

Renewable energy

Delivering world class expertise in the latest generation technologies



Mott MacDonald is a global multidisciplinary company with a strong engineering base. With annual revenue of £1 billion, we combine the skills of 14,000 staff with a strong presence in 140 countries. Renewable energy is the most dynamic aspect of the modern global energy market, and governments around the world are seeking to define renewable policy and adapt existing regulatory structures to encourage the development of renewable projects. With technology costs falling and governments supporting alternatives to thermal and nuclear plants, investors are gaining confidence to develop projects in the knowledge that the market is both sustainable and expanding.

Once the ability of renewable plants to compete effectively against other technologies has been assessed on a long term basis and the risks have been identified and mitigated by all parties in the value chain, the opportunities are considerable. Developers, utilities and investors are all seeking to increase their existing portfolios through the development of new projects or the acquisition of assets. The race is on to develop suitable locations for onshore and offshore wind power, benefit from lucrative solar incentives, realise geothermal opportunities, secure fuel sources for biomass and waste to energy plants, and prove wave and tidal technology.

Services Mott MacDonald offers

Our integrated service covers all technical, commercial, regulatory and environmental aspects of renewable projects. We bring world class expertise in the latest generation technologies – wind, solar (PV and thermal), hydro, geothermal, biomass, tidal, wave and waste to energy. We assist government agencies and provide advice and support to companies seeking to expand their energy portfolios or acquire renewable assets.

We assist clients by identifying the best locations for renewable projects, both in terms of the natural resources available and the site's environmental impact. We also assess the technical, economical and logistical feasibility of fuel supplies for biomass and waste to energy plants, and carry out resource assessments for wind, solar and hydro projects. 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 and hydroelectric schemes, plus transmission distribution services to evacuate the power from the projects.



- Carbon market potential and eligibility
- Civil design for dams
- Energy yield assessments
- Environmental impact assessments
- EPC contract preparation
- Feasibility studies and conceptual designs
- Fuel supply and power purchase agreements
- Market analysis and strategic advice
- Operation and maintenance agreements
- Permitting process
- Plant design and specification
- Project management
- Regulatory analysis and policy definition
- Risk assessment and investment appraisal
- Site selection
- Technology assessments
- Tender assessments

www.power.mottmac.com



Mott MacDonald



Contact us

UK/Europe

Simon Harrison

T +44 (0)1273 365217

E simon.harrison@mottmac.com

Africa

Howard Bate

T +27 (0)11 275 0086

E howard.bate@mottmac.com

Gulf region

Claudio Tassistro

T +971 (0)2 412 0337

E claudio.tassistro@mottmac.co.ae

India subcontinent

Sadiq Shafiq

T +91 (0)12 0308 2322

E sadiq.shafiq@mottmac-india.com

South East Asia

Surasak Phanraungwong

T +66 2643 8648

E surasak.phanraungwong@thaimottmac.com

USA

Paul Pring

T +1 781 915 0084

E paul.pring@mottmacinc.com

Our environmental experts advise on the impact of a proposed scheme and associated planning issues. We examine the long term reliability of renewable fuel supplies for plants, as well as the status and reliability of relevant combustion technologies. Forecasting the long term competitiveness of a project in respect of open electricity markets, other power generation technologies, longer term market trends and future policy is undertaken by our market and technology analysts. When supporting clients in strategic renewable issues, we combine technical knowledge and market and regulatory expertise with a deep understanding of the drivers and potential conflicts that influence governmental and business decisions.

Our track record

Our expertise, experience and international reach demonstrate our capabilities and understanding of the market and the challenges of the global renewable energy sector.

- **Energy portfolio, Italy** Mott MacDonald is working closely with an Italian developer to provide ongoing technical and project development services for its 55MW energy portfolio in Italy. These have, so far, included yield studies and irradiance reviews at various sites using a combination of competing PV technologies and the drafting of EPC and O&M contracts.
- **Solar thermal, Middle East** Mott MacDonald acted as lender's engineer for the 100MW CSP Shams 1 plant in the Middle East. We reviewed and analysed solar irradiance and undertook thermal modelling to calculate energy yields, completed contract and environmental reviews, financial modelling and tariff analysis.
- **Biomass cogeneration, Philippines** As owner's engineer appointed by a UK specialist in the development of energy from renewables, we're helping implement a new 54MW cogeneration power plant in the Philippines, which will be fuelled by bagasse – a sugar cane residue recognised as a major renewable fuel – and supplemented by woodchips during the off-season.
- **Environmental impact study, renewables, worldwide** For planning and permitting, we have undertaken a number of environmental impact assessments including for a 35MW wind farm, a biofuels production plant and 60MW energy from waste project in the UK and an 840MW hydro project in Pakistan. Additionally, we have completed operating permit applications for three biomass power plants in the UK.
- **Wave and tidal, UK** Mott MacDonald reviewed a tidal flow technology, providing an independent opinion for potential investors.
- **Offshore wind, Holland** We were lenders' engineer for Q7, the first project financed offshore wind farm in the world. We were subsequently assigned to undertake the construction monitoring on behalf of the lenders. Q7 is a 120MW offshore wind park, comprising 60 Vestas V-80 wind turbine generators, located 23km offshore from Ijmuiden, Holland.
- **Hydroelectric project, India** We've been contracted for the preparation of a feasibility study report, a detailed project report and bid documents including drawings and technical specifications for a proposed 775MW hydroelectric project in a seismically active region in India.
- **Biomass, UK** Mott MacDonald has been employed by E.ON UK as project manager on the largest stand alone biomass plant in the UK. Based at Stevens Croft near Lockerbie in Scotland, the €130 million plant will produce an abc output of 44MW.

www.mottmac.com

