

Power up profitability in the renewable energy sector

Achieving optimal efficiency with advanced asset management

The global surge in energy demand, alongside ambitious sustainability targets set by governments, businesses, and consumers, has led to unprecedented growth in the renewable energy sector. According to the International Energy Agency (IEA), the world is currently experiencing the fastest expansion of renewable electricity generation in three decades. This progress presents an opportunity to achieve the ambitious goal of tripling global capacity by 2030, as set at the COP28 climate summit.

However, renewable energy executives must navigate several challenges beyond their control, including political instability, volatile market conditions, public perception, grid integration complexities, and revenue-sharing models for landowners—such as agricultural landowners or Crown Estate management for offshore wind in the UK. Despite these uncertainties, ensuring financial viability while maintaining environmental responsibility remains a top priority.

One of the most effective ways to improve operational efficiency and profitability is to optimise what can be controlled. Physical assets such as wind turbines, solar panels, and land constitute over 50% of a renewable energy company's investment. Managing these assets effectively throughout their lifecycle presents a significant opportunity to enhance profitability and sustainability.

Three key strategies for profitability

1. Leverage data for greater asset visibility

Advanced asset lifecycle management platforms enable renewable energy companies to collect, analyse, and act upon data concerning infrastructure, equipment, and resources. The first step is gathering contextual information—understanding where assets are located and any logistical challenges in accessing them. A wind farm positioned offshore, for example, requires vastly different planning compared to one situated on land.

These systems also provide vital attribute data, such as the rotor diameter and blade length of a wind turbine. By integrating with GIS technology, energy providers can gain a comprehensive visualisation of their asset portfolios, allowing them to make informed decisions regarding maintenance, repairs, and replacements.

Artificial intelligence (AI)-enabled asset management systems further enhance this process by continuously monitoring asset health through time-series analysis and anomaly detection. These insights facilitate predictive maintenance, reducing downtime and associated costs. AI-driven systems can also identify patterns and predict failures before they occur, ensuring that repairs are scheduled at the optimal time to prevent unexpected outages and maximise asset efficiency.



2. Data-driven decision making for long-term sustainability

Simply collecting data is not enough—renewable energy providers must integrate and analyse it within an asset management system to develop actionable strategies. Effective work management, guided by asset condition assessments, helps consolidate necessary tasks, ensuring efficiency and cost-effectiveness.

For instance, major wind turbine repairs require meticulous pre-planning due to logistical and financial constraints. A single turbine blade can exceed 130 metres in length, necessitating precise scheduling and transportation coordination. By grouping maintenance activities, companies can reduce travel emissions and enhance sustainability, ensuring optimal asset performance and grid reliability. Additionally, decision-making models powered by AI and machine learning can help renewable energy companies determine the most cost-effective maintenance schedules, identify high-risk assets, and allocate resources efficiently. By incorporating historical performance data and real-time monitoring, energy companies can optimise maintenance cycles, extend asset lifespans, and maximise return on investment.

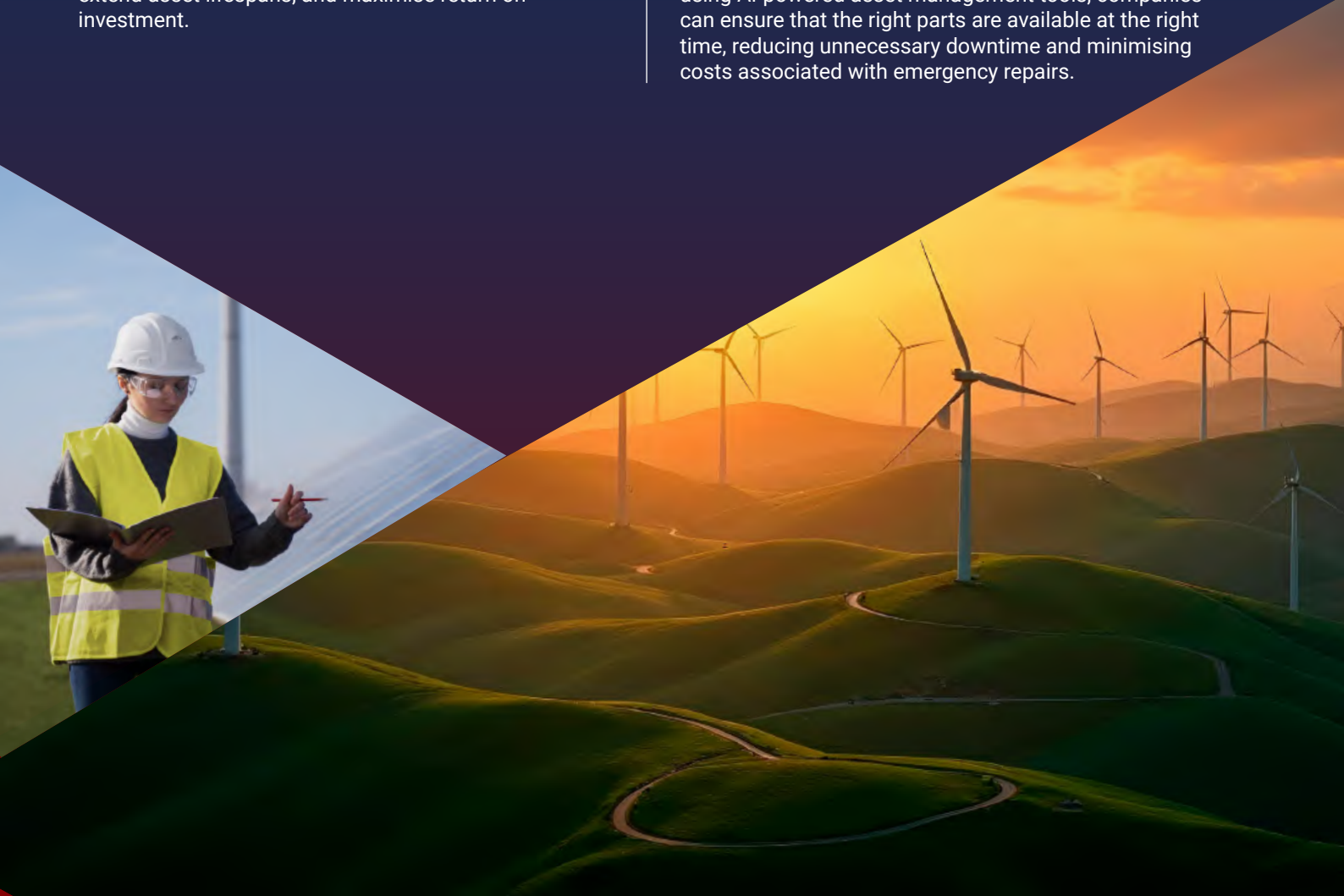
3. Optimise asset health and enhance financial performance

With over half of renewable energy investments dedicated to physical infrastructure, prioritising asset efficiency is critical to maintaining profitability. Implementing a robust asset management framework provides comprehensive oversight, enabling:

- Real-time visibility into asset health and performance
- Predictive maintenance to prevent costly failures
- Data-driven decision-making for capital investment and operational efficiency
- Integration with workforce management systems to optimise technician schedules

To optimise asset health, companies must adopt condition-based and predictive maintenance approaches. By leveraging internet of things (IoT) sensors, AI analytics, and cloud-based platforms, renewable energy providers can track real-time asset performance, detect early warning signs of potential failures, and take proactive measures to mitigate risks.

Financial performance is also influenced by effective inventory management and spare parts optimisation. By using AI-powered asset management tools, companies can ensure that the right parts are available at the right time, reducing unnecessary downtime and minimising costs associated with emergency repairs.





How Platned supports renewable energy companies

Platned, in collaboration with IFS, offers an advanced enterprise asset management (EAM) solution designed to empower renewable energy providers. By integrating AI-driven insights, GIS mapping, and mobile workforce management capabilities, Platned ensures that energy companies can:

- Monitor assets in real-time using a centralised, intuitive dashboard
- Implement predictive maintenance strategies to reduce operational disruptions
- Enhance efficiency through streamlined asset planning and execution
- Maintain compliance with environmental and safety regulations

Transforming renewable energy operations

Leading organisations worldwide have leveraged Platned's EAM capabilities to modernise their renewable energy operations. Key benefits include:

- Improved efficiency and scalability through a single integrated platform
- Reduced downtime and optimised energy production
- Enhanced workforce productivity via mobile and connected worker solutions

Driving the future of renewable energy

The renewable energy sector must continue evolving to meet sustainability goals while remaining financially viable. By adopting a data-centric approach to asset management, companies can drive profitability, optimise operations, and ensure long-term resilience.

To learn more about how Platned and IFS can support your renewable energy business, visit our website or contact us today.