34%

of global CO2 emissions come from buildings and construction. Climate and energy performance are no longer just sustainability metrics: they are financial variables that shape asset value.

Act now to protect asset value

What five years of Deepki Index data reveal about energy use, carbon exposure and where to invest across European and US real estate.

Why performance now affects asset value

The cost of waiting is increasingly showing up in asset value. Climate and energy performance are moving from sustainability metrics to financial variables: they influence insurance, liquidity, CapEx requirements and, in turn, asset value.

The evidence, in three data points

12%	rise in US home insurance premiums in 2022, as insurers pull out of high-risk wildfire and flood areas.
£5,000–£9,000	price discount already visible on UK properties covered by the MEES energy regulation. Buildings rated F or G could become unsellable by 2050 without upgrades.
8%	how much lower prices remained in New York's flood zones, five years after Hurricane Sandy.

Source: UNEP FI, Climate Risks in the Real Estate Sector, 2023.

These are not isolated incidents. They track a physical trend the World Meteorological Organization expects to continue through 2030, with a 91% probability that at least one year exceeds 1.5°C above pre-industrial levels.

> *Achieving net-zero global real estate by 2050 requires an estimated $1.7 trillion annually, according to McKinsey. However, the cost of inaction far outweighs the price of taking action.*
>
> **McKinsey, The net-zero transition, 2022**

Three findings and what they mean for portfolio decisions

The data points to a growing disconnect between energy consumption, carbon exposure and asset performance. For real estate owners and investors, the question is no longer simply which buildings consume the most energy. It is where intervention can protect the most value, reduce the greatest risk and deliver the strongest return on CapEx.

-6%

final energy consumption across European real estate since 2021: just 1.6% a year. CO2 fell 17%, but two thirds of that came from a cleaner grid, not from better buildings.

See page 4

×3

Germany emits three times more CO2 per kWh than France, for comparable energy consumption. Carbon exposure increasingly depends on where an asset sits, not only how efficiently it operates.

See page 6

-46%

European logistics averages 97 kWh/m²/year of final energy, against 52 for the sector's top 30%: a 46% improvement opportunity. Low absolute consumption does not mean an asset is optimized.

See page 8

This white paper analyses the Deepki Index 2026 results for Europe and the United States, sector by sector and region by region, then puts these findings to work: pinpointing, concretely, where the most cost-effective reduction potential sits within a real estate portfolio.

Buildings are getting better. Just not fast enough.

Buildings are improving. The grid is improving twice as fast. Since 2021, the Deepki Index has tracked the real consumption of tens of thousands of European buildings.

These figures are a market signal, not a fixed panel: the sample of buildings in the Index evolves from one edition to the next.

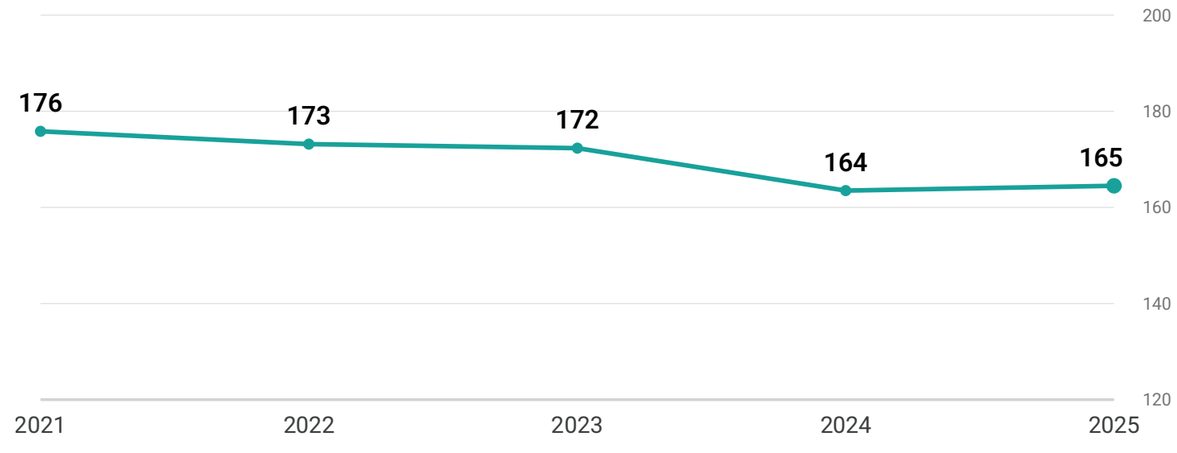
Average final energy consumption (all sectors) fell from 176 kWh/m² in 2021 to 165 in 2025: a net **-6%** over five years, or 1.6% a year. Logistics (-23%), offices (-16%), healthcare (-12%) and residential (-11%) all improved. Hospitality is up 14%, likely reflecting the post-Covid activity rebound, and retail is up 4%.

CO2 emissions fell faster: down 17% since 2021, most of it (16%) in the last two years. But the carbon intensity of the mix fell about twice as fast as consumption (12% versus 6%). Two thirds of the carbon progress comes from a cleaner grid, only one third from better buildings.

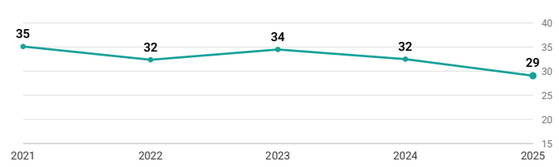
WHAT THIS MEANS FOR YOUR PORTFOLIO

Do not credit your CapEx plan for gains the grid delivered on its own. Track building-level energy use separately from carbon, and measure it against the pace your targets require.

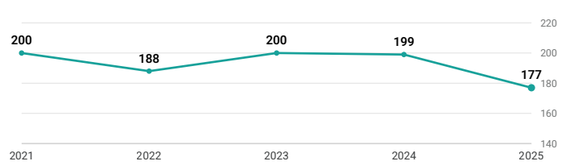
Average final energy consumption, Europe (all sectors), kWh/m²/yr



Average CO2eq emissions, kgCO2/m²/yr



Carbon intensity of the mix, gCO2/kWh



> *At 1.6% a year, the average European building would only reach today's top 30% level around 2047.*

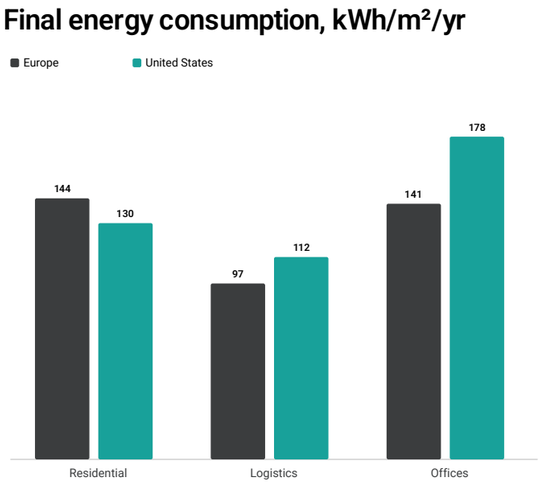
Location matters as much as efficiency

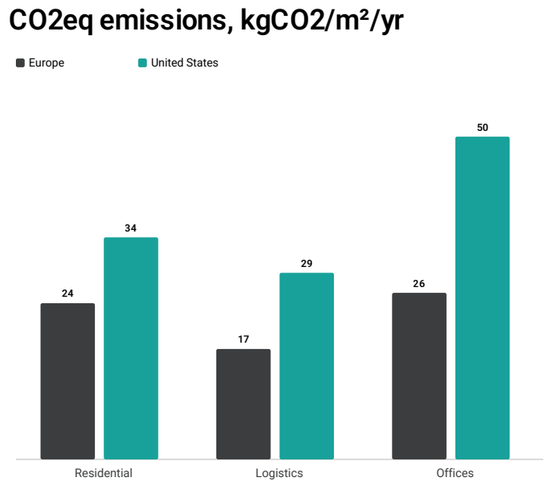
US offices use 26% more energy than European offices, but produce 94% more CO2 emissions.

If building efficiency were the whole story, that gap should not exist. Across the three sectors common to both datasets, residential, logistics and offices, the energy consumption gap between Europe and the United States stays moderate: from -10% to +26% depending on the sector. The CO2 gap is consistently far wider: +42% to +94%.

The determining factor is therefore not primarily building efficiency, but the carbon intensity of the local electricity mix: a key point for any decarbonisation strategy spanning a transatlantic portfolio.

> *The carbon gap isn't explained by building efficiency alone. The local energy mix dramatically amplifies it.*





WHAT THIS MEANS FOR YOUR PORTFOLIO

Benchmark carbon and energy separately across markets. A location's grid mix can outweigh anything a retrofit plan achieves on its own.

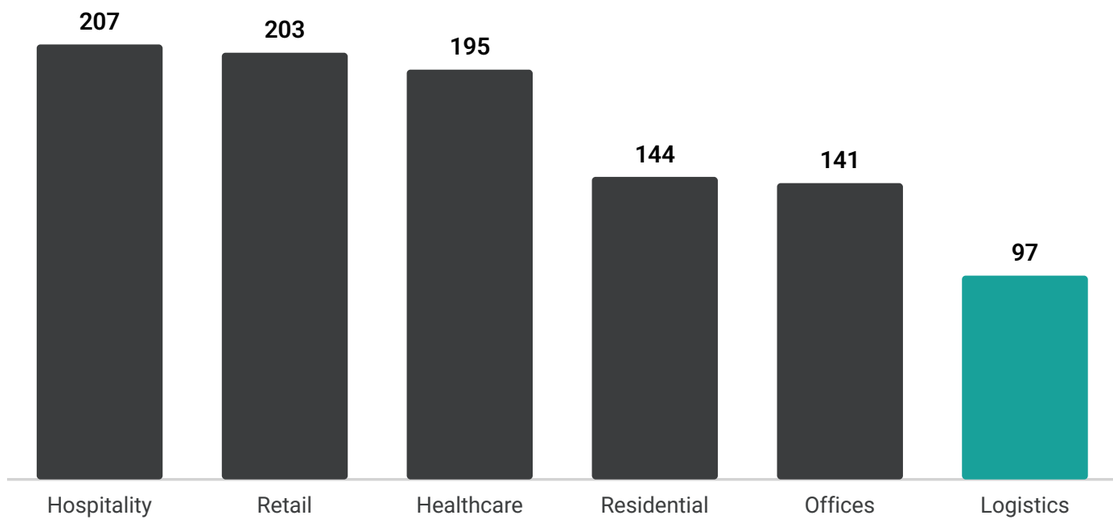
European sector and country findings

Across the European aggregate, hospitality (207 kWh/m²) and retail (203) remain the most energy-intensive sectors, followed by healthcare (195). Logistics shows the lowest consumption (97): a largely structural result. A warehouse is a large, lightly heated volume with few electrical systems relative to its floor area, not necessarily better managed than an office or a shop.

By country, energy use and carbon intensity tell different stories. The UK consumes the most energy on average; Germany, despite moderate energy use, becomes the highest emitter per kWh consumed once the electricity mix is factored in.

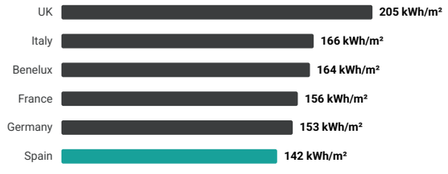
> *A German building and a French building consuming the same amount of energy do not emit the same carbon: the electricity mix alone accounts for a factor of 3.*

Average final energy consumption by sector, Europe, kWh/m²/yr

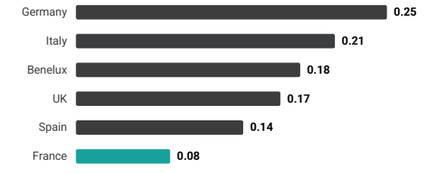


Source: Deepki Index 2026, Europe aggregate.

Final energy by country



Carbon intensity of the mix, kgCO2/kWh



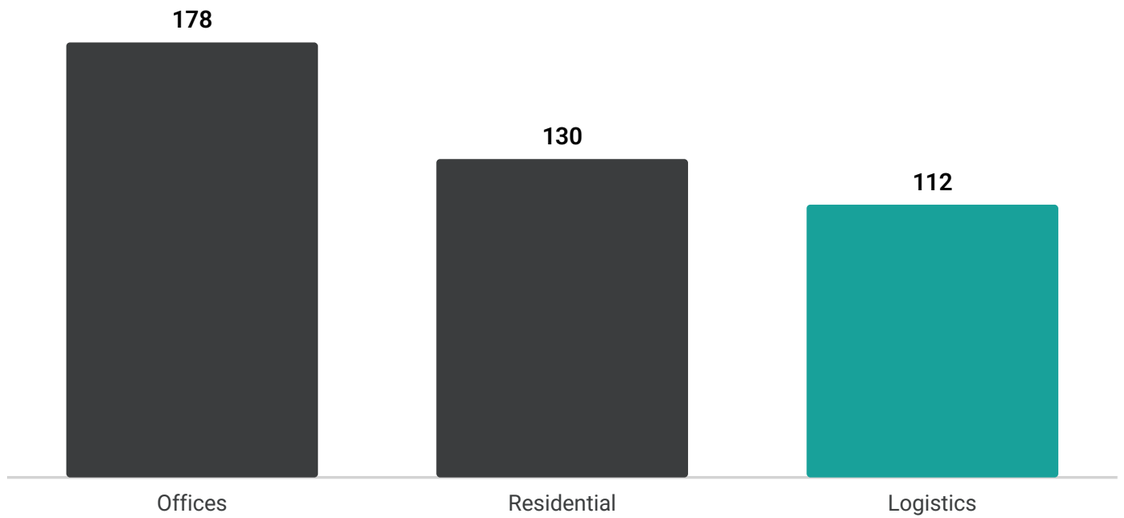
US sector and regional findings

The US profile differs markedly from the European one: offices consume the most (178 kWh/m²), well ahead of residential (130) and logistics (112). As in Europe, this low figure is mostly a consequence of warehouse typology (large volumes, few electrical systems) rather than superior energy performance.

By region, the Midwest consumes the most energy and stands out above all for its carbon intensity (a coal-heavy grid): more than double California's, for an energy use only about 10% above the US average.

> *California is not the most energy-efficient US market. It is the lowest-carbon one. The local electricity mix remains the primary lever, even ahead of building efficiency.*

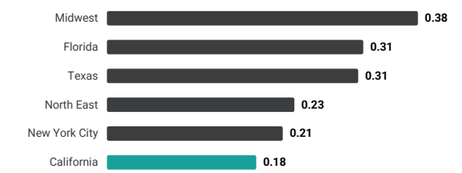
Average final energy consumption by sector, United States, kWh/m²/yr



Source: Deepki Index 2026, average of the 6 published regions.

Final energy by region

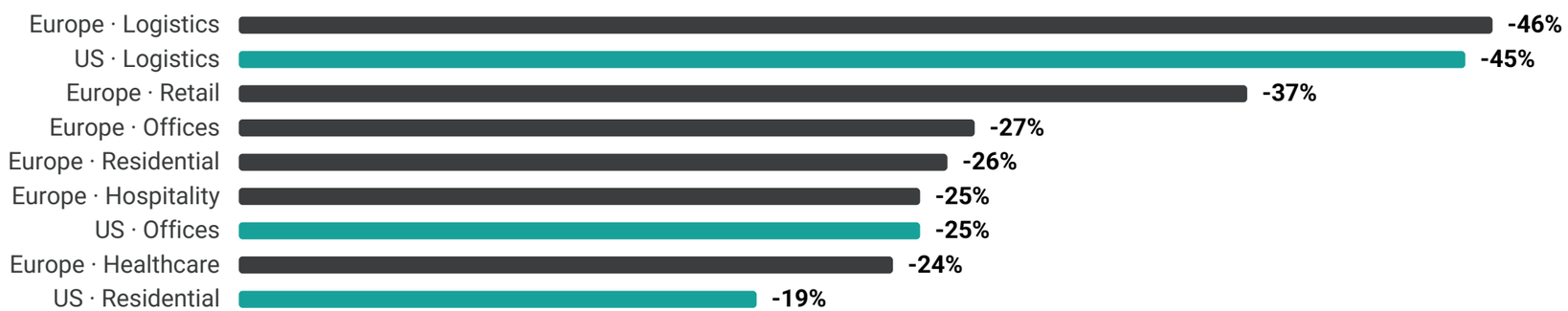
Carbon intensity of the mix, kgCO2/kWh



Improvement potential by sector: the top 30% benchmark

The gap between a sector's average and its top 30% (the EU Taxonomy threshold) shows the reduction potential still available. Logistics shows the largest gap on both sides of the Atlantic: proof that headroom exists even in sectors that look efficient on the surface.

Gap to the sector's top 30% performers, ranked



Region	Sector	Average	Top 30%	Gap vs top 30%	Gap vs top 15%
Europe	Logistics	**97**	**52**	**-46%**	**-63%**
Europe	Retail	**203**	**127**	**-37%**	**-54%**
Europe	Offices	**141**	**103**	**-27%**	**-41%**
Europe	Residential	**144**	**107**	**-26%**	**-40%**
Europe	Hospitality	**207**	**155**	**-25%**	**-40%**
Europe	Healthcare	**195**	**149**	**-24%**	**-37%**
United States	Logistics	**112**	**62**	**-45%**	**-63%**
United States	Offices	**178**	**133**	**-25%**	**-41%**
United States	Residential	**130**	**106**	**-19%**	**-33%**

kWh/m²/yr.

From benchmark to investment decision

Knowing where the gap sits only matters if it changes what you do next. Three steps turn a benchmark into a decision.

1. **Acquire smarter.** A thorough pre-purchase audit feeds the investment committee memo. Once held, a sustainability passport tracks the actions taken and their effect on performance through the holding period.
2. **Prioritize the portfolio.** Benchmark against peers, not just against last year. Logistics shows the largest gap to its own top 30% on both sides of the Atlantic: -46% in Europe, -45% in the US.
3. **Invest where it matters.** Not every action delivers the same return per euro spent. The economics differ sharply by lever.

Not every tonne of carbon costs the same to remove

A typical renovation plan draws on five families of action: **envelope** (insulation, windows: 35% of CapEx), **equipment** (heating, BMS, lighting: 49%), **tuning** existing equipment (near free), **occupant engagement** (1%) and **energy mix**, led by solar (15%, especially effective in logistics thanks to available roof area).

Worked example: a UK office

A heat pump replacing a gas boiler saves around 4 kgCO2eq/m² for an excellent savings-to-cost ratio, often the first cost-effective move. Insulation saves less than 1.2 kgCO2eq/m² for upwards of €80/m²: it comes into play once the easy wins are exhausted.

Combining solar PV, insulation, window and door replacement, ventilation, an air-to-water heat pump and LED lighting, a UK office in the Index reaches the CRREM 1.5°C target (0.56 kgCO2eq/m²/yr) for **€817/m² of CapEx.**

Cost and savings figures are drawn from Deepki's Sustainability CapEx Index (March 2026), modelled against the CRREM 1.5°C pathway across a sample of 3,000+ European buildings. Figures are indicative and vary by asset and market.

> *Set against asset value, this investment stays modest. For offices in France and the UK, aligning with the CRREM 1.5°C pathway represents, once annualised, between **0.25% and 1.6%** of asset value per year depending on location, and 2.5% to 4.5% per year for logistics, the sector where the Index measures the largest gap to the top 30%.*

How Deepki helps you act

Deepki turns the benchmark into asset-level intelligence: from finding the gap to closing it.

01

Benchmark

Every asset scored against its sector average and top 30% peers, plus exposure to physical and transition risk.

→

02

Prioritize

AI-generated renovation plans rank actions by cost and impact, from a catalogue of 70+ measures.

→

03

Plan

Decarbonization, climate adaptation and standard CapEx brought together in one investment view, not managed in silos.

→

04

Prove

TCFD and CDP-ready reporting, generated automatically from the same underlying data.

> *The Deepki Index is much more than just a tool. It is the benchmark that the market needs to transform its ambitions into concrete actions.*
>
> **Sandrine Fauconnet, Senior Associate, ESG & Sustainability, Stoneweg**

Proof in practice. In 2022, BNP Paribas REIM Italy used Deepki to digitise its Italian portfolio and build a three-year climate risk action plan for the Bank of Italy, submitted as early as March 2023.

See where your portfolio stands, and where to act first.

Get a demo

Index methodology, sources and limitations

- **Data source:** real consumption data collected automatically on the Deepki platform (11 years of history, 100+ countries), from both owner data (asset managers) and occupier data (international retailers), covering a building's total consumption, including private areas.
- **Period:** published annually; each edition is based on the previous year's consumption (the 2026 edition covers 2025). The 5-year trend on page 4 combines the 2022 to 2026 editions (2021 to 2025 data).
- **Comparison basis:** the top 15% and top 30% thresholds follow the EU Taxonomy definitions; the European aggregate weights the 6 published countries by GDP as a proxy for the commercial real estate stock.
- **Limitations:** no climate, occupancy or multi-year smoothing correction is applied. Raw values are shown as measured.
- **CO2eq and primary energy conversion:** calculated from each building's actual energy mix (metered), using official conversion factors (IEA, national regulations).
- **Methodological stability:** the calculation methodology is the same for all five editions shown: the 2022 edition values have been restated with it, so the formulas applied are comparable. The underlying sample of buildings, however, is not a static panel and can change between editions, which affects direct year-on-year reading (see page 4).
- **Audit:** the methodology has been audited by an independent firm.
- **Averages:** the all-sector averages on page 4 are simple averages of the six sectors.

External sources: UNEP FI, Climate Risks in the Real Estate Sector (2023) · WMO, Global Annual to Decadal Climate Update 2026-2035 · McKinsey, The net-zero transition (2022) · UNEP & GlobalABC, Global Status Report for Buildings and Construction 2024/2025 (2025).

deepki

Real Estate Sustainability Intelligence

Deepki, the market-leading SaaS platform in real estate, enables owners, investors, and occupants to manage risk through data-driven insights, improve the sustainability and financial performance of their assets, and meet growing regulatory requirements.

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platform users

100+
countries where Deepki operates

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