futurice

Digital Energy 40

40 companies driving the digital energy transition

Summer 2025

Meet the digital innovators powering Europe's clean energy future

Clean power is scaling fast. It might not seem that way when you hear Donald Trump's "drill, baby, drill" pronouncements, or see oil and gas giants pivoting back towards fossil fuels. But the latest report from the International Energy Agency (IEA) leaves no room for doubt: sustainable forms of energy, such as solar and wind, are surging ahead.

The IEA predicts that by 2030, the world is on course to add over 5,500 GW of new renewable energy capacity – equal to the combined power capacity of China, the EU, India and the US. In addition, by 2030, the IEA expects renewables to be meeting half of global electricity demand. This is fantastic news for anyone determined to accelerate the net-zero agenda.

But the shift brings urgent challenges. The Heathrow substation fire in London in March and May's Iberian Peninsula blackout – Europe's first major grid crisis of the renewable energy era – starkly illustrate that grid modernisation isn't just about adaptation, it's about preventing cascading failures that can affect millions.

As Spain discovered when over half its generation capacity went offline, our power systems face a fundamental transformation. Wind and solar lack the natural inertia provided by traditional turbines, creating systemic instability that our ageing infrastructure isn't designed to handle.

Where will we store the energy needed to balance intermittent renewables? And, crucially, can businesses and consumers be persuaded to change behaviours, and invest in new solutions such as heat pumps and solar panels?

To explore these urgent questions, Futurice is proud to unveil the **Digital Energy 40, a comprehensive ranking of the 40 companies we believe are leading energy transformation across Europe**. This new ranking is a sister publication to the established Electric 40, which maps the electric mobility landscape.

While many excellent companies are pushing change through hardware or broader decarbonisation technologies, **the Digital Energy 40** zooms in on firms **with software, digital solutions and AI at the heart of their offer.**

This reflects Futurice's conviction that **data, analytics, and artificial intelligence** aren't just efficiency tools – **they're essential for managing what engineers call "the most complicated machines in the world,"** preventing the next blackout and securing our clean energy future.

The report ranks **digital energy companies operating in the UK, DACH and Nordics** using four core metrics:

Market execution – how effectively a company delivers its solution at scale

Market innovation – originality in approach, model and customer engagement

Technology capability – the strength and sophistication of its tech offering

Technology impact – how far a company's solutions move the needle on the energy transition.

. Find out more at futurice.com/industries/energy

Octopus Energy takes pole position in our **Digital Energy 40** report after a landmark 2024, in which it became the UK's largest energy supplier and expanded globally. With Kraken managing 60 million customers and groundbreaking projects like Project Mercury, Octopus is fast becoming a clean energy leader.

In second place, Tibber is scaling rapidly, with smart home integration and real-time data that helps users cut costs and carbon. The company aims to reduce European residential consumption by 20%, supported by partnerships like its 2023 deal with Ford.

E.ON ranks third, combining scale with innovation. The company is digitising infrastructure, investing in solar and battery storage, and offering 100% renewable tariffs through E.ON Next.

Some names in the Digital Energy 40 – E.ON, Tesla, ABB and Octopus – will be familiar. Others, like Tibber, Flower and CyberGrid, are fast-rising innovators still little known outside the sector. What all of them share is a sharp focus on advanced digital technologies.

So what did we learn from year one of the Digital Energy 40?
One clear theme was the growing importance of energy flexibility. Distributed Energy Resources (DERs) and Virtual Power Plants (VPPs) are strategic priorities for companies like Octopus, Tibber, 1KOMMA5°, Flexitricity and Next Kraftwerke, as they navigate the evolving energy landscape. Meanwhile, innovators like Tesla, ACCURE Battery Intelligence, TWAICE and Flower are pushing the boundaries of battery technology – a critical piece of the renewables puzzle.

AI is rapidly emerging as a cornerstone of this shift. Platforms like Kraken, Heartbeat AI, ABB's Genix Copilot and Entrix are showing how intelligent systems will underpin everything, from grid optimisation and predictive maintenance to dynamic, real-time home energy pricing. Though smart meter adoption still has ground to cover, intelligent home energy systems are on the cusp of major growth.

Find out more at futurice.com/industries/energy

Strikingly, 45% of the **Digital Energy 40** companies are under ten years old, including four of the top five. Many of these younger firms have grasped something fundamental: that customer experience – making clean energy solutions easy, personalised and affordable – will be a major battleground for the future. Legacy players are racing to keep pace.

Alongside the rankings, we spoke directly to some of the leading voices shaping Europe's energy future: **Ramón Sánchez-Lucas** (global product manager at ABB)**, Dr Florian Endter** (managing director, regulatory & finance, enmacc), **Dr Kai-Philipp Kairies** (CEO and co-founder, ACCURE Battery Intelligence), **Matthew Billson** (director of market strategy, Piclo Energy), **Shwan Lamei**, CEO and co-founder, Emulate Energy)and **Sebastian Haglund**, CEO and co-founder, Rebase.energy) share their insights on the technologies, policies, and consumer behaviours driving the clean energy transition.

The energy industry is undergoing a radical redesign – one powered not just by electrons, but by code.

This report captures a snapshot of that shift. We hope it inspires you to take a closer look at the talent, tools and trailblazers shaping the future of energy in Europe, and beyond.

David Mitchell
Chief Growth Officer,
Futurice

Digital Energy 40

1. Octopus Energy
2. Tibber
3. E.ON
4. 1KOMMA5°
5. Tesla Energy
6. ABB
7. LichtBlick
8. Enel Group
9. Enpal
10. Next Kraftwerke
11. Schneider Electric
12. ACCURE Battery Intelligence
13. GE Vernova
14. Opoura
15. Siemens Energy
16. TWAICE
17. Iberdrola
18. Aira
19. Flower
20. GridBeyond
21. Piclo
22. Tado°
23. Zolar
24. Flexitricity
25. CyberGrid
26. Emsys
27. Emulate Energy
28. Enmacc
29. Frequenz
30. Heimdall Power
31. Statkraft
32. Enspired
33. Kiwigrid
34. Axle Energy
35. Eliq
36. Rebase Energy
37. Entrix
38. Fuse Energy
39. LiveEO
40. Rabot Energy

1 Octopus Energy

Octopus Energy takes pole position in the Digital Energy 40 report after a landmark 2024, in which it became the UK's largest energy supplier and expanded globally. With Kraken managing 60 million customers and a $20bn offshore wind push, Octopus is reshaping the future of clean energy.

Founded
2015

Specialism
Energy management, control, and optimisation

Headquarters
UK

Website
octopus.energy

Octopus Energy

UK's No.1
In 2024, Octopus Energy confirmed its position as the UK's largest energy supplier, capturing a 24% market share, serving 7.3 million customers, and leading the switching market. This leadership extends beyond supply: Octopus is also pioneering the future of energy infrastructure.

Octopus Energy has built the world's largest Virtual Power Plant (VPP) by linking and intelligently managing over 200,000 connected energy devices, including EV chargers, heat pumps, and home batteries. Through its Kraken platform, Octopus aggregates and optimises these flexible assets in real-time, shifting energy demand to balance the grid more efficiently.

In 2024, it made its final payment to the UK government for energy supplier Bulb, which was bailed out by the government in 2021 and acquired by Octopus Energy the following year. The company has now paid over £3bn to the UK government, generating a profit of approximately £1.5bn for the public purse – making it one of the most successful energy rescue deals in UK history.

Wind in its sails
At COP29 in November 2024, Octopus Energy reported that its generation arm had surpassed $2bn of offshore wind investments in the previous two years, as it sought to accelerate the roll-out of offshore wind globally. Octopus plans to facilitate $20bn of investment in offshore wind worldwide by 2030.

The company holds stakes in six offshore wind farms across the UK, the Netherlands, and Germany, and launched Vector, its offshore wind fund, to drive further investment. It has also backed floating offshore wind startup Ocergy and continues to expand its Fan Club tariff, which offers cheaper electricity rates for customers living near its wind farms whenever the wind is blowing.

Market execution

Having consolidated UK market leadership, Octopus is boosting its international investment in the US and Europe.

Market innovation

Project Mercury will turbocharge the integration of cleantech with smart energy systems.

Technology capability

Proprietary platform Kraken has been embraced by partners worldwide.

Technology impact

In 2024, Octopus, harnessing Kraken, launched a game-changing, mass-market, vehicle-to-grid tariff in the UK.

Octopus Energy

Kraken wakes
Kraken, Octopus Energy's end-to-end energy supply platform, has emerged as a global leader in domestic energy flexibility. It manages over 38GW of utility-scale assets and handles 162,000 domestic devices. Operating in the UK, Europe, the US, Australia, Japan, and New Zealand, Kraken automates the energy supply chain, optimising service and efficiency for millions of customers.

Kraken is also making its proprietary technology available to third parties, with the platform now contracted to serve 60 million customer accounts, globally. In 2024, Amir Orad was appointed CEO of Kraken to accelerate the platform's international growth and cement its leadership in the clean energy transition.

International expansion
Octopus Energy has become a key global player, active in 32 countries, serving 9 million households, globally. It is also one of Europe's largest investors in renewables, managing a portfolio worth £7bn.

Its biggest move, so far, has been in France, where it acquired agrivoltaic developer OX2 France and committed €1bn to boosting France's clean energy infrastructure by the end of 2025. Octopus is targeting nearly 500MW of renewable capacity in France by 2031, more than doubling its current capacity.

Octopus has also made its debut in the US renewables market, acquiring two solar farms, and setting its sights on a $2bn investment in American clean energy by 2030.

> Octopus Energy has become a key global player and is one of Europe's largest investors in renewables, managing a portfolio worth £7bn

Octopus Energy

E-mobility investments
Octopus Energy already supplies a third of the electricity used across the UK's public EV charging network, and that share continues to grow. Ultra-rapid-charging operator InstaVolt is now powered by 100% green electricity through Octopus Energy for Business, becoming Octopus' largest charge point operator customer to date.

In 2024, Octopus, harnessing Kraken, launched a mass-market, Vehicle-to-Grid (V2G) tariff in the UK, guaranteeing free charging for EV customers.

Industry leadership
Last October, Octopus Energy took a bold step toward shaping the future of clean energy with the launch of 'Project Mercury' – a groundbreaking consortium aimed at establishing global standards for seamlessly integrating clean technology with smart energy systems. By bringing together key industry players, Octopus is aiming to drive a new era of efficiency, innovation, and sustainability in energy management.

Two months later, in December 2024, Octopus partnered with National Grid Electricity Distribution (NGED), and other top industry stakeholders, to accelerate the grid connection process. In collaboration with its technology partner Voltquant, Octopus is helping to develop an AI-powered tool that tests and optimises grid connectivity solutions.

This pioneering initiative is set to fast track renewable energy connections – making it quicker, and easier, to integrate clean power into the national grid and strengthening the foundation for a more resilient energy future.

Octopus Energy already supplies a third of the electricity used across the UK's public EV charging network, and that share continues to grow

2 Tibber

Norwegian-based Tibber is on a mission to revolutionise domestic electricity consumption through smart digital tech. With a presence in the Netherlands, Sweden, and Germany the energy disruptor is supercharging its European expansion, solidifying its place as the Digital Energy 40 #2.

Founded
2016

Specialism
Smart digital energy provider

Headquarters
Norway

Website
tibber.com

Tibber

Smart solutions
Tibber is seeking to redefine the way people interact with energy. Founded by Norwegian entrepreneur Edgeir Vårdal Aksnes and Swedish innovator Daniel Lindén, this smart digital energy provider is built around a powerful app that gives consumers real-time insights into their energy usage.

The app can be paired with smart home devices which allows customers to shift their consumption to cheaper hours when the electricity mix is more renewable, and the national power grid is less constrained. Key features include charging EVs when the electricity prices are lowest and regulating heating during the night and holidays.

Tibber's goal is to make sustainable energy consumption simple and affordable, aiming to cut European residential energy consumption by 20%. Explaining its approach, Tibber says: "Our digital platform buys the cheapest available electricity per hour. We never – and won't ever – make a profit on the electricity we sell, so we genuinely have the incentive to help our customers lower their consumption."

Scaling up
Tibber was installed in between 400,000–500,000 homes by 2023 (latest figures), helped by a 2022 Series C investment round that raised $100m. Subsequently, Altor Equity Partners took a minority stake in the firm. Altor director Herman Korsgaard said: "Tibber is a unique and rapidly growing company in the consumer-enabled green transition space. We are convinced Tibber will play an increasingly important role in providing renewable energy and smart solutions for households across Europe."

In 2021, Tibber acquired Kundkraft, in a transaction valued at $268m.

Market execution
Real-time analytics enable 400,000–500,000 customers to shift consumption to cheaper hours via an app.

Market innovation
Grid Rewards gives cash back to customers who help balance the grid.

Technology capability
A joint venture with Polarium has created an energy storage system, Homevolt.

Technology impact
Tibber is in four countries and plans to expand across Europe with investor support.

Tibber

Strategic partnerships
In 2023, Tibber allied with energy storage developer Polarium to launch Homevolt, a smart home battery. Homevolt is described as "the complete package: a high-quality consumer battery from Polarium, with all the brains from Tibber's connected software that follows the market electricity prices hour by hour." Key benefits to Tibber include cost-reductions and operational-efficiencies unlocked by AI.

"Energy storage is the missing link in the renewable energy system," said Stefan Jansson, CEO and co-founder of Polarium. "Through Homevolt, we will make energy storage solutions more accessible, and help households lower their energy costs."

Also in 2023, Tibber and Octopus Energy partnered with Ford to launch a smart charging initiative aimed at transforming the charging experience for Ford EV drivers. At the heart of the collaboration is a specially developed dynamic charging feature, which enables Ford EVs to communicate directly with the energy providers' intelligent supply networks.

Through a simple smartphone app, drivers can set their desired state of charge and departure time – and rest easy knowing their car will be charged at the lowest-cost, greenest times. The result: meaningful cost-savings for owners, and greater use of renewable energy.

Meanwhile, Tibber's expansion into the German market has seen it forge alliances with EcoFlow, a home energy ecosystem, and ChargeGuru, a wallbox installer.

Grid incentives
Tibber introduced an incentive programme called Grid Rewards, which functions as a Virtual Power Plant. Every time a consumer's car or Homevolt battery helps balance the grid, they earn money as Grid Rewards. Any money earned is credited to the customer's Tibber account, reducing their energy bill all year round.

> Tibber's goal is to make sustainable energy consumption simple and affordable, aiming to cut European residential energy consumption by 20%

3 E.ON

Our third-place contender, E.ON, is powering Europe's energy transition with its vast 1.6 million-kilometre network and a €42bn investment push. From AI-driven grid flexibility to expanding EV charging and battery storage, E.ON is fusing digital innovation with sustainability, at scale.

Founded
2000

Specialism
Energy infrastructure and retail

Headquarters
Germany

Website
eon.com

E.ON

Investment at scale

E.ON is a major force in Europe's energy landscape, with 47 million customers across 30 countries. It continues to make bold strides, driving innovation across energy distribution, infrastructure solutions, and energy sales. In 2024, the company generated €9bn in EBITDA and €2.9bn in adjusted net income. At the heart of this strong performance are stable earnings from its regulated networks business and a surge in demand for smart, customer-centric energy solutions – underlining E.ON's position at the forefront of Europe's clean energy transition

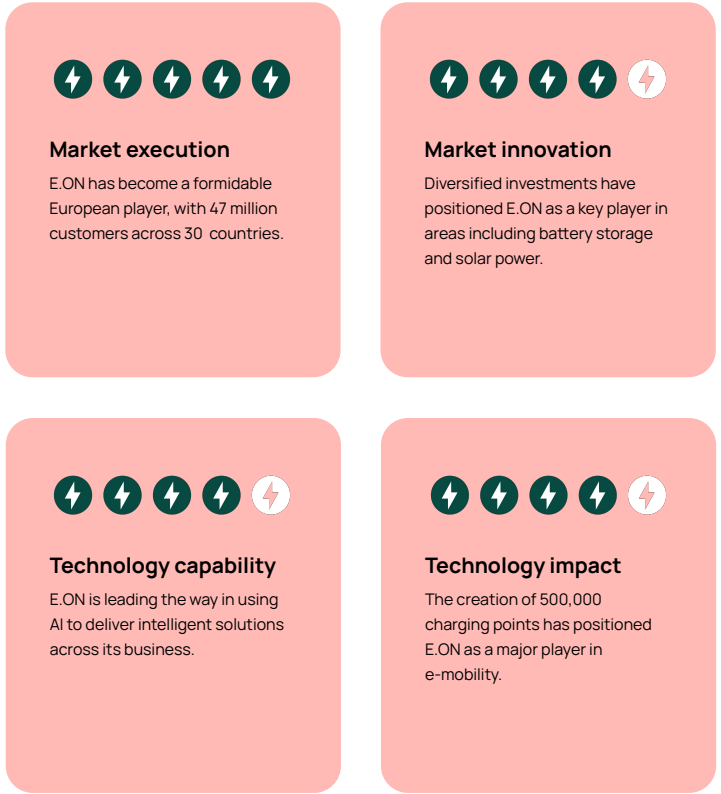
Investing heavily in the future, E.ON boosted its year-over-year capital expenditure by 20%, reaching €7.2bn. A major focus for the company is expanding, modernising, and digitising its intelligent network infrastructure.

Other key investments targeted the rapid growth of e-mobility charging networks, battery storage solutions, and solar energy initiatives. Strengthening its position in battery storage, E.ON partnered with global investment firm Quinbrook Infrastructure Partners to develop two large-scale storage facilities in Wales, each boasting a 230 MWh capacity and 115 MW of output – critical to supporting a renewable-powered grid.

In another recent move towards renewables, E.ON led a £17m Series B investment for solar heat and power scale-up Naked Energy.

AI leadership role

E.ON already makes use of AI-assisted solutions, such as predictive maintenance and image analysis. The company is determined to take a leadership role in the ethical implementation of AI in the evolving energy sector, by actively contributing to industry-wide standards, as the energy sector continues to evolve.



E.ON

E-mobility investments
In 2024, E.ON's charging network reached half a million charging points across 14 European countries. The E.ON Drive Comfort app allows users to operate all 500,000 charging points. The app makes it easier to find charging stations, including their live occupancy status, and to start the charging process.

As part of its EV charging roll-out, public charging point operator E.ON Drive Infrastructure (EDRI) selected AMPECO's EV charging management platform as its backend solution. EDRI manages 6,000 charging points in 11 European countries, and wants to add 1,000 more high-power charging points in the near future.

Among other EV-related innovations, E.ON has explored dynamic pricing for drivers through a pilot for public EV charging in Copenhagen, Denmark.

Supporting hydrogen production
E.ON Next is a dedicated renewable energy supplier that offers 100% renewables as standard. In 2024, this division launched a new brand identity and campaign to reinforce awareness of its commitment to leading the energy transition.

E.ON has called for the EU and Germany to relax rigid rules regarding the production of hydrogen, saying: "For some industries, switching to hydrogen is the only way to decarbonise."

The company also plays a leadership role within the accelerator programme Free Electrons. Free Electrons connects startups with large utility companies, exposing them to invaluable knowledge and helping them scale at an unprecedented pace.

E.ON has called for the EU and Germany to relax rigid rules regarding the production of hydrogen

4 1KOMMA5°

Breaking into the Digital Energy 40 in fourth place, 1KOMMA5° is redefining clean energy with its all-in-one approach to solar, storage, heat pumps, and EV charging. With demand for integrated solutions surging, 1KOMMA5° is scaling fast, pointing to a future where home energy is smart and sustainable.

Founded
2021

Specialism
Intelligent energy solutions

Headquarters
Germany

Website
1komma5.com/en/

1KOMMA5°

Cleantech pioneer
In just four years, Hamburg-based 1KOMMA5° reckons to have installed over 300,000 decentralised, controllable energy systems creating CO_2 savings of 14m tonnes. By 2030, the company aims to convert more than 1.5m buildings to a climate-friendly energy supply. Among recent initiatives, it committed to providing German households with 500,000 smart meters for free to help accelerate the shift towards an intelligent and responsive energy market.

1KOMMA5° says its business model is distinct from competitors because it "eschews traditional electricity margins in favour of a flat software fee, coupled with real-time, individualised pricing for consumers. This approach enhances customer trust and satisfaction."

Powerful heartbeat
Its core technology is Virtual Power Plant Heartbeat AI, which buys electricity at the spot market at the lowest price and sells excess electricity back to the grid when prices are highest. This has two benefits: first, it enables customers to secure real-time individual electricity prices instead of conventional fixed tariffs, and second, it helps stabilise stressed European grids.

Chief technology officer Barbara Wittenberg says: "Heartbeat AI not only enables optimisation according to a dynamic tariff and regional grid charges, but also opens up the permanent possibility of enabling further grid-supporting services, such as intraday trading now, or the provision of frequency containment reserve later."

Growth trajectory
In December 2024, the company secured €150m of funding in what it referred to as "a pre-IPO round". This brings the company's funding to €450m. G2 Venture Partners co-led the round, followed by Hamilton Lane, Eurazeo, 2150, Norrsken, b2venture, and eCAPITAL. The largest investor was the new shareholder, pension fund CalSTRS.

Market execution
1KOMMA5°'s innovative business model is popular with consumers because it offers real-time, individualised pricing.

Market innovation
Heartbeat AI purchases electricity at the lowest price and sells excess electricity back to the grid when prices are highest.

Technology capability
Heartbeat AI's spin-off as a SaaS company will give it broader access to the energy market.

Technology impact
1KOMMA5° reckons to have installed over 300,000 decentralised, controllable energy systems, creating CO_2 savings of 14m tonnes.

1KOMMA5°

1KOMMA5° claims that, in a consolidating market, it is winning market share, while achieving profitability. It plans to use the funding to launch Heartbeat AI across Europe and Australia. Micha Grüber, CFO and co-founder, says that the funding round "... is the next building block on our way to the capital market".

Since its launch, the company has made several strategic acquisitions to support its international growth strategy. These have included Arkana Energy, Solaray Energy, Zewo Energy, and Zonduurzaam.

SaaS ambitions for Heartbeat AI

A significant development in 2024 was the decision to spin off Heartbeat AI and position it as a SaaS company (software as a service). To support the spin-off, 1KOMMA5° plans to invest €100m in its development over the next three years.

Unveiling the move, the company said it was taking this step due to high interest from private households with existing systems not installed by 1KOMMA5°, and with the mass roll-out of smart meters in Germany planned for 2025. For 2025, 1KOMMA5° expects SaaS revenues in the mid-double-digit million range for the business area.

> 1KOMMA5° says its business model is distinct because it "eschews traditional electricity margins in favour of a flat software fee"

5 Tesla Energy

Dominant in battery storage, Tesla Energy powered into the Digital Energy 40 in fifth place, deploying 31.4GWh of storage – more than double 2023 levels. As the clean energy race heats up, Elon Musk's prediction that Tesla Energy could rival its EV business is looking increasingly on target.

Founded
2015

Specialism
Solar energy and battery energy storage

Headquarters
US

Website
tesla.com

Tesla Energy

Game-changing growth
Tesla Energy enjoyed a game-changing 2024. The company, which is equipping some of the world's largest battery projects, deployed 31.4GWh of storage in 2024 – achieving a quarterly record of 11 GWh in Q4, 2024. This annual figure more than doubled the 14.7GWh level of deployment in 2023.

Tesla CEO Elon Musk has forecast that his energy business will eventually rival his EV business in scale. The latest figures (at the time of writing) show that Tesla's revenues were $25.5bn in Q3 2024, of which $2.7bn came from energy generation and storage offerings.

Mega ambitions
The largest part of Tesla's storage capability comes via its large-scale battery system, Tesla Megapack, which topped 22GWh of storage in 2024 across more than 60 countries. Megapacks are made at Tesla's Megafactory in Lathrop, California. One of the biggest utility-scale battery factories in the US, the site can produce 10,000 Megapack units every year, equal to 40GWh of clean energy storage.

Tesla is now set to boost capacity with the launch of its Shanghai Megafactory, which was built in an astonishing seven months. Designed to match capacity at the Lathrop site, Tesla said it would be ready to start Megapack production in Q1 2025.

Key developments in 2024 included a significant contract with Intersect Power for a Battery Energy Storage System (BESS) project that will use 15.3GWh of Megapack capability, when ready. The project will be operational by mid-2025. For comparison, Tesla deployed 9.4GWh of energy storage in Q2 2024, its record volume up until then.

Market execution
Tesla Megapacks have become a critical component of the global storage sector.

Market innovation
100,000 Powerwall batteries have been enrolled into Virtual Power Plant (VPP) programmes to support energy grids globally.

Technology capability
The launch of a Shanghai Megapack plant will double storage capacity.

Technology impact
Powerwall owners saw collective savings of over $800m on utility bills, according to Tesla Energy, while VPPs contributed over 2.2GWh of power to the grid.

Tesla Energy

Home energy ambitions

Tesla Energy's home battery system Powerwall reached the 800,000-installation mark, worldwide, by the end of 2024. Sharing its year-end milestones via social media platform X, the company said this figure includes 100,000 Powerwall batteries that have been enrolled into VPP programmes to support energy grids worldwide.

The Powerwall is a compact home battery system that stores energy generated by solar or the grid. The latest edition, Powerwall 3, is now available in markets including the US, Canada, Puerto Rico, the UK, Germany, Italy, Australia, and New Zealand.

As part of its 2024 round-up, Tesla Energy said Powerwall owners generated a total of 4.5TWh of solar energy globally in 2024. This was equivalent to powering a Tesla Model 3 for more than 17bn miles. According to Tesla, Powerwall owners saw collective savings of over $800m on utility bills, while VPPs contributed over 2.2GWh of power to the grid, helping to reduce fossil fuel emissions.

> According to Tesla Energy, Powerwall owners saw collective savings of over $800m on utility bills, while VPPs contributed over 2.2GWh of power to the grid

6 ABB

ABB is electrifying the clean energy transition with record-breaking order growth and a wave of strategic acquisitions. From AI-powered energy management to its latest push into power electronics via Gamesa, ABB is engineering a smarter, more efficient future.

Founded
1988

Specialism
Electrification and automation solutions

Headquarters
Switzerland

Website
global.abb

ABB

Upbeat outlook
ABB wrapped up 2024 on a high note, reporting strong order growth and setting a confident tone for 2025. Annual revenues rose to $32.9bn, up 2% year on year.

“Our market conditions remain favourable, and it was good to end the year with 7% order growth in Q4,” said CEO Morten Wierod. He credited the surge to strong demand in the electrification business, particularly from data centres and utilities – two sectors that are showing no signs of slowing down.

Alongside a steady commercial performance, ABB continues to invest in R&D and strategic acquisitions. One standout development is ABB Ability Genix Copilot, a generative AI tool designed to help sectors like utilities and energy enhance productivity, efficiency, and sustainability.

Acquisitions and investments
In January 2025, ABB acquired Dutch energy management firm Sensorfact BV, boosting its ability to deliver AI-powered efficiency tools to small and mid-sized businesses. The move also expands ABB’s digital reach, and taps into a fast-growing market for scalable, data-driven energy solutions.

The Sensorfact purchase came hot on the heels of ABB’s decision to buy Gamesa Electric’s power electronics business from Siemens Gamesa in Spain. The acquisition expands ABB’s power conversion portfolio for OEMs, renewable energy providers, and industrial users. It also adds 40GW to ABB’s installed base of power conversion systems – creating new opportunities for long-term service contracts and customer support.

Market execution
ABB’s acquisition strategy has broadened the company’s capabilities in the shift to electrification.

Market innovation
A key innovation is ABB Ability Genix Copilot, a GenAI solution that helps companies improve efficiency, productivity, and sustainability.

Technology capability
ABB’s engineering makes it a key player in everything from transport to energy infrastructure.

Technology impact
ABB’s partnership with Sage Geosystems offers scope for game-changing developments in the pursuit of clean energy.

ABB

ABB has also taken a minority stake in Ndustrial, a US-based cleantech startup behind a cutting-edge, AI-driven energy management platform. The investment deepens ABB's push into smart, real-time energy optimisation for industrial customers. "This partnership means we can accelerate decarbonisation for customers by leveraging AI-powered predictions to make decisions in real time," said Stuart Thompson, president of ABB's Electrification Service.

Organic growth

Alongside R&D and acquisitions, ABB continues to forge alliances and win projects across Europe. The company recently unveiled a first-time partnership with Škoda Group that it says is "a milestone in railway electrification". The collaboration begins with ABB supplying its Traction Battery Pro Series battery packs. These will be equipped on Škoda's new fleet of battery-electric units ordered by České dráhy, the Czech railway operator.

In another recent development, Aker Solutions awarded ABB a front-end engineering and design (FEED) contract for the UK's 560MW Green Volt floating offshore wind project. Green Volt wants to be Europe's first commercial-scale floating wind farm and will help to decarbonise the UK's energy system. ABB is also participating in seven UK offshore wind projects, representing 9GW of capacity.

ABB innovation

When it comes to future-facing energy solutions, ABB and Sage Geosystems are collaborating on creating energy storage systems and geothermal power plants that harness heat from the Earth's core to produce clean electricity. Through this partnership, ABB will contribute to Sage's agreement with Meta – Facebook and Instagram's parent company – to supply up to 150MW of geothermal baseload power at a site east of the Rocky Mountains.

ABB recently unveiled a first-time partnership with Škoda Group that it says is "a milestone in railway electrification"

Ramón Sánchez-Lucas

Global Product Manager, ABB

global.abb

LinkedIn

What's your view on the European energy market right now?
The European energy market is experiencing several significant trends. One major trend is integrating renewables into the existing energy ecosystem. Installing power distribution lines underground to help minimise weather impacts on electrification stability is a focus, particularly in urban areas. There is also an ongoing decentralisation of generation points, with more distributed energy sources such as wind and solar replacing centralised power plants. This shift necessitates a reinforcement of the power grid to handle increased power generation points and higher electricity consumption.

How is ABB responding to these trends?
ABB is actively involved in shaping the energy world, collaborating with key stakeholders such as national power utilities, cooperative utilities, independent energy projects and electrical component distributors. My division, ABB Installation Products, focuses on creating and improving cable connections for switchgear, transformers and substations to help ensure these critical components operate efficiently and safely. Beyond merely providing hardware, ABB is increasingly integrating advanced digital solutions to support utilities in remote monitoring, predictive maintenance, and overall operational efficiency.

> A holistic approach contributes to a more sustainable and resilient energy infrastructure

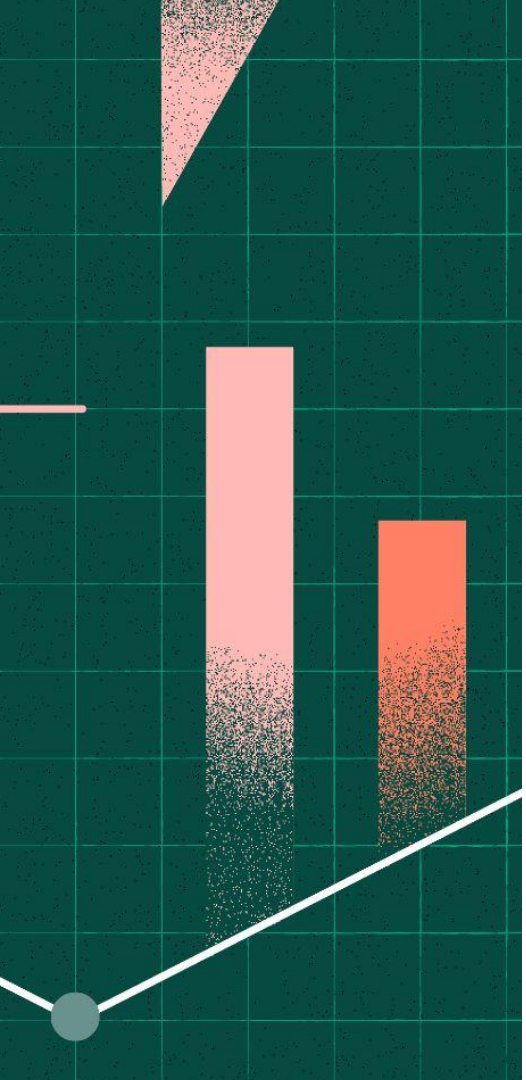
We are leveraging digitalisation to help optimise the power grid, enhance reliability and empower utilities to make data-driven decisions. This holistic approach can improve system performance and also contributes to a more sustainable and resilient energy infrastructure, ultimately benefiting all end users and stakeholders involved in the energy transition.

What more can the industry as a whole do to future-proof the energy ecosystem?
To future-proof the energy ecosystem, it is important for the industry to invest in renewable energy sources and enhance energy efficiency through advanced technologies. Adopting smart grid solutions will improve energy distribution, while promoting electrification of transportation and heating can significantly reduce emissions. Supporting research and innovation is essential for developing new technologies and implementing circular economy practices to minimise waste. Engaging in policy advocacy can drive supportive regulations and fostering collaboration across sectors will lead to integrated solutions that enhance resilience and sustainability.

What support or action do you want to see from the government or the EU?
Continued support for upgrading and investment in renewable energy projects remains essential to the European Energy Transition roadmap. Development of infrastructure, including electric vehicle charging stations and smart grids, is crucial for clean energy adoption. Clear regulatory frameworks that are consistently applied across countries in Europe can encourage innovation and investment in clean technologies. Additionally, funding for research and development in energy technologies is essential for driving innovation. Promoting public-private partnerships can lead to effective solutions in addressing energy challenges. Setting sustainability targets such as those outlined in the European Green Deal can help focus resources more efficiently and ensure a collective commitment to a greener future.

Engaging in policy advocacy can drive supportive regulations

Who are your 'ones to watch' in the European energy market?
The industry is increasingly moving toward real-time monitoring and predictive maintenance, both of which are essential for the future of energy infrastructure. In terms of transmission and distribution operators, there are key providers in Italy, Germany, Spain, and Latin America to watch due to their significant investments in power grid infrastructure, as well as an emerging company in Denmark, which specialises in digital monitoring of transformers. When it comes to manufacturers and innovators, ABB is at the forefront of innovation, with a history of pioneering solutions and collaborating with partners to develop new takes on existing products.



What are your personal motivations and goals for the energy transition?

I have always been passionate about working in the energy sector, which is why I spent a semester at the University of Alaska Fairbanks to deepen my understanding of this vital field. Since my first role after graduation, I have been driven by the desire to contribute to safe and reliable energy for everyone, and I have dedicated my entire career to this mission. As I look to the future, I am increasingly motivated by the need for sustainability and our responsibility to ensure future generations have access to clean and renewable energy sources. I believe we have to do this across the energy ecosystem, focusing on innovative solutions and collaboration will enable us to create an environment that provides more power and reduced emissions around the world.

> The industry can engage end users in the energy transition by prioritising education initiatives

How can the industry better engage end users in the energy transition?

The industry can better engage end users in the energy transition by prioritising education and awareness initiatives that inform consumers about the benefits of renewable energy and energy efficiency. Providing accessible information and resources can empower users to make informed decisions about their energy consumption. Additionally, developing user-friendly technologies and platforms that enable consumers to monitor and manage their energy usage can enhance engagement. Incentivising participation in energy-saving programmes and community initiatives can also foster a sense of ownership and responsibility among end users. Finally, actively soliciting feedback from consumers can help tailor solutions to their needs, assuring the energy transition is inclusive and responsive to the preferences of all stakeholders.

7 LichtBlick

Eneco subsidiary LichtBlick continues to shine as one of Germany's leading climate-neutral energy suppliers. With bold investments in solar, wind, and battery storage, plus strategic acquisitions like Eventus Wind and Installion, the company is doubling down on homegrown green power.

Founded
1998

Specialism
Climate-neutral energy solutions

Headquarters
Germany

Website
lichtblick.de

LichtBlick

Diversified strategy
An early mover in the green energy market, Hamburg-based LichtBlick (translation: ray of light) is now an integrated supplier with a portfolio of heating generation, solar and mobility offerings, innovative flex services, and a nationwide installation network.

As well as selling electricity and gas, LichtBlick invests in its own large-scale PV (photovoltaic), wind and battery projects and offers solar and charging solutions for private and business customers. A key focus is on developing flexibility solutions that reduce customers' energy costs and stabilise the power grids. In the 2023/24 financial year, the company achieved a turnover of €1.64bn.

LichtBlick began a new chapter in November 2024 with Marc Wallraff becoming CEO. With over 20 years of experience in the energy sector – particularly in energy-as-a-service – Wallraff brings a strong strategic vision to the role. "What motivates me," he said, "is that LichtBlick recognised early on that the flexible integration of electricity, heat, and mobility is the future."

Solar flare
In 2024, LichtBlick agreed to partner with solar project developer Energisto to develop large-scale battery storage projects. LichtBlick has invested in developing its own power-generation facilities, and the deal with Energisto is seen as diversifying its business and bolstering grid stability.

The two companies set up GigaCharge, a joint venture aimed at taking projects from development right through to commissioning. In its first year, the alliance applied for building permits for the first batteries with a capacity of up to 400MWh.

Market execution
LichtBlick's diversification strategy has made it a key player in Germany.

Market innovation
LichtBlick is active in forging partnerships to create dynamic electricity tariffs.

Technology capability
The GigaCharge joint venture means LichtBlick is well-placed in large-scale battery storage projects.

Technology impact
The acquisition of Eventus Wind moves LichtBlick closer to delivering green energy to customers 24/7.

LichtBlick

Last year also saw LichtBlick extend its Power Purchase Agreement (PPA) with green electricity trader Sunnic Lighthouse for another two years. The new deal covers an annual solar power supply of around 38GWh until 2026, generated by eight solar parks across Germany.

Harnessing wind power

Underlining the company's ambition to diversify, LichtBlick acquired Eventus Wind in 2023, a deal that secured access to a 250MW wind project portfolio. The deal contributes to LichtBlick's overarching strategic goal to reach 1,000MW in green power-generation over the next few years, so that it can supply its customers with German-sourced green power in the long term.

In the same year, LichtBlick also acquired Cologne-based energy startup Installion. Installion operates assembly hubs for photovoltaic systems, home storage units, and wallboxes. It also runs a digital platform that streamlines project management and connects installers with clients – boosting efficiency across the solar value chain.

Tariff partnership

Building on this momentum, LichtBlick partnered with SMA Solar Technology and ison, a market integrator of digitally networked energy solutions, to develop a dynamic electricity tariff. The tariff links SMA customers directly with the energy market, making smart energy management more efficient. At the heart of the partnership is SMA's Sunny Home Manager 2.0, which optimises the use of solar energy by managing devices, storage, EV charging, and heat pumps in real time.

LichtBlick invests in its own large-scale photovoltaic, wind and battery projects and offers solar and charging solutions for private and business customers

8 Enel Group

A global giant in renewables with a €43bn investment plan spanning digital grids, storage, and 12GW of new clean energy capacity, Enel's place in the Digital Energy 40 is well-earned. With plans to phase out coal by 2027, Enel is strongly committed to a flexible, digitalised, and sustainable future.

Founded
1962

Specialism
Intelligent power grids and renewable energy generation

Headquarters
Italy

Website
enel.com

Enel Group

Global force
Enel's renewables arm, Enel Green Power, has a total capacity of around 65GW and a generation mix that features solar, hydroelectric, wind and geothermal power, and energy storage facilities. It also owns 28,400 public charging points for EVs.

Globally, the company is continuing to diversify its global energy mix with strategic investments across key markets. In 2024, the company signed a partnership agreement with UAE-based clean energy firm Masdar for a 2GW portfolio of operational solar projects in Spain.

Meanwhile, Potentia Energy – Enel's joint venture in Australia – acquired a 1GW renewable energy portfolio from CVC DIF and Cbus Super. The package includes 700MW of wind and solar assets, along with several Battery Energy Storage Systems (BESS). This acquisition builds on Potentia Energy's existing footprint, which includes a 75MW wind farm in Western Australia and 309MW of solar capacity across Victoria and South Australia. Additional projects are currently under construction in New South Wales and Victoria.

Grid investments
The company operates within a three-year plan for 2025-27, prioritising renewables, digitalised grids, and new technologies. With an emphasis on sustainable growth and value creation, CEO Flavio Cattaneo and CFO Stefano De Angelis say the plan marks "a new chapter" in the group's evolution.

Total gross investments planned for the three-year period amount to €43bn (an increase of €7bn on the previous plan). Three-quarters will be allocated to Europe, and a significant portion (€26bn) is earmarked for grids. Of this €26bn, roughly €16bn will go to Italy and around €4bn will go to Spain.

Market execution
Large international investments have made Enel a global leader in renewables.

Market innovation
A virtual photovoltaic offering allows customers to benefit from solar panels without needing to install them.

Technology capability
Major investment in grid digitalisation will support the clean energy agenda.

Technology impact
€12bn of new investment will add 12GW of capacity, with 70% from onshore wind, hydro and storage systems.

Enel Group

Enel anticipates steady growth in renewables, and the consequent need to strengthen and make electricity grids more flexible, as they are the main enablers of the energy transition. The result will be grids that are more digitalised, efficient, and resilient in the face of extreme weather phenomena related to climate change.

Backing renewables
Enel is set to make a significant push in renewable energy, with a flexible investment plan of approximately €12bn. This funding will drive around 12GW of additional capacity, optimising its technology mix for greater efficiency. At least 70% of this expansion will come from onshore wind and programmable sources like hydro and storage systems. By the end of the three-year period, Enel's total installed renewable capacity is expected to reach around 76GW – boosting its clean energy production by over 15%.

Customer-centric investments
Enel plans to invest around €2.7bn in strengthening its customer relationships by offering a bundled mix of energy solutions, products, and services. A standout initiative is its virtual photovoltaic programme, which enables customers to enjoy the benefits of solar power without the need to install panels on their own property.

Enel has reaffirmed its sustainability ambitions by sticking to its target of phasing out all remaining coal-fired plants by 2027. This move is a key step in its path toward a fully renewable energy mix by 2040 and net-zero emissions.

> Enel is set to make a significant push in renewable energy, with a flexible investment plan of around €12bn, which will drive approximately 12GW of additional capacity

9 Enpal

Germany's 'green unicorn' Enpal has broken into the Digital Energy 40 top 10 with its game-changing solar-as-a-service model. With 80,000 households already on board, Enpal is proving that flexible financing and cutting-edge tech can supercharge the green energy revolution.

Founded
2017

Specialism
Solar energy and battery energy storage

Headquarters
Germany

Website
enpal.com

Enpal

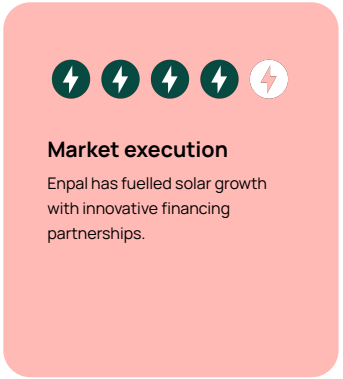
Game-changing business model
Enpal, the Germany-based green-tech unicorn, describes itself as "building the biggest energy movement in Europe". A leading provider of solar and heat pump systems, it has developed an integrated energy ecosystem comprising an EV charging station, a battery storage system, and a heat pump. It also boasts AI-based Enpal energy manager Enpal.One, an intelligent combination of hardware and software.

Enpal has formed a gigantic Virtual Power Plant (VPP) by connecting homes with the electricity market. The latest iteration of this VPP was launched in November 2024 via Flexa, an AI-powered joint venture established in early 2024 with Entrix.

In an innovative move, Enpal has transformed the purchase of green energy with its rental model and flexible, no-down-payment purchase option. To date, around 80,000 Enpal-equipped households make up its climate-friendly renewable energy community. The company says: "The widespread adoption of solar and heat pump systems was long hindered by the high upfront cost of hardware, with initial investments for a single-family home ranging between €20,000 and €40,000. Enpal initially sold solar hardware directly to consumers, but quickly shifted to a financing model."

The model leverages Special Purpose Vehicles funded by banks and institutional investors to own and manage solar systems, ensuring a stable revenue stream from consumer payments. Homeowners also have the option to finance installations through consumer loans, following a structure similar to car financing.

Enpal says it is creating a rapid path towards energy independence by empowering homeowners to switch to renewable energy technologies without public funding.



Enpal

Robust financing
Enpal reported record revenues of €905m for 2023 (latest figures), up 118% year on year. The company has a number of impact and technology investors, including HV Capital, Team Europe, Picus Capital, TPG Rise Climate, The Westly Group, and Princeville Climate Technologies.

At the end of 2024, Enpal secured a €500m lease facility from Rabobank, SMBC Group, and Infranity – pushing its total refinancing commitments to €5bn. The new funding will support the refinancing of solar systems for over 15,000 European households, adding 38,000 Distributed Energy Resources (DERs) to its network. This builds on the 250,000 DERs already integrated into the Enpal system.

In 2024, Enpal made headlines by launching Europe's first public residential solar asset-backed securitisation, initially valued at around €240m. Gregor Burkart, head of Enpal's Refinancing Division, called it a "groundbreaking achievement" for both the company and the broader renewable energy sector. He noted that while investor demand has long existed, scaling to the necessary volume was the main hurdle. "We've now set new industry benchmarks," he said, "turning residential solar into a highly attractive, investable asset class for global markets."

Quality control
The nature of its investment means Enpal places a premium on quality control. The company emphasises that a top-tier hardware supplier, stringent quality checks, continuous evaluations, and an internal flagging system help ensure that its solar systems remain a sustainable, investable commodity.

In late-2024, the company began sourcing solar modules from Vietnam for the first time. The production line is Enpal's first fully vertically integrated value chain outside China, and immediately replaces 20% of the previous supply chain from China.

> Enpal says it is creating a rapid path towards energy independence by empowering homeowners to switch to renewable energy technologies without public funding

10 Next Kraftwerke

Breaking into the top 10, Next Kraftwerke is redefining grid flexibility with one of Europe's largest Virtual Power Plants. With AI-driven energy trading gaining momentum, Next Kraftwerke wants to show that smart data is the key to a more resilient, renewable-powered grid.

Founded
2009

Specialism
Large-scale Virtual Power Plant

Headquarters
Germany

Website
next-kraftwerke.com

Next Kraftwerke

Coming out of its Shell
Netherlands-based Next Kraftwerke is a Virtual Power Plant (VPP) operator that became part of Shell in 2021. The oil and gas giant acquired the firm for an undisclosed sum to strengthen its position in renewable energy. Next Kraftwerke's primary function as a VPP is to remotely manage and connect decentralised energy units across Europe. These units operate primarily on bioenergy, photovoltaics (PV), and hydropower.

Initially, the firm operated at arm's length from its parent company, but the relationship has been getting closer recently. In 2024, Marc Ruehs took over as CEO from founder Hendrik Sämisch. Ruehs has been with Shell since 2005, working in the Netherlands, Germany, Brazil, and the US.

At the time of Ruehs' appointment, Mark Lindenberg, a long-term member of the Next Kraftwerke board confirmed the closer working relationship with Shell: "Many important projects, such as the trading of the HKN wind farm or the Witznitz solar farm, have become possible because we have combined our expertise and created synergies. With Marc, this connection becomes even tighter, allowing us to act faster, more efficiently, and more focused overall."

Grid decongestant
In 2024, Next Kraftwerke signed the first national framework agreement for flexible capacity with Dutch grid operators. With this contract, the company makes 180MW of flexible generation capacity available for congestion management, allowing its customers to derive more value from their assets.The agreement involves generation capacity from solar parks at medium voltage levels, which, according to Next Kraftwerke, is where "a large part of the solution for congestion lies".

Market execution
Increasingly close alignment with parent Shell is providing Next Kraftwerke with strong growth momentum.

Market innovation
Next Kraftwerke's VPP can remotely manage and connect decentralised energy units across Europe.

Technology capability
Next Kraftwerke has taken on power trading at Europe's biggest solar park.

Technology impact
Next Kraftwerke signed a national framework agreement for flexible capacity with Dutch grid operators.

Next Kraftwerke

Next Kraftwerke's VPP is heavily reliant on AI-powered data. To successfully manage power supply and demand, and to trade power with the highest profitability, the company created an algorithm that collects and merges data, including operational data, weather and grid data, and live market data. AI, says Next Kraftwerke, is helping improve forecasts. "With AI, it is simpler to evaluate the large amount of data in electricity trading. Better forecasts increase grid stability and supply security. AI can also help facilitate and speed up the integration of renewables."

Germany PV expansion
In 2024, Next Kraftwerke took over power trading for Witznitz Energy Park, located south of Leipzig, Germany – described as Europe's largest connected solar park. Shell Energy signed a Power Purchase Agreement (PPA) for 585MW of the park's output, while Next Kraftwerke, a specialist in short-term trading, manages the day-to-day electricity trading on Shell's behalf.

Boasting a total capacity of over 600MW, Witznitz Energy Park has produced electricity since late 2023. Its addition to the group portfolio means Next Kraftwerke is currently the largest trader of PV electricity in the German market.

> The addition of Witznitz Energy Park to the group portfolio means Next Kraftwerke is currently the largest trader of PV electricity in the German market

11 Schneider Electric

Schneider Electric is electrifying the cleantech space with cutting-edge AI and industrial IoT solutions. Named the World's Most Sustainable Corporation in 2025, the company is pioneering Virtual Power Plants, smart grid tech, and next-gen battery manufacturing intelligence.

Founded
1836

Specialism
AI-enabled Industrial IoT solutions

Headquarters
France

Website
se.com

Schneider Electric

Sustainability leadership
In January 2025, Schneider Electric was named the World's Most Sustainable Corporation 2025 by Corporate Knights – the only company to rank top twice. It scooped the accolade for its innovative solutions aimed at facilitating energy efficiency, electrification, and decarbonisation. Schneider also scored well for efforts to decouple its energy consumption and carbon emissions from its business growth, and its strong investment in sustainable R&D.

Toby Heaps, Corporate Knights' CEO, said: "Schneider provides the technology to enhance energy efficiency, support decarbonisation and help others in their sustainable transitions."

Similarly, the World Economic Forum recently recognised Schneider's Wuxi factory in China as a Sustainability Lighthouse. Wuxi makes key products for the company's Energy Management and Industrial Automation units. In 2022, eight years ahead of its goal, the site achieved net zero for Scope 1 and 2 emissions.

Transformational tech
Schneider is at the cutting edge of transformational tech in the energy sector and generated record revenues of €38bn last year. In 2023, it expanded its work in Virtual Power Plant and grid services technologies by investing in Uplight and AutoGrid. Early in 2024, Schneider and Itron announced plans to integrate their intelligent grid and distributed energy resource solutions to enhance the digitalisation of electricity supply and demand markets.

The company also recently partnered with Liminal Insights, a leader in battery manufacturing intelligence, to tackle key challenges across the industry, as demand for EV batteries continues to grow. For example, between 2020 and 2023, product recalls cost the sector over $3bn.

Market execution
The firm provides AI-enabled industrial IoT solutions in over 100 countries. In 2024, Schneider generated revenues in the region of €38bn.

Market innovation
The company's partnership with Liminal Insights will help reduce costly product recalls in EV battery manufacturing.

Technology capability
The Schneider Charge Pro is an energy-efficient EV charging solution that simplifies the charging experience.

Technology impact
Schneider's range of technical solutions is integrated into a broad range of industrial contexts.

Schneider Electric

The goal of the partnership is to combine Liminal's ultrasound-based metrology and analytics solutions with Schneider Electric's automation and industrial intelligence ecosystem to deliver live inline quality inspection. The new integrated inspection solution will offer battery manufacturers automated capabilities that allow production deviations to be identified, and analysis of the root cause to be carried out in real time.

EV-charging solution
In January 2025, Schneider introduced Schneider Charge Pro, a high-efficiency, EV-charging solution designed to support the growing adoption of electric vehicles among commercial fleet operators and residential building owners. As part of a comprehensive, all-in-one offering, Charge Pro streamlines the entire charging process, from beginning to end. It enables charge point operators and property managers to upgrade existing infrastructure or deploy new charging stations, while ensuring a hassle-free installation experience for electricians.

Energy efficiency survey
Each year, Schneider publishes a consumer survey that sheds light on consumer behaviour around energy usage. Based on 13,000 responses from 11 countries, the 2024 edition highlighted a wide gap between awareness and action regarding energy efficiency. Although 70% of respondents recognise the importance of reducing their carbon footprint, many still opt for small-scale solutions. "The technology to enhance home energy efficiency exists, but there is a lack of awareness of the most impactful ways to deploy it," said Michael Lotfy Gierges, EVP, Home & Distribution, Schneider Electric.

Green certification JV
Schneider has partnered with Atmen to develop a best-in-class green certification process. The collaboration integrates Atmen's certification technology with Schneider's digital platforms to enhance data quality, cybersecurity, and operational fluidity.

> "Schneider provides the technology to enhance energy efficiency, support decarbonisation and help others in their sustainable transitions."

12 ACCURE Battery Intelligence

A rising Digital Energy 40 star, in the five years since launch, ACCURE is transforming battery performance with AI-driven predictive analytics. Backed by a fresh $16m funding round to accelerate growth, the company is scaling fast, optimising 6GWh of energy storage, worldwide.

Founded
2020

Specialism
AI-powered battery performance analysis

Headquarters
Germany

Website
accure.net

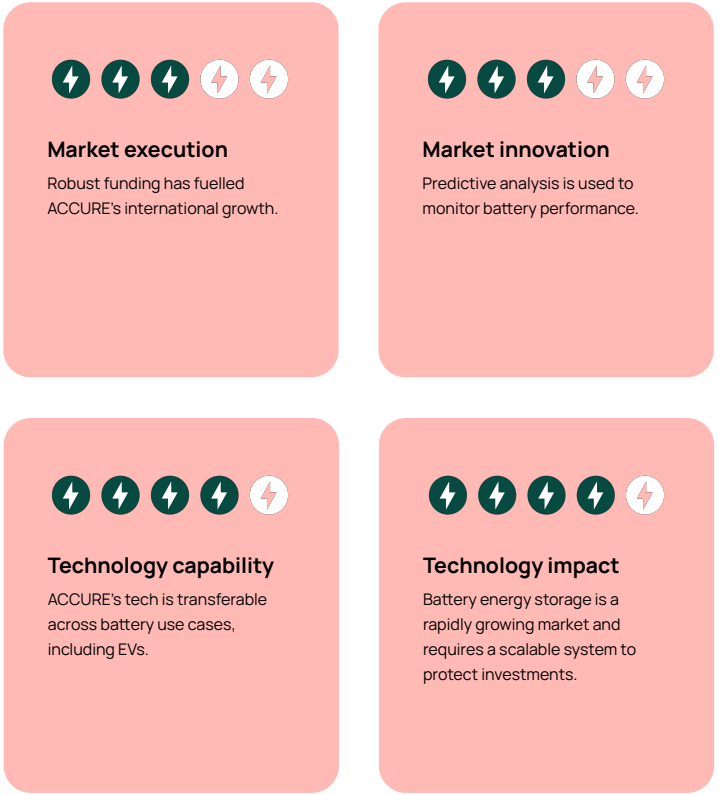
ACCURE Battery Intelligence

Data into action
In the five years since it launched, ACCURE reckons to have supported more than 6GWh of energy storage systems and EV fleets, worldwide. And it anticipates rapid growth. Global energy storage installations grew around 76% in 2024 and will increase tenfold by 2035, BloombergNEF reports. Meanwhile, global EV sales rose 25% in 2024 to 17.1m units and are expected to account for over 25% of new cars sold by 2030, based on analysis by S&P Global.

Cash injection
In February 2025, ACCURE secured $16m in a Series B round led by Incharge Capital Partners, a joint venture between Porsche SE and DTCP, with participation from existing investors BlueBear Capital, HSBC Asset Management, Riverstone Holdings, Capnamic and 42CAP. ACCURE says this funding will help fuel the company's accelerated growth across Europe, the Americas, Asia Pacific, and other regions to meet demand.

"The key to safe, reliable usage of batteries is advanced software that solves complex problems," said Incharge partner Michael Schrezenmaier. "ACCURE's predictive analytics software is a critical enabler for the safe, and efficient, proliferation of battery technology."

International expansion
Germany-based ACCURE has made strong inroads into the US market. In early 2025, it reported deploying its AI predictive analytics platform to optimise four Texas energy storage projects. Together, they have a capacity of 730MW and are part of a battery energy storage-focused investment strategy at UBS Asset Management.



ACCURE Battery Intelligence

Elsewhere, ACCURE has joined forces with eMotion Fleet, a provider of fleet electrification solutions, to provide battery safety and performance software solutions for Battery Energy Storage Systems (BESS) owners/operators and commercial EV fleets in Japan.

Resolution solutions

At the end of 2024, ACCURE launched its Warranty Tracker, a new feature for battery energy storage owners that helps clarify who needs to pay for damaged equipment. Batteries for a grid-scale energy storage system cost millions of dollars and warranties tend to be complex and opaque, and many favour the supplier. ACCURE's Warranty Tracker helps owners detect issues and file successful claims more easily by continuously monitoring the BESS using predictive analytics technology.

Safe pair of hands

In November 2024, ACCURE received the 2024 Energy Storage Award for Safety Product of the Year. The award recognises the fact that ACCURE's software has prevented over 100 potential thermal runaway events by identifying and recommending corrective action for defective battery cells, malfunctioning equipment, and other problems, worldwide.

Dr Kai-Philipp Kairies, CEO and co-founder of ACCURE, said: "With the global energy storage market on track to grow ten times by 2035, it is critical that every effort is made to ensure that the batteries being placed within our communities are safe."

ACCURE's software has prevented over 100 potential thermal runaway events by identifying and recommending corrective action for defective battery cells, and other problems

Dr Kai-Philipp Kairies

CEO and Co-Founder
ACCURE Battery Intelligence

accure.net

LinkedIn

What's your view on the European energy market right now?
We're in a significant period of transformation. Global politics, European energy policy, and geopolitics are more intertwined than ever. We saw how close we were to a critical supply shortage due to our reliance on Russian gas, which was ultimately used as a political weapon. The situation was mitigated by importing American liquefied natural gas, but how certain are we that the US will step in again in the future, and with what conditions?

This means that many of the certainties Europe once had – about security, energy supply, and geopolitical stability – are being reshaped.

I firmly believe that the European energy policy must learn to stand on its own feet. And the best path forward is the electrification of as many sectors as possible using renewable energy.

Do you see differences in energy transition strategies across different parts of Europe, or would you say there is already a unified EU-wide approach?
The word "strategy" always sounds nice in theory. The real challenge is execution.

If we look at individual countries, most are willing to push forward with the energy transition. However, the process often gets bogged down in permitting procedures, grid connections, and regulatory hurdles.

> Many of the certainties Europe once had about energy supply are being reshaped

Of course, regulatory frameworks exist for good reasons, but we need a fundamental simplification of these processes, and we need it now.

How is ACCURE responding to these developments?
We're just one small supplier in a huge and complex industry. We provide digital solutions for battery storage systems. Our primary contribution is maximising the efficiency of existing assets and improving their safety. For example, if I have a battery storage system capable of one gigawatt-hour, but inefficiencies mean I can only use 900 megawatt-hours, ACCURE helps unlock the full capacity.

Recently, there was a massive battery fire at Moss Landing in California, and one of the world's largest battery storage sites – worth nearly $1bn – was largely destroyed. Incidents like this fuel public opposition and slow down the energy transition.

By continuously monitoring battery safety and health with advanced algorithms – rather than relying on one-time audits at the start of an asset's life cycle – ACCURE substantially reduces operational risks. This level of safety monitoring doesn't exist in any other asset class today.

I believe this data-driven approach is essential for public confidence and acceptance of energy storage solutions.

What more can the industry, as a whole, do to future-proof the ecosystem?
One of the biggest challenges is that the energy sector was designed to serve a different world. We are used to planning with 40-year investment horizons. That means, in a decision-making context, it doesn't really matter if something is done today or next week – it barely registers on the timeline.

But we no longer have the luxury of moving slow and steady. Today, geopolitical events can shift supply chains within months, not decades. While the industry consists of highly skilled professionals and well-structured organisations, the sector must adopt more of a startup mentality. It's no longer about avoiding mistakes, it's about keeping pace with the rapidly changing world.

> It's no longer about avoiding mistakes, it's about keeping pace with a rapidly changing world

What support or action do you want to see from the government/the EU?
Governments must simplify regulation and speed up approval processes. Energy security is now a geopolitical issue. We have already wasted too much time – it's time to start cranking up.

Who are your 'ones to watch' in the European/Nordic/German/UK energy market?
A company that really impressed me recently is Grid Raven, which focuses on real-time grid monitoring.

What are your personal motivations and goals for energy transition?
I chose this path consciously at age 18 and still believe energy is fundamental to prosperity, security, and peace. Even though I sometimes feel disillusioned about global climate efforts, I remain deeply committed to improving energy resilience and affordability for all.

13 GE Vernova

A powerhouse in the energy transition, GE Vernova established itself in the Digital Energy 40 following its spin-off from GE. The company is making bold investments, including a $9bn global capex plan, and R&D in grid modernisation, nuclear power, and renewables.

Founded
2024

Specialism
Electrification software products and services

Headquarters
US

Website
gevernova.com

GE Vernova

Future-facing spin-off
GE Vernova is a new company spun off from GE in April 2024. At launch, Scott Strazik, CEO of the new operation, called it "an independent company singularly focused on accelerating the energy transition to create a more sustainable future. [...] GE Vernova is purpose-built to electrify and decarbonise the world."

In January 2025, the company reported revenues of $34.9bn for 2024, up 5%. "We saw strength in power and electrification and improvement in wind, while growing our equipment backlog at better margins," said Strazik.

Commercial highlights during the year included a large contract for the UK's Net Zero Teesside Power project in the fourth quarter. This project is expected to be the world's first gas-fired power station with carbon capture and storage, supporting the UK grid with flexible low carbon power. Meanwhile, Stateside, GE Vernova secured more than 1GW of US onshore wind repowering orders in 2024, an increase of 76% from 2023.

Investment programme
In January 2025, GE Vernova announced plans to invest nearly $600m in its US factories and facilities over the next two years to help meet the rising electricity demands, worldwide. With global energy requirements forecast to double, the investments "will help meet soaring customer demand, strengthen domestic supply chains, and continue developing cutting-edge American technology", said Strazik.

The new investments are the first part of a larger $9bn cumulative global capex and R&D investment plan through 2028, announced in December last year.

Market execution
The newly restructured company is now primarily focused on expansion in wind, solar and nuclear sectors.

Market innovation
New software solution Proficy will help manufacturers become more sustainable, while maximising productivity and profitability.

Technology capability
The company's Advanced Research Centre will invest almost $100m in 2025 in areas such as alternative fuels for power generation, and the grid of the future.

Technology impact
The spin-off company's technologies help generate about 25% of the world's electricity.

GE Vernova

Key areas of investment include plans to expand gas turbine manufacturing, nuclear power, and the company's grid solutions business. Already, $100m is earmarked for US onshore wind factories, and the company also plans to add US manufacturing capacity to support the US grid, and demand for solar, and energy storage.

At its Advanced Research Centre in Niskayuna, NY, GE Vernova will invest almost $100m in 2025 "to strengthen the centre's electrification and carbon efforts, enable continued recruitment of top-tier talent, and push forward innovative technologies including direct air capture, alternative fuels for power generation, the grid of the future, critical infrastructure security, and more".

GE Vernova's Proficy

In early 2024, GE Vernova launched Proficy, a new software solution designed to operationalise manufacturers' goals toward sustainability, while helping to maximise productivity and profitability. By integrating operational and sustainability data, the AI-based software can help companies use resources more efficiently and manage climate metrics required for regulatory compliance.

Providing a case study of Proficy's capability, GE Vernova said an automotive Tier 1 manufacturer in Europe used it to achieve 18% energy savings for its factory heating systems.

> GE Vernova's Proficy, software operationalises manufacturers' goals toward sustainability, while helping maximise productivity and profitability

14 Opoura

Opoura is redefining smart renewable energy solutions through AI-driven software and power plant control systems. The Danish firm is scaling rapidly through strategic acquisitions and R&D investments. Its expanding portfolio spans grid analytics, energy trading, and real-time asset monitoring.

Founded
2006

Specialism
Smart renewable energy solutions

Headquarters
Denmark

Website
opoura.com

Opoura

End-to-end solutions
Based in Denmark and with a presence in North America and Europe, Opoura "enables customers to connect, control, and commercialise assets in the energy landscape".

Opoura provides a wide range of solutions across the energy sector. Its software, for example, can monitor, analyse, report, and control a client's renewable park or portfolio. It offers grid-compliant and automatic power plant controllers for wind, solar, PV, BESS, PtX, and hybrid setups. The company also operates energy trading software, engineering support, and onsite services.

Strategic rebranding
Opoura is a contraction of "Optimise Performance of Your Assets", and the company says the new brand is rooted in its Nordic renewable heritage. Unveiling the new identity at the start of 2025, Opoura said the rebrand followed a year of record growth, and the expansion of the group's offerings to the energy industry.

"When we founded SCADA International in 2006, our ambition was to tackle renewable challenges related to SCADA by offering specialised expertise in hardware and consultancy. As the industry changed and customers took greater control of their operations and data, we also evolved by delivering independent monitoring and control software," said Opoura CEO, Thomas Bagger.

Step change in capabilities
Opoura's new development phase began in 2022 when it was acquired by funds advised by Magnesium Capital. As a result, it became part of Magnesium's portfolio of technology-led businesses. Magnesium's managing partner, Ian Jones, said the company "sits at the heart of the Danish renewables industry, yet its solutions and services are key enablers of the energy transition, globally. The company contributes to the push towards low-carbon energy and is a clear fit with our investment strategy."

Market execution
Opoura's broad-based offering has enabled it to expand across the US and Europe.

Market innovation
Becoming part of Magnesium has provided funds for Opoura to channel into R&D.

Technology capability
The company's recent acquisition spree has introduced a range of cutting-edge capabilities to the firm, such as software solution Clavis.

Technology impact
Opoura offers a wide range of solutions that enable renewables firms to maximise the potential of their assets.

Opoura

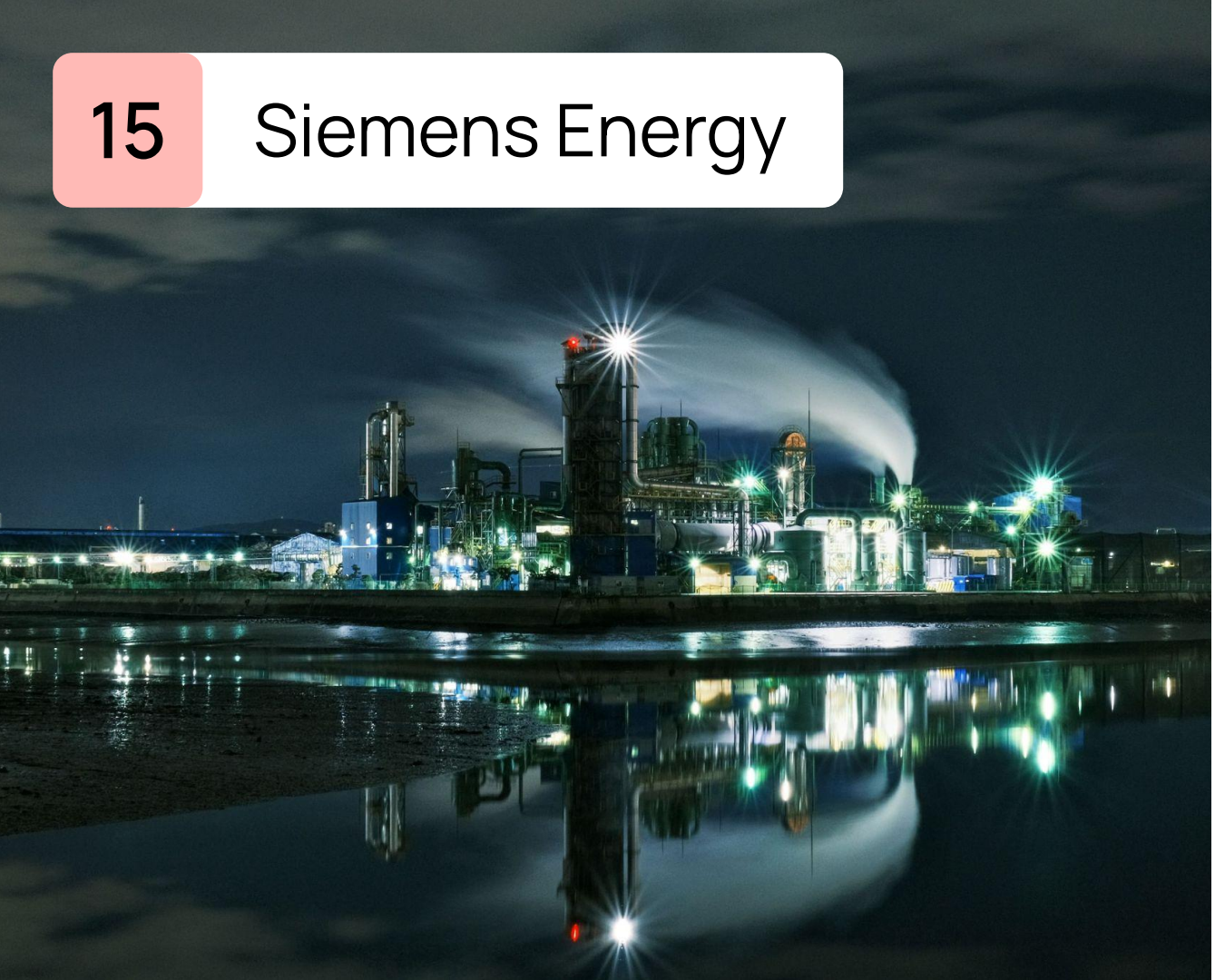
At the time, Bagger said the deal "gives us the financial capacity to continue investing in R&D and further develop our software solutions, and also allows us to expand our capacity to meet market demand, as well as take on strategic acquisitions". True to his word, Opoura embarked on an acquisition spree in 2023/2024, buying no fewer than four companies in 12 months.

Key acquisitions
These acquisitions significantly expanded Opoura's capabilities. Among them was NovoGrid, a University College Dublin spin-out, specialising in grid analytics technology. NovoGrid enables developers, asset owners, and energy traders to assess grid-connection possibilities before investments are made, shortening the time to market by providing actionable connection options.

Other acquisitions included Quantec Systems, creator of software solution Clavis, which provides a hardware-agnostic interface allowing companies to monitor distributed renewable energy assets in real time. Opoura also purchased Next Consult, a company specialising in grid modelling and power system integration, and consultancy Sweet Geeks.

> Unveiling its rebrand from SCADA International at the start of 2025, Opoura said it came after a year of record growth, and the expansion of its offerings to the energy industry

15 Siemens Energy



Following a strategic restructuring, Siemens Energy is sharpening its focus on hydrogen, offshore wind, and electrification. Major deals in Saudi Arabia, Denmark, and the US reinforce its position as a key enabler of grid modernisation and low-carbon power solutions, worldwide.

Founded
2020

Specialism
Total energy solutions

Headquarters
Germany

Website
siemens-energy.com

Siemens Energy

Supercharged spin-off
Siemens Energy kicked off 2025 with momentum. In Q1, demand remained strong, driving an 18.4% revenue increase to €8.9bn, fuelled by solid order growth. Looking ahead, the company expects rising electricity consumption, infrastructure upgrades, and the energy transition to drive continued investment across its portfolio.

Siemens Energy redefined its business structure at the start of 2024, organising its operations around four strategic pillars: Gas Services; Grid Technologies; Industrial Transformation; and Siemens Gamesa, its dedicated wind power subsidiary. This streamlined approach positions Siemens Energy to navigate the evolving energy landscape with greater agility and impact.

Gamesa road map
In mid-2024, Siemens Energy announced a major restructuring of Gamesa and appointed Vinod Philip as its new CEO. As part of the revised strategy, Gamesa will continue operating in both onshore and offshore wind, but with a sharper focus. Onshore efforts will prioritise regions with stable regulatory environments – mainly Europe and the US – while other markets will only be pursued when economically viable. Offshore, the priority is scaling up production at key sites in Cuxhaven (Germany), Aalborg (Denmark), and Le Havre (France).

Gamesa made a loss in Q1 2025, but Siemens says it is on track to reach break-even in fiscal year 2026. In terms of the division's overall strategic goals, Siemens Energy sold Gamesa's Spanish subsidiary to ABB in late 2024.

Market execution
A new organisational structure has streamlined the company, enabling it to navigate the evolving energy landscape with greater agility and impact.

Market innovation
Siemens Energy is working with EWE on a large-scale hydrogen project.

Technology capability
The company's portfolio includes a broad mix of conventional and renewable energy technology.

Technology impact
Siemens Energy's power transformers are a critical component in the transition to clean energy.

Siemens Energy

Backing hydrogen
In July 2024, Siemens Energy won the contract for a large-scale hydrogen project from German utility EWE. The company will supply a 280MW electrolysis system controlled by EWE. The plant is expected to be operational in 2027 and provide up to 26,000 tonnes of green hydrogen a year. The electrolysis plant is part of EWE's Clean Hydrogen Coastline project.

Saudi deal
Siemens Energy secured a $1.5bn order from Saudi Arabia to deliver power plant technologies for nearly 4GW of capacity, along with a 25-year maintenance contract. The deal, signed last year, supports the Kingdom's goal of reaching net-zero emissions by 2060. According to Siemens Energy, Saudi Arabia aims to reduce emissions through the use of modern, high-efficiency gas-fired power plants, combined with carbon capture and storage technologies.

Future-proofing Denmark's grid
Grid technologies are a key dimension of the company's business, playing an essential role in enabling the energy transition. In 2024, Siemens Energy announced a €1.4bn framework agreement with Energinet to renew Denmark's energy infrastructure. Tim Holt, a member of the executive board for Siemens Energy, said: "There is no energy transition without transmission, and that can only happen with the availability of switchgears and transformers. Grid investments are accelerating dramatically in Europe and worldwide, and customers are competing for manufacturing slots."

US investment
Siemens Energy is addressing a "national shortage of power transformers" in the US by investing $150m to expand its North Carolina operations. As renewable energy becomes a growing part of the electricity mix, grids need to adjust how to transport that electricity. Unlike conventional generation, wind and solar are often unavailable where they are consumed, meaning electricity needs to be transported over longer distances. Power transformers are crucial in this chain.

> Siemens Energy expects rising electricity consumption, infrastructure upgrades, and the energy transition to drive continued investment

16 TWAICE

TWAICE is transforming battery analytics with AI-driven predictive insights, helping businesses optimise performance and reduce risks. Expanding beyond lithium-ion, TWAICE launched the first sodium-ion ageing model in 2024, reinforcing its leadership in battery performance optimisation.

Founded
2018

Specialism
Battery data analysis

Headquarters
Germany

Website
twaice.com

TWAICE

Sodium-ion solution
Munich-based TWAICE, a leader in battery analytics and digital twin software, expanded its innovation portfolio in August 2024, by launching an ageing model for sodium-ion batteries. This marks the first simulation model compatible with non-lithium chemistries, offering operators valuable insights into how best to deploy emerging storage technologies. "It will give battery operators a valuable tool in understanding how to best deploy emerging sodium-ion batteries," said TWAICE.

As energy storage operators seek alternatives to lithium, sodium-ion is becoming a viable option for battery storage. Compared with lithium-ion batteries, sodium-ion batteries are made of more accessible, affordable, and environmentally friendly materials. Depending on the system design, their lifetime, safety, and performance at low temperatures are also better than those of lithium-ion batteries.

By moving into sodium-ion, TWAICE is reinforcing its role as a frontrunner in battery analytics. CEO Michael Baumann said: "While lithium-ion batteries are a proven quantity, and we'll continue innovating our simulation and analytics software to get the most out of lithium storage, we also want to be sure we're meeting a demand for alternative batteries."

US expansion
In October 2024, TWAICE expanded its footprint in the US through a strategic partnership with Element, addressing rising domestic demand for battery testing and analytics. "This collaboration eliminates the need for costly and time-consuming overseas shipping and import hurdles, providing customers with a streamlined, full-service solution right here in the US," said Baumann.

Market execution
TWAICE is expanding into the US via a partnership with Element.

Market innovation
TWAICE is extending its analytical capabilities to include sodium-ion batteries.

Technology capability
Using AI on a scalable analytics platform, TWAICE generates actionable insights at each battery life-cycle stage.

Technology impact
The company's expertise is improving ROI for energy companies, EV manufacturers, and others who rely on battery systems.

TWAICE

Shifting expectations
TWAICE also took the pulse of the battery energy storage sector in 2024 with its BESS Pros Survey. Drawing insights from over 80 experts, it found that 58% now see performance and availability – not safety – as their top concerns. As the sector matures, the focus is shifting toward ROI, efficiency, and profitability. "While safety remains essential, the expanding complexity of BESS operations means that performance optimisation is taking centre stage," the survey found.

Automotive priorities
TWAICE previously co-developed Battery Quick Check – a tool to assess the health and value of EV batteries in the used vehicle market – with TÜV Rheinland and Hella Gutmann Solutions. It has since stepped away from the project to focus on its core business: namely developing simulations and battery analytics for car manufacturers and stationary energy storage system operators.

Security conscious
In 2024, TWAICE earned the ISO 27001 certification. This certification reassures customers that their data is handled securely. "As the energy sector becomes more digital, data security and privacy play a crucial role. Obtaining the ISO 27001 certification shows how seriously we take data protection," said TWAICE's Baumann.

Improved insurance
A new partnership with NARDAC, the specialist energy and infrastructure broker and MGA, aims to improve insurance terms through battery storage analytics. By combining proactive, real-time insights with traditional risk-mitigation strategies, the collaboration allows insurers to offer improved coverage terms more easily.

> TWAICE's BESS Pros Survey in 2024 found that 58% of experts now see performance and availability – not safety – as their top concerns

17 Iberdrola

Energy giant Iberdrola continues to expand its renewable portfolio and smart grid innovations. Investments in offshore wind, green hydrogen, and grid modernisation underscore its commitment to a cleaner future, while startup funding and AI solutions place it at the forefront of the energy transition.

Founded
1992

Specialism
Intelligent power grids and renewable energy

Headquarters
Spain

Website
iberdrola.com

Iberdrola

Growth through partnerships

Iberdrola, a global leader in energy serves around 100 million customers worldwide, via numerous companies and alliances. It has invested more than €160bn since 2001 to develop a clean, safe, autonomous and competitive energy model. A key aspect of its commercial strategy is growth through partnerships, which allows it to "promote the decarbonisation of the economy while maintaining its financial strength".

Iberdrola and Japanese electricity company Kansai recently expanded their strategic alliance. The collaboration will focus on electricity grid and renewable energy projects, as an opportunity to jointly explore investments within the industry. The two firms are already partners in the Windanker offshore wind farm. Windanker, in the German Baltic, will have an installed capacity of 315MW and will start operating in Q4 2026. In addition, both companies have jointly invested in the Electricity North West (ENW) group, the UK-based electricity distribution network operator.

Other high-profile partnerships include an alliance with Norges Bank to co-invest in renewables that, after its expansion, will reach 2,500MW. In December 2023, Iberdrola also linked with Masdar to co-invest up to €15bn in offshore green hydrogen and wind in the UK, the US and Germany. Iberdrola and BP launched a joint venture for large-scale green hydrogen production in Spain, Portugal and the UK, followed by plans to deploy 11,700 fast-charging points in Spain and Portugal.

Future-proofing grids

Iberdrola owns ScottishPower in the UK. Current activities at SP include the construction of a subsea electricity superhighway, which will help to futureproof the grid. Eastern Green Link 1, a joint venture between SP Energy Networks and National Grid Electricity Transmission, is a £2.5bn project that will transport green electricity for 2 million homes along more than 190 kilometres of predominantly undersea cable. SP Energy Networks and National Grid Electricity Transmission already own and operate the Western Link, the world's highest capacity subsea cable.

Market execution

Strategic partnerships with the likes of Japan's Kansai enable Iberdrola to promote decarbonisation, while maintaining its financial strength.

Market innovation

Startup division Perseo has invested more than €200m in new companies.

Technology capability

A €290m investment in digitalisation positions Iberdrola well for the migration to clean energy and smart grids.

Technology impact

Investments in all primary forms of renewable energy have made Iberdrola a crucial partner in the electrification value chain.

Iberdrola

Commitment to digitalisation
In June 2024, Iberdrola hosted the tenth edition of its Digital Summit in Madrid, where it announced plans to invest €290m over the year in digitalisation initiatives. These investments, aligned with the company's strategic roadmap, aim to fast-track renewable energy projects, advance smart grid development, and enhance both operational efficiency and customer experience – all underpinned by the highest standards of cybersecurity.

Startup supporter
Iberdrola, through Perseo, its startup programme, recently participated in an investment round in Nido – a technology platform to market, design and install aerothermal systems in residences. According to Iberdrola, aerothermal energy is around four times more efficient than a conventional boiler, since 75% of its energy is pulled from the air. The startup will use the funding to integrate AI into its platform, expand its engineering team and optimise its marketplace. Since its 2008 launch, Perseo has invested over €200m in startups.

Eclectic expertise
Iberdrola has officially opened its new operations and maintenance (O&M) centre in Saint-Brieuc, France, which will serve as the hub for an 80-person team supporting one of the country's largest offshore wind projects. Spanning 75 km² with 62 turbines, the Saint-Brieuc offshore wind farm delivers 496MW of clean energy – enough to cover around 9% of Brittany's electricity needs.

Elsewhere, Iberdrola and Marinas de España, the Spanish Federation of Associations of Marinas and Tourism Ports, signed a collaboration agreement to implement electrification solutions to encourage the decarbonisation of 180 marinas.

Separately, Iberdrola's US subsidiary Avangrid is building renewable plants to support organisations that operate energy-hungry data centres.

> Iberdrola's aims are to fast-track renewable energy projects, advance smart grid development, and enhance operational efficiency and customer experience

18 Aira

Clean energy tech start-up Aira is redefining home heating with intelligent heat pumps and a no-upfront-cost model designed to accelerate the shift away from fossil fuel boilers. Backed by fresh investment and a £300m UK expansion plan, Aira is scaling fast.

Founded
2022

Specialism
Intelligent heat pumps

Headquarters
Sweden

Website
airahome.com

Aira

Heat pump leadership
Aira delivers intelligent heat pumps, solar installations, and clean energy tariffs as part of its mission to decarbonise homes across Europe. With a growing team of 1,200 and annual revenues topping €100m, it's already a market leader in Italy, Germany, and the UK. The company drives innovation from its R&D centre in Sweden and operates a 220,000 square-metre manufacturing facility in Poland.

In October 2024, Aira received €63m investment to accelerate its clean energy-tech growth. Existing investors Temasek, Statkraft Ventures, Kinnevik and Altor provided the money, which comes on top of a €145m Series B round in January 2024.

Aira said the funding will allow it to "accelerate the electrification of residential heating in Europe [...] There are still 130m fossil fuel-based boilers in use, and consequently, residential heating represents 10% of Europe's total CO_2 emissions."

The new investment will help Aira expand further across Italy, Germany and the UK. It will also allow Aira to extend its clean energy-tech portfolio with new products and services that increase customer cost-savings.

Scotland hub
In September 2024, Aira opened a new hub in Stirling, central Scotland. The launch is part of Aira's "£300m UK investment and commitment to 8,000 new jobs over the next decade, as it plans to become Scotland's heat pump market leader".

The Stirling facility includes a showroom, allowing customers to experience a heat pump first-hand. The Scottish Government has identified heat pumps as playing a key role in meeting Scotland's net zero targets. Grant funding of up to £7,500 is available to help consumers buy a heat pump, with an extra £7,500 available as an interest-free loan.

Market execution
Grants, loans and no upfront payments make Aira's heat pumps an affordable option for consumers.

Market innovation
Aira has launched two competitive tariffs powered by Octopus.

Technology capability
A new slimline heat pump offers flexibility in the home environment.

Technology impact
Aira's intelligent heat pumps can counteract the carbon emissions caused by traditional gas boilers.

Aira

Competitive tariffs
Aira launched two new energy tariffs in 2024, "powered by Octopus Energy". The tariffs are called Aira Zero and Aira Solar Export. Aira said Aira heat pump customers will save up to £500 on energy bills, annually, compared with a gas boiler. Solar panel customers on the Aira Solar Export tariff can expect to save £1,245 on energy bills, annually, compared with a home with a gas boiler.

Kaj af Kleen, Aira chief product & technology officer, said: "Aira Intelligence's native integration with the tariff allows us to manage the heat pump optimisation seamlessly, offering customers maximum cost-savings and complete peace of mind."

Slimmed-down solution
In Q4 2024, Aira introduced the Aira Indoor Unit Compact, which it describes as "one of the slimmest, most flexible heat pump solutions on the market".

Aira said the unit is designed to fit seamlessly into the home, offering flexibility with hot water cylinder options that range from 150L to 300L. Key features include hassle-free installation, compact design and energy efficiency.

> In 2024, Aira introduced the Aira Indoor Unit Compact, which it describes as "one of the slimmest heat pump solutions on the market"

19 Flower

Flower is emerging as a leader in battery storage optimisation, using AI to enhance grid stability and flexibility in Sweden, and beyond. Acquisitions and new large-scale projects are fuelling its growth, while the launch of Flower Hub empowers homeowners to earn money and support the grid.

Founded
2020

Specialism
DER flexibility platform

Headquarters
Sweden

Website
flower.se

Flower

Game-changing growth
Flower is a company that uses software and battery storage to help improve the electricity grid and renewable energy systems. Flower's technology spans several segments, ranging from home batteries and electric vehicle chargers, to large solar, wind, and battery parks that can be controlled to balance the grid.

In April 2024, Flower acquired Sweden's largest battery park, the 42.5MW Bredhälla, from OX2. In July of the same year, it activated two more battery projects (Kungälv, and Hanhals). The three parks add a capacity of 70MW to Flower's portfolio, meaning that the company is optimising 200MW of energy assets. As a result, it now controls the largest battery portfolio in Sweden. "With these battery systems in place, we will not only be able to reduce imbalances in the power grid, but also reduce the electricity costs for consumers, and lead the way for an acceleration of renewable energy investments," said John Diklev, founder and CEO of Flower.

Funding injection
Maintaining the momentum, October saw Flower close its Series A funding at €45m, bringing total investment in the firm to €100m. Flower will deploy this capital towards pan-European expansion and developing its Battery Energy Storage Systems (BESS). Active in Sweden and Denmark, Flower will become operational in the DACH region, France, the Netherlands, and Belgium throughout 2025 and 2026.

Antonio Avitabile, managing director EMEA at Sony Innovation Fund – one of Flower's key investors – praised the company's role in the energy transition, stating: "Flower's cutting-edge optimisation platform and portfolio of flexible energy assets will help accelerate the transition towards renewable energy."

Market execution
Flower has used its investment to secure market leadership in Sweden.

Market innovation
Flower's technology spans several segments, ranging from home batteries and electric vehicle chargers to large solar, wind, and battery park.

Technology capability
The new Flower Hub enables homeowners with battery systems to earn passive income.

Technology impact
Flower's rapid expansion is taking its battery optimisation and trading expertise into numerous markets across Europe.

Flower

Further domestic expansion
In Q4 2024, Flower acquired one of Sweden's largest battery projects, a ready-to-build 40MW/80MWh BESS site in development by Arise, a renewable energy company. Once operational, the project will give Flower end-to-end control over the complete battery value chain, unlocking revenue streams for renewable energy actors such as grid operators and asset owners.

Flower's Diklev called it "a breakthrough asset for our portfolio that will make all the difference for Sweden's energy system in the years ahead." Once in place, Flower will further contribute to a balanced energy system by stabilising the grid and reducing volatility.

Money making hub
In August 2024, Flower launched Flower Hub, a solution that enables homeowners with battery systems to support the electricity grid and earn passive income. Flower Hub consists of two parts: a plug-and-play device that is installed on the same network as the battery, and a web portal with separate interfaces for distributors, installers, and end customers.

Flower Hub connects the battery to Flower's AI-based platform, which optimises the battery's usage against the grid and generates revenue. Compensation is updated quarterly, based on an index that tracks real-time market prices – ensuring users earn in step with the true value their energy provides.

> Already active in Sweden and Denmark, Flower will become operational in the DACH region, France, the Netherlands, and Belgium in 2025 and 2026

20 GridBeyond

GridBeyond is accelerating the smart energy transition, using AI to optimise energy generation, demand, and storage. Major partnerships in EV grid balancing, battery storage for data centres, and flexible energy assets strengthen its role in creating a more resilient, low-carbon energy system.

Founded
2010

Specialism
Battery optimisation

Headquarters
Ireland

Website
gridbeyond.com

GridBeyond

Maximising opportunities
GridBeyond is a leader in intelligent energy management and control systems for commercial, industrial, and retail users. By closing the gap between distributed energy resources and electricity markets, GridBeyond's tech ensures that each connected asset – from battery storage to utility-scale renewables generation, or energy demand load – can help maximise opportunities and enhance the grid.

Founded in 2020, the company hit its stride in 2023, marking a year of major milestones. It acquired Veritone Business Energy, launched a suite of new products, and doubled its global workforce. Over its first three years, GridBeyond achieved an average annual revenue growth of 70%, a pace it continued into 2024. Its momentum also caught the attention of the US Department of Energy, which awarded the company $7.8m to support the ARROWS R&D project – an initiative focused on enhancing the reliability and resilience of wind and solar operations.

Turbocharged funding
In 2024, GridBeyond completed a €52m funding round to support the business's scale-up and is using the funds to evolve its cutting-edge technology in Grid Edge Virtual Power Plants (VPPs). With this backing, the company plans to expand its ability to optimise assets such as demand response, energy storage, and renewables – supporting grid operators and local utilities in unlocking the potential of flexible assets, and accelerating the shift to low-carbon technologies.

The funding will also support international expansion, grow GridBeyond's US presence, and be channelled into R&D. A range of investors were involved, including Swiss giant ABB. Co-founder and CEO, Michael Phelan, said that the financing "sets GridBeyond on the path to increase the reach of our intelligent energy platform and deliver world-leading AI and powerful automation capabilities to smart grid and energy markets across the world".

Market execution

GridBeyond has made rapid inroads into the US market.

Market innovation

An alliance with Monta has made it possible to connect 2,000 EV assets to the UK's grid-balancing programme.

Technology capability

GridBeyond's AI-powered platform supports grid operators and local utilities to maximise the use of flexible assets.

Technology impact

The new tranche of funding will enable GridBeyond to evolve its technology in the field of Grid Edge Virtual Power Plants.

GridBeyond

Grid balancing partnership
In February 2025, GridBeyond and the Danish operating platform Monta announced that they had registered 2,000 EV assets into the UK's Static Firm Frequency Response (SFFR), a service used for balancing grid frequency in real time. In partnership with GridBeyond, charge points are deployed as demand-side assets in SFFR programmes through Monta's PowerBank feature.

Connecting thousands of charge points to the grid helps distribute and alleviate stress caused by fluctuating electricity production and consumption. "GridBeyond provides market access and manages interactions with National Grid," said GridBeyond head of EV Solutions, Michael Kent. "Monta's solution manages the charging schedules of individual charge points, seamlessly integrating with our VPP platform for control and market access."

Still in the realm of EVs, the firm is also helping UK operator Stagecoach with optimising its EV fleet's energy consumption, including integrating renewables into the business.

BESS alliances
The company announced mid-2024 that it would deliver Battery Energy Storage Systems (BESS) solutions to two data centres, Keppel DC Dublin 1 and 2 in Ireland. The BESS at the data centres will support the stability of Irish grid systems.

In November 2024, GridBeyond and Triodos Energy Transition Europe Fund revealed they were expanding their partnership via joint venture GridBeyond Storage to accelerate the roll-out of behind-the-meter BESS across the UK and Ireland. The fund committed €11.25m in this next stage, part of a combined new investment of €12.5m in GridBeyond Storage.

> Over its first three years, GridBeyond achieved an average annual revenue growth of 70%, a pace it continued into 2024

21 Piclo

Piclo is overhauling energy grids with its software solutions, making them smarter, more flexible, and sustainable. Operating across the UK, Ireland, Italy, Portugal, Australia, and the US, Piclo is dedicated to advancing the global shift towards a decarbonised energy grid.

Founded
2013

Specialism
Flexibility trading platform

Headquarters
UK

Website
piclo.energy

Piclo

Flexing its muscles
Piclo is a UK-based energy technology company focused on enabling smarter, more flexible electricity grids. In 2023, it launched its flagship platform Piclo Max – an 'all-in-one' digital marketplace that simplifies the buying and selling of energy flexibility by providing a single access point for both providers and purchasers.

The software essentially enables an energy marketplace, allowing flexibility providers – such as electric vehicle and battery owners – to log in and access multiple electricity markets, while flexibility purchasers (including system operators and utilities) can log in and buy from this broader range of Distributed Energy Resources (DERs). By providing access to actionable data on Piclo Max, the company aims to improve visibility of the flexibility market.

Powering assets
To date, Piclo has 350,000 registered flexible assets representing over 26GW of flex capacity and operates across several markets including Ireland, Italy, Portugal, Australia, Asia Pacific, the US and the UK – where it supports all six distribution system operators: UK Power; SP Energy; Electricity North West; Northern Powergrid; Scottish & Southern Electricity; and National Grid Electricity Distribution (NGED).

Piclo facilitated the trade of over 90MW of local flexibility in early 2024 via a strategic partnership with NGED, which streamlined access for Flexibility Service Providers (FSPs) into local distribution flexibility markets.This meant more than 60,000 assets landed on Piclo, from upwards of 150 sellers, who could then directly access NGED's Low Voltage Flexibility Opportunities.

Later in the year, the collaboration achieved another milestone, as Piclo successfully delivered its first flexible electricity trades. James Johnston, CEO of Piclo, said the achievement "showcases how we can work with grid companies to help them respond more quickly to changes in electricity demand and supply, reduce costs, and improve grid stability".

Market execution
Having launched in the UK, Piclo has extended operations into the US, Europe, Australia, and Asia Pacific.

Market innovation
Piclo has trialled the provision of actionable data to improve visibility of the flexibility market.

Technology capability
Piclo Max provides a single access point, simplifying access to multiple electricity markets.

Technology impact
Piclo's tech has a critical role in modernising electricity grids.

Piclo

Investment and expansion
Piclo's growing influence in the global energy transition has attracted strategic investment from major industry players. In 2023, Toshiba Energy Systems & Solutions Corporation invested in Piclo, as a way "to gain an understanding of the status of related businesses and the institutional design in Europe and the United States based on Piclo's business and ecosystem".

Meanwhile, in August 2024, EDP Ventures, the venture capital arm of EDP, came on board to help fuel Piclo's expansion into the US and Asia Pacific. "Since launching in 2018, we have helped network operators around the world harness flexibility as an essential solution to modernise the grid," said Johnston.

Californian revolution
Building on momentum from previous investments, Piclo kicked off 2025 by expanding across the Atlantic, launching its platform in California. The first to plug in was Sunrun, a frontrunner in residential solar and storage, with more partners expected to join the charge soon.

Chris Rauscher, head of grid services and Virtual Power Plants at Sunrun, said: "By listing our load-modifying capacity on Piclo's innovative platform, we're empowering utilities and community choice aggregators (CCAs) to access the resources they need to meet their Resource Adequacy requirements, while unlocking additional value for Sunrun and our customers."

> To date, Piclo has 350,000 registered flexible assets representing over 26GW of flex capacity and operates across several markets

Matthew Billson

Director of Market Strategy, Piclo Energy

piclo.energy

LinkedIn

What's your view on the European energy market right now?
We're seeing a fundamental shift across the European energy landscape. Electrification and decentralisation are colliding with physical grid limitations – creating complexity, fragmentation, and inefficiencies. Demand is rising but, in many places, the grid simply can't keep up. That's why we see flexibility as key: shifting demand and generation more dynamically, rather than relying just on traditional infrastructure build-outs.

On top of that, the markets themselves aren't working as well as they should. Even in the UK, there are 20 to 30 separate electricity market subsets, each with different services, rules, and buyers – from local distribution networks, to the national system operator and government-led programmes. That level of fragmentation is a barrier for both buyers and sellers, limiting liquidity and participation.

How is Piclo responding to these dynamics?
We're a digital-first software company. Over half of our team are software engineers, and our platform is API-driven to support high levels of automation and integration. That's critical in a world where millions of distributed assets – from EV chargers to heat pumps – need to connect to increasingly complex markets.

Our platform originally supported local flexibility markets for distribution networks but we've evolved to give asset owners visibility across all local, regional, and national relevant markets and enable them to bid in more easily.

> Fragmentation is a barrier for both buyers and sellers, limiting liquidity and participation

Our goal is to simplify access, reduce friction, and unlock system-wide flexibility.

What cultural or ecosystem shifts do you think are still needed?
Cultural change is essential – especially within large incumbents like utilities, grid operators, and retailers, many of whom are still relatively digitally immature. The UK government wants to increase flexibility fivefold by 2030, and that simply won't happen without embracing digital solutions.

We need to move away from each company building its own costly, bespoke IT system and shift towards a federated model where systems interact via APIs. That also means embracing a new mindset: one where stability doesn't come from a single large power station on the end of a phone line, but from thousands of small, responsive assets working in unison.

What should policymakers focus on to support this transition?
Policy needs to go beyond general support for decentralised energy and actively encourage integration, interoperability, and ecosystem collaboration. That includes setting clear data standards, mandating open data, and resisting the instinct to centralise everything.

We see the UK leading on digital energy thinking – arguably ahead of many European counterparts – but across Europe, there's a risk of over-engineering centralised data models that will, ultimately, slow things down. A federated, decentralised approach is more resilient, and better suited to the complexity we're facing.

Who are your 'ones to watch' in the clean energy space?
Axle and ev.energy are two standout examples. Both are digitally native, software-led, and asset-light. They help asset owners access markets through integration, rather than ownership – which makes them great partners for platforms like Piclo.

Others like Modo are also doing interesting work in data analysis, helping make sense of the growing complexity in energy asset management.

What's your long-term vision for Piclo and the digital energy transition?
We want to enable a pan-market platform where asset owners – or aggregators like Virtual Power Plants – can access multiple markets across Europe, the US, and Australia.

> We see the UK leading on digital energy thinking – arguably ahead of many European counterparts

The idea of a "universal megawatt" is key: a unit of energy that can flow to wherever it's needed, across services and borders, without unnecessary barriers.

Today's buyer-led markets are inefficient. We see a future where sellers can simply say, "I have flexibility to offer – who wants it?" and the platform does the rest. That shift will unlock new value, improve liquidity, and drive decarbonisation faster.

Is AI part of that vision?
Definitely. We've set up an internal AI team to explore how AI can enhance both our platform and our operations. We're taking an agile, iterative approach – experimenting in short sprints and evolving as we go. We see AI as another key capability in our toolbox, helping us scale and optimise in an increasingly complex system.

22 Tado°

Tado° is a leading European provider of intelligent home energy management solutions, helping households cut energy costs by an average of 22% through a single, easy-to-use platform. Tado°'s innovative approach is pivotal in creating more sustainable, low-carbon homes across Europe.

Founded
2011

Specialism
Smart home energy management solutions

Headquarters
Germany

Website
tado.com

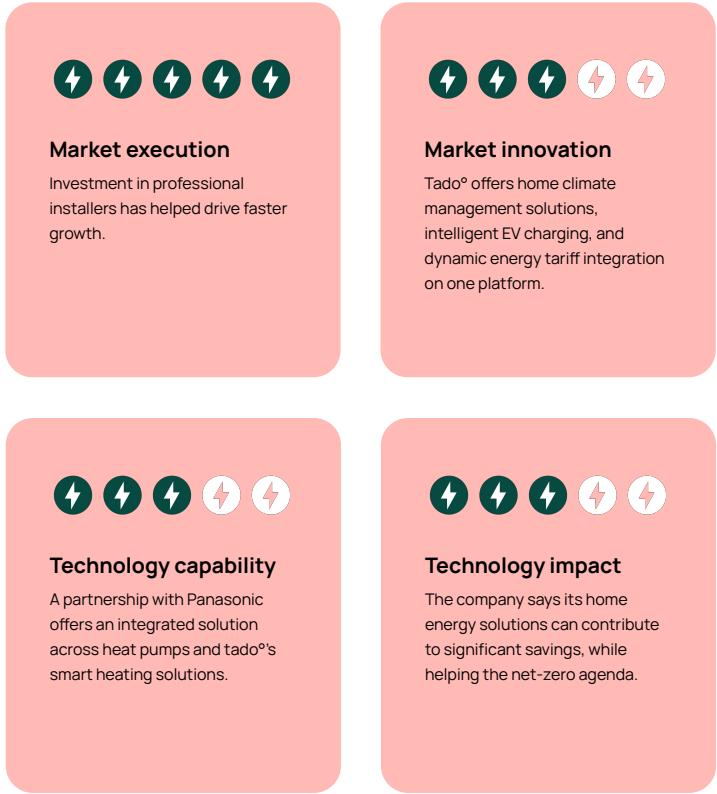
Tado°

Centralised platform
Tado° describes itself as "a cross-manufacturer solution", meaning its platform is compatible with almost all heating systems. Following its acquisition of aWATTar in 2022, tado°'s hardware, software, and services are equipped to deliver home climate management and heat pump control, intelligent EV charging, and dynamic energy tariff integration on one platform.

In 2023, tado° secured €55m in funding, which it has been using to scale up its business. Investors such as S2G Ventures weighed in after the company doubled its smart thermostats and service sales in 2022. At the time of the investment, tado° had reached a landmark of 3 million smart thermostats sold. That figure was up to around 4 million by the end of 2024. Among key growth-oriented initiatives, the company started working with real-estate firms managing high volumes of rental homes.

In October 2024, tado° appointed Lukas Zyla as chief financial officer and managing director, with a brief to expand into new areas and markets.

Generation X
In May 2024, tado° announced a new range of smart home energy devices under the umbrella of tado° X. In September 2024, it followed up by introducing the Wireless Smart Thermostat X and the Heat Pump Optimizer X. It also announced that the entire tado° X range would be in the UK before the end of the year. Tado° co-founder Christian Deilmann said: "The Wireless Smart Thermostat X's ease of use and installation makes our energy management solutions accessible to millions more homes across Europe."



Tado°

Also, in September, tado° joined forces with Panasonic's HVAC division to offer their first integrated offering. The two companies combined Panasonic AQUAREA heat pumps with tado° X smart heating products to offer room control and energy management services in one integrated solution. Building on that partnership, Panasonic has just taken a €30m equity investment in tado°, including taking a seat on its board, with the aim of "accelerating innovation in energy efficient solutions".

Creative installation

In Q1 2024, tado° expanded its professional programme for installers across Europe after a successful first year. Initially, tado° offered installers a basic rewards scheme, but it launched the professional programme in 2023, after installers asked for expert training, dedicated phone support, and extended warranties in addition to rewards. The number of installers grew by 600% in 2023, and the company then expanded across Germany, the Netherlands, Italy, France, Spain, and the UK.

> Panasonic has just taken a €30m equity investment in tado°, including a seat on its board, with the aim of "accelerating innovation in energy efficient solutions"

23 Zolar

Zolar is driving the adoption of residential solar energy by digitising the planning, financing, and installation of solar solutions via its digital platform. By empowering local solar panel tradespeople with its software-as-a-service platform, Zolar enhances their competitiveness.

Founded
2016

Specialism
Solar marketplace and financing

Headquarters
Germany

Website
zolar.de

Zolar

Flexible financing
Climate tech startup Zolar was initially founded to give homeowners and regional tradespeople access to solar solutions via a simple online platform. In a recent development, it said it will focus its business: "entirely on selling its digital software and financing solutions to local PV trades". As such, new business with private customers will end in the coming months. However, all systems sold by then will be completed as planned and existing customers will continue to be looked after.

More than 80% of all PV systems in Germany are sold and installed by local tradespeople, says Zolar, with the Netherlands and Belgium showing a similar proportion. According to CEO Jamie Heywood, all the signs point to the market remaining fragmented and led by small to medium-sized businesses. "We are convinced that the future of Zolar does not lie in the end-customer business, but in the area in which we have become specialists over the past seven years: the digitisation of PV systems from planning to installation to operation," he said.

Zolar's overarching goal is to help people benefit from cheap, self-generated green energy. By 2030, it wants to supply more than 10 million homes in Europe. It prides itself on providing a fully integrated service, managing every aspect from planning to installation, ensuring customers have a seamless experience.

SaaS solution
In parallel with its shift in business model, Zolar also announced that it will market its platform in the future as a Europe-wide software-as-a-service solution – something that it expects to be of interest to local tradespeople. This initiative is designed to enable smaller, local businesses to compete effectively with larger national providers by leveraging digital tools that streamline their workflows and enhance operational capabilities.

Market execution
Loan commitments from BNP Paribas have enabled Zolar to unlock flexible financing options.

Market innovation
Zolar Heat, an intelligent heat pump control system, enables customers with internet-enabled heat pumps from certain brands to integrate these into the app.

Technology capability
Zolar offers an all-in-one installation to financing proposition via its digital platform.

Technology impact
The launch of an SaaS proposition will help accelerate European rollout.

Zolar

Loan commitments
Zolar secured €100m in funding from BNP Paribas in April 2024 to launch Zolar Easypay, a flexible financing solution for homeowners. This initiative allows customers to choose between a one-time payment or manageable monthly installments, making solar energy systems more accessible, and affordable.

Promotional partnership with Kia
Zolar and Kia Germany formed a sales promotion partnership in September 2024, offering Kia customers a €500 discount on Zolar's photovoltaic systems for a limited period. At the same time, Zolar customers who ordered an EV6, EV6 GT or EV9 from the Kia Flex subscription service, received a 10% discount on various payment offers. "The combination of photovoltaics and e-mobility makes efficient and sustainable use of renewable energy possible," said Zolar managing director, Dr Sarah Müller. "The self-generated solar power can be used directly for charging the vehicle."

Networked solar system
Also in late 2024, Zolar introduced an intelligent heat pump control system called Zolar Heat. As part of its strategy to be a leader in networked solar systems, this means the company can now integrate heat pumps into its Zolar Compass app. Homeowners with internet-enabled heat pumps from tecalor, Stiebel Eltron and Vaillant were able to integrate their devices into the app, with other brands to follow.

At the time, Dr Müller said: "25% of Zolar customers already own a heat pump. Linking your solar system and heat pump, and controlling them in a solar-optimised way not only reduces electricity costs, but also makes the system more efficient."

> Over 80% of PV systems in Germany are sold and installed by local tradespeople…with the Netherlands and Belgium showing a similar proportion

24 Flexitricity

Flexitricity's AI-powered demand-response platform is making waves in the UK's energy system. Aggregating flexible assets into a Virtual Power Plant (VPP), it helps businesses, battery sites, and EV chargers to balance the grid and earn revenue.

Founded
2004

Specialism
Demand response VPP platform

Headquarters
UK

Website
flexitricity.com

Flexitricity

Gigawatt milestone

Edinburgh-based Flexitricity is a pioneer in the UK's demand-response market, having been one of the first businesses to provide this capability. The company creates a Virtual Power Plant (VPP) by aggregating its customers' flexible energy capacity, responding to grid signals as a unified large power source.

In July 2024, the company underlined its scale by announcing that its flexible VPP asset portfolio had grown to exceed 1GW. Comprising company-owned and customer sites, this meant its capacity was greater than that of "the UK's latest large gas-fired power station". The company's VPP portfolio has almost doubled in the past three years, making it a key player in the move towards a net-zero UK energy infrastructure.

Flexitricity says its VPP delivers power capacity at scale from a diverse portfolio of flexible assets, allowing the electricity system to take on more renewables. The firm deploys advanced AI and machine learning derived digital expertise, which it explains is critical to managing a net-zero power system well.

National Grid launched a new Balancing Reserve (BR) service in Q1 2024, with Flexitricity among the first 10 companies to enter the auction.

Diversified energy sources

In July 2024, Flexitricity formed a partnership with ev.energy to use EV charging flexibility in National Grid ESO's (NGESO) Short Term Operating Reserve (STOR) service to help balance the UK grid. The partnership sees 500 ev.energy users in Flexitricity's Virtual Power Plant participate in the STOR service. NGESO calls upon the STOR either when generation capacity is offline, or at times when demand is greater than expected.

Market execution

Flexitricity's 1GW milestone underlines the impact of its business model.

Market innovation

A partnership with ev.energy has diversified the sources contributing to the company's Virtual Power Plant.

Technology capability

Flexitricity can act as a partner to ensure energy transfer optimisation.

Technology impact

Flexitricity can call on the market muscle of its international parent, Quinbrook.

Flexitricity

When NGESO's request comes in, Flexitricity will ask the 500 ev.energy users to temporarily reduce their charging. Ev.energy's smart charging platform responds to the request, while also ensuring that drivers have enough charge in their cars when they need it.

Optimisation expertise
At the start of 2025, Flexitricity became a partner in Axpo Group's power purchase agreement with British Solar Renewables (BSR). The primary 10-year agreement will see Axpo buy clean energy from BSR's site at Whaddon Farm, Wiltshire, home to a co-located, utility-scale 16MWh Battery Energy Storage System (BESS) alongside 25MW of solar PV. For optimisation of the BESS, BSR has contracted Flexitricity to leverage a bespoke trading arrangement between Axpo and Flexitricity. This partnership will ensure no value is lost between the solar offtake and dynamic optimisation of the BESS. Flexitricity CEO, Andy Lowe, said the collaboration would contribute to "a cleaner, more sustainable energy system and support the National Energy System Operator's Clean Power 2030 ambitions".

In July 2024, Flexitricity signed an optimisation agreement with independent power producer Low Carbon for a site co-located with existing solar farms. The agreement involves Flexitricity optimising the 20MW Fern Brook BESS site.

International ownership
In 2020, Quinbrook Infrastructure Partners acquired Flexitricity from Swiss multinational Alpiq AG. Quinbrook, which develops and operates lower carbon and renewable energy infrastructure in the US, the UK, and Australia, has invested $8bn of equity in energy infrastructure assets since the early 1990s, representing a total enterprise value of $28.7bn and 19.5GW of power supply capacity.

> Flextricity's VPP portfolio has almost doubled in the past three years, making it a key player in the move towards a net-zero UK energy infrastructure

25 CyberGrid

As the energy landscape shifts towards decentralisation, CyberGrid is all about flexibility with its cloud-based Virtual Power Plant solutions. By integrating renewables, enhancing resilience, and unlocking new revenue, CyberGrid helps utilities, retailers, and smart cities maximise energy efficiency.

Founded
2010

Specialism
DER flexibility platform

Headquarters
Austria

Website
cyber-grid.com

CyberGrid

Market intelligence
The renewable energy sector is volatile, characterised by fluctuating supply and demand, seasonal variations, and the impact of weather on energy generation. As this sector grows, market intelligence becomes increasingly vital for navigating its complexities. This is where CyberGrid's Distributed Energy Resource (DER) flexibility platform comes in. With the right insights, says CyberGrid, organisations can "better understand the dynamics of renewable energy markets, anticipate changes, and make more informed decisions".

Megawatt milestone
In December 2024, CyberGrid achieved a new milestone when it reached 100MW of flexibility aggregated with EVN's FlexRegler in Austria. By connecting flexibility assets to the balancing services markets, the company said it is "empowering EVN's customers, enhancing flexibility management and increasing its revenues".

FlexRegler serves as a communication hub, connecting with Austrian Power Grid. It manages the trading API, facilitates AutoMOT for mFRR activation and real-time data exchange, and oversees the communication and control of third-party assets.

SaaS solution
FlexRegler is powered by CyberGrid's CyberNoc, a Software-as-a-Service (SaaS) solution, which enables flexibility monetisation on multiple markets, offering real-time meter data management, forecasting, fully automated trading, and financial reporting, among other features. The first step in CyberNoc's process involves analysing the flexibility available from technologies such as PV installations, battery storage systems, and electric vehicles, based on the most up-to-the-minute data. This analysis is used to calculate a forecast, used for fully automated trading on the various energy and power markets, such as European operating reserve platform PICASSO.

Market execution
CyberGrid uses market intelligence to gain insights into energy markets.

Market innovation
Innovative SaaS solution CyberNoc won in the Smart Integrated Energy category at the Smarter E Award 2024.

Technology capability
CyberNoc covers the whole value chain from generation to storage, transmission, and end-consumption, right through to bidding.

Technology impact
CyberGrid reached 100MW of flexibility aggregated with EVN's FlexRegler in Austria.

CyberGrid

As a SaaS solution, CyberNoc makes it easy to set parameters for managing extensive energy portfolios. The platform's software adds scalability and intelligence, seamlessly integrating and monetising distributed energy resources to ensure a stable and clean grid. Acting as a comprehensive control hub, it operates in real time, managing everything from generation and storage to transmission, consumption, and market bidding. Designed for flexibility, it serves network operators, energy retailers, and smart city initiatives.

Award-winning tech
The CyberNoc platform won in the Smart Integrated Energy category at the Smarter E Award 2024. This category aims to demonstrate the energy industry's increased use of automated solutions to market renewable energy sources and leverage battery storage systems.

BESS ambitions
CyberGrid is supporting EVN Naturkraft's Dorfmühle hydropower plant, which is now equipped with a co-located Battery Energy Storage System (BESS). The company says battery storage will play a crucial role in meeting climate targets – and it has offered guidance to companies investing in this arena.

Key factors to consider include evaluating potential profits and cost savings, determining the BESS's availability for balancing market activities, and assessing overall profitability based on these operational hours.

> Designed for flexibility, CyberNoc serves network operators, energy retailers, and smart city initiatives

26 Emsys

Emsys delivers highly precise and customisable wind and solar power forecasts helping energy providers optimise renewables, worldwide. Its advanced forecasting and Virtual Power Plant (VPP) solutions, offered as SaaS, enhance grid stability, market integration, and profitability.

Founded
2010

Specialism
Power forecasting

Headquarters
Germany

Website
emsys-renewables.com

Emsys

Three-pronged strategy
Emsys' expertise is trusted worldwide, often in high-stakes scenarios, where precision is critical. In January 2024, its Energy and Meteo Systems division provided early weather analysis in the US, alerting customers to an impending extreme cold snap. With temperatures plummeting to -30°C – beyond the operating limits of many wind turbines – this foresight helped operators prepare for disruptions, safeguarding grid stability.

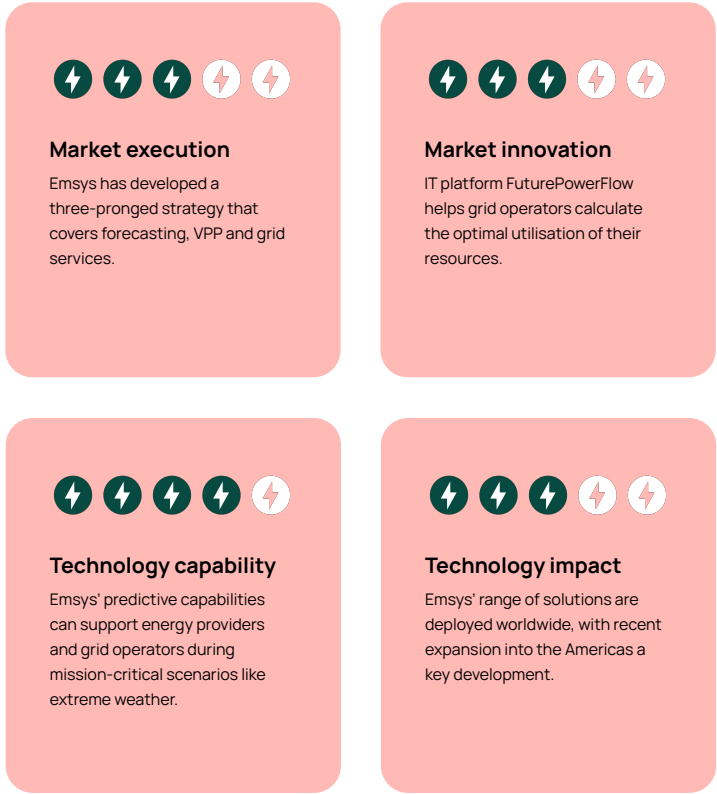
Over the past two decades, Emsys has expanded into three key divisions, each dedicated to accelerating the transition to renewable energy.

The first, Energy and Meteo Systems, specialises in advanced wind and solar power forecasting and consultancy. Predicting renewable energy output and estimating real-time solar supply helps streamline the integration of renewables into power grids and energy markets. Grid operators and power traders, globally, rely on Emsys' forecasting solutions.

Next up is Emsys VPP, which manages all activities relating to the company's Virtual Power Plant solution. Emsys' VPP technology is designed to allow energy suppliers and direct marketers to monitor, control and trade aggregated power production.

Finally, there is Emsys Grid Services. Through its IT platform FuturePowerFlow, EGS provides grid operators with a digital solution that processes grid data, flexibilities, generation and load forecasts to calculate the optimal utilisation of grid resources. In doing so, it enables grid operators to detect problems and avoid shutdowns.

Expanded partnership
In October 2024, Emsys signed an agreement to extend its collaboration with Ignitis, Lithuania's largest integrated power utility. Under the renewed partnership, Emsys VPP will continue to provide its Virtual Power Plant technology as a Software-as-a-Service (SaaS) solution to Ignitis.



Emsys

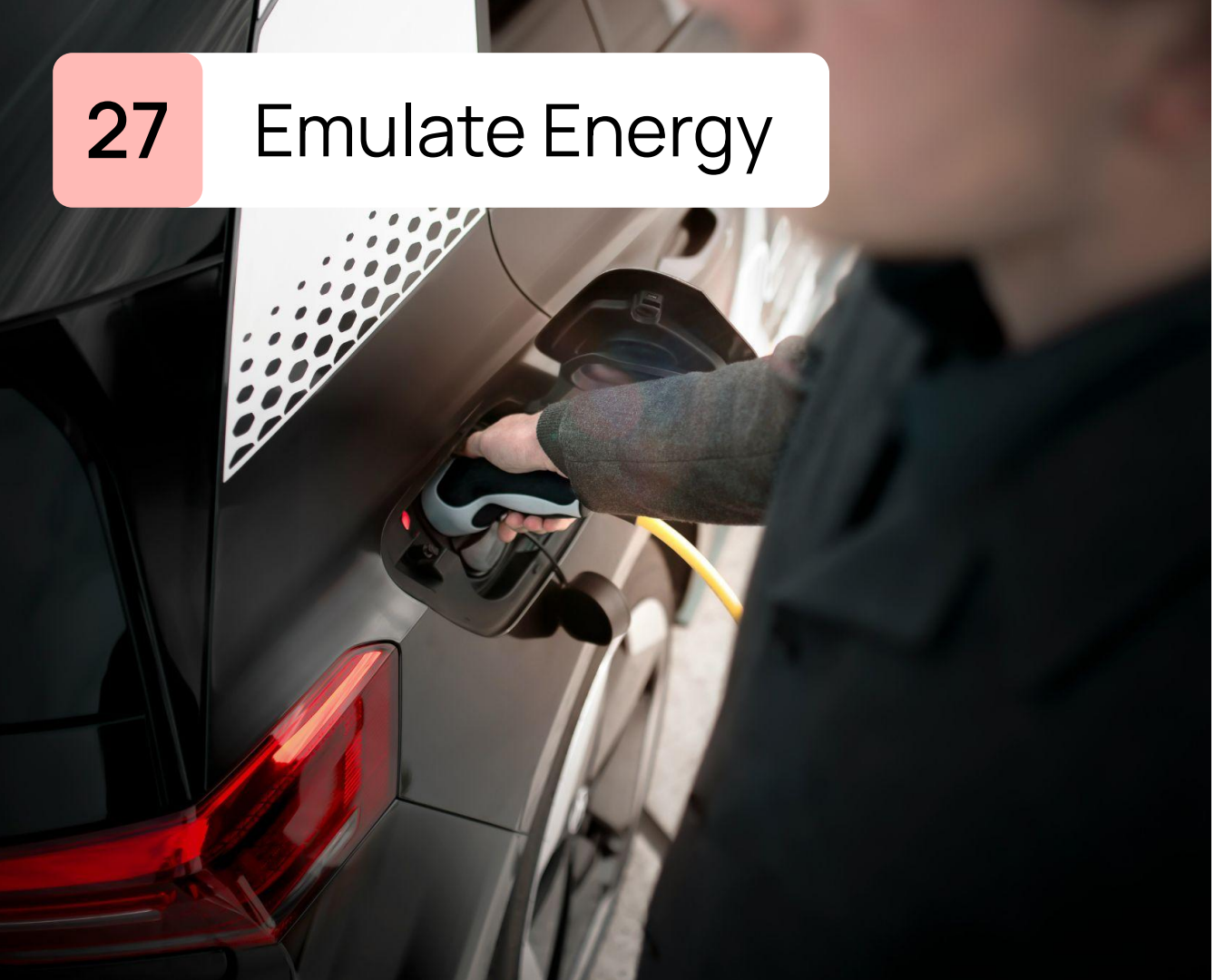
In addition, sister division, Energy and Meteo Systems, will expand its power forecasting services. From now on, it will support Ignitis in calculating self-generation from its customers' rooftop photovoltaic installations "to better integrate solar feed-in from these prosumers into the energy market".

Emsys has been working with Ignitis since 2022, providing real-time monitoring, forecasting and remote control of its renewable energy portfolio for flexibility trading. Under the new arrangement, the Lithuanian firm plans to add up to around 100 solar and wind power plants to the Virtual Power Plant in the near future. Dovilė Morkvėnaitė, head of the electricity wholesale department at Ignitis, said Emsys' solutions "have helped to produce more accurate forecasts, reducing Ignitis' imbalance costs".

Panama's power grid

Euroclima recently commissioned Emsys' Energy and Meteo Systems to help enhance Panama's solar and wind power forecasting by helping to integrate weather-dependent renewable energy into the country's power grid. Panama's power system already has a significant share of wind and solar, highlighting the need for accurate forecasts in this strategically important location.

> Emsys provided early weather analysis in the US, alerting customers to an impending extreme cold snap, safeguarding grid stability



27 Emulate Energy

Swedish startup Emulate Energy is transforming energy management with its AI-driven virtual battery network which turns EVs, heat pumps, and appliances into hardware-free energy networks. Its software stabilises grids by balancing real-time demand, boosting renewable usage, and reducing costs.

Founded
2020

Specialism
Energy distribution and demand response

Headquarters
Sweden

Website
emulate.energy

Emulate Energy

AI-powered virtual battery

Originating from MIT research, Emulate's platform pulls in energy usage data as it happens, using AI to juggle grid supply and demand across connected devices. It ties together EVs, heat pumps, and smart appliances into a virtual battery network, adapting swiftly to make use of power and trim waste. Unlike traditional battery storage, Emulate's software approach helps ease grid pressure without needing extra hardware, providing an efficient digital fix for energy management and helping businesses hit their green goals. It spots upcoming demand surges and shifts usage to ease grid strain, keeping things stable without pricey upgrades.

The platform's ability to adapt in real time is particularly valuable in areas with a high share of renewable energy, where inconsistent wind and solar output can disrupt grid stability. By continuously fine-tuning energy consumption, Emulate allows utilities to maximise the use of clean power, minimise dependence on fossil-fuel backup sources, and support their emissions-reduction goals.

Smarter EV charging

In 2024, Emulate partnered with Smartcar to weave EV charging data into its AI-driven setup. It allows energy providers to use EVs as an energy resource, while streamlining the EV charging process for drivers by responding to their charging schedules based on grid needs. This helps to lighten peak loads, trim expenses, and lean on greener power. Using Smartcar's vehicle data, such as battery levels, Emulate fine-tunes charging for each car, keeping grids steady and avoiding disruptions. This shows how digital tools can tackle real energy hurdles, while pushing for sustainability. Smartcar CEO and co-founder, Sahas Katta, said the partnership would empower drivers to "reduce their energy costs, support grid stability, and contribute to a more sustainable future".

Market execution

Emulate Energy is active in Sweden and the US, with growth continuing steadily.

Market innovation

Emulate's virtual battery eases grid pressure, providing a digital fix for energy management and helping businesses hit their green goals

Technology capability

AI and automation are the firm's key strengths and a Smartcar partnership adds EV integration – with large-scale grid rollout still evolving.

Technology impact

As seen with its work with Skellefteå Kraft and Smartcar, Emulate turns solar panels, smart appliances and EVs into grid assets.

Emulate Energy

By integrating EV flexibility into energy markets, Emulate is enabling a future where electric vehicles act as Virtual Power Plants, providing stored energy back to the grid when needed.

Client success story
Emulate has set up shop in Sweden and the US, putting its AI tech to work in different grid setups. In Sweden, Emulate has been described as a major step forward in recent endorsements from leading energy providers Modity, Skellefteå Kraft, Öresundskraft, and Bixia.

By leveraging Emulate's platform, Skellefteå Kraft can aggregate and control resources ranging from EV chargers and solar panels to large batteries. This capability has unlocked new revenue streams and supported the integration of renewables into the energy grid. Magnus Brodin of Skellefteå Kraft commented: "Emulate's platform offers us a strategic fit, providing flexibility and control that strengthens our position in the renewable energy market."

In 2025, Emulate and Raymond Solar announced a partnership that will allow residential customers to generate cash from their household's energy use. By using Raymond's powerful batteries in its platform, Emulate is helping homeowners to tap into local flexibility markets, both to make money and to stabilise the grid.

"Emulate has developed technology that makes it easy to connect and optimise energy use in the home," explained Emulate CCO, Johanna Zechel. "By collaborating with Raymond, we can offer even more powerful solutions and give more households the opportunity to participate in support service markets."

> Emulate Energy's software approach helps ease grid pressure without needing extra hardware, providing an efficient digital fix for energy management

Shwan Lamei

Co-founder and CEO, Emulate Energy

emulate.energy

LinkedIn

What's your assessment of the current European energy market dynamics?
There are two megatrends happening concurrently. One is electrification, mainly of mobility and heating. And the second is renewable integration. I think Europe has come further than the US markets. Countries like Sweden, Finland, and Norway have probably come the furthest. Denmark is getting there. In Germany, interest is starting to peak. The UK is quite advanced, as well.

The energy industry is very risk-averse. I mean, nobody ever thanked their utilities for giving them more electricity or better electricity, so it's all about minimising risk. Necessity is really the mother of innovation. When there are really high electrification rates, ideally coupled with a high renewable integration rate and market volatility, new entrants, like Tibber or Octopus Energy, come in and shake up the competitive landscape. That's when things start happening. If you look at the markets with high electrification rates, like Sweden and Norway, typically, the government subsidised EVs heavily. It's clearly a driver. I'm not an expert, but I would say where government intervention has happened, it's triggered pace in the energy sector.

What's your strategic approach to leveraging digital technologies and data within your organisation?
We work with adaptive controls, that's a form of AI that's been out there for many years. So, we develop a lot of AI in our adaptive controls. One strategic approach of ours is that in any "build versus buy" situation, we buy, unless it's core.

> Where government intervention has happened, it's triggered pace in the sector

We're a small company: we're already stretched because there's so much that needs to be done, so we try to partner up with other startups and companies as much as possible. We believe in an ecosystem; I don't think there's going to be one company that's going to solve all these challenges. If it's not core to us, we want to partner up.

What key initiatives do you think are needed to strengthen the industry's digital ecosystem?
The energy industry is probably undergoing the same transformation that the telecoms industry went through. We are going to need outside help to come in and bring best practice from other industries into the energy sector – and quickly. Things grow organically in the energy industry, but it's slow and very segmented. And if you need disruption, you need bold moves and it's probably better to get some diverse perspective and skills from outside.

> Things grow organically in the energy industry, but it's slow and very segmented

What about policy recommendations for government and EU stakeholders?
As I mentioned before, I think you need some positive interventions for the energy transition to get kick-started. As an example, I think we've seen that with Tesla. It disrupted and was very much backed and supported by government intervention.

What about emerging players and interesting innovations to watch in your market?
There are a lot of interesting startups out there doing some really cool things. I think rebase is doing some cool things, Flower, in Sweden, as well. And there is another company called Fever, also in Sweden, doing interesting stuff around Virtual Power Plants. In the UK, you have Axle that I've also heard about. In Germany, it's a very vibrant startup space in general.

What's your personal vision for advancing the digital energy transition?
What the utilities need is a drop in solutions. There's a load of municipal utilities, some big ones as well, and they need simplicity of deployment. They're risk-averse with a long sales cycle. If you can expedite things and make it as easy as possible for them to adopt the technology, then the faster it's going to go. So, simplicity is probably the key.

28 Enmacc

Germany-based enmacc is Europe's leading platform for the trading of energy and environmental commodities, transforming how electricity, gas, and green energy certificates are traded. Its platform connects buyers and sellers efficiently, boosting transparency and unlocking new market opportunities.

Founded
2016

Specialism
Digital OTC energy trading

Headquarters
Germany

Website
enmacc.com

Enmacc

Driving efficiency
Enmacc is helping Europe's energy markets transition with a cloud-based platform that lets traders seal deals "faster, more widely, and with greater control", according to the firm. Its tools – entender for quick procurement, enmarket for one-click trading, and engreen for green energy products – eliminate slow manual steps. The company says entender is Europe's largest independent Request for Quote (RFQ) platform for energy products across the continent. By automating tasks like confirmation matching and settlement processes, enmacc keeps trades flowing, cuts errors, and ensures reliability for users across the sector.

In 2025, enmacc launched digital trading of standardised solar and wind Power Purchase Agreements (PPAs) in collaboration with energy trader FlexPower, to give clients a faster way to hedge renewables and manage price risk.

As well as boosting speed and accuracy, enmacc's platform increases market liquidity, allowing traders to reach more counterparties and discover better prices. This expanded network enhances competition, benefiting both buyers and sellers by ensuring fairer pricing and greater transparency. As energy markets face growing volatility, enmacc's automation helps companies manage risk effectively, reducing reliance on traditional, slower trading methods.

A digital-first approach
Enmacc's platform digitises the entire OTC trading process, replacing manual workflows with a real-time digital marketplace. Live market pricing enables traders to react instantly to shifts, such as a gas price drop after supply changes. Automated bid and contract management reduces paperwork, while market analytics provide insights into trends that help traders optimise decisions. Used by major firms like Uniper and SEFE Energy (formerly WINGAS), as well as smaller utilities, enmacc simplifies trading and makes energy markets more accessible and efficient.

Market execution
Enmacc's platform connects over 2,000 active European traders and is still expanding.

Market innovation
The firm's real-time, streamlined digital OTC trading boosts efficiency.

Technology capability
Enmacc's trio of 'en' tools – entender, enmarket and engreen – enable real-time trading of power, gas, and green energy products across Europe.

Technology impact
Enmacc has now rolled out standardised PPA trading for solar and wind, helping companies make renewable energy deals more efficiently.

Enmacc

The platform also supports regulatory compliance by maintaining detailed trade records, helping firms meet reporting requirements easily. As regulation of energy and carbon markets increases, enmacc provides audit trails and compliance tools, ensuring users stay ahead of changing policies.

Expanding access to carbon and green markets
In 2023, enmacc joined the €750bn EU Emissions Trading System (ETS), launching OTC trading for EU Emissions Allowances (EUAs) to improve carbon market access. This allows companies to trade EUAs, the allowance units within the ETS, helping businesses offset emissions, while boosting liquidity in the market.

Enmacc also supports greener energy use by enabling Guarantees of Origin (GoO) trades, allowing companies to verify renewable purchases, such as solar power for office buildings. "At enmacc, we recognise the pivotal role of markets in driving a successful energy transition," the company notes, emphasising its sustainability focus. Enmacc's digital approach makes eco-friendly markets more accessible, helping businesses meet environmental goals.

A 2024 partnership with Swiss-based Fidectus, an automated post-trading platform, speeds up green energy deals by reducing administration and cutting costs, strengthening enmacc's role in sustainable markets. "This is a big step towards our vision of end-to-end digital OTC trading," explained enmacc CEO, Jens Hartmann. "We continue to reduce costs and risks along the trading lifecycle which will create more liquidity in the energy markets. The Fidectus team has developed an unmatched solution tackling today's challenges in the OTC back office."

> As regulation of energy and carbon markets increases, enmacc provides audit trails and compliance tools, ensuring users stay ahead of changes

Dr Florian Endter

Managing Director Regulatory & Finance, enmacc

enmacc

LinkedIn

What is your view on the European energy markets right now?
They work just fine. Innovation is driven by private investments and not by governments. Markets respond to regulation and interventions in ways that are often unpredictable. When governments attempt to force a specific market outcome, they can inadvertently create distortions, or even destroy natural pricing mechanisms.

Looking at a broader timeframe, electrification will be the dominant trend over the next five years. Gas will remain relevant but will gradually decline in importance, giving way to a more electricity-driven energy landscape.

How do grid structures and decentralised production models impact the market?
From a trading perspective, decentralised production and micro-generation are not yet highly relevant. In Germany, we operate under the principle of a single national grid – "one copper plate" – meaning that energy can flow freely, regardless of where it is generated or consumed.

However, this system is being tested. Currently, cheaper electricity from the north is effectively subsidising higher consumption costs in the south. If this system evolves towards regionalised pricing, it could introduce new trading dynamics.

That being said, as long as the market remains liquid and functional, traders will adapt. Any new pricing structures will, ultimately, be reflected in the way trading platforms operate.

> Innovation is driven by private investments and not by governments

How is enmacc responding to these trends?
At enmacc, we focus on identifying and fulfilling market needs. Our trading platform goes beyond traditional commodities like gas, power, and guarantees of origin (GOOs) – we also trade EU Emissions Allowances (EUAs) and weather derivatives.

Weather risk management is becoming increasingly important. Since renewable energy production is highly weather-dependent, market participants need hedging mechanisms to protect against fluctuations. We're actively expanding our offerings in this space, anticipating a world where electricity is increasingly generated from intermittent renewable sources.

What more can the industry do to future-proof the energy ecosystem?
The energy industry needs to align investment incentives with market realities. When it becomes profitable to invest in renewables or storage, companies will do so without the need for government intervention.

One important development is the rise of Power Purchase Agreements (PPAs). While these contracts offer long-term price stability for buyers like Google or Amazon, they can also be seen as a sign of market inefficiency. Ideally, renewable energy should be traded in yearly market tranches, ensuring better liquidity and price discovery.

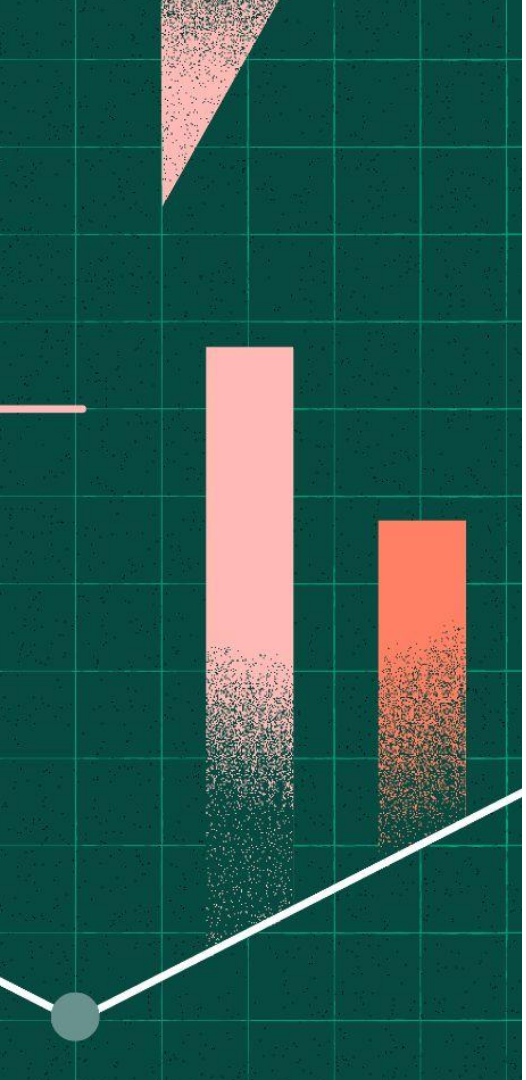
To address this issue, enmacc is working on making wholesale PPAs tradable, which would introduce more flexibility and efficiency into the market.

What role should the government and the EU play in the energy transition?
The most crucial role of governments is to preserve market integrity. The market must be allowed to function with minimal intervention, as every government action creates a ripple effect that distorts pricing signals.

The challenge is to create incentives that drive investment without distorting price mechanisms.

> The energy industry needs to align investment incentives with market realities

Who are the 'ones to watch' in the European energy market?
In Europe's evolving energy market, the ones to watch are those driving innovation and expanding the participant base. On the innovation side, I see grid-aware intraday optimisation, and AI-driven forecasting and risk tools. Areas that stand out include digital PPA and hedging platforms. Startups are leading much of this progress, offering agile solutions that challenge legacy systems. At the same time, new entrants – especially financial players like hedge funds and asset managers – are becoming more active in power markets, attracted by volatility and liquidity. The combination of tech innovation and a broader, more diverse trading landscape is rapidly reshaping how energy is traded and managed across the continent.



Which companies could improve infrastructure utilisation?
The biggest opportunities lie in energy storage and grid optimisation. One promising approach is using underutilised grid connections for battery storage, allowing for better load balancing.

However, implementing these solutions is complex and time-consuming. Companies must navigate regulatory approvals, secure land rights, and construct physical infrastructure before projects become operational. This is why storage is still an entrepreneur-driven space, rather than dominated by large corporations. The potential is there, but execution is challenging.

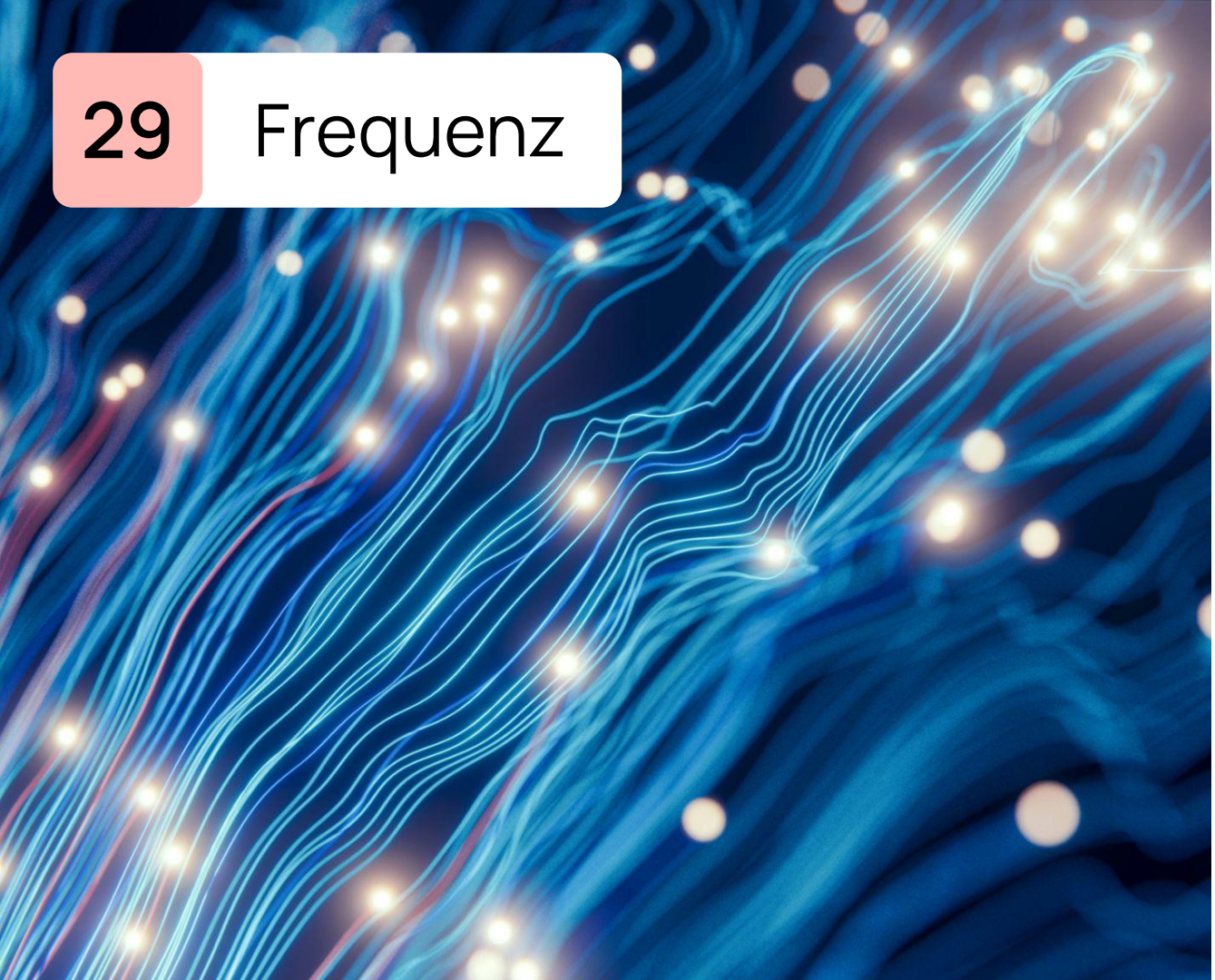
What motivates you personally in the energy transition?
What excites me most is the role of markets and their pricing signals in shaping market behaviour. At enmacc, we focus on ensuring that energy trading remains transparent and efficient, enabling market participants to make informed decisions.

By providing the right pricing signals, we contribute to a more efficient and sustainable energy market, which, ultimately, accelerates the transition to cleaner energy sources.

How is trading evolving with automation and data?
Information asymmetry is decreasing, and trading is becoming more automated. Initially, enmacc helped digitise trading workflows, enabling smaller players to compete with major suppliers.

Today, algorithmic trading dominates short-term markets. Trading decisions are now executed in milliseconds based on real-time data. However, for longer-term hedging strategies (e.g. 2026–2030), human expertise still plays a critical role.

Looking ahead, I expect AI-driven qualitative data analysis to further enhance long-term energy trading strategies.



29 Frequenz

German start-up Frequenz uses AI to help businesses reduce energy bills and boost their renewable use, turning customers into 'prosumers'. Its intelligent platform monitors real-time market prices, solar output and grid demand, then responds by purchasing energy when it's cheapest.

Founded
2019

Specialism
AI-driven energy management

Headquarters
Germany

Website
frequenz.com

Frequenz

Smarter energy, lower bills
Frequenz, co-founded by Dr Thomas Nicolai and Dr Lars Kirchhoff in 2019, aims to "revolutionise" how power is handled, stored, and traded and envisions "a fully electrified global society". Many companies overpay for power because they're stuck with rigid pricing structures that don't adjust to market changes. Frequenz simplifies electricity purchases by helping businesses tap into cheaper rates as they happen.

The company's tech stack powers its platform to manage and improve energy systems. The stack tracks real-time data from energy sources such as solar panels, batteries and heating systems. Frequenz uses machine learning to anticipate market changes and automate when energy is bought. For manufacturers, logistics hubs, and large retailers with high electricity costs, this offers a practical way to use the cleanest energy available, without disrupting operations.
"As more companies transition from a passive consumer role to an active prosumer one, there is an increasing need for a tech stack that manages and optimises self-production," said Frequenz managing director, Dr Nicolai.

Power up
Frequenz's solar-plus-storage system sets itself apart through a dynamic charging system that the company says extends battery life by up to five times. Traditional methods – known as the 'greedy strategy' – charge batteries immediately with surplus solar power and discharge rapidly. Frequenz uses AI to predict weather, consumption, and market prices, allowing batteries to be charged and discharged more strategically, and efficiently, by maintaining optimal battery states, and avoiding deep cycles and high-power stress.

Market execution
Frequenz has achieved strong adoption across Europe, with over 150 locations now using its platform, and expansion is still ongoing.

Market innovation
Frequenz's AI-driven platform automates energy purchases to secure the lowest prices, with uptake still growing.

Technology capability
Real-time data-tracking optimises energy usage and its scalability is progressing.

Technology impact
Frequenz's platform aims to turn businesses into self-sustaining 'prosumers'.

Frequenz

The firm wants its consumers to be less reliant on grid consumption. It does this by storing excess solar energy for use during peak times, low-sunlight hours, overcast conditions or grid outages. Using stored or solar energy prioritises efficiency, reliability, and cost.

Investment and expansion

In November 2024, Frequenz secured €10m in additional funding, bringing its total investment to over €25m. The round, backed by Cape Capital, SET Ventures, Enkraft, and existing investors, will help to bolster the company's platform and fuel Frequenz's expansion into key European markets. Dr Nicolai emphasised the company's commitment to transforming energy consumers into active participants, stating: "We are just getting started."

In the year leading up to the additional funding, Frequenz had grown the total energy under management on its platform fivefold, reflecting its growing role in AI-driven energy management.

Frequenz has reported managing energy across more than 150 active locations, serving customers such as supermarket chains Edeka and Netto, industrial companies like Freudenberg and Göing and leading brands Volkswagen, Siemens Energy AG and Villeroy & Boch.

"Frequenz has developed a highly scalable solution that distils the huge complexity of operating microgrids into an easily understood and highly competitive commercial product," said SET Ventures partner Dr Till Stenzel on the company's decision to invest in Frequenz.

"We have seldom seen in a startup such a clarity of what needs to be accomplished, coupled with the focus and drive to get it done," Stenzel added.

> Frequenz stores excess solar energy for use during peak times, low-sunlight hours, overcast conditions or grid outages

30 Heimdall Power

Oslo-based Heimdall Power optimises electricity grids with AI-driven sensors and analytics, increasing transmission capacity by an impressive 40%. With $25m in Series B funding, Heimdall is growing rapidly, proving that the road to clean energy is paved with smarter grid management, not more power lines.

Founded
2016

Specialism
Grid optimisation hardware and software

Headquarters
Norway

Website
heimdallpower.com

Heimdall Power

Boosting grid capacity

Named after the mythological, all-seeing, all-knowing Norse watchman, Heimdall Power views itself as the guardian of power grids. The company's Neuron sensors – affectionately dubbed 'magic balls' for their compact, globe-like design and powerful capabilities – are deployed via autonomous drones, provide real-time visibility on temperature, line sag, and weather conditions. Paired with Heimdall Cloud, this system enables Dynamic Line Ratings (DLR), allowing utilities to increase transmission capacity by up to 40%. Unlike traditional static grid limits, DLR dynamically adjusts capacity, reducing inefficiencies and optimising power flow.

"The ever-increasing demand for grid capacity cannot be solved by building new power lines alone," said Jørgen Festervoll, CEO of Heimdall Power, emphasising the need for innovative solutions. The sensors install in seconds on live high-voltage lines, a process so efficient that a single drone can deploy multiple units daily, minimising downtime and costs for utilities.

Beyond increasing grid capacity, Heimdall's technology enhances grid resilience against extreme weather events. As climate change drives more frequent severe weather conditions, utilities are under pressure to make infrastructure more adaptive and responsive. The firm's real-time monitoring provides the insights needed to prevent failures, balance loads, and maintain stability.

Heimdall also plays a crucial role in supporting electrification efforts, as electric vehicle adoption and renewable energy generation accelerate. By unlocking additional transmission capacity without new infrastructure, utilities can meet rising demand while avoiding grid expansions.

Making waves in the US

In 2024, Great River Energy installed 52 of Heimdall's Neuron sensors, achieving a 42.8% capacity increase. The project became the largest DLR deployment in the US, earning Heimdall an invitation to the White House for a grid modernisation summit.

Market execution

The Norwegian firm operates in 17 countries across Europe and in the US.

Market innovation

Heimdall Power's DLR technology increases grid capacity by up to 40%.

Technology capability

Heimdall Power's 'magic ball' sensors and cloud software optimise grid performance through real-time tracking.

Technology impact

Heimdall Power's DLR technology was showcased at the White House after enabling the largest deployment of its kind in the US.

Heimdall Power

Heimdall also collaborates with Meteomatics, integrating weather forecasting to improve grid capacity predictions, with European deployments averaging a 30% capacity boost.

These innovations allow utilities to meet rising electricity demand without costly infrastructure expansion. “By combining our weather insights with Heimdall Power, we’re offering companies a look into their real-time power line capacities – something that a majority of energy grid companies have not had access to before,” said Paul Walsh, CEO of Meteomatics North America.

Heimdall is also actively working with regional utilities and policymakers to accelerate grid modernisation efforts. By demonstrating the cost-savings and efficiency gains of DLR technology, the company is positioning itself as a key partner in US energy infrastructure upgrades.

With operations in 17 countries and partnerships with over 40 utilities, Heimdall is expanding across North America and Europe. In addition to boosting grid reliability, its technology supports the integration of renewables, making it a critical player in the energy transition.

Scaling with major investment

In July 2024, Heimdall Power secured $25m in Series B funding, co-led by energy giant Orlen, NRP Zero, and Steinsvik Family Office, with additional backing from Investinor, Eviny, Hafslund, Lyse, and Sarsia Seed. The funding round fuels global expansion and boosts Neuron production, reflecting strong investor confidence in Heimdall’s ability to digitise grid management at scale. “The ability of Heimdall’s solutions to increase grid capacity by 40% is not just impressive, it’s transformative,” explained Marek Garniewski, president of Orlen VC.

Beyond its current focus, Heimdall is exploring next-generation grid optimisation solutions, including predictive maintenance algorithms and AI-driven energy balancing. These developments will further enhance its ability to reduce grid congestion, prevent blackouts, and optimise power distribution in real time.

By demonstrating the cost-savings of DLR technology, the company is positioning itself as a key partner in US energy infrastructure upgrades

31 Statkraft

As Europe's largest generator of renewable energy, with a presence in more than 20 countries, Statkraft is an international hydropower heavyweight. In addition to hydropower, it develops, operates, and innovates across wind, solar and gas, and is shaping the future of energy markets.

Founded
1895

Specialism
Clean energy producer

Headquarters
Norway

Website
statkraft.com

Statkraft

Sharpened focus
Statkraft has been making clean energy possible for over a century. A global company, it develops and operates renewable energy assets within hydropower, wind, solar, gas, and biomass, supplying district heating and buying and selling energy. It currently operates Europe's largest Virtual Power Plant (VPP), which has a capacity of over 10GW – enough to power a major city. In Germany and the UK, it integrates its VPP into market access services and Power Purchase Agreements (PPAs), helping to balance supply and demand with greater flexibility.

In 2024, it reported strong results "driven by solid operations, record-strong energy management and continued high value-creation from market operations". Statkraft's total power generation was 66.3TWh in 2024, up from 61.9TWh the previous year. The 7% year-on-year increase was primarily related to new wind power assets in Brazil and Spain, and higher generation from gas-fired plants in Germany.

Statkraft signed a high number of PPAs in 2024, including in Spain, Germany, Finland, and Norway. It also announced plans for record investments in Norwegian hydro and wind power and upgrade and maintenance projects. In key personnel developments, Birgitte Ringstad Vartdal became CEO.

The company has been very active in the Nordic region. In October 2024, it put in a planning application for the 2.1GW Baltic Offshore Delta North bottom-fixed offshore wind farm in the Baltic Sea. The proposed wind farm aims to help the greater Stockholm region rebalance production and consumption; currently, the Swedish capital only produces 10% of its electricity requirements.

International realignment
In October 2024, Statkraft sharpened its international strategy, prioritising investments in Norway, Europe, and South America. "Increased geopolitical uncertainty combined with record-high investment levels in 2023 and 2024 makes us prioritise more strictly," said Vartdal.

Market execution
Statkraft has sharpened its international strategy, with plans to grow solar, wind, and battery storage in the Nordics, Europe and South America.

Market innovation
Statkraft is planning to set up a hydrogen production site in Saxony, Germany.

Technology capability
When complete, Greener Grid Park will improve grid stability on the Welsh grid.

Technology impact
Statkraft is Europe's largest generator of renewable energy and operates a major VPP.

Statkraft

The group said it will grow solar, wind, and battery storage in the Nordics, Europe, and South America, increasing its annual delivery rate to 2-2.5GW from 2026. It will also gradually pursue an industrial role within offshore wind in Northern Europe.

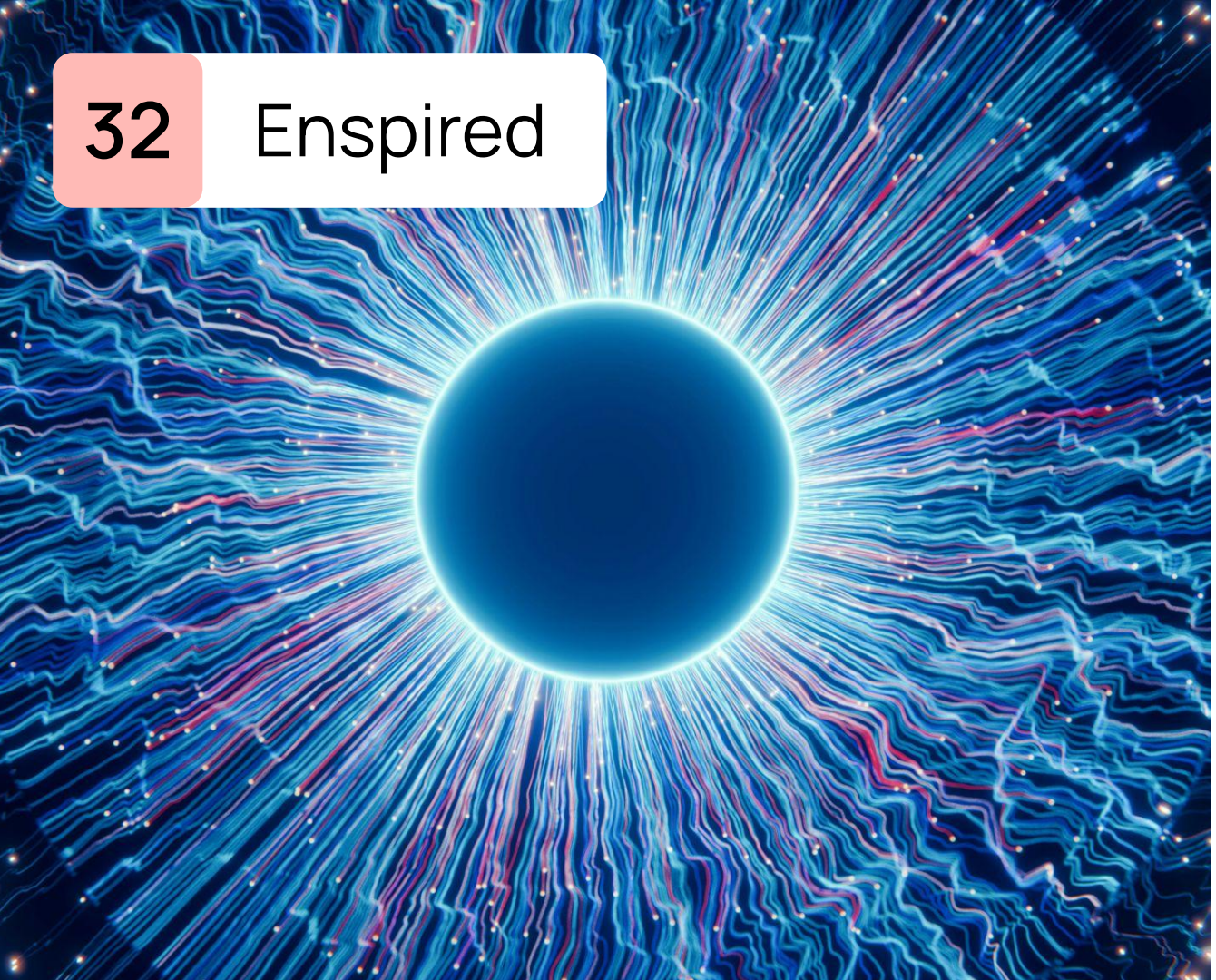
As part of the refocused strategy, however, it is divesting its renewables business in the Netherlands and Croatia, and withdrawing from the Indian market.

Continuing its international expansion, Statkraft appointed Fernando De Lapuerta as EVP International, effective January 1 2025. Reinforcing its strategic geographic focus, the company also finalised the $1.7bn acquisition of Spanish renewable energy firm Enerfin in 2024. Statkraft marked a milestone in Chile by launching three wind farms with a combined capacity of 100MW.

At the end of 2024, Statkraft began construction on its Greener Grid Park, which aims to improve stability on the Welsh electricity grid. The park will use six rotating stabilisers to mimic the turbines of a power station, allowing the generator to keep electricity flowing during grid faults – and stabilise grid frequencies without using fossil fuels.

Hydrogen ambitions
In 2024, Statkraft gained European Union backing for its initiative to establish a hydrogen production facility in Saxony. The company was chosen to enter grant negotiations for a subsidy of up to €107m to support a project featuring a 200MW electrolysis plant and a 50MW heat pump system. Once operational, the facility is expected to generate 20,000 tonnes of renewable hydrogen and up to 50,000MWh of green heat, annually.

> Statkraft currently operates Europe's largest Virtual Power Plant, which has a capacity of over 10GW – enough to power a major city



32 Enspired

Enspired is transforming energy trading with its AI-driven platform, optimising battery storage and monetising flexibility across markets. With top investor backing and partnerships, enspired is expanding globally, enhancing grid stability, and hastening the shift to a cleaner energy future.

Founded
2020

Specialism
Battery optimisation, automated energy trading, flexibility monetisation

Headquarters
Austria

Website
enspired-trading.com

Enspired

Balancing act
Shortly after launch, enspired secured €7.5m in a funding round, co-led by Emerald Technology Ventures and 360 Capital. At the time, the company said this would help it solve a key challenge in the energy transition – making power grids more flexible. CEO Juergen Mayerhofer explained: "Building new wind and solar parks is only one part of the energy transition equation. Power grids need to be balanced between generation and consumption, and the increasing share of renewables leads to generation that fluctuates with weather and can rarely be predicted in advance with great accuracy."

With its AI-based trading services, enspired optimises power generation, storage, and consumption assets on 'spot markets' – short-term power exchanges that help to balance supply and demand. "To prevent blackouts, deviations in generation and consumption can be traded on power exchanges, sparing the grid operator from having to take last-minute action," said Mayerhofer.

Battery strategy
In 2024, enspired secured a further €25.5m in Series B funding, led by Zouk Capital. At the time, enspired said that its "automated and highly scalable trading infrastructure is on track to enable 50GW of flexibility by 2035. A key focus on this trajectory is the expansion of battery storage capacity across relevant power markets worldwide to foster a sustainable electricity supply system for the future."

Explaining why it was backing enspired, John Higelin, partner at Zouk Capital, said: "Leveraging digital technology to deliver more value for renewable energy and storage assets, while improving grid stability is crucial for accelerating the energy transition."

Market execution
Successive fundraising rounds have enabled enspired to scale up its business model and secure major blue-chip clients like VW Kraftwerk.

Market innovation
By leaning into AI, enspired has created an automated trading platform that unlocks the power of data and digitalisation.

Technology capability
By embracing the expansion of battery storage capacity worldwide, enspired's platform has a key role to play in delivering a sustainable supply infrastructure.

Technology impact
Enspired claims that going global with its trading service will make flexibility so profitable that investments are directed away from fossil fuels into clean energy.

Enspired

Global rollout
At the time of the new funding injection, enspired said it was solidifying operations across Europe and expanding into Asia and the US. Mayerhofer said slow progress on international decarbonisation efforts reinforced the importance of rolling out the company's optimisation strategy across markets: "Going global with our asset-centric trading service will make flexibility so profitable that investments are directed away from fossil fuels into clean energy. In the last year alone, we enabled over 1m tonnes of emission savings, and this is only the beginning."

Blue-chip partnerships
Enspired has worked with various companies to optimise energy usage. For example, it partnered with VW Kraftwerk to capitalise on excess flexibility from its power plant, an initiative designed to support the grid while improving profit and loss results. In essence, enspired optimises surplus flexibility from VW's power plant based on current marginal prices and market movements.

Enspired also works with German utility VBB, a 100% municipally owned company focused on renewables and supported by a battery asset deployed in 2019. By optimising the battery for VBB, enspired ensures the asset's most profitable performance.

"There is a constant exchange of information in place to ensure our battery performs optimally in the markets. We know that we can count on enspired every step of the way for all our flexibility marketing needs, and appreciate the full transparency behind every trading decision," said VBB CEO Frank Günther.

> With its AI-based trading services, enspired optimises power generation, storage, and consumption assets on 'spot markets'

33 Kiwigrid

Kiwigrid is driving the future of decentralised energy and e-mobility with its cutting-edge energy IoT platform, KiwiOS. By seamlessly connecting, monitoring, and optimising energy ecosystems, it empowers businesses to harness smarter, more efficient, energy solutions.

Founded
2011

Specialism
Energy ecosystem platform

Headquarters
Germany

Website
kiwigrid.com

Kiwigrid

Kiwi bears fruit

Kiwigrid is a leading provider of energy IoT and energy management solutions, focused on enabling the seamless integration of distributed energy resources into the grid. At the end of 2024, Kiwigrid reflected on a year of growth, innovation, and industry impact. Among its highlights was its active support for a smart meter initiative launched by electricity suppliers Octopus Energy, Tibber, Rabot Charge, and Ostrom, which seeks to accelerate the expansion of smart meters in Germany through closer collaboration with measuring point and distribution system operators.

Over the year, Kiwigrid made significant enhancements to its KiwiOS platform, making it even more scalable and future-ready through a series of updates. These included a comprehensive overhaul of its identity management system and a strengthened partnership with Google. It also introduced a groundbreaking solution that enables simultaneous, near real-time measurement of energy flows within buildings – improving efficiency and visibility for businesses and consumers.

The company secured four new major clients in 2024, including an energy retailer and a metering point operator. It also expanded its connectivity, integrating its platform with products from industry leaders such as Vaillant, Fox, and Shelly. At the end of the year, Kiwigrid launched its latest product family "The Transactive Grid" (TTG). This innovation allows energy suppliers, system providers, and consumers to integrate dynamic electricity tariffs into their energy management strategies – paving the way for more responsive and cost-effective energy usage.

Utility Lab launch

Further cementing its role as a pioneer, in 2024, Kiwigrid inaugurated a new Utility Lab in Lusatia, Saxony, part of the Neuwiese Energy Park. Together with its partners, the company is testing smart tariffs and grid integration in the context of smart metering systems and integration into energy suppliers' systems. To ensure maximum connectivity reliability, Kiwigrid curated a set of certified standard systems, available on its website.

Market execution

Kiwigrid is supporting an industry-wide initiative to drive the expansion of smart meters in Germany.

Market innovation

Kiwigrid's "The Transactive Grid" (TTG) product suite allows customers to seamlessly integrate dynamic electricity tariffs into their energy management strategies.

Technology capability

KiwiOS.cloud uses the data collected by the company's Energy Managers to enable various energy management applications, offered as Software-as-a-Service.

Technology impact

Kiwigrid's platform can help businesses connect, monitor, and optimise decentralised energy and e-mobility systems.

Kiwigrid

The Utility Lab is expected to play a crucial role in refining future-ready energy management solutions, and advancing the German energy transition.

Leadership change
In November 2024, CEO Dr Frank Schlichting stepped down. A new management trio – Janek Schuffenhauer, Dr Carsten Bether, and Lars Schwarzelt – took the helm in December, bringing fresh leadership to drive the next phase of Kiwigrid's expansion and innovation.

App upgrade
At the heart of Kiwigrid's innovation are the Energy Managers, VoyagerX and RailX, which collect and transmit real-time data for analysis and maintenance – ensuring a more reliable and intelligent energy infrastructure.To support seamless deployment of these intelligent devices, Kiwigrid launched the EM.setup installation app – a major upgrade for installers. Available for free on the Apple App Store and Google Play Store, the app allows VoyagerX and RailX to be commissioned directly from a smartphone or tablet, eliminating the need for a laptop and making the setup process faster, more intuitive, and mobile-friendly.

Dynamic tariffs
Earlier this year, in a significant step forward for dynamic electricity pricing, eastern German energy service provider enviaM connected its MEIN STROM Vision tariff to Kiwigrid's energy management system. This move highlights how dynamic tariffs can help stabilise the grid, manage peak consumption, and lower costs for consumers. With Germany mandating that all electricity suppliers offer dynamic tariffs from 2025 onwards, the enviaM integration offers a glimpse into how this new regulatory environment is beginning to take shape in practice.

> Kiwigrid introduced a groundbreaking solution that enables simultaneous, near real-time measurement of energy flows within buildings

34 Axle Energy

Axle Energy is redesigning home energy by turning devices like EV chargers and home batteries into powerful grid-balancing assets. By monetising household flexibility, Axle claims to lower bills by over 25% while enhancing grid stability – steadily moving towards the goal of a zero-carbon future.

Founded
2023

Specialism
Energy flexibility platform

Headquarters
UK

Website
axle.energy

Axle Energy

Collective responsibility
Axle Energy says its platform acts as 'virtual wires', linking home energy devices to electricity markets, unlocking new opportunities for energy flexibility. By optimising the combined capability of these devices, Axle's software dynamically provides flexibility to the electricity grid and shifts energy usage to when it's cheapest and greenest. This approach supports grid stability and enables energy suppliers and OEMs to reduce household energy costs by more than 25%.

Historically, only large commercial and industrial energy users have been paid to shift their demand when the grid is strained. But Axle's software means the owners of smaller assets can play a role by aggregating their collective electricity demand. Payments Axle receives from the grid operator for shifting energy demand in this way are passed on, via its partner device-makers, to end-user customers.

Since launch, Axle estimates it has linked around 15,000 flexible energy assets into market operations, contributing a total capacity of 85MW. Speaking with TechCrunch, co-founder and CEO Karl Bach emphasised the company's ambition, saying: "We believe that by 2030, we can fully replace fossil fuels in grid balancing. The UK grid is projected to require 40GW of flexibility by the end of the decade, and we see an opportunity to deliver that through zero-carbon solutions."

Financial backing
Axle secured $1.6m in pre-seed funding in 2023, with support from Picus Capital and Eka Ventures. A year later, it raised an additional $9m in a seed funding round led by Accel, with continued backing from Picus Capital. The company intends to use this investment to grow its engineering team and expand its presence across European markets.

Market execution
Axle has built momentum rapidly, connecting 15,000 flexible assets to energy markets since launch.

Market innovation
A partnership with SolarEdge is bridging the divide between home battery storage and the grid.

Technology capability
Axle integrates with OEMs and energy suppliers, enabling them to lower their customers' energy bills by over 25%.

Technology impact
New investment will provide the resources for Axle to scale up and enter multiple European markets.

Axle Energy

Explaining the company's core philosophy, Bach said: "The past few years have shown us that relying on fossil fuels is an expensive risk, and now we have the opportunity to radically rebuild and decarbonise the power grid." Accel partner Zhenya Loginov added that Axle "has seen strong early traction, with its platform already being used by major manufacturers".

SolarEdge solution

In November 2024, smart energy tech firm SolarEdge launched a partnership with Axle called the SolarEdge Flexible Grid Services programme. This initiative allows SolarEdge home Battery Energy Storage System (BESS) owners to contribute to a Virtual Power Plant (VPP), offering an opportunity to earn revenue from surplus stored energy. During peak grid demand, Axle's software facilitates the sale of stored electricity, with customers earning up to £250 over the winter.

Tapping into EV power

In October 2024, Piclo, a global marketplace for flexibility services, enabled a first-of-its-kind transaction in the UK's Capacity Market (CM). The trade, between Axle Energy and Oaktree Power, marked the debut of EV chargers as a registered capacity resource.

Previously, EV chargers faced compliance barriers requiring smart meter data for market participation. However, Piclo's online platform streamlines this process by allowing the transfer of CM obligations outside the traditional T-1 and T-4 auction windows. In this case, Axle acquired a 3.7MW T-1 contract from Oaktree, equivalent to the output of 528 7kW EV chargers, furthering Axle's mission to use domestic infrastructure to help balance the grid.

> Axle's software means the owners of smaller assets can play a role by aggregating their collective electricity demand

35 Eliq

Sweden-based Eliq is an open energy data platform turning complex energy data into smart, actionable insights. Using advanced machine learning, it helps users cut costs, and reduce their impact from their phones. Eliq powers energy, banking, and automotive leaders with tools to drive sustainable change.

Founded
2016

Specialism
Open energy data platform

Headquarters
Sweden

Website
eliq.com

Eliq

Personalised proposition
Eliq helps customers unlock the value of energy data by translating it into intuitive digital experiences that support smarter decisions and sustainable habits. Its personalised energy management approach is underpinned by its partnerships with leading providers, banks, and other businesses, all aimed at empowering users to become proactive about their energy consumption – without feeling overwhelmed.

In 2024, Eliq reached more than 2.5 million households by joining up with Essent, the largest energy supplier in the Netherlands. Essent integrated the Eliq Insights API so that the entire customer base of its two brands, Essent and Energie Direct, had access to simple management features such as home comparisons, usage by category and personalised energy-saving tips.

A few months previously, the company had embarked on a similar partnership with Norlys, provider to over 600,000 Danish households. Eliq powers the Norlys Energi app, which offers customers practical suggestions – such as making use of cheaper nighttime rates – and useful reminders, like turning off lights in unoccupied rooms. The app has won plaudits for its intuitiveness and accessibility, including the 2024 European Lovie Award for Best User Experience.

Volvo investment
Eliq's consumer-empowerment approach to energy data is also apparent in its collaboration with Volvo; it was announced earlier this year that the carmaker is investing in Eliq via its venture capital arm, the Volvo Cars Tech Fund.

The long-term plan, according to a joint statement, is to "make the service available to Volvo Cars customers so they can better understand their home energy usage, their energy costs and their environmental impact in an easy way".

Market execution
Eliq's data platform has been embraced by partners across Europe.

Market innovation
Eliq joined forces with smart energy solutions business SMS to make energy insights accessible to UK SMEs.

Technology capability
The platform can be used to provide insights for energy provider branded apps, as with the Norlys app.

Technology impact
A partnership with Volvo gives Eliq greater market reach and adds the muscle of a blue-chip brand.

Eliq

Eliq cited Volvo's commitment to sustainability, while Volvo Cars Tech Fund CEO, Ann-Sofie Ekberg, acknowledged the need for companies to actively enable easy, effective energy management for EV customers.

"There has never been a greater need for smarter, more sustainable and more efficient energy systems," she explained. "By combining the reach of Volvo Cars with the technological expertise within Eliq, we believe we can help our customers to better control their energy costs, while empowering them to make a positive difference in the world."

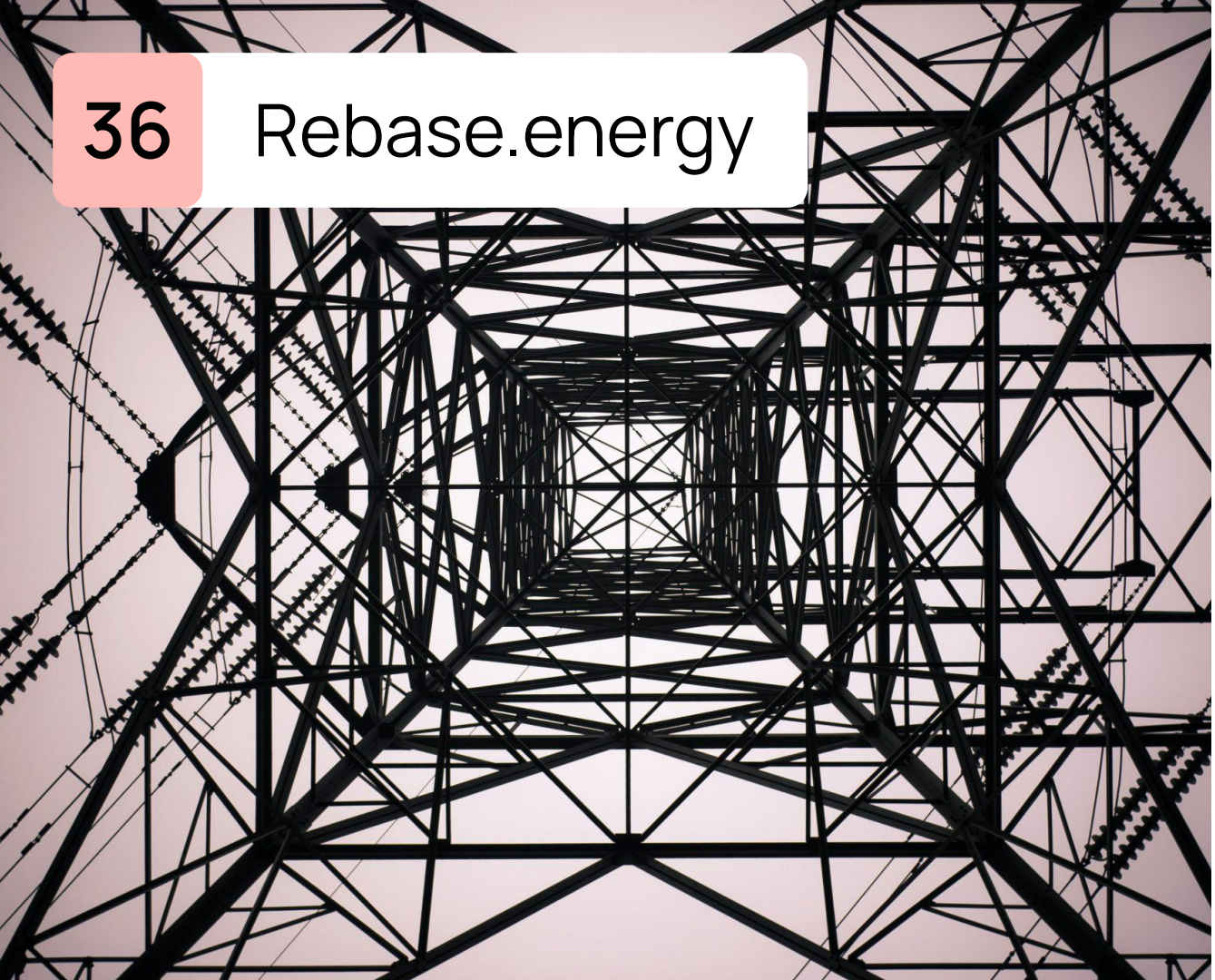
Expansion into SME market
In April 2024, Eliq brought its philosophy of simplification to the non-domestic market, teaming up with smart energy solutions business SMS for a solution aimed at SMEs in the UK.

With recent UK government regulations mandating utility providers to provide "free, user-accessible energy use information" to their SME customers, Eliq and SMS launched a white-label app to "help suppliers meet these obligations without major investment in their existing digital systems and offerings".

The Smart Energy Data app aims to be simple to implement and to use, ensuring energy insights are more accessible and helping providers give their SME customers personalised advice.

Håkan Ludvigson, CEO and co-founder of Eliq, said: "The tailored insights and recommendations from the Smart Energy Data app inform businesses on how to cut costs and leverage SMS's active support all the way to decarbonisation."

Eliq's Smart Energy Data app aims to be simple to implement and to use, ensuring energy insights are more accessible



36 Rebase.energy

Rebase.energy offers a powerful SaaS platform that enables energy innovators to forecast and optimise around renewable energy assets. By transforming complex data into actionable insights, rebase empowers organisations to make smarter decisions to enhance energy efficiency.

Founded
2018

Specialism
Energy forecasting and optimisation

Headquarters
Sweden

Website
rebase.energy

Rebase.energy

Tech-powered forecasting

A Python-first energy forecasting platform, rebase.energy is a cloud service that enables energy engineers and data scientists to create, deploy and monitor fully customisable energy forecasting models, at scale. The platform supports the creation of solar power, wind power and electricity demand forecasts, using state-of-the-art machine learning methods, including gradient boosting decision trees (GBDTs) and neural networks.

Rebase.energy distinguishes itself by being open, with predominantly open-source algorithms that are accessible to all stakeholders. The platform comprises three components: the application or interface; the open-source model; and data. It works with a range of partners, including energy traders, DER management companies, aggregators, district heating operators, and energy service providers.

One of rebase.energy's clients manages and trades wind energy across Sweden. As shifting low- and high-pressure weather systems cause fluctuations in wind availability, predicting output can be challenging. By using rebase.energy's data-driven analytics, the organisation can better anticipate supply opportunities, helping to reduce imbalance costs .

Scaling up with IBM

Rebase.energy has worked closely with IBM during its formative years. It was involved with the Startup with IBM® Accelerator Sweden, a mentorship programme to help startups succeed. CEO Sebastian Haglund said: "With the IBM team, we got a lot of input, not only on the technology, but also on the business side of things – understanding how to change it to be more relevant and competitive in the market." As a result of its learnings on the accelerator, rebase.energy pivoted its approach away from offering a one-size-fits-all solution. Instead, it began focusing on delivering raw energy usage data and open, flexible systems that give customers the tools, and autonomy, to build solutions tailored to their specific needs.

Market execution

Rebase.energy's open-source model means it is accessible to a broad array of stakeholders.

Market innovation

The company is exploring AI as a way to expand its offerings, working with IBM.

Technology capability

With rebase.energy's analytical tools, renewable energy suppliers can minimise imbalance costs.

Technology impact

The company's Software-as-a-Service (SaaS) solution has the potential to work for a wide range of partners across multiple markets.

Rebase.energy

Rebase.energy chose IBM Cloud to host its energy analysis toolbox because it needed to assure customers that its platform was stable and secure.

As rebase.energy continues to develop and enhance its analytical capabilities, the team is exploring the use of AI to broaden its solution portfolio. One key tool is IBM ILOG® CPLEX® Optimization Studio – a licensed AI platform that supports automated decision-making. "We're currently working with CPLEX, and its role in our operations will only grow moving forward," said Haglund.

Investment from Backtick Technologies
In 2023, Rebase received investment from Backtick Technologies. Backtick founder and CEO, Michal Stypa, praised the company's approach, noting the clean energy sector's need for fast, predictive action: "Large systems dependent on numerous variables with a restricted time to act are perfect for AI… rebase.energy offers multiple layers of customisation, making it feasible for customers with varying degrees of technical capabilities."

Harnessing Spire satellites
In 2023, Rebase joined forces with satellite operator Spire to strengthen its capabilities in power forecasting. The partnership brings together advanced satellite data and cutting-edge weather-forecasting models – an essential combination for delivering precise energy insights.

Karl Thunell, rebase.energy's chief commercial officer, commented: "The partnership with Spire complements our offering within power forecasts well, where quality data is crucial for accuracy. With their development of weather-forecasting models, we can offer customers in the energy space premium services for the highest performance."

Rebase.energy works with energy traders, DER management companies, aggregators, district heating operators, and energy service providers

Sebastian Haglund

CEO and Co-Founder, Rebase.energy

rebase.energy

LinkedIn

What's your assessment of the current European energy market?
With the energy crisis, prices and market volatility both went up; we saw a clear link between those two variables. But now that spot prices have normalised, we're still seeing high volatility, suggesting decoupling between these two variables. Weather-dependent systems experience a much more volatile market, which is great for flexibility providers and traders that can monetise that. On the ecosystem side, the consequences are downstream. You have asset owners – wind farm owners, solar park owners, energy consumers – that weren't used to risk pre-energy crisis, now needing to take on some risk, since utilities and traders couldn't absorb all that risk.

Now we witness more and more innovative PPA providers trying to bridge the gap between the asset owners and markets. So, I think there'll be a lot of innovation in PPA creation, such as hybrid, storage-based, and so on.

Tell us a little bit about your strategic approach to leveraging digital technologies and data.
What we do at Rebase is to give energy data scientists working with Python an amazing user experience for building and deploying energy forecast models, providing a much more open and transparent view of the data and insights using visualisations and explainable AI.

> Initiatives around open data and open source will bring more transparency to energy models

Most forecasting tools just provide a string of numbers and not what's behind the forecast. What we do is give a deeper view into the insights that we generate. Ultimately, we want to enable the energy data scientists to understand and take data and AI-driven decisions when it comes to their operations.

What key initiatives could strengthen the industry's digital ecosystem?
Initiatives around open data and open source will bring more transparency and trust to energy models, creating a ripple effect across the ecosystem in areas such as interoperability. That could be the IoT stack having something like Bluetooth for energy devices, but also other types of interoperability between APIs, open source models, market interfaces; creating this base layer will facilitate innovation and enable the whole digital ecosystem to run much faster.

What policies and support do you want to see from governments and EU stakeholders?
I'm not a politician, and I don't know that world, but when I see politicians talking about energy, it feels like point-scoring. Some make quick points about why nuclear is great, some why it's bad. Some for interconnection, some against. I think it would be amazing to have more open data and open source to back up claims – then it would be possible to audit the assumptions in a completely different way.

If a leader is going to say "We believe nuclear is the way forward", then also say "because we've modelled the other scenarios and here's all the data to back it up, and if you don't agree please challenge us". They would need to ground the claims in science and be upfront about assumptions.

Which emerging players and innovations in your market are ones to watch?
Battery optimisers and PPA providers like Flower in Sweden, for instance, and Virtual Power Plant providers, trading software and trading optimisers, like Optimeering. They are all doing really cool stuff in different parts of the stack. As a company, we want to play well with other providers – instead of only competing, we want to push the envelope together. A win-win mindset enables us to run much faster toward energy transition, because at the end of the day, we're in the same boat, right?

> We want to play well with other providers – we want to push the envelope together

What's your personal vision for advancing the digital energy transition?
I'm biased, but there's so much more to do in modelling, transparency and open data around the end transition. With better tooling, we can unlock a fully new paradigm in decision-making and optimisation in the energy industry. I'm not naive about it, a model is just a model – the energy sector is an infrastructure sector, so software alone won't cut it. But it can have this multiplier effect, and make the transition faster and cheaper.

37 Entrix

Entrix is leading Germany's clean energy shift with an AI-powered platform that optimises battery storage and trades it in real time across the nation's energy markets. By enabling dynamic market participation, Entrix helps businesses and homeowners unlock value from storage while supporting grid stability.

Founded
2022

Specialism
Battery optimisation

Headquarters
Germany

Website
entrixenergy.com

Entrix

VPP joint venture
Entrix has built an AI-powered trading platform for flexible energy assets from grid-scale batteries to Virtual Power Plants (VPPs). Although its primary market is Germany, the Munich-based company has also established a position in the UK market.

In 2024, Entrix and greentech unicorn Enpal launched a new VPP, which "brings advanced energy optimisation and market participation to residential households". Operating under a joint venture called Flexa, the initiative connects solar panels, home battery storage systems, EVs, and heat pumps into an intelligent, decentralised energy network.

By optimising energy use and market participation, the VPP offers cost-savings and income opportunities for homes, while supporting grid stability. Using AI, the VPP's ability to act within five minutes of delivery, allows for precise utilisation of short-term price shifts. The plan is to connect the VPP to around 80,000 Enpal customers.

BESS optimisation
In 2024, Aquila Clean Energy EMEA launched two advanced Battery Energy Storage Systems (BESS) in Germany, with Entrix overseeing optimisation and market participation. Situated in Schleswig-Holstein and Lower Saxony, these projects have a combined power capacity of 106MW and energy capacity of 212MWh, set to become operational by early 2026. The first, in Strübbel, has a capacity of 50MW and 100MWh, while the second, in Wetzen, will have a capacity of 56MW and 112MWh. These are part of Aquila's broader plan for 14 projects across Germany, totalling over 900MW. The scale of Aquila's planned rollout positions Entrix well for future collaboration, should the partnership continue.

Market execution
Entrix has made rapid strides by helping companies with BESS optimisation.

Market innovation
Entrix's AI-powered trading platform dynamically markets battery storage across energy markets.

Technology capability
By optimising energy use, Entrix's Flexa VPP offers cost-savings and income opportunities for homes, while supporting grid stability.

Technology impact
The VPP will eventually service 80,000 Enpal customers.

Entrix

Similarly, this year, Swiss firm MW Storage is setting up one of Europe's largest battery storage systems in Arzberg, Bavaria, with Entrix handling the optimisation of 50MW and 100MWh of this capacity. With a total capacity of 100MW and 200MWh, the Arzberg facility will contribute significantly to grid stability and the efficient integration of renewable energy.

Entrix is also collaborating with Blue Elephant Energy on a battery storage project with a capacity of 12MW. Entrix CCO, Lars Löhle, called Blue Elephant "one of the pioneers of the energy transition with a renewable energy portfolio of over 1.6GWp".

Financial backing

Entrix is backed by a powerful mix of investors, including Pelion Green Future, clean energy venture firm KRAFTWERK.ventures, Enpal, and Hamburg's ABACON CAPITAL.

Pelion managing partner, Jan Krüger, highlighted Entrix's potential to fast-track the energy transition, describing its technology as a vital tool for balancing supply and demand. "With this group of investors, Entrix has an unparalleled amount of expertise and know-how at hand. We are convinced this will help Entrix to take bold steps forward and accelerate the transformation to clean energy."

Strategic expansion

Entrix is actively positioning itself as a key enabler of Europe's decentralised energy future and in early 2025, announced its intention to expand into additional European markets, building on its success in Germany and the UK. The move aligns with growing demand for agile grid services and the integration of intermittent renewables across the continent. Entrix is also exploring partnerships with EV fleet operators and industrial energy users, aiming to unlock new flexibility potential and further boost grid resilience.

Entrix is exploring partnerships with EV fleet operators and industrial energy users, to unlock new flexibility potential and boost grid resilience

38 Fuse Energy

Fuse Energy, a UK-based app-centric electricity supplier, is powering ahead with its ambition to provide affordable, sustainable energy. Launched in 2023 by former Revolut executives, the company has already raised almost €11m to develop a decentralised renewable energy network.

Founded
2023

Specialism
App-centric electricity supplier

Headquarters
UK

Website
fuseenergy.com

Fuse Energy

Diversified business model
Fuse is a vertically integrated energy company founded by former Revolut executives Alan Chang and Charles Orr. The company specialises in developing renewable energy projects, power trading, and distributed energy generation installations. Among its core activities, Fuse offers commercial solar panel installation services. This year, the company said: "Heat pumps are set to become a key part of our offerings." Fuse is also in the final stages of gaining certification through the Microgeneration Certification Scheme to support this offering.

Building a network
An electricity-only supplier, Fuse places a strong emphasis on renewable energy. The company currently manages 18MW of solar and wind farms, which equates to the power necessary for around 6,800 homes. It says that it has around 450MW of renewable energy sites in the pipeline – with the medium-term goal to reach a combined capacity of 1GW in the UK. Globally, it is "investing in 50MW of renewable energy capacity across the US, Europe, Ireland, and India". Fuse has also committed to reinvesting 100% of its profits into renewable projects, worldwide. Among its earliest deals, Fuse acquired two solar farms – 5.1MW Netley North and 12.1MW Bullous Park – in July 2023. These farms were built by Ethical Power and are being looked after by EP's operations and maintenance team.

Project Zero
In September 2024, Fuse raised €10.7m in strategic funding to develop Project Zero, a decentralised renewable energy network. The investment round was led by Multicoin Capital, with support from partners including Anatoly Yakovenko, founder of Solana. According to Fuse, the investment will help it build a global platform to overcome outdated grid infrastructure and accelerate the shift to clean, affordable energy. Initiatives in Project Zero will include a market for energy installers, an international retail energy provider, and an EV charging network. Fuse has also said that it is "exploring crypto-based rewards to drive renewable energy adoption. Inspired by open innovation models like Tesla's, we aim to create permissionless tools that encourage collaboration across the energy sector."

Market execution
Fuse's streamlined digital-first model means it can offer cheap electricity tariffs.

Market innovation
The firm is exploring crypto-based rewards to drive renewable energy adoption.

Technology capability
Fuse is making progress in pairing its solar and wind farms with electrolysers to produce green hydrogen – which it views as a major opportunity.

Technology impact
The company is seeking to expand its activities into heat pump installation.

Fuse Energy

Carbon reduction plan
In January 2025, Fuse submitted a carbon reduction plan to the UK Government's Cabinet Office, which said it aimed to reach net zero by 2050. A key leg of this plan is Fuse's commitment to smart metering: "Our smart metering programme is rapidly expanding, with 2,100 installations completed and a skilled team of engineers poised to handle even more. We are set to scale this programme to include a wider range of installations, broadening our presence in the smart energy sector."

Hydrogen ambitions
Meanwhile, Fuse's submission to the Cabinet Office also covered its ventures into hydrogen as "a clean, sustainable alternative to natural gas, with zero harmful by-products".

Fuse says its efforts to produce green hydrogen with an in-house electrolyser are proving successful and "early results are promising. Our focus is on enhancing pressure tolerance, improving efficiency with new catalysts, and scaling up the system to generate cost-effective green hydrogen."

A further benefit, according to Fuse, is that wastage from excess renewable energy, such as surplus wind power, could be avoided if it can be stored as hydrogen for future use.

Payment structure
Fuse's model means the way it collects money from customers is different to other energy firms. If customers pay by direct debit, the amount they are charged is for the energy they've used in the previous month: this means payments will be different every time, based on meter readings. Most companies charge the same amount each month regardless of usage, meaning end users build up a credit balance.

Fuse says its efforts to produce green hydrogen with an in-house electrolyser are proving successful and "early results are promising"

39 LiveEO

From Berlin to the world, LiveEO is using space technology to protect the planet. By turning satellite imagery into actionable climate intelligence, it's helping infrastructure operators across the globe navigate risk, reduce emissions, and build resilience in a fast-changing world.

Founded
2018

Specialism
Satellite-powered infrastructure analytics and climate risk monitoring

Headquarters
Germany

Website
www.live-eo.com

LiveEO

Satellite-informed infrastructure
LiveEO is transforming how infrastructure is monitored by combining satellite imaging, AI analytics, and real-time geospatial data. Founded in 2018 by Daniel Seidel and Sven Przywarra, the company's reach goes well beyond its Berlin home, helping operators of critical infrastructure, worldwide, to identify environmental risks and respond to them in a faster, safer, and more efficient fashion.

Its platform uses advanced Earth-observation tools – including multispectral imaging and Synthetic Aperture Radar (SAR) – to find and monitor issues such as ground movement, vegetation encroachment, and storm damage. These insights are essential for operators of power grids, railways, and pipelines dealing with increasingly severe weather events and rising regulatory pressure.

With operations across Europe, North America, Asia Pacific, and Africa, LiveEO already works with global leaders like E.ON, i-DE, and Deutsche Bahn, helping them cut costs, boost safety, and meet sustainability targets.

Scaling smart monitoring
In 2023, LiveEO reported a tripling of revenue, reflecting the growing demand for AI-powered Earth-observation services. The company's momentum continued into 2024 with a €25m Series B funding round, led by NordicNinja and the DeepTech & Climate Fonds (DTCF). The funding is being used to scale product development, grow the team, and expand LiveEO's international footprint.

LiveEO's platform-as-a-service model allows it to integrate satellite data seamlessly into its customers' operational workflows, providing updates and alerts with a frequency and accuracy unmatched by traditional methods.

Market execution
LiveEO has strong global traction with major infrastructure clients and a €25m Series B funding raise.

Market innovation
The company is a first mover in satellite-driven compliance for the EU Deforestation Regulation.

Technology capability
LiveEO specialises in real-time geospatial analytics, AI-enhanced imaging and SAR integration.

Technology impact
The company's tools help global operators cut emissions, reduce losses, and manage climate risk.

LiveEO

Mapping climate risk
One of LiveEO's most timely innovations is TradeAware, a geospatial compliance tool developed in response to the EU's new Deforestation Regulation (EUDR), which requires importers of commodities such as coffee, cocoa, palm oil, and timber to prove their supply chains are deforestation-free.

TradeAware uses satellite imaging and AI to track changes in land use, monitor forest degradation, and help businesses verify compliance. The end-to-end transparency across supply chains helps organisations avoid reputational and legal risks, while staying aligned with ESG goals.

Tech for global impact
LiveEO's work extends beyond compliance and purely environmental risk; in Nigeria, its satellite analytics helped a pipeline operator detect oil theft and prevent millions in losses, while in Moldova, its forest-monitoring tech reduced illegal logging. The company is also working with partners like Accenture, AWS, and SAP to build a broader ecosystem for climate risk analytics. "Our mission at LiveEO is to harness the power of satellite data to protect our planet and make industries more sustainable," said Seidel in a company statement.

Eyes on the future
LiveEO's mission is to harness satellite data for the benefit of the planet – bringing a global perspective to some of the world's most urgent challenges. As climate risks mount and infrastructure systems age, LiveEO's platform is emerging as a vital tool for building resilience, improving safety, minimising disruption and adapting to a more volatile environment.

Whether it's preventing outages, reducing deforestation, or monitoring remote assets, LiveEO is making space technology work for life on Earth.

> LiveEO's platform uses advanced Earth-observation tools to find and monitor issues such as ground movement, and storm damage

40 Rabot Energy

Germany's dynamic pricing pioneer is reshaping home energy management through AI-driven flexibility. With its sleek digital platform and smart charging, Rabot Energy is making it simple for consumers to become active participants in the energy transition, while also reducing bills.

Founded
2021

Specialism
AI-powered energy optimisation and flexible tariffs

Headquarters
Germany

Website
rabot.energy

Rabot Energy

App-based flexibility
Rabot Energy is emerging as an innovative startup in Germany's cleantech space, thanks to a platform that enables consumers to easily shift their usage to times when renewable power is abundant and affordable. Founded by Jan Rabe and Maximilian Both, whose backgrounds include AI, software, and energy markets, Rabot Energy's mission is to make flexible energy access mainstream.

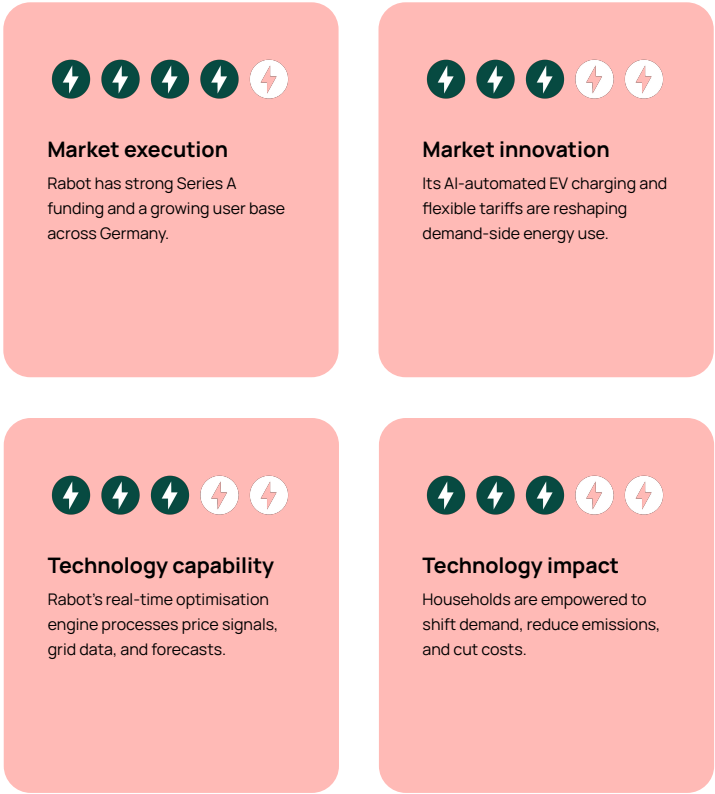
Central to its offering is a mobile app that allows users to track personal usage, view the most up-to-date information on the amount of renewables in the grid, and control heat pumps, battery storage systems and EVs – all of which helps consumers make informed energy decisions and, the company says, save up to 40% on bills.

The app's smart charging feature even allows the automatic scheduling of EV charging to kick in when electricity is at its cleanest and cheapest. This software-first model is resonating with Germany's growing base of climate-conscious consumers.

A platform with potential
Rabot's combination of dynamic electricity pricing with AI-driven optimisation is something that the company says more than 100,000 customers now take advantage of.

Its SaaS and white-label solutions extend its reach beyond domestic consumers to energy retailers and grid operators. Last year, Rabot partnered with US energy-storage company Zendure to integrate the company's real-time pricing service into its own app; this B2B2C strategy positions Rabot as both a consumer-facing brand and a digital infrastructure partner.

In January 2024, the company secured €17.5m in Series A funding from top climate tech investors led by HV Capital, and supported by existing investors High-Tech Gründerfonds, vent.io, and Yabeo to enable further product innovation, while co-founder and CEO, Jan Rabe, said the funding would help Rabot scale faster.



Rabot Energy

Enabling a flexible future
Rabot is helping redefine the relationship between households and energy, not only enabling consumers to make more informed choices, but also offering automated processes to make benefits visible and effortless.

Through “intelligent shifting”, Rabot allows consumers to use electricity when demand is low and renewable generation is high – cutting bills and reducing carbon. With Germany’s negative electricity prices occurring more frequently, users can benefit directly from market fluctuations while supporting grid stability. Meanwhile, another customer-led differentiator is the option for monthly cancellation. These innovations make Rabot a key enabler of demand-side flexibility – now considered to be a cornerstone of the energy transition.

The EV advantage
Rabot Energy’s focus on electric vehicles has been core to its offering from the start, and as Germany’s EV adoption grows, demand for easy integration with home energy systems will only increase. The company’s app offers automated charging during the cleanest, lowest-cost periods – sometimes even at negative prices – and Rabot plans to transform the platform into a full-service home energy hub, by integrating home batteries, heat pumps, and solar PV systems. These upgrades will unlock greater participation in Virtual Power Plants (VPPs), enabling Rabot users to contribute to balancing the national grid.

Through “intelligent shifting”, Rabot allows consumers to use electricity when demand is low and renewable generation is high

Ones to watch

Tem Energy

Tem Energy is an AI transactions platform that matches UK businesses to multiple renewable energy generators. Unlike traditional utilities that get their prices from the energy wholesale market, Tem bypasses wholesale by sourcing renewable energy directly from the renewable generators that produce it. Its core promise is that it can "save businesses up to 25% on their bills while providing 100% traceable, renewable energy". The company recently raised £10.5m in Series A funding, bringing the company's total funding to £13m. This investment was led by European VC Atomico, with participation from existing investors AlbionVC and Revent.

Thermondo

Thermondo was founded in 2012 and has become Germany's largest heating system installer by embracing a digital approach. It runs an online portal that advises homeowners how to modernise heating systems, and employs 175 workers for installation. Talking to McKinsey, founder Philipp Pausder, who recently handed over the CEO role to Felix Plog, said: "There were SaaS solutions in real estate and car sales, but no one was using such software to reduce residential heating costs and emissions. We wanted to create a broker platform for sustainable heating systems." Today the company manufactures its own heat pumps and has developed flexible payment structures. It has also become one of Europe's major heat pump financiers. Investors include E.ON and Eneco.

Trawa

Trawa is a German company that has developed an AI-powered platform that helps SMEs buy from renewable energy sources. SMEs generally do not have specialist procurement expertise in energy, so trawa gives them tools to structure energy purchasing in a way that matches consumption. Trawa supplies 1,000 locations and helps them protect themselves against rapid price fluctuations. In doing so, it claims to cut costs by up to 30%. In May 2024, trawa raised €10m in a funding round led by Balderton Capital. The company said the new funding will be used "to expand trawa's AI technology and build out its ecosystem of solutions".

Zenobē Energy

Zenobē is an EV fleet and grid-scale battery storage specialist, headquartered in the UK. It claims to be the leading owner and operator of grid-scale batteries on the GB transmission network, and is expanding into Australasia and North America. The company is currently constructing a massive Battery Energy Storage System (BESS) project in Eccles, Scotland, which is set to go live in 2027. Currently, it has 1135MW of battery storage assets in operation or under construction. Zenobē also has around 25% market share of the UK EV bus sector. In 2024, the company revealed that the total debt raised to fund infrastructure investments since 2019 is £1bn.

Ones to watch

Modo Energy

Modo Energy is a benchmarking and forecasting platform for battery energy storage analysts. The platform is built around price forecasts, revenue benchmarking, research, educational materials, real-time market screens, and downloadable data. Modo products include Benchmarking Pro, which tracks the most valuable revenue streams for individual storage sites and compares performance; and Forecast Pro, used to finance future battery projects. In 2023, the UK-based firm raised $15m in Series A funding. The company said it would use the funds to enhance its expansion plans, focusing on product enhancement and global market entry.

Ostrom

Founded in 2021, Ostrom is a German energy provider that aims to make switching to green energy economical and effortless. Its ambition is to be a leading energy management platform across Germany and Europe. The key to the business is that it seeks to provide a seamless customer experience. It focuses on a digital, app-first experience that allows users to manage energy consumption, payments and emissions. It also operates a SimplyFair tariff that is flexible, easy to understand and enables monthly cancellation. The company encourages smart meter usage and has created a VPP for EVs. In 2025, it was awarded the German Service Award 2025 in the Smart Home category – for companies that excel in customer service.

Kamstrup

Founded in 1946, Kamstrup is a Danish provider of smart metering solutions for water, electricity, heat, and cooling, focused on safeguarding the supply and security of these resources through innovative tech. Now operating in over 20 countries, solutions such as the Advanced Meter Infrastructure use precise, near-real-time data and intuitive software to enable utilities to optimise performance, reduce losses (for instance, by identifying leaks faster), and manage resources more sustainably – often in collaboration with other technology companies. In 2024, Kamstrup expanded its smart water technology across the UK by formalising its partnership with SAV Systems, underlining its commitment to climate resilience and the move toward digital utility management.

Equigy

Equigy is a non-profit platform founded by European Transmission System Operators (TSOs) that enables aggregators to seamlessly participate with smaller flexibility devices in electricity balancing markets across Europe, while allowing the market to operate within grid limits. Its mission is to unlock the full potential of distributed energy resources – such as EVs, home batteries and heat pumps. In 2024, Equigy signed a long-term partnership with Capgemini to develop a decentralised energy system that enhances how electricity supply and demand are managed across Europe. By creating a trusted, cross-border digital infrastructure, Equigy is laying the foundations for a more flexible, resilient, and consumer-driven energy market.

Digital Energy 40 Methodology

The energy sector is undergoing a fundamental transformation driven by data, analytics, and artificial intelligence. To recognise and evaluate the companies leading this change, Futurice has developed the Digital Energy 40 – a comprehensive ranking of the top 40 companies driving transformation in the energy transition, with a specific focus on digitalisation.

The Digital Energy 40 identifies and showcases the most innovative digital-first companies accelerating the energy transition across the UK, DACH, and Nordic regions. It highlights businesses where software, data, and AI are central to their offering – companies using digital innovation to reshape how energy is produced, managed, and consumed.

Unlike hardware-led or broad decarbonisation solutions (such as hydrogen, carbon capture, or renewable infrastructure), this ranking focuses specifically on companies where digital capabilities are the primary driver of impact and value. This approach ensures strong alignment with Futurice's expertise in digital transformation and maintains a clear, focused scope for evaluation.

The framework accommodates both established players and innovative startups, balancing local market dynamics with international scalability, and enabling fair comparisons across different company sizes and maturity levels.

Which companies are included?

- Companies delivering digital-first solutions across electricity, heating, flexibility, energy efficiency, and smart energy management
- Businesses using AI, software, or data platforms as core to their service
- Firms at any stage of growth that demonstrate strong digital innovation

Which companies are excluded?

- Hardware-focused companies (e.g. wind turbines, solar panels, battery systems) e-mobility and EV charging providers
- Carbon-related platforms (e.g. carbon accounting, offsets, emissions monitoring)
- Climate finance tools
- Traditional energy generators and renewable asset owners (unless heavily digitalised)

Scoring framework

Companies are assessed across **four key metrics:**

Market execution – how effectively a company delivers its solution at scale

Market innovation – originality in approach, model and customer engagement

Technology capability – the strength and sophistication of its tech offering

Technology impact – how far a company's solutions move the needle on the energy transition.

Each metric is scored using a **five-point scale:**

1 = Minimal | 2 = Limited | 3 = Moderate | 4 = Advanced | 5 = World Class

This structured framework enables a consistent and qualitative evaluation of smart energy companies, adaptable across national contexts and capable of capturing both current performance and future potential.

Contact us

We are Futurice, an outcome-focused digital transformation company. We help our clients solve their biggest challenges and empower them to make a positive impact on the world.

We discover and design the new. We are user-centric in developing, scaling, and sustaining solutions for digital transformation and co-creating a culture that makes innovation happen. We work across industries – from energy, retail, and construction, to media, finance, and automotive, and much more. We collaborate closely with our clients and work towards measurable and sustainable outcomes.

Founded in 2000, our team comprises over 900 diverse experts who represent more than 40 different nationalities. We have Nordic roots and a global mindset and operate across Europe.

Contact us to discuss the report, partnership and new business queries: futurice.com/contact

David Mitchell
Chief Growth Officer, UK
david.mitchell@futurice.co.uk

Markus Holmborg
Business Director, Nordics
markus.holmborg@futurice.com

Yannick Engel
Business Director, Germany
yannick.engel@futurice.com

futurice

Empowering the world to act.