

Industrial Strategy – Energy UK Position Paper

January 2017

The purpose of this paper is to set out Energy UK's position on the future outlook of industrial strategy. It highlights the contribution and importance the sector has within the economy and how future policy should evolve in order to secure a modern and efficient energy sector that is fit for purpose.

Energy in the Economy

The energy industry provides gas and electricity to every business and household in the UK. With 272,000km and 818,000km of gas and electricity network infrastructure respectively¹, the industry ensures the heating and power expectations of households and businesses are met, at the flick of a switch. The sector alone adds £83bn to the UK economy, with 619,000 people relying on the sector for employment in every corner of the country. Continued investment in skills and training means that on average every employee within the energy sector contributed the equivalent of £181,000 to the economy in 2015².

The UK is already a world leader in technologies such as offshore wind and has the framework, infrastructure and knowledge to further lead in other forms of low carbon generation. Investment in new renewable technologies, new nuclear, peaking power stations and innovation across the sector are driving the low carbon economy and is necessary for the UK to maintain its success in energy. Energy UK fully support the targets contained within the Climate Change Act and believe that these challenging decarbonisation targets coupled with ensuring security of supply at lowest cost creates an environment that promotes new innovation that allows supply chains to develop and an opportunity for UK to lead internationally.

In 2015, the energy industry invested £18 billion in generation, distribution and customer service². This included investment in low carbon generation, leading to total electricity generation from renewable energy to increase to 25% in the third quarter of 2016, while also maintaining a security of supply for homes and businesses across the country³. The level of investment the industry continues to make illustrates the commitment it has towards a sustainable greener economy.

Key Asks from the industrial strategy

- The industrial strategy must be built around our climate change commitments and support the transition to a low carbon economy
- Develop energy policy in a whole system approach that considers the interactions between decarbonising heat, electricity and transport. This requires the establishment of an 'Energy Taskforce' that can provide an overarching view of the policy and investment requirements.
- Provide the foresight that investors seek by publishing a schedule of Contract for Difference allocation rounds and indications of the level of available funding; supporting better investment decisions in low carbon infrastructure now will allow supply chains to develop and grow;
- Prioritise energy efficiency in both the domestic and non-domestic sectors to reduce both energy wastage and carbon emissions. This would insulate consumers from energy costs and help tackle fuel poverty, whilst also contributing to the international competitiveness of UK industry;
- Recognition from Government that improvements in energy efficiency and the environment will benefit consumers, however, there is a cost to moving to a lower carbon economy in the short term;
- A full and timely review of network charging arrangements to ensure the right approach to both transmission and distributed connected plants given today's diversity of energy generation;
- Introduce targeted Research and Development incentives aimed at encouraging greater innovation now and in the future; ensuring the UK remains an attractive place for foreign investment and at the forefront of technological development that can be exported internationally.
- Government should take a cross-sectoral approach to skills development and support industry led training initiatives.

¹ <https://www.ofgem.gov.uk/publications-and-updates/infographic-energy-network> - Ofgem, Infographic: The Energy Network, Dec 2016.

² <http://www.energy-uk.org.uk/publication.html?task=file.download&id=5934> – Energy UK, Energy in the UK, 2016.

Industrial Strategy Key Objectives

1. Building a vision

Energy UK believes that the industrial strategy must be built around our climate change commitments. Meeting these climate change targets, whilst ensuring security of supply at lowest cost to customers is one of the greatest challenges facing the energy sector since privatization; failure will have dire consequences for the global climate and/or the UK economy that is built on the efficient provision of electricity and gas.

We have huge decisions to make today on how we will generate our electricity, provide our transport needs and heat our homes in the future - in a way that significantly reduces our carbon emissions. This will include decisions on whether to design a system built on the electrification of heat and/or whether to green the gas network, how we approach the electrification of transport, and whether we plan to utilise carbon capture and storage technology among many other important decisions.

The plan requires strong leadership and a vision that both engages and informs consumers and provides for a UK supply chain that reaps the benefits from UK innovation through exporting excellence. The energy sector is poised to develop future expertise and become a world leader in new low carbon technologies that will support our competitive position and support the aspirations for a global Britain.

An industrial strategy can support the realisation of this framework, through providing long term investment signals and rewarding research and development, but it needs not just government and industry, but many players to take responsibility for delivery. That is why Energy UK is proposing the creation of an 'Energy Taskforce' to consider the interactions of energy policy going forwards. With a stable and predictable long term policy framework free from day to day interventions, the energy sector is confident it can deliver the investment and infrastructure required.

2. Investment

The UK is becoming rapidly ever more dependent on electricity and networks whilst processes and value chains are becoming increasingly complex and interdependent. These trends are magnified by increasing reliance on information communication technology. The potential economic and social impacts of electricity shortfalls will, therefore, only continue to increase in the future. Evidence from previous economic modelling and international case studies suggests that the economic impact of a severe and widespread outage would potentially cost billions of pounds to the GB economy³.

The Climate Change Act requires that the UK will reduce its carbon emission by at least 80% by 2050. This means that carbon intensive generation particularly coal-fired is slowly declining as a number of power stations plan for closure in the near future, as a result of carbon pricing and ageing infrastructure. The Government also plans to cease all coal fired power generation by 2025. The result is that the UK must look to new flexible generation and further lower carbon investment in order to fill the capacity gap. Coupled with a number of nuclear plants approaching the end of their lifetime, immediate investment is becoming increasingly important if we are to secure our energy future and meet the trilemma currently faced in the UK.

Energy UK believes that there are a number of opportunities in which industrial strategy can be utilised in order to achieve desirable investment outcomes for all stakeholders involved and ultimately deliver a system that brings clean energy and security over supply at the lowest cost to UK households which include:

- **Stable and predictable policy environment** – The Electricity Market Reform (EMR) is the right policy framework to deliver the £180bn of required investment to 2030⁴. Investors require greater certainty and predictability over the expected expenditure through the Contract for Difference mechanism. Therefore, Government should publish a schedule of Contract for Difference allocation rounds and indications of the level of available funding. In addition, carbon pricing will be an important factor in any future investment decision; as per current policy, Government should maintain the Carbon Price Floor out to 2021 and set out its long term direction beyond that date, whilst continuing to support the strengthening of the EU Emissions Trading System

³ <http://www.raeng.org.uk/publications/reports/counting-the-cost> – Royal Academy of Engineering, Counting the cost: the economic and social costs of electricity shortfalls in the UK, November 2014

⁴ <https://www.nao.org.uk/wp-content/uploads/2016/07/Nuclear-power-in-the-UK.pdf> – National Audit Office, Nuclear Power in the UK, July 2016.

The latest publication of the EY Renewable Energy Country Attractiveness Index⁵ highlights a continued fall in the attractiveness of the UK for investment; now at 14th place in the index, due mainly to political uncertainty. Energy UK believes that a robust industrial strategy that sets out the long term framework for investment in the energy sector can reverse that trend. Whilst Brexit adds some level of continuing market uncertainty, many policies that support energy sector investment in the UK are driven by domestic policy, such as Contracts for Difference and the Capacity Market Auction.

The Capacity Market is the right instrument to deliver security of supply, but if it is to meet the Government's objectives to attract new investment, then both Government and the Regulator must deliver a fair and appropriate framework by undertaking a full review of charging arrangements to ensure cost reflective charges are applied to both the transmission and distributed network connected plant⁶.

- **Research and Development** – A coordinated spending programme is required to support greater investment in new innovation to deliver the transformation to a low carbon economy. Not only would it allow the UK to remain at the leading edge of technological development, the output from successful innovation would then enable manufactures of new products to engage with the export market.
- **Employment, skills and training** – Over 619,000 people rely on the energy sector for employment, across Britain, contributing to growth across the country. The UK power sector invests heavily in training to deliver the skills needed in the sector. This includes offering high-quality apprenticeship programmes. Energy UK welcomes the Government's focus on skills and training as an integral part of industrial strategy, and believes it will be helpful for Government to take a cross-sectoral approach to identify the skills needed across the economy, including to deliver large infrastructure projects, and to support measures to ensure we have the skills needed for the future. A number of Energy UK's members are specifically supporting initiatives to increase the uptake of STEM subjects in schools, including encouraging girls to take up these subjects as a pathway to high quality careers.

3. Effective delivery across Power, Heat and Transport

Cross industry strategy - A whole systems approach is required to achieve joined up thinking on Heat, Power and Transport as each have an important role to play in meeting our Climate Change Act obligations. It is extremely important not to consider the power sector in isolation as each sector becomes increasingly integrated, for example, as heat and transport become increasingly electrified.

Co-operation across sectors in the policy design will ensure that each industry is taking decisions that complement each other, ensuring strategies are aligned with the decarbonisation agenda central to the future of each sector. Energy UK believe this requires the establishment of an Energy Taskforce, a cross-sector long-term approach to energy policy.

Supporting energy efficiency – If the UK is serious in meeting its decarbonisation targets and tackling fuel poverty then we need a new way of thinking in how we fund and promote energy efficiency. The aging and poorly insulated housing stock which significantly increases the demand for heat will have significant impacts on the energy industry if there is not a coherent strategy between industry and government. Energy efficiency has possibly the greatest role to play in reducing our carbon emissions at lowest cost, whilst supporting government's objective regarding reductions to the cost of living. Energy UK believe a long term strategy for increasing energy efficiency would include:

- Developing an 'Able to Pay' market learning the lessons of the failed Green Deal initiative with simple and affordable financing schemes by considering options such as grants, loans and tax incentives. Energy UK supports considering stamp duty rebates based on energy performance certificates as a simple and constructive way of encouraging long term energy efficiency measures.
- Stronger regulation for new build homes so that efficiency and lower carbon heating measures are considered from the start.
- Presenting a positive narrative on energy efficiency in order to promote the long term benefits, over the short term costs.

⁵ [http://www.ey.com/Publication/vwLUAssets/EY-RECAI-48-October-2016/\\$FILE/EY-RECAI-48-October-2016.pdf](http://www.ey.com/Publication/vwLUAssets/EY-RECAI-48-October-2016/$FILE/EY-RECAI-48-October-2016.pdf) - EY, Green Bonds: Power Surge, October 2016.

⁶ Energy UK charging report: <http://www.energy-uk.org.uk/publication.html?task=file.download&id=5903>

Energy is a significant cost factor for many businesses and can affect the competitiveness of some types of businesses. Energy UK believe that a strong energy efficiency programme should be directed at the non-domestic sector to encourage take up of energy efficiency measures that can in many instances have relatively low pay-pack periods.

4. Communication

Greater communication between industry, consumers and the government is essential if the energy sector is to succeed in overcoming the challenges it currently faces. Energy UK will work with Government on a number of key areas where transparency could be improved, such as:

- **Improved communication with the public** – There is work to be done to better explain how Government policy can support energy efficiency, reduce bills, and contribute to decarbonisation. Moving towards a low carbon and energy secure industry is more costly than the baseline in the short-term. As part of the Government's strategy, it should look to better communicate the costs and benefits of moving towards a low carbon economy to end consumers with industry support and how continued investment today may mean lower fuel bills tomorrow. A recognition that these costs are levied on customer bills and a debate on whether this is the most appropriate and fair way given the regressive nature. Working together we can rebuild the trust of the general public and contribute towards maintaining the reputation of the industry, which will provide positive investment signals for potential financiers of large and small scale projects.
- **Supporting competition in the retail market** - The industry is committed to an engaged, competitive retail market offering great service from a wide range of suppliers, ensuring that competition works for all households. There are now over 40 suppliers in the domestic market; big and small, competing for new customers. The industry, however, recognises that there is more to be done to help customers and especially those who've yet to engage. This is why, industry remains committed to working with government and Ofgem to successfully deliver the CMA's remedy package. It is, however, vital that the CMA's recommendations are given a chance to work. Government must not undermine the outcomes of a detailed two year market investigation.
- **Removing infrastructure from party politics** – Long term policy decisions need to be implemented and followed through in order to secure the future needs of the energy industry. The major political parties have recognised the need to remove infrastructure planning from the electoral cycle through the Armit Review and subsequent establishment of the National Infrastructure Commission which is supported by Energy UK and it should be given the resources on which to deliver effectively.

5. Smarter Systems

The integration of smarter systems into the power network is a key stepping stone for the integration of innovative technologies into a flexible and responsive energy system. The UK's energy system is undergoing a period of increased uncertainty and variability in both supply and demand, caused by a multitude of factors, including the move towards renewable generation, the increasing popularity of electric vehicles, and the transfer of energy demand from heat onto the electricity grid in the process of decarbonisation. The ability to communicate these across the energy system is key to maintaining low infrastructure costs, keeping the customer informed, and encouraging cooperation between market segments. A successfully smart, flexible energy system will ensure a reliable supply of energy at low cost to the consumer, at the same time as encouraging investment in the UK's energy, manufacturing and technology industries.

The further integration of smarter networks, aggregated Demand Side Response and storage will enable the system to operate much more efficiently. The strength of this reactive system is based on the speed and accuracy of communication between assets and market players as the increased potential for sudden surges in demand means that instant communication between assets, generators, aggregators, suppliers, distribution network operators and the system operator is vital to a safe, reliable, energy supply.

As smart meters roll out and time-of-use tariffs are introduced, consumers will be able to choose what level of inclusion they have in their energy use. A clear strategy towards the use of smart systems, including clear definitions, product standards, interoperability, consumer experience, and safety and security standards across communication platforms is needed for long-lasting and effective adoption.