Trident



Electrification of Everything, Everywhere, All at Once

Generating asset value

Decarbonisation demands electrification

Electrification is the foundation not only of a cleaner economy, but of one that is more resilient and more prosperous.

The world cannot meet its climate, energy security or economic ambitions using fossil fuels alone. Electrification, replacing fossil-fuel-based technologies with electric alternatives powered by increasingly clean electricity, is emerging as the fastest and most scalable pathway to a more sustainable, resilient and competitive economy.

1. Decarbonisation and Efficiency

Electrification sits at the heart of the global transition to net zero. Electric vehicles, heat pumps and electric industrial processes offer the clearest route to reducing emissions across transport, buildings and industry. At the same time, electric technologies are significantly more efficient than fossil-fuel alternatives, converting a greater proportion of energy into useful work. The result is lower emissions, lower energy consumption and lower operating costs.

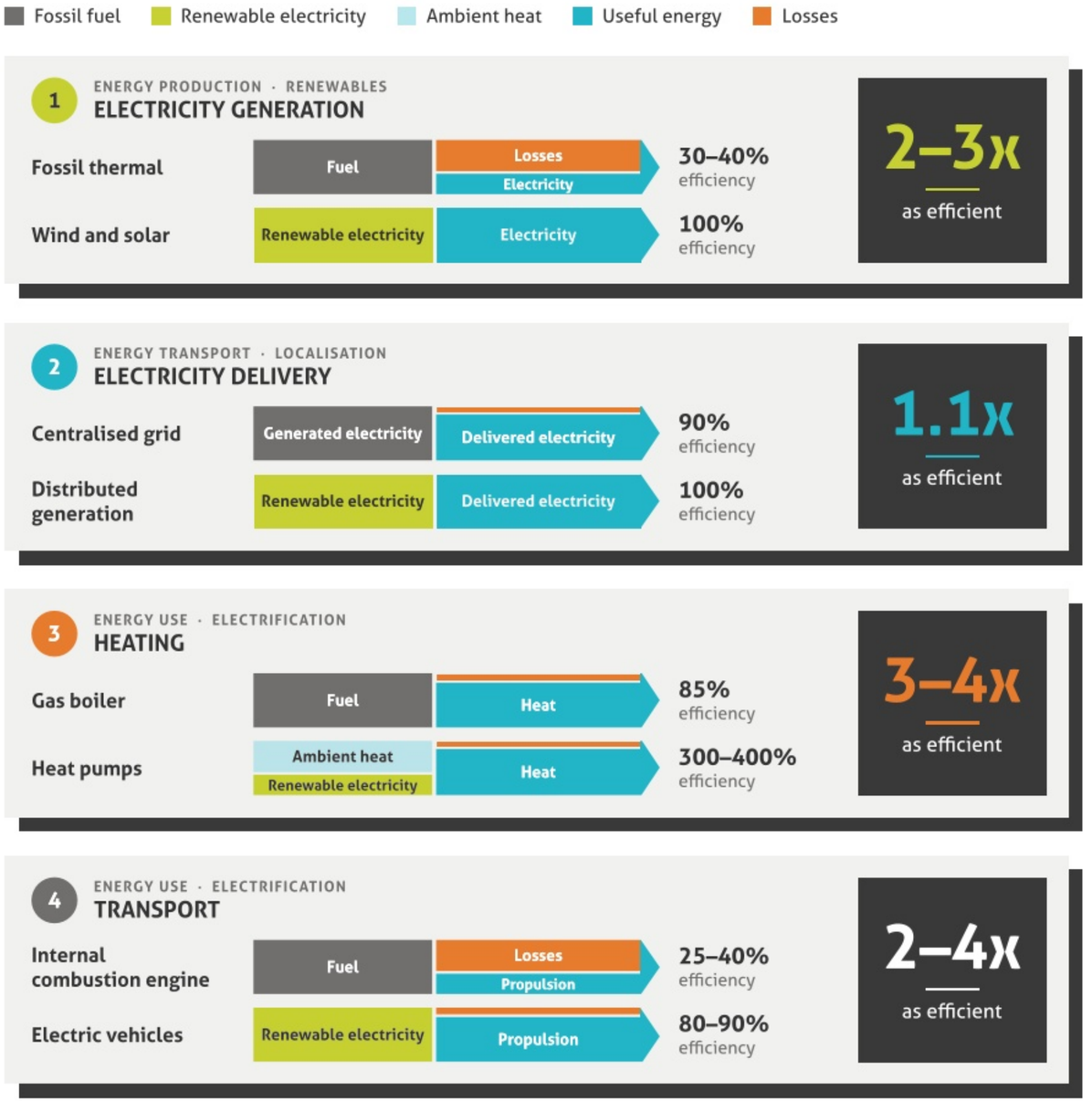
2. Energy Security

Recent energy crises have exposed the risks of dependence on imported fossil fuels. Electrification allows countries to utilise domestically generated electricity from renewable and low-carbon sources, reducing exposure to global fuel price volatility, supply disruptions and geopolitical uncertainty. This creates a more resilient and secure energy system.

3. Economic Growth and Competitiveness

Electrification is not only a climate strategy but an economic one. Research suggests electrification-led pathways support stronger economic growth, create skilled jobs, attract investment and improve industrial competitiveness. Access to reliable, affordable electricity is becoming a key enabler of future prosperity.

Electricity is essential to decarbonisation of heat and transport



Source: IEA, IIASA, RMI analysis

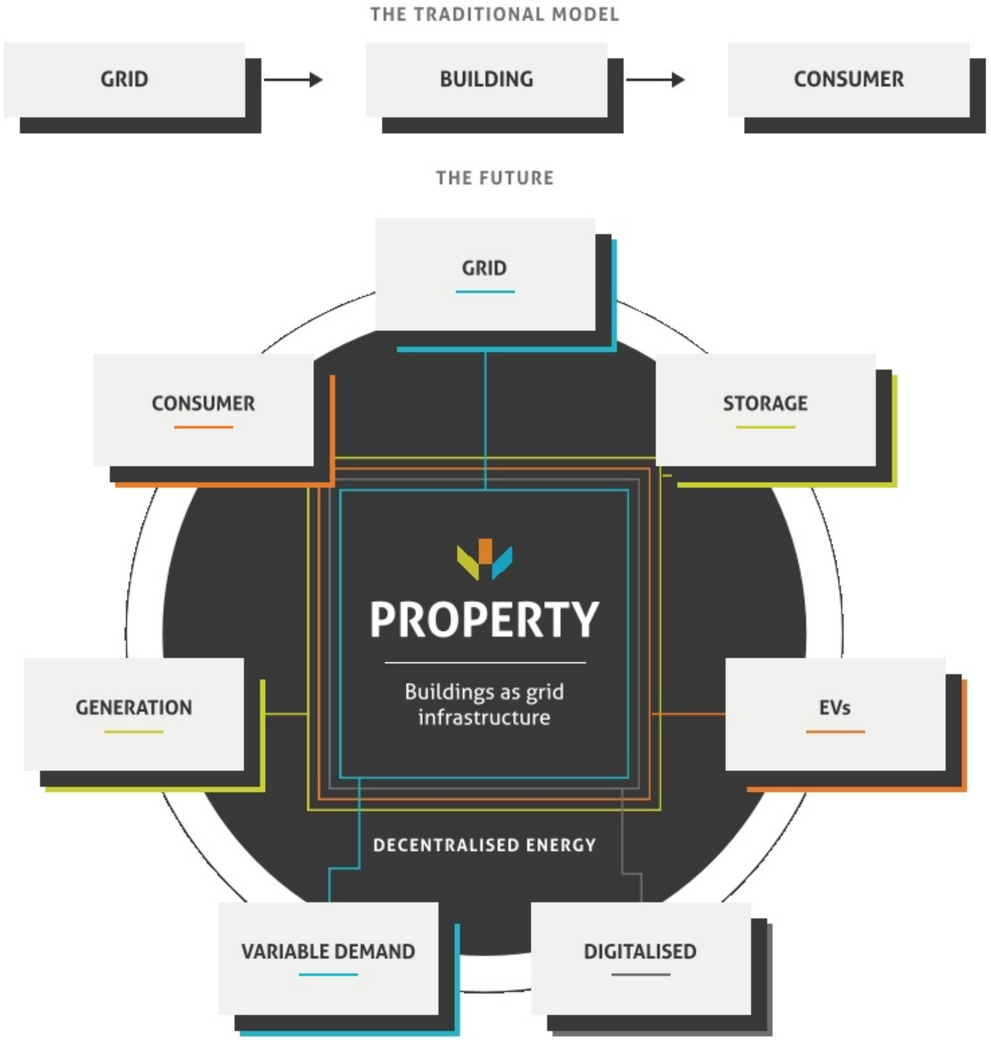
Real estate is at the centre of the transition

Real estate is at the centre of the transition as buildings account for 30% of energy consumption, yet also present the most adaptable and under-utilised levers in managing capacity constraints. In short, real estate is central to reducing peak demand, and a major potential source of flexible capacity.

1. Buildings are driving electrification, with the adoption of heat pumps, EV charging and digital infrastructure shifting demand from fossil fuels to electricity.
2. Buildings can, more than most, reduce peak demand through digitalisation, smart control, EVs, thermal & battery storage – all key to addressing the capacity constraints
3. Real estate is becoming grid infrastructure as it enables flexible loads, providing an ability to balance the grid rather than simply drawing from it.
4. The built environment can unlock renewable energy, locating where electricity is abundant, absorbing renewable generation that might otherwise be constrained.

Real estate is therefore not simply another growing consumer of the future electricity system - it can become part of the solution, reducing demand, managing peaks, providing flexibility, incorporating generation and storage, and making better use of constrained network capacity.

The power grid is experiencing a structural shift towards more decentralised energy, significantly expanding the role for CRE



The buildings that can intelligently manage when and how they use electricity will increasingly have an advantage over those that simply consume it.

The capacity crunch: electrification of everything, everywhere

The UK needs to electrify almost everything at precisely the moment when the electricity system itself needs to be rebuilt. Electricity demand could almost triple by 2050, while the grid already has more than 700 GW of projects waiting for connection.

That makes the "capacity crunch" much more than an energy-sector issue. It has become a fundamental constraint on development, real estate, data centres, EV charging, heat pumps, industrial decarbonisation and economic growth.

The UK is entering a period in which electricity demand is expected to rise rapidly while the infrastructure required to generate, transmit and distribute that electricity is already under significant pressure.

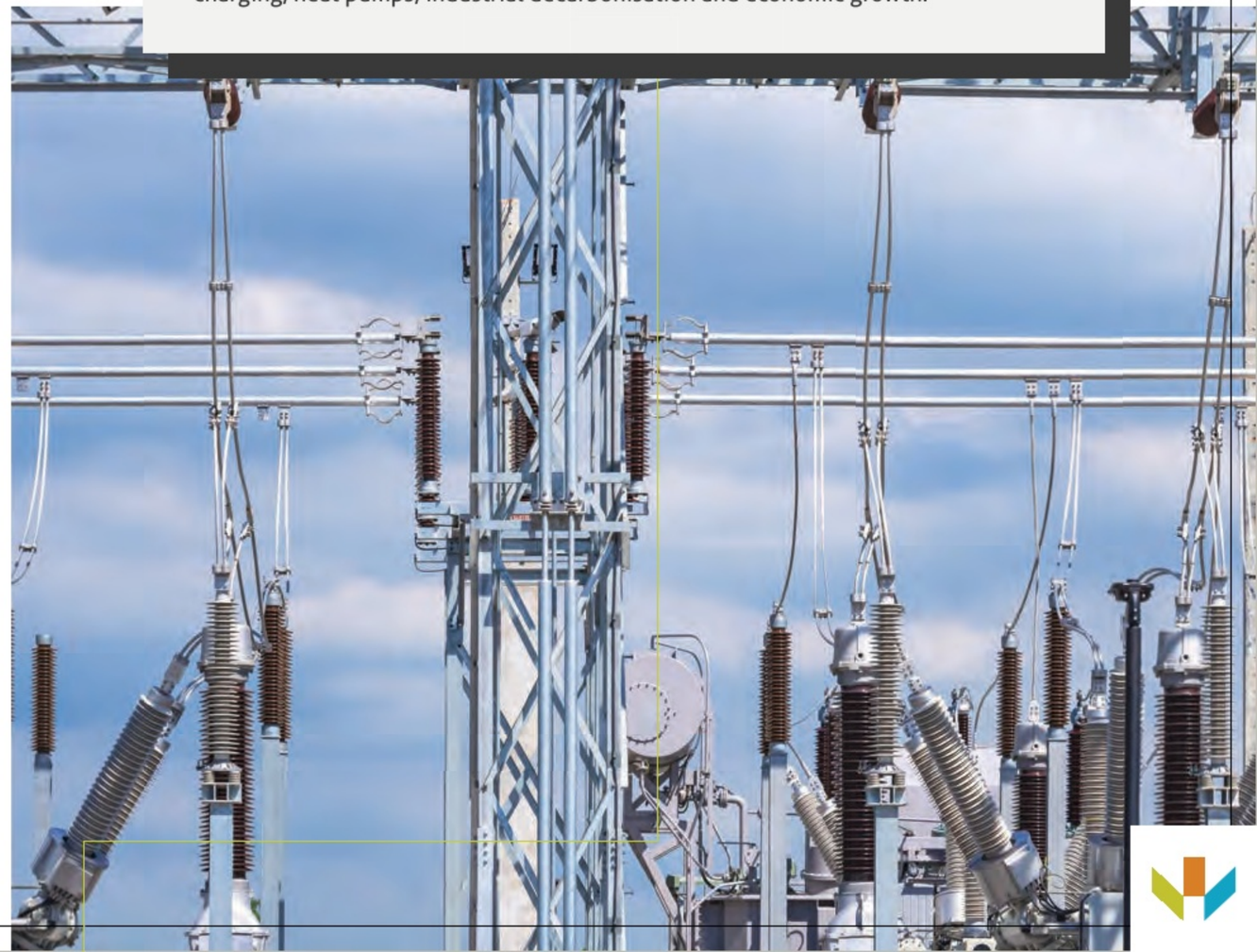
National Energy System Operator (NESO)'s latest scenarios indicate that our annual electricity demand could almost triple from around 290 TWh today to 785 TWh by 2050, whilst peak demand could increase from around 58 GW today to 144 GW.

This growth is being driven by the electrification of everything, everywhere all at once:

- Data-centre demand is forecast to reach 41 TWh by 2035, compared with approximately 7.6 TWh today
- Heat demand for electricity will grow from 27.5 TWh to 230 TWh by 2050
- Transport will drive a twelvefold increase in electricity demand to 141 TWh by 2050

Connection applications have surged from 41 GW to 125 GW in less than a year. The challenge is therefore not simply generating more electricity. The network must also accommodate increasingly concentrated and time-sensitive loads.

In 2025, it was clear the grid was in crisis. The connections queue exceeded 700 GW in 2025, around four times the capacity required to deliver Clean Power by 2030 and over 300 GW had to be cut or delayed due to lack of readiness.



The key battleground for net zero

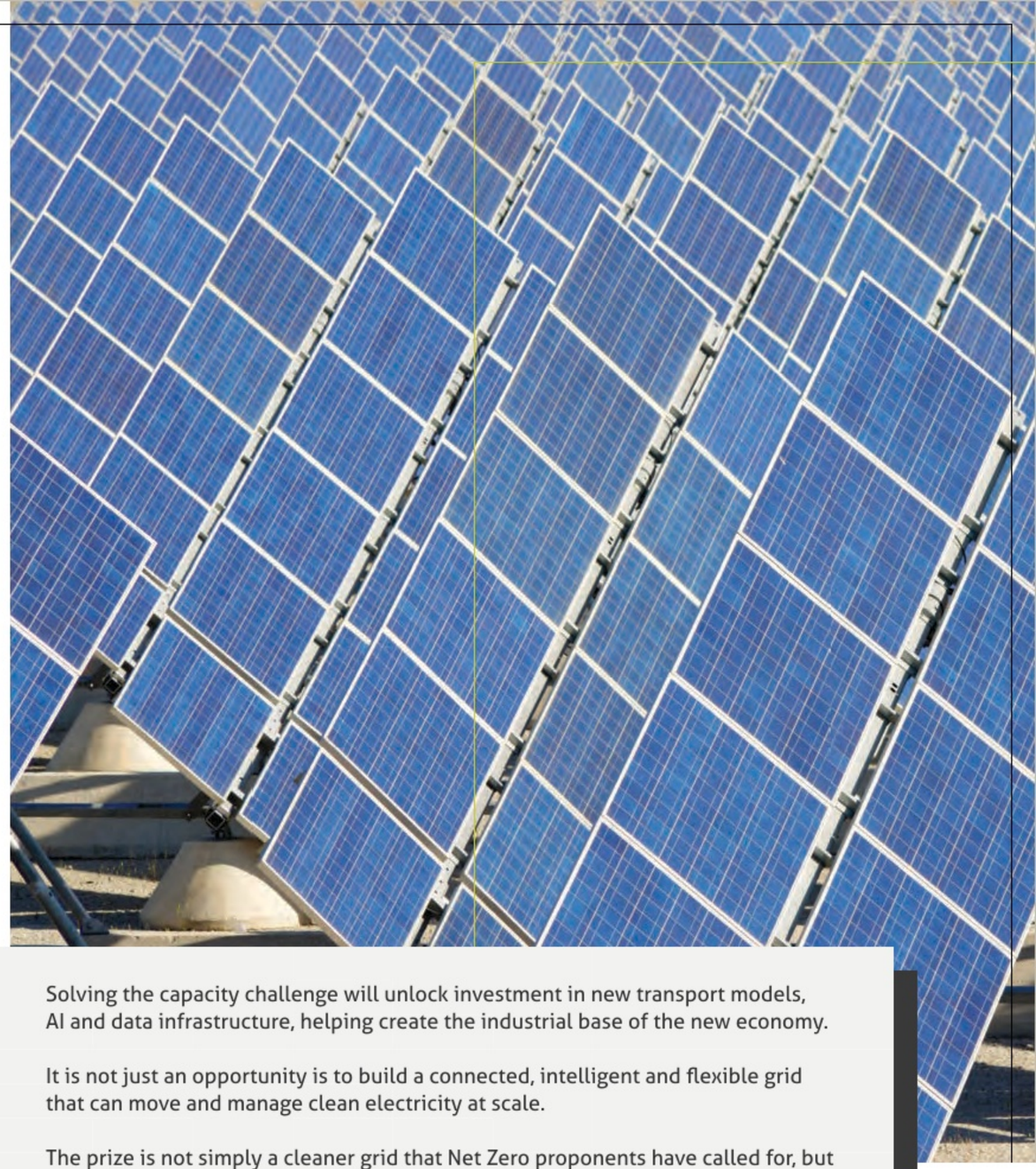
Britain faces a paradox at the heart of its energy transition. We have some of Europe's best renewable energy resources, with solar and wind now the cheapest form of energy generation. Yet our electricity prices remain amongst the most expensive in Europe, helping the climate sceptics progress their culture war on climate change.

Two structural factors are central to this:

- To secure sufficient supply capacity, we set wholesale prices according to the marginal cost (the most expensive supplier - often gas). This means even when wind is cheap, we pay the high, fossil fuel-based price.
- Capacity compounds this problem. The physical constraints and lack of flexibility of the grid can mean having electricity generated in the wrong place and at the wrong time, with some generators having to switch off whilst other, more expensive ones are paid to be brought on.

Britain can simultaneously have surplus zero-carbon electricity and expensive electricity for consumers.

Whilst some politicians blame high electricity prices on Net Zero or renewables, and others call for more drilling, these arguments distract from the real strategic imperative: Britain must treat the grid as critical economic infrastructure and improve its flexibility.



Solving the capacity challenge will unlock investment in new transport models, AI and data infrastructure, helping create the industrial base of the new economy.

It is not just an opportunity is to build a connected, intelligent and flexible grid that can move and manage clean electricity at scale.

The prize is not simply a cleaner grid that Net Zero proponents have called for, but a grid that provides Britain with a competitive advantage and supports our economic growth.

A growing power premium for real estate

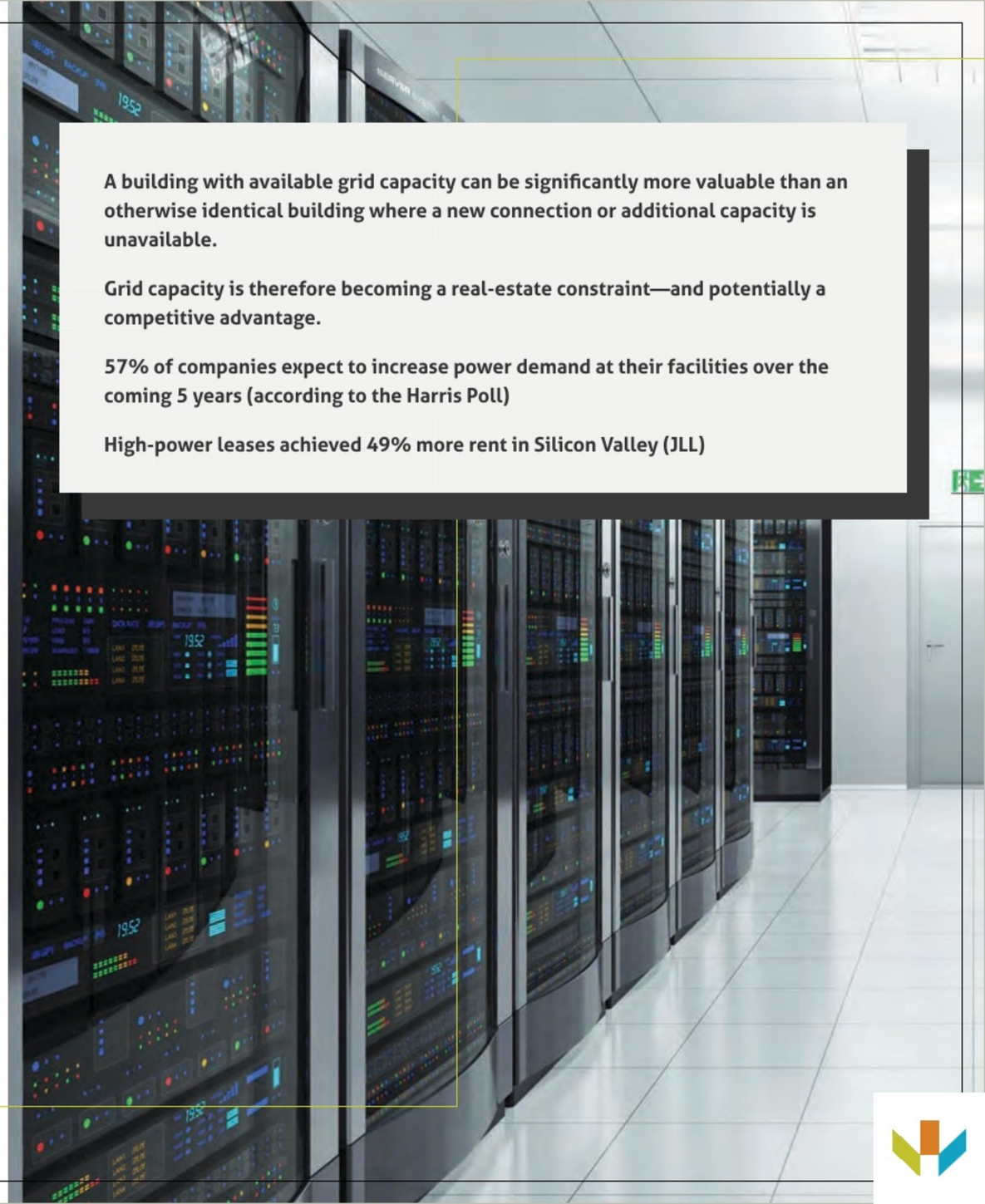
Beyond the challenge of electrifying everything, everywhere, all at once, key industries - including advanced manufacturing, life sciences, AI and electrified logistics - are expanding rapidly and experiencing the constraints most acutely. We need to have the electricity capacity to power the next generation of innovation.

In industrial and logistics, Prologis reports that access to power capacity is now a leading factor in location decisions—not only for affordability, but for energy security. Nearly 90% of companies experienced energy disruption in the past year, alongside significant price volatility, while most expect power demand to increase by more than 25% over the next five years.

Businesses need reliable energy to power the next generation of innovation—and are willing to pay for it. 90% of respondents would pay a premium for sites with reliable energy infrastructure. Occupiers are increasingly moving from "location, location, location" to "location, resilience, capacity."

JLL research reinforces this shift: in Silicon Valley, high-power leases have achieved rents 49% higher than other leases and 33% higher than even the newest buildings.

The central question therefore is changing from simply delivering the cleanest system at the lowest long-term cost to ensuring reliability, resilience and competitiveness.



A building with available grid capacity can be significantly more valuable than an otherwise identical building where a new connection or additional capacity is unavailable.

Grid capacity is therefore becoming a real-estate constraint—and potentially a competitive advantage.

57% of companies expect to increase power demand at their facilities over the coming 5 years (according to the Harris Poll)

High-power leases achieved 49% more rent in Silicon Valley (JLL)

Revenue generating (and saving) opportunities

Investors wanting to maximise the value of their real estate assets cannot afford to ignore the range of new revenue (and cost saving) opportunities associated with electrification.

The rapidly falling costs, increased demand for clean energy and volatile energy prices have driven demand for PV, EV and battery storage for supplying electricity for use in buildings or for transport.

Recent market reforms, particularly BSC Modification P415, have enabled behind-the-meter batteries to access wholesale electricity markets through independent aggregators, transforming buildings into active grid assets.

Batteries can earn revenue through energy arbitrage, charging when electricity prices are low and discharging when prices are high. They can also generate income by providing flexible capacity to the grid, exporting power during periods of peak demand and absorbing electricity when renewable generation exceeds demand. Additional revenues are available through frequency response, balancing and reserve services, Capacity Market payments, and local flexibility markets that help alleviate network constraints and defer costly grid reinforcement. When aggregated into Virtual Power Plants (VPPs), batteries can participate in multiple markets simultaneously, maximising revenues while helping address wider grid capacity challenges.

The emerging opportunity is that buildings are evolving from passive energy consumers into distributed energy resources (DERs) that can generate, store, shift and trade electricity.



The power of electrification

Revenue generating opportunities

Electrified assets are no longer just energy consumers – they are **valuable energy resources** that can generate, store, shift and trade electricity, creating multiple revenue streams.

A range of revenue streams across your electrified assets

SOLAR PV

Generate clean power and monetise it

- On-site self-consumption (bill savings)
- Export to grid / export tariffs
- Sell into wholesale markets
- Local energy markets
- Sleeved PPAs / corporate offtake

BATTERY STORAGE

Store energy and get paid for flexibility

- Energy arbitrage (buy low, sell high)
- Frequency response (Dynamic Containment, Regulation, Moderation)
- Balancing Mechanism participation
- Capacity Market revenues
- DSO flexibility services
- Network deferral value / faster connections

EV CHARGING

Charge vehicles and support the grid

- Public / destination charging revenues
- Workplace charging revenues
- Fleet charging revenues
- Smart charging optimisation
- Vehicle-to-Grid (V2G) services (future)

BUILDING FLEXIBILITY

Get paid to shift or reduce demand

- Demand Side Response (DSR)
- Peak reduction contracts
- Load shifting in flexibility markets
- Thermal storage and smart controls
- Aggregator programmes

VIRTUAL POWER PLANTS

Aggregate assets to unlock larger revenue streams

- Grid services (frequency, reserve, balancing)
- Wholesale market trading (day-ahead, intraday, real-time)
- DSO / local flexibility markets
- Capacity Market participation
- Optimised self-consumption across portfolio

CORPORATE PROCUREMENT

Secure long-term value and price certainty

- Sleeved PPAs
- Physical PPAs
- Virtual PPAs
- Hedge against price volatility
- Enhance ESG and reporting

Cross-cutting benefits that drive additional value

RESILIENCE
Reduce outage risk and operational disruption.

COST SAVINGS
Lower energy bills, avoid network charges and defer infrastructure investments.

SUSTAINABILITY
Reduce emissions and strengthen ESG performance.

OCCUPIER APPEAL
Attract and retain tenants with low-carbon, power-ready assets.

ASSET VALUE
Enhance asset value through future-proofed infrastructure.

Integrated solutions across generation, storage, EVs and flexibility

Working with you to unlock commercial energy opportunities

Creating long-term value for assets, occupiers and investors

TURNING YOUR ASSETS INTO ENERGY VALUE

By combining generation, storage, EVs and flexible demand, you can unlock new revenue streams, reduce costs and become an active participant in the clean energy economy.

POWERING TODAY. VALUING TOMORROW.

Generating Value

Client Global investor

Sector Office

Services Energy Services

Challenge

- Our client was seeking to reposition their asset
- They recognised the importance of sustainability in meeting tenant needs, reducing service charges and cutting occupancy costs

Solution

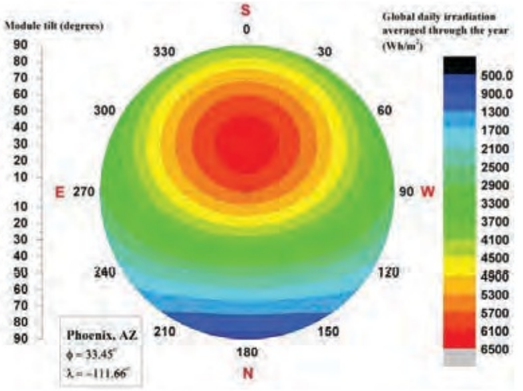
- Completed a detailed feasibility study for PV
- Assessed PV, battery storage & innovative grid services to optimise performance and maximise revenues

Benefits

- 19% IRR and £600k NPV from PV
- 14% IRR but £920k NPV from PV + BESS
- 20% IRR and £1,210 NPV by adding grid services
- Alternative of saving £100k through addressing capacity charges







Information

Our client was seeking to improve the sustainability and operational performance of its Tanfield asset, recognising the increasing importance of sustainability in meeting tenant expectations and maintaining the attractiveness of the building. At the same time, there was a clear opportunity to reduce service charges and occupier energy costs, improving the overall value proposition for tenants.

A detailed feasibility study was undertaken to assess the potential for photovoltaic (PV) generation at the asset. The assessment considered a range of options for PV, battery storage and innovative grid services, evaluating how these technologies could work together to optimise energy performance, reduce costs and maximise potential revenue streams. The study also identified wider opportunities to improve energy efficiency and reduce the building's operational costs.

The analysis identified the optimal PV and battery storage strategy for the asset and established a compelling business case, with the recommended investment delivering an internal rate of return (IRR) of almost 15%. In addition, the study identified further energy efficiency opportunities and uncovered a £100,000 per annum energy cost saving that could be achieved at no capital cost through simple adjustments to the energy supply contract. Together, these measures provided a clear route to improving sustainability while delivering tangible financial benefits for the investor and its tenants.

Capturing the opportunities

1 Audit portfolio and capacity

Undertake a portfolio-wide assessment of existing electrical infrastructure, spare capacity, connection limitations, upgrade requirements and future tenant demand.

Increasing demand from heat pumps, EV charging, digital infrastructure and broader electrification combined with the business opportunity of generating energy and increased grid capacity charges means those that don't understand their assets in detail will not be able to manage them effectively and so risk leaving considerable value on the table.

- ✓ Identifies assets at risk of capacity shortages.
- ✓ Supports development and acquisition decisions.
- ✓ Reduces the risk of delays
- ✓ Captures revenue and saving opportunities

2 Integrate into asset and capital plans

Develop asset-level decarbonisation and electrification roadmaps covering heating, cooling, transport and building systems.

Prioritise electrification during retrofits and integrate into every project and into your capital expenditure plans.

Innovative approaches are critical to address the property specific operational and technical challenges of replacing legacy distribution systems as well as tackling grid capacity constraints.

- ✓ Reduces transition risk.
- ✓ Aligns assets with future regulation and occupier requirements.
- ✓ Reduces stranding risk
- ✓ Protects long-term value and liquidity.

3 Invest in generation, storage & flexibility

Deploy solar PV, battery storage, smart controls and demand-side flexibility where viable.

To maximise the value of your real estate asset and generate new income streams, property owners should secure the various "Grid Services" income streams available, opportunities to trade on the wholesale market as well as maximising revenues through provision of clean energy and EV charging

- ✓ Identifies assets at risk of capacity shortages.
- ✓ Supports development and acquisition decisions.
- ✓ Reduces the risk of delays
- ✓ Captures revenue and saving opportunities

4 Integrate into agreements

Incorporate power availability, resilience and low-carbon energy capability into acquisition, development and leasing strategies.

As electrification accelerates, occupiers are likely to place increasing value on buildings that can support EV charging, electric heating, digital infrastructure and future energy requirements.

Smart investors will ensure leases take into account the opportunities associated with flexible markets and clean energy supply

- ✓ Improves certainty around connections.
- ✓ Avoids delays to development and refurbishment programmes.
- ✓ Supports long-term growth opportunities.

5 Capture value and advantage

Incorporate power availability, resilience and low-carbon energy capability into acquisition, development and leasing strategies. As electrification accelerates, occupiers are likely to place increasing value on buildings that can support EV charging, electric heating, digital infrastructure and future energy requirements.

Consideration of each of the revenue streams as well as cost saving opportunities should be considered and a business plan for your assets developed.

- ✓ Enhances tenant appeal and retention.
- ✓ Supports rental growth and asset differentiation.
- ✓ Positions portfolios to benefit from a more electrified, low-carbon economy.

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