and adjust policy accordingly.
- Given the hostile rhetoric that utility companies face from across the political spectrum on bills and profits today, it takes quite a leap of faith to believe that future governments will steadfastly defend the huge bill and profit increases that will inevitably result from current policy.
- Political risk is bound to rise sharply in the UK energy space in the coming years as the inherent implausibility and contradictory nature of the policy goals are exposed by events.
- A crisis in UK energy policy looks increasingly likely and therefore utility companies and investors would be prudent in limiting their future exposure.
- A client state of rent seekers has been created by the €40bn plus pa subsidy stream across the EU. The lobbying power of the rent seekers outweighs that of the consumer meaning that necessary policy corrections are not made



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