



**National Infrastructure Commission
Call for Evidence:
Energy Evidence**

**A Response by the Pensions
Infrastructure Platform (PiP)**

January 2016

Contents

Executive Summary	3
Overview of PiP response	4
Introduction	4
Background	5
Response to specific consultation questions	6

Executive Summary

The issue of pension funds' investment in infrastructure cannot be looked at in isolation from the wider economy and, specifically, the role of defined benefit (DB) pension provision. Despite the gradual decline of DB pension provision in recent years, over a third of the UK's workforce is still accruing benefits in a DB scheme, with schemes themselves managing over £900bn of assets. It is therefore crucial that employers sponsoring DB schemes can meet their obligations to scheme members without facing undue impact on their ability to invest elsewhere in the economy.

In order to match their long term pension payment obligations, provide security for scheme members and reduce the risk of volatile cash contributions from scheme sponsors, pension schemes need investments that generate long term, consistent, low-risk, inflation-linked cash flow returns. Core infrastructure, including electricity generation, storage and supply, can be a great source of these long term, low risk cash flows. Unlocking institutional investment into infrastructure on a large scale would also be highly beneficial to the economy.

However, achieving increased investment into infrastructure depends a great deal on the predictability of the returns that will be generated over the longer term. For the energy sector, and electricity in particular, this predictability principally relates to the political and regulatory regimes energy projects will be operating under, the level of any subsidies that may be paid and the revenue that will be obtainable for any electricity produced, stored or distributed.

Predictability in these areas is needed from start to finish – from the initial stages of project consideration – to make it worthwhile for pension schemes to incur project development and bidding costs and to arrange long term funding – right through to plant operation.

Any reduction in long term predictability, whether real or perceived, increases the overall project risk for an investor, pushes up the level of returns required to reward the taking of that risk and therefore makes projects more expensive.

As the ultimate regulator, Government has the biggest influence in the perceived stability and predictability of the overall operating environment for energy related projects, and of their total lifetime cost.

We believe that the definition of clear long term goals which form the basis for a coherent long term plan is the best way to provide confidence to pension scheme investors, developers and operators. Such a plan should also include transparent and predictable mechanisms for evolution to reflect changes in the external environment and to facilitate responses to unanticipated market or technological developments.

Overview of PiP Response

Introduction

1. The Pensions Infrastructure Platform ("PiP") is the UK infrastructure investment business set up "by pension funds for pension funds". Its objective is to facilitate investment into UK infrastructure projects by UK pension schemes, by developing investment vehicles which meet their needs in terms of structure, returns and cost.
2. PiP was established in 2012 following the signing of a Memorandum of Understanding by the National Association of Pension Funds ("NAPF"), the Pension Protection Fund ("PPF") and HM Treasury. The development was supported by 10 of the UK's largest defined benefit pension schemes.
3. PiP's first investment fund was launched in 2014. It is managed by Dalmore Capital and invests in PPP equity. The second fund invests in small scale (sub 5MW) rooftop solar PV installations. This was launched in February 2015 and is managed by Aviva Investors.
4. PiP has also worked with Dalmore on the successful consortium bid to construct and operate the new Thames Tideway Tunnel (TTT). PiP was instrumental in £370m of equity contribution to the project by UK pension schemes.
5. Since its establishment, PiP has helped secure over £1bn of committed investment into UK infrastructure projects.
6. PiP has recently received FCA authorisation. Future pension scheme investments into infrastructure will be delivered through a regulated investment fund, operated and managed by PiP.
7. PiP will not be commenting on the technical questions posed in the call for evidence. We are not urban planners, we are not transportation specialists nor are we electricity market academics. What we are is a specialist equity and debt financier, working on behalf of UK pension schemes to facilitate, source and manage effective investment by them into UK infrastructure projects. We do this because we believe the stable long term, inflation linked cash flows that can be generated by core UK infrastructure projects is a good match for the long term pension payment liabilities within such schemes. This makes decision making easy for PiP because there is one fundamental criteria above all else that determines whether pension schemes will invest into infrastructure; will the entry price, the risk taken on and the returns to be generated over the full project life improve the ability of pension schemes to pay their members pensions in full when they become due?

If this criteria is not met, there will be no investment since it would breach the basic fiduciary duty of the Trustees who are responsible for the financial security of the schemes they manage. No amount of political expediency, publicity or perceived "national interest" will overcome this basic requirement to safeguard the retirement provision for UK pension scheme members.

Background

8. When pension schemes assess investment into long term, illiquid assets, such as physical energy related projects, which typically will be bought and held for 20-30 years, a key consideration is the stability of the operating regime and therefore the robustness of the long term financial forecasts which need to be made. Political, regulatory, legal and subsidy environments are core parts of this stability assessment.
9. The perceived stability and predictability of the UK are real competitive advantages. Indeed, the reason why the UK has been so successful to date at attracting pension scheme investors into infrastructure projects is because it is viewed as having a very stable political, legal and regulatory environment. It is impossible to look forward to the potential for any future infrastructure investment projects without stating the essential precondition that the Government should NOT enact any retrospective legislation that would subsequently change legal contracts that have been freely entered into. Any such legislation would undermine the stability argument and severely damage long term investor confidence.
10. Where a system of subsidy payments forms a significant part of the operational economics of a project, it is equally important that these are predictable for the long term. This applies through the full project life from the earliest stages of investment appraisal, while funding sources are being secured and after project contracts have been signed.
11. Pension schemes have a fundamental obligation to pay accrued pension benefits to members, usually on a monthly basis. It is therefore vitally important that pension schemes have a reliable stream of income from their investment portfolios to enable them to fund their pension payments. This need for income imposes a finite limit to the proportion of every scheme's investment portfolio that can be invested into non-yielding assets, such as infrastructure projects which do not return any cash to investors during a construction period. In general, the longer the period of no income, the less attractive an asset is for pension schemes to invest in.

The recent Ofgem proposals for Competitively Appointed Transmission Owners ("CATO's") under which revenue payments to the onshore transmission asset owners will only begin upon completion of construction, which will be up to 3 years, has, all other things being equal, made these assets less attractive to pension schemes.

12. We now turn to the specific questions posed by the consultation, focusing on those where we disagree with the current proposals.

Response to specific key questions

Question 1: What changes may need to be made to the electricity market to ensure that supply and demand are balanced, whilst minimising cost to consumers, over the long term?

Assuming current trends continue, over the longer term, the lowest cost of energy generation will be achieved by increasing the proportion of electricity produced from renewable sources such as solar and wind, where, post commissioning, there are no input costs.

This thesis depends on:

- A continuing decline in the cost of renewable generation technologies.
- An acceleration in the deployment of energy storage solutions capable of maintaining supply when the sun is not shining and the wind is not blowing.
- A continuing political desire to reduce global carbon emissions, and therefore a willingness to establish and maintain a level economic playing field with carbon and nuclear based alternatives.

Whilst not directly applicable to the electricity market itself, the following policies could be adopted to encourage renewable generation and greater deployment of energy storage solutions:

- Change planning rules for all new residential, commercial and public buildings to mandate installation of Solar PV generation on their roofs.
- Support the development of Solar PV roof tiles that can be installed as a direct alternative to existing clay, concrete or slate tiles.
- Revise the current capacity market auction process to incentivise utility scale energy storage solutions rather than short term, small scale, highly polluting, diesel generation.

Question 2: What are the barriers to the deployment of energy storage capacity?

We perceive the barriers to greater deployment of energy storage capacity are:

1. Technical

Government R&D support should be provided as a matter of priority for the development and commercialisation of rechargeable battery technology.

2. Financial

There is currently no explicit system of financial support or operational subsidy for energy storage technologies. This should be changed.

The rules of the current capacity market auction system should be changed to encourage storage solutions for the provision of balancing capacity. Rather than effectively subsidising the installation of small scale and highly polluting diesel

generators as in the December 2015 auction, such a rule change could provide financial incentives for the development and deployment of utility scale storage technologies.

The system of constraint payments should also be changed. No renewable generator should be allowed to receive payments for not generating electricity. The incentive for generators should be changed to encourage maximum generation with "excess" power being stored for future release to the grid. Battery storage systems should be installed at existing solar or wind generating facilities. The costs of these should be recoverable from capacity market/constraint payments.

We believe the most appropriate deployment of energy storage systems will combine both utility scale projects and distributed, domestic scale installations.

An integrated policy combining rooftop solar PV generation, adoption of electrically powered vehicles and installation of smart meters could transform residential UK into a mass distributed generation and storage system.

Question 3: What level of electricity interconnection is likely to be in the best interest interests of consumers?

We believe the long term priority should be the development and adoption of sufficient UK based renewable generation capacity, energy storage solutions and a smart grid, which combined with nuclear generation capacity, will be capable of meeting the UK's total energy demand without the continuing use of fossil fuel based systems.

We would view interconnector capacity as a short to medium term mechanism for reducing total electricity supply costs. If these reduced supply costs were combined with maintained costs to consumers, the surpluses could be used to finance renewable generation developments to achieve the long term goal.

The installation costs of interconnectors should be amortised over the period agreed for the achievement of the long term goal. Thereafter electricity supply via interconnectors should stop and the physical infrastructure simply be maintained for emergency backup use.

Question 4: What can the UK learn from international best practice in terms of dealing with changes in energy technology when planning to balance supply and demand?

The key consideration for investors in long life projects such as those for electricity generation or demand reduction, is certainty; certainty about regulatory regime, about political view, about revenue levels, input costs and inflation linkage for example.

The most theoretically correct and sophisticated energy market models are vulnerable to the real world reaction and ingenuity of entrepreneurial individuals and businesses.

The operators of the current Capacity Market Auction system failed to predict that it would incentivise entrepreneurs to import small scale and highly polluting diesel generators rather than the building of new CCGT generating plants.

DECC has consistently failed to predict the scale of Solar PV installations encouraged by the technology driven decline in panel prices compared to infrequent, step changes in subsidy levels. Smaller, more frequent and predictable changes to subsidy levels would better allow new industries to develop without excessive costs to consumers.

Further Information

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