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EU Energy policy – Gerassimos Thomas, DG Energy
Energy Barometer – Energy Institute
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ENERGY FOCUS

Energy perspectives - Post Brexit, post Obama

Dr Lawrence Jones of Edison Electric Institute gives an international perspective

The journal of appg PGES All-Party Parliamentary Group for Energy Studies

The All-Party Parliamentary Group for Energy Studies
Established in 1980, the Parliamentary Group for Energy Studies remains the only All-Party Parliamentary Group representing the entire energy industry. We champion cross-sector energy research and development. The Group's membership is comprised of over 100 parliamentarians, 100 associate bodies from the private, public and charity sectors and a range of individual members.

Published three times a year, Energy Focus records the Group's activities, tracks key energy and environmental developments through parliament, presents articles from leading industry contributors and provides insight into the views and interests of both parliamentarians and officials.

Executive Council

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CHAIRMAN'S FOREWORD

Every time I start this foreword, I write that we live in interesting times, but the past few months have been like no other I can remember – and certainly interesting for both UK energy policy, and for PGES.

2016 will go down in history as a dramatic year for politics in UK, EU and US. During the course of this year we have had a Scottish Referendum an EU Referendum a change of our Prime Minister and US President. Energy has been promoted to sit alongside industrial strategy within the new Department for Business Energy and Industrial Strategy and the Department for Energy & Climate Change has been disbanded.

This edition of *Energy Focus* is being published as the repercussions of the US Presidential Election are being felt. During the campaign, President Elect, Donald J Trump has set out his energy policy, which you can find later in the journal.

PGES has had meetings during the Autumn with an overseas viewpoint. We heard from the Deputy Director General of DG Energy of the European Commission for a European outlook, Dr Lawrence Jones of the Edison Electric Institute to hear an international perspective and, in between, an Energy Barometer presentation.

In addition, for the first time, PGES has conducted an Energy Policy Workshop to set out the priorities for energy policy. Top level representatives of Associate Members contributed to a very stimulating discussion, followed by a simple vote to establish these. Again, the outcomes can be found later in this edition. This was followed by the Annual House of Lords Dinner, which we will be holding in November in future years.

To conclude, whatever the future may hold for UK energy, I am confident that the Parliamentary Group for Energy Studies, along with its members, will be leading policy discussion.

Ian Liddell-Grainger MP
Chairman, PGES
An All-Party Parliamentary Group

EU ENERGY POLICY – POST BREXIT

Gerassimos Thomas, Deputy Director General, European Commission, DG Energy – Gerassimos.Thomas@ec.europa.eu

SEPTEMBER SPEAKER MEETING

Last year was marked by a landmark international agreement with the adoption of the Paris Agreement. Being the first multilateral agreement on climate change covering almost all of the world's emissions, it was a success for the world and a vindication of EU's leadership in transitioning to a low carbon society.

The "spirit of Paris" now has to live on through steady and effective implementation. Much has been said about the COP 22 in Marrakech in November 2016 being an 'implementation COP', one where the details of the Paris Agreement will have to be fleshed out. It is important now for the EU to send a clear signal of commitment and leadership towards meeting the agreed targets.

When it comes to translating this into concrete actions for our energy policy, we have to keep in mind our overall goal of providing not only sustainable, but also secure, competitive and affordable energy to Europe's citizens and businesses. Moreover, the actions we have taken to achieve our emission's reductions targets, together with the liberalisation of the energy market and the emergence of new technologies, are moving us towards a more decentralised, sustainable, and smarter power system. This demands a rethink and redesign of Europe's energy markets.

In order to address the rapidly evolving landscape in which we operate, the Commission proposed last year the Energy Union Framework Strategy. Its strategic vision is now being translated into several EU-level legislative initiatives.

Already last year, the Commission presented a proposal to reform the **EU Emissions Trading System** to make it fit for purpose and drive investments after 2020 in the industrial and power sectors, as well as a proposal for a framework legislation on Energy Labelling and a Communication on a "new deal" for energy consumers. In addition, in July of this year, the Commission proposed the "Effort Sharing Regulation", which sets binding annual greenhouse gas emission targets for Member States for the period 2021–2030 for the sectors of the economy not regulated under the EU Emissions Trading System (EU ETS), together with a European Strategy for low-emission mobility and a proposal to integrate the land use sector into the EU 2030 Climate and Energy Framework. Together with the proposal for the revision of the EU ETS, this will ensure the achievement of the commitments by the European Union and its Member States under the Paris Agreement on climate change.

Another important step has been made to enhance energy security in Europe with the Commission's proposal of a **Security of Supply package**, including revisions of the Security of Gas Supply Regulation and the Decision on Inter-governmental agreements, as well as strategies on LNG and Storage, and Heating and Cooling. Together, these initiatives aim at:

I. Improving security of supply by creating competitive gas markets and by ensuring a greater solidarity between Member States;
II. Putting in place a more effective crisis prevention and response instruments based on cooperation and solidarity; and
III. Reducing import dependency by modernising the heating and cooling sector.

In April this year, we came forward with the Nuclear Illustrative Programme "PINC", which seeks to give predictability on the investment needs in the nuclear field. This is the first report since Fukushima in 2011, focusing on the investments related to post-Fukushima safety upgrades and to the safe operation of existing facilities.

Further initiatives on energy efficiency, renewables and the electricity market design and as well as on governance for the Energy Union will be presented before the end of this year.

The review of the **Energy Efficiency Directive** will set out the right path and create the right framework to meet an ambitious target by 2030.

Given that 40% of our energy consumption relates to our buildings, there will be a particular focus on this sector. We will propose an update to the **Energy Performance of Buildings Directive** and alongside this the Smart Financing for Smart Buildings will help boost renovation rates.

In the area of renewable energy, we need to build on the progress we are already making to further strengthen a market-based approach and encourage regional cooperation. We will propose to amend the **Renewable Energy Directive** in order to create the best possible framework for facilitating the integration of renewables in the market.

The **new Market Design** will bring more security to Europe's electricity systems, integrate renewables and promote flexibility in the markets - including through demand response and storage. This will be essential to allow consumers to become more active by making the most of innovative smart technologies. At the same time it aims to ensure the market is driven by the right price signals to encourage investment.

By the end of the year, the Commission will also present its analysis - now a biennial exercise - of **energy prices and costs**. The report will have a wide scope providing a detailed decomposition of prices for gas, electricity and oil products and also look at comparing prices in the EU with third countries.

Underpinning all of this work on implementing the Energy Union will be a **new governance system** to ensure that the EU and its Member states achieve the objectives set out in the Energy Union.

An update on the progress being made on all fronts will be provided through the Second State of the Energy Union, due before the end of the year.

The Energy Union is a great example of how Europe can provide the framework and regulatory certainty which allows industry to thrive and to lead in the world.

When it comes to delivering a 40% **greenhouse gas reduction** by 2030 the UK is helping to lead the way. The UK has decreased its emissions by 9% between 2005 and 2013 and will hopefully surpass its 2020 target too. But after Paris we all know that we need to go further. And that will bring with it significant investment opportunities for Europe's industry.

Just consider that in spite of falling oil prices, clean energy investment rose 4% in 2015, hitting a new record of $329.3 billion globally. And that is a drop in the ocean when you consider the $13.5 trillion of investment in clean energy technologies and energy efficiency needed to implement the world's climate commitments.

While the EU energy targets provided a policy signal and the necessary economies of scale for companies to develop technologies and bring innovative solutions into the market, it is essential to keep incentivising investment right across the economy during the energy transition.

In its first year of operation, resources from the European Fund for Strategic Investment have been **allocated to projects for Renewable Energy Generation and Smart meters in the UK**, leveraging more than € 5.4 Billion in total investments. Further projects currently in the pipeline are expected to leverage a further € 3.8 Billion in total investments.

Over € 400 million of the European structural and investment funds are earmarked for Energy Efficiency related initiatives in the UK, such as the renovation of public infrastructure, renovation of the existing housing stock, and promotion of energy efficiency in SMEs and large enterprises.

In the area of **security of supply**, it is true that the UK's import dependency is below the EU average - but it has gone up significantly in the last few years. In fact the UK went from being a net exporter of petroleum in 2005 to importing 40% of its consumption in 2013. And it went from importing 7% of its gas needs to importing 50% by 2013.

This evolution demonstrates the importance of **cross border electricity interconnection** between the UK and the continent in order to ensure secure and affordable energy for UK consumers. As the existing interconnection capacity is both low and highly congested, a lot remains to be done in this area.

A number of electricity Projects of Common Interest have been selected for the UK and funding will be unlocked through the **Connecting Europe Facility (CEF)**, to make sure that key infrastructure can be built in time. CEF grants for 2014 involving projects to better connect the UK to France and Norway totaled up to almost € 40 million euro.

The above examples illustrates that the **UK faces similar challenges as other EU Member States**. The UK is a hub for innovation, for competitiveness, for progress. But it needs the right conditions to harness that potential and pass on the benefits of that to the consumer.

WHERE NOW? UK ENERGY POLICY POST BREXIT

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SEPTEMBER SPEAKER MEETING

Brexit will affect all UK policy areas and departments to a greater or lesser degree. How much will depend on a number of factors, the overall relationship the UK has with the EU, the extent of EU policy influence and whether UK policy makers wish to use their new powers to develop a new and distinct approach.

Energy and Agriculture are arguably the two domestic UK policy areas where the EU currently has the most influence. However, whereas agriculture is an area where the UK has traditionally had different interests and approach from the rest of the EU and so may post-Brexit diverge to a significant degree, the future for UK energy policy may not be dramatically affected by Brexit.

EU policy dominates UK energy policy in several ways.

- The climate change agenda, via the Renewables Directive, the Emissions Trading System (ETS) and other measures related to energy saving.
- The Single European Energy Market and cross border trade in electricity, gas and oil.
- The Energy security agenda and the politics on energy supply and pipelines.
- State Aid rules on investment.

In their 2015 manifesto the Conservatives promised to meet its climate change commitments and although, following the vote for Brexit and the change in leadership, the method of reducing emissions might change there no sign that the Government plans any major rethink of its overall aims. In fact, the UK in passing the Climate Change Act 2008 remains committed to a greater reduction in emissions than the EU. There is a political consensus in the UK regarding a desire to cut emissions, the UK is a signatory to the Paris climate change agreement and there is cross party consensus as to its ratification.

In this sense the UK will not diverge from the EU in its overall climate change policy but it may well diverge on the way of getting there. For instance:

The Emissions Trading Scheme

Outside the EU the UK is unlikely to overturn decades as a vocal advocate of a market based system. However, the current EU ETS is not working, not least because the price of carbon in the system (going at one point below 3 Euros) is far lower than the UK's unilaterally imposed carbon floor price of £18 per tonne. This puts UK industry at a disadvantage and is ultimately unsustainable. This leaves the UK with a number of options. It could seek to remain in the EU ETS by agreement. This would require reform of the ETS and a complicated negotiation to ensure that the UK industry is allocated a fair share of allowances in the future.

The second option would be to create a UK only scheme similar to or linked to the EU's ETS in the manner that Norway has done.

The Renewables Directive

The Renewables Directive, and in particular onshore wind, has been a politically sensitive issue in the UK, not least for Conservative MPs in rural constituencies. As such the Conservative manifesto promised to "halt the spread of subsidised onshore wind farms", although off shore wind is less sensitive it may be that the UK will not revisit or seek to replicate the renewables directive post 2020. Additionally, if the EU were to bring forward a new directive for the period 2020-2030 there would be a number of problems for UK participation including those on burden sharing hindering agreement.

Although existing contracts with renewable suppliers will be honoured it seems more likely that other methods of promoting decarbonised electricity will be looked at perhaps in the context of a new ETS system. Ultimately how far the UK develops its own policies will depend on the overall UK/EU agreement, if the UK mirrored the EEA model it would have less leeway than if it decided to trade on conventional terms.

Single European Energy Market

The UK was a supporter of the creation of an internal market in energy as a way to reduce costs and improve overall security of supply. There may be scope for the UK to continue to participate in this work and remain a member of the agencies that regulate it. However, whatever the final relationship, the UK will want to maintain the import of electricity through the interconnectors with France as well as its links with the Irish energy market. The UK is the centre for major gas pipelines (BBL, Moffat) from Norway, Ireland and the Netherlands and ensuring the free flow of gas will require some degree of regulatory cooperation that could be a part of an overall UK/EU trade agreement.

Energy Security

The UK will remain an important foreign policy and security partner of the EU. The UK remains an energy exporter and with the development of shale gas and as a hub for energy interconnectors could contribute to a diversification of EU energy supply reducing the EU's dependence on Russia. The UK and the EU have a mutual interest in continuing to develop these links and bilaterally the UK will continue to cooperate with Ireland on energy.

State aid

The issue of state aid is a relevant on in the energy market as the sector often requires large government backed infrastructure projects. The case of the Hinckley Point nuclear power station remains contentious but it should be remembered it was originally subject to EU rules. Given the chronic need for investment in the UK energy sector, it may be that a UK government would wish to introduce some flexibility into the rules for large energy projects within the context of a new UK/EU agreement.

So where now?

Beyond the EU it is clear the UK has a great need for new reliable baseload electricity generation. The new Government and its new emphasis on industrial policy and the cost of living has shown itself aware of the need for cost effective electricity and security concerns dictate a greater use of indigenous supplies. With shale technology coming of age it is likely that the UK will seek to rely on gas for more of its electricity generation.

Energy is an area where there is a mutual EU/UK interest in cooperation. The UK currently applies all of EU law and regulations and independently shares the EU's aims on climate change. This should ease future agreement. However, there are dangers that an agreement that would oblige the UK to adopt future EU laws, without any influence, may open the UK up to dangers of inappropriate legislation, such as nearly happened over the health and safety regime for North Sea oil and gas rigs. There also remain other concerns, such as a danger that future regulations in other areas may impose unexpected costs such as happened with the industrial emissions directive. There are also lingering concerns in other areas such as the passages in the Lisbon Treaty on 'energy solidarity'. However, these concerns are outweighed by the mutual benefit of aa agreement and so an agreement there will be.

VIEWS FROM UK ENERGY PROFESSIONALS

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The UK energy system is currently faced with three pressing issues: climate change mitigation, a sustained low crude oil price, and uncertainty and disruption caused by a pending exit from the EU. Given the scope, urgency and interconnection of these challenges, policy makers need a strong evidence base to inform decisions and strategy. One important source of such evidence is the expertise of professionals working within the energy industry.

The Energy Institute (EI)'s Energy Barometer gives access to the knowledge of a diverse and well-qualified set of these professionals: EI members from across a number of sectors and disciplines. The Energy Barometer is the product of an annual survey of the EI College, a group representative of EI members. In 2016, they identified the following challenges, and proposed policy solutions, linked to these three issues.

Climate change mitigation

Professionals are not confident about the UK's ability to meet climate targets, even (and especially) the legally-binding 2050 target. Given the policies currently in place, professionals expect the UK to fall increasingly short of the 3rd, 4th and 5th carbon budgets. 80% of those surveyed expect the UK to fall short of the 2050 emissions target. 57% think that we will fall significantly short of that target.

70% of those surveyed thought the Paris Agreement would not be sufficient to hold global temperatures to below a 2°C rise. This is fairly consistent with pre-Paris Agreement 2015 findings. Although this finding itself is not surprising, viewed alongside concerns about the 2050 targets it suggests that professionals do not think climate policies are going far enough.

The pessimism around the UK's ability to meet climate targets is seen to stem partly from a lack of clear policy signals to enable long-term investments in technology and infrastructure. These investments are in turn needed to enable the transition to a low carbon energy system. For example, policy uncertainty is seen by professionals to be hampering long term investment in key low carbon technologies such as carbon capture and storage (CCS), hydrogen, nuclear, and marine generation such as wave and tidal.

Crude oil price

In addition to its direct impacts within the oil and gas sector, the low oil price is seen as another disincentive to low carbon investment. Stifling the low carbon economy, drawing focus from energy demand, efficiency and climate and sustainability goals were among the main impacts of the low oil price identified. However, some potential opportunities were identified, including short-term lowering of transport costs and a chance to reduce subsidies to fossil fuels for the longer term.

As they did in 2015, professionals expect the oil price to rise slightly over the next 12 months. Professionals believe the main factors driving that price are the actions of oil producing nations, geopolitical instability, and demand levels in developing countries.

UK exit from the EU

Brexit is a significant source of concern across the energy industry. Professionals overwhelmingly foresaw negative effects from a scenario where the UK leaves the EU but remains in the single energy market.

When asked how specific areas of the energy system would be impacted by Brexit, the areas expected to suffer the most were addressing climate change, support for research and innovation, and renewable energy development. The single area of the energy system seen to benefit (although only slightly) from this Brexit scenario was oil and gas production. The greatest risk of Brexit as perceived by energy professionals was the impact on access to skilled workers, movement of labour, and opportunities for UK companies abroad as well as EU companies in the UK.

This same group, the EI College, submitted written evidence via the EI to the Energy and Climate Change Committee's enquiry into "Leaving the EU: implications for UK energy policy". When asked, "What should be the Government's priorities on energy when negotiating the UK's exit from the EU?" and "What would a successful negotiation outcome look like?" the EI College drew out these top priorities:

- Maintain security of supply;
- Retain access to EU energy market, and allow EU to access UK market;
- Retain movement of labour and access to skilled workers;
- Maintain free flow of project finance;
- Continue to share information and participate in collective efforts affecting energy system;
- Maintain a strong commitment to the environment; and
- Ensure energy supplies remain affordable (domestic, commercial and industrial).

These recommendations echo many of the biggest concerns for the energy system as a whole, independent from Brexit. Some pointed out that the priorities for these negotiations should broadly reflect the existing priorities for energy policy. Following on from this written evidence, the EI held a debate on 12 October to further explore these questions. The issues above were refined into 3 top recommendations for negotiators to prioritise:

- **Access to the single energy market**

  Continued access to the EU energy market will help meet future demand, decarbonisation targets and keep prices down for consumers. Negotiations should aim to maintain harmonised trading agreements and standards, as well as interconnection for electricity and gas.

- **Access to skilled labour**

  Skilled people are critical for energy companies, centres for research and innovation, and academia. Negotiation outcomes should provide assurance for existing foreign workers, researchers and academics. Although this is particularly true for science and technology focused industries like energy, it applies across the UK economy.

- **Clarity of process and timing**

  A clear roadmap of the negotiation and transition process will provide clarity for the industry and importantly for investment and finance. Uncertainty around the Brexit negotiation process and timetable for leaving the EU threatens investment in energy projects at a time when key changes to infrastructure are needed and pressure from low oil prices is already challenging.

Tackling challenges

Policy continuity

Given the interconnectedness of these challenges, the significant changes needed to meet climate goals, and a backdrop of uncertainty, it is important to establish a long-term, systems-level strategy. Stability in one area (policy) is needed in order to drive change and innovation in another (the energy system).

For the second year in a row, policy continuity has been named in the Energy Barometer as the biggest challenge for the energy system in 2016. Professionals are not asking for stagnant policy, rather a clear, long-term policy direction against which industry can plan.

A policy direction which supports the transition to a low carbon energy system through both supply and demand side measures is sought by energy professionals. Significant transformation of the heat and transport systems over the next 15 years is expected and regarded as essential. Critically, professionals point to continued decarbonisation of the electricity system as a fundamental manifestation of this transformation.

Investment

The low carbon transition will require increased investment across systems, in particular in efficiency within transport, heat, and electricity. In addition to suffering the negative impacts of the low oil price, investment in low carbon technologies was flagged up as most negatively affected by policy uncertainty. Professionals were asked where investment risk was high, but also where investment levels needed to change. Almost across the energy system, they identify the need for increased investment.

Traditional 'technologies' on the supply side are not the only ones flagged as needing investment. In fact, energy efficiency, in transport, buildings, and industry, is singled out as requiring the greatest increases over the next 3 years. Investment in efficiency is seen as an important way of meeting security, sustainability and affordability goals. A 'non-tech' area in need of greater investment, and often linked with efficiency measures, is behaviour change for demand reduction.

Electricity generation from fossil fuels was identified as the only area where investment should not be increased. This message comes consistently from professionals across sectors, and further reflects the need to transition our energy supply and demand towards a lower-carbon landscape.

Dialogue

Beyond the more familiar levers of policy and investment, professionals recognise the role for communication in tackling energy system challenges. The transformation of the energy system will require new approaches to communication between all stakeholders. Those within the industry recognise that 2-way communication with and involvement of the public is not currently a priority within their sectors. Energy professionals emphasised improving the level and quality of communication with stakeholders is essential if we are to transition to a low carbon economy smoothly and effectively. This is an area for needed attention across all sectors.

Given the significant role end users play in the energy system, there is a strong argument for involvement and dialogue as a new model for communicating across stakeholders, importantly including those outside the industry and policy realms. Dialogue between all stakeholders – end users, industry, NGOs and government - will help develop the best possible solutions, and ensure their effective adoption.

The integration of energy into the wider UK industrial strategy within the Department for Business Energy and Industrial Strategy provides an opportunity for dialogue and strong links between Government, energy users and the energy industry, leading to system-level solutions to the challenges we face.

The EI is in a good position to facilitate conversations with energy professionals, through the Barometer and other engagement and knowledge-sharing activities. We invite policymakers to become involved in this engagement by suggesting questions for use in the Barometer or identifying areas which could usefully be discussed.

The 2016 Energy Barometer report, along with the full data set from survey responses, can be found at ***www.energyinst.org/energy-barometer***.

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ENERGY POLICY WORKSHOP

Report on a special meeting 8th November 2016

The Executive Council of PGES decided that as the new Department of Business, Energy and Industrial Strategy took shape, the membership of PGES, the longest standing Parliamentary Group on Energy should meet to prioritise the top 10 energy policy needs. This would then give both the Group and the new Department a framework for energy policy to give focus, both during the Brexit negotiations and beyond. Associate Members were asked to submit their three top priorities, so that these could be considered and grouped into an overall priority listing for the PGES as a whole.

The meeting was held in the House of Lords Committee Room G, hosted by Lord Skelmerdale and Chaired by Ian Liddell-Grainger MP.

A panel of experts was formed of Mark Elborne, President & CEO, GE UK & Ireland, Jens Wolf Director of Regulation and Markets of Drax and Ian Graves Director for European Business Development of National Grid, and on PGES Executive Council. All moderated by Lawrence Slade, CEO of Energy UK.

There was a great turnout of members, with senior level delegates from all parts of the energy spectrum, both industrial and academic. Several Peers were also in attendance, giving insight into some policy thinking.

The individual requests had been grouped into ten different headings, each of which had several sub topics. These were set out, commented upon by panel and the floor of the meeting. Discussions we open and wide ranging, but leading to easily agreed outcomes.

A simple voting system was adopted to give the final priorities of the topics.

L-R Lord Skelmersdale, Ian Liddell-Grainger MP, Lawrence Slade, Ian Graves, Mark Elborne and Jens Wolf

During discussion on the day, it became evident that there were six major topics, with a further five strands that were interwoven

PGES Top Priorities for Energy Policy are

1. **Energy Efficiency**
2. **Heat**
3. **Future generation, market design and operation**
4. **Carbon Targets**
5. **Flexibility**
6. **Future of gas**

with interweaving strands being

1. **Energy as National Infrastructure**
2. **Transport**
3. **Energy in Brexit**
4. **Consumer engagement**
5. **Investment**

Each topic has multiple layers and complexity.

These policy areas provide an opportunity for Government to demonstrate ambition and leadership.

PGES Energy Policy Priorities

1. **Energy Efficiency**

   Demand reduction needs to be separated from fuel poverty. Commercial & Industrial sector is an easy win, ongoing building performance checks needed. C&I is DECC focus.

2. **Heat**

   Described as the elephant in the room. Very large energy consumption. Retrospective Building Regulations needed to improve building stock.

3. **Future generation, market design and operation**

   Policy harmony is required, instead of the current approach which supresses important elements. Important also as policy is slower to change than either markets or technology.

4. **Carbon Targets**

   No negatives, but heat must be considered as a topic on its own.

5. **Flexibility**

   Includes Demand Side Response, Energy Management, Smart Grid and Storage. Broad acceptability, essential elements for energy policy. Include storage, not just batteries.

6. **Future of gas**

   Hydrogen (H2), Biogas, Syngas, CCS and use of existing infrastructure. CCS is an essential element. Hydrogen is a sure winner - can also be created from fossil fuel and use existing infrastructure.

With the interweaving strands being

1. **Energy as National Infrastructure**

   National level approach is vital, but market led solutions must be encouraged. These need different approaches, not one size fits all.

2. **Transport**

   Net effect on network could be less than expected as it will drive consumer understanding

3. **Energy in Brexit**

   A strong thread through all energy policy, but not over whelming, as energy needs longer term thinking. Industry needs ambition led by Government for energy, efficiency and interconnecting.

4. **Consumer engagement**

   Essential for commercial success in domestic and C&I markets. Consumers need to understanding of policy cost.

5. **Investment**

   Investment finance is available, but UK must show itself to be investable and ambitious.

PGES would like to see that energy policy leads industrial strategy within the new Department. This will help UK to not only set an example of a good energy market for others to follow, but to aid competitiveness in the post Brexit world.

HOUSE OF LORDS ANNUAL DINNER 8TH NOVEMBER 2016

Hosted by the Lord Skelmersdale

Sponsored by National Grid

Guest of Honour, the Alex Chisholm, Permanent Secretary, Department of Business Energy and Industrial Strategy

Phil Jones, Northern Powergrid; Mark Elborne, GE; Phillipe Hergaux, Total

Ian Liddell-Grainger MP; Lord Skelmersdale; Alex Chisholm, Perm Sec BEIS; Ian Graves National Grid

Prof Goran Strbac, Imperial College; Prof Tooraj Jamasb, Durham Energy Institute

Ashutosh Shastri, Enerstrat Consulting and Prof. Martin Fry ESTA

Peter Haslam, Nuclear Industry Association; Lord Broers

Ian Graves, National Grid welcomes the Guest of Honour

Animated Q&A moderated by Ian Liddell-Grainger MP

Lord Skelmersdale welcomes us

Alex Chisholm, Permanent Secretary BEIS delivers the keynote speech

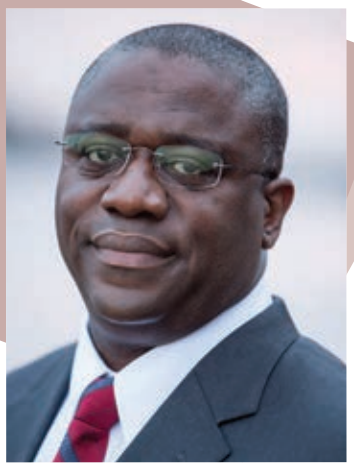
Lawrence Slade, Energy UK gives feedback from the Workshop

Archie Bethel CBE, Babcock International

Question from Ian Gardener, Arup

Question from Andrew Large, Confederation of Paper Industries

PREDICTING THE EVOLVING ENERGY TRANSITION



An international perspective

By Dr Lawrence Jones, Edison Electric Institute
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Predicting the future is never easy; known unknowns and black swans should always be expected. Some trends don't lend themselves to analytical modeling, which is the basis of the science of forecasting. This is especially the case when it involves human decision-making and consumer behavior.

Recent years have shown that many the long-standing axioms pertaining to a wide swath of issues may not be as immutable as we thought. Nowhere is this more true than in the realm of the global energy transition.

The past and the present can be described using empirical facts and historical truths, be they convenient or inconvenient. To describe the future, on the other hand, is an exercise in imagination. Even if one imposes strict academic rigor upon such investigations, the result is still just a well-informed guess.

Recent upheavals remind us of the inherent risks and uncertainty of predicting human behavior with any sort of fidelity. Modeling based on the past has always relied on linear thinking and the law of averages, when human responses match conventional assumptions. Imagine for a moment what happens when our assumptions are wrong and the past does not accurately foretell future outcomes? The typical response by most predictors, prognosticators, and fortune tellers is to revisit assumptions asking the all too common questions; "what did we miss and why did we not see this coming"?

I am in no way suggesting prediction is an exercise in futility, or that we should not try to imagine what tomorrow might look like. Indeed, it is important to imagine and plan for contingencies. While exploring future scenarios may seem an endless and fraught task, there is more risk in failing to consider outlier scenarios and their potential effects. Identifying these scenarios often requires a completely unconventional mindset.

The forces which define the future trajectory of almost everything are seldom linear or obvious. In fact, they are often exponential, obscured, and nonlinear in character. Thus when trying to imagine the future of energy, it is critical that we examine past and explore the future impacts of these forces. It is also important to recognize that some of these forces are discrete, unpredictable and seismic events with ripple effects that exceed their immediate physical and geographic boundaries. Just as we can design buildings to withstand earthquakes and storms of varying strengths, in light of the many potential seismic events that could impact the future of energy, it is high-time that we stretch our imagination when designing our global energy ecosystem.

Our current and future energy system trajectories are a function of the collective impacts of several driving forces. These include: technology, markets, customers, policy and Mother Nature. While each of these can be global in scope, ultimately the impact of each is local in character.

Thus, my discussion on global perspectives about the future energy transition is based on insights I have gained from conversations with futurists, energy practitioners, executives from energy and technology companies, policy makers, investors, scientists, and most importantly energy consumers across the globe over the past eight years. In forming what one might consider a shared global perspective on energy, I have tried to imagine the future by looking through the prism of the views of those with whom I have spoken, as well my own assessment of the evidence that currently exists, a dose of thinking the unthinkable, and the hopeful eyes of children around the world.

Before looking forward it is useful to look back for seismic and game-changing events, and new concepts related to the each of the five driving forces that brought us to the current state of global energy. See the table below. It is noteworthy that while some of these events are local in geography, their ripple effects were felt across the world. For example, the 2011 earthquake in Japan and the subsequent nuclear accident, which affected local energy policy in that country, increased global demand for gas and other fuels, resulted in Germany's Energiewende policy that consequently affected the EU energy policies. This example also highlights the interconnectedness and geopolitics of energy today and for the foreseeable future.

Driving Force	Examples of Events, Game-Changers, Trends, and Business Concepts
Mother Nature	Climate Change, Super Storm Sandy, 2011 Earthquake in Japan, BP Oil Spill
Technology	Smart Grid, Smart Cities, Internet of Things, Electric Vehicles, Hydraulic Fracking, Distributed Energy Resources, Renewable Energy, Sensors, Data Analytics, Artificial Intelligence, Social Media, Cloud Computing, Virtualization, Hyperconnectivity
Consumers	Sharing Economy, Choice, Control, Home Energy Management
Markets	Fuel Prices (oil, gas), Impact Investors, Crowdfunding, Circular Economy
Policy	Energiwende, COP21, UN SE4All,

It is important to also understand the cross-cutting issues that have emerged directly or indirectly due to these driving forces, and how they gained importance in recent years thus shaping the global energy debates. Some of these include:

- Cyber security
- Integration of clean energy
- New regulatory and electric company business models
- Integration of distributed generation
- Modelling customer behavior
- Building smarter energy infrastructure
- Designing innovative customer solutions
- Finding a balanced energy mix

Literature is replete with reports and analyses that discuss these events, game-changers, trends, business concepts, and issues and their impacts in a country, regional and global context. Therefore, we may be inclined to make the reasonable and albeit linear assumption that many of these driving forces and factors will still be dominant.

However, as argued at the outset, 2016 and previous years have taught us to not constrain our imagination by linear thinking, but should instead apply exponential thinking as we explore the future global energy transition. We should try to think about those black swans, seismic events and game-changing developments that will shape the future energy trajectory of individual nations, regions and of the world. One way to begin this process is to consider a number of "what if" scenarios. These are not listed here in any special order but left random to allow for some divergent thinking. Let's time travel to our energy future and consider the following:

What if:

- The world had 50 new megacities with population of 25 million by 2030?
- Europe got 50% or its electric energy from offshore or artic wind and tidal power?
- 50% of cars in OECD countries were all electric?
- Energy storage is owned and operated by electric companies to offer reliability and other innovative customer solutions and services?
- Drones were the main form of delivering goods?
- Artificial intelligence is ubiquitous in energy infrastructure?
- More consumers in non-OECD countries got their energy from solar PV?
- Urban living became completely virtualized?
- There were more multi-commodity international companies (e.g. electricity, heating, cooling, water, transportation)?
- African countries increased their standard of living of their citizens and thus increased their energy consumption by 50%?
- Wireless transmission of low powered energy became more pervasive and ubiquitous?
- Batteries became 25% more efficient by 2030?
- Block Chain technologies became main stream in the global economy by 2025?

I encourage you to come up with more of your own "what ifs" as your imagination permits.

The point is that as we think about and try to predict the global energy transition we must not allow our past to restrict us to a linear extrapolation to the future. Given our ever-increasing hyper-connectedness, and that energy is both a global and local issue, we must not limit our explorations of future scenarios to what could occur close to home. Instead, we must expand our investigations beyond temporal and geographic boundaries.

Myriad drivers have put our energy future on course towards a low carbon energy economy. But like every complex journey ripe with human interventions, it would be unwise to assume that there will not be twists and turns along the way.

The big unknown is what will they be, and when will they occur?

AN AMERICA FIRST ENERGY PLAN

President Elect, Donald J. Trump's Vision

Following the Presidential Election in the US, we were keen to understand where the Trump Administration will start its energy policy. The following is published on the DonaldJTrump.com website under energy policy.

- Make America energy independent, create millions of new jobs, and protect clean air and clean water. We will conserve our natural habitats, reserves and resources. We will unleash an energy revolution that will bring vast new wealth to our country.
- Declare American energy dominance a strategic economic and foreign policy goal of the United States.
- Unleash America's $50 trillion in untapped shale, oil, and natural gas reserves, plus hundreds of years in clean coal reserves.
- Become, and stay, totally independent of any need to import energy from the OPEC cartel or any nations hostile to our interests.
- Open onshore and offshore leasing on federal lands, eliminate moratorium on coal leasing, and open shale energy deposits.
- Encourage the use of natural gas and other American energy resources that will both reduce emissions but also reduce the price of energy and increase our economic output.
- Rescind all job-destroying Obama executive actions. Mr. Trump will reduce and eliminate all barriers to responsible energy production, creating at least a half million jobs a year, $30 billion in higher wages, and cheaper energy.

Various commentators have expressed comfort or concern over each of these policy statements. During the election campaign, Donal Trump said "I'm not a big believer in Global Warming" and "The concept of global warming was created by and for the Chinese in order to make U.S. manufacturing non-competitive.". The **www.greatagain.gov** website carries the following (under policy/energy-independence).

Energy Independence

The Trump Administration will make America energy independent. Our energy policies will make full use of our domestic energy sources, including traditional and renewable energy sources. America will unleash an energy revolution that will transform us into a net energy exporter, leading to the creation of millions of new jobs, while protecting the country's most valuable resources – our clean air, clean water, and natural habitats. America is sitting on a treasure trove of untapped energy. In fact, America possesses more combined coal, oil, and natural gas resources than any other nation on Earth. These resources represent trillions of dollars in economic output and countless American jobs, particularly for the poorest Americans.

Rather than continuing the current path to undermine and block America's fossil fuel producers, the Trump Administration will encourage the production of these resources by opening onshore and offshore leasing on federal lands and waters.

We will streamline the permitting process for all energy projects, including the billions of dollars in projects held up by President Obama, and rescind the job-destroying executive actions under his Administration. We will end the war on coal, and rescind the coal mining lease moratorium, the excessive Interior Department stream rule, and conduct a top-down review of all anti-coal regulations issued by the Obama Administration. We will eliminate the highly invasive "Waters of the US" rule, and scrap the $5 trillion dollar Obama-Clinton Climate Action Plan and the Clean Power Plan and prevent these unilateral plans from increasing monthly electric bills by double-digits without any measurable effect on Earth's climate. Energy is the lifeblood of modern society. It is the industry that fuels all other industries. We will lift the restrictions on American energy, and allow this wealth to pour into our communities. It's all upside: more jobs, more revenues, more wealth, higher wages, and lower energy prices.

The Trump Administration is firmly committed to conserving our wonderful natural resources and beautiful natural habitats. America's environmental agenda will be guided by true specialists in conservation, not those with radical political agendas. We will refocus the EPA on its core mission of ensuring clean air, and clean, safe drinking water for all Americans. It will be a future of conservation, of prosperity, and of great success.

EXTRACTS FROM THE AUTUMN STATEMENT 2016

Made by the Rt Hon Philip Hammond MP Chancellor of the Exchequer

23rd November 2016

Abolition of the Autumn Statement

The Rt Hon Philip Hammond, Chancellor of the Exchequer announced at the Autumn Statement that there would be no further Autumn Statements, but instead, an Autumn Budget. The April Budget in 2017, will be the last, to be replaced by a Spring Statement to respond to the forecast from the Office of Budget Responsibility.

Carbon Price Support will continue to be capped out to 2020.

In addition, the energy market will be reviewed again, "We will look carefully over the coming months at the functioning of key markets, including the retail energy market, to make sure they are functioning fairly for all consumers."

"Energy and flooding

Over the next 15 years, more than £100 billion of private investment is expected in the UK's energy sector, providing new cleaner generating capacity, upgrading to a smarter energy system, and developing new resources such as shale.

Levy Control Framework – The government is committed to decarbonising the economy while limiting costs on bills, and will continue to engage stakeholders as it develops an emissions reduction plan. The government is considering the future of the Levy Control Framework which it will set out at Budget 2017.

Carbon Price Support – To provide certainty to businesses, the government confirms it is maintaining the cap on Carbon Price Support rates at £18 t/CO2, uprating this with inflation in 2020-21. The government will continue to consider the appropriate mechanism for determining the carbon price in the 2020s.

Shale Wealth Fund – Following a consultation to ensure local communities share in the benefits of shale production, the Shale Wealth Fund will provide up to £1 billion of additional resources to local communities, over and above industry schemes and other sources of government funding. Local communities will benefit first and determine how the money is spent in their area."

"Fuel duty – The fuel duty rate will remain frozen for the seventh successive year…"

PARLIAMENTARY RECORD

SELECT COMMITTEE STATEMENTS, REPORTS AND INQUIRIES

5th September 2016 – 8th December 2016

House of Commons

Select Committee for Business, Energy and Industrial Strategy Committee

There are no open inquiries regarding energy.

On 31st October 2016, Paul Blomfield and Jonathan Reynolds were discharged from the Business, Energy and Industrial Strategy Committee and Albert Owen and Anna Turley were added.

Select Committee for Energy and Climate Change – this Committee has now ceased Committee

3rd Report – The Energy Revolution and future challenges for UK energy and climate change policy – Published 15th October 2016

See separate report on following page (22)

2nd Report - 2020 renewable heat and transport targets inquiry – Published 9th September 2016

The report carries recommendations for 2020 Targets, Renewable Heat Incentive, Renewable Transport Fuel Obligation, Biofuel, Transport & Heat Electrification, recommending a whole system approach and proposals for leaving the EU.

1st Report – Low carbon network infrastructure inquiry Published 17th June 2016

The report made recommendations for areas such as distributed generation, network and connection costs, smart grids, gas and heat networks, storage, demand side response, interconnection, innovation and system operation.

The final recommendation for Flexible policy for a flexible energy system was: "We understand the complexity of energy systems and of the policy framework to meet them. We would not want DECC, Ofgem, National Grid or any other body with strong influence to make rushed and consequently poor decisions. However, sometimes making no decision on a rapidly-moving issue is worse than an imperfect one."

Select Committee for Environmental Audit

Inquiry into Assessment of EU/UK environmental policy inquiry Published 23rd March 2016

The report considered that the UK would still need to meet international environmental commitments made in the UN and elsewhere, many of which are reflected in EU law. In addition, a UK outside the EU would still have to comply with some aspects of EU environmental legislation, particularly if it wishes to secure preferential access to the Single Market.

Inquiry into Sustainability and HM Treasury Published 8th November 2016

The Environmental Audit Committee called for written evidence on the role of HM Treasury in relation to sustainable development and environmental protection in December 2015.

The report recognised the importance of HM Treasury, but recommended that it should on occasions take a longer term view on policy costs, to avoid disadvantaging emerging technologies or positive environmental impact.

House of Commons Energy and Climate Change Committee

The energy revolution and future challenges for UK energy and climate change policy
Third Report of Session 2016–17

The Select Committee has compiled a mammoth report to complete all possible inquiries that were underway and to highlight those that were outstanding. As an exception, this report is given greater space than usual. The following are extracts from the Conclusions and Recommendations.

ENERGY REVOLUTION

Storage - Storage presents a real opportunity for the UK. We reiterate our previous call on Government to move quickly on addressing regulatory barriers faced by storage: there must be a clear definition for storage, double-charging must come to an end, and a separate asset class for grid-level electricity storage. The Government must also review the outdated Capacity Market rules and regulations for storage projects.

Demand-side management - The right policy framework needs to be put in place to unlock the full potential of demand-side response (DSR) technologies. This will empower consumers, reduce bills, ease grid pressure, and lower carbon dioxide emissions. The market should also be given a clear signal that DSR capacity is to be procured as a strongly preferred alternative to diesel generation plants. The Government should itself become a beacon of good practice.

Digital engagement of energy consumers It is vital to communicate effectively to consumers the benefits of smart meters and intelligent devices to manage energy use in homes and businesses. Government will want to ensure that this opportunity for UK households is not held back by regulation or a lack of understanding within Whitehall.

Nuclear innovations The Government hopes to establish the UK as a global leader in the Small Modular Reactor (SMR) market. Our successors may in due course wish to investigate progress on the development and deployment of SMRs.

Economic opportunities of the energy revolution Technological leadership can be lucrative, but often occurs on longer timescales than private investment is comfortable with so there is a role for Government in driving energy innovation. The energy revolution presents a huge economic opportunity for the UK.

LEAVING THE EU

EU Emissions Trading Systems The System requires reform but stakeholders are optimistic that the next reformed phase of the EU ETS—with clearer price signals more closely aligned to the UK's carbon price floor and improved governance—will better incentivise low carbon investment and reduce emissions.

EU Effort Sharing Stakeholders agree that there is little risk to the UK in signing up to its proposed contribution. Renegotiating these proposals could be burdensome. We note that because of the UK's higher than average contribution to the proposed target, the onus would be on the rest of the EU to step up its ambition.

Paris Agreement and future international climate negotiations The recent vote to leave the EU does not change the UK's requirement to reduce emissions in line with the Paris Agreement and domestic legislation.

Internal Energy Market Stakeholders are in favour of continued UK access to the Internal Energy Market (IEM). We note that:

- If IEM participation is to be pursued the Government will need to explore potential membership models, such as the Energy Community Treaty.

- If continued IEM participation looks doubtful, the Government should undertake a thorough assessment to ensure that policy risks are understood and minimised.

- In the event that the UK loses its membership of but retains access to the IEM, the Government will need to identify new routes to shape the development of IEM policy. Without this the UK risks losing its role as an IEM 'rule-maker', instead becoming a 'rule-taker'. (Paragraph 99)

Security of supply Pan-European coordination has helped to improve the UK's security of supply. The Government should seek to build investor confidence, to avoid exacerbating difficulties in bringing forward investment in new electricity capacity and new indigenous resources. Interconnections improve security of supply, facilitate cross-border trading and enable grid-balancing to be managed more cost-effectively. The European Network Codes (ENCs) may need to be retained to ensure the functionality of energy trading and system operations across interconnectors with Europe.

EU funding The Government should provide clarity to Parliament on whether funds awarded from EU schemes other than Horizon 2020 will be retained and/or underwritten.

Investor confidence The Government should promote investment by providing clear signals on the direction of domestic energy policy to be followed throughout, and after, the exit negotiations, for example through the timely publication of a detailed Emissions Reduction Plan.

Repealing the European Communities Act 1972 EU-derived legislation retained in UK law will need to be reviewed and amended in the light of the UK's relationship with the EU once it has formally left.

Guiding principles for the EU exit negotiations The UK's departure from the EU is not expected to change the general direction of UK energy policy. However, the absence of external enforcement and accountability mechanisms could weaken the imperative to deliver on policy targets. EU energy and climate change policies have historically played an important role in underpinning UK policy and providing a 'double-lock' to decarbonisation commitments. This has bolstered investor confidence by providing policy stability beyond the five-year domestic parliamentary cycle.

As the UK Government prepares for the exit negotiations, we set out the following guiding principles:

- In the absence of certainty on the status of policies derived from the EU, build investor confidence by providing clarity on the long-term strategic domestic energy and climate change policy framework.

- Maximise the future opportunities to cooperate with the EU and other partners to retain the UK's wider international standing in climate leadership and as a hub for low carbon innovation.

- Avoid a rushed decision on the Internal Energy Market. Ensure that the energy sector has a voice in future changes to rules and regulations that may affect it after the UK has formally left the EU.

- Maintain the ease of UK-EU trade across interconnectors to secure supply and reduce costs, and seek tariff-free access to goods and services that supply the energy sector and low carbon manufacturing facilities.

- Ensure that arrangements are in place to provide the energy sector with a skilled and mobile workforce.

Highlights from 2015–16

We urge our successors to press the Government on the timeline for developing its Emissions Reduction Plan to meet the fourth and fifth carbon budgets. Delaying the publication and implementation of a robust plan risks further uncertainty on the direction of UK energy and climate policy which could damage investor confidence and call into question the UK's ability to meet its long-term decarbonisation targets. Our report, Investor confidence in the UK energy sector, set out a number of detailed recommendations and questions that remain ignored by Government. The Government's engagement with this report has been wholly inadequate, and we urge our successors and other Members to continue to press for an adequate response.

PARLIAMENTARY ORAL QUESTIONS AND DEBATES

House of Commons

Oral Questions from 5th September 2016 – 8th December 2016

Safety at Sellafield
Jamie Reed (Copeland) (Lab)
6 September 2016 Column: 614

Paris Climate Agreement
Caroline Lucas (Brighton, Pavilion) (Green)
Patrick Grady, (Glasgow North) (SNP)
7 September 2016 Column: 333, 359

Fourth Industrial Revolution
James Heappey (Wells) (Con)
8 September 2016 Column: 542

Business, Energy and Industrial Strategy Questions 13th September 2016
Hinckley Point C
Angela Crawley (Lanark and Hamilton East) (SNP)
Tommy Sheppard (Edinburgh East) (SNP)
Christina Rees (Neath) (Lab/Co-op)
Mr John Whittingdale (Maldon) (Con)
Barry Gardiner (Brent North) (Lab)

Solar Power
Gill Furniss (Sheffield, Brightside and Hillsborough) (Lab)
Kevin Hollinrake (Thirsk and Malton) (Con)
Dr Alan Whitehead (Southampton, Test) (Lab)
Barry Gardiner (Brent North) (Lab)
Christian Matheson (City of Chester)(Lab)
13 September 2016 Column: 749 – 759

Topical Questions Departmental Responsibilities
Neil Parish (Tiverton and Honiton) (Con)

Energy Generation
Fiona Mactaggart (Slough) (Lab)

Paris Climate Agreement
Patrick Grady (Glasgow North) (SNP)

Non Commercial Community Energy Schemes
Pauline Latham (Mid Derbyshire) (Con)

Biomass combined heat and power plants
Ian Blackford (Ross, Skye and Lochaber) (SNP)

Global leaders in Technology
Peter Aldous (Waveney) (Con)

Low-carbon on-site heat
Nigel Adams (Selby and Ainsty) (Con)

Support for the Oil and Gas sector in Autumn Statement
Hannah Bardell (Livingston) (SNP)
13 September 2016 Column: 760 - 765

Tackling Climate Change
Ben Howlett (Bath) (Con)

Carbon Capture and Storage Strategy
Alex Cunningham (Stockton North) (Lab)
14 September 2016 Column: 887 - 897

Hinkley Point C
Ian Liddell-Grainger (Bridgwater) (Con)
15 September 2016 Column: 1072

Horizontal Shale Gas
Mark Menzies (Fylde) (Con)
13 October 2016 Column: 438

Swansea Bay Tidal Lagoon
Margaret Greenwood (Wirral West) (Lab)
Edward Argar (Charnwood) (Con)
Carolyn Harris (Swansea East) (Lab)

Energy intensive Users
Gerald Jones (Merthyr Tydfil and Rhymney)(Lab)
19 October 2016 Column: 790 – 794

EU Environmental Regulations
Neil Parish (Tiverton and Honiton) (Con)
20 October 2016 Column: 945 – 946

Building Regulations
Steve McCabe (Birmingham, Selly Oak) (Lab)
24 October 2016 Column: 16

Energy Efficiency Priority
Caroline Flint (Don Valley) (Lab)

Smart Energy System
James Heappey (Wells) (Con)
25 October 2016 Column: 140 - 146

Offshore Wind Week
Martin Vickers (Cleethorpes) (Con)
2 November 2016 Column: 889

Business, Energy and Industrial Strategy Questions 8th November 2016

Hydroelectric Sector
Scott Mann (North Cornwall) (Con)

Local content in Offshore Wind
Jenny Chapman (Darlington) (Lab)

Swansea Bay Tidal Lagoon Project
Mr Mark Williams (Ceredigion) (LD)
Stephen Crabb (Preseli Pembrokeshire) (Con)
Stephen Kinnock (Aberavon) (Lab)
Michael Tomlinson (Mid Dorset and North Poole) (Con)

Clean and Reliable Energy
Edward Argar (Charnwood) (Con)
Mr Iain Wright (Hartlepool) (Lab)
Steve Double (St Austell and Newquay) (Con)
Dr Alan Whitehead (Southampton, Test) (Lab)
8 November 2016 Column: 1377 - 1390

Topical Questions
Swansea Bay Tidal Lagoon
Mark Pawsey (Rugby) (Con)

Offshore Wind Auction
Caroline Lucas (Brighton, Pavilion) (Green)

Energy Storage
Peter Aldous (Waveney) (Con)
8 November 2016 Column: 1390 - 1395

Euratom Programme
Paul Blomfield (Sheffield Central) (Lab)
1 December 2016 Column: 1658

Tackling Global Warming
Deidre Brock (Edinburgh North and Leith) (SNP)

Support for Banning of Fracking
Geraint Davies (Swansea West) (Lab/Co-op)
7 December 2016 Column: 210 - 214

House of Lords

Oral Questions from 5th September 2016 – 8th December 2016

Fracking
Baroness McIntosh of Pickering
6 September 2016 Column: 774

Solar panels – Business Rate Exemption
Baroness Featherstone
27 October 2016 Column: 776

TRUMP'S 100 DAY PLAN

What follows is my 100-day action plan to Make America Great Again. It is a contract between myself and the American voter — and begins with restoring honesty, accountability and change to Washington

Therefore, on the first day of my term of office, my administration will immediately pursue the following six measures to clean up the corruption and special interest collusion in Washington, DC:

* FIRST, propose a Constitutional Amendment to impose term limits on all members of Congress;

* SECOND, a hiring freeze on all federal employees to reduce federal workforce through attrition (exempting military, public safety, and public health);

* THIRD, a requirement that for every new federal regulation, two existing regulations must be eliminated;

* FOURTH, a 5 year-ban on White House and Congressional officials becoming lobbyists after they leave government service;

* FIFTH, a lifetime ban on White House officials lobbying on behalf of a foreign government;

* SIXTH, a complete ban on foreign lobbyists raising money for American elections.

On the same day, I will begin taking the following 7 actions to protect American workers:

* FIRST, I will announce my intention to renegotiate NAFTA or withdraw from the deal under Article 2205

* SECOND, I will announce our withdrawal from the Trans-Pacific Partnership

* THIRD, I will direct my Secretary of the Treasury to label China a currency manipulator

* FOURTH, I will direct the Secretary of Commerce and U.S. Trade Representative to identify all foreign trading abuses that unfairly impact American workers and direct them to use every tool under American and international law to end those abuses immediately

* FIFTH, I will lift the restrictions on the production of $50 trillion dollars' worth of job-producing American energy reserves, including shale, oil, natural gas and clean coal.

* SIXTH, lift the Obama-Clinton roadblocks and allow vital energy infrastructure projects, like the Keystone Pipeline, to move forward

* SEVENTH, cancel billions in payments to U.N. climate change programs and use the money to fix America's water and environmental infrastructure

Additionally, on the first day, I will take the following five actions to restore security and the constitutional rule of law:

* FIRST, cancel every unconstitutional executive action, memorandum and order issued by President Obama

* SECOND, begin the process of selecting a replacement for Justice Scalia from one of the 20 judges on my list, who will uphold and defend the Constitution of the United States

* THIRD, cancel all federal funding to Sanctuary Cities

* FOURTH, begin removing the more than 2 million criminal illegal immigrants from the country and cancel visas to foreign countries that won't take them back

* FIFTH, suspend immigration from terror-prone regions where vetting cannot safely occur. All vetting of people coming into our country will be considered extreme vetting.

Next, I will work with Congress to introduce the following broader legislative measures and fight for their passage within the first 100 days of my Administration:

1. Middle Class Tax Relief And Simplification Act. An economic plan designed to grow the economy 4% per year and create at least 25 million new jobs through massive tax reduction and simplification, in combination with trade reform, regulatory relief, and lifting the restrictions on American energy. The largest tax reductions are for the middle class. A middle-class family with 2 children will get a 35% tax cut. The current number of brackets will be reduced from 7 to 3, and tax forms will likewise be greatly simplified. The business rate will be lowered from 35 to 15 percent, and the trillions of dollars of American corporate money overseas can now be brought back at a 10 percent rate.

2. End The Offshoring Act. Establishes tariffs to discourage companies from laying off their workers in order to relocate in other countries and ship their products back to the U.S. tax-free.

3. American Energy & Infrastructure Act. Leverages public-private partnerships, and private investments through tax incentives, to spur $1 trillion in infrastructure investment over 10 years. It is revenue neutral.

4. School Choice And Education Opportunity Act. Redirects education dollars to give parents the right to send their kid to the public, private, charter, magnet, religious or home school of their choice. Ends common core, brings education supervision to local communities. It expands vocational and technical education, and make 2 and 4-year college more affordable.

5. Repeal and Replace Obamacare Act. Fully repeals Obamacare and replaces it with Health Savings Accounts, the ability to purchase health insurance across state lines, and lets states manage Medicaid funds. Reforms will also include cutting the red tape at the FDA: there are over 4,000 drugs awaiting approval, and we especially want to speed the approval of life-saving medications.

6. Affordable Childcare and Eldercare Act. Allows Americans to deduct childcare and elder care from their taxes, incentivizes employers to provide on-side childcare services, and creates tax-free Dependent Care Savings Accounts for both young and elderly dependents, with matching contributions for low-income families.

7. End Illegal Immigration Act Fully-funds the construction of a wall on our southern border with the full understanding that the country Mexico will be reimbursing the United States for the full cost of such wall; establishes a 2-year mandatory minimum federal prison sentence for illegally re-entering the U.S. after a previous deportation, and a 5-year mandatory minimum for illegally re-entering for those with felony convictions, multiple misdemeanor convictions or two or more prior deportations; also reforms visa rules to enhance penalties for overstaying and to ensure open jobs are offered to American workers first.

8. Restoring Community Safety Act. Reduces surging crime, drugs and violence by creating a Task Force On Violent Crime and increasing funding for programs that train and assist local police; increases resources for federal law enforcement agencies and federal prosecutors to dismantle criminal gangs and put violent offenders behind bars.

9. Restoring National Security Act. Rebuilds our military by eliminating the defense sequester and expanding military investment; provides Veterans with the ability to receive public VA treatment or attend the private doctor of their choice; protects our vital infrastructure from cyber-attack; establishes new screening procedures for immigration to ensure those who are admitted to our country support our people and our values

10. Clean up Corruption in Washington Act. Enacts new ethics reforms to Drain the Swamp and reduce the corrupting influence of special interests on our politics.

On November 8th, Americans will be voting for this 100-day plan to restore prosperity to our economy, security to our communities, and honesty to our government.

This is my pledge to you.

And if we follow these steps, we will once more have a government of, by and for the people.

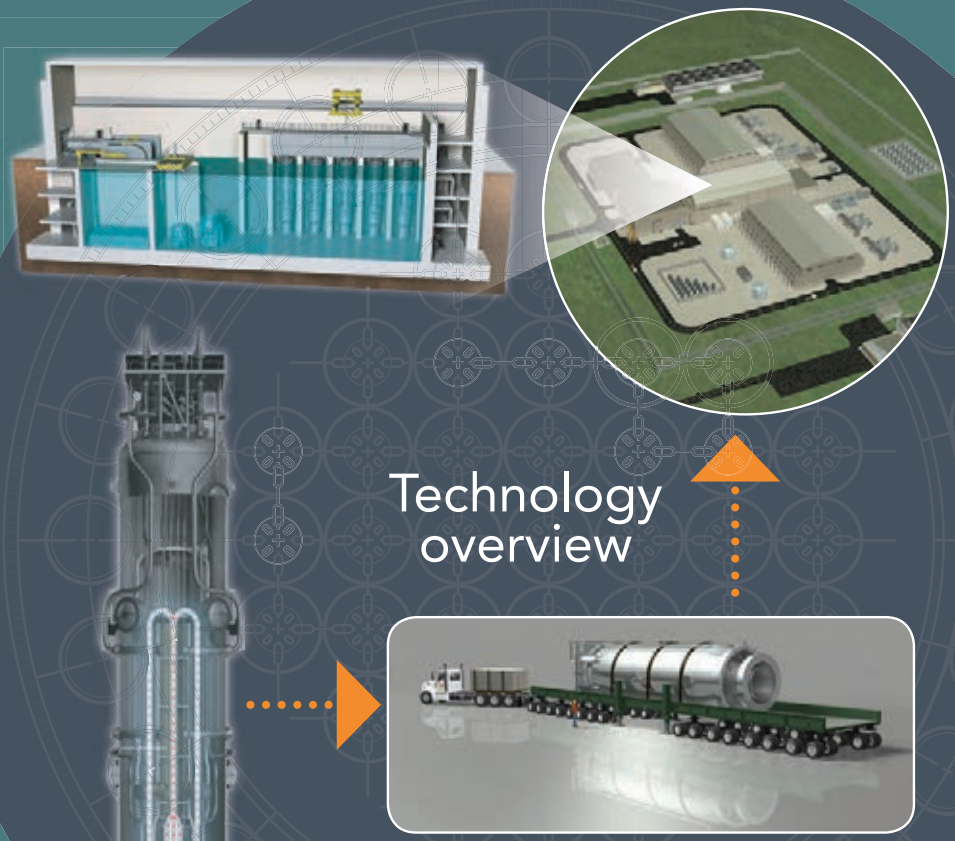
FLUOR®

NuScale Power™

NUSCALE POWER: AN SMR OPPORTUNITY FOR THE UK

NuScale Power is one of the world's most advanced developers of small modular reactor (SMR) technology, bringing scalability, flexibility and factory fabrication to nuclear energy.

Up to 12 of our 50 MWe NuScale Power Modules can be installed in a single facility, generating up to 600 MWe of reliable, cost-competitive, low carbon energy.



Technology overview

With the backing of our major investor, Fluor Corporation we expect to be generating for our first U.S. customer by the mid-2020s.

We also see our technology being manufactured, deployed and generating electricity in the UK within a similar timeframe.