

How can green technology manufacturers adapt and thrive in the energy transition?


December 2023



The confluence of climate policy and the energy crisis means **the time is now for home-based green tech.**

However, traditional **routes to market and business models are being disrupted** by the emergence of Future Energy Managers.

OEMs need to adapt to thrive in the energy transition.





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The time is now for home-based green tech

The energy transition requires a significant investment in the homes across Europe. **What is the opportunity, and threat, to Original Equipment Manufacturers (OEMs) of home-based green technologies*?**

130 million *Number of residential renewable technologies deployed in Europe by 2030*

Electric cars, solar, batteries and heat pumps are all starting to make financial - as well as climate - sense. By 2030, there will be over 130 million residential renewable technologies installed in Europe. The market will be worth €60 billion per annum.

This is a massive opportunity for OEMs. However, traditional routes to the residential market are being disrupted. The emergence of Future Energy Managers, who take customers on their net zero journey, while giving them control of their bills through packaged tech and tariffs, means OEMs need to adapt their business strategies.

To thrive, OEMs need to make the choice to either:

- Be **'best in class, connected'** – producing the best connectivity-enabled products, and partnering with Future Energy Managers to deliver them
- Offer **'whole-house solutions'** that seamlessly integrate tech, either as a walled garden or open door
- Become a **'Future Energy Manager'** – by offering bundled products and energy supply in one seamless package

Size of the European market for home renewable technology **€60 billion pa**

*When we discuss OEMs and manufacturers in this report, we are referring to companies that manufacture HVAC products (such as heat pumps and thermal storage products), solar modules and inverters, EV charge points, battery storage, and home energy management components and controls.



Projections for home-based green tech. deployment in Europe by 2030



Source: Projections to 2030 are based on detailed market and policy analysis across Europe, developed through our dedicated subscriptions research services. They include the [Electrification of Heat Service](#), [EV Charging Service](#), [Solar PV Service](#), and [Energy Storage Research Service](#).



Net zero starts at home

In a rapidly shifting market landscape, manufacturers need to focus on delivering for their customers. **But what does the customer really want?**

Imagine a cold but bright November day in 2030. You arrive at home in the evening in your electric car and plug it in to the smart charger in the drive. You know it probably won't start charging until the middle of the night, but you don't need to worry about it, as your energy manager has you covered.

You head into your house, eager to get out of the cold – and you're happy to find your heat pump, recently fitted by your energy manager, has already started to warm your home in anticipation of your return.

The energy insights display notifies you that prices are currently high. The recent cold snap has meant large scale wind output has been low.

You're not concerned though, as your solar panels have charged your battery throughout the day, which is now being used to power the heat pump and your home appliances. You don't even have to do anything about it – your energy manager is optimising it in the background for you.

Thinking back, you're amazed out how easy it all was to get the technology installed, financed, and integrated. It was all done by your energy manager, who continues to support you by optimising the technology to keep your bills low.

You're ready to relax for the evening, safe in the knowledge you're protecting your pocket, and the planet.



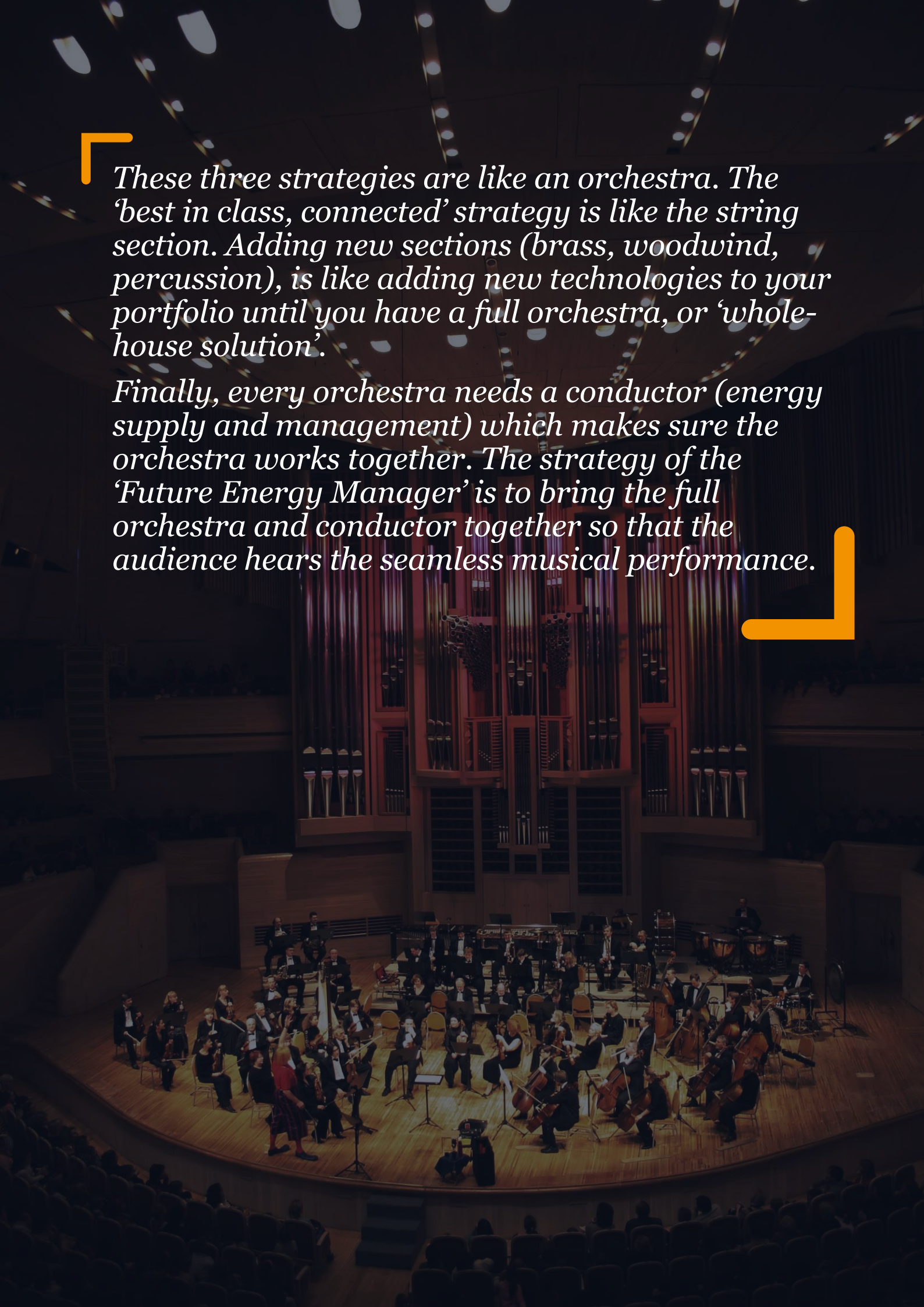
A partner who will support them on their net zero journey



Control of their energy bills and other costs



Seamless integration and optimisation of their appliances



These three strategies are like an orchestra. The 'best in class, connected' strategy is like the string section. Adding new sections (brass, woodwind, percussion), is like adding new technologies to your portfolio until you have a full orchestra, or 'whole-house solution'.

Finally, every orchestra needs a conductor (energy supply and management) which makes sure the orchestra works together. The strategy of the 'Future Energy Manager' is to bring the full orchestra and conductor together so that the audience hears the seamless musical performance.



The rise of the Future Energy Manager

The new energy future is being built now. The likes of Octopus, Tibber, and 1Komma5° are shaping a new electricity market and relationship with the customer. **Why are these 'Future Energy Managers' so compelling?**

These 'Future Energy Managers' will give customers what they want: a partner to help decarbonise, control of their bills and financing of technology, installation, and seamless integration of low carbon tech. They are doing this bundling technology and tariffs together into one package.

Building the package by either:

- Acquiring technology manufacturers to offer the full solution
- Building these capabilities internally
- Partnering with other providers
- Or all of the above

1KOMMA5°

Established in 2021, Germany-based 1Komma5° is the proto-typical Future Energy Manager. They offer customers a whole-house solution bundled with electricity supply, through a monthly subscription. Customers participating in the Virtual Power Plant (VPP) can earn a €300/year bonus.

1Komma5° has partnered with Enphase, leveraging their technologies and IQ gateway tech for seamless tariff integration.

In October 2023, they expanded their services providing free electricity to Swedish customers connected to their Heartbeat IoT platform.



Future Energy Manager



Renewable-powered energy services

- Sell outcomes not kWh's (e.g., "EV at 80% charge and house at 21C by 7am")
- Prioritise local green supply (e.g., by use of 24/7 renewable certificates)



Meet customer's comfort & power needs

- Use data analytics/AI to predict demand
- Improve profits via energy efficiency (aligns supplier and customer incentives)
- Exploit local assets to satisfy demand



Demand side response and flexibility

- Optimise use of generation storage to smooth demand/reduce imbalances
- Incentivise sustainable user behaviour



Home & business energy management

- Install smart meters, HEM and BEM
- Manage energy flows dynamically
- Integrate with demand response/ToU



Help prosumers get involved

- Lease/finance, install and integrate PV, EV chargers, storage and heat pumps
- Optimise and integrate different providers' products



Handle customers via digital

- Digitise customer journey with AI/apps
- Give real-time access to energy insights
- Focus on customer satisfaction by offering always-on monitoring and support

Note: The concept of Future Energy Managers has been developed through our [New Energy Business Models Service](#). See our public whitepaper '[Dawn of the Customer Centric Transition](#)'. For our subscribers, you can read '[Supplier of the Future – The Need for Change](#)', and '[Smart Tariffs in 2023: The Evolution of Tariffs Accelerates](#)'

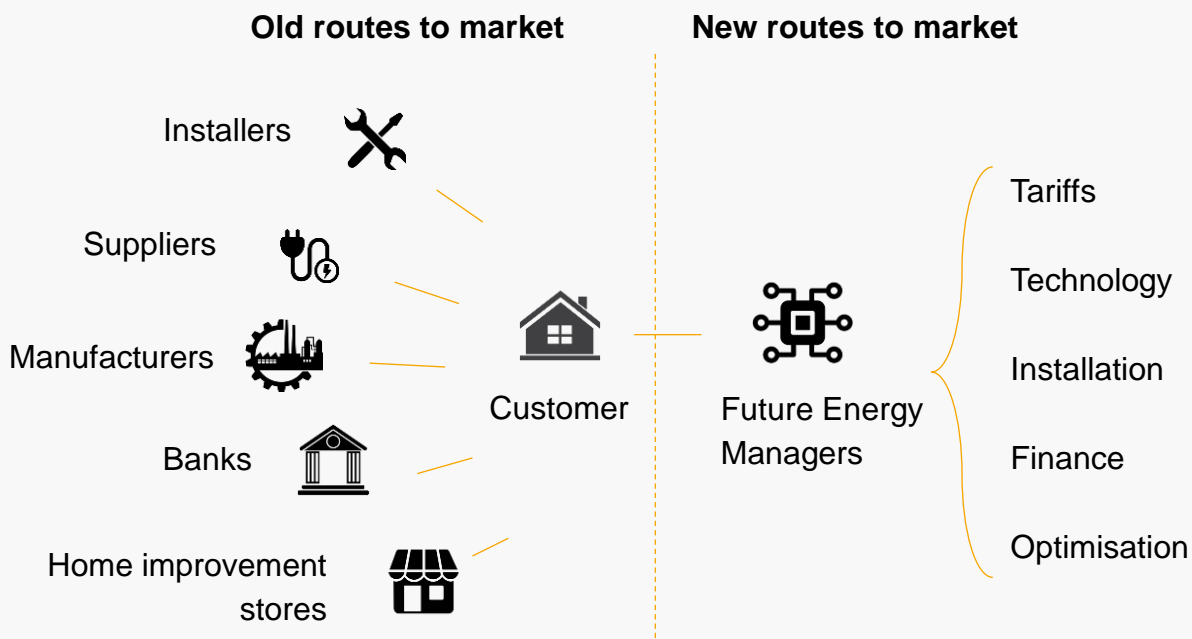


What does all this mean for manufacturers of home renewable tech?

Traditionally, customers buy their home energy appliances (such as boilers and solar PV) directly from installers or sometimes from energy suppliers, with energy supply being sold separately in most cases. OEMs have normally sold their products through these routes (direct or via distributors), with customers paying an upfront fee.

The emergence of Future Energy Managers poses a threat to traditional routes to market. Customers stand to benefit from bundled tech, supply, and optimisation, leading to their potential dominance. This is because pure tech sales alone cannot unlock the full value of the technology without the right tariff and optimisation system.

Routes to market will be disrupted by Future Energy Managers



Already, **over 20% of solar panels*** are bought from energy suppliers, who are also key routes to market for other technologies. We expect this to increase as suppliers and Future Energy Managers bring out increasingly packaged deals.

*Based on analysis of LCP Delta market assessment in our [Solar PV Service](#)



We're already starting to see this shift. Alternative charging models are gaining traction, such as leasing, finance, or 'as-a-service' with easy-to-understand services such as monitoring and maintenance. Our research shows more than 40% of customers want to buy their new heating using one of these alternative payment methods.

The way people pay for their energy is also evolving, with tariffs such as time-of-use, type-of-use, dynamic and subscriptions becoming more popular – with around 400 different tariffs identified across Europe.

Increasingly, we're seeing offers from companies like Holaluz and 1Komma5° offering bundled tariffs, products, installation, finance and optimisation creating a new, holistic relationship with their customers.

holaluz

Holaluz, a Spanish-based company, founded in 2010, is on its way to becoming a Future Energy Manager. It currently provides a comprehensive package including renewable energy supply, energy management, and solar plus battery and EV charge point installations. However, it has yet to offer a complete suite of services covering thermal comfort.

Customers are presented with payment options: upfront payment for technology installation or financing facilitated by Holaluz in partnership with Santander. They can opt for fixed monthly payments (annually reviewed) with the goal of achieving zero bills—an accomplishment claimed for 40% of their customer base with solar installations..

Holaluz boasts an impressive EBITDA margins of 40% on solar management.



Adapt to thrive

Why OEMs need to adapt – and how they can thrive in the energy transition

It's not like they haven't noticed – we're seeing innovative and forward-thinking manufacturers taking matters into their own hands.

For example, Italian heating OEM Ariston have begun including HEM capabilities on their products. Enphase, a leading inverter manufacturer, is also moving into HEM and ensuring interconnectivity with other manufacturers. Viessman have gone from

being a thermal comfort OEM to expanding their product range, and now entering the supply market.

To succeed, OEMs must decide what kind of company they want to be, and what role they want to play in delivering the energy transition. These decisions should form the basis of the strategy, steering their choices around innovation, partnerships, acquisitions, and business models. We see three core options available to them (shown in table below)

Three core strategies are available to OEMs

Options	OEM role	Partnerships & acquisitions	
	<ul style="list-style-type: none"> + Produce high-quality, low-cost products that can integrate with 3rd party optimisers 	<ul style="list-style-type: none"> + With Future Energy Managers and others to ensure interoperability 	<p>↑</p> <p>Increasing revenue potential, investment required and risk</p> <p>↓</p>
	<ul style="list-style-type: none"> + Full-suite of home renewable tech that can seamlessly integrate 	<ul style="list-style-type: none"> + Acquire, partner, or build manufacturing and software capabilities where gaps exist + Partner with supplier to offer bundled tech and tariff 	
	<ul style="list-style-type: none"> + Offer bundled tech and tariffs direct to customers 	<ul style="list-style-type: none"> + Acquire or build energy supply + Acquire or build manufacturing and software capabilities 	

Increasing revenue potential, investment required and risk



Best in class, connected

Manufacturers following this strategy will be focusing on their core strengths – developing and manufacturing high quality, great value new energy products. However, to be successful with this strategy, new products must be developed that can connect with and communicate with 3rd party energy management systems.

The advantage of this strategy is a single-minded focus with very clear priorities. Success will mean having a large market share of the core product and having potential partners lining up to work with you as they recognise you as a market leader.

There are risks though – focusing on one product could mean whole-house solution providers and Future Energy Managers offer the integrated packages that the customer want, even with inferior individual products. Heading off these risks requires companies to develop technology and sales partnerships.

Ideal for: smaller OEMs with high quality product lines.



ENPHASE.

Enphase, a Californian-based OEM, is one of the leading manufacturers of micro-inverters and batteries for both residential and commercial markets.

In 2023, Enphase unveiled its app-based Home Energy Management (HEM) system, which works with Bosch's Home Connect. This enables customers to schedule appliance usage during peak solar generation or low-price periods via the app. It boasts compatibility with appliances from leading manufacturers like Bosch, Siemens, Gaggenau, and others.



“The OEMs that will flourish in this evolving market will need to be agile and innovative in meeting the needs of customers. Thermal storage is a key component of the future energy system, where energy managers will play a vital role in optimising the heating, hot water, renewables and energy supply for households.

That is why we are investing in developing thermal storage solutions that are compatible with smart energy management platforms, and that can offer flexibility, reliability and affordability to our customers. We are confident that our heat batteries will help us maintain our competitive edge and grow our market share in the residential sector.”

Andrew Bissel, CEO of Sunamp



Whole-house solutions

Whole-house solution providers will need to deliver integrated packages of technologies to meet their individual customer needs. This will need to include a full-suite of technologies – solar PV, EV charging, batteries, electrified heating, along with smart controls and Home Energy Management to optimise the operation of these technologies. This could be provided all by one company, or also as a partnership between two or more companies.

For companies expanding their product range, there are clear opportunities for increasing the size of the market they are operating in. Additionally, by integrating the technology offering, new sources of value open up by reducing customer bills or providing revenue streams to operate in flexibility markets.

Pursuing this strategy will require building out capabilities, partnerships, and/or acquisitions which carry inherent risks – and strategic decisions will need to be made. Also, any of the value streams developed from optimisation will likely need to be shared with the energy utility/supplier or Future Energy Manager.

Ideal for: Ambitious OEMs with a very strong single product line, or already with a wide product line and HEM capability

SAMSUNG

Samsung has joined forces with SMA, and ABB Solutions to integrate their heat pumps with various home renewable technologies, including solar. Through Samsung's SmartThings Energy app-based home energy management system, customers gain control and tracking capabilities for systems powered by technology from these three companies. This collaborative partnership positions Samsung and its associates as comprehensive providers of whole-house solutions.



Schneider Electric, the multi-national energy management and automation OEM, recently partnered with Airzone to integrate the management of its air-to-air heat pumps into Schneider Electric's Wiser and Wiser KNX ecosystems. The partnership will enable customers better control over heating and cooling, tackling the biggest energy consumer in the home.



“I believe that knowing your expertise and sealing good strategic partnerships will be key to succeed in the new energy landscape.”

Thibaut Gregoire, Director of Strategy and Transformation, Schneider Electric



Future Energy Manager

OEMs seeking to become Future Energy Managers will not only need to build out their product offering and ensure the technologies can seamlessly integrate, but they will also need to venture into a whole new business area – supplying energy to their customer.

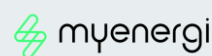
The opportunity is vast – not just one-off technology sales, but also recurring revenue from energy supply and management services. Offering the full package of technology and energy supply will be very compelling to customers and will lead to more direct and fruitful relationships with them.

Venturing into energy supply is a significant risk, however, especially for companies without prior experience. Energy supply is a competitive space, and the sector has faced a rough couple of years. New entrants have been able to succeed though, and the risks can be partially mitigated by entering partnerships with established retailers.

Ideal for: OEMs with a household name that customers trust, already with a suite of technologies that can seamlessly integrate.



Viessmann, a German-based company traditionally known for its expertise in thermal comfort technologies, is undergoing a transformation from OEM to Future Energy Manager. In 2022, the company expanded its product portfolio by integrating solar PV. This move allows Viessmann to provide energy supply services to its customers, facilitated by a strategic partnership with Energy Market Solutions.



myenergi, founded in 2016, is a British manufacturer of smart energy technology for the home, including an EV charger, a power diverter for renewable microgeneration and home battery. It provides a HEMS platform for customers to manage their home energy and scale their system with new devices. These can be programmed to work with specific energy tariffs and the company has recently completed an integration with Octopus Energy for its Intelligent Octopus Go tariff to enable cheaper EV charging.



“Gaining and consistently delivering against customer trust will be key to the smart energy transition. In doing this, we must remain customer-obsessed across all elements of the customer journey. A vertically-integrated Future Energy Manager will be able to provide a high quality, seamless customer experience that can maximise customer value (energy cost and carbon savings) whilst reducing effort and pain points.

This doesn't mean there is no need for partnerships and integrations – no one company will be able to “do it all”, especially in the short-term – but a Future Energy Manager must consider where internal capability builds will lead to better customer outcomes.”

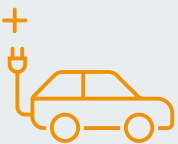
Jack Fielder, CSO, myenergi



What next?

To navigate this landscape, 'doing nothing' is not an option for OEMs. Leadership teams must strategically re-evaluate their positions to secure their standing in the market and define new growth opportunities for the future. LCP Delta can support you by:

Developing your strategic roadmap



What core capabilities are needed? Should these be developed in-house, acquired, or should you seek strategic partnerships?



Clearly defining the vision and business model for the company and developing a strategy to get there.



Which markets should be entered first? Which strategies should be pursued in which markets?

Understanding the energy market and what sector convergence means



Where is the value in the supply chain? How will energy suppliers package tariffs with products?



How will customer behaviour influence how technologies are used?



As we've seen in this paper, the energy system is becoming an increasingly interconnected and multidirectional system. We bring a deep understanding of the convergences of technology and the energy market to show you where the value is.



How will flexibility markets and tariffs incentivise technology optimisation?

Giving a forward view



What will be the size of the market in 3 years? 5 years? Which technologies will be adopted in different markets more readily?



How will evolving policy and regulations affect market growth?



Business leaders need a clear view of how the future will unfold to make strategic decisions.



How will your competitors adapt to the new environment? What is the nature of the disruption and how will it impact incumbents?



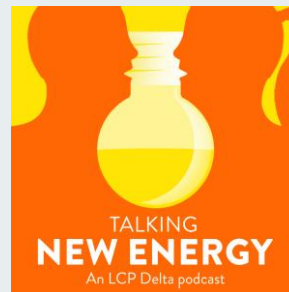
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Take a moment to explore some of our top recommendations:



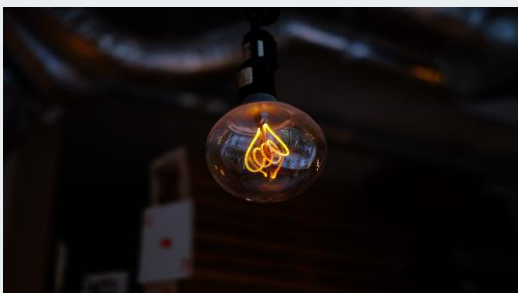
Energy Supplier of the Future

Download our whitepaper to find out more about the evolving new energy landscape, and how the downstream transition will impact on the customer experience.



The Dawn of the Customer-Centric Transition

Explore how the energy retail sector is ready to be transformed – from a traditional, volume-based commodity sales business model to one which has an unwavering commitment to customer empowerment



New Energy Business Model Service

Explore the New Energy Business Model Service, simplifying complexities in the energy sector. We assist subscribers in identifying, developing, and growing new ideas and propositions.



Capturing Value in the Transition blog series

Discover the importance of strategic thinking in the energy transition in our Capturing Value in the Transition series.

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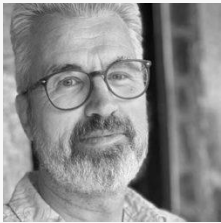
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