

Written evidence submitted by Mr Clive Moffatt, Founder and Chairman at UK Energy Security Group (UKESG) (ECO0010)

Introduction

As a market analyst, lobbyist and policy adviser, Clive Moffatt has been at the forefront of major developments in the UK and European energy market for the last 30 years.

Based on years of research, analysis and discussions with members of the UKESG, his conclusion is that in pursuit of Net Zero politicians on all sides are taking reckless gambles with both energy supply and price security.

So far in the debate on Net Zero, advocacy has replaced robust analysis. Established principles of energy policy have been compromised and there is mounting and convincing evidence that the arbitrary political deadlines set for the decarbonising of the electricity market are neither feasible, commercially viable nor affordable.

By ignoring this evidence and pursuing existing policies there is a high risk that the economy and consumers will be faced with energy rationing and rising energy costs and taxation, without any economic or welfare benefits or significantly lower UK or global carbon emissions.

Therefore, whichever Party wins the General Election the priority must be to mount a thorough and robust re-examination of the technical feasibility, security, affordability and regulation of current and intended “decarbonisation” policies presented in the current DESNZ’s Review of Electricity Market Arrangements (REMA)– Second Consultation.

Meanwhile, action is now required by the DESNZ to introduce measures to underpin the security and affordability of the existing gas to power electricity network.

Ten Policy Recommendations

(1) Impose a moratorium on all new renewable wind and solar generation developments unless commissioned without a CfD contract. This moratorium should remain in place pending a detailed and transparent estimate and Parliamentary debate of the relative economic and welfare costs and benefits of transforming the current electricity network into one dependent on an intermittent supply of wind power from offshore locations far removed from major sources of electricity demand.

A similar moratorium should also be imposed on current “green” technology developments including schemes already in place or planned, such as hydrogen production, large scale and modular nuclear generation, carbon capture and storage and battery storage facilities, until we know if and at what cost these technologies can contribute to the effective decarbonisation of the existing gas to power network.

(2) Reduce the projected increase in “green” electricity demand not linked to economic growth by removing market coercion on the electrification of heat and transport and allowing consumers and suppliers to decide if, and when, they wish to purchase/supply an electric or hybrid car or heat pump.

(3) Increase UK gas production by removing existing disincentives (eg Energy Profits Levy). More North Sea gas will not impact on the global gas price but transporting LNG is very expensive and more domestic production will reduce the UK’s dependency on imports.

According to the industry's trade body, Offshore Energies UK, seismic surveys suggest that up to 40% of the UK's known oil and gas reserves remain to be developed. So, any attempt to close North Sea production prematurely will further increase import dependency. This will have adverse implications for the trade balance and interest rates.

(4) Improve short- term gas supply security by encouraging new private investment in seasonal UK based gas storage capacity (currently less than 2% of aggregate gas demand) by either imposing an obligation on gas shippers and suppliers to hold a certain proportion of their gas demand in UK storage and/or providing a subsidy via a capacity auction to attract new private investment.

(5) Increase short- term energy supply and price security by creating a coherent and regular process of real time market balancing for gas as well as electricity supply and demand by taking advantage of the significant scope for voluntary demand reductions via a pre-winter auction/option payment process amongst major users and interconnection capacity where this is available and reliable.

(6) Increase the availability of flexible and reliable power generation by imposing an obligation on the new System Operator (see below) to ensure a reliable power margin of between 5-10% of projected demand ahead of each Winter. This will underpin the urgent need to compensate for limited and unreliable interconnectors by encouraging more domestic flexible generation.

(7) Reform the current Capacity Market auction mechanism to increase new private investment in unabated small-scale (OCGT) flexible gas generation as recently announced by the DESNZ to meet peak demand and compensate for the network constraints on and/or wind intermittency.

In addition, a separate auction is required urgently to increase new private investment in larger (CCGT) unabated gas generation plant to compensate for the demise in coal and nuclear baseload generation.

(8) Abolish the energy price cap and abandon the use of market intervention to control retail energy prices as a device for either supporting the balance sheets of energy suppliers and/or seeking to deliver reductions in retail energy costs. It is not possible to control retail prices when you have no control over the market eg global gas prices and/or domestic intermittent renewable generation.

(9) Force retail energy suppliers to self-fund sufficient liquidity to cope with both normal and unexpected volatility in the wholesale energy market and the normal commercial risks associated with customer bad debts. Suppliers should also be forced to compete effectively in terms of price and service (eg incentives for voluntary volume usage and credit payments)

(10) Take the politics out of energy and eliminate the lack of cohesion and regulatory certainty in the energy market by creating an independent Strategic Energy Authority (SEA). This new body would scale back unrealistic targets for decarbonisation of the system, adopt a more balanced approach to security, affordability and sustainability, manage the wholesale gas to power market in real time and put in place a predictable regulatory and investment incentive regime which would stretch beyond 2050. The creation of an SEA would require a re-assessment of the policy role of DESNZ and eliminate the need for a separate ESO, Ofgem and the Climate Change Committee. Retail energy market competition issues in the retail energy market could be dealt with by the CMA.

Background Analysis and Arguments

Energy Policy – Guiding Principles

Until the advent of decarbonisation, “keeping the lights on” has been the energy policy priority of successive UK Governments since the end of WW2. Historically, there has been Cross-Party consensus on certain basic economic principles.

To safeguard both energy supply and price security successive Governments have sought to ensure that (a) electricity demand and supply are matched in real time and as cost-effectively as possible (b) a sufficient margin of supply capacity exists at any time to compensate for energy market volatility and that (c) the wholesale and retail markets are allowed to function as efficiently as possible without any Government intervention.

These guiding principles have in the last ten years been severely compromised by (a) the implementation of a myriad of often conflicting subsidies and penalties designed to decarbonise and transform the established electricity network and (b) Government and Ofgem’s decision to intervene to control retail energy tariffs costs to ostensibly support consumers but mainly to bolster the balance sheets of energy suppliers.

Energy Policy Risks - Summary

Key economic and commercial risks impacting on the decarbonisation deadlines are:

- (1) the shortage of reliable renewable generation to compensate for the loss of coal and gas, the retirement of existing nuclear capacity and delayed new nuclear capacity.**
- (2) the lack of transmission network, distribution network capacity and flexible short-term generation capacity to accommodate the planned expansion in intermittent generation.**
- (3) the expected sharp rise in both the direct and external costs to the economy and consumers and risks to energy supply and price security.**

REMA – Recommended Focus

It is proposed that the current REMA process should focus on the immediate electricity network decarbonisation agenda and specifically seek out evidence and comments to enable DESNZ to identify, clarify and quantify:

- (1) the feasibility, commercial viability and costs of delivering the planned expansion in the installation of new renewable generation capacity, in particular offshore wind generation.**
- (2) the level and timing of investment in the electricity network infrastructure required to support the expansion in renewable energy.**
- (3) the direct costs to consumers/taxpayers, of the planned expansion in renewable energy capacity, grid networks, storage and real time market balancing to ensure security of supply.**

In relation to the longer term 2050 Net Zero target, the REMA should also specify and cost what benefits if any new “green” technologies can realistically be expected to make to the achievement of the decarbonisation target.

These initiatives include schemes already in place or planned, such as biomass generation and hydrogen production, large-scale and modular nuclear reactors, carbon capture and storage and battery storage facilities.

Some Key Issues/Questions

1. Renewable Electricity Supply

Both the 2030 and 2035 political decarbonisation targets are predicated on the assumption that the level of offshore wind capacity can be increased from 14GW to 50GW by 2030.

Is this assumption realistic – if not, then why not? And what measures are needed now to avoid energy rationing and rising energy costs.?

Supply constraints and rising construction and debt financing costs have severely undermined the commercial viability of offshore wind development. So much so that developers have recently successfully pressured DESNZ to raise significantly the CfD guaranteed “strike price” in forthcoming capacity auctions.

Further CfD price hikes will be inevitable to attract more private investment and even then supply and market cost constraints could mean that the planned level of installed wind capacity cannot be delivered.

It is highly likely that inflation in the “strike price” will exceed the average wholesale market electricity price and this will in turn fuel and escalation in subsidies i.e “green” levies between now and 2035 and beyond to fund further offshore investment.

The precise impact of the expansion of wind generation on consumer energy costs has to be estimated and made explicit, but even what we know now suggests that 50GW cannot be built by the dates suggested and that trying to reach this target would inflate energy costs to a “politically unacceptable” level.

Scaling back significantly on offshore wind development has to be considered and this then begs the question of how the expected rise in electricity demand can be met. (see below)

2. Electricity Demand Forecasts

A key driver in the 2035 target is the expected growth in electricity demand- forecast to rise by 50% by 2035 and double by 2050. It is assumed that the main drivers are projected to be the planned electrification of domestic heating (i.e. heat pumps) and road transport.

Is this forecast realistic and if not then why not?

Will the recent decision to delay the ban on the purchase of new gas boilers and fossil fuel vehicles relieve the future pressure of excess demand on the electricity network?

Would not a gradualist market-driven rather than coercive approach to electrification of heat and transport be more likely to reduce consumer costs and underpin energy security?

The DESNZ needs to consider removing the market coercion from the electrification programme to scale back the expected burden on the electricity network.

3. Required Network Infrastructure.

In 2021, consumers paid £500m to developers not to generate because the transmission system could not cope. At a recent All Party Parliamentary Group discussion on Energy Costs, one leading developer predicted that these “constraint” payments will need to rise to £1.5bn pa as early as 2025 because of the lack of adequate network infrastructure.

These constraint costs plus the standing charges to fund large-scale network investment and market balancing costs must be added to the direct cost of any CfD support payments (see above) to compute a realistic cost of the transformation of the network from gas to wind.

Evidence suggests that further CfD capacity auctions be postponed until there is a clearer idea of the scale and cost of the required transmission infrastructure?

How will investment in the overhaul of the transmission network be funded - via consumer levies and/or taxation and what are the current estimates of the cost of this investment to consumers/taxpayers between now and 2035 and 2050?

National Grid has estimated the transformation of the network will be highly disruptive and take longer than planned and could cost initially some £60bn.

This estimate is probably an underestimate of the total cost which can only be funded via either higher consumer charges and/or taxation.

4. Balancing Electricity Demand and Supply

The wholesale gas and power market are inextricably linked with gas power the most important supply source to meet both regular and peak load demand.

The Government has recently conceded that more unabated flexible natural gas generation will be needed to “keep the lights on”. The DESNZ has given no clear indication of the scale of new investment needed to support the large expansion in intermittent wind power.

More baseload as well as peaking gas generation will be needed to compensate for the demise of coal, the retirement of existing nuclear capacity and delays in the construction of any new nuclear and offshore wind generation (inc the requisite network support).

Electricity Market Balancing

The National Grid has already warned that it expects significant shortfalls in electricity supply relative to demand as the system becomes more decarbonised.

Evidence suggests that relying on either interconnectors and/or future battery farms is not a reliable and cost-effective option for balancing the market in the short and longer term.

As the Government has now acknowledged and the Labour Party has endorsed, there is a pressing case for incentivising significant new investment in new unabated gas generation.

Natural Gas Market Balancing

The Government has sanctioned an increase in North Sea gas production to help reduce the UK's dependence on imported LNG (by reducing the LNG transportation costs) and exposure to the global gas market but the Energy Profits Levy must be removed..

Natural gas will continue to be an essential source of both heat and power for the foreseeable future and as proposed over ten years ago, there is a case for incentivising significant new investment in UK based gas storage to underpin short term supply security and mitigate the impact of gas price volatility on both gas and power prices.

Storage capacity is large and can take five years to build and therefore meanwhile to facilitate real time balancing of the gas market there is a case for creating a coherent mechanism for incentivising major energy users to participate in voluntary DSR pre-winter auctions with option payments to help underpin domestic gas supply security and minimise energy price volatility.

5. Retail Energy Market Intervention

The time has come to abolish the energy price cap and abandon the use of market intervention to control retail energy prices as a device for supporting the balance sheets of energy suppliers and/or seeking to reduce artificially retail energy bills.

In recent years the Government/ Ofgem promoted a large expansion in the number of retail suppliers. This was despite repeated warnings that the policy would backfire by creating a pool of small under-resourced companies highly exposed to the vagaries of the international gas market. When gas prices did start rising this financial risk was aggravated and many suppliers went bust prompting the Government to hold down prices with supplier subsidies.

What started life as an upper limit on price has fallen victim to 'mission creep' with Ofgem desperate to avoid any further failures by protecting suppliers against bad debts and wholesale gas price volatility. Furthermore, by establishing a headline limit, the cap is also 'muffling' what little retail competition there is left in the market.

Wholesale gas prices have fallen dramatically – from over £5 /therm in October 2022 to 75 p/therm now and so Ofgem have been forced recently to announce a significant drop in the price cap contrary to the price rise they were forecasting in October 2023 to help suppliers manage the rise in bad debt.

However, suppliers are very aware that decarbonisation will force up both standing and user charges are pressing for a system of differential pricing (ie cross-subsidisation) with a lower "social" tariff for those in fuel poverty or in debt and lower charges for those consumers who are able to ration their consumption to fit in with supply volatility in the wholesale market caused by intermittent wind generation.

As a point of principle, energy price intervention funded by consumers or Government should not be used as a tool of welfare policy or to decide how supplier costs are allocated between different groups of consumers in society.

6. Energy Market Governance

In the last ten years, (especially since the launch of decarbonisation) it has become apparent that politicians, civil service officials, Ofgem, the CCC (Climate Change Committee) and National Grid (ESO) are operating in separate silos and struggling and often in conflict over how best to balance affordability, security, sustainability and competition.

Capital investment in the energy sector is high value, takes years to deliver and securing the required level of private sector funding requires a predictable regulatory environment which goes well beyond the five-year life of a UK Parliament or any arbitrary deadline for electricity decarbonisation.

In the emotional debate over Net Zero "advocacy" and short-term thinking has replaced strategic and robust analysis and highlighted the need to take the politics out of energy.

One sensible option would be to create an independent Strategic Energy Authority to remove unrealistic targets for decarbonisation of the system, manage the wholesale gas to power market in real time and put in place a predictable regulatory and investment incentive regime which would stretch beyond 2050.

Meanwhile attempts to micro-manage the wholesale and retail energy price mechanism will always have unintended adverse consequences and price intervention and should never be used as a tool of welfare policy.

***Clive Moffatt – Founder and Chairman – UK Energy Security Group.**

Clive has been at the forefront of major energy policy developments in the UK and Europe in the last 30 years. Various high-profile projects have included:

(1) advising The Electricity Pool (1993), Government and Ofgem on the design and subsequently the successful launch of electricity supply competition and reform of the electricity wholesale trading market,

(2) conducting for the EU Commission (2005) the first comprehensive impact assessment of the impact of the 3rd Energy Directive in all EU wholesale gas and electricity markets,

(3) advising Government on the design and implementation of the Capacity Market Mechanism (2013) to underpin electricity supply and price security.

(4) establishing (2017) the cross-industry UK Energy Security Group (UKESG), to advise Government and Ofgem on various measures to underpin the supply and price security of the existing gas to power network.

Clive was formerly a Treasury economist, business editor at the FT/Investors Chronicle and BBC and merchant banker with the Guinness Peat Group before establishing Moffatt Associates in 1988.

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