

Labour's energy policies

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October 2013

Introduction

1. The leader of the Labour Party, Ed Miliband, announced in his autumn party conference speech a series of proposals for electricity prices and electricity market reform. These include:
 - A price freeze for 20 months from the date of the General Election in May 2015.
 - A Pool for the wholesale electricity market.
 - The break up of the Big Six energy companies.
 - The abolition of OFGEM and its replacement by a new regulatory body.
 - An Energy Security Board.
 - The decarbonisation of the electricity system by 2030.
2. These proposals are set alongside the commitment to retain the contracts for differences (CfD) in Energy Market Reform (EMR), and to give new borrowing powers to the Green Investment Bank. There will also be a route map to the creation of one million new green jobs.
3. In the aftermath of the speech most attention has focused on the price freeze proposal. This has undoubtedly been politically popular, as reflected in opinion polls, and has captured the concerns about the impact on the cost of living in a context of the squeeze on real incomes and the rises in utility bills.
4. There are many criticisms that can be levied against the price freeze proposal. These are detailed below. But it is also important to ask how well the package of measures fits together, and whether the other elements have merit and what their effects might be.
5. This paper looks at each of the components in turn, and at how they link together. Having examined each of the components in turn, the paper turns to some of the wider considerations raised by Labour, and the extent to which the consequences of these proposals are likely to be much more radical than so far appreciated. It asks whether the scope and nature of state intervention is likely to intensify, whichever parties form the next government.

The Price Freeze

6. The headline proposal to freeze electricity prices for 20 months is set in the context within which Labour would reform the electricity market. It is a temporary “holding the line” measure—since the reforms will take time. The presumption is that in just 20 months, Labour’s reforms will be pushed through, and will have had sufficient effect to ensure that prices are “fair” thereafter.
7. The rationale for the measures is the assertion that the Big 6 have been exploiting customers, pricing in excess of costs and therefore extracting monopoly rents from customers. Various statements have been made about profits and dividends, but the surprising thing is that no detailed evidence has been provided that profits have in fact been excessive.
8. It might reasonably be claimed that the market is not transparent, and the nature of the vertical relationships in the industry mean that it is hard to tell how appropriate the profits have been. But Labour has gone well beyond this point—it “knows” that the returns are excessive.
9. This “knowledge” underpins the policy to replace OFGEM, which Labour asserts has been ineffective in protecting customers.
10. The reform of the market is designed to make it transparent. Then it will be possible to see what is going on. But it is very hard to reconcile the notion that current arrangements are not transparent with the apparent certainty that Labour knows what the returns have been—and should have been.
11. The obvious remedy if there are suspicions of market abuse is competition law. The sorts of behaviours that Labour claim have been going on are either illegal or, at a minimum, the sorts of things the Competition Commission should investigate. Labour definitely accuses the companies of abuse of dominance, possibly of discrimination, and must as a result be asserting some form of collusion.
12. To the extent there is merit in these claims, Labour should be demanding a Competition Commission inquiry—and indeed in its criticisms of OFGEM should question why OFGEM has not encouraged such a reference.
13. A Competition Commission inquiry would provide the basis for an impartial analysis of these various claims and this analysis could be made available as interim and final conclusions in time for the next General Election, and hence provide the basis for Labour’s actions—should it win in 2015.
14. The policy would not then be so populist, but it would have a core rationale. It might then be of the form: “Labour demands a CC reference now, and if the CC finds there has been market abuse, it will bring forward a reform package and consider whether and to what extent there is a case for the regulation of prices”.
15. Rate of return regulation links prices to costs. It has a respectable heritage, and there are cases to be made for and against it. The case for it is that there can be no

possibility of excess returns—they are regulated. Companies cannot make excess returns. Prices are related to costs. The case against it is that the companies have little incentive to minimize the costs upon which the prices are based.

16. Labour's proposal is entirely different: Labour proposes to fix prices *irrespective* of costs. This is wholly innovative and the most damaging and ill-considered aspect of the reform package—indeed it may even undermine most of the rest of it.
17. The price freeze takes an arbitrary starting point—May 2015—meaning that whatever the behaviour of costs after this date, for at least 20 months prices will not change. Some costs could go up or down—especially input fuel costs. Coal, oil and gas prices could fall—or they could go up. The companies could make losses or excess profits on this component.
18. In principle, if fuel inputs were the only element of costs that might change over the 20 months, then the companies could in effect offer a 20 month fixed price contract. They could, in April 2015, set prices on the basis of the expected future profile of these fuel costs. They could even forward contract. This bit of the price freeze might therefore be arbitrary, but provided the companies can reset prices on a forward basis in April 2015, its impact might be slight.
19. Unfortunately Labour has been quite clear that will act aggressively against any price increases ahead of the General Election. Hence in practice the result may be rather more damaging.
20. But costs are not limited to fuel inputs, which might go up or down. There are a whole host of other costs—at least 50% of the total costs—which are asymmetric. They can only go up in the 20-month period. Thus it is almost certain that—unless gas prices collapse—costs will rise whilst prices are frozen.
21. These costs are in large measure associated with the state interventions that increasingly dominate the electricity market. Whilst Labour (and the government) is keen to talk up competition, the direction of policy has been increasingly to replace markets and competition with state-backed contracts. Onshore and offshore wind, solar panels, and biomass are all based on government-determined subsidies passed through to electricity customers. The grid charges reflect grid investment partly to support the intermittent renewables on the fringes of the existing systems. Extra capacity is needed to manage the intermittency too. Then there are energy efficiency subsidies, many with a social element. Customers are paying for the roll out of smart metering. There is the EUETS and the Carbon Floor price levy. Later on—beyond the 20 months—nuclear will get the benefits of a fixed price deal too.
22. The Labour party is all in favour of these measures. Energy efficiency and renewables are key priorities. As will be discussed below there are arguments on both sides in respect of the many green interventions, but the key innovation from Labour is the idea that the companies should incur the increasing costs, but not pass these through to customers. It is a route pioneered by the Spanish with

disastrous results. In Britain, it is hard to think of any measure better designed to undermine incentives to invest.

23. The best way to interpret Labour's price freeze is as an *ex post* profits tax of uncertain magnitude. Since customers will receive electricity at below costs, the result is a tax on shareholders. On occasion this has been admitted: Labour spokesmen have pointed to the idea of clawing back "excess profits". The companies can "easily afford it".
24. The 20-month period begs an obvious question: what happens after 20 months? Is it really plausible to imagine that the prices will be deregulated at this point—and that since the costs will almost certainly have gone up, the companies will be free to announce big price rises in the 21st month even supposing that the Pool reforms were implemented by that date?
25. Why would any rational investor believe this? The political world is littered with *ex ante* claims by politicians that they will only do it once—that they promise to keep their hands off afterwards. This is the same sort of claim as is being currently being made about the EUETS backloading. It is of the form: "I know I am sinning now, but I promise to be good hereafter...."
26. A moment's reflection points to exactly the opposite conclusion. The political pressure has built up to an extent that notwithstanding the competitive market mantra, Labour has decided it has to intervene. Once this is done—and has proved politically popular (and especially if it turns out to be an election winner)—why would it not intervene again? Credibility is very hard to build up—and easy to lose. As we shall see below this may have profound consequences for investment and future state involvement. It is a route toward state investment, having undermined private investment incentives. The state cannot stand by if power stations are not built. It will have to do the investment itself.
27. Labour skirts round the investment issue, and yet we already face an energy crunch because there has not been sufficient investment.
28. Just when Labour's price freeze is supposed to start, Britain will be facing a very tight (and possibly negative) capacity margin. In other words just when the price mechanism is going to be vital to keep the lights on, Labour will cut it off at the knees. As supply and demand converge, prices should rise to effectively ration the available electricity. If the price cannot rise, demand will exceed supply and there will have to be some form of physical rationing. It is either price or quantity as the shock absorber of the energy crunch.
29. Faced with an energy crunch and a price freeze, a Labour government after 2015 will have, in effect, taken back control of the industry. It will need immediate command-and-control mechanisms to keep the system running, and it will probably need taxpayers' monies to ensure the solvency of the companies. It might even be forced to engage in a form of implicit—or conceivably explicit—nationalisation.

30. With an urgent need to build new power stations, it is hard to think of anything that could create a greater deterrence to investment than undermining confidence in the ability to get the invested monies back. At a stroke, uncertainty will have gone up not only regarding the 20 months, but also about what happens thereafter. This must raise the cost of capital, and in turn mean that electricity bills will be higher than they need be—or taxpayers will have to pay more.
31. This failure to consider the investment incentives is something that Labour might have focused on, if only because the obvious criticism of the Big 6 is that—faced with a looming energy crunch—they have not been investing. Failure to invest is one of the signs of possible competition failures. This in turn would turn attention to the state for the balance sheets of some of the companies, the M&A activities and the problems faced by entrants in generation in trying to take on the Big 6.

The Pool

32. At privatization, the case for a single unified wholesale market was rejected in favour of a dual market design—a Pool, and a capacity market. Almost from the outset, there was pressure to push over the Pool, and the gaming of the capacity market undermined its credibility. At the end of the 1990s, the energy companies and the regulators succeeded and the dual market design was replaced by NETA (and eventually—once Scotland was integrated—by BETTA). This was a big mistake, and Labour is right to return to the question of the market design, and in particular to the Pool.
33. The reason why the generators hated the Pool was because it was so obvious and transparent what they were up to. The Pool was compulsory: almost all electricity had to be sold in the Pool, and anyone could buy from the Pool. This compulsion meant that it was liquid and transparent, and it also meant that vertical integration between generation and supply could not be exploited by putting in place favourable contracts within companies, outside the wholesale market. It is no accident that as soon as the fate of the Pool was determined, the generators got into the business of vertical integration.
34. Once contracting was voluntary, and bilateral contracts could proliferate, it was no longer possible to work out what was going on. If for example world prices of fuel inputs went down, vertically integrated companies could point to their contract structure to explain why these fuel prices did not automatically follow through to customers. Independent suppliers could not easily access electricity on non-discriminatory terms—for the very good reason that it was very difficult to work out what non-discrimination might mean in a world of plural contracts. Independent generators had, once vertical integration became ubiquitous, to sell to the suppliers owned by their competitors.
35. Vertical integration further undermined transparency because it was not easy to see where the profits were being earned. Was it the seller (the generator) or the supplier (the buyer) who was making the money—when they were the same

company? It remains the case now that understanding the profits of the vertically integrated companies is extremely complex.

36. For the first regulator, Stephen Littlechild, there was a principle at stake here. Since the market was becoming a competitive one, open to entry, market power could not be exploited. But compulsion was a problem, because it stopped generators being innovative in designing contracts and tariffs to match their customers' needs. Compulsion was a barrier to greater competition.
37. Though there is a neat intellectual rigour to this argument, it fails on a number of counts. The first is that the function of a wholesale market in electricity is to instantaneously match supply and demand in a merit order to reflect the short run marginal costs of the generation units. Bilateral plural contracts can undermine this merit order—and indeed they have done so. There are many markets where some form of compulsory element is required. Financial markets are a good example—the stock exchange lays down detailed rules about who can trade, when and in what form, so that markets clear.
38. The second failure of Littlechild's argument is the killer. The electricity market is never going to be perfectly competitive. It is riddled with market failures and it will always tend towards an untidy mix of larger oligopolists and a smaller fringe. It will always have regulation looming over it, and it is almost inconceivable that there will not be lots and lots of interventions. There is a world of difference between letting perfectly competitive markets do what they like, and allowing the Big 6 to contract how they like. For all the coherence of Littlechild's vision, the end destination he envisaged is not going to arrive anytime soon—if ever.
39. From the outset, NETA created the very problems some (like the author) predicted. The determination with which Callum McCarthy (Littlechild's successor at the new OFGEM), pursued NETA is well known. Criticism was pushed aside. The independent generators cried "foul" over liquidity and market access, and for over a decade OFGEM struggled to force more liquidity into the market, through such mechanisms as the auctioning of a percentage of generation. Such auctions were in reality an attempt to get back to the Pool, which OFGEM played such a powerful role in destroying. Indeed the irony of recent OFGEM initiatives is that if it keeps going down its current path, it will create a *de facto* Pool-type market.
40. The difference between the OFGEM evolution towards auctioning and the Labour policy is compulsion. This is the discrete step that transforms the market back to the liquidity and transparency which is needed—and opens up entry to independent generators and suppliers.
41. McCarthy pushed another argument—that the unified single Pool would not only get rid of the discredited capacity market, but it would also ensure sufficient investment. This argument has turned out to be highly suspect in both principle and practice. In principle there is a very special problem in electricity that the market design needs to address. It is this: since there is little or no storage (yet), supply has to instantaneously meet demand. There can be no inventories—no back

up stocks in the warehouse to draw upon. But demand is not known with certainty in advance. Hence there needs to be a capacity margin—a cushion to call upon if demand turns out unexpectedly high, or there is a supply failure. Here comes the crunch: no rational capitalist would ever deliberately create excess supply; since this excess would overhang the market and depress prices.

42. Worse, under NETA the signal for new investment is that the unified price rises above the entry price—and investors are assumed to be able to bank these price spikes when their investment comes on stream. Putting aside for a moment the problem of predicting future price levels and spikes, NETA creates the very special incentive for the oligopolists. The best of all possible worlds is where nobody invests. As supply and demand close up, the price spikes upwards, and supernormal profits result.
43. This is just where we are heading. In the face of an energy crunch in 2015/16 (and perhaps earlier as economic growth recovers and the Green Deal fails to deliver demand reductions), investment is noticeable by its absence. There are various reasons for this lack of investment, but whatever they are, the results may be very profitable in the absence of intervention.
44. The obvious conclusion is that investors need to be paid to provide the capacity cushion beyond mean expected demand. This is the insurance margin. The way to do this is to have a capacity mechanism, and this can be delivered through a capacity market.
45. It was a mistake to jump from the obvious failures of the capacity market created in 1990 to the conclusion that the right answer was to have no capacity market. The right answer was in fact that the existing capacity market had to be replaced by a capacity market fitter for its purpose.
46. As the capacity crunch looms (coinciding with the next election) prices under NETA are designed to go up. No new investment will be forthcoming before 2016. McCarthy's successors (John Mogg and Alistair Buchanan) have presided over a slow motion train crash. Remarkably in Buchanan's case, at the very last minute as he was about to leave, he warned of a crisis. In part, the cause is deep in OFGEM's history and culture: OFGEM pushed through NETA, faced down critics (like the author) and then when the very consequences predicted by the critics began to materialize, OFGEM cried "crisis". How a regulator could preside over this slow motion crash is one of the questions to be addressed in the reform of OFGEM to which we return below.
47. It is beyond the scope of this paper to describe the appropriate market design in detail. In outline it is a Pool plus a two-stage medium- to longer-term auction of all capacity—including that currently covered by the FiTs—into a unified capacity mechanism, tailored to the decarbonisation targets and carbon budgets. The author explained this to the then Secretary of State for DECC, Ed Miliband, in 2009. (It is not the capacity markets currently being developed under EMR).

48. In conclusion, Labour is right to propose a return to a Pool model. What's missing is the rest of the architecture that goes with it—the creation of a functioning capacity market to go alongside the Pool, and the integration of the FiTs into this capacity market. Unfortunately, Labour has committed themselves to the Feed-in-Tariff (FiT)-based CfDs in its eagerness not to appear too radical.

The Breakup of The Big 6

49. Added to the Pool proposal, Labour has spoken of “breaking up the Big 6”. This proposal is a bit vague. It is unclear whether it will be made illegal to hold both a generation and supply licence, whether there will be regulatory measures to strengthen the ring fences round the generation and supply licences, or whether the Pool reform will do the job.

50. The discussion above identifies the compulsory Pool as the key measure, which renders vertical integration much less attractive. If all power has to be sold in the Pool, and all buy at the Pool price, then new entry from generation and new entry from supply would be on the same price basis as the incumbents.

51. The capacity market can reinforce this competition. If new generation competes in a single capacity auction (2 stages) then there is no advantage to the incumbents. The entrant gets the capacity contract—and hence the capacity payments—and they sell their power into the Pool. It is simple, transparent and the playing field is level.

52. Faced with these changes to the market design, the Big 6 will then have to consider whether they want to be in both supply and generation. The skill set is very different, there are no portfolio advantages (these are all contained within the Pool which is the biggest portfolio possible within an electricity system), and the financial structures will diverge to reflect the asset base for generation and the lack of an asset base for supply.

53. The size of suppliers will reflect a combination of the obvious economies of scale in customer handling and also the ability of suppliers to sculpt their businesses to market segments and perhaps to offer wider energy services. Even the scale economics may be altered by the coming of smart technology and the convergence through the bigger datasets with other utility services and indeed other customer services from more traditional retailers.

54. Should Labour force divestments? It may not make much difference to the market outcome, but it will cause two difficulties, both practical and important. First, the process of forced sales simultaneously by all will create very considerable practical concerns about the process and the market in the divested assets. Second, it is important in the transition to a Pool to keep as much as possible of the corporate architecture in place, so that one big change (the Pool and the capacity market) is not combined with uncertainty about ownership.

55. It is probably the case that the problem of vertical integration will be much diminished in this new Pool-based world, and forced break up should not be a priority. Indeed it may be worse than a distraction in the transitional process.

OFGEM

56. If the market has failed customers, it is an obvious step for Labour to ask whether the regulatory body charged with looking after customers has been doing a good job. Labour claims OFGEM has failed, that it ought therefore to be abolished and replaced with a new body with “real teeth”.

57. This is quite a remarkable U-turn for Labour. Labour created OFGEM, putting customers at the top of its duties, and presiding over the appointments of its chairman and chief executives. Labour in opposition in the 1990s promised large-scale utility reform, launched a review process under Margaret Beckett at DTI and eventually came up with the relevant energy and utility acts.

58. There are at least three lines of argument in the case for reforming OFGEM: its approach to examining the retail markets to see if there is abuse and if so to propose remedies; the expansion into major administrative functions under the banner of “E-Serve”; and its approach to network regulation.

59. The charge sheet against OFGEM has some merit. There has been one inquiry (or “probe” as OFGEM likes to call them) after another into market conduct. These tally more than 17. The sheer number of inquiries suggests that there is *prima facie* evidence of “problems”. The obvious conclusion has repeatedly been to make a reference to the Competition Commission. Why the reluctance?

60. The answer is in part that sectoral regulators tend to be jealous of their authority and do not like the competition authorities coming in to question their judgments. But it is also in part that OFGEM considers that its Retail Market Reform programme will solve whatever problems there might be. For OFGEM—and indeed the Prime Minister—the complexity of tariffs has made it hard for customers to switch to better deals. Mis-selling—notably in cases involving RWE and on a very significant scale SSE—has reinforced the perception of market abuse.

61. OFGEM’s answer is to reduce the number of tariffs to 4 in response to the PM’s desire that everyone should be put on the lowest tariff. This is a dog’s dinner—quasi-regulation without many obvious benefits. The real issue—the retail margins—has been avoided. OFGEM has apparently concluded that margins of around 5% are perfectly acceptable. Why? Why should retailing electricity attract the sort of margins that supermarkets (with all their shops, stocks and associated costs) cannot?

62. The core question—which it is reasonable for Labour to have expected OFGEM to answer—is: are the suppliers making excess returns? There does not seem to have been a convincing answer.
63. The second line of attack is the role of OFGEM extending out from its core regulatory functions into administering government schemes. A whole new division has been created: E-Serve. It employs a large number of people, and because this function is administrative it brings in a requirement for a different skill set and must distract the management. The difficulty for Labour here is that it started this expansion into administration.
64. The third challenge area is network regulation. Here OFGEM has a strong defence to make. It launched RPI@20, a process of reassessing the regulatory framework after RPI-X had completed 20 years. The process was open, transparent and has come up with important new approaches. These include extending the regulatory period to 8 years, and indexing the cost of debt. Less appealing has been OFGEM's foray into making what are public policy choices—for example setting up a £500 million low carbon fund for companies to bid for—to be paid for by customers.
65. These three lines of attack lead to some possible policy reforms. The role of the new Competition and Markets Authority (CMA) could (and should) be beefed up. The concomitant powers should be exercised by the CMA. Competitive entry in generation and supply has not been a notable success. It might even be better if all the competition aspects were transferred to the CMA.
66. The administrative functions could be split off to be performed either by an administrative body or by private companies under contract. OFGEM has gradually crept into territory that might be better regarded as the job of the Environment Agency or some other environmental body.
67. On network regulation, the reform agenda focuses more on the content of that regulation, rather than who should do it. The policy issue is how to join up this regulation with the wider government objectives, and indeed how to define the relationship between OFGEM, DECC and the System Operator (SO).
68. Over and above these three areas, there is a wider question, which is hinted at in the Labour proposal to abolish OFGEM. It is the question of whether it has got the big questions right, asked those questions, and contributed to a good outcome for the customers and the economy. There can be little doubt that on its watch the investment dimensions have been seriously neglected. With a prospective capacity margin close to zero by 2015/16, it is relevant to ask: what was OFGEM doing? Its outgoing chief executive only publically rang the alarm bells as he was leaving the job. Why had OFGEM not noticed? Why did it not understand that the NETA reforms would not adequately incentivize investment?
69. Indeed, OFGEM has been lucky that an energy crunch has not come much earlier. Only the economic crisis, with GDP by 2012 more than 20% below what it could reasonably have been forecast to be back in 2005, saved Britain from an earlier

crunch. Buchanan put the blame for the lack of investment on the credit crunch and the economic crisis. Though these cannot have helped encourage investment, but for the falls in demand as GDP first fell sharply and then stayed close to zero, the crisis would have come even sooner.

70. Thus the claim that OFGEM has been “asleep at the wheel” is a very powerful one: it has not adequately tackled the issue of profits and rates of return, it has studiously avoided referring the companies to the Competition Commission, and it has failed to notice the fundamental problems of investment.
71. Regulators fail. Regulatory regimes should not be designed on the basis that all regulators will be good regulators. The choice for Labour is whether the best way forward is to abolish OFGEM and start again, or reform it.
72. There is much to be said for reform rather than abolition, even if the nameplate is changed. There are legal obligations under the EU Internal Energy Market directives. There has to be an independent regulator. Networks—and network periodic reviews—have to be administered by someone.
73. If Labour wishes to be radical, the package of measures might comprise the following: transfer competition matters to the new CMA; split off the administrative functions; and focus OFGEM on its core network regulatory functions. This would fit with the new institutional framework within which DECC and the SO are, in effect, the central buyers and determine the level of investment and the choice of technologies.
74. A final step, which would have very considerable merit, is the merging of the network regulators together in one single body. Labour toyed with this idea back in 2000, and it would bring consistency, wider expertise and lower administrative burden.

An Energy Security Board

75. The proposal to create a new Energy Security Board is a recognition that security of supply falls between the gaps—between OFGEM, DECC, the SO, and the Committee on Climate Change (CCC). Labour is right to highlight the need to give security of supply a clear institutional focus.
76. The question to which the Energy Security Board is supposed to be an answer is a rather complicated one. It is fashionable to say that the objectives of energy policy are security of supply, decarbonisation and affordability (sometimes stated as competitiveness). The easy assumption made by both Ed Miliband as DECC Secretary of State and his two successors Chris Huhne and Ed Davey is that these are natural bedfellows. Security of supply appears to mean to them a reduced dependency on imports and a reduced dependency on what they claim are high, rising and volatile gas prices. Decarbonisation means renewables—which they all claim will become cost competitive as the price of fossil fuels follows the rising

path they assume. As a result, there is the happy effect that electricity will be more affordable based on the eventually cheaper renewables.

77. This is a fantasy. Import dependency does not necessarily reduce security. Strategic storage addresses both oil and gas import dependency. Indeed remarkably Michael Fallon, the energy minister, thinks that we are so secure in our gas supplies that we do not need more storage. There is nothing inevitable about rising fossil fuel prices. The price of coal has fallen sharply, the shale gas revolution (and shale oil) has radically changed the world outlook on supplies (and undermined the peak oil theories too), and there is no good reason to expect gas prices to keep on going up.
78. The current renewables are unlikely to be cost competitive anytime soon: the subsidies will not wither away, but rather will have to be permanent if wind farms, solar panels and biomass are to be our primary sources of electricity in the decarbonized context of Labour's 2030 target discussed further below.
79. To see the absurdity of the idea that the decarbonisation agenda is an easy bedfellow with competitiveness, consider what the fantasy identified above would imply. If fossil fuel prices are to go on rising, then presumably international energy intensive industries would be flocking to locate in places like Aberdeen to get access to what would then be cheap offshore wind. The US would be in serious trouble, locked into higher and higher cost fossil fuels. The contrary is (perhaps sadly) the case. The world is awash with fossil fuels, enough to fry the planet many times over, and new energy intensive investment is going to the US, not Europe or Britain. It may be that carbon leakage is limited, but that is not the point. It is not about companies leaving: it is about new investment.
80. The difficult political and institutional challenge is how to reconcile objectives which sometimes conflict. This is a political job, and one that politicians almost always try to shirk. It is true that the Climate Change Act sets out the carbon targets and the CCC proposes the Carbon Budgets. But as is increasingly obvious, these targets and budgets are subject to two core energy policy tests: customers (and industry) must be able to pay the resulting bills; and if they can pay, they must be willing to vote for politicians who will force them to pay. As is patently obvious from a string of budgetary and polling data, neither of these tests necessarily holds. Indeed the very essence of Ed Miliband's price freeze proposal is to relieve customers from paying for the electricity industry's costs—long before the wall of renewable and other decarbonisation costs come through.
81. It is possible to imagine a body parallel to the CCC looking at energy supply. At one level, it could come with an Energy Security Act, setting a required capacity margin and then setting out 5 year capacity requirements, with a duty to propose rolling capacity requirements. A slightly more modest route would be to combine the DECC, OFGEM and SO work currently undertaken and give it to this new Energy Security Board. The difference might be in the independent and expert nature of the new Board.

82. Taking on these functions changes those of the remaining institutions. The CCC's role means that DECC's role in all things to do with carbon targets and budgets is diminished. Analogously, the Energy Security Board would have implications for DECC and the SO. The DECC relationship would be one of overlapping functions, since presumably the Secretary of State would have ultimate political responsibility, and hence want his or her own advice (as happens increasingly in the carbon case).
83. The SO is the elephant in the room. It is a private business carrying out public functions. It has *de facto* some elements of the duty to secure supplies already. It has been given a central role in advising the Secretary of State on how much capacity is needed. It has lots of modeling expertise, and it will play a central role in both short and medium term capacity mechanisms. It makes little sense to graft on yet another institutional structure without addressing what the SO does.
84. One option if Labour wanted to be radical would be to consider nationalizing the SO, and using it as main security mechanism, and hence rolling the Energy Security Board functions into one unified body.
85. Nationalisation is however a politically contaminated concept, and there is another alternative—again radical. Labour could propose a single Energy Agency, which would be charged with meeting the twin objectives of security of supply and decarbonisation, setting out the investment framework to meet both objectives, and providing the basis of the capacity auctions, which would then be the instrumental job of the SO to carry out. This would leave the third objective—affordability and competitiveness—to OFGEM and the CMA respectively. It would clarify the consequences for bills of decarbonisation and security.

Decarbonisation by 2030

86. Ed Miliband was emphatic that a Labour government would mandate decarbonisation of the electricity sector by 2030. There is little doubt that in the event of a Labour-Liberal Democrat Coalition, this too would be the policy.
87. This is political judgment for politicians to make. But it is beholden on politicians to explain what the question is to which decarbonisation by 2030 is supposed to be the answer, how this will affect security of supply and customer and industry bills, and how it relates to the other parts of Labour's policies.
88. It is far from clear that a unilateral British carbon target for electricity will impact on climate change—the ultimate target of policy. How will British electricity sector decarbonisation affect global carbon emissions? The answer is far from obvious, but it is not hard to construct a case in which it may actually make global emissions higher than they otherwise would have been. This is quite likely to have been the case so far. The reason is that the target takes no account of carbon *consumption*. Making electricity (possibly extremely) expensive in the next 15 years may simply encourage a substitution towards energy intensive imports.

Between 1990 and 2005, carbon *production* in Britain fell by over 15%, but carbon *consumption* went up nearly 20%. Most likely the effects of Labour's 2030 target will not be so extreme, but it is important to keep an eye on what really matters.

89. The next point to make is that the chosen renewables technologies (with the possible exception of nuclear) cannot make much difference to global warming. Wind in particular is a low density, dispersed and intermittent source of power. Solar, though in the medium to longer term somewhat better, shares some of these characteristics. Biomass—burning wood in power stations—has its own problems. Trees are the ultimate Carbon Capture and Storage (CCS) technology. They store carbon. Cutting them down, turning them into wood pellets, shipping them and then burning wood in a power station is more medieval technology than credible solution to climate change. In some circumstances biomass makes sense, but it is unlikely to be a major solution until new plant materials come along, if ever.
90. 15 years is a very short time in electricity. It is at best one investment cycle. If the electricity sector is to be decarbonized in 15 years, the scale and nature of the investment programme is awesome. Bearing in mind that most of the existing nuclear power stations will be taken offline before then, and only some new ones are likely to be built, and that the existing renewables are as yet a small proportion of the total generation, large swathes of Britain will need to be covered in wind farms and solar panels on a break-neck speed investment roll out.
91. This could be done. Britain did turn itself from a peacetime economy to fight the battle of Britain in 1940 in about 5 years. But it is a massive national effort, and it would be greater than anything seen in peacetime to do it in just fifteen years. It would absorb a considerable amount of resources.
92. It is for politicians to decide whether this strategy is merited. But if that is the decision then it is also beholden to them to set out the path to achieve their objective in a credible way. Perhaps the most important part of that path is the financing, and that in turn assumes that the required revenues to support the investments will be forthcoming. That means that prices must reflect costs, and if the costs are to rise, so must prices. The greater the ambition, the greater the costs.
93. Here is where Ed Miliband's policy announcement has the greatest difficulty. As a first step (in effect the first 2 of the 15 years) he announced that irrespective of costs, prices would be frozen. This means that the rising costs of adding renewables to the system will not be paid for.
94. If the decarbonisation strategy is to be credible, then there must not only be a return to cost pass through in 2017, but also a price rise in 2017 to claw back the costs not recovered in the previous 20 months.
95. It is hard to think of any policy and short-term measure that could do more damage to the decarbonisation agenda. Not only will it cause a hiatus—reducing the 15 years to just 13, but also it will increase the cost of capital for the remaining 13 years, making the expensive renewables even more expensive.

96. The option of transferring the costs to taxpayers rather than customers does not solve this problem. Taxpayers and electricity customers are not on different planets. The costs have to be extracted from the economy, and ultimately from household budgets. Putting the cost on taxpayers changes the distribution of who pays. But people still have to pay. Worse, the costs then go into the wider budgetary calculations. A cursory glance of the manipulation of prices and taxes under the nationalised industries should give those who advocate the 2030 decarbonisation target for electricity some pause for thought.
97. Sadly, there really is a choice between accelerating decarbonisation and increasing bills. Ed Miliband wants decarbonisation *and* lower energy bills. It is politically attractive to replace the word “or” with the word “and”, but it is also misleading.

The Wider Medium-term Implications

98. What is missing from the Labour proposals is a wider understanding of where the electricity industry is heading and what might provide a more stable and efficient outcome. Indeed Ed Miliband has been keen to stress the very limited nature of this “one-off” intervention on prices.
99. The outlook is not good. Britain faces an enormous investment challenge over the next couple of decades, and it faces a relatively short-term energy crunch. The facts are simple and extremely well known. The coal-fired generation will come off the system to meet the European directives. Most of the nuclear is old and being gradually decommissioned. The renewables are intermittent, requiring a higher total of capacity to meet demand. There is no incentive to provide peaking plant. Intermittent renewables render everything else intermittent too. Therefore there is little incentive to build new gas-fired power stations. The renewables subsidies are being cut right across Europe and yet the costs of renewables are stubbornly resistant. More zero marginal cost generation has the nasty combination of increasing the final price (through the FiTs and ROCs) whilst lowering the wholesale price. The economic action is moving to the fixed price capacity and FiT contracts and away from the wholesale price. Storage is inadequate. Transport may become more electricity dependent, raising demand.
100. Faced with this daunting set of challenges, neither the government nor Labour has very convincing answers. Both are focused on short-term prices and are unwilling to tell the voters what the implications of the decarbonisation policies might be.
101. What is increasingly apparent is that the “market” bit is in retreat. Everywhere in the electricity industry government is intervening. The sheer complexity of the interventions is beyond almost anyone to fully comprehend, and indeed it is unlikely that anyone in DECC could name all the interventions. To every problem, there is a new intervention, and Labour is doing what the government has been doing. This time it is customer prices—so it proposes to freeze them temporarily.

102. Every intervention has consequences for all the other interventions. Freezing prices impacts on investments and raises the costs of capital. The result is that not only have the Big 6 not been investing much, but they are unlikely to do so unless they have direct supports and guarantees. The experience with the Hinkley project is a good example—it will be carried out by two predominantly state owned companies, with a guaranteed FiT and financial guarantees too. The governments of France and China will invest in Britain provided the British government guarantees their investments.
103. The retreat from investing has many causes, but it is not something that a modern economy and a democracy can withstand. If the private sector does not invest—and Ed Miliband's intervention can only further deter it—then the state will have to do it.
104. The shape of this state investment can already be seen. In addition to a nationalized industry solution to Hinkley, the state is guaranteeing almost all the renewables through ROCs and FiTs. The SO will now provide a central buyer function for capacity, and it is capacity contracts that will determine how many gas stations are built.
105. By accident rather than design the result is that the state is now directing—and to a significant extent guaranteeing—most of the electricity sector investment in Britain. Ed Miliband talks of a temporary price freeze whilst competition is boosted, but fails to appreciate that there is not much of a role left for competition to play. Competition will be for contracts. As with defence, the private sector will bid for these contracts, but the state will decide.
106. The direction of travel is pretty clear. But the path is amongst the most expensive that could be chosen. Because no one knows what form of populism will come next, because investors can observe governments across Europe trying to renege on the contracts, and because in Spain and now in Britain under Ed Miliband's plans prices might be decoupled from costs, the cost of capital has gone up.
107. This cost of capital effect matters. It is a deadweight welfare loss, representing the transfer of political and regulatory risk to those least able to bear it. In electricity generation, the cost of capital is a very dominant cost. Generating plant—from nuclear to wind—is capital intensive and the costs are significantly sunk. The difference between the government's cost of capital—say 2% real (though actually closer to zero at the moment)—and the private sector—say 8% real—has enormous impacts on the costs of electricity.
108. How might this cost be lowered? There are two possible answers. The first is to nationalize the industry, or at least resort to direct government contracts and state guarantees. The second is to place the regulatory and political risk on those best able to bear it—the government. The former has many difficulties—governments manipulate prices to meet short-term electoral needs. The history is depressing. The latter requires a credible, medium term policy framework with cross party consensus and appropriate institutions. We are heading down the

quasi-nationalisation route with a central buyer and all the complexity of multiple interventions. However this is not inevitable. The latter holds out the prospect of a much more efficient outcome. But it would require political courage: to define the trade-offs between the core objectives; to integrate capacity and FiTs contracts; and to restructure the regulatory institutions.

109. Supply competition is a sideshow in all this. Switching is fun for a small number of people who have the evenings free to surf the complexity of company websites. But supply is not a complicated business. It requires billing and metering and matching supply and demand. Since supply is increasingly being determined by government as the central buyer, and since the regulators and government all want a very limited number of tariffs, a radical might ask whether the costs of supply competition are worth the benefits. The interventions are now so severe, that it might be time to consider whether supply should simply be re-regulated. The supply margin in the regulated Northern Ireland context is less than 2%. The Big 6 say 5% is a reasonable return. Is supply competition really worth 3%?

Conclusions

110. All the main political parties have recognized that electricity bills are an issue, and that public trust in the electricity market is very low at a time when massive investment is required. The breathing space given by the fall off of demand during the economic crisis has largely been wasted. Britain is heading for an energy crunch in the next couple of years, and the impact on prices is designed into the NETA market framework. NETA rewards incumbents in tight market conditions but fails to incentivize the investment necessary to relieve the constraints.
111. The great strength of the Labour proposals is to recognize that NETA has to be reformed and that a pool model is the way to go. As indicated above, this is less radical than it might seem, since the OFGEM market reforms point in a similar direction. Reform of OFGEM is also inevitable given the new enhanced roles of the SO and DECC.
112. What has undermined the credibility of this largely sensible reform package is the short-term popularism of the 20-month price freeze. It is apparent that it has not been thought through, and the consequences will not remotely resemble a short-term intervention followed by an arms' length competitive market. To envisage such a benign outcome is to display the usual feature of popularism—short-term advantage followed by medium term regret. If it is market power Ed Miliband is concerned about, he should call for the impartial professional body responsible for examining such claims—the Competition Commission. He shares this inexplicable reluctance with OFGEM. Trust is rebuilt by clear examination of the facts.