

Operations & Maintenance Services

Improving plant reliability, availability & efficiency



Introduction

Lightsource bp is a global leader in the development, management, and ownership of solar energy projects, spanning across 19 countries with over 5GW developed to date. We offer third-party operations and maintenance (O&M) services to clients, providing fully comprehensive solutions covering all aspects of solar and storage O&M. This covers everything from site optimisation reviews, monitoring & reporting, proactive and reactive maintenance, panel cleaning and ground maintenance and specialist engineering services.

We deliver these solutions whilst working side-by-side with all our clients' own Asset Management and Service Delivery teams. Our unparalleled framework, along with the experience we have built and our extensive resources, allows us to guarantee the performance of our client's assets.

With our in-house team of experts, we are proud to advance the company's reputation for excellence in everything we do. From rapid response times to high standards of service and unwavering commitment to customer satisfaction, Lightsource bp sets the bar for solar and storage O&M.



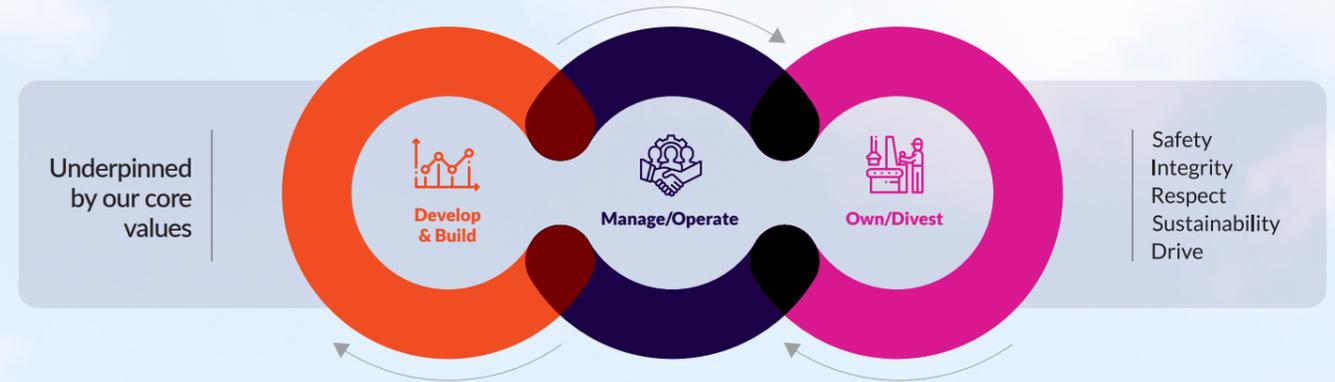
"Built on our mutual values to accelerate the energy transition, we are excited to be working together with our clients and show the value we can bring to their assets through increased operational reliability, availability and efficiency. As a single custodian offering fully comprehensive O&M solutions, we look forward to long-term and sustainable partnerships within the solar and storage industry."

- Rumesh Chauhan - O&M Director

How we do business

An end-to-end approach to solar

Enabled by global reach & buying power, innovation, digitalization, automation and Centres of Excellence



Supported by corporate functions to facilitate, govern & monitor

Develop & Build

- Development (greenfield, co-development, late-stage acquisitions)
- Power Purchase Agreements
- Environmental planning
- Grid/Interconnections
- Commercial engineering
- Construction & project management

Manage/Operate

- Asset management
- Energy management
- Operations & maintenance

Own/Divest

- Operational asset performance
- Structured finance & modelling
- Investment management
- Asset divestment



O&M scope of work

Our multi-disciplinary team offers a wide range of O&M support services from project concept and feasibility to planning, engineering, due diligence, health, safety, and environment (HSE) and operational management.

Our primary goal is to provide our customers with a unique integrated service package with the minimum number of interfaces with the aim of reducing risk, preventing delays and simplifying the process. This in turn means we can deliver an efficient, seamless and cost-effective package of operations and maintenance support. All indicated packages can be tailored individually as per the client scope of work.

Pictured is an example of a bespoke package we offered that didn't include Vegetation control service, functions that were negotiated as part of the land lease with the farmer. In cases like this, clients often choose to include panel cleaning as part of the package. Our packages are offered in five (5) and ten (10) year contracts.

	PREMIUM	ELITE
PLANNED MAINTENANCE	✓	✓
CORRECTIVE MAINTENANCE	✓	✓
GROUNDS MAINTENANCE	✗	✓
	PRICE PER MW 5-YEAR CONTRACT	
	PRICE PER MW 10-YEAR CONTRACT	



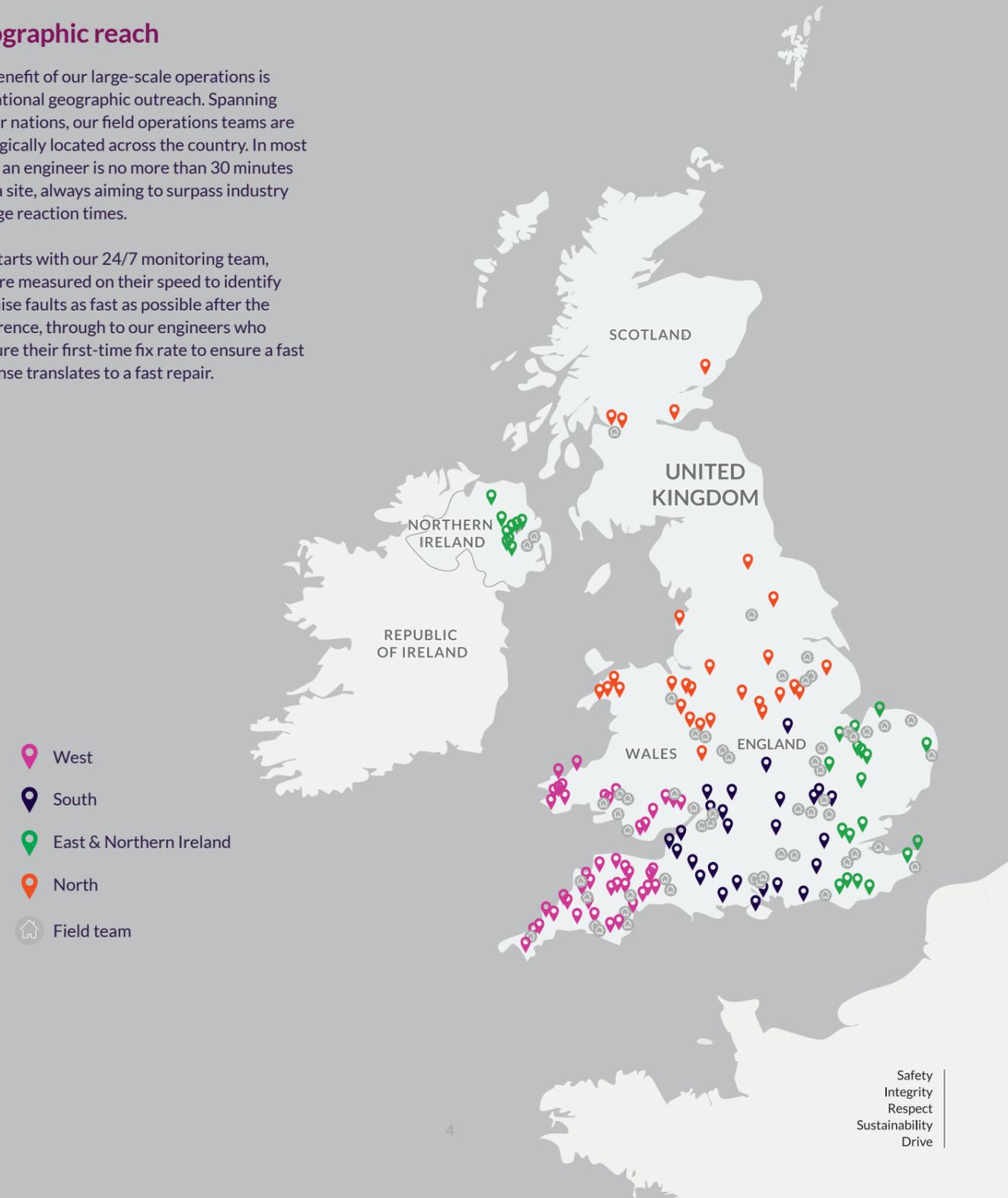
Ownership needs: we understand

While operations and maintenance (O&M) constitutes a critical part of Lightsource bp's global business model, we own nearly 3GW of operating assets worldwide today. We treat our third-party client's assets the same way we treat our Lightsource bp owned assets. We don't cut corners and focus on our goal of maximising the long-term performance of the assets in a safe and responsible way.

Geographic reach

The benefit of our large-scale operations is our national geographic outreach. Spanning all four nations, our field operations teams are strategically located across the country. In most cases, an engineer is no more than 30 minutes from a site, always aiming to surpass industry average reaction times.

This starts with our 24/7 monitoring team, who are measured on their speed to identify and raise faults as fast as possible after the occurrence, through to our engineers who measure their first-time fix rate to ensure a fast response translates to a fast repair.





Solar and storage optimisation

We recognise the 'value curve' which is an effective way to understand our clients' communication requirements. We continually re-assess our service delivery at all stages in the lifecycle – from plant onboarding through to ongoing operational management.

O&M services

Lightsource bp's 4-staged approach to solar farm optimisation.



Engineering survey

Our team of Regional Managers, Senior Field Service Engineers, HSE leads, and HV engineers, will visit the site and create the report. This report takes into consideration the documentation provided by the system owners/asset management and combines the visual inspection from the team on site.



Digital analytics

Our diverse expert-technical team will run several reports on our internal platforms to see how best we can optimise the performance of the solar plant. At this stage, we will create an updated spares list and a punch list, both of which will be costed and recommended for the client to consider.



Robust spares and punch list

Once the client has had the opportunity to review both documents, we will set up a call where we can present our findings and the reasons behind each item on the list. The client can then agree and prioritise the items on the punch list, taking into consideration our expert advice and their CAPEX abilities. Based on this, we will review our best and final offer for the contract.



Project planning

The project team will create an implementation plan, that will be integrated into our yearly maintenance plan and delivered as agreed with the client. This is reviewed and amended on a yearly base.

In-house capabilities

The Lightsource bp O&M team leverages our fully independent in-house services which allows us to move quickly to identify, diagnose, and resolve faults without waiting on subcontractors. With over 5.4GW in operation and over 10 years of experience in the solar market, we have built a deep engineering and field-based experience. We manage over 12 different types of inverters and have built solid relationships with service arms of the larger providers. We have regular reviews with key supply partners, including Power Electronics, which provides a detailed resolution process on key issues.



Introduction to O&M solutions

Customised services we offer:

-  Remote monitoring, reporting & cyber security
-  Robust, cost-effective spares program
-  Onboarding new sites
-  Thermography auditing
-  Electrical Installation Condition assessments (EIC)
-  Biodiversity planning
-  Scheduled system inspections
-  Project management & delivery
-  Maintenance, repair & HSE management
-  Site surveys & punch lists
-  CCTV & site security
-  Certified LV & HV services
-  Grass cutting & land management
-  Module cleaning
-  Dedicated portfolio CSM team
-  Proactive assets retrofit projects

O&M services: performance, monitoring & digitalisation



Global performance and monitoring team

Our O&M team is supported by an embedded cadre of our Global Performance & Monitoring Team, a centre of excellence built within Lightsource bp and dedicated to maximising the performance of all our assets under management. The insights generated by the team are disseminated across the O&M team, providing the foundation for data-based decision-making. From a simple flag to dispatch an engineer to investigate a fault to analysing the return of an entire site retrofit, the process starts with the expert Performance Analysts in this function. We add value to all our client's assets.



Rapid fault response and triage

Our Remote Monitoring Centre uses multiple leading monitoring platforms and is always on - actively reviewing the performance of the sites 365 days a year and is in constant contact with our field engineers. Over the years, we have worked directly with the monitoring platform providers to fine-tune a suite of custom alarms generated by the systems to ensure we do not miss any outage or underperformance. Tickets will be delivered rapidly following fault onset and updated as the issue progresses towards resolution.



Value-added performance insights

We approach every site as if it were our own, and proactively identify opportunities for the owner to invest in their assets to improve long-term performance. The ability to do this starts with a very strong understanding of how sites are performing and where, and why they are not reaching their full potential. We have recently invested in building our Advanced Analytics capability to propel us beyond the obvious insights of site performance and discover difficult-to-spot underperformance. Our clients benefit from the insights of these systems allowing our O&M team to proactively suggest value-adding courses of action, even if they sit outside our core scope of work.



Detailed, accurate and timely KPI reporting

As owners ourselves, we understand the value of receiving detailed, accurate, and timely project information. Going hand-in-hand with site monitoring is the calculation and delivery of site Key Performance Indicators and Operating Reports. We have an unblemished track record of delivering high-accuracy reports to our clients, always within agreed timelines.

We are investing

O&M investment plan 2021-2024

● Digitalisation

We are adopting emerging digital technologies, significantly affecting our value co-creation. This transformation opportunity will drive more flexible, responsive, and interconnected operation, capable of making further proficiencies.

● Monitoring and reporting

We are investing in software that identifies and communicates the information we require to effectively monitor. This will provide the asset owner with insights and necessary details to understand and efficiently manage the performance.

● Resource saving equipment

We procure resource-efficient equipment, with the aim to increase our efficiency and improve our resource usage. Our new fleet of robotics & energy saving equipment will distribute, reuse & recycle resources.

● Decarbonisation; EV fleet

Transitioning to a zero emissions future, with the right capabilities by investing in EV fleet. We are working with the Government's Electric Vehicle Fleet Accelerator (EVFA) program and are proud to be part of the wider industry initiative.

● Learning and development

We understand the importance of L&D as a key investment for our organization. Our new L&D portal offers robust state of the art training for all. The all-in-one solution for onboarding new employees is an example of how we create efficiency.



Partner with us ▼

We'd love to speak to you about how we can optimise your solar or storage facility.

O&M Services
OM.Services@lightsourcebp.com



33 Holborn
London
UK
EC1N 2HU

www.lightsourcebp.com