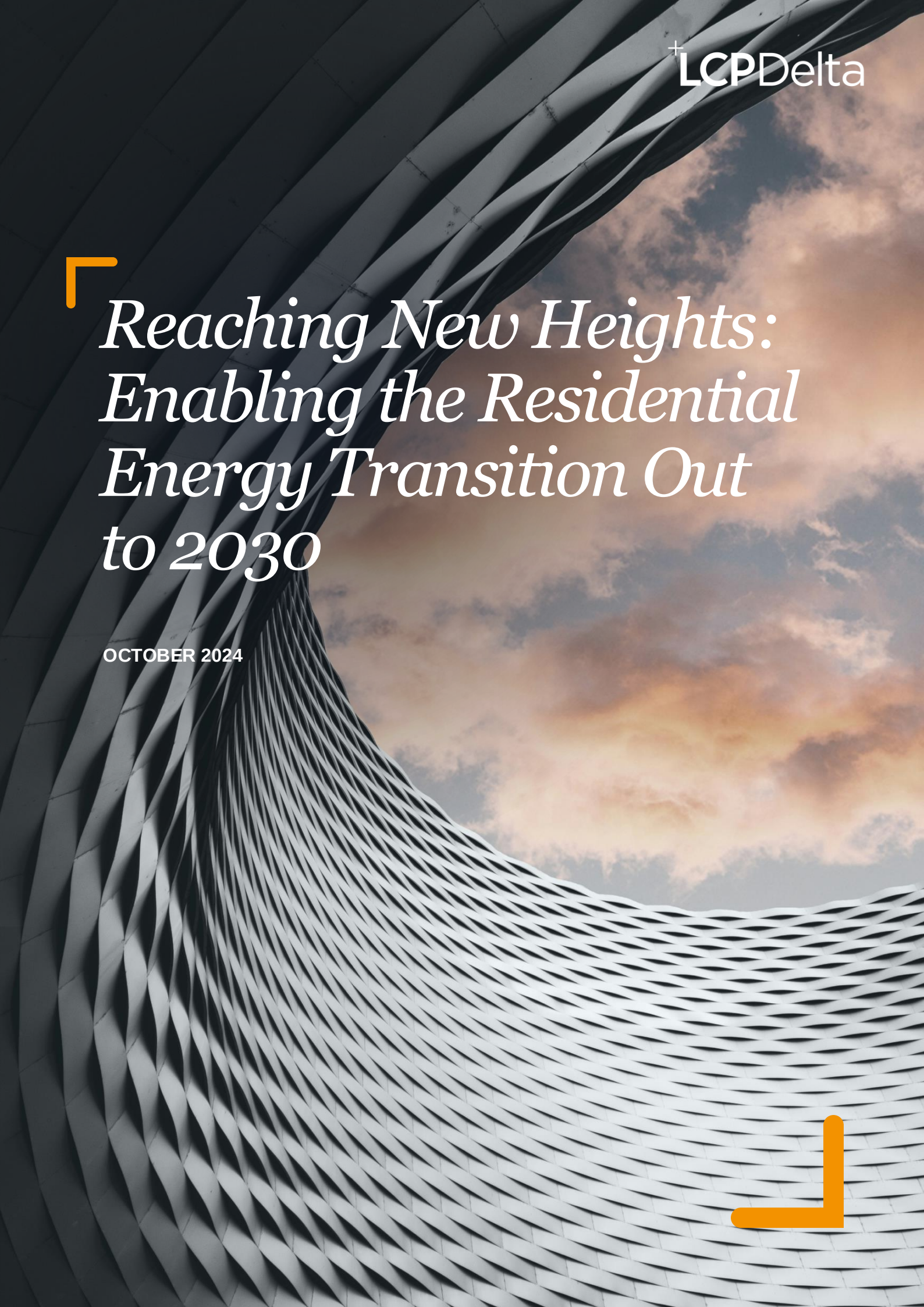

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Reaching New Heights: Enabling the Residential Energy Transition Out to 2030

OCTOBER 2024

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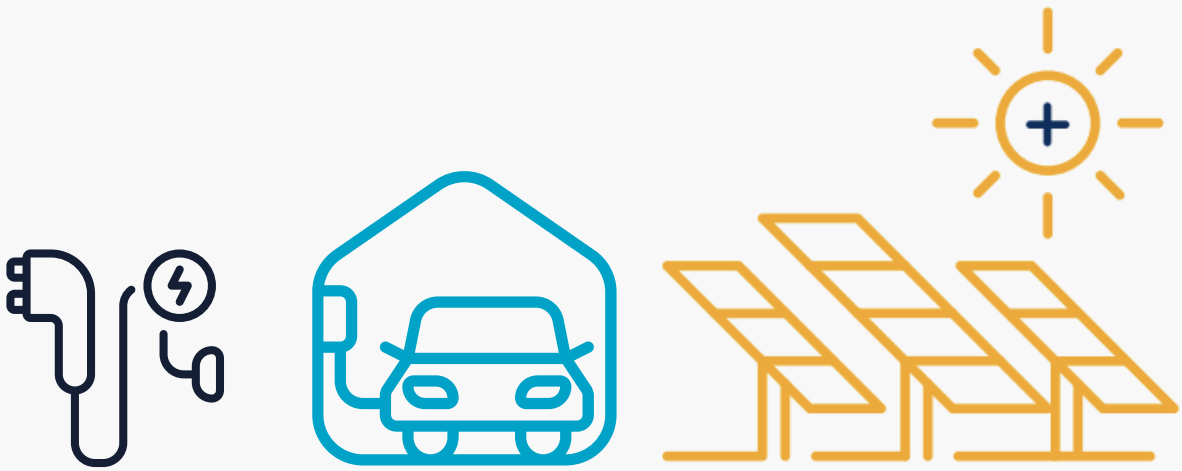

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More than ever, understanding the residential energy transition through 2030 demands a **cross-sector perspective**.

For the first time, we have developed four macroeconomic scenarios to examine where it might head next.

Introduction

Although the speed and trajectory of travel varies between countries, the residential energy transition is progressing, despite a seemingly permanent backdrop of geopolitical and economic crises. The industry is emerging from a few turbulent years marked by COVID, post-COVID recovery packages, the energy and cost of living crises, all of which have profoundly impacted the adoption of low-carbon assets by residential customers. The path out to 2030 can seem uncertain, with electricity retail prices stabilising, the introduction of compliance targets at the European and national level, changes in subsidy frameworks and an ever-increasing awareness of and interest in the energy transition by consumers.

However, the European residential energy transition now stands on the cusp of the "second chasm": most sales to date have been made to innovators and early adopters, making mainstream buyers the next target segment.

As our June 2023 document, "The Dawn of a Customer-Centric Transition" discussed, the shift to these mainstream buyers requires the transition to customer-centricity, resulting in the emergence of integrated propositions in the European retail energy sector.

With the rise of integration comes the growing necessity of considering technologies in connection with one another. More than ever, understanding the residential energy transition through 2030 demands a cross-sector perspective.

To do so, the New Energy Strategies Service leveraged LCP Delta's in-depth technology expertise to take a broader view of the current state of the European residential energy transition. For the first time, we also developed four macroeconomic scenarios to examine where it might head next.

About the authors

New Energy Strategies is a technology-agnostic research service that helps companies understand which propositions and business models are most likely to succeed as the energy transition starts to accelerate. We provide data, analysis, insight and opinion to support energy companies in developing and implementing their new and existing propositions, with a special focus on the energy retail market.

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Where are we?

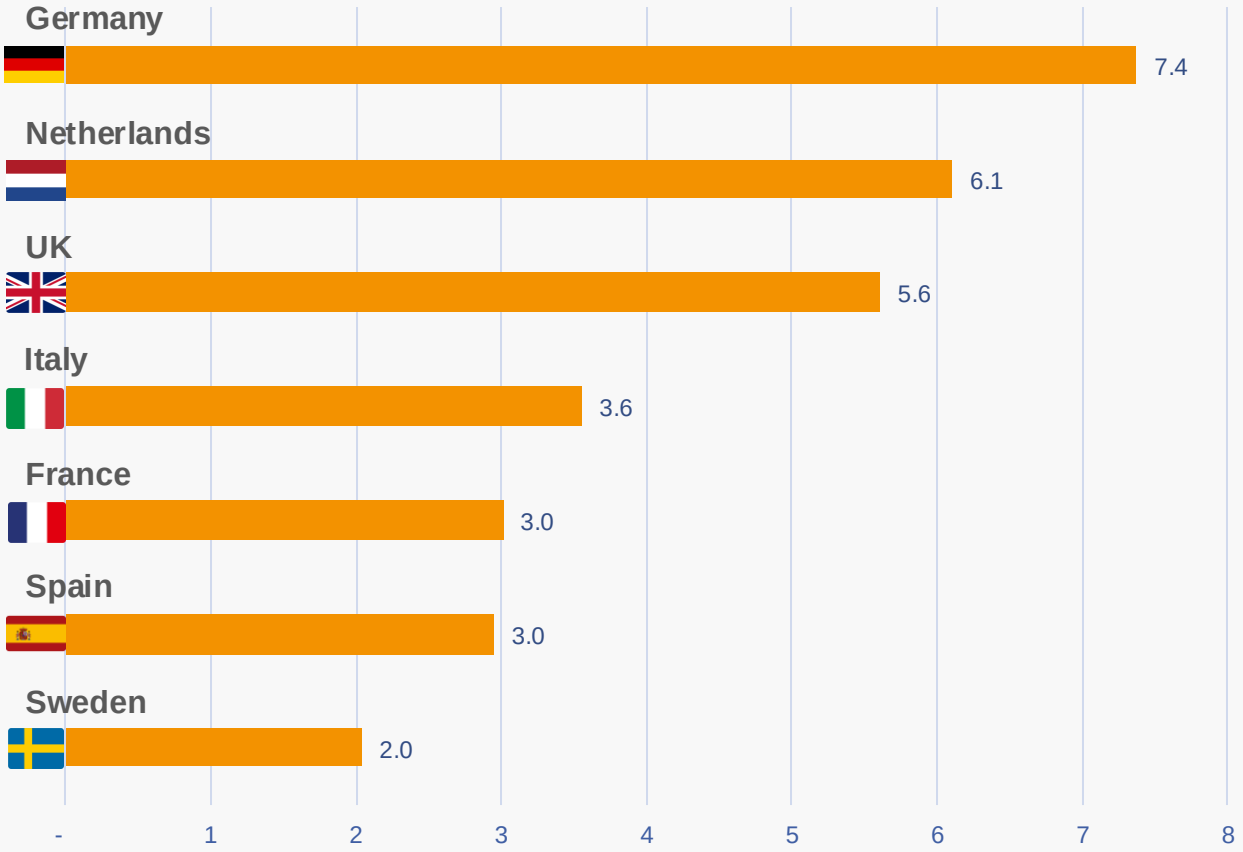
The current state of the residential energy transition in Europe

One thing is undeniable: the past three years have seen installations grow across all technologies in Europe.

2023 was a record year of installations for solar and storage, fuelled by the impact of the energy crisis on retail electricity prices and the impact of subsidies like the Superbonus in Italy and net-metering in the Netherlands. Germany dominates the European solar sector, as it dominates all other technologies besides heat pumps. In 2023 alone, the country saw over 1M solar installations and more than 500,000 storage installations.

The story is a bit less positive for other technologies, as European installations of at-home EV charge points (EVCPs) and heat pumps suffered from the impact of regulatory uncertainties, the cost-of-living crisis and the high-interest rate environment seen in 2023. This resulted in most markets either stalling or decreasing from 2022 levels.

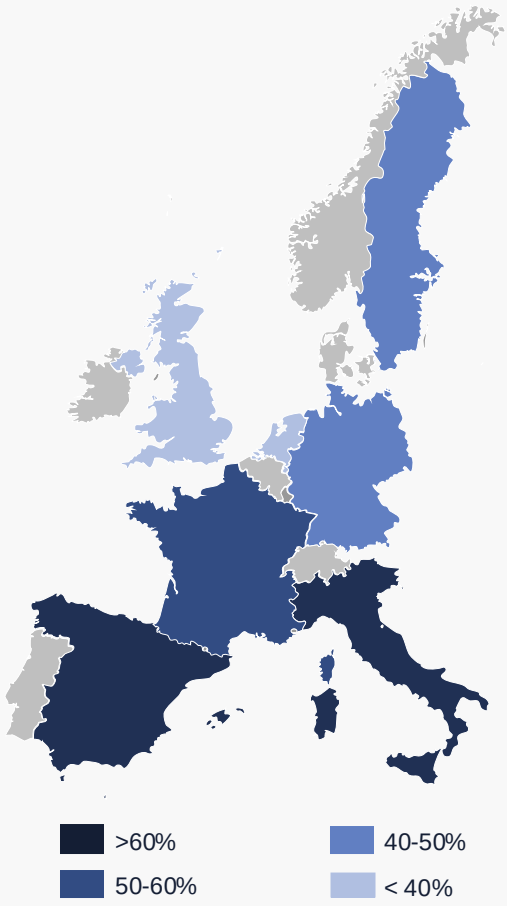
Total installed base of Solar, Storage, Heat Pumps, at-home EV Charge Points and Home Energy Management Systems – end of 2023 (in millions of units installed)

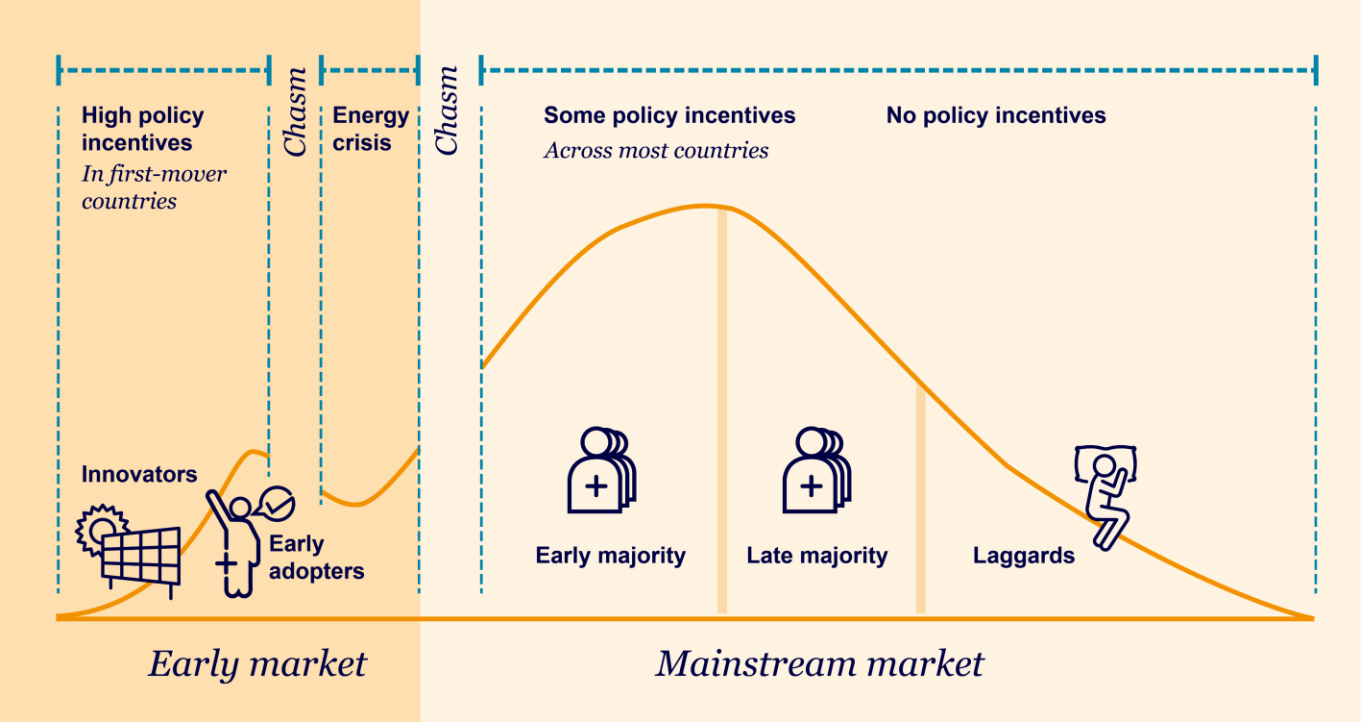


2023 brought expanding opportunities for implicit and explicit flexibility, promising lower operational costs for home charge points and heat pumps. As value streams open up to demand-side flexibility, new commercial offerings enable residential customers to monetise their flexibility. The UK and France lead in this area. Implicit flexibility has also grown as tariff innovation accelerated with the stabilisation of retail electricity prices. Consequently, the market for appliance-specific and smart tariffs is expanding rapidly.

An analysis of the residential energy transition across technologies shows that the market potential remains vast, as mainstream consumers have yet to embrace new energy solutions. Is there still a risk that Europe's residential energy transition might fail to cross this second chasm? To ensure momentum into the mainstream, it’s crucial to forecast the transition’s possible paths and devise strategies that lead to the best outcome

Penetration of innovative tariffs within the tariff offering





Where are we going?

Possible paths for the residential energy transition

Building scenarios for the energy transition

COVID, and even more so the energy crisis, have demonstrated that the residential energy transition needs to be understood within macroeconomic trends and policy priorities. Crossing the second chasm is also likely to come with a new set of macroeconomic challenges as mainstream buyers are likely to be both more price-conscious and less affluent than early adopters.

We have developed four scenarios to explore possible growth strategies for the residential energy transition.

Instead of building these growth trajectories on Net Zero targets, energy demand and supply projections, as is usually the case, we have grounded them in macroeconomic scenarios and how customers are most likely to react. We consider this bottom-up approach more realistically anchored in what the past few years have taught us about the transition.

Green World

European governments adopt ambitious green policies and transform the energy landscape, leading to a rapid growth of renewables and new energy.

Pragmatic Policy

A continuation of current policy, with tactical thinking led by political compromise resulting in a lack of policy continuity and uncertain consumer commitment.

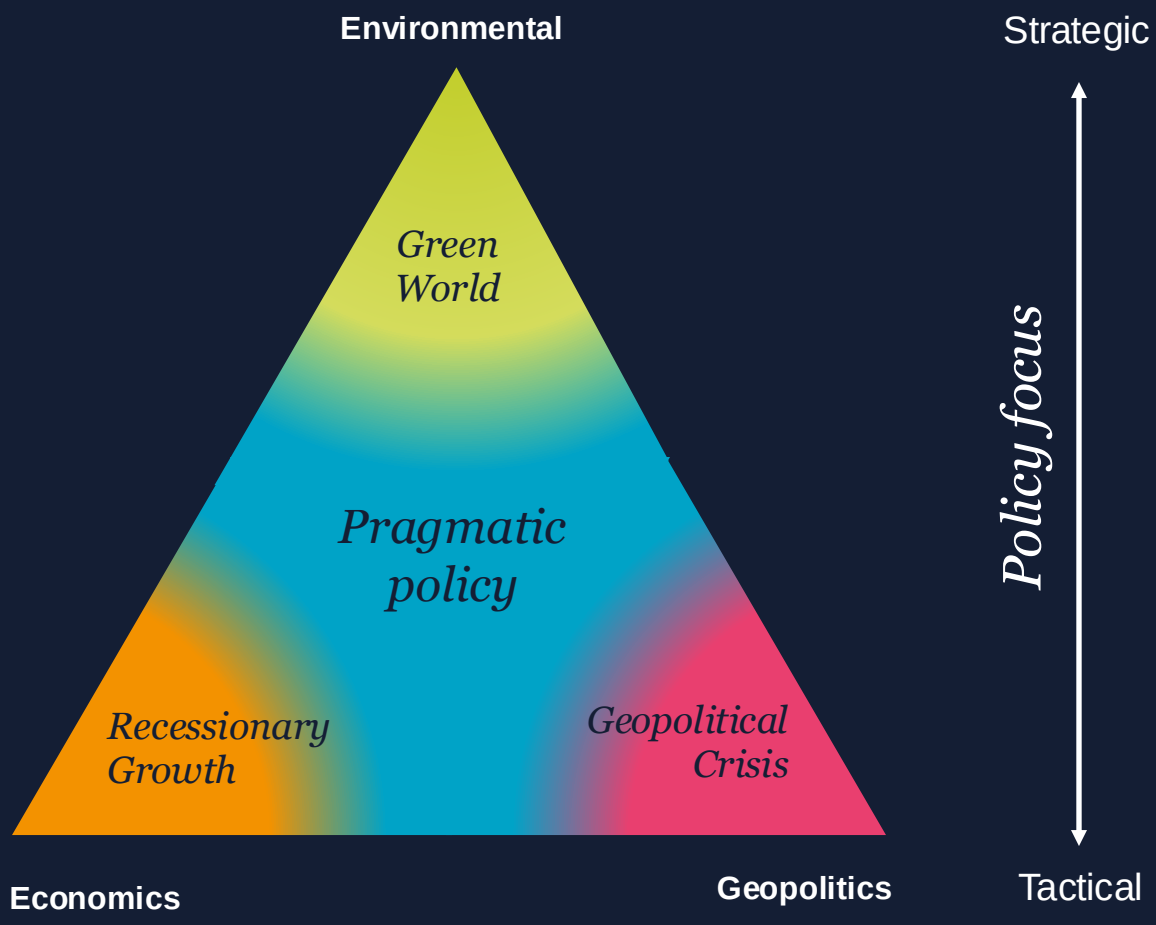
Recessionary Growth

A major recession hits Europe in the next 2-3 years, seriously affecting government spending levels and limiting green investment. Post-recessionary stimulus is then aimed at the green economy.

Geopolitical Crisis

Severe geopolitical tensions arise leading sustainability to fall to the very bottom of the political, economic and social agenda.

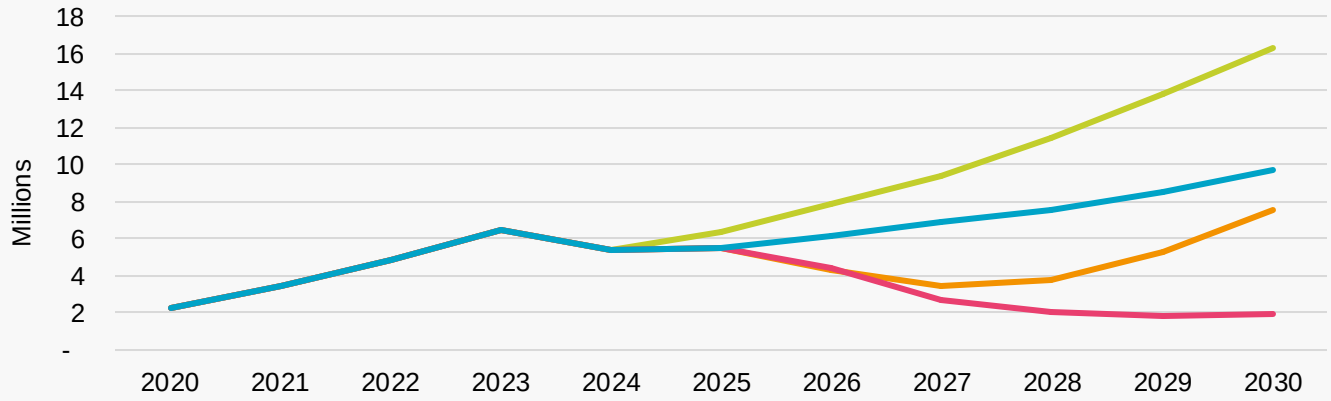
These scenarios have been built as apexes of the following triangle, each apex representing a primary policy focus. Reality likely sits somewhere between these extremes.



How do these scenarios compare?

For the four scenarios, we have produced headline forecasts to 2030, covering the technologies and seven countries considered.

Combined annual installations of Solar, Storage, Heat Pumps, EVCPs and HEMS across DE, FR, UK, ES, IT, NL & SE



Green World

Unsurprisingly, growth across all technologies is strongest in Green World, driven by long-term commitments to the transition. However, the effects of current subsidies, regulations, and supply chain constraints mean that installation rates won't significantly accelerate until 2026-2027.

Pragmatic Policy

In Pragmatic Policy, our Business-as-Usual scenario, growth stalls in 2024-2025 due to the removal of certain EV and solar subsidies, stabilising energy prices and the impact of the cost-of-living crisis, which dampen solar and storage installations compared to the exceptionally high levels of 2023. This scenario shows that as long as policymakers juggle environmental, economic and geopolitical concerns, the transition will remain slow.

Recessionary Growth

A recession would likely cause a sharp market downturn, but would just as likely be followed by Keynesian-style investments in green growth, as seen in the post-COVID recovery. These incentives would drive a rapid rebound in installations towards the end of the decade, though the extent of the recovery will depend heavily on the scale of stimulus from policymakers.

Geopolitical Crisis

In a worst-case scenario, a severe geopolitical crisis could delay the residential energy transition by a decade. Political uncertainty, deprioritisation of the transition, declining customer purchasing power, and supply chain disruptions would cause a sharp drop in installations across all technologies. Notably, the impact would vary by technology. For instance, if China were to sever ties with Europe, it could lead to the collapse of the solar and storage markets.

LCP Delta view

These four growth trajectories reveal that the energy transition is unlikely to resume strong growth until 2026 at the earliest.

Energy companies have until then to prepare for the challenge of driving the transition from early adopters to mainstream buyers.

Still, three of the four scenarios result in an increase in annual installations by 2030 from 2023 levels, with only the low-probability Geopolitical Crisis scenario failing.

Energy companies, disrupters and incumbents alike, should be bullish about the opportunity as it is almost certain to present itself. The risk isn't, in our view, that it happens but that companies are left behind.

Strategic recommendations

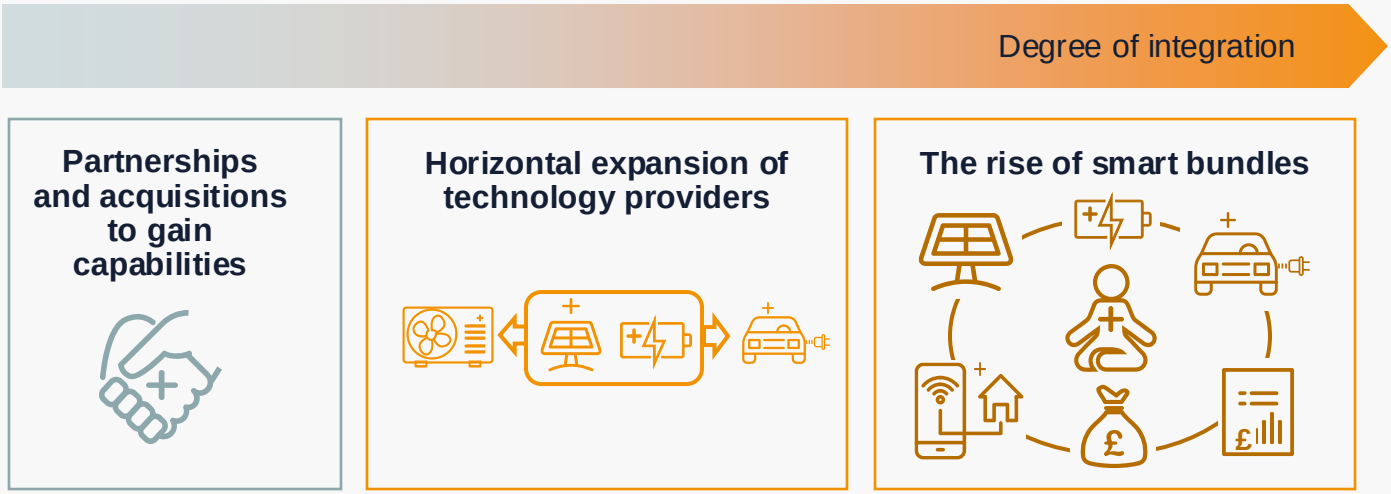
Which strategies should energy companies adopt?

Although the future of the residential energy transition remains uncertain, there are many strategies that energy companies can adopt to further drive sales and customer engagement. Some are more relevant to certain scenarios than others, but altogether they all appear as no-regret strategies.

In our full report, we explore six strategies for companies to adopt. One of the most important is for companies to focus on interoperability and systems integration. Indeed, integration is crucial to building customer-centric propositions and will be ever more key to the success of the transition with mainstream buyers.

As customers acquire a mix of energy technologies, they will seek integrated solutions that maximise value. Energy companies must offer smart bundles where different technologies—solar PV, EVs, batteries, HEM systems, and heat pumps—work seamlessly together. Vendor-neutral platforms that adapt as customers acquire assets will be key to a smooth customer journey.

The journey towards integration can unfold in stages, depending on the business model of each energy company. It typically begins with partnerships and acquisitions that drive horizontal expansion, eventually leading to smart bundles when financing and tariffs are layered onto technology installations.

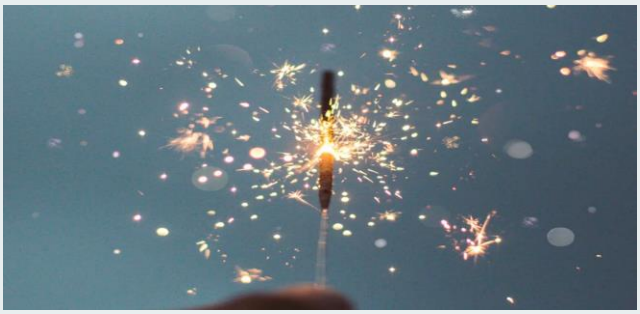


No matter the future path of the transition, ***integration is a no-regret strategy for energy companies*** *as it positions them as* ***essential partners in the customer's energy management journey****, while unlocking value from finance and flexibility.*

The more the residential energy transition progresses in Europe, the more it will require industry players to ***consider technology installations, energy retail, flexibility and finance together.***

More from LCP Delta

Take a moment to explore some of our top recommendations:



Dynamic Tariffs: An essential component of future electricity markets?

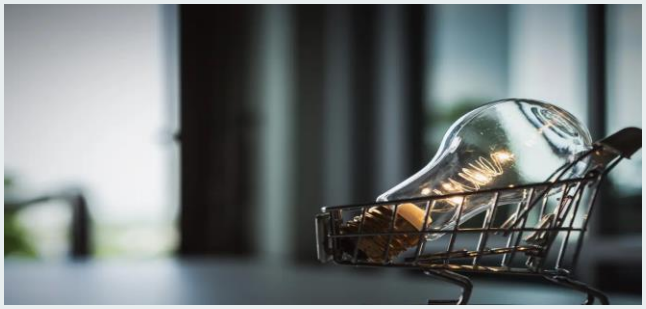
In this LCP Delta whitepaper, using a risk-based lens, we examine their benefits, limitations, current and likely uptake, drawing from a study of over 600 residential electricity retail tariffs in Europe.

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.



The hidden challenge of upgrading incumbents' energy retailers IT platforms

Explore the challenges of outdated Retail IT Platforms, re-platforming and why it's crucial for staying competitive in the rapidly evolving energy market.

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Talking New Energy, an LCP Delta podcast

This whitepaper highlights key results from our State of the Market Report. The full report includes a more comprehensive analysis by country, scenario and technology, as well as an in-depth view of six strategies companies should adopt. **To find out more, please contact us about the New Energy Strategies service.**

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