



Managing the Renewables Transition

How IFS Cloud helps deliver energy sector diversification

For the power generation industry, the switch to renewables carries implications that go far beyond routine operations. Entire business models will need to change, embracing new sources, while also meeting the expectations of customers who demand greater control over how their energy is produced and supplied.

All of this gives rise to a new set of management challenges linked to (among other things), demand forecasting, load balancing, performance monitoring and billing. It demands constant real-time access to data and the ability to make better and quicker decisions: something that legacy IT environments are not always designed to deliver.

Developed from decades of working within the energy and utilities sectors, IFS Cloud delivers precisely the capabilities needed to manage diversification into renewables. Here's a closer look at how cloud technology is helping companies within this sector deliver a successful transition.

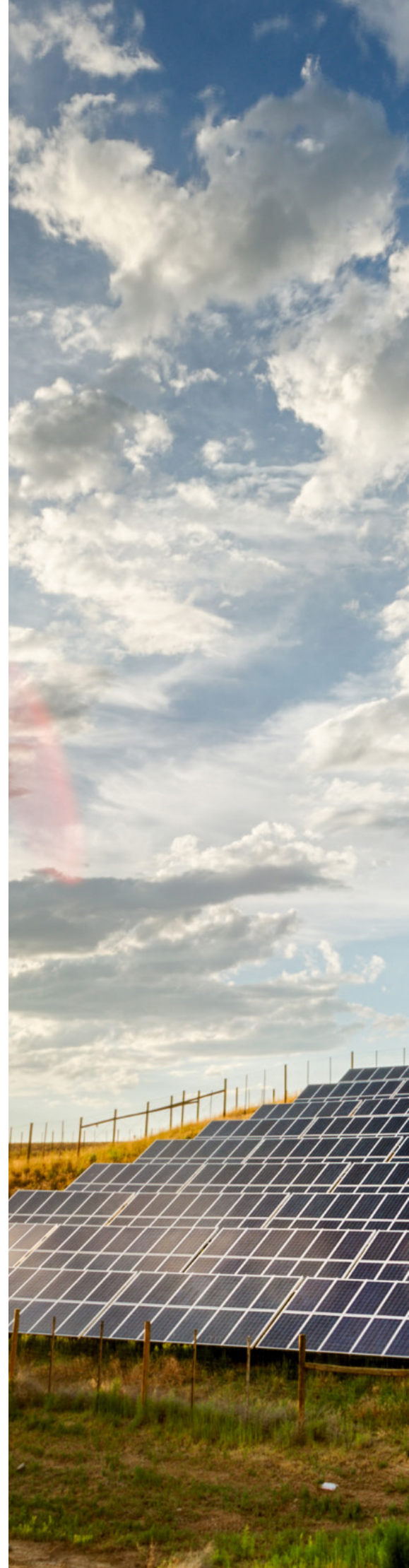
The drivers of energy diversification

In 2022, low carbon sources represented 56% of the UK's total electricity generation. The stats on wind generation are particularly revealing. In 2010, 3.3% of the country's electricity generation was achieved through wind; by 2022, this had increased to 24.6%.

Renewable energies already make up a significant and growing proportion of our energy supply. Inevitably, to compete, incumbent power generation companies are diversifying. They are greening their existing operations through waste reduction and efficiency optimisation. They are also repurposing and reshaping their production portfolios through both acquisitions and divestments. New applications being brought into the mix include everything from solar and wind through to hydrogen, carbon capture and storage.

It comes as no surprise that 2022 saw a global record 1,241 M&A deals in this sector, totaling \$193.8 billion. As savvy operators look to intensify their efforts to reach net zero targets, plenty more acquisition activity is expected in this area in the coming years.

The main drivers of this diversification can be summarised as follows:





Top-down policy mechanisms

In 2019, the UK became the first major economy to pass a legally-enforceable carbon neutrality law; effectively a 'hard' pledge to reduce greenhouse gas emissions to net-zero by 2050. At least 179 countries have set national or state-level clean energy targets, while 60 countries have targets to completely decarbonise their electricity sector.

With the theoretical targets in place, it's then a case of putting them into practice; i.e. passing the baton to businesses. Linked to this, companies operating within the energy sector can expect to be among the first in line to be faced with mandatory reporting requirements, particularly around ESG (Environmental, Social and Governance) frameworks.

Vague promises of transition are no longer sufficient. Increasingly, the onus will be on energy companies to demonstrate how, where and when they intend to diversify and decarbonise.

Technological advancements

Between 2009 and 2019, the cost of photovoltaics (PV) modules fell by 80%. Wind turbine costs were reduced by 30-40% over a similar period. Meanwhile, technological advances in battery storage installation mean that some utilities are already replacing natural gas power plants with battery storage.

Better, cheaper technology opens up new possibilities. Diversification projects that may have been ruled out as non-feasible just a few years ago may now be viable. Portfolio assessment needs to be a rolling process. It's a case of looking afresh at these projects and re-analysing their profitability.

Market dynamics

Up until recently, the relationship between suppliers and business end users was a simple one. Suppliers supplied energy, and customers consumed it.

These days, ordinary consumers are more likely to consider a company's environmental credentials before making a purchase. In response to this, a much wider range of business customers (e.g. retailers and manufacturers) are likely to consider generating and storing their own power. This may involve relying on their own sources in the first instance, turning to traditional suppliers for top-ups where necessary, and possibly also selling excess power either back to their supplier, or to other organisations via business-to-business distribution arrangements.

For incumbent power generation companies, diversification does not just mean bringing new sources online. It also means creating new types of relationships with customers, and rather than resisting these customer centric trends of personalised power purchase agreements (PPAs) and business-to-business distribution, savvy generators should consider ways to lean into them.

Competing solely on price may no longer be sufficient to gain a competitive edge. Companies that can promise flexibility in areas such as billing, tariffs, buy-back and distribution are the ones most likely to succeed.

Successful transition: The role of Cloud technology

For transition to renewables to be successful, certain technological foundations need to be in place.

Consider the diversified energy company of the future. In all likelihood, it will comprise a potentially complex web of production sources. Effective integration will be critical in order to optimise the balance of supply and demand, to enable efficient distribution, and, where required, to bring storage and backup generation into play.

Against this backdrop, the limitations of legacy IT infrastructure become all too clear. Too often, operational data is housed in multiple on-premise systems and databases. Siloes exist not just between discrete operational facilities, but also between business functions (e.g. operations, finance, customer services and in-the-field support).

Companies will need up-to-date information to support rapid decisions on issues such as when and where to bring facilities online and when to ramp up backups. Likewise, if a corporate customer needs to quickly put a PPA in place to meet a sudden surge in requirements, they will expect an immediate response.

All of this demands the collation and integration of data from across the business for an enterprise-wide view. This brings us onto the most significant benefit of cloud platforms for energy companies: the ability to finally deliver real-time connectivity between what have traditionally been siloed areas.

Through this connectivity, companies can harness the power of their data, leveraging tools such as advanced analytics and applied machine learning to analyse, explore and establish relationships between various functions.

Here are some of the ways in which these capabilities can be put to work:



Analysing the impact of potential ventures

What will be the true impact of a particular acquisition or collaborative venture? How will it impact existing operations? What will it mean in terms of workforce planning, cash flow and fulfillment of existing contracts? Integrated, cloud platforms help deliver an enterprise-wide view, enabling you to ask “what if?” and get answers you can rely on.

Absorbing disruption

No sector - energy included - is immune to the chaos caused by natural events and political upheaval. It is imperative for businesses to be able to read the early warning signs, gauge the likely consequences across the business, and, where necessary, pivot at speed.

Cloud-based platforms allow for the efficient storage, processing and analysis of vast amounts of data at speed. Businesses can generate the real-time insights necessary to respond with agility to rapidly-changing circumstances.

Managing complex operations

Compared to traditional production sources, renewables are much more prone to intermittency and variability: a major management challenge. Facility maintenance poses further risks. Renewable facilities tend to require more frequent maintenance compared to traditional plants, with careful coordination across multiple locations.

Cloud platforms facilitate machine learning-led predictive analytics for much more accurate output forecasts (e.g. predicting how much electricity will be generated from a single wind turbine, taking into account the expected weather conditions).

This technology also facilitates the use of machine learning algorithms alongside sensor data. Companies can generate much more accurate forecasts on when equipment will require input from field technicians, allowing for proactive maintenance to be scheduled.



Discover what's possible with IFS Cloud

IFS comprises agile and modular cloud technology that allows you to add functionality as and when your business model changes. However you intend to diversify and whatever steps your transition journey may take, IFS can be customised to deliver precisely the technological foundation you need to succeed.

Comprising a single platform with a single data model, IFS Cloud connects enterprise resource management, enterprise asset management and field service solutions, ensuring you finally get the end-to-end visibility necessary to supercharge your operational management capabilities and make the right decisions, faster.

As a premier IFS Managed Service Provider, Millennium Consulting is ideally placed to help you build the technological capabilities required for a successful renewables transition. To discover what's possible through the IFS platform reach out to Philip Keet, IFS Customer Services Director via email (phil.keet@millenniumconsulting.com) or LinkedIn.

Contact Millennium Consulting at
assist@millenniumconsulting.com