One Solar

Specialised BESS advisory services

Contact

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Energy Storage Procurement Services

Our expertise has driven a 2 GWh-led RFQ/RFI process for BESS procurement, with 400 MWh of BESS projects already installed and connected to the grid.

BESS is a mature technology, but few installers and EPC have extensive experience in the construction and commissioning of these systems.

As of today, Offtakers tend to separate BESS procurement phases in equipment (materials) and installation (services). The main advantage of this strategy is the reduction on equipment costs (reduced margins). However, this procurement modality also poses challenges, as Offtakers must internalise in-depth technical knowledge of the technology and the particularities of supply contracts.

Our specialised advisory team on Procurement can help in this topic thanks to our close contact with most BESS manufacturers, deep knowledge on the technology, and experience in construction and commissioning of BESS projects.

Description

1. We help Customers define specific requirements and technical specifications for each project, considering specific client needs, technical constraints, and market conditions.
2. We prepare tender requirements and manage tender processes.
3. We evaluate received equipment proposals in detail, taking into account all technical and commercial conditions. Through our detailed simulation models we identify the solution with highest project value (not necessarily the equipment with the lowest cost).
4. We support contract negotiations to ensure that the responsibility matrix and the agreement conditions reflect the required procurement, warranties, and long-term service agreements specifications.
5. We ensure the quality of the equipment through the supervision of manufacturing quality assurance processes, factory acceptance tests (FAT), site acceptance tests (SAT), and review of the completeness of the as-built and O&M training and servicing documentation
6. We monitor and review the quality of the execution of the procurement and installation process, including logistics, construction, and commissioning support.

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CASE STUDY
Procurement Advisory

sonnedix

Advisory for Framework Agreements for Global BESS – 500 MW Pipeline

Advisory support was provided for a global BESS IPP framework agreement, focusing on **LTSA & warranties and O&M services.** Given the lack of standardization in warranty structures, the engagement included defining liabilities (LDs), measurement methodologies, benchmarking, and negotiation strategies to ensure contractual performance. In commissioning & O&M, emphasis was placed on optimizing commissioning processes to mitigate early-stage failures and structuring O&M agreements tominimize downtime risks and financial exposure.

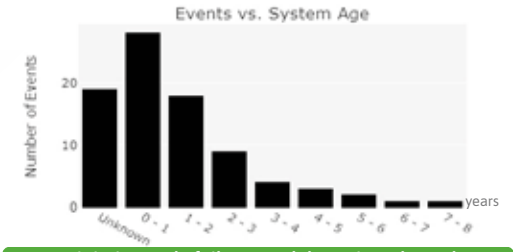
LTSA & Warranty Assessment

Performance warranty benchmarking, capacity measurement standardization, RTE and availability, ensuring **comparability across manufacturers.** Additionally, **LD structures** were assessed to align with revenue impact, mitigating financial exposure from cumulative caps and underperformance risks.

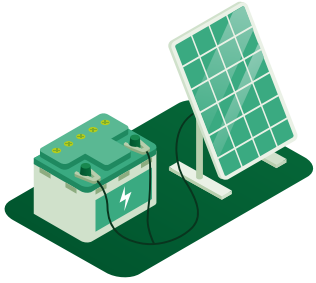
Data-driven warranty structuring by aligning degradation curves with contractual terms,

Commissioning and O&M

Inconsistent commissioning processes and reliance on low-quality O&M providers create **operational risks** and reduce manufacturer accountability. Advisory support was provided to **standardize commissioning, ensure O&M quality oversight, and evaluate alternativeservice structures,** balancing cost, risk, and compliance with insurance requirements.



Minimize early failures and downtime through optimized commissioning and O&M strategies.



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Asset Management advisory services

As the global demand for clean and reliable energy continues to grow, the need for efficient and optimized management of renewable energy assets becomes increasingly critical.

The complexities of managing solar photovoltaic and energy storage projects, during their operation, require expert oversight to maximize performance, and enhance financial returns.
Our comprehensive asset management services provide tailored solutions to meet these challenges, offering expertise and support at every stage of the project lifecycle.

Description

1

Operational Asset Management: Once the project is operational, we focus on optimizing asset performance through continuous monitoring and analysis. Our team provides ongoing maintenance oversight and performance reporting to ensure that the asset operates efficiently and profitably. We also offer advisory services to structure appropriate predictive maintenance services that ensure long-term efficient operation of the assets and minimise risks.

2

Market Analysis and Strategic Optimization: We provide in-depth market analysis to help clients navigate energy markets and identify opportunities for ancillary services participation. This includes forecasting energy trends, and providing tailored recommendations to improve both operational efficiency and financial returns.

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Energy Storage Modelling and Valuation Studies

We have evaluated projects totaling 1,400 MW (at PoC capacity) and executed over 300 simulations, modeling an aggregate of 420 GW of Battery Energy Storage System (BESS) capacity.

One Solar has been developing dedicated software for the valuation of front-of-the-meter battery energy storage projects since 2020.

Our software toolkit uses an advanced battery price-taker engine, based on state-of-the-art dispatch optimisation algorithms that determine the best operational strategies, maximising trading income across all electricity markets, while minimising asset amortisation costs.

It supports long-term simulations and project finance evaluations, helping clients optimise project and portfolio value. Leading industry players trust our model for site selection, technical optimisation, investment decisions, and bankability assessments.

Description

1. Our model reproduces the sequential closure of markets, optimising bidding and scheduling strategies for day-ahead auctions, ancillary services availability commitment, and intraday trading.
2. Perfect foresight is considered on each scheduling phase, but imperfect foresight on later market conditions (sequential bidding phases) ensures realistic revenue estimation outcomes.
3. Our evaluations are based on bankable market forecast curves, and enables project bankability thanks to its detailed project finance toolkit and reporting modules
4. Site-specific market opportunities such as Technical Restrictions or voltage regulation opportunities are included on a dedicated basis at nodal resolution.
5. We include sensitivity analysis on different technical (e.g. degradation curves) and market parameters (e.g. planned market regulation changes) for each valuation assessment, in order to provide robust results that optimise value but also allow to quantify risks.
6. Our project-specific valuations incorporate detailed technical assumptions from the plant equipment and engineering decisions, allowing customers to compare different energy storage systems thanks to our curated BESS equipment database.
7. We continuously update the available technology alternatives and provide the most detailed cost estimates, thanks to our continuous contact with most Tier-1 BESS manufacturers.

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CASE STUDY
Modelization and Grants Development

qenergy

Techno-economic assessment of Hybridised PV + BESS Plant

To conduct a detailed analysis that enables the crafting of an optimal hybrid energy storage strategy for PV and BESS integration, ensuring compliance with regulations and maximizing economic viability within the Spanish market.

Hybrid PV Plant Selection

Selection of most suitable plant for hybridization based on their potential for increased energy yield, BESS compatibility and project maturity.

Project Simulation

Simulations for hybrid configurations, enabling strategic optimizations and informed decision-making.

Technical Solution

Photovoltaic and BESS integration to enhance grid stability and increase renewable energy utilization.

energy utilization.

Manages grant applications to secure funding for hybrid PV and BESS project

Year	Country	MW/MWh
2023	Spain	75/150

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CASE STUDY
BESS Evaluation in Spain

lightsource bp

Techno-economic and regulatory assessment of energy storage plants: Standalone and Hybridised with PV

The primary objective was to provide a detailed analysis that facilitated the development of an optimal energy storage strategy. This strategy must comply with current regulations andmaximize the economic viability of the project within the Spanish market context

Regulatory and legal advisory
Ensures compliance with current and future regulations to minimize legal risks and facilitate seamless project execution.

Project Simulation
Simulations for hybrid and standalone configurations, enabling strategic optimizations and informed decision-making.

Technical Solution
Customized technical solutions that enhance the efficiency and adaptability of both hybrid and standalone energy storage systems.

Financial Insights
Delivers comprehensive financial analyses to assess economic viability, attract nvestors, and secure project funding efficiently

Year	Country	MW/MWh
2023	Spain	100/400

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CASE STUDY
Strategic Development of BESS

L'ENERGÈTICA
Energia Pública de Catalunya

Strategic Development and Implementation of Energy Storage Solutions

Development and optimization of energy storage solutions that are both economically viable and compliant with evolving regulatory standards. Through strategic planning and technical innovation, the project aimed to enhance the integration and performance of hybrid and standalone storage systems within the Spanish energy market.

Regulatory and Strategy

Strategic advisory and technical support to align theproject's approach with current regulations and anticipated shifts in policy.

Project Simulation

Model analyzing cost estimates, revenue potentials, and operational scenarios to determine the viability of both standalone BESS.

Opportunities

Site suitability and feasibility assessments for BESS based onproximity to infrastructure, land use, and environmentalregulations.

Permitting Process

Manage the documentation and application process for connecting to the electrical grid, advising on securing necessary permits and guarantees.

Year	Country	MW/MWh
2024	Spain	100/250

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Project-related and zonal Technical Restrictions Analyses and Forecasts

We have assessed 500 MWpoc of Renewable Power Plants to identify revenue-generating opportunities through Ancillary Services and to evaluate the impact of technical restrictions on plant performance.

High shares of renewable plants generate, at times, energy oversupply issues due to the mismatch of energy and consumption curves. Energy oversupply forces the TNOs and DNOs to impose curtailment (downwards technical restrictions), limiting the production of energy from all plants at that node. This results in the loss of potential revenues from renewable plants, as well as the potential breach of PPA obligations and the loss of revenues from Guarantees of Origin.

On the other hand, areas of high consumption (cities and industrial centres) are usually far away from high energy generation areas, and, many times, its energy supply requires for more expensive power plants to supply power after the closure of the day-ahead market (upwards technical restrictions). Plants that can provide power at times of congestion can receive high remuneration, providing interesting upside opportunities.

Our specialised team in market and grid data analyses provides solutions through its ad-hoc technical restriction analyses and forecasts. These help our customers identify the most-suitable areas for project origination, and are essential to evaluate the detailed expected value of concrete projects, contributing to project bankability for project finance at RTB, and/or project valuation in M&A and due diligence processes.

Description

1. We inform our customers about the regulatory basis for technical restrictions and provide information on strategies to mitigate their effects (i.e., inclusion of the plant in the SRAP system).

2. We assess the technical restriction events and trends in the area of your asset, at a regional, provincial, and nodal scale, through an in-depth analysis of the historical data of the plants located nearby, and using our curated databases on grid network and project locations.

3. We generate technical restriction forecasts, using our ML-based models fed with data on planned grid reinforcements, nearby project permitting status, and expected energy system changes at national level, between others.

4. Our detailed ad-hoc technical restriction analyses and forecasts contribute to differentiating project value, depending on its area of implementation.

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CASE STUDY
Advisory of Market Agent

octopus energy

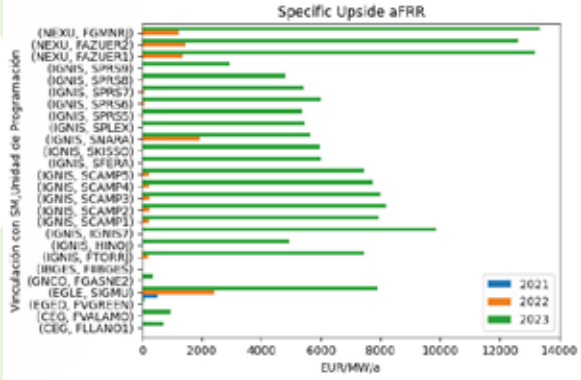
Market Agent Assessment

Advisory support was provided for three Photovoltaic Plants in Spain, focusingon historic performance of Market Agents (MA) (€/MW·y) as well ascontractual conditions review . Given the recent cannibalization observed in the Spanish power market, MA have started implementing complex market participation strategies, stacking revenues from different markets. MA performance was evaluated on a per plant basis to identify the best MA for renewable assets, Contract conditions offered by the main MAs were collected and reviewed.

LTSA & Warranty Assessment

Benchmarking of Market Representatives performance operating Renewable Energy Assets. Evaluation of market participation strategies, revenues generated from ancillary services markets, and overall performance of plants (€/MW·y). Background check on regulatory bodies open investigations, and fines, per MA.

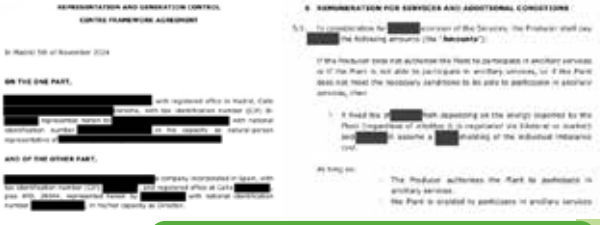
Year	Country
2025	Spain



Evaluation of balancing services captured upside, per asset and Market Agent. aFRR, mFRR and RR captured upside.

Contract Analysis

Evaluation of the latest contractual offers from Market Agents, considering, among others, imbalance costs risk sharing, and revenue share structures linked to ancillary services participation from renewable assets.
Due diligence of obligations for the producer and the MA.



Analisis of MA contract conditions. Evaluation of obligations, fee structures, imbalance cost shielding, and ancillary services revenue splits. To optimize investment revenues.

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CASE STUDY

Ancillary Services Revenue Forecast

octopus energy

Ancillary Services Revenue Forecast

To conduct a detailed analysis of ancillary services market evolution (aFRR, mFRR and RR)studying the implications of regulatory and product changes (TERRE, MARI, PICASSO/SRS), as well as the evolution of renewable asset market strategies. Based on the gathered knowledge and generated datasets, forecast future ancillary services revenue potential through data driven AI models.

Revenue Forecasts

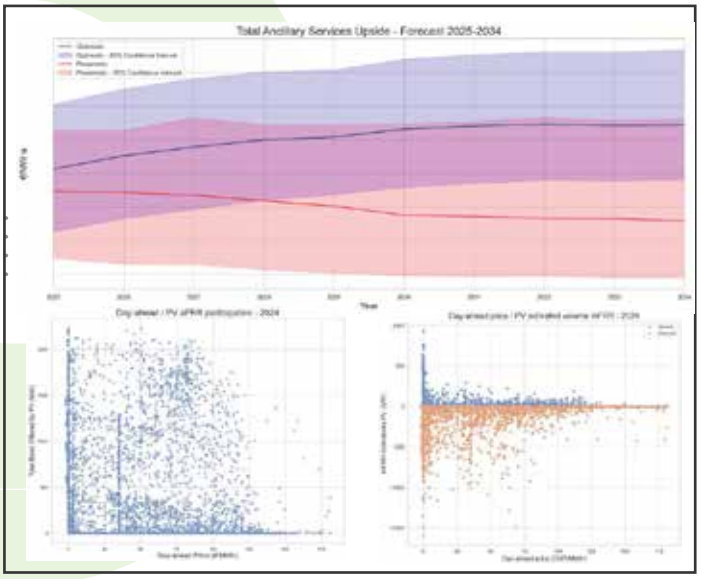
Forecast of revenue per ancillary service market for renewable assets (€/MW). Generation of multiple future scenarios forecasts.

Market Evolution Analysis

Historic analysis of market prices, offer orderbooks, and predominant technologies providing the service.

Asset Strategies Evaluation

Analysis of market participation strategies from different technologies. For instance, recent influx of RES into aFRR.



Year	Country	Markets
2024 & 2025	Spain	aFRR, mFRR & RR

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Other Energy Advisory Cases

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CASE STUDY
SEAT - BESS Technology Advisory of Second Life Batteries

SEAT

Strategic Plan for Battery Utilization and Resale at SEAT Centro Técnico

Development of a comprehensive strategy for the utilization and resale of electric vehicle batteries, integrating innovative energy solutions that align with SEAT's Environmental, Social, and Governance (ESG) targets, and enhancing sustainable practices across all operations.

Battery Resale

Develop a comprehensive strategy for the resale of used battery packs, incorporating assessments of market potential for different second-life applications.

Operational Structuring

Structure the operational processes required for the battery resale model, including the evaluation of technical and economic aspects at each phase.

Recycling Strategy

Develop a structured approach to battery r ecycling that aligns with environmental regulations and maximizes resource recovery.

Compliance Strategy

Advise on managing defective orcritical batteries, focusing on defining processes for recycling and material recovery..

Year	Country	MW/MWh
2022	Spain	2/4

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CASE STUDY

IONITY - Advisory on incorporating Energy Storage in EV Charging Stations

IONITY

Consultancy Services Agreement for BESS Integration at High Power Charging Stations

To facilitate the seamless integration of BESS at Ionity's high-power charging stations through expert consultancy services, ensuring compliance with technical and regulatory requirements while enhancing operational efficiency.

Regulatory Compliance

Strategic advisory and technical support to align the project's approach with current regulations and anticipated shifts in policy.

Operation Implementation

Monitor the integration process, providing continuous support and recommendations to ensure alignment with both technical specifications and IONITY's operational standards.

Design Coordination

Design and application process for integrating BESS at charging stations, ensuring all engagements with DNOs and suppliers.

Permitting Process

Prepare detailed documentation required for DNO applications and handle the submission process.

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2022	UK	20

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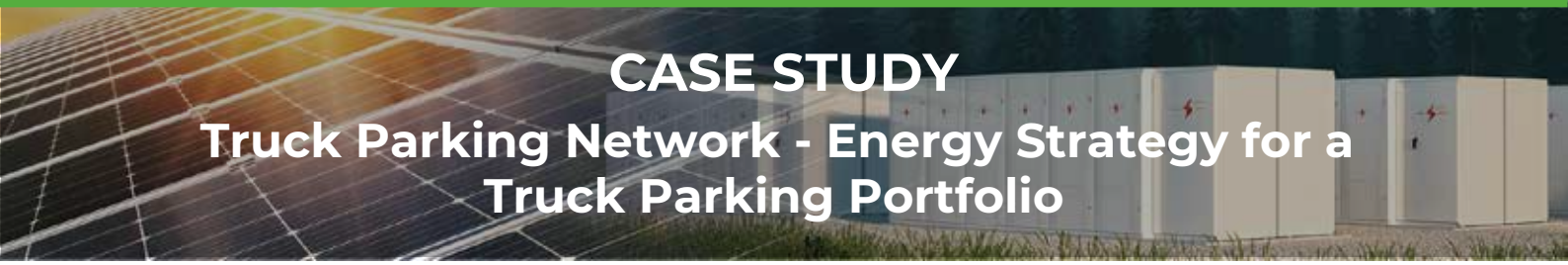


CASE STUDY
Truck Parking Network - Energy Strategy for a Truck Parking Portfolio

TPnetwork

Strategic Plan for Energy Transition and Diversification

Provision of comprehensive energy transition strategies and diversified business models that align with its Environmental, Social, and Governance (ESG) targets, enhancing sustainable mobility and renewable energy integration across its assets.

ESG Strategy

Conduct a preliminary analysis of PADROSA's assets, business models, and energy usage to tailor renewable energy solutions, including PV, wind and BESS.

Technology and Financing

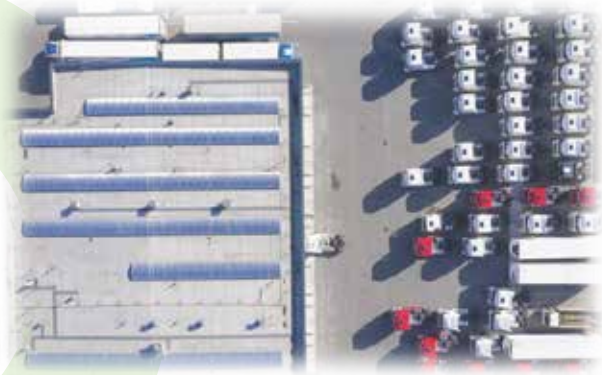
Outline financing solutions such as PPAs and leasing, and structure ownership and operation for charging stations.

Technical Solution

Design a standard technical solution for an e-truck parking, including generation, storage technology, and EV chargers.

Project Feasibility

Detailed feasibility studies for two selected sites, focusing on technical site analysis, energy consumption estimation, grid interconnection possibilities,and yield simulations.



Year	Country	# HPC
2024-25	EU (5+ countries)	40

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Track Record: BESS Advisory Services

EXTRACT OF RELEVANT RELATED ASSIGNMENTS WITHIN THE LAST 24 MONTHS

Service	Project Type	Client	Year	Country	Size	Description
BESS Strategic Advisory	Hybrid PV+BESS	Confidential	2022	Spain & Portugal	300 MW / 1, 2, 4h	Strategic regulatory and market assessment for hybrid PV+BESS, with technical and financial feasibility analysis.
BESS Strategic Advisory	Hybrid PV+BESS	Lightsource BP	2023	Spain	150MW / 1, 2, 4h	Strategic regulatory and market assessment for hybrid PV+BESS, with technical and financial feasibility analysis.
BESS Strategic Advisory	Hybrid PV+BESS	Confidential	2023	Spain	26 MW / 52 MWh	Strategic regulatory and market assessment for hybrid PV+BESS, with technical and financial feasibility analysis.
BESS Strategic Advisory	Hybrid PV+BESS	Confidential	2023	Spain	75 MW / 150 MWh	Strategic regulatory and market assessment for hybrid PV+BESS, with technical and financial feasibility analysis.
BESS Strategic Advisory	BESS Standalone	Confidential	2023	Spain	100 MW / 400 MWh	Standalone BESS market and regulatory analysis, with feasibility modeling for technical and financial viability.
BESS Strategic Advisory	BESS Standalone	Our New Energy	2023	Spain	65 MW / 260MWh	Standalone BESS market and regulatory analysis, with feasibility modeling for technical and financial viability.
BESS Strategic Advisory	BESS Standalone	Prologis	2023	Spain	Porfolio of 300 MW at 1, 2, 4h	Standalone BESS market and regulatory analysis, with feasibility modeling for technical and financial viability.
BESS Strategic Advisory	Hybrid PV+BESS	Green Tie Energy	2023	Spain	25 MW / 50 MWh	Strategic regulatory and market assessment for hybrid PV+BESS, with technical (including Curtailment Studies) and financial feasibility analysis.
BESS Strategic Advisory	Hybrid PV+BESS	Confidential	2024	Spain	8 MW at 1, 2, 4h	Strategic regulatory and market assessment for hybrid PV+BESS, with technical (including Curtailment Studies) and financial feasibility analysis.
M&A and Due Diligence	Hybrid PV + BESS	Confidential	2024	Bulgaria	BESS 75 MWh PV 63 MWp	Due Diligence and validation of proposed technology, design and BESS suppliers for a PV+BESS acquisition transaction. Contract Review and/or Negotiation expected for the next stages.
M&A and Due Diligence	PV	Octopus Energy	2024	Spain	PV 40MWp	Due Diligence and validation of proposed technology, for a PV acquisition transaction, including a Curtailment and Ancillary Services forecast studies and its impact in the Valuation.
M&A and Due Diligence	PV	MET	2024	Spain	PV 40MWp	Due Diligence and validation of proposed technology, for a PV acquisition transaction, including a Curtailment and Ancillary Services forecast studies and its impact in the Valuation.
BESS Strategic Advisory	BESS Standalone	Trina	2024	Spain	50 MW at 1, 2, 4h	Standalone BESS and Hybrid PV+BESS market and regulatory analysis, with feasibility modeling for technical and financial viability.
BESS Strategic Advisory	BESS Standalone	Confidential	2024	Spain	100 MW at 1, 2, 4h	Standalone BESS market and regulatory analysis, with feasibility modeling for technical and financial viability.

Over 20 leading energy players—including IPPs like ***BayWa, Lightsource BP, MET, or Trina***—have entrusted us with their Energy consultancy needs.

Track Record: Procurement & Construction

Type	Year	Country	Size	Description
PV only	2014	UK	8MW/8.4MWp	PV plant in Westbury. Last mile development supervision, Full EPCM, Procurement & Construction (Installed & Operating).
PV only	2014	UK	5.5MW/6.0MWp	PV plant in Carmarthenshire. Last mile development supervision, Full EPCM, Procurement & Construction (Installed & Operating).
PV only	2015	UK	35MW/39MWp	PV plant in North Lincolnshire. Last mile development supervision, Full EPCM, Procurement & Construction (Installed & Operating).
PV only	2017	Portugal	40MW/46MWp	PV plant in Baixo Alentejo. Last mile development supervision, Full EPCM, Procurement & Construction (Installed & Operating).
PV only	2018	Portugal	200MW/221MWp	PV plant in Vaqueiros. Last mile development supervision, Full EPCM, Procurement & Construction (Installed & Operating).
Hybrid PV + BESS	2019	USA	100MW/200MWh	Complete integrated system Hybrid with PV. RFQ Process, Contract Review and/or Negotiation with winning bidder (Funding Failed).
PV only	2019	USA	650MWp	PV plant in Texas, US. Led procurement for main equipment: PV modules, trackers, and inverters.
BESS Standalone	2020	UK	50MW/50MWh	Standalone BESS System. RFQ Process, Contract Review and/or Negotiation with winning bidder (Installed & Operating).
BESS Standalone	2020	UK	40MW/40MWh	Standalone BESS System. RFQ Process, Contract Review and/or Negotiation with winning bidder (Installed & Operating).
PV only	2020	Spain	110MW/133MWp	PV plant in Jerez de la Frontera. Last mile development supervision, Full EPCM, Procurement & Construction (Installed & Operating).
BESS Standalone	2021	UK	50MW/50MWh	Standalone BESS System. RFQ Process, Contract Review and/or Negotiation with winning bidder (Installed & Operating).
BESS Standalone	2021	UK	50MW/50MWh	Standalone BESS System. RFQ Process, Contract Review and/or Negotiation with winning bidder (Installed & Operating).
BESS Standalone	2021	UK	50MW/50MWh	Standalone BESS System. RFQ Process, Contract Review and/or Negotiation with winning bidder (Installed & Operating).
PV only	2021	Spain	44MW/49.9MWp	PV plant in Jerez. Last mile development supervision, Equipment & BOP Tender Mngmt & Construction Monitoring (Installed & Operating).
BESS Standalone	2022	UK	50MW/50MWh	Standalone BESS System. RFQ Process, Contract Review and/or Negotiation with winning bidder (Installed & Operating).
Hybrid PV + BESS	2022	Portugal	50MW/100MWh	BESS system added to existing PV system. Defined RFQ Process, and appropriate bidders (Delayed due to Funding).
PV only	2023	Spain	44MW/49.9MWp	PV plant in Jerez. Last mile development supervision, Full EPC Tender Mngmt & Construction Monitoring (Installed & Operating).
BESS Standalone	2024	UK	30MW/60MWh	Standalone BESS System. RFQ Process, Contract Review and/or Negotiation with winning bidder (In process).
BESS Standalone	2024	UK	2GWh	Frame Agreement for Multiple Systems from 100-400MWh. RFQ Process, Contract Review and/or Negotiation with winning bidder (In process).
BESS Standalone	2024/ Future	Spain	500MW	Complete Project Development of 500MW of BESS projects. Full development of permits and engineering in progress. Procurement will be managed as development advances.