

OUR CAPABILITY IN THE RENEWABLE ENERGY SECTOR



FROM CONCEPT TO REALISATION

Renewable energy is one of the most talked about and pressingly important growth industries of our time.

As a world-class consultancy in the field of the built and natural environment, WSP is able to advise on the investment, feasibility, construction and long term management of renewable and low carbon energy schemes. We advise parties on all sides of the table and at all stages of the project development cycle in this sector.

THE SUPPORT WE PROVIDE

- Front end feasibility analysis and environmental planning including site selection, resource assessment and technology review.
- Assessment of opportunities to be gained from land banks and property portfolios.
- Sourcing investment for potential schemes.
- Securing a route to the financial closure of a renewable energy project.
- Development of an integrated renewable energy strategy for entire cities or regions.
- Achieving an effective balance of technologies to provide the greatest overall positive impact.
- Logistics to deliver a renewable energy project at all stages of the project life cycle.
- Life cycle analysis of renewable/low carbon technologies.

WHAT YOU CAN EXPECT FROM US

- Above all else WSP is technology neutral. We'll assess all the options and advise you on the best approach.
- Our breadth of expertise means we can anticipate all the major challenges on the project timeline from inception to operation and advise on minimising risk.
- We develop integrated multi-technology solutions for our clients, renewable energy supply can be intermittent; peak generation and peak demand don't always overlap.
- Our global capability means we can draw on best practice from across the world. We've worked on city-scale systems, integrated solutions for individual buildings and stand alone utility-scale schemes such as wind and solar farms.
- We're a business that prides itself on having people who listen to our clients and are innovative, commercial and driven in delivering great solutions.

WHO WE ADVISE

Lenders and Investors - seeking cost validation and technical, commercial and environmental due diligence to make a sound decision and continuing support through the life of the debt or investment.

Corporates/Logistics companies/Infrastructure

Owners/operators - seeking to expand their energy portfolios, acquire renewable assets, reduce carbon and electricity price exposure and/or increase their green credentials.

Project developers (utilities and independents) - seeking advice on concept, feasibility, regulations and permitting, detailed design, programme management, logistics support and assessment of carbon value and risk.

Energy Infrastructure Operators/Owners - seeking planning and technical support for grid routing or reconfiguration and long-term strategy support.

Government - seeking policy advice and strategy support, advising on energy market regulation plus environmental and planning issues.

We have expertise in all forms of renewable technology and storage systems including:

- Solar
- Wind
- Hydro
- Wave
- Tidal
- Biogas
- Landfill gas to energy
- Biomass
- Biofuels
- Geothermal
- Waste to energy
- Transmission and distribution networks



From concept to realisation - our delivery capability

Our breadth of environmental, infrastructure and engineering services enables us to provide practical and commercially-focused advice.

Project developers

We assist project developers by identifying the best locations for renewable projects, exploring constraints or opportunities dictated by the site, as well as carrying out resource assessments for wind, solar and hydro projects and feasibility studies for fuel supplies for biomass and waste to energy plants. Our multidisciplinary engineering teams undertake feasibility studies, detailed designs and specifications for all renewable technologies as well as providing specialist civil engineering for wind farms, hydroelectric schemes, and power transmission lines. We also act as owner's engineer through construction and operation.



Lenders and investors:

Risk assessment and mitigation are at the core of lenders and investors' concerns. Combining our in-depth knowledge of the technologies and the development cycle with the skills and geographical coverage of our multidisciplinary team, WSP provides a first class service when conducting technical and environmental due diligence (including EPC and O&M contract negotiations) for project transactions. We understand the Banks' requirements and can communicate complex technical information in an accessible manner.



Governments & corporates

At the strategic level we work with Governments, project teams running mega-developments and corporate organisations to create sustainable visions, strategies, policies, regulatory structures and technical standards - all of which embrace the use of renewable technologies.

In many large scale sustainability projects we will act as the sustainability guardian. Using our knowledge of international best practice and deep technical understanding of all components of low carbon technology solutions, we draw all factors together to develop new policies, regulations and guidance which govern and deliver sustainable development.

We start by benchmarking current performance and ambitions and then design a renewable energy strategy to realise the goals. We help governments and project managers understand the risks and opportunities in the context of economic drivers, environmental gains, technology curves and societal acceptability.

In developing government policy and strategy support we provide solutions that can be implemented using direct regulation, market mechanisms, voluntary tools and self-regulation.



Our track record

We have gained experience from across the world, reflecting different cultures, climates and approaches to the use of renewable and low carbon technologies.

For example: in Scandinavia we have been involved in different aspects of more than 30 wind power schemes; in Southern Europe we have delivered programme management and handled peer reviews for renewable project development schemes; and in the Middle East we have been influential in the use of photovoltaic technology and advising on government policy to shape a sustainable low-carbon future.

Some highlights of our capability include:

Masdar, UAE - WSP, commissioned by architects Foster & Partners, developed the integrated infrastructure strategies for the concept masterplan for Masdar, a city that will house 100,000 people in 6 million square metres. We advised on waste management, the supply, treatment and drainage of water, the distribution of energy and power, and systems for cooling. The energy supply strategy utilises mainly photovoltaic (PV) and concentrating solar power (CSP) technologies with additional contributions from wind, anaerobic digestion and waste-to-energy (plasma gasification). WSP then produced the detailed PV design for the first stage of residential and office buildings.



EDP Renovaveis - Romania:

WSP undertook a gap analysis for EBRD/IFC compliance for two wind farms being developed in Romania. The work entailed reviewing the Environmental Impact Assessment, Public Consultation process and developing an ESIA disclosure package, inclusive of cumulative impact assessments and non technical summary (NTS) to meet EBRD's Environmental and Social Policy and Public Information Policy for A category projects and developing a Stakeholder Engagement Plan (SEP).



Biofuels Corporation, Teesside, UK:

WSP worked with the Biofuels Corporation from 2004 to 2008 to assist them with the environmental management and legal permitting requirements associated with the development of their new manufacturing plant in Teesside. The plant uses a vegetable oil to produce biodiesel and a pharmaceutical industry by-product. WSP service provision included full planning and environmental permitting support, including full process environmental design review, ground investigation, effluent impact and treatability studies, air quality and acoustics impact studies and site emergency planning arrangements. WSP later supported their entry into the EU-ETS and with ongoing site environmental management requirements. WSP are now providing support to the new site operator, Harvest Energy Ltd and the site land owner, Simon Storage.

Vattenfall AB, Sweden:

EIAs, permit applications and layouts for wind farms. WSP has prepared wind-farm layouts, advised on infrastructure and logistics requirements, managed permit applications and assessed the environmental impacts of a range of wind power initiatives for Vattenfall, Europe's 5th largest generator of electricity.

Our track record

Graylingwell, UK:

750 net zero-carbon homes and 15,000 sq m of PV panels. This flagship residential development will have the UK's largest domestic installation of PV solar panels, and all dwellings will meet Code 6 under the Energy credits of the UK Code for Sustainable Homes. WSP has developed the 'net zero-carbon strategy' which combined PV, CHP and wind and carried out microclimate and passive design analysis and an overshadowing study to maximise the direct solar radiation for the PV panels. WSP also assisted in the creation and procurement of an ESCo to manage the CHP assets.

Beaulieu-Denny, Scotland, UK - assessments for a 400kV overhead transmission line:

WSP prepared a number of technical submissions to support the proposed Beaulieu-Denny 400kV transmission line project to provide a new network from the Highlands to Central Scotland and unlock significant capacity. undertook parts of the Environmental Statement, carried out geotechnical research, delivered transport analysis work associated with the construction phases and produced environmental assessments of proposed sub-stations. WSP is now engaged to support the environmental compliance of the project during construction.



Photograph courtesy of Graham Cartwright, Diageo

Dalkia-Diageo Bioenergy Facility and water recovery plant, Cameron Bridge, Scotland, UK:

Dalkia are undertaking their prestigious energy development with Diageo at Cameron Bridge with WSP providing design, engineering, procurement and project management services. This new facility at Diageo's distillery will use biomass feedstock for the combustion system. Diageo, which makes leading brands like Johnnie Walker and Smirnoff, will radically reduce their carbon footprint with the plant, which will generate gas and solids for fuel from spent wash: a mixture of wheat, malted barley, yeast and water which is produced during distillation. This will replace 80% of the electricity and 98% of the natural gas that Diageo buys.

PV Developers, UK:

WSP is assisting a number of PV power project developers as owner-engineer, providing advice on design, procurement, implementation and operation monitoring for a number of projects in the UK.

Contact us

We have a huge number of experts working in the renewable energy sector so, to discuss how we can support apply innovative solutions to your renewable energy needs, let's talk:

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Introducing WSP

WSP Environment & Energy is one of the world's leading environmental consulting firms with over 900 people in 65 locations worldwide. Our global connectivity combined with a strong local presence in major regions enables us to deliver the most appropriate best practice to our national and international client base. Delivering strategies and outputs that are sustainable and have a low energy intensity is at the core of our work. It reflects exactly the demands of our clients operating in an increasingly low-carbon economy.

We are part of WSP Group plc. WSP is a leading global business providing management and consulting services to the built and natural environmental, with 9,000 people in over 100 locations.