

Industrial Strategy Team
Department for Business, Energy and Industrial Strategy
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Consultation responses
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- Does this document identify the right areas of focus: extending our strengths; closing the gaps; and making the UK one of the most competitive places to start or grow a business?

Balfour Beatty welcomes the Government's vision for a modern industrial strategy and the early actions it has committed to take. We agree that the UK must improve its productivity and ensure that its most successful businesses continue to thrive, while also enabling new companies to enter the market, ensuring that the UK has a competitive edge in the industries of the future.

The strategic pillars outlined in the Green Paper highlight some of the key weaknesses, areas of concern and opportunities for business, which, if tackled, will, we believe, facilitate Britain's future economic growth. We welcome the way the pillars have been designed to build on the UK's strengths, with emphasis being placed on developing the UK's skill base in STEM, improving infrastructure and supporting SMEs to grow and provide employment opportunities. Government and industry must now work together to ensure that these pillars are turned into a strategic framework that will deliver real results.

- Are the ten pillars suggested the right ones to tackle low productivity and unbalanced growth? If not, which areas are missing?

Balfour Beatty agrees with the pillars set out within the paper. We particularly welcome the fact that it identifies the importance of "Developing Skills" as the second of its ten pillars and essential to drive economic growth. It will be vital to ensure that we have the right institutions and skills to support the businesses of the future.

We also welcome that fact that "Upgrading Infrastructure" is a pillar of the industrial strategy and that investing in the highest value-for-money infrastructure projects is highlighted. There is also much room for investing in improvements to smaller scale infrastructure in towns and cities across the country. These small-to-medium sized schemes can also be quicker to implement and therefore their impact is felt earlier, while awaiting execution of larger, more complex projects.

The UK's future success will, we believe, depend on creating the right infrastructure to support greater productivity and growth. Therefore, it will also be important for the Government to show how it will evaluate infrastructure projects against its productivity-enhancing, and regional-rebalancing objectives. The UK must upgrade its performance on digital, energy, transport, water and flood defence infrastructure, and better align central government infrastructure investment with local growth priorities.

- Are the right central government and local institutions in place to deliver an effective industrial strategy? If not, how should they be reformed? Are the types of measures to strengthen local institutions set out here and below the right ones?

Balfour Beatty welcomes the commitment in the Green Paper to making sure that all parts of the United Kingdom are able to share prosperity and the fact that "institutions" are highlighted as a pillar.

Much reform has already taken place (for example, via City Deals, LEPs, organisations such as the National Infrastructure Commission etc.) and to a point, the institutions that exist now need a period of stability in order to properly "bed in". Central government should, however, continue to be ready to make modifications to more regionally and locally focused institutions where necessary.

- What should be the priority areas for science, research and innovation investment?

Robust research and innovation investment is essential for the UK to maintain and strengthen its leading position in infrastructure. Significant technological advances and innovative solutions are being developed in infrastructure construction and maintenance, from virtual and augmented reality, to robotics and smart cities. We believe that there is significant scope to improve the construction industry and deliver infrastructure faster, more efficiently and with less impact on the environment by continued investment in these areas, thereby enabling the UK to continue to lead the world in exportable infrastructure and construction expertise.

- What further steps can be taken to use public procurement to drive the industrial strategy in areas where government is the main client, such as in healthcare and defence? Do we have the right institutions and policies in place in these sectors to exploit government's purchasing power to drive economic growth?

In many cases, government is the main client for the infrastructure industry. A key way in which public procurement could be used to drive delivery of the industrial strategy is in the area of skills. While some parts of the industry invest in skills, others do not. This has the consequences that the industry has a significant skills shortage, and leads to an uneven playing field – some invest in training, while others benefit from that investment by accessing the skilled staff trained by other companies. Balfour Beatty believes that including the criterion of membership of The 5% Club into government contracts would help to drive change in skills investment in the infrastructure industry and in many other sectors where government is the main client.

- Are there important lessons we can learn from the industrial policies of other countries which are not reflected in these ten pillars?

The key element we believe the UK can learn from other countries is that an industrial strategy is a long-term project requiring policy consistency on key points and continued investment in cross-cutting areas such as skills and research and development, and that, if it is to work, an industrial strategy must outlast individual Governments.

We believe that there are lessons to be learned from the German Energiewende programme. Whilst the programme has not been a complete success, the fundamental principles of the programme – to transition the energy industry – and consistency with which the Government has stuck to the principals of the project has provided certainty to the industry and consumers.

Consistent policy is key, but setting clear ambitions and targets should also be an integral part of each pillar. To ensure that there is consistency, compromise across political lines may be required and should be something that is reflected in the pillars.

In terms of supporting British companies in overseas markets, the Department for International Trade has great expertise, and should use this opportunity to build on and improve its experience. There are instances where those commissioning infrastructure can be significantly influenced to awarding contracts to British companies if there is an endorsement from the Government. We have found that other countries do this to great effect, to the detriment of British companies.

- What more can we do to improve basic skills? How can we make a success of the new transition year? Should we change the way that those resitting basic qualifications study, to focus more on basic skills excellence?

The Government is right to place the development of a skilled workforce at the heart of the industrial strategy. However, it is important to define what we mean by basic skills. If we mean Maths and English then the correct place to improve those is in the compulsory school system rather than using technical education or apprenticeships to play catch-up.

On the other hand, if we mean employability skills then more work experience and better careers advice is needed, with more involvement of employers in employability education.

The transition year needs to have strong employer input, both in terms of design and delivery, and must also be broad enough to enable young people to see all the options available in an occupational area.

Those who are resitting basic qualifications almost certainly need an alternative approach to the way they study because they are likely to be resitting as a result of not engaging fully the first time round as opposed to a lack of ability.

- Do you agree with the different elements of the vision for the new technical education system set out here? Are there further lessons from other countries' systems?

The Government's focus in the industrial strategy, on developing technical skills is extremely welcome. The UK urgently needs to raise its game in developing a highly-skilled, technically-trained workforce to underpin its economy and future growth, particularly in light of Brexit.

Balfour Beatty broadly agrees with the different elements of the vision for the new technical education system as set out. It is important that technical education is employer-led and aligned to true labour market needs. It is also important that it links with apprenticeships so that there is a clear progression route between college-based technical education and apprenticeships. It is unclear how Institutes of Technology align with National Colleges and current FE provision (after the Area Reviews).

Other countries' systems can be informative but are only of limited use as the context and landscape is different and education systems have to exist in the context of the country they are in.

- How can we make the application process for further education colleges and apprenticeships clearer and simpler, drawing lessons from the higher education sector?

The UCAS process for Higher Education is a good example of transparency and openness and could be a good model to use for FE and apprenticeships as has been suggested by many both in industry and Government. There have been some moves towards this with the new Find a Provider website. We believe that something similar could be done for FE colleges.

- What skills shortages do we have or expect to have, in particular sectors or local areas, and how can we link the skills needs of industry to skills provision by educational institutions in local areas?

The skills shortages in construction are well documented and are reported on by the CITB and others on a fairly regular basis. The construction industry has fairly strong Labour Market Intelligence (LMI). However what is lacking is a governance structure between the LMI, employers and the education/training centre to enable a strong supply and demand link to be made and provision to be driven by industry need. We believe that new structures that promote knowledge sharing and interdependency are needed to link existing organisations rather than new organisations.

- How can we enable and encourage people to retrain and upskill throughout their working lives, particularly in places where industries are changing or declining? Are there particular sectors where this could be appropriate?

Lifelong learning often happens on an individual basis but the need for it to become more systematic and transparent requires guidance such as career paths and the simplification of qualifications. Individual sectors need to be able to articulate what their core, transferable skills are before they articulate occupationally-specific skills: currently it is more often the other way round. This point is also linked to the previous one around visibility of skills shortages as individuals, employers need to know where the skills needs are in order that they can then decide where and when they retrain and upskill.

- Are there further actions we could take to support private investment in infrastructure?

Private sector finance, expertise and skills have played a significant role in delivering existing public infrastructure services in the UK. This trend is only likely to accelerate with time given the imperative to control the level of national borrowing, the significant amount of investment required in infrastructure, and the need for specialist expertise, knowledge and skills that the public sector cannot provide alone. The private sector also contributes much needed capital: more than half of the pipeline included in the NICP to 2020/21 is currently financed or planned to be financed by the private sector.

We believe that greater use of Public Private Partnerships (PPPs) could assist in the successful delivery of the UK Government's plans for infrastructure development. The use of PPPs is now globally established as a successful model for channelling private sector skills, knowledge and financing into public infrastructure. It is therefore timely that the Government has decided to put forward a new pipeline of PPPs using the Private Finance 2 (PF2) model. PF2 represents a revised and more efficient approach to PPP that seeks to learn from and improve on previous procurement experience. Balfour Beatty welcomes the 2016 Autumn Statement briefing paper and expects that publication in early 2017 of a list of new projects suitable for delivery through PF2 will stimulate market engagement and allow potential participants to start to plan their involvement and to allocate resources.

Balfour Beatty has produced a paper entitled *Unlocking the Benefits of PF2*. This lays out the Group's recommendations to enhance the benefit of the PF2 approach to maximise value for taxpayers and aid delivery of the industrial strategy.

- What skills shortages do we have or expect to have, in particular sectors or local areas, and how can we link the skills needs of industry to skills provision by educational institutions in local areas?

A number of areas related to the construction and infrastructure industries are suffering skills shortages, for example, rail and engineers more broadly. Taking one area as an example, the power transmission and distribution industry faces significant challenges in attracting and developing skilled resource due to the specialist nature of the works. Although the network operators and the supply chain take on and develop apprentices, graduates and other technical trainees, there is likely to be a bottleneck in the availability of resource in the coming years. This will be a result of the time it takes to develop the

skills needed to undertake the works for those entering the industry, when a large proportion of the existing workforce is reaching retirement age.

One potential way to alleviate this is to set industry standardised training and development paths and create a number of regional educational institutions – supported by the network operators and supply chain – through which basic skills can be developed before trainees go into part or full time employment.

- What are the most important steps the Government should take to limit energy costs over the long-term?

In order to address the cost of energy in the long term, we believe the Government should develop a plan for how they will tackle two big issues:

- The first is a long-term vision for the source and location of future generation assets and the second is addressing the issue of flexibility. Firstly the Government need to continually develop a plan as to how currently operating and planned forms of generation will be replaced. The plan to replace the current fleet of nuclear power stations was initiated in 2008 by the Labour Government and first power from the first new power station – Hinkley Point C – is currently not expected until 2025, 17 years after initiation. Although this is an exceptional case, it highlights that planning should be made well in advance. This needs to consider whether the sites of existing renewable generation – i.e. solar, on and off shore wind – will be reutilised once the existing assets are decommissioned or whether they will be returned to their original state.
- The second part of this plan should consider the locational impact of the development of new generation. The geographical location of generation is a sensitive issue, as it can have a significant impact on local communities and the visual amenity of the area where it is located. Furthermore, there can be significant cost implications associated with the chosen geography. As an example, the planned Moorside nuclear power station will require an investment of around £2.8bn to connect to the National Grid, whereas a similar facility at Sizewell would require much less investment in the network. Such network expansion costs have been – and will continue to be – required to unlock the potential of natural resource, such as wind, wave and tidal power in the Highlands and Islands of Scotland, but for non-renewable sources of generation, these costs are potentially avoidable.

We believe the Government should look to maximise the return for consumers on investments such as the Beaulieu – Denny overhead line, by supporting the development of renewables in areas such as the Western Isles, Shetlands and Highlands.

If long term costs are to be limited, then the Government needs to work with Local Authorities, landowners, the network operators and owners of existing generation

sites and brownfield land to identify how sites with access to existing infrastructure and precedent as sites of generation can be upgraded or re-used.

This plan should be fluid enough to incorporate developments in technology – e.g. improvements in the efficiency of wind turbines and the development of small modular reactors – which could also help maintain low energy costs, without increasing emissions.

The second issue of flexibility is one which is currently being met but the solution is neither the most cost efficient nor the most sustainable – in terms of emissions or longevity.

The Capacity Market is helping to ensure capacity is met on cold, cloudy, still days of high energy demand, whilst constraint payments¹ are used to temper renewable capacity on warm, sunny, windy days of low demand. These mechanisms are set up to address capacity (demand) and draw their funding from consumers, pushing up the cost of energy.

In the long-term, increased interconnectivity with Europe and energy storage – particularly electrical – have the potential to provide short term relief and help put downward pressure on prices, but they do not address the bigger issue of preventing price spikes during the winter. Long term energy storage solutions – e.g. pumped hydro and compressed air – could provide a solution, as they can provide both short term flexibility and longer term load shifting.

Currently developers of these projects face high capital costs and (relatively) short contracts against which to realise a return on investment. Addressing the classification of storage – to remove double charging instances – alongside a review as to how these assets could be used to reduce Capacity Market and constraint payments and access to the UK Guarantees Scheme (UKGS) could help bring some of these projects to market. The UK has a history of developing large-scale pumped hydro facilities during the 1950s, but has since failed to continue to develop these facilities on such a scale.

Large scale storage could be key to limiting energy costs, but requires Government support in the same way that the nuclear sector has benefitted in recent years. We would therefore urge a review to be undertaken to look at the potential value of supporting large scale storage in lieu of the Capacity Market and constraint payment mechanisms.

- How can we move towards a position in which energy is supplied by competitive markets without the requirement for on-going subsidy?

¹ Over the past 5 years (January 2012 to January 2017) constraint payments have been paid out at an average of £89/MWh per month, over £268m in total – source: Renewable Energy Foundation, *Balancing Mechanism Wind Farm Constraint Payments*, accessed via: <http://www.ref.org.uk/constraints/indexbymth.php>

As detailed above in the response to question 27, the development of a Government-led plan and review of the large scale storage could help develop a more competitive market. In order to develop a competitive market for energy supply, the Government needs to review the current barriers to preventing free competition. These include – but are not limited to – network reinforcement costs forced upon developers, access to capital, local/national planning constraints and public opposition. The latter two carry non-financial weighting, but are significant in preventing the operation of a truly competitive market.

Subsidies are currently playing a role in distorting the market, but this is not limited to subsidies for renewable technology. Whilst the use of subsidies and strike prices has been beneficial to supporting the development of nascent technologies – such as solar PV and offshore wind – it has distorted the playing field for existing technologies. Agreeing a strike price for nuclear power – an existing technology – at Hinkley Point C will distort the market for the 35 year duration of the agreement and has set a dangerous precedent for future projects. If strike prices are agreed for other nuclear power station developments (and other existing technologies) then the market will remain uncompetitive.

The strike price is used to provide certainty to investors that they will see a return on their investment; however the use of UKGS and development of a cap and floor regime – similar to interconnectors² – could provide a similar level of certainty. If the cap and floor was based upon +/- 15 per cent of the average market price in the year prior to the agreement or back dated on an annual basis, linked to inflation, then this would mean that price rises would be constrained. It would also mean that if energy prices across the market fall, the extent to which consumers would be required to subsidise any generating assets which had an agreement would be limited. Any price guarantee set by the Government should reflect the price which is viewed as 'acceptable' to maintain competitive prices.

The cost of network development is a complex issue to manage, as mentioned above in our response to question 27, as speculative development risks the development of stranded assets. However when considering the case for the development of connections to remote Scottish Islands, such as the Western Isles and Shetlands, a robust assessment of the socio-economic benefits and factoring of the local opinion to the development of generation – renewable and non-renewable – needs to be carried out.

For example, if there is public support for the development of onshore wind in the Shetlands, which has the potential to meet the islands' needs and export excess generation to the mainland, then the cost of reinforcement could be weighted more towards consumers than the developer of the generation project. However in an area such as mid-Wales, where there is public opposition to the development of onshore

² Ofgem (2016) Cap and floor regime: *unlocking investment in electricity interconnectors*, accessed via: https://www.ofgem.gov.uk/system/files/docs/2016/05/cap_and_floor_brochure.pdf

wind, the network reinforcement costs could be weighted more heavily toward the developer of the scheme.

Further work is needed to assess the economic and social benefits of expanding the network to facilitate the development generation, rather than the reverse. Efficient utilisation of the UK's natural resource requires a holistic view and so the Government is best placed to lead this.

We would encourage the Government to follow the recommendations set out in the National Infrastructure Commission's Smart Power paper³ - particularly recommendation 6.

- How can the Government, business and researchers work together to develop the competitive opportunities from innovation in energy and our existing industrial strengths?

The extension of the Network Innovation Competition to the supply chain, without the need to be accompanied by a TNO or DNO, could boost the development of innovation, particularly if there was a requirement to join with a research institution and/or university.

- How can the Government support businesses in realising cost savings through greater resource and energy efficiency?

The biggest barrier to businesses in improving their energy efficiency is cash flow. The upfront cost and timescale required to achieve a return on the investment is considered too much of a risk for many businesses – despite the obvious benefits in the longer term. As such, a form of tax relief, loan scheme or small grant scheme – to offset the time diverted to developing any energy efficiency scheme – may help to encourage businesses to invest. Alternatively to using a “carrot” approach, a tax could be levied against companies whose facilities fail to meet a minimum EPC standard.

Any scheme would need to take lessons from the Green Deal and would need to be designed based on a sound understanding of the reasons why businesses currently choose not to invest.

This scheme would also need to target Local Authorities and commercial landowners, to ensure that leased facilities were also targeted.

- How can the Government and industry help sectors come together to identify the opportunities for a 'sector deal' to address – especially where industries are fragmented or not well defined?

³ National Infrastructure Commission (2016), *Smart Power*, <https://www.gov.uk/government/publications/smart-power-a-national-infrastructure-commission-report>

Balfour Beatty believes the Government is right to focus on cross-cutting themes, such as innovation and infrastructure, which will tackle the productivity gap that has proved a challenge for the UK economy. It is now for industry to respond by using the sector deals, to invest in the high-level skills, technology and automation, to drive the growth Britain needs for the future.

Working via existing representative bodies and trade associations in the first instance would be a good place to start. In industries such as construction, where there is a dedicated Government- industry interface such as the Construction Leadership Council, these forums should take a lead.

- How can the Government ensure that 'sector deals' promote competition and incorporate the interests of new entrants?

The elements of a sector deal should not be so specific that they exclude new entrants. For example, in construction, a sector deal would ideally focus on cross-cutting high-level issues which impact the whole industry, rather than those which could benefit only incumbents. For example, skills is an issue which companies of all sizes are impacted by, as is the need for visibility of a stable pipeline of infrastructure schemes.

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