



# RENEWABLE ENERGY

Planning's role in delivering renewable energy in  
the new low carbon economy

---

**RTPI  
Practice  
Advice**

MAY 2018

# Introduction

In December 2015, the UK Government, along with 195 other nations signed the Paris Climate Accord. This global agreement committed nations to helping keep global average temperatures below a 2°C increase from pre-industrial levels<sup>1</sup>. This major breakthrough in climate change mitigation built upon the 2008 Climate Change Act and Climate Change (Scotland) Act 2009, which committed the UK Government to reducing greenhouse gases (GHG) emissions by 80 percent of 1990 levels by 2050<sup>2</sup>.

At the core of this pledged transition to a low carbon economy will be the gradual phasing out of fossil fuel led energy production towards the large-scale deployment of renewable energy schemes. Over the past twenty years there has been a significant growth in the renewable energy sector in the UK. In 2016, 24.5 percent of the electricity generated in the UK was from renewable sources<sup>3</sup>. Continual growth is expected, encouraged by the dramatically declining costs of renewable power generation<sup>4</sup>.

However, with the continued electrification of heating and transport alongside anticipated closures of existing energy plants, the scale and rate of development of renewables is likely be many magnitudes higher than has been previously experienced. At a strategic and local level, planning has a key role to play in identifying, developing and approving suitable developments, integrating and empowering key stakeholders, enabling local communities to deliver low carbon, resilient and affordable energy networks.

Renewable energy production will be a crucial component of the wider UK Industrial Strategy, through the creation new supply chains and jobs alongside the delivery of affordable and reliable energy for businesses. This practice advice note demonstrates how proactive planning can help deliver renewable energy projects on the ground, outlining key policy initiatives and highlighting good practice case studies throughout England, Scotland, Wales and Northern Ireland.

---

<sup>1</sup> UNFCCC (2015). Adoption of the Paris Agreement. Report No. FCCC/CP/2015/L.9/Rev.1, <http://unfccc.int/resource/docs/2015/cop21/eng/l09r01.pdf>

<sup>2</sup> Climate Change Act 2008 [www.legislation.gov.uk/ukpga/2008/27/pdfs/ukpga\\_20080027\\_en.pdf](http://www.legislation.gov.uk/ukpga/2008/27/pdfs/ukpga_20080027_en.pdf)

<sup>3</sup> UK Government Statistical press release: Digest of UK Energy Statistics (2017) [www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/633029/DUKES\\_2017\\_Press\\_Notice.pdf](http://www.gov.uk/government/uploads/system/uploads/attachment_data/file/633029/DUKES_2017_Press_Notice.pdf)

<sup>4</sup> IRENA (2017) Renewable Power Generation Costs in 2017 [www.irena.org/-/media/Files/IRENA/Agency/Publication/2018/Jan/IRENA\\_2017\\_Power\\_Costs\\_2018.pdf](http://www.irena.org/-/media/Files/IRENA/Agency/Publication/2018/Jan/IRENA_2017_Power_Costs_2018.pdf)

# Contents

1. Policy context	3
2. Energy infrastructure	5
3. Collaboration	7
4. Community engagement	8
5. Leadership	9
6. Strategic vision	10
7. Innovation	12
8. Funding	14
9. Future considerations	15
10. Further information	15

## 1. Policy context

The legislative and policy context relating to renewable energy varies across the UK nations. However, as this section outlines, the commitment to developing renewable energy is consistent; along with the potential of renewable energy to further contribute to the national economy.

### England

In England, local planning authorities are responsible for renewable and low carbon energy development of 50 megawatts or less installed capacity (under the Town and Country Planning Act 1990).

The National Planning Policy Framework (NPPF) in England<sup>5</sup> recognises planning's role in "supporting the delivery of renewable and low carbon energy and associated infrastructure ... central to the economic, social and environmental dimensions of sustainable development (section 10)." The supporting National Planning Policy Guidance (NPPG)<sup>6</sup> goes on to say, "Planning has an important role in the delivery of new renewable and low carbon energy infrastructure in locations where the local environmental impact is acceptable." It also states, "Local and neighbourhood plans are the key to delivering development that has the backing of local communities. When drawing up a Local Plan local planning authorities should first consider what the local potential is for renewable and low carbon energy generation."

<sup>5</sup> [www.gov.uk/government/collections/planning-practice-guidance](http://www.gov.uk/government/collections/planning-practice-guidance)

<sup>6</sup> [www.gov.uk/guidance/renewable-and-low-carbon-energy](http://www.gov.uk/guidance/renewable-and-low-carbon-energy)

## Scotland

Scottish Planning Policy (SPP) states that, "...renewable energy sources are vital to reducing greenhouse gas emissions and can create significant opportunities for communities ... also presents a significant opportunity for associated development, investment and growth of the supply chain..." It also states that the planning system should support the transformational change that leads to a target of 30 percent of overall energy demand being met from renewable sources by 2020. One of the priority proposals in the Scottish Energy Strategy<sup>7</sup> is for, "...a smarter, more coordinated, approach to planning and meeting distinct local energy needs." The National Planning Framework 3 (NPF3)<sup>8</sup> includes information on the strategic development of renewables as informed by the National Renewables Infrastructure Plan<sup>9</sup>.

Additionally, as a part of the Planning Review the Scottish Government is considering the potential to expand permitted development (PD) rights for certain types of renewable installations.

## Wales

In Wales the Well-being of Future of Generations Act 2015 places a duty on local authorities to act in line with the principles of sustainable development including an increase in the uptake of clean energy<sup>10</sup>. Policy in Wales<sup>11</sup> seeks to ensure that, "Planning policy at all levels should facilitate delivery of both the ambition set out in Energy Wales: A Low Carbon Transition and the UK and European targets on renewable energy." It states that "local planning authorities, particularly those containing Strategic Search Areas (SSAs), should take the Welsh Government's imperative for renewable energy into account when they are consulted on applications for large scale onshore wind power projects considered by the National Infrastructure Directorate within the Planning Inspectorate".

The revised Planning Policy Wales<sup>12</sup> emphasises the energy hierarchy and requires renewable energy targets to be promoted through plans, using an appropriate evidence base<sup>13</sup>.

Technical Advice Note 8: Renewable Energy<sup>14</sup> promotes, "...advice on areas including onshore renewable energy technologies, design and energy and how renewable energy should be accounted for as part of development plans, development management and monitoring processes."

---

<sup>7</sup> [www.gov.scot/Resource/0052/00529523.pdf](http://www.gov.scot/Resource/0052/00529523.pdf)

<sup>8</sup> [www.gov.scot/Resource/0045/00453683.pdf](http://www.gov.scot/Resource/0045/00453683.pdf)

<sup>9</sup> [www.scottish-enterprise.com/knowledge-global-hub/articles/guide/national-renewables-infrastructure-plan-stage-1](http://www.scottish-enterprise.com/knowledge-global-hub/articles/guide/national-renewables-infrastructure-plan-stage-1)

<sup>10</sup> <https://futuregenerations.wales/wp-content/uploads/2017/01/WFGAct-English.pdf>

<sup>11</sup> <http://gov.wales/docs/desh/publications/161117planning-policy-wales-edition-9-en.pdf>

<sup>12</sup> <https://beta.gov.wales/planning-policy-wales-edition-10> Welsh Government were consulting on Edition 10 at the time of publication

<sup>13</sup> Advice to develop the evidence is available from <http://gov.wales/topics/planning/policy/guidanceandleaflets/toolkit-for-planners/?lang=en>

<sup>14</sup> <http://gov.wales/topics/planning/policy/tans/tan8/?lang=en>

## Northern Ireland

Renewable energy is one of the core areas of policy provision in the Strategic Planning Policy Statement for Northern Ireland (SPPS)<sup>15</sup> which states, “Renewable energy technologies support the wider Northern Ireland economy and also offer new opportunities for additional investment and employment, as well as benefitting our health and well-being, and our quality of life.”

This is supported by wider government policy, including the Regional Development Strategy 2035 (RDS)<sup>16</sup> stating, “significant increase in all types of renewable electricity installations and renewable heat installations, including a wide range of renewable resources for electricity generation both onshore and offshore to meet the region’s needs.”

## 2. Energy infrastructure

In order to accommodate this shifting landscape of energy power generation, widespread deployment of new energy infrastructure and extensive modification of existing networks will be required. A future energy system will need to be constituted of a more operationally complex, decentralised network. Planning will play a key role in aiding a transmission strategy by helping deliver the next generation of energy connections, storage and smart grid infrastructure.

This modernised network will be one that can respond to the intermittent, fluctuating production from renewable power with additional power plants and storage facilities, the costs of which have reduced sharply in recent years<sup>17</sup>. Battery storage facilities are therefore a critical component in helping integrating renewable power into the wider grid. By providing a system reserve, the often fluctuating and intermittent power generation of renewables can be tempered. The resulting reduction in intermittency improves the financial viability of adding more solar and wind into the energy mix.

Our approach to renewable energy infrastructure will necessarily have to change with new developments in technology. This includes the opportunity to upgrade existing facilities, with for example, vast potential in replacing current onshore wind turbine sites with the latest and most efficient turbines<sup>18</sup>.

---

<sup>15</sup> [www.planningni.gov.uk/index/policy/spps\\_28\\_september\\_2015-3.pdf](http://www.planningni.gov.uk/index/policy/spps_28_september_2015-3.pdf)

<sup>16</sup> [www.planningni.gov.uk/index/policy/rds2035.pdf](http://www.planningni.gov.uk/index/policy/rds2035.pdf)

<sup>17</sup> Element Energy (2013) Infrastructure in a low-carbon energy system to 2030: Transmission and distribution [www.theccc.org.uk/wp-content/uploads/2013/12/CCC-Infrastructure\\_TD-Report\\_22-04-2014.pdf](http://www.theccc.org.uk/wp-content/uploads/2013/12/CCC-Infrastructure_TD-Report_22-04-2014.pdf)

<sup>18</sup> [http://eciu.net/assets/Reports/ECIU\\_Repower\\_to\\_the\\_people1.pdf](http://eciu.net/assets/Reports/ECIU_Repower_to_the_people1.pdf)

## Case Study: Vattenfall Battery Storage Scheme, Pen y Cymoedd Wind Farm, Wales

In Wales, a project embodying an overarching ambition from the government towards sustainability can be found at Pen y Cymoedd Wind Farm, where construction began on Wales's first large-scale battery storage scheme in 2017. Battery storage offers the grid a faster response helping stabilise the system over short timescales and thereby maintaining grid-frequency.

The aim of this project was not to store electricity generated by the adjacent windfarm, but to provide this essential grid-frequency stabilising service, balancing system demand and total generation. This function is crucial to the integration of renewables into the National Grid. By utilising the existing infrastructure such as the on-site connections to the grid's transmission, the scheme benefitted from significant cost savings.

Often renewable projects can be in areas of environmental sensitivity, therefore it is key that appropriate steps are taken to mitigate any adverse impacts. In Pen y Cymoedd, a careful Environmental Impact Assessment was carried out with consideration of a small number of Special Areas of Conservation in close proximity. As a result pre-construction planning requirements were issued for new cabling trenches to adhere to a Peat Management Plan to protect the surrounding habitat.

Production of the new energy infrastructure required for renewables can be identified as an opportunity for industrial growth in regions and nations<sup>19</sup>. By encouraging the creation of vertically integrated supply chains the cost of renewable energy electricity generation, transmission and distribution can be lowered whilst simultaneously stimulating the economic regeneration of areas.

## Case Study: Siemens Offshore Wind Turbine Construction, Green Port, Hull<sup>20</sup>

A leading example of this is found in the Siemens offshore turbine manufacturing plant at Alexandra Dock in Hull. Hull was a perfect candidate for this project with its geographical proximity to off-shore North Sea installation sites and the existing presence of large scale port infrastructure. The success of the project was in part due to the early engagement with key statutory agencies, the local community and neighbouring authorities. This was alongside extensive pre-application advice provided to the commercial developers. The

<sup>19</sup> HM Government – The Clean Growth Strategy, Leading the way to a low carbon future  
[www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/651916/BEIS\\_The\\_Clean\\_Growth\\_online\\_12.1\\_0.17.pdf](http://www.gov.uk/government/uploads/system/uploads/attachment_data/file/651916/BEIS_The_Clean_Growth_online_12.1_0.17.pdf)

<sup>20</sup> Shortlisted for the RTPI Awards for Planning Excellence, 2018.



project was aligned with investment opportunities from the UK Government particularly for vital training and skills. To provide certainty for investment the planners worked to reduce the lead time for the development through the efficient negotiation of a range of consents and permission including heritage assets, transport and flood risk evaluation. The use of a Local Development Order and the innovative use of a Harbour Order through Section 73 of the Town and Country Planning Act 1990 provided further certainty. Central to the delivery of the project was the work of the multi-disciplinary project team set up within Hull City Council, whose role as facilitators and enablers led to a holistic and successful outcome<sup>21</sup>.

### 3. Collaboration

Effective collaboration lies at the heart of the cross sector innovation needed to adopt low carbon energy policies. This will require the alignment of energy research, industrial strategy and environmental policy across public sector bodies, commerce and civil society. Planning needs to be positioned as the regulatory catalyst for these vital partnerships. Planners have the opportunity to facilitate community engagement, integrate renewables into regeneration schemes and strategic sites, and clearly communicate local and national energy policy to developers. In local government, effective delivery requires the internal cooperation of many different stakeholders including planning and energy officers, legal, procurement and financial teams and project delivery specialists. Typically, larger local authorities, with greater access to resources are more easily able to unlock investment and deliver low carbon energy projects through the work of dedicated teams within their organisational structures. However, many authorities do not currently have sufficient internal capacity and skills in this sector. Through collaboration with neighbouring authorities there can be opportunities to pool technical expertise, thereby reducing the resource requirements for effective energy planning.

The formation of commercial partnerships with intermediary agencies and commercial consultancies is also an important component of delivering renewables projects. The processes and outcomes from these partnerships needs to be captured through knowledge transfer, internal reproduction and access to information and data in order to enhance expertise and capacity in the public sector.

---

<sup>21</sup> <http://greenporthull.co.uk/>

## Case study: West Midlands Public Sector Sustainability and Energy Network (WMSEN)

To keep pace with a fast evolving sector it is critical that information, expertise and best practice are shared across local authorities through the formation of focused public sector networks. These kinds of networks are particularly useful for officers that work alone or in small teams. The WMSEN brings together public sector bodies from all 32 local authorities within the West Midlands. The network deals with many themes, including the role of planning in delivering sustainability as well as renewable and community energy. A diverse public sector audience with an array of skillsets are engaged through key updates, frequent events, the sharing of new legislation and helping to raise awareness of funding opportunities<sup>22</sup>.

## 4. Community engagement

Fostering public approval is key to ensuring the sustained implementation of low carbon policy initiatives and continued political support. Therefore, the transition to a low carbon economy provides both a social and a technological challenge for planners. Support from the public for renewables is growing<sup>23</sup>, however the levels of community engagement with energy projects vary considerably across the regions and nations in the UK<sup>24</sup>. To enhance the involvement and understanding of communities in renewables, constructive engagement needs to be implemented at the earliest possible stage with the aim of achieving and nurturing genuine consent. With emphasis on local determination and collective problem-solving, meaningful consultations should consider the impact of decisions by conveying the constraints and opportunities, enabling the community to clearly signal appropriate local sites for renewable energy projects to developers. Shared ownership schemes tend to be more locally acceptable and can help offset the impacts of renewable projects on the landscape. This two-way dialogue between developers and communities should place emphasis on the conflicting demands that planning authorities have to reconcile which the aim of developing solutions that are viable, rational and legitimate.

---

<sup>22</sup> [www.sustainabilitywestmidlands.org.uk/networks/west-midlands-public-sector-sustainability-energy-network/](http://www.sustainabilitywestmidlands.org.uk/networks/west-midlands-public-sector-sustainability-energy-network/)

<sup>23</sup> Department for Business, Energy and Industrial Strategy (2017). Energy and Climate Change Public Attitude Tracker, Wave 23  
[www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/656549/Wave\\_23\\_Summary\\_Report.pdf](http://www.gov.uk/government/uploads/system/uploads/attachment_data/file/656549/Wave_23_Summary_Report.pdf)

<sup>24</sup> UKERC (2017) What We Know about Local Authority Engagement in UK Energy Systems  
[www.ukerc.ac.uk/publications/what-we-know-about-local-authority-engagement-in-uk-energy-systems.html](http://www.ukerc.ac.uk/publications/what-we-know-about-local-authority-engagement-in-uk-energy-systems.html)



## Case Study: Cornwall Renewable Energy Informal Planning Advice

Cornwall has been a fast adopter of renewable energy, with a strong political backing to become self-sufficient in terms of energy supply and an ambition to export surplus energy<sup>25</sup>. As a part of this broader energy investment strategy Cornwall Council published its supplementary planning document (SPD) on renewables in 2016<sup>26</sup>. This has been held to high acclaim for its level of community involvement. The SPD places a strong emphasis on community ownership, clearly defining what types of ownership models are acceptable and how this will affect the weighting of the planning application. It also provides clear advice for community engagement at the pre-application stage for developers – improving certainty for developments whilst encouraging engagement. Local policy with this kind of detail and clarity, increases the certainty developers need for investment as well as nourishing public involvement.

## 5. Leadership

A future, decentralised network will provide greater opportunities for flexibility and innovation locally in both energy supply and use. With their long-term commitment to economic development, regeneration, transport, housing and waste services local authorities will have the incentive to sit centrally in delivering cross sector renewable energy strategies. Through the creation of long-term capital investment energy strategies, secure, affordable energy can be delivered for households, whilst councils can make significant financial savings on their core services. Currently local authorities generally have no statutory remit for energy initiatives and receive little funding. Therefore, it is key that authorities build a business case and assess finance options early, integrating projects with energy service as a part of capital investment programmes. To achieve this, clearly articulated energy plans need to be mainstreamed and embedded into local strategies. The support of senior management and the political commitment of elected members is crucial to provide the long-term stability needed to deliver projects.

---

<sup>25</sup> [www.edenproject.com/sites/default/files/documents/Energy-Island-CEI-3-Pager-REVISION1.pdf](http://www.edenproject.com/sites/default/files/documents/Energy-Island-CEI-3-Pager-REVISION1.pdf)

<sup>26</sup> Cornwall Renewable Energy Planning Advice, 2016 [www.cornwall.gov.uk/media/18406307/cornwall-renewable-energy-planning-advice-march-2016.pdf](http://www.cornwall.gov.uk/media/18406307/cornwall-renewable-energy-planning-advice-march-2016.pdf)

## Case Study: NIRIG Smart Energy Conference, Northern Ireland<sup>27</sup>

Set up in 2012, the Northern Ireland Renewables Industry Group (NIRIG) organises planning seminars for stakeholders, particularly for Councils<sup>28</sup>. These involved a range of external and industry speakers who could address technical and policy aspects of renewables. Council feedback from previous events indicated a desire for a better understanding of specific technical issues such as noise and landscape assessments, and local experts provided these overviews at the event. Policy-makers also gave presentations on local links to strategic energy and planning frameworks, helping to locate individual decisions within the regional context.

## Case study: Mayoral Assistant for Energy and Sustainability, Leicester City Council

In Leicester City Council, a mayoral pledge provided an opportunity to promote the area's clean energy strategy through the creation of a mayoral assistant role to specifically promote energy and sustainability. Through the internal support of senior management and increased political accountability an ambitious programme was put into action<sup>29</sup>. This programme includes plans to incorporate renewable energy into new housing with district heat schemes. These are comprised of a network of insulated pipes used to deliver heat, which can be powered by local renewable energy sources. A further ambition of the plan is reducing the operational carbon footprint of the council. A commitment was also made to investigate the establishment of a new energy company for supplying affordable power to residents whilst providing an innovative way of financing local renewable projects and energy efficiency measures for households. It is important that planners work closely with mayoral strategies, ensuring that any supplementary planning guidance is in alignment with such policy. In Leicester, planning policies were developed to ensure major developments required sustainability statements and low carbon energy schemes where integrated with regeneration schemes. Furthermore, a systematic sustainability appraisal has been carried out to build an evidence base to inform the new Local Plan for the area<sup>30</sup>.

<sup>27</sup> <https://events.renewableuk.com/nirig18>

<sup>28</sup> [www.ni-rig.org/](http://www.ni-rig.org/)

<sup>29</sup> Leicester's Sustainability Action Plan 2016 – 2019 [www.leicester.gov.uk/media/181523/sustainability-action-plan-2016-2019-updated-2017.pdf](http://www.leicester.gov.uk/media/181523/sustainability-action-plan-2016-2019-updated-2017.pdf)

<sup>30</sup> [https://consultations.leicester.gov.uk/sec/leicester-local-plan-reference-documents/user\\_uploads/sa-ref-doc.pdf](https://consultations.leicester.gov.uk/sec/leicester-local-plan-reference-documents/user_uploads/sa-ref-doc.pdf)

## 6. Strategic vision

A future low carbon energy system, with its decentralised form, will need increased strategic spatial guidance at the regional scale. This will ensure that spatial and energy planning are aligned with strategic investment, employment opportunities and long-term capacity building. This will require the cooperation between local authorities in order to maximise the strategic effectiveness of local policies. To do so a more systematic approach to regional energy planning needs to be implemented, through the open exchange of coherent and consistent datasets containing current and predicted energy supply, as well as demand information from housing, transport and industry. The implementation of strategic planning and improved economics of cooperation through pooled resourcing can help unlock opportunities at scale. This includes clean energy districts, developments designed to maximise energy efficiency and use renewable energy sources, delivered at scale of which developers would not be able to achieve alone. Mechanisms to facilitate this joined up strategic working can be seen in the new combined authorities in England and through the City Deal mechanism throughout the UK.

### Case Study: District Heat Network, Stoke-on-Trent and Staffordshire City Deal

In the first round of City Deals it was generally considered that the opportunity to link industrial strategy with low carbon energy planning was not realised<sup>31</sup>. However, work has now begun on a district heat network which managed to secure investment through the Stoke and Staffordshire City Deal<sup>32</sup>. This heat network was formed from initial efforts to undertake detailed and up-to-date mapping of local geology and heat demand which identified the opportunity for the first large scale low carbon heat network system in the UK. Securing the investment for the proposal then required the cooperative working between Stoke-on-Trent City Council, Staffordshire County Council and the Stoke-on-Trent and Staffordshire Local Enterprise Partnership<sup>33</sup>. Through ownership of the energy infrastructure the local authorities now have the ability to strategically control the commercial and societal outcomes of the project in the long term.

Whilst planning cooperatively for low carbon networks is not mandatory between the local authorities, Supplementary Planning Documents have encouraged it<sup>34</sup>. Dealing with

---

<sup>31</sup> Scott, F. (2012) Green cities: Using city deals to drive low carbon growth. London, Green Alliance [www.green-alliance.org.uk/page\\_42.php](http://www.green-alliance.org.uk/page_42.php)

<sup>32</sup> Stoke-on-Trent and Staffordshire City Deal [www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/289615/Stoke-on-Trent\\_and\\_Staffordshire\\_City\\_Deal.pdf](http://www.gov.uk/government/uploads/system/uploads/attachment_data/file/289615/Stoke-on-Trent_and_Staffordshire_City_Deal.pdf)

<sup>33</sup> [www.stoke.gov.uk/news/article/123/first\\_pipes\\_to\\_be\\_laid\\_in\\_pioneering\\_energy-efficient\\_heat\\_network](http://www.stoke.gov.uk/news/article/123/first_pipes_to_be_laid_in_pioneering_energy-efficient_heat_network)

<sup>34</sup> [www.stoke.gov.uk/downloads/file/500/sustainability\\_and\\_climate\\_change\\_supplementary\\_planning\\_document](http://www.stoke.gov.uk/downloads/file/500/sustainability_and_climate_change_supplementary_planning_document)

technical subsurface work has required the close cooperation across local authority departments, such as highways, and with commercial contractors. Generally, installation of such new technology requires upskilling across the broader development industry. Here expert advice was sought from Scandinavian countries, already advanced in this field. Work has also been carried out with local higher education institutes to help build skills. The project has been delivered as an iterative process, in a series of zones allocated to key demand clusters. This has ensured maximum learning was achieved within the construction process.

## 7. Innovation

Evolving business models and emerging technologies are rapidly transforming the renewable energy sector. The sector is beginning to diversify away from a few large companies to a wider range of smaller enterprises with new technologies which are continually coming online such as floating offshore wind turbines, wave and tidal energy. In a period of such rapid innovation in the industry the market and regulatory arrangements need to adapt promptly and comprehensively to support these new dynamic energy systems with increasingly complex arrays of stakeholders. This therefore includes the need for planners to provide clear and updated plans, which are continuously reappraised in light of emerging technologies and local circumstances. Key to ensuring that this process takes place is the outreach to key stakeholders in the commercial and research sectors.

Whilst many new innovations in renewable energy are now taking place in the marine environment, the planning and governance of the ocean is still in its embryonic stage. Through the strong political and institutional support of the Scottish Government and its abundant natural resources, Scotland is leading the UK in its development of renewable energy including marine energy developments.

### Case Study: Pilot Pentland Firth and Orkney Marine Spatial Plan, Scotland<sup>35</sup>

As one of the first of its kind the Pentland Firth and Orkney Marine Spatial Plan was commissioned by the Scottish Government as a non-statutory pilot spatial plan to inform the licensing process for new marine developments<sup>36</sup>. The plan sets out an integrated planning policy framework to guide marine development, activities and management decisions

---

<sup>35</sup> RTPI's Excellence in Plan Making Practice Award Winner 2017

[www.rtpi.org.uk/media/2500499/FINAL%20RTPI\\_Awards\\_for\\_Planning\\_Excellence\\_2017\\_Digital\\_Brochure\\_Darya.compressed.pdf](http://www.rtpi.org.uk/media/2500499/FINAL%20RTPI_Awards_for_Planning_Excellence_2017_Digital_Brochure_Darya.compressed.pdf)

<sup>36</sup> Pilot Pentland Firth and Orkney Waters Marine Spatial Plan (2016) [www.gov.scot/Resource/0049/00497299.pdf](http://www.gov.scot/Resource/0049/00497299.pdf)

reflecting the diverse marine economy including oil and gas, tourism, fisheries and renewable energy such as wave and tidal. To account for the topography of the seabed the marine spatial necessarily includes a depiction of 3-D environment. It also integrates marine and territorial planning by linking the document with the Local Development Plans of the Highlands and Orkney Islands planning authorities. Creating this innovative marine spatial plan will help provide certainty for investors, developers and communities alike, potentially unlocking jobs and growth whilst safeguarding the marine environment. Recently Scottish Government has advanced marine renewable planning with the publication of a statutory Draft Offshore Wind, Tidal and Wave Regional Locational Guidance<sup>37</sup>. These documents aim to provide ecological, technical and socio-economic guidance for planning authorities to help deliver offshore renewable energy regions in Scotland.

### Case study: Greater Manchester Combined Authority Spatial Energy Plan

The systematic use of strategic planning powers can support the development of renewable energy and energy efficient buildings. In order to understand and integrate the spatial implications of future energy systems the development of local-area energy plans backed up with robust evidence are key. The Greater Manchester Combined Authority (GMCA) has created a Spatial Energy Plan informing its Spatial Framework using the Energy Technologies Institute's (ETI) EnergyPath Networks modelling framework<sup>38</sup>. This energy system tool evaluates energy use across districts and the technical potential to meet future energy demand by renewable technologies to find cost effective solutions.

This framework takes a systems view, which identifies the optimal configuration of the interrelated components which make up energy networks. The modelling framework looked across both heat and electricity, identifying which technology is appropriate in particular timeframes across local areas. This includes considering existing buildings and energy networks along with priorities and constraints, which will influence future systems. Energy system tools like this aid consensus building across stakeholders in regards to the investment required. Resulting from the EnergyPath Network modelling some densely populated parts of Greater Manchester were highlighted as opportunities for developing heat networks aligned with strategic development sites. Currently GMCA is embedding these data informed energy plans into the draft GMCA Spatial Framework, using them as an evidence base to support the development of more consistent local planning policies<sup>39</sup>.

<sup>37</sup> [www.gov.scot/Resource/0039/00398505.pdf](http://www.gov.scot/Resource/0039/00398505.pdf)

<sup>38</sup> [www.eti.co.uk/programmes/smart-systems-heat/energypath](http://www.eti.co.uk/programmes/smart-systems-heat/energypath)

<sup>39</sup> [www.greatermanchester-ca.gov.uk/download/downloads/id/371/draft\\_greater\\_manchester\\_spatial\\_framework\\_october\\_2016\\_-\\_full\\_version.pdf](http://www.greatermanchester-ca.gov.uk/download/downloads/id/371/draft_greater_manchester_spatial_framework_october_2016_-_full_version.pdf)

## 8. Funding

Local authorities spend a large amount of their yearly budget on energy, and with the projected rise in unit cost of energy<sup>40</sup>. The incentive to reduce demand and offset spend with more energy generation has never been greater. However raising capital for large-scale renewable energy projects can be difficult. Forward funding of future capacity requirements has proved challenging across the sector. Increasingly local authorities are exploring wider options within current energy market regulations including prudential borrowing, private investment and community share offers or council bonds. Critical to the success of such investment strategies is the work carried out by council procurement teams whose influence is needed to increase in both public and private sectors. To aid this, planners need to understand procurement processes and the wider remit of colleagues in finance teams<sup>41</sup>. Engagement with other stakeholders especially elected members will be necessary to ensure that they are supported to make informed decisions.

### Case Study: Swindon Borough Council Solar Bonds

Local energy bonds offer an innovative solution to financing renewable energy projects. In 2016, Swindon Borough Council launched the UK's first ever 'Council Solar Bond' to raise capital for a community solar farm<sup>42</sup>. In partnership with a peer-to-peer investment platform company, the scheme was created to bring local residents, small investors together to finance the community solar farm. The bonds are investments secured against the solar farms, which are managed by council owned Swindon Common Farm Solar CIC. These types of investment are particularly attractive for investors wishing to expand the proportion of ethical investments within their portfolio. The solar farm energy bonds managed to raise £1.8million of capital and was combined with a £3 million investment from the local authority to deliver the project. The solar farm was supported with planning department using Local Development Orders to speed up the planning process without omitting public consultations.

<sup>40</sup> [researchbriefings.files.parliament.uk/documents/SN04153/SN04153.pdf](https://researchbriefings.files.parliament.uk/documents/SN04153/SN04153.pdf)

<sup>41</sup> [www.theema.org.uk/wp-content/uploads/2015/12/Energy-Managers-Guide-to-Electricity-Procurement.pdf](http://www.theema.org.uk/wp-content/uploads/2015/12/Energy-Managers-Guide-to-Electricity-Procurement.pdf)

<sup>42</sup> [www.swindon.gov.uk/download/downloads/id/1884/your\\_council\\_booklet\\_201617.pdf](http://www.swindon.gov.uk/download/downloads/id/1884/your_council_booklet_201617.pdf)



## 9. Future considerations

The UK's political commitment to reduce emissions is a part of wider EU target. It is expected that post-Brexit, the UK will continue to meet its pledged transition to a low carbon economy, with EU Regulations and Directives being copied into UK law at the point of departure. Focus now remains on ensuring that there is an ongoing process by which legislation is continually copied over to avoid any disruption to trading arrangements and provide the long term stability for the energy sector. The European Investment Bank (EIB) has been a major source of funding for many renewable projects in the UK, and whilst it remains to be seen what funding opportunities and patterns in green energy investment will be observed after the UK leaves the EU, it is essential to not understate the importance that planners can make in supporting the local delivery of renewables now and in the future.

## 10. Further information

### RTPI policy and research

- Future Proofing Society [www.rtpi.org.uk/media/1025151/rtpi\\_planning\\_horizons\\_2\\_future-proofing\\_society\\_june\\_2014.pdf](http://www.rtpi.org.uk/media/1025151/rtpi_planning_horizons_2_future-proofing_society_june_2014.pdf)
- Strategic Planning: Beyond Cooperation [www.rtpi.org.uk/media/1110489/Strategic%20Planning%20Beyond%20Cooperation.pdf](http://www.rtpi.org.uk/media/1110489/Strategic%20Planning%20Beyond%20Cooperation.pdf)
- Improving Local Plans and Strategic Planning Joint Position Statement [www.rtpi.org.uk/media/1479117/FinalStreamliningPlanning260615-2.pdf](http://www.rtpi.org.uk/media/1479117/FinalStreamliningPlanning260615-2.pdf)
- Better Planning: Climate Change
- [www.rtpi.org.uk/knowledge/better-planning/better-planning-climate-change/](http://www.rtpi.org.uk/knowledge/better-planning/better-planning-climate-change/)
- Better Planning: Smart City-Regions
- [www.rtpi.org.uk/media/2487385/smartcityregions-sep17.pdf](http://www.rtpi.org.uk/media/2487385/smartcityregions-sep17.pdf)

### Information and advice

- TCPA: Planning for the Climate Challenge [www.tcpa.org.uk/Handlers/Download.ashx?IDMF=7d92ec4c-09f7-4b21-9d22-b1aad77fd062](http://www.tcpa.org.uk/Handlers/Download.ashx?IDMF=7d92ec4c-09f7-4b21-9d22-b1aad77fd062)
- CSE: Low-carbon Neighbourhood Planning
- [www.cse.org.uk/downloads/reports-and-publications/policy/community-energy/energy-advice/planning/renewables/low-carbon-neighbourhood-planning-guidebook.pdf](http://www.cse.org.uk/downloads/reports-and-publications/policy/community-energy/energy-advice/planning/renewables/low-carbon-neighbourhood-planning-guidebook.pdf)
- RSPB: The RSPB's 2050 Energy Vision
- [ww2.rspb.org.uk/Images/energy\\_vision\\_summary\\_report\\_tcm9-419580.pdf](http://ww2.rspb.org.uk/Images/energy_vision_summary_report_tcm9-419580.pdf)
- UKERC: What We Know about Local Authority Engagement in UK Energy Systems
- [www.ukerc.ac.uk/asset/CF38B43E%2D23AA%2D433B%2DA3BE79CC11270E20/](http://www.ukerc.ac.uk/asset/CF38B43E%2D23AA%2D433B%2DA3BE79CC11270E20/)

**For more information please visit**

[rtpi.org.uk/knowledge/better-planning/](https://rtpi.org.uk/knowledge/better-planning/)

**Written by**

Robbie Calvert

**RTPI - Royal Town Planning Institute**

**[policy@rtpi.org.uk](mailto:policy@rtpi.org.uk)**

**Tel: 020 7929 9494**

---

Royal Town Planning Institute,  
41 Botolph Lane, London EC3R 8DL.

Registered Charity in England (262865) & Scotland (SC037841)

