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- **In focus:** *The AI race is driving a historic wave of data centre investment, but the physical resources needed to turn capital into computing capacity may prove as significant a constraint as securing the funding itself. Rapidly rising data centre electricity demand is facing congested grids, concerns over higher power prices and broad local opposition for a variety of reasons, while added fossil power generation could undermine the energy transition more broadly. Adding to this, water-intensive cooling may restrict development in already stressed regions with physical climate risks on the rise. These pressures are particularly relevant in the Nordics, where cost-competitive clean power and low water stress create an advantage, but not without its own risks. Less price-sensitive data centres could erode the competitive electricity prices enjoyed by established industry unless new clean generation and grid capacity keep pace. The central challenge is therefore not whether the data centre boom will continue, but where it can expand without shifting unacceptable costs onto grids, communities, industry and the climate. The EU's newly proposed efficiency rating could help direct scarce resources and green finance towards better projects - but only if thresholds are stringent, transparent and progressively tightened, rather than becoming a label that merely legitimises a resource-intensive build-out.*
- **Sustainable products update:** *This month's Sustainable Products update highlights two developments shaping sustainable finance markets. First, sustainable lending continues to evolve towards higher-quality structures and a broader range of environmental themes. Second, our latest investor survey points to growing demand for greater diversification and thematic investment opportunities in sustainable bond markets. Together, these trends suggest an increasingly mature sustainable finance market, where credibility, strategic relevance and thematic differentiation are becoming key factors across products.*
- **In briefs:**
  - *War, carbon pricing and EU regulation have boosted demand for marine biodiesel, making it increasingly cost-competitive with conventional marine fuels*

- *State of the European Union 2026 outlines new measures to strengthen Europe's climate resilience*
  - *EU's first full scale CO2 storage chain opens in Denmark*
  - *Study finds that banks struggle to translate structural risks into capital requirement*
  - *Growing pressure on Earth's life-support systems is increasing systemic economic risks*
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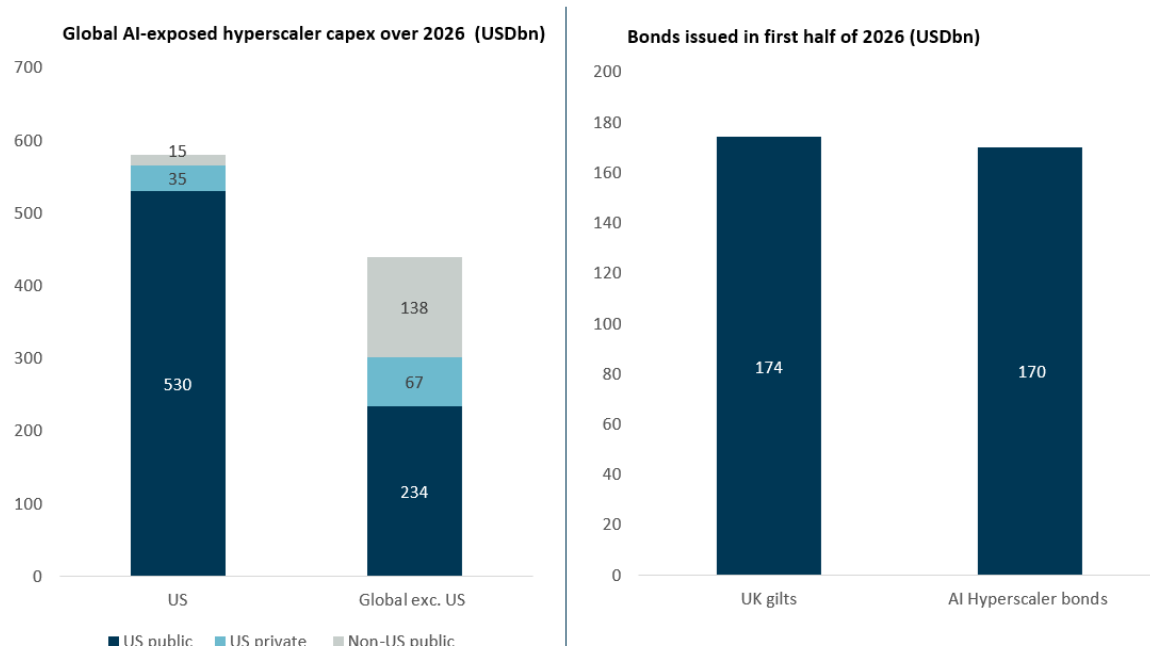
### ***In focus: The sustainability bottlenecks facing the data centre boom***

Artificial intelligence (AI) looks set to drive one of the largest buildouts of infrastructure and emerging technology in modern history – in the US perhaps even surpassing the relative investment into railroads in 19<sup>th</sup> century. Whereas railway infrastructure enabled the industrial revolution by connecting economic activities, data centres underpin the race for developing increasingly capable AI that can analyse information, generate content, automate tasks and enable faster decision-making.

By housing specialised chips, power and cooling systems, data centres make up the physical infrastructure that converts electricity and data into these much-vaunted AI capabilities. As countries and so-called AI hyperscaler companies battle for global leadership and the strategic and economic advantages it entails, a key constraint is quickly becoming the capacity to compute. Put simply, vast computing power – and therefore data centres - is needed to process ever larger datasets, train models on billions of parameters and serving multiple millions of users.

To address this need for compute, Goldman Sachs projects that there will be USD1 trillion of AI-related investment over 2026 (see graph below), while McKinsey projects USD7 trillion to be invested globally in data centres by 2030. Intertwined with this is the discussion over whether AI investments are financially sustainable, as there are concerns that AI revenue growth and monetisation is not sufficiently rapid to facilitate the vast increase in investment planned. This feed concerns over a possible AI bubble, fuelled by significant AI hyperscaler debt issuance (see graph below).

## AI CAPEX to exceed USD1trillion over 2026, while Hyperscaler bonds amount to those of the UK

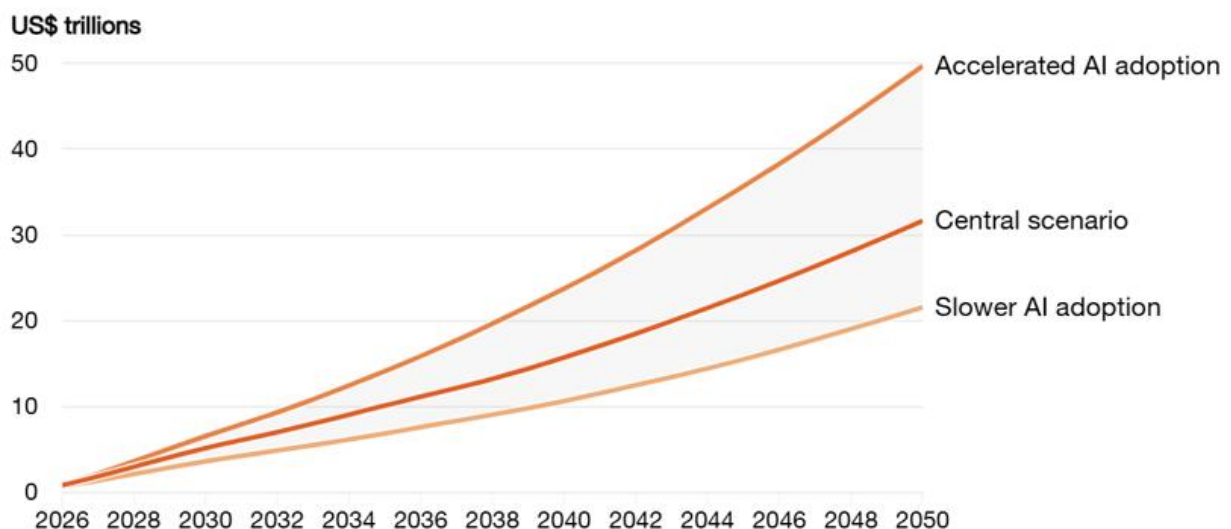


Source: Goldman Sachs, BoE, Sky News

## Data centre sustainability impacts could become key bottlenecks

Financial sustainability is a worry for investors. AI hyperscaler executives have also begun arguing that development should slow reflecting that frontier AI models move faster than what testing, control-mechanisms and governance can keep up with – though some speculate in ulterior motives. What is clear, in any case, is that the infrastructure build out in any scenario will be rapid, with significant environmental and social impacts to follow. Such impacts may in themselves become pertinent bottlenecks to the breakneck expansion speed envisioned.

## Cumulative global data centre capex scenarios, 2026-2050



Source: PWC based on forecast modelling by Oxford Economics

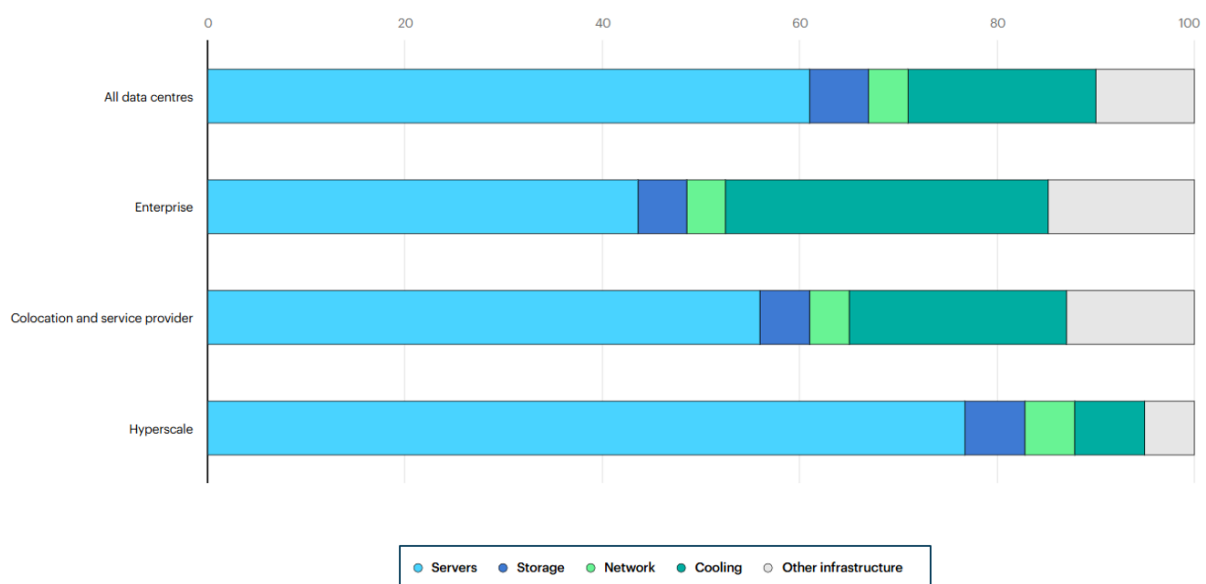
A quick stocktake of the US data centre discussion, where the hyperscalers have HQs and built a large share of their compute capacity to date, shows that opposition to expansion is rising and even cutting through an otherwise polarised political debate. About 70% of Americans oppose local data centre construction due to a combination of grievances, ranging from strained power grids and water resources, power price increases, quality of life deterioration from noise and heat, broader anxiety over AI driven job-displacement and limited project transparency.

In fact, only between April and June 2026 – 45 US data centre projects worth USD68bn were blocked by local opposition. This foreshadows the challenges that will begin to materialise in other regions ramping up their data centre build-out – and we will describe some of them in more detail below.

### Data centre power demand growth to surge in the coming five years

A key characteristic of data centres is that they are very power hungry. The main driver of power demand growth are servers, which can be equipped with Central Processing Units (CPUs) and Graphics Processing Units (GPUs) – the latter specialised accelerators in high demand. Servers on average make up 60% of data centre power demand, and even more for hyperscalers. Cooling is generally the second largest source of power demand and often connected to water use (see below section on water).

#### Share of electricity consumption by data centre and equipment type, 2024



Source: International Energy Agency

As of 2025, data centres were estimated to make up 1.5-2.5% of global power demand (latter when including crypto mining) – whereas AI consumed about 0.5% of the total. In terms of absolute growth, power demand forecasts differ, as growth expectations differ. IEAs base case is for power demand from data centres to double from about 415TWh in 2024 to about 950TWh by 2030 - or 3% of global power

consumption. The most bullish so-called “lift-off” scenario projects as much as 1,700TWh by 2035, nearly equivalent to that of annual power demand in India.

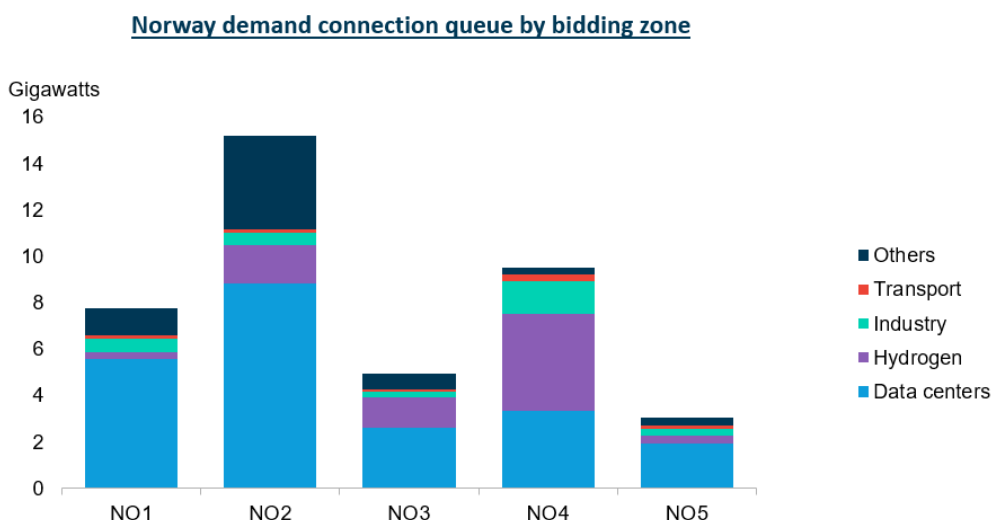
### Power and water bottlenecks to be pertinent challenges to overcome

In any scenario, data centre resource demand growth is set to soar the coming five years. There are several structural challenges that could be blockers of targeted development, and importantly could weaken support for the data centre build-out:

- **Grid bottlenecks: A key blocker of expansion**

Expanding the grid is key to connecting power generation to surging data centre demand and quickly becoming a serious bottleneck. For example, Texas’ overall queue for connecting to the grid totalled 474GW as of 2025 – five times peak demand for area transmission system operator (TSO) ERCOT. Of this, 90% was data centres. As such, on September 25, the Governor of Texas froze ERCOT issuing permits for data centres. In PJM, the system serving Washington DC, the TSO similarly is pushing to cut power to new data centres first during shortages and require large data centres (>50MW) to supply their own power generation. To do the latter, Amazon – as one example - is backing significant gas-fired power capacity that could derail its broader climate ambitions.

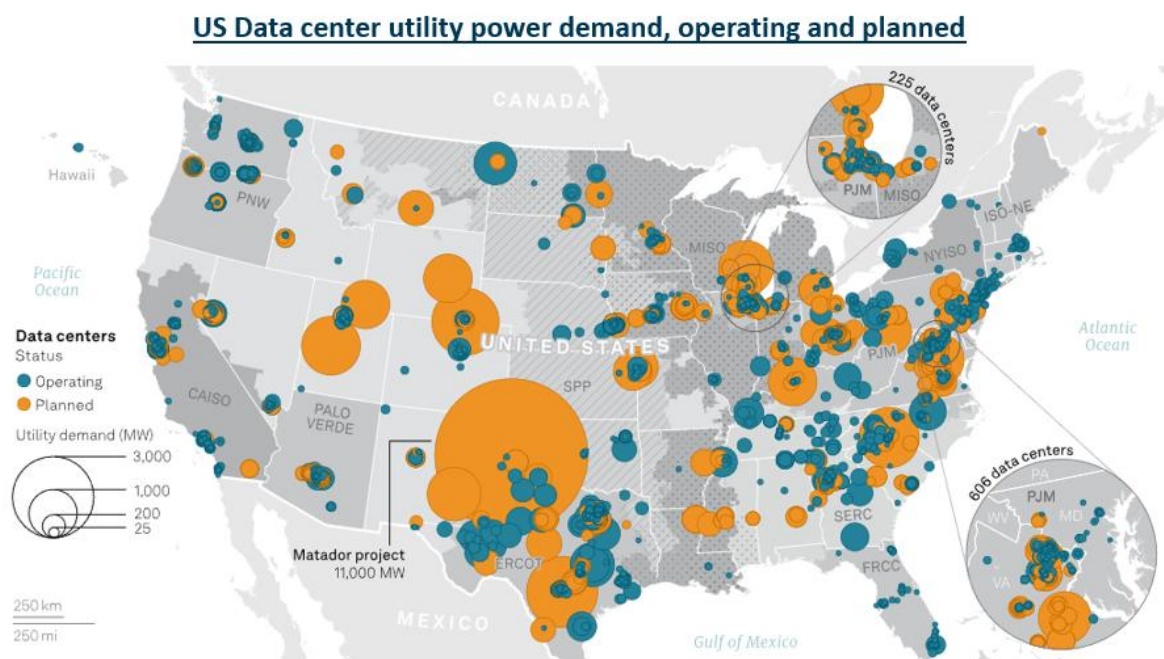
Similarly, in Europe grid bottlenecks have long been a headache for expanding generation and demand – and a surge in data centre activity is adding to this. In sought-after data centre markets such as Frankfurt, London, Amsterdam, Paris and Dublin (the so-called FLAP-D cities) connection queues can be stretch beyond 10 years. Dublin, Netherlands and Frankfurt have even put temporary connection moratoriums for data centres. Denmark, struggling with significant grid bottlenecks, has similarly pushed an emergency grid law that down-prioritises data centres. Somewhere like Norway, data centres are also quickly emerging as the largest source of demand in the grid connection queue (see graph below).



Source: BNEF based on Statnett data, as of February 2026. To date, Statnett has a technology neutral connection process.

- **Soaring power prices: A growing source of contention**

Closely connected to the grid bottleneck discussion is that of data centres upwards pressures on power prices. In the US, it is projected that wholesale electricity prices could increase by as much as 30% compared to compared to 2018, whereas US CPI data shows that residential electricity prices in 2025 rose by more than twice the rate seen in previous years. Over 2025, data centres drove half of US electricity demand – and the felt price impact is becoming a key source of opposition to new projects.

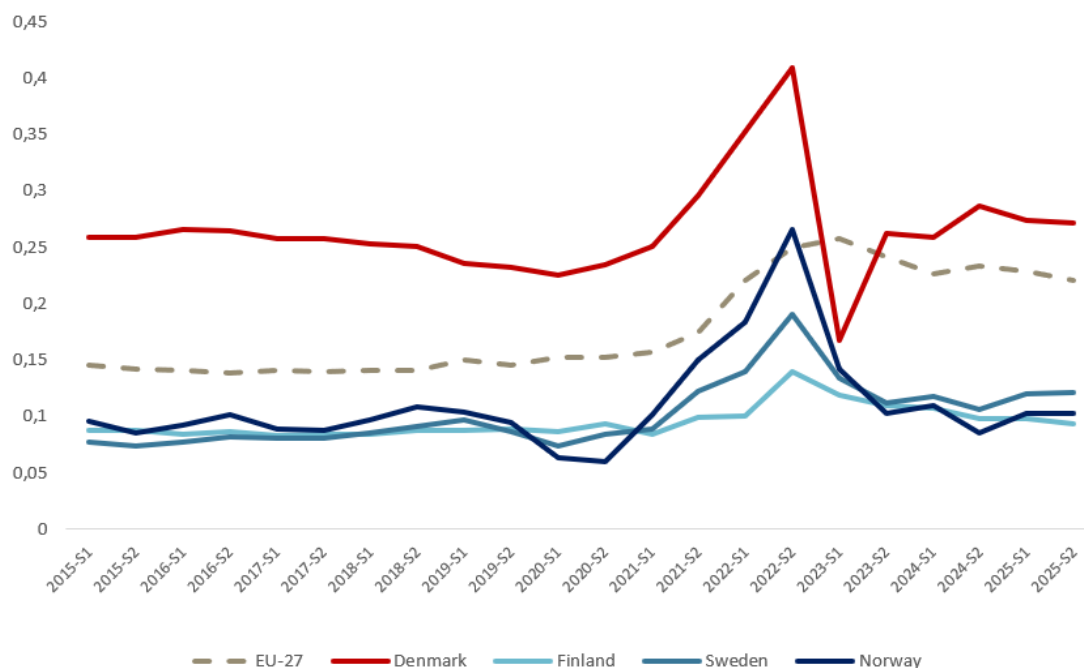


Source: S&P as of January 8<sup>th</sup> 2026

From a Nordic perspective, data centres' upward pressure on power prices is of key relevance. Norway, Sweden and Finland all have competitive power prices supported by clean electricity surpluses and limited interconnectivity to higher continental European power prices (see graph below). According to forecasts from Norwegian TSO Statnett, Nordic data centre consumption could grow from 8TWh (2% of regional total) to 28TWh by 2030 (5% of total).

Importantly, data centres are much less price sensitive than say energy-intensive industry – and may therefore be willing to pay higher prices for electricity. This could risk eroding the competitiveness of incumbent Nordic industrial players and become a source of opposition to data centres in the region, and something policymakers will eventually need to consider.

### Industrial power prices are competitive in the Nordics



*Industrial power price (consumers of 500-1,999MWh/year) including taxes and levies. Source: Eurostat.*

On the other hand, more power demand from data centres in the Nordics may also stimulate more power generating capacity growth in the region. Lately the combination of grid bottlenecks, public opposition to new projects – notably wind projects – and low and at times negative wholesale electricity prices has weakened capacity growth prospects. Protecting the Nordic competitive power price advantage while rolling out data centres would require overcoming such hurdles to add more clean power supply.

- **Climate change impact: Clean or fossil-fuelled power generation?**

Naturally, if data-centre investments do not accelerate new clean-energy capacity, the projected growth in annual electricity demand could translate into hundreds of millions of added greenhouse gas emissions. According to the IEA projections, annual emissions from data centres could total 350 million tonnes by 2035, while Morgan Stanley projects data centres to lead to about 2,5bn tonnes of GHG emissions cumulatively through to 2030. Therefore, it will not only be key to assess whether data centres, individually, use green electricity, but also to understand if the build out of green generation capacity is accelerated to cover net demand growth in electricity more broadly.

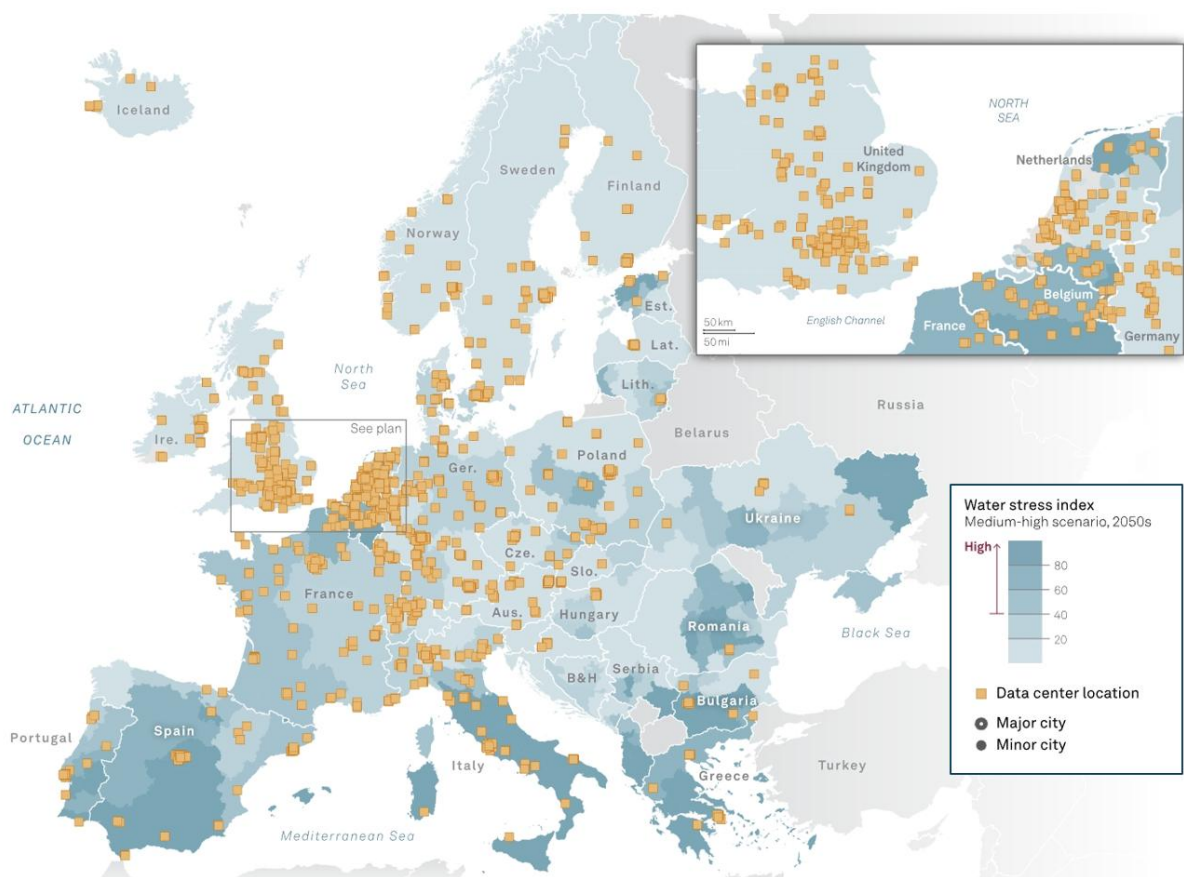
- **Water stress impact: Guzzling an increasingly stressed critical resource**

Data centres consume water directly through cooling systems and indirectly through the power generation needed to run servers. Cooling demand is particularly high for

hyperscale AI centres, where dense clusters of power-hungry chips generate vast amounts of heat that must be removed continuously. This ambient heat released, particularly in populated areas, is becoming a key challenge and source of opposition.

The growing density and scale of hyperscaler AI centres could therefore intensify pressure on local water resources, particularly in already water-stressed regions. According to S&P, which has mapped about 9,000 data centres globally, 43% are expected to be operating within areas that will experience high water stress within the next decade. In Europe, especially Spain, Belgium, Greece and Italy singled out as at risk, while somewhere like the Nordics has very low water stress risk. It does not seem farfetched that periods of water stress may lead to consumption restrictions for both existing centres and limit the building of additional ones.

### Europe: Data center locations and water stress (2050)



*451 data centres mapped against water stress risk scenarios is modelled for 2050. Source: S&P*

### EU is preparing data centre rating scale

It is clear that consistent benchmarking and minimum requirements will be important to distinguish genuinely efficient data centres from those merely benefiting from a rapidly expanding market. Notably, the European Commission announced on September 21 that it is moving in this direction through proposing a

common rating scheme for data centres above 500kW, covering energy and water use as well as grid flexibility, clean generation and waste-heat reuse. Building on the Energy Efficiency Directive and a 2024 reporting scheme for data centres, the proposal aims to provide comparable, facility-level data. This can in turn help regulators, communities and capital providers direct scarce grid and natural resources towards the best projects.

### Green financing for data centres?

A large chunk of data centres in the US are financed with green loans and bonds – sometimes of questionable quality. An EU rating scale providing a shared point of reference can help market participants separate the better projects from worse ones by enabling green finance to make a difference in connection with the roll out of data centres.

The EU label may help efficient projects stand out as capital becomes more competitive. According to Climate Bonds Initiative, data centres have issued around USD61bn of sustainable debt and loans since 2020. That said, with scrutiny of the sector intensifying, operators may also use the green label to defend their social licence and frame a resource-intensive build-out as sustainable. It is therefore of high importance that external eligibility thresholds are stringent and genuinely push data centres towards more sustainable operations. Strong, tightening criteria and transparent reporting will be needed if green finance is to drive improvement rather than simply soften criticism.

## ***Sustainable products update***

### Quality over quantity, and the data centre conundrum

Environmental Finance just published its '*Sustainable Loans Insight 2026*', highlighting global trends in sustainable loans. The report aligns with Danske Bank's view of the Nordic Market, with the market shifting from quantity to quality and towards structures with clearer strategic relevance and stronger credibility.

We see more financing with a closer link to core business activities and thereby creating synergy between financing and sustainability strategies.

At the same time, greenwashing remains a risk for the sustainable loans market. In this regard, one area attracting attention is green financing for the built-out of data centres in the US.

The key take-away from this year's report are:

#### **1. Sustainable loan market enters a reset phase**

The volume of global sustainable loans has softened for the second year in a row after the peak in 2024. Environmental Finance concludes that lenders are applying

greater scrutiny to KPI quality, ambition and credibility. We have seen a similar picture in the Nordics where the volume of especially sustainability-linked loans has fallen, while the quality has increased and where Paris alignment and net-zero targets for climate is becoming a hygiene factor.

## **2. Data centres drive green finance in the US, and the greenwashing debate**

Data centres are driving green lending, especially in North-America and Asia. Two of the four largest loans involved data-centre operators (Amprion and QTC Data Centers) creating debate over using green finance for data centres amid public debate over energy and water demand, resource consumption, and local social impact. Some stakeholders are alleging greenwashing while others say that green financing is moving operators towards better standards.

## **3. Pure-play labelling is rising, supported by LMA guidance**

The Loan Market Association's new guidance for "pure play" companies gives lenders greater comfort in using the pure play designation and provides the market with common definitions to lean on. In the Nordic region, we have seen the use of green pure-play designations by electricity generators and transmission companies throughout 2025 and 2026.

## **4. Renewable energy remains the dominant green use of proceeds**

Renewable energy continues to account for roughly half of sustainable loans by value, reinforcing its position as the largest use-of-proceeds category. Green buildings remain highly active by number of transactions, though typically at smaller deal sizes.

## **5. Thematic expansion**

Adaptation, resilience, water infrastructure, blue finance and nature-related lending are becoming increasingly important themes. Market participants see growing opportunities to integrate social, adaptation and nature objectives into sustainable finance frameworks.

### Investors Call for Greater Diversification in Sustainable Bond Market

Companies in the Nordic countries have developed quickly over the past few years and now show strong sustainability maturity. The majority of large and medium-sized companies report annual carbon accounts, disclose against key frameworks and already apply CSRD-related practices such as double materiality assessments. This has strengthened investor confidence and improved investors' ability to assess companies' sustainability performance, risk management and potential impact on long-term value creation.

Against this backdrop, sustainably-labelled bonds may be less decisive for investment decisions than before, particularly for companies that clearly support environmental or social objectives. To better understand how investors view the role of labels in this changing context, Danske Bank's Sustainable Products team surveyed 21 institutional investors in Sweden on their views of sustainably-labelled bonds. The results show that green and social labels maintain its positive effect: 47% see the impact as marginal, while 29% view it as clearly positive. Sustainability-linked labels are also viewed positively by 76% of respondents, although the impact is generally seen as more marginal. For companies whose core operations are already perceived as sustainable, the label remains positive but less influential.

When ranking bond formats, investors found thematic green bonds, such as bonds focused on agriculture, water or nature, most attractive. European Green Bonds, issued under the EU Green Bond Standard, and green bonds from low-emitting companies ranked joint second. Conventional bonds were ranked second from last and conventional bonds from high-emitting companies in transition were least favoured. This contrasts with the fact that 81% of investors believe today's sustainable corporate bond market does not offer sufficient sector diversification. Broader diversification would likely require more issuance from higher-emitting sectors, as around 80% of sustainable bond volumes in Sweden currently come from real estate issuers, which typically have low operational emissions.

In the primary market, recent issuance offered examples of the broader diversification and thematic bonds that investors called for in the survey. Landshypotek Bank issued the first agriculture bond from the Nordic region, while Ericsson, a leading provider of mobile connectivity solutions, returned to the market after a three-year break with a new EUR 500 million six-year green bond. At the same time, the Swedish krona market has seen a growing number of water-related green and blue bond transactions, including issuers such as Trelleborg, City of Jönköping and Sydvatten. Together, these transactions provide recent examples of the broader thematic diversity that investors identified as attractive in the survey.

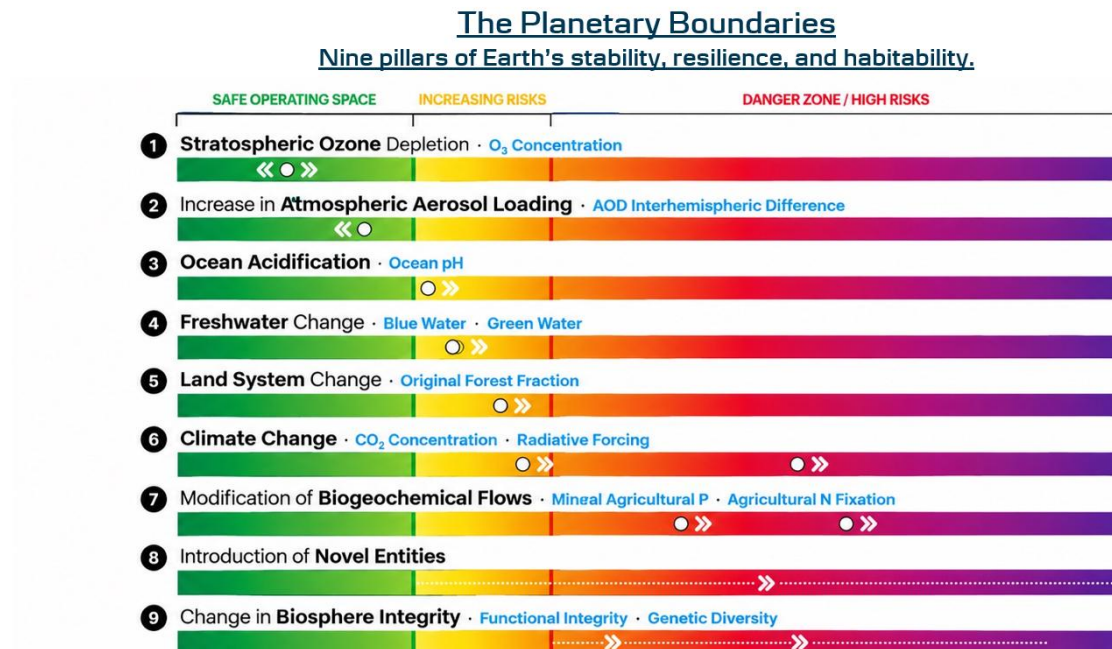
### ***In brief:***

- **War, carbon pricing and EU regulation have boosted demand for marine biodiesel, making it increasingly cost-competitive with conventional marine fuels.** In Rotterdam, Europe's largest bunkering hub, marine biodiesel has in some cases become cheaper than fossil-based marine gas oil, driven by rising oil prices, EU ETS costs and incentives under RED III. As economics have shifted in biodiesel's favour, sales of marine biodiesel blends more than doubled during the second quarter of 2026. The development highlights how carbon pricing and regulation can accelerate the adoption of lower-carbon alternatives when supported by favourable market conditions. However, long-term growth remains constrained by limited feedstock availability and competition from other sectors, particularly aviation and road transport.

- **State of the European Union 2026 outlines new measures to strengthen Europe's climate resilience.** Framing the recent extreme weather as a "summer of truth", Ursula von der Leyen reaffirmed the EU's commitment to climate targets while emphasising the need to adapt to mounting physical climate risks. Sustainability related announcements included a climate resilience framework focused on 100 Europe's most vulnerable territories, a Climate Insurance Alliance to narrow the protection gap, and a European heatwave plan. Further initiatives include water resilience, firefighting capacity, agricultural risk management, electrification, and critical raw materials.
- **EU's first full scale CO2 storage chain opens in Denmark.** King Frederik officially inaugurated the Greensand project on 18 September, marking its transition into commercial operation. Led by INEOS Energy in partnership with Harbour Energy and Nordsøfonden, the project captures biogenic CO2 from Danish biomethane plants and transports it via the Port of Esbjerg for permanent storage beneath the North Sea. The first phase can store up to 400,000 tonnes of CO2 annually. Supported by a EUR 41 million EU innovation Fund grant, Greensand provides an operating reference for cross-border carbon capture, transport and storage infrastructure.
- **Study finds that banks struggle to translate structural risks into capital requirements.** A recent study commissioned by the EP's ECON Committee examined whether the ECB's Supervisory Review and Evaluation Process (SREP) and associated Pillar 2 Requirements (P2R) reflect banks' exposure to long-term structural risks such as demographic change, geoeconomic fragmentation, climate transition risk and growing linkages with non-bank financial institutions. Between 2019 and 2025, the authors find that P2R is effective at capturing traditional banking risks, but it does not systematically reflect exposure to these so-called "slow-burning risks". The study concludes that this should not be interpreted as evidence that structural risks are immaterial. Rather, it suggests that the current supervisory framework lacks suitable tools to translate long-term structural risks into bank-specific capital requirements and is primarily designed to address risks that are already observable or expected to materialise over a shorter horizon. The authors therefore argue that the solution is not simply higher capital requirements, but the development of complementary instruments better suited to assessing long-term structural risks.
- **Growing pressure on Earth's life-support systems is increasing systemic economic risks.** The Planetary Health Check 2026 concludes that pressures across Earth's life-support systems continue to intensify, with seven of nine planetary boundaries now operating outside the safe zone. The report warns that environmental degradation is increasing systemic risks related to climate stability, biodiversity, water availability and ecosystem resilience. While these pressures may pose growing economic risks, the impacts are not always visible in traditional economic indicators. Spending on adaptation, remediation and resource resilience can support GDP growth, even as the natural capital underpinning long-term prosperity continues to erode. As highlighted by the

Dasgupta Review, GDP measures economic activity, but not the condition of the assets on which that activity ultimately depends.

## ***Graph of the month:***



*Planetary Boundaries: Seven of nine are transgressed. The colours (green for "within the Safe Operating Space", yellow for "Zone of Increasing Risk", and red for "High Risk Zone") refer to the state of boundary transgression. The boxplot summarizes the 13 control variables used in the assessment. The assessment uses the latest available data, some of which predate 2026. Visual: PBScience. Source: Planetary Health Check 2026*

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