

# Power transmission and distribution

Total solutions for all projects



High voltage overhead line.

**Mott MacDonald is a global management, engineering and development consultancy. With annual revenue of £1 billion, we combine the skills of over 14,000 staff with a strong presence in 140 countries. Mott MacDonald provides essential, multidisciplinary expertise at all stages of power transfer from generator to consumer. Access is available to the extensive resources of one of the world's leading engineering consultancies through our team of transmission and distribution (T&D) specialists. We have T&D offices in the UK, USA, Middle East, Netherlands, India and China.**

## Our services

For all projects we provide an integrated team under the direction of an experienced project manager to address the specific requirements of any power system project, offering expertise in:

- Due diligence and asset evaluation
- Electricity industry restructuring
- Electricity market design
- Environment and social impact assessment
- Feasibility and economic studies
- Grid code, QoS, security and performance standards
- Lender's engineer
- Market analysis
- Master plan studies
- Mergers and acquisitions
- Owner's engineer
- Power system studies
- Project development
- Project management, design and implementation
- Regulatory advisory services
- Reliability, availability and maintainability studies
- Risk assessment and monitoring
- SCADA EMS, DMS, GIS

Such services would be required in projects including:

- Overhead lines
- Substations
- Underground cables, submarine cables and cable tunnels
- Wind farms



Typical wind farm site.

[www.power.mottmac.com](http://www.power.mottmac.com)

  
**Mott MacDonald**



West Bay area electrification, Doha, Qatar.

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### Owner's engineer

For utilities and private sector developers, we provide services through all stages of project development for both new schemes and plant refurbishment and uprating. Our services cover every element from initial reconnaissance, feasibility and environmental impact studies, through electrical, mechanical and civil design and commercial and technical contract documentation, to project management and supervision of implementation. In addition, we offer services in asset management and valuation, economic, financial and legal assessments and plant optimisation. Our technical strength is supported by our independence and ability to take a wide view of the entire project in its complete environment.

### Lender's engineer

Prior to financial close, we work closely with lenders and sponsors to address all the technical and environmental issues relevant to financing and to understand how the business and assets operate. We provide clear analysis and focused conclusions to clearly address the financing from a technical and environmental perspective. Once 'financial close' has been achieved, we provide a monitoring service for both the construction work and the provision of equipment. We support the lenders through testing and commissioning of the assets and in monitoring their ongoing operation.

### Specialist services

A wide variety of problems can affect power systems at any time from commissioning to refurbishment. Remedial works need to be investigated, options assessed and target investments identified. Mott MacDonald offers specialist services in problem resolution, failure analysis and forensic engineering through to risk and asset management, failure effect analysis and reliability assessments. By providing these specialist skills through our power systems expertise we can deliver the most appropriate solution to any problems encountered.

### Interface engineering

Today's market requires increasingly complex contracts for construction and equipment supply within tight timescales and margins. We offer services in the management of interfaces between designers, suppliers and constructors. These interfaces can pose a huge obstacle to successful achievement of both new build and refurbishment contracts, at the tender stage and during implementation. Our services are designed to minimise the risks so that the management of subcontractors and strategic partners is both technically and commercially effective.

### Our track record

- System studies worldwide for the development of national grids, sub-transmission and industrial processing infrastructure
- Owner's engineer for the modernisation of the UK's national protection and control programme
- Lender's engineer for the re-powering of a major underground railway system
- Specification preparation, tender evaluation and project management of a 400kV interconnector project in Southern Africa
- System studies and connection planning for a range of energy generation systems and various large loads
- Grid code development worldwide
- Condition assessment and refurbishment option pricing for above and below ground works relating to 400kV overhead transmission lines
- Design of SCADA systems and load despatch centres for national and regional applications
- Asset valuation for the national utilities in Ghana
- Master planning for transmission and distribution networks worldwide
- Onshore and offshore wind farms in the UK, USA and China

[www.mottmac.com](http://www.mottmac.com)



To find out more see our dedicated microsite  
[www.power.mottmac.com](http://www.power.mottmac.com)