September 2012

The Draft Energy Bill:

Britain's Energy Future lost

by Alan Simpson

Sustainable Energy Advisor to Friends of the Earth

As a child, I was quite into Meccano. It was my first encounter with paradigm shifts. I could make a great car. But sometimes the mood changed. I would turn it into a boat, and then a plane. Invariably, the end product - whatever it looked like - neither rolled, sailed, nor flew. So it is with the Government's Draft Energy Bill.

As Parliament went into recess, DECC's Permanent Secretary announced her resignation, and the Energy and Climate Change Select Committee (ECC) published its savaging of the Draft Energy Bill; cautioning MPs not to underestimate "…*the scale of the challenge that the Government is facing in preparing a Bill that is fit for purpose in time for introduction in the autumn*…"[1] To add spice to the mix, the Chancellor offered DECC 30 pieces of silver to walk away from existing UK carbon reduction targets and accept his vision of a gas future in return for accepting a 'reasonable' reduction in wind support. Parliament is faced with a shambles, not a strategy.

As the Select Committee points out, the Draft Energy Bill is not really about 'market reform'. It does not attempt to change the system under which electricity is traded or sold to consumers in the UK. Nor does it engage with a future that will have to be smarter, lighter and consume less than the current energy market. Instead, the Bill seeks merely to "… 'bolt on' additional market mechanisms, taxes and regulatory measures …"[2] to what we have now.

[1] Draft Energy Bill: Pre-Legislative Scrutiny, House of Commons Energy and Climate Change Committee, Volume 1, First Report of Session 2012-13, 23 July 2012, pp.5-6.
[2] Ibid, p 9.

As MPs return to parliament, there is a case for a more far-reaching approach to how Britain meets its future energy security needs.

Can the Draft Energy Bill be rescued?

The Draft Energy Bill is incoherent. 'Contracts for Difference' (CfDs) are a financial road-crash waiting to trash the economy. The proposed Emissions Performance' Standard is pitiful. Demand reduction measures are non-existent. The role of interconnectors and intelligent grid management is totally overlooked. And the 'Capacity Market' is as relevant to tomorrow's energy market needs as my car/boat/plane.

It may be possible to rescue the Bill if Contracts for Difference are replaced by a Fixed-FIT (Feed-in-Tariff) market support mechanism. Essentially, this is the system that operates in Germany. It is self-financing and offers transitional support to renewable power sources that (because the tariff available each year to a new scheme coming online declines over time) have to become price competitive within a defined time period. The Bill's other defects - relating to demand reduction, carbon emissions targets and a different approach to systems balancing – can all (then) be addressed within a different template.

Britain does have time to do this. Existing energy market support mechanisms can be extended to provide the breathing space for a more coherent debate about a sustainable energy future. But the Bill, as it stands, cannot take us there.

Past security / future security

Traditionally, energy security was about delivering a 'baseload' of electricity that would be permanently available and variable 'capacity' to add to this, in line with the peaks and troughs of daily life. The engineering (and pricing) of this was a complicated matter, but the thinking behind it was quite straightforward. Demand would peak in the breaks between popular television programmes, when people put the kettle on. There would be higher demand when industry was working than when people were sleeping. Pre air conditioning, cold spells were more demanding than warm weather. Energy policy did little about demand management but concentrated on the sufficiency of supply.

This produced power companies that were focused on selling energy consumption, but with no clue about markets in which the objective might be to produce/consume/distribute less. When climate change did not matter, carbon emissions were not a factor.

Falling energy prices and increasing energy consumption meant conventional models of growth were based around increased production to meet demand. The energy market made a virtue out of the profligate, with demand and supply feeding each other's ever greater appetites. Tomorrow's energy world will be very different.

Even climate deniers recognise there is a problem with future oil prices. Shale gas disciples chase an almost biblical belief in the Second Coming of cheap fossil fuels. They show little grasp of the political/environmental storms this will get caught up in. The distraction blinds them to the more exciting (sustainable) energy thinking which is already taking us into a different energy era.

Tomorrow's energy world will have limited interest in baseload generation or capacity markets. Both are too inflexible for the energy 'systems' that are emerging. These systems may be more virtuous but balancing them will be more complex, and the mechanisms needed to adjust them must be more agile.

In non-technical terms, it is worth trying to run through the different parameters of tomorrow's markets.

Carbon Reduction Targets and grid volatility.

To meet government climate change commitments, the UK's Climate Change Committee says the electricity grid has to be de-carbonised by 2030. This means reducing the carbon content of generated electricity from its current average of 430 grams of carbon dioxide per kilowatt hour[3] (gCO_2/kWh) to 50gCO_2/kWh by 2030. This makes a nonsense of the Bill's proposals to allow higher emissions levels from existing power stations (of up to 450gCO_2/kWh) until 2045. So much for an emissions performance standard. Only unabated coal would exceed the 450gCO_2/kWh limit.

At a European level, an ECF study for the EU Commission set out the roadmap for a decarbonised economy by 2050. Key to this is that, ***by 2030, some 50% of energy in the power sector will have to come from renewables***.[4] Many countries are already well down this path, but the grid implications have yet to be fully thought through. Some of tomorrow's renewable energy resources are more susceptible to management and planning than others. Hydro, geothermal, tidal, biomass and biomethane schemes are at the more manageable end of the spectrum. Wind and solar are at the more plentiful but less predictable end.

ECF tried to model what this would mean at a 'systems' level.[5] Their simulation models suggest that, in future, major generators will have to contend with over 260 start-stop

[3] http://www.decc.gov.uk/en/content/cms/statistics/energy_stats/fuel_mix/fuel_mix.aspx
[4] European Climate Foundation - Power Perspectives 2030: On the Road to a Decarbonised Power Sector. http://www.roadmap2050.eu/attachments/files/PowerPerspectives2030_FullReport.pdf
[5] European Climate Foundation - Power Perspectives 2030: above.

operations a year, as opposed to the current average of less than 50. Such volatility, for conventional generators, becomes a balancing nightmare. Nuclear cannot do it, and the cheapest fossil fuels are also the dirtiest. Tomorrow's 'smart grids' will combine demand reduction, low energy technologies and interconnectors as the principal balancing mechanisms rather than depend entirely on standby gas plant.

This is the reason that most European countries are retreating from new nuclear power construction. It has more to do with nuclear's inflexibility, and the post-Fukushima risk/cost scenarios, than any ideological positioning.

Contracts for Difference (CfDs) and Capacity Markets

These are the two key foundations proposed within the Draft Energy Bill. Neither of them will work.

CfDs were written largely by nuclear energy producers, to make nuclear power appear economically viable. To meet DECC's energy targets CfD payments for new nuclear power would add some £5bn a year to UK energy costs[6]. It is a subsidy that may even not be legal under 'state aid' rules. If DECC were not obsessed with finding a way of delivering a 'non-subsidy' subsidy for new nuclear we would not be faced with the existing Bill.

If passed, the Draft Bill would also ensure that the UK's existing 'closed' energy market – dominated by the Big 6 – would become even more concentrated. Small generators would be allowed to play only on 'take it or leave it' terms. For independent renewable energy generators, the situation would become even worse once the big energy suppliers are 'freed' from any obligations to buy renewable energy, post-2017.

It should not be assumed, however, that even the energy companies are uniformly in love with CfDs. In the Evidence Sessions of the Committee, Ian Marchant, Chief Executive of SSE, laid into the whole thinking behind CfDs and the Bill -

> "*I am not convinced that we need a Bill – I **am** convinced we do not need this Bill."*
>
> *"My fear is that consumers will end up paying a higher price because of the complexity and additional cost and risk that has been imposed on the industry through the CfD mechanism."*

[6] See impact of nuclear 'strike price' calculations on UK energy costs, Alexa Capital, evidence submission to ECC Select Committee, June 2012.

> *"Fundamentally, I think that CfD is the wrong way to solve this problem*."[7]

Energy companies may fall out amongst themselves, but the killer blow for the Bill is more likely to come from investors. Many are already saying they will not touch CfDs with a barge-pole and are running for cover elsewhere.

A sense of this can be gathered from the Summary Note of a roundtable discussion between the ECC Committee Members and representatives of financial institutions, in June this year –

> "*I have not spoken to a single other investor who thought the publication of the Bill was a positive step forward."*
>
> *"The policy is on its way to a train wreck*."
>
> *"Participants agreed that the EMR proposals in their current form were uninvestable."*
>
> *"I don't believe DECC's figures on the costs to consumers."*
>
> *"The majority of participants agreed that they had originally been led to believe that the CfD would be guaranteed by the State*."[8]

The cost to the economy of any such chilling effect on UK investment would be catastrophic.

CfDs are a poor alternative to a system of fixed Feed-in-Tariffs (FITs).

Feed-in tariffs have long been known to be the most cost-effective policy for deploying renewable power schemes.[9] Spain, France and Germany are all currently paying less than 9 cent/kWh for wind power through their feed-in tariff; however Italy and the UK (with their obligation schemes) are paying 14.9 and 10.8 cent/kWh respectively. (Germany and Spain have over 20,000MW of wind capacity compared to the UK's 6,500MW.)[10]

---

[7] House of Commons Energy and Climate Change Committee, Draft Energy Bill: Pre-legislative Scrutiny, Volume II, Oral and written evidence, pages Ev 1, 2 and 7, respectively.
[8] Annex 1, Volume 1, The House of Commons Energy and Climate Committee Report on the Draft Energy Bill: Pre-legislative Scrutiny, 23 July, 2012, pp 72 - 76.
[9] Assessment and optimisation of renewable energy support schemes in the European electricity market, Ragwitz, M, Fraunhofer ISI, 2007
[10] Renews Kompakt, German Renewable Energies Agency, June 2012

So why not go for a proven policy? Ernst and Young, in their quarterly commentary on renewable energy investment choices, were moved to comment on how DECC's consultation had been structured in a way that disregarded comparisons that might show CfDs in a poor light:

> "It is interesting to note that the second preferred mechanism is a premium FIT (similar to that used in Spain), even though some of the disadvantages causing it to fall out of favor are acknowledged in the consultation paper. Perhaps because of the complexity of interacting with the UK's deregulated energy trading arrangements, there is no preference for a fixed FIT. Indeed**,** *the analysis provides no cost comparison to a two-stage FIT with degression (such as that in Germany), even though there is evidence to suggest that this type of approach does, over time, produce a more cost-effective portfolio of low carbon energy production."*[11]

Under the proposed CfDs, the government would agree a 'strike price' with an electricity generator (or generators), offering a guaranteed payment for each MWh of electricity. If the market price (often known as the 'reference' price) is below this the government guarantees to make up the difference. If the market price is higher, the company must pay back the difference.

This may sound simple, but for nuclear generators the CfD allows them to negotiate a high enough 'strike price' to guarantee the necessary return on investment but without the built-in degression rates to promote innovation/efficiency gains that would accompany a fixed feed-in tariff. It is an approach tailored to the needs of producers, not consumers (or the environment).

To compound the problems for renewables, without an obligation on energy suppliers to pay for the renewable power on offer, independent renewable generators - who would find it difficult if not impossible to engage directly in the wholesale markets - would be dependent on accepting a Power Purchase Agreement from one of the big players. These, of course, will only be provided at a discounted price and so the independent generator will find themselves having to accept prices for their power below the reference level.

The real financial nightmare behind CfDs, however, emerges once you examine the real agenda: creating a rigged market for new nuclear.

DECC will enter into private 'negotiations' with the (French) monopoly supplier, over a '***strike price'*** for nuclear power. These will be lopsided negotiations, less flexible than discussions with Somali pirates over a ransom fee.

---

[11] Ernst and Young, Renewable Energy Country Attractiveness Indices, 2012, emphasis added.

At present, UK wholesale grid electricity prices are around £45MWh. Citigroup analyst Peter Atherton has estimated that the projected 'strike price' for new nuclear is likely to be around £166/MWh.[12] This is a level that would require a public subsidy of £5bn per annum.

EDF Energy's Chief Executive, Vincent de Rivaz, has claimed that it would not be above £140/MWh,[13] but even this would result in public subsidy costs of over £4bn.[14] Obviously the greater the proportion of its costs and liabilities the nuclear industry can shift to the taxpayer the lower it can make the headline figure look.

In contrast, existing (and projected) Feed-in-Tariff (FIT) payments for renewable energy sources are as follows –

Proposed generation tariffs for October 2012[15]

Technology	Tariff band (kW capacity)	Proposed tariffs from Oct 2012 (£/MWh)
Hydro	≤15 >15-≤100 >100-≤2000 >2000-≤5000	210 197 121 45
Anaerobic Digestion	≤250 >250-≤500 >500-≤5000	147 137 90
Micro-CHP	≤2 kW	125

Moreover, current **offshore wind** costs (of around £150/MWh) are to be cut to **under £100/MWh** by 2020, **domestic solar tariffs** (currently £210/MWh) will be cut to **£77/MWh** by 2015 and large-scale solar will reach grid parity prices within the coming year.

The issue DECC always avoids is that the costs of new nuclear are on an ever-rising spiral, whilst Feed-in Tariff payments to renewable technologies have falling 'degression' rates attached to them, so each year new renewable installations coming online receive a lower annual payment for their electricity than those built the previous year. The renewables market only expects the taxpayer to help with their transition, and to level the playing field with more established polluting technologies as renewables costs come down.

[12] Peter Atherton, Citi group, ref. http://www.reuters.com/article/2012/05/08/nuclear-britain-edf-idUSL5E8G8FQ620120508
[13] http://www.telegraph.co.uk/finance/newsbysector/energy/9470555/EDF-chief-Vincent-de-Rivazs-nuclear-vision-aims-to-inspire-a-generation.html
[14] Alexa Capital, op cit
[15] Adapted from Table 4, DECC Review of Feed in Tariffs Scheme (Consultation Document), 9th Feb 2012.

Nuclear is a mature technology requiring an eternal subsidy. With or without Fukushima, it is a technology with a rising cost surve. CfDs for new nuclear become the mechanism for locking the UK into this cost spiral.

Capacity Market

The planned use of a 'capacity mechanism' (to balance out a system which included nuclear baseload and variable wind) would only compound UK energy market problems. As more renewables come onto the system they drive down the profitability of fossil fuel generation. (Once built, the cost of renewable electricity is effectively zero - the wind, waves and sun are free, unlike say gas - so they are always purchased first, leaving the more expensive polluting power to fill in the gaps). It's something to be celebrated, but the muddled thinking from DECC means that instead of investing in low carbon ways to balance the future grid and network through electricity storage technologies, temporarily reducing demand and interconnectors to other countries, it will offer a subsidy to ensure fossil fuel generation is built.

Despite the scare stories about wind being unreliable and conventional plant being retired, creating a capacity crisis, no-one (including DECC) thinks this is likely. Our 2020 renewable ambitions can be easily accommodated within the existing system.[16] However the existence of a Capacity Market will tempt conventional generators to sit on their hands, waiting for the subsidy, and the government to auction more capacity than is needed. It's existence will ensure the need for its use. Worse still it immediately locks attention onto supply-side issues, undermining other carbon-reduction strategies.

While the proposed Capacity Market technically allows demand-side response, storage and interconnectors to participate, there is absolutely nothing in the actual legislation to ensure this happens. The reality is that the policy has an inherent bias in favour of established high-carbon supply. Further, there is a risk that their supposed inclusion in the Capacity Market will allow Government to justify not taking the necessary steps elsewhere to support these essential elements of the future electricity system. In the USA, experience of the sort of forward capacity market that the UK proposes has already produced its own (predictably) perverse outcomes -

> "… auction results to date also suggest that these markets encourage the construction or continued operation of high-emitting supply-side resources to meet reliability targets." [17]

[16] Beyond the bluster: Why wind power is an effective technology, IPPR, August 2012
[17] The Role of Forward Capacity Markets in Increasing Demand-Side and Other Low-Carbon Resources: Experience and Prospects, The Regulatory Assistance Project, May 2010

Those willing to invest in generating capacity, which may have limited operational use and high start-stop intermittency rates, invariably looked for the lowest cost of energy generation i.e. fossil fuels. The Regulatory Assistance Project observes that:

> "…high carbon-emitting, supply side resources dominate the mix of capacity clearing these auctions, and therefore these resources are receiving the bulk of market incentives (capacity payments)."[18]

Following the first 6 rounds of capacity payments, their 2011 study found that : "Existing fossil-fueled resources (gas, oil and coal-fired) received 70% of the $42billion in capacity payments under those auctions..."[19]

If the Chancellor has his way, Britain will end up in the same position.

A Different Vision

Tomorrow's energy market balancing mechanisms will be found in a combination of demand reduction/demand management measures, interconnectors, storage, and decentralised generation.

1) Demand Reduction

Germany is the one part of the European economy that has continued to grow recently (at roughly 3% p.a.). Since 2010, Germany has also managed to reduce its annual energy consumption by 5%. Two factors underpin this – earmarking €1.5bn of annual EU-ETS receipts to radically up-rate the thermal efficiency of existing buildings, and the use of smart technologies to deliver increased performance using less power.[20]

The iPad best exemplifies the policy space that tomorrow's energy management systems will occupy. The iPad offers 10 hours of battery life without the bulk of 10 hours of extra batteries. The smart use of microprocessors has shown how you can improve performance *and* reduce energy consumption at the same time. This concept is already being extended into 'home energy management systems', 'business/office systems' and whole town/locality grids.

Similarly, in Germany, there are the 'Lichtblikt' ('Ray of Hope') experiments – encouraging towns and cities to take devolved responsibility for grid management; selling energy efficiency and demand management in preference to increased consumption; and inviting

[18] RAP, May 2010, above.
[19] Quoted in 'Beyond Capacity Markets – Delivering Capability Resources in Europe's Decarbonised Power System, (Meg Gottstein and Simon Skillings), based on the PJM Market Review, Jan-Nov 2010.
[20] See the German Energy Concept, Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, 2011

technology innovation to create smarter, interactive grid systems. These experiments are defining a different energy future, in which 'security' is no longer in the hands of the big power stations. Any updating of UK energy policy has to be able to embrace the same thinking.

This may turn out to be the most cost-effective, as well as innovative, path for the UK to pursue. **Trials of demand response mechanisms in the USA have demonstrated their ability to save customers (and systems operators) 10-20% in energy costs. Where such 'demand management' forms part of a 'whole zone' policy, savings can be as much as 30%.**[21]

Some of the intelligent communications systems already on offer within the telecommunications sector probably hold the key to how fast this energy transformation can take place. Market transformation will not, however, be driven by today's major energy companies (whose market model already looks cumbersome and out of date). In focusing almost entirely on supply-side responses, the government's Draft Energy Bill falls into the same trap. It is a plan to fight the last war, not the next one.

Tomorrow's smart grids will be two-way and interactive. This will be immeasurably more important than a one-way street linking the power station to the consumer. Inevitably, those interested in selling less (or non-) consumption are unlikely to be those interested in operating power stations.

2) Interconnectors

According to Ofgem the UK has the lowest electricity import capacity in Europe compared to generation capacity.[22] It is remarkable that the Draft Energy Bill avoids any rigorous approach to the use of interconnectors in energy balancing mechanisms of the future - simply relegating them to a possibility in the Capacity Market (and one which will almost certainly never come to pass). This is an astonishing derlection of duty by DECC, who should view interconnectors as an essential part of the UK's energy infrastructure.

Different potential partners in the development of greater UK interconnectivity have all made the following points[23] –

- Interconnectors are relatively cheap (the 1-GW, 160-mile BritNed - one of our two existing interconnectors to the continent - cost £0.5bn).

[21] PJM 2014/2015 Base Residual Auction Addendum, at http://www.pjm.com/markets-and-operations/rpm/~/media/markets-ops/rpm-auction-info/2014-2015-rpm-bra-results-report-addendum.ashx
[22] See presentation here: http://www.future-es.com/2012/07/powerpoints-from-our-july-3rd-2012-seminar-on-electricity-interconnectors/
[23] Taken from presentations made to Future Energy Systems seminar. http://www.future-es.com/2012/07/powerpoints-from-our-july-3rd-2012-seminar-on-electricity-interconnectors/

- They are quick to lay down (30 km a day. BritNed took less than 2 years to construct).
- They offer a wide variety of renewable energy sources (hydro from Norway, geothermal from Iceland, wind and solar from the continent) as well as nuclear power from France.
- They may be the most cost-effective way of avoiding conflict within the UK's infrastructure planning system.
- They would offer considerable scope for UK earnings if Britain were to tap even a fraction of its own (exportable) renewable energy resources.
- Increasing amounts of renewable electricity surpluses are coming onto the European grid, forcing general grid prices down. UK consumers should have access to these surpluses (and at falling prices).
- It may be cheaper for the UK to buy nuclear 'balancing' requirements via the interconnector with France than to build new nuclear power stations in the UK. (With construction costs for new nuclear now running towards £8bn a power station, and CfDs guaranteeing them prices of over £160/MWh, this may also avoid much greater, long-term subsidy transfers from UK bill payers to the French/Chinese economies).
- Even the most expensive interconnectors may be a more cost-effective approach to UK energy security: Iceland's **Landsvirkjun Energy Company** claims it would cost £4bn to construct a 1-GW interconnector with Britain. This would be half the cost of a new nuclear power station. Thereafter, they could supply electricity (entirely from renewable sources) at less than current UK wholesale market prices.

If the UK is to have a more coherent debate on energy security, it is important to change the terms of the debate about balancing mechanisms. In DECC's consultation, although 35% of respondents favoured a capacity mechanism, 25% preferred a 'strategic reserve'. Although the subsequent modelling acknowledged that relative costs depended on a huge number of assumptions about each model, DECC came down firmly in favour of a Capacity Market.

The case for ***a strategic reserve*** is the opposite of having a market mechanism that makes intermittent energy generation profitable. It is primarily about security. Britain did not build air raid shelters in the Second World War in the hope that Germany would bomb more often. They were built to deliver security, full stop. Some part of the discussion about interconnectors must fit into the same mindset. If demand reduction, decentralisation, smart grids and storage can meet the bulk (or more) of UK energy needs, the case for interconnectors still stands as both a safety net and a recognition of increasing interdependences in tomorrow's energy world. **The Government should instruct National Grid to get on with procuring interconnectors and making them part of the UK's regulated asset base.**

3) Storage

There are no comprehensive answers to the energy storage question. Other countries are investing heavily in this as part of their future energy planning. It is likely to be a more productive area of investment than CCS. Considerable work is going on in turning surplus renewable energy into hydrogen as a means of storage. Other research is concentrating on using vehicle charging as storage capacity in an increasingly electrified future. Such considerations have been largely overlooked in the Draft Energy Bill – having been reduced to a mere possibility in the Capacity Market - because they are more directly relevant to decentralised energy systems, which the Bill also studiously avoided. Both are more productive directions for UK energy policy to head into.

The Government's recent Technology Innovation Needs Assessment on electricity networks and storage showed the huge opportunity that exists in these technologies (adding anywhere between £6bn and £34bn to GDP by 2050); the vital role they can play in facilitating the future energy system (saving the UK between £4-19bn in deployment costs); and the woeful inadequacy of the Capacity Market as an answer to the hurdles these technologies face to realise their potential.[24]

4) Decentralised Energy and Renewable Energy

This may be the key to really profound changes in energy policy. It is as much about 'power' as energy. Five years ago, Germany had 4 (their Big 4) energy suppliers. Today they have an electricity market with over 2 million suppliers. Feed-in-Tariffs have been used to democratise their energy agenda. Politically, it is a tide that would be difficult to reverse. Because the German Grid has to take renewable energy before non-renewables, this has also helped take at least 40% out of peak demand (and peak prices).

German wholesale power prices are lower today than they were 5 years ago. (For details see my 'German Case Study' listed on the Friends of the Earth Campaign Hubsite[25]). Germany has, however, been more effective at reducing wholesale rather than retail prices. For the domestic consumer, the approach has focused more on reducing bills than unit prices, directing €1.5bn per year from their EU-ETS receipts into energy efficiency measures in homes and buildings.

Key to the next stage of Germany's *'Energiewende'* programme is the extension of decentralised energy generation … and decentralised ownership of the grid. This is what is enabling demand reduction measures to become centre stage in their energy debate. The German economy continues to grow at around 3% p.a., but its annual energy consumption has fallen by 5% since 2010 alone. Localised energy markets have become the pioneers of 'energy service systems' – selling energy efficiency savings, smarter grid management and

[24] TINA, Electricity Networks and Storage Summary Report, Low Carbon Innovation Coordination Group, August 2012.
[25] German Case Study, http://forum.foe.co.uk/campaignhubs/index.php?action=media;sa=album;in=16

reduced consumption. Although it is a change that has been loved and embraced by the public, this has been bitterly opposed by conventional generators of 'Big Energy'. The same has been true in the UK. This, however, has to be the starting point of a fresh UK energy debate.

Towns and cities across Britain, communities and families can be at the centre of the energy security debate – as they are in Germany. The key to greater public involvement in the shaping of Britain's energy future will be found in the extent to which local/public ownership of both the means (and benefits) of energy generation are placed at the centre of the Energy Bill.

At a European level, electricity markets are being re-defined by the increasing quantity of renewable energy surpluses coming in. Germany already has 60GW of installed renewable electricity generating capacity, compared to the UK's 12GW. Last year alone they installed 7GW of renewable generating capacity, most of which is owned by households, farmers and communities.

German towns and cities are engaged in working out how best to harness, share and store such energy. The aim is to deliver their own energy security. Germany's 'Energy Transformation' programme is changing the whole face of energy politics. It could do the same in the UK … if we have the courage to do so.

Britain's Energy Future regained: 10 Things an MP could do now

1) Support amendments to replace the CfD proposals in the Energy Bill with a fixed FIT (the legislation already exists for small scale FITs in the Energy Act 2008)

2) Support the extension of existing energy market intervention measures (and budgets) – for FITs and the Renewables Obligation - until a comprehensive UK alternative is in place.

3) Press the Treasury to adopt the treatment, endorsed by the European courts, in which FITs do not count as public expenditure but are used to drive energy prices down rather than up.

4) Demand that the government separates support for renewables, (not subject to challenge under state aid rules) from support for nuclear (which is).

5) Call for localities to be given greater freedoms to own and manage local grid networks in order to maximise demand reduction, local generation and energy security (exempting such initiatives from grid access charges where the use of high level transmission networks is avoided).

6) Back the Committee on Climate Change's call for the Energy Bill to include a decarbonisation target of 50gCO_2/kwH by 2030, enforced by a legally binding duty on the Secretary of State, National Grid and Ofgem.

7) Press the Government and Bank of England to direct future 'quantitative easing' measures through the Green Investment Bank.

8) Press National Grid to radically expand the UK interconnector programme, making them part of the UK's regulated asset base.

9) Insist that Demand reduction measures are given equal weight to new generation requirements in the proposed Energy Bill,and that the revenue from the European Emissions Trading Scheme and the Carbon Floor Price is used to end fuel poverty through energy efficiency.

10) Call on the government to guarantee that UK energy market reforms will deliver a more transparent, accountable and sustainable market than we have at present, and that market support mechanisms will be based on 'transitional' support (to market viability) rather than everlasting public subsidy.

None of these measures can currently be found within the current Draft Energy Bill. As a design for the future, the existing Bill will neither roll, sail nor fly .

It requires a different vision.

About the author

Alan Simpson is the former Labour MP for Nottingham South. During his time in Parliament he was the founder and chair of the All Party Parliamentary Group on Warm Homes, and led the successful parliamentary campaign for the introduction of feed-in tariff legislation for small scale renewable power in the Energy Act 2008.

The views expressed here are those of the author and do not necessarily constitute official Friends of the Earth (England, Wales and Northern Ireland) policy.