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National Needs Assessment: LDA Design Submission

I am pleased to provide the attached submission on behalf of LDA Design in response to the National Needs Assessment Call for Evidence. It has been prepared with the support of Helen Pearce, our Director of Sustainability and Climate Change, and input from other Directors of LDA Design.

LDA Design is an independent design, planning and environmental consultancy with over 35 years experience working on development, landscape and infrastructure projects across the UK. As such we have an in-depth understanding of the national infrastructure needed to support development and growth, the challenges associated with planning and delivering that infrastructure, and how these challenges may be overcome.

I hope that this submission is of use in preparing the National Needs Assessment. If LDA Design can be of any further assistance in this process, please do not hesitate to get in touch.

Yours Sincerely



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Consultation question responses

Do you agree with our proposed vision and outcomes? What amendments would you propose?

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There is much in the vision and outcomes which represents a significant step forwards for infrastructure planning, and which we as a design, planning and environmental consultancy would welcome. This includes the strategic, long-term national outlook, the consideration of a whole systems approach which addresses the interactions between different types of infrastructure, and the consideration of resilience both to different supply and demand scenarios and climate change.

- The link between national infrastructure decision-making and regional and local planning is also very much welcomed. This is something we see as being essential both to achieving successful, sustainable economic growth and development, and to ensuring efficient, targeted infrastructure spend. As part of this, it is vital that we understand the spatial implications of national infrastructure investment, and in particular how this relates to locations where major development is proposed, and where resources are located in relation to demand. Making this link will enable the benefits from infrastructure investment to be maximised in a way that enables development and secures economic growth. The provision of infrastructure that supports society and enhance the environment should also be a necessary part of the NNA vision. For example, new power generation projects should be prioritised not only on the basis of their ability to contribute to energy security or carbon targets, but also on the broader business case, taking into account multiple benefits. For example, Swansea Tidal Lagoon would also enable much-needed regeneration and the reimagining of Swansea and the surrounding area.

We would encourage a broad, holistic view to be taken of all of the different types of infrastructure needed to enable growth and development. The vision and outcomes appear to focus on 'hard engineered' major infrastructure projects. Some of these hard infrastructure needs – particularly for water supplies and flood defences - are directly influenced by decisions about how we manage the softer infrastructure we rely on, or our natural capital, including the landscape, habitats and the coast. The high up-front costs of some major infrastructure projects can be avoided, reduced, or delayed by investing in much cheaper and higher value improvements to environmental infrastructure. Furthermore, environmental investments of this sort could increase the resilience and longevity of the major hard infrastructure projects which do go ahead. For example, investing in improvements to rainwater retention in upland areas through habitat improvements could reduce the impact of heavy rainfall events on surface water arriving in rivers and therefore the extent of major flood defences required; coastal habitat restoration could reduce storm impacts on coastal areas while creating a more significant economic asset than a hard flood defence.

What will be the main drivers of demand for UK national economic infrastructure over the next 35 years that we should consider in our assessment?

A number of challenges are driving demand for national economic infrastructure, including the need to replace ageing infrastructure, meet additional capacity needs and changing demands, and enhance resilience to extreme weather.

Population changes and growing housing demand in certain parts of the country are one of the strongest drivers for new infrastructure investment, including transport and utilities capacity. Carbon targets and energy policy are driving changes in the requirements placed on energy infrastructure. In particular, there is an increasing move towards decentralised, low carbon energy generation and localised energy demand management, affecting the electricity grid in the short term but also the gas network and fuel distribution systems in the medium to long term. Climate

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change impacts are leading to increasing risk of fluvial, surface water and coastal flooding and erosion, drought, and salination of water supplies in coastal areas.

Changes in economic activity also have a significant role to play in driving infrastructure needs. While growth is taking place in some sectors, others are in decline, for example heavy industry is increasingly moving to overseas locations while the role of the high street is changing as online retail continues to grow, and rural businesses are increasingly diversifying away from agriculture. Infrastructure will have a crucial role to play in enabling this economic transition

What will be the main constraints on the UK's ability to provide sufficient UK national economic infrastructure assets and services over the period and what solutions or mitigations of those constraints should the UK adopt?

Prioritising projects for investment and securing funding is of course likely to be challenging. Central to this will be an ability to ensure that the benefits of the proposed infrastructure projects can be captured and realised to offer an attractive proposition to investors which fits with their criteria for risk, return and duration of investment. This will be a particular challenge for certain types of infrastructure where the overall economic case is strong but the benefits accrue to various organisations over a long time timeframe and are therefore less immediately available to the investor than might be the case with infrastructure where there is a direct revenue generated over the lifetime of the asset. For example, enhanced flood defence schemes which combine habitat creation, public realm, walking and cycling routes can have an outstanding economic case when wider benefits such as improvements to health and wellbeing, increased productivity, or new opportunities for leisure or tourism businesses are factored in. Such projects need not cost more particularly when they are designed with multifunctionality in mind. Furthermore, in addition to strengthening the business case and helping to justify funding, this can help to achieve local support and planning/DCO consents.

A mechanism is needed for these benefits to be captured and monetised, whether for example that is through a levy, a Payment for Ecosystem Services model, or general taxation. The Strategic Environmental and Economic Investment Plan LDA Design prepared on behalf of Oxfordshire Local Enterprise Partnership sets out the economic benefits of a range of environmental investment proposals, including for catchment management for flood alleviation and water supply enhancement, and highlights considerations for how these investments can be delivered in practice.

The planning system is too often presented as a barrier or constraint, when sound planning should be seen and valued as an important enabler to development and growth. To be able to function effectively, planning needs to be allowed time for plans to be developed and embedded, appropriately resourced with adequate skills to address the complex challenges we face and make the most of the opportunities, and afforded sufficient weight and strength in decision-making. Weakening planning powers, significantly cutting resources and stripping away guidance undermines the planning system. This in turn creates uncertainty and encourages higher risk speculative applications and a reactive approach to development control. Ultimately this affects our ability to plan for and deliver the right infrastructure in the right place, which in turn risks stifling real progress. A reinvigoration of the local and strategic planning system in recognition of the

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positive role it is able to play, potentially using devolution and the formation of combined authorities as a springboard to strategic planning, would be a welcome step forwards.

In the government's approach to infrastructure delivery to date there appears to have been an apparent disconnect between strategy and realistic delivery and funding timescales for infrastructure provision, especially in relation to energy provision. The present government's process for assessing and prioritising infrastructure needs precludes consideration of long term funding beyond reasonably foreseeable political timescales. The vision must consider generational periods to truly provide for the future. We hope that the work of the NIC and NNA will help to address this disconnect.

Changes in governance (devolution) will play a key part in infrastructure delivery and integrated and regional or place specific responses. Clarity is required on the role of Combined Authorities and 'super structures' such as the Northern Power House, how LEPs and LPAs fit within this, and who makes the decisions and genuinely leads. There is an opportunity for greater strategic planning to be secured through the Combined Authorities to allow the proper consideration of where development is best located in a wider geographic area in association with infrastructure to secure genuine multiple benefits and multifunctional outcomes.

What nationally significant investments in capacity or changes in policy & regulation should we prioritise to deliver these outcomes and deal with these drivers of demand?

Enable and incentivise regulated industries including utilities to plan for the long term, and invest strategically in upgrades to capacity and capability of networks where development is anticipated. This has been a particular constraint for example to property development and renewable energy generation projects in parts of the country where the grid is constrained and upgrades are only included in the investment pipeline reactively, in response to connection requests from developers, which can impose significant delays and uneven costs on development, potentially stifling growth in parts of the country which are affected.

The insurance industry could be required to invest more actively in increasing resilience and reducing long-term risk, in addition to insuring against damages as and when they do occur. This should be a particular priority where the government is intervening to support the industry and costs are being passed on as a levy to all policyholders regardless of their exposure to that risk or ability to manage it, as for example is the case with the Flood Re scheme¹.

There is a need for the application of the Habitat's Directive and Habitats Regulation Assessment to be more flexible to support coastal infrastructure projects and their effects on Special Protection Areas. A balance needs to be struck between promotion of low carbon infrastructure projects and responsible environmental responses if the full potential of coastal infrastructure is to be released which in cases will have inevitable implications on certain habitats. A wider appreciation of international habitat networks, species distribution and how this could change over time especially in relation to climate change also needs to be considered.

¹ <https://documents.theccc.org.uk/wp-content/uploads/2015/02/2015-02-02-Lord-Krebs-to-Brendan-McCafferty-Flood-Re.pdf>

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*In what areas can demand management or other forms of behavioural change make a significant impact?
What are the blockers and enablers for realising these opportunities?*

Behavioural change has a role to play in influencing infrastructure demands across all sectors. The potential is perhaps clearest in relation to energy use, transport and water, where decisions are made on very short timescales, demand is fluid and dynamic, and there is significant potential to influence activity through behaviour change, pricing as well as the application of smart technologies to monitor and control appliances and systems. However, this works both ways, and the nature, reliability and capacity of infrastructure that is available will also affect individual behaviour. For example, building more roads may facilitate an increase in demand for car travel, whereas congestion may lead people to make alternative choices about where they live in relation to their workplace or whether they drive or use public transport.

Flood risk and the need for flood defence infrastructure is strongly influenced by choices that are made about development, where people live and work, and the measures that they take as individuals and businesses to protect their own property. These choices are made over a longer time frame but are ultimately strongly linked to individual and business behaviour and expectations, which we should be looking to influence in order to ensure that long term strategies for flood management are feasible and viable.

How can greater cross-sectoral decision making be encouraged?

Ensure that governance and responsibilities for delivery of infrastructure are clear and that the role of all relevant parties is clearly defined and appropriately resourced, with a requirement for a cross-sectoral approach and aligned timeframes and processes for decision-making.

Make use of established partnerships and networks such as Local Enterprise Partnerships to facilitate cross-sector between businesses, local authorities, infrastructure companies, research and education providers and others. Ensure these partnerships and networks are properly resourced, with certainty over long-term role and core funding, to enable them to build trust, relationships and a strong presence. Provide effective channels for such bodies to work with combined authorities, national agencies and other decision-making bodies in a timely fashion, and ensure that the governance structures for formal decision-making are sound, democratic and based on evidence and cross-sectoral input.

Demonstrate the benefits of partnership working in terms of improved project outcomes, and reduced and/or shared costs of investment. Create real incentives for organisations to work together, for example by making genuine cross-sector partnership-working part of the criteria for infrastructure funding.

Communications between organisations could also be improved to ensure effective engagement. In speaking with some of the UKs LEPs the call for evidence forming part of this NIC process appears not to have reached all levels of devolved governance.

What opportunities and challenges are presented by devolution of infrastructure decision making?
Devolution presents an opportunity for greater local engagement and support for infrastructure proposals, which are deemed to be more closely associated with local needs and democratic accountability for decision-making.

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There is a risk that areas of the country which are less well geared towards unified, strong leadership and effective decision-making, due for example to local politics, will fall behind in spite of acute needs for infrastructure investment to facilitate economic regeneration.

There is also a risk of a lack of coherence at the national level in terms of joined-up infrastructure networks and ability to meet national targets for example on carbon emissions, which hopefully the work of the NIC will help to mitigate.

There is a need to draw the development and infrastructure plans prepared by devolved organisations together to allow a coherent infrastructure delivery plan to be prepared with evidence of leadership from the NIC. A bottom up process will not necessarily lead to a coherent or well planned infrastructure plan and efficient investment strategy. A national infrastructure plan that has a clear spatial dimension should provide the backdrop for action by devolved authorities. Work by the Welsh Government to direct strategic thinking is worthy of consideration as a potential model for the work of the NIC².

What new and emerging technologies and disruptive trends should we consider in producing this assessment?

Digital technologies are fundamentally changing individual/organisational behaviour and economic activity. They are also transforming our ability to monitor, manage and manipulate systems and the supply/demand balance. For example, the ability of National Grid and the Distribution Network Operators to fully understand/ have visibility on the capacity of local power generation projects' contribution to the UK supply/demand balance is improved immeasurably by these developments.

Climate change significantly altering design parameters for critical infrastructure and demand for transport and utilities including water consumption, energy for heating and/or cooling, and national and international travel patterns³.

How can we improve public engagement in infrastructure decision-making?

Our experience indicates that there are a number of ways of enhancing public engagement in decision-making. For example:

- Start this process at the earliest possible stage, and encourage open and honest dialogue about the issues, options, costs and benefits
- Ensure infrastructure providers, investors and developers have a basic understanding of the wider context before developing proposals for infrastructure investment and commencing public engagement
- Spend the time needed to explain what decisions need to be made and why, how it could affect local people

² Essay by Alister Kratt in <http://www.lda-design.co.uk/wp-content/uploads/2015/11/DCFV LANDMARKS ENG1.pdf>

³ www.tcpa.org.uk/pages/no-regrets-planning-for-sea-level-rise-and-climate-change-and-investing-in-adaptation-.html

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- Ensure that people have a genuine opportunity to influence the outcomes and make this clear to all concerned
- Go to members of the public at times that suit them rather than expecting them to come to you, and reach out through established channels and community groups where available
- Use more imaginative and creative ways of communicating and drawing together input from local people, including visual graphics, storytelling, film and digital media
- Improve the story by prioritising the infrastructure projects which are best geared towards supporting local economies, housing, quality of life and resilience, and optimise the projects to this end
- Enable communities to share the financial and other benefits of investment, either through contributions or offer members of the public or local businesses a direct stake in the investment.

The No Regrets guide, which LDA Design produced on behalf of the Environment Agency and the Southern Regional Flood and Coastal Committee, sets out some examples of good community engagement practices as part of a broader approach to planning for long-term adaptation of coastal areas to sea level rise and climate change⁴.

Swansea Tidal Lagoon, for example, achieved outstanding public approval by maximising the benefits for the local community and economy⁵.

Numerous renewable energy projects we have been involved in have offered local people a direct financial stake or specific financial benefits, for example RES's Local Electricity Discount Scheme - <http://www.res-leds.com/>.

⁴ www.tcpa.org.uk/pages/no-regrets-planning-for-sea-level-rise-and-climate-change-and-investing-in-adaptation-.html

⁵ <http://www.tidallagoonswanseabay.com/>
