The Age of Electricity: Powering the Next Global Transformation

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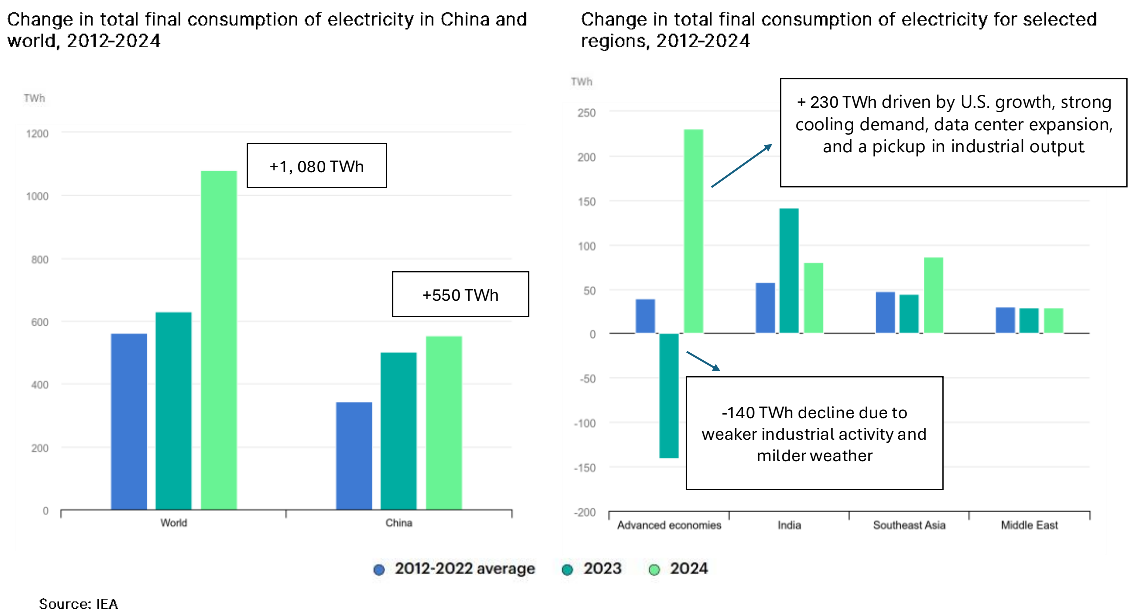
Global demand for power is accelerating at a rapid pace fuelled by electric vehicles, artificial intelligence, and the transition to clean energy. Meeting this surge requires smarter grids, advanced storage solutions, and innovation at scale.

The Nasdaq Global Electrification Technologies and Smart Grid™ Index (NQGETS™) Index tracks companies at the forefront of this transformation. Leveraging patent-driven signals, the index methodology seeks out the innovators shaping the future of electrification.

The electrification of everything

Global electricity demand is growing nearly twice as fast as total energy use.[1] In 2024, demand surged 4.3%, the fastest growth since 2007[2], outpacing global GDP growth (2.9%).[3,4] Globally, electricity consumption increased by 1,080 TWh, nearly double the annual average of the past decade.[2]

The chart below shows the change in total final consumption of electricity (not total consumption) for the world, China, and selected regions between 2012 and 2024.

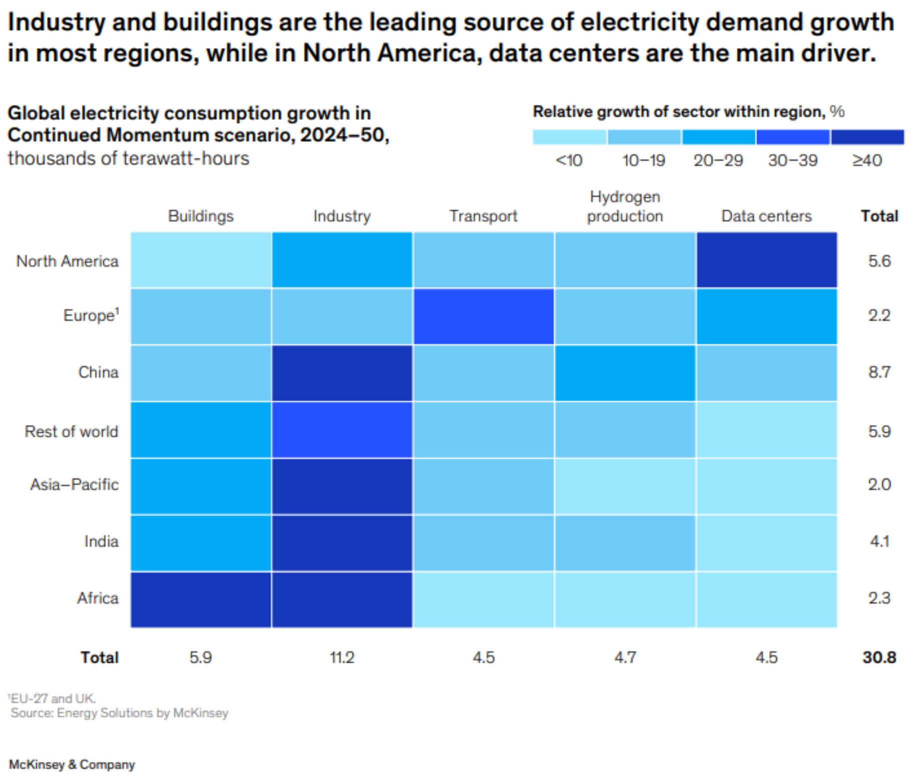


[1] From 2010 to 2023, electricity demand grew at an average annual rate of 2.7%, twice as fast as overall energy demand. Source IEA
[2] Excluding the rare rebound spikes that followed the financial crisis in 2010 and the pandemic-related collapse in 2021
[3] https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?end=2024&start=2023&view=chart
[4] https://iea.blob.core.windows.net/assets/234d0d22-6f5b-4dc4-9f08-2485f0c5ec24/ElectricityMid-YearUpdate_July2024.pdf

According to IEA projections, this momentum is set to continue, with annual increases of around 4% through 2027, driven by industrial demand, cooling needs, electrification, and data centre expansion. By that point, the annual increase in electricity demand will be greater than Japan's current yearly consumption, a measure of the scale at work.[5,6] About 85% of that additional demand through 2027 will come from developing economies, with China and India leading the surge.[7]

Looking further ahead to 2035, the long-term trend towards the electrification of everything becomes even clearer: IEA scenarios project electricity demand rising by 40–50%, powered by transport, heating, industry, alongside rapid growth in data centres and AI.[8,9,10]

McKinsey projects this momentum continuing through mid-century, with most of the increase coming from industrial and building sectors, which may expand electricity use by 20–40% compared to today. In North America, data centres stand out as the single biggest contributor to demand growth. China currently leads in absolute electricity consumption thanks to its advanced electrification, but other regions, particularly Europe and North America, are expected to catch up after 2030, potentially reaching similar levels by 2050.[11]



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5 https://www.iea.org/reports/global-energy-review-2025/electricity
6 https://www.iea.org/news/growth-in-global-electricity-demand-is-set-to-accelerate-in-the-coming-years-as-power-hungry-sectors-expand
7 https://iea.blob.core.windows.net/assets/7c671ef6-2947-4e87-beea-af0e1288e1d7/Electricity2025.pdf
8 IEA's World Energy Outlook 2025 scenarios: (1) Current Policies Scenario (CPS): assumes only existing policies are implemented. (2) Stated Policies Scenario (STEPS): includes announced policy measures and targets. (3) Net Zero Emissions Scenario (NZE): a pathway aligned with limiting global warming to 1.5°C by 2050.
9 Peak electricity demand (the highest load on the grid at any given time) rises ~40% by 2035 in STEPS (similar in CPS) and >50% in NZE.
10 https://www.iea.org/reports/world-energy-outlook-2025
11 https://www.mckinsey.com/~/media/mckinsey/industries/energy%20and%20materials/our%20insights/global%20energy%20perspective%202025/global-energy-perspective-2025.pdf

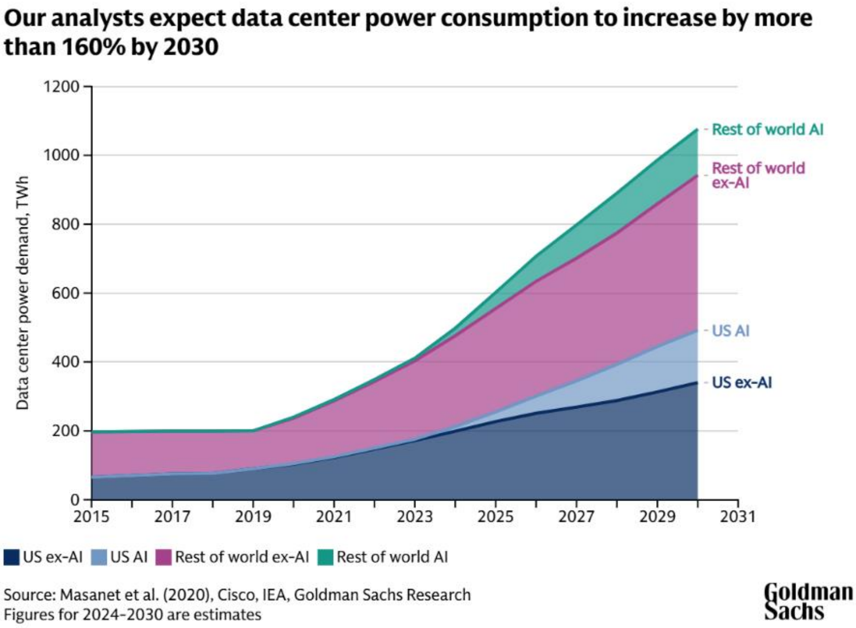
Taken together, these insights underscore that electrification is driving a structural transformation of the global energy system, extending beyond transport into heating, cooling, and industry. Electricity demand is rising faster than GDP, fuelled by emerging drivers like electric vehicles (EVs) and AI data centres. To meet this challenge, grids must scale rapidly and become more intelligent by integrating variable renewables, managing peak loads, and directing power efficiently. Strategic investment in grid modernization, energy storage, and digital technologies will be critical to ensure reliability and resilience in this new energy era.

Electric mobility and AI infrastructure: driving the next wave of power demand

The global energy landscape is entering a transformative era, driven by two powerful technological forces in particular: electric mobility and AI infrastructure. Together, they are reshaping electricity demand at an unprecedented scale.

EVs are no longer a niche. In 2024, EVs in China alone consumed more electricity than Sweden uses in an entire year. BloombergNEF projects that EV-related electricity demand will grow 2.4 times between 2025 and 2030 and surge eightfold by 2040, ultimately accounting for 11% of global power consumption by mid-century.[12]

At the same time, the rise of AI data centres is redefining power requirements. Goldman Sachs Research projects that data centre power demand will rise by over 160% by 2030 compared to 2023. If 60% of this demand is met by thermal sources (e.g., natural gas), global emissions could increase by 215–220 million tons, about 0.6% of global energy emissions.[10]



This makes the case for renewables even stronger: Goldman Sachs Research projects they could supply up to 80% of global demand by 2030, but only with major investments in storage and grid modernization. However, intermittency remains a challenge. This is why a baseload

[12] https://about.bnef.com/insights/clean-transport/electric-vehicle-outlook/#key-numbers

source is essential to meet the 24/7 demand. Nuclear fits that role but faces construction hurdles, leaving natural gas and dispatchable renewables as the most practical short-term options.[13]

Together, these forces are creating one of the most exciting opportunities in modern energy & power markets: the chance to build smarter, more resilient grids that power both electrification and digital innovation. With the right investments in storage, grid intelligence, and clean generation, a more sustainable, high-performance energy future is possible.

The global energy challenge: a system under pressure

We have already discussed how electrification is accelerating across transport, industry, and digital infrastructure, driving electricity demand growth at an historic pace. However, the backbone of this transition - the grid - is under unprecedented pressure. The result is a system increasingly vulnerable to both chronic stress and acute shocks.

In the next section, we examine how aging infrastructure jeopardizes energy security and why modernizing the grid is critical to enable the shift from fossil fuels to clean energy integration.

Why aging infrastructure threatens energy security

Much of today's electricity infrastructure was built for a fossil-fuel era and is struggling to meet modern demands. In the U.S., over 70% of transmission lines are more than 25 years old; in Europe, half exceed 40 years.[14,15] Aging grids are inefficient, vulnerable to blackouts and incompatible with the demands of renewables, EV charging, and digital economies.

Recent events underscore these weaknesses. On April 28, 2025, a cascading failure in southern Spain caused blackouts across Spain, Portugal, Andorra, and parts of France, lasting up to ten hours. Limited interconnection capacity - just 3% versus the EU's 15% target - restricted power imports and slowed grid stabilization.[16]

The lesson is clear: reliability now depends on intelligence and flexibility. Modern grids must be resilient, interconnected, and digitally enabled, with real-time monitoring, automated rerouting, and robust backup systems. Smart systems detect faults early, isolate problems, and prevent cascading failures while accelerating recovery after storms, fires, or other crises.

From fossil fuel reliance to renewable integration

Today's electricity grid remains heavily dependent on fossil fuels, with coal providing ~34% of global electricity and natural gas another 22%. Together with oil, fossil fuel sources accounted for nearly 59% of generation worldwide in 2024. This concentration creates systemic challenges for reliability and cost stability, as fossil fuel-based systems are perhaps more exposed to fuel price volatility, geopolitical risks, and supply disruptions than they have been in several decades.[17]

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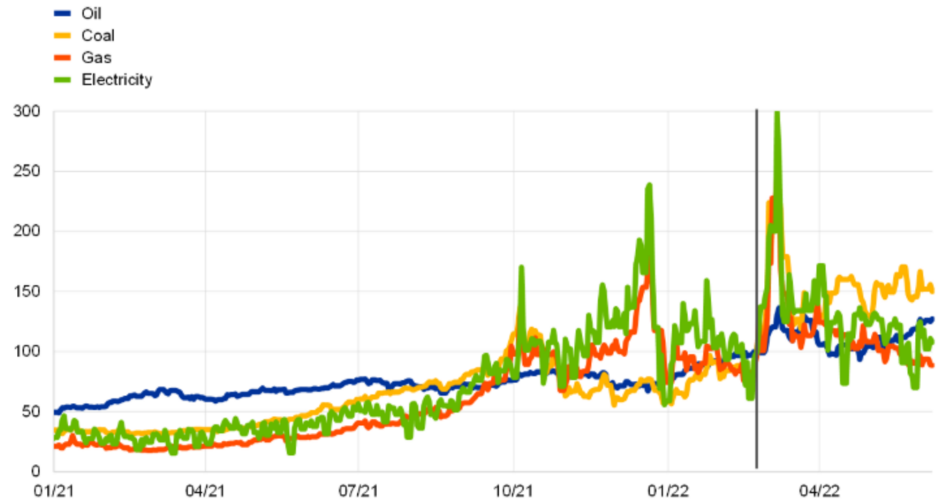
[13] https://www.goldmansachs.com/insights/articles/is-nuclear-energy-the-answer-to-ai-data-centers-power-consumption
[14] https://www.cnbc.com/2023/02/17/why-americas-outdated-energy-grid-is-a-climate-problem.html
[15] https://www.power-technology.com/news/europe-power-grid-investment/?cf-view
[16] https://www.reuters.com/sustainability/climate-energy/eu-power-grid-needs-trillion-dollar-upgrade-avert-spain-style-blackouts-2025-05-05/
[17] https://ourworldindata.org/electricity-mix

As an example, the Russia-Ukraine conflict triggered one of the most severe energy price shocks in recent history. Within weeks of the invasion in February 2022, European gas prices surged by nearly 180%, coal by 130%, and oil by 40%, driving wholesale electricity prices to record highs.[18] Household electricity costs in EU capitals rose almost 30% on average, with some cities like Amsterdam and Rome seeing increases of more than 70%. Before the invasion, households in EU capitals paid an average of 20.5 c€/kWh for electricity; after the invasion, that figure climbed to 26.5 c€/kWh.[19]

Energy prices before and after the invasion of Ukraine

Energy prices

(index: 23 February 2022 = 100)



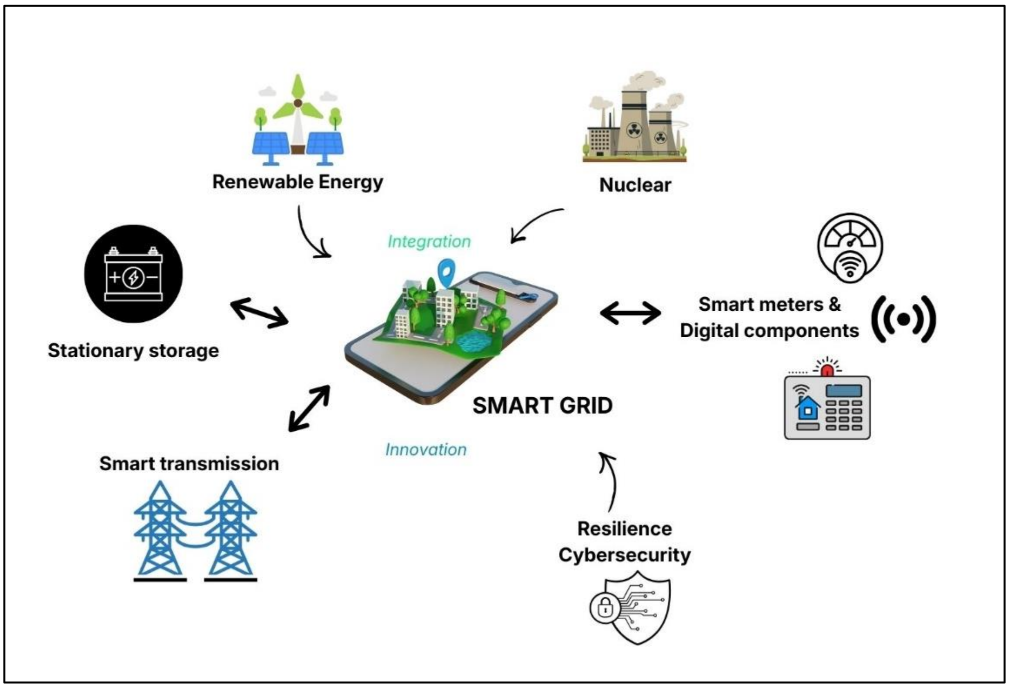
Sources: Refinitiv, Bloomberg and ECB staff calculations.

Against this backdrop, the rapid expansion of low-emission sources offers a strategic pathway to reduce these risks. However, the intermittent and decentralized nature of solar and wind energy poses challenges for grid stability. Traditional grids were designed for centralized, predictable generation, not for variable, distributed sources. Renewables as a whole, though, are not uniformly variable.[20] Hydropower and geothermal can provide more predictable or dispatchable generation that helps balance the system.[21] Nuclear power also plays an important stabilizing role by supplying firm electricity with high reliability and the ability to support the grid during periods of low wind or solar output.[22,23] Together these resources can complement each other to maintain a secure and largely decarbonised electric grid.

[18] https://www.ecb.europa.eu/press/economic-bulletin/focus/2022/html/ecb.ebbox202204_01~68ef3c3dc6.en.html
[19] https://www.euronews.com/business/2025/02/24/three-years-on-how-russias-invasion-reshaped-energy-prices-across-europe
[20] https://energy.sustainability-directory.com/question/how-does-intermittency-affect-grid-stability/
https://en.renovablesverdes.com/Impact-of-renewable-intermittency-on-the-stability-of-the-electrical-grid%3A-causes--consequences--and-solutions/#google_vignette
[21] https://energy.sustainability-directory.com/question/what-is-dispatchable-renewable-energy/
[22] https://www.energy.gov/ne/articles/nuclear-power-most-reliable-energy-source-and-its-not-even-close
[23] Nuclear power plants operate at full power more than 92% of the time, making them the most reliable energy source. This is nearly twice as reliable as natural gas and coal, and almost three times more reliable than wind and solar

Building the future energy system: integration, intelligence, and resilience

To ensure reliability, flexibility, and sustainability, the energy system must evolve into a smart, integrated network. This transformation relies on three pillars: integration of diverse resources, intelligence through digitalization, and resilience against disruptions. From advanced sensors and smart meters to predictive analytics and automated grid management, this next chapter explores how these technologies create an intelligent, adaptive energy system, capable of balancing renewables, enhancing resilience, and meeting the demands of a digital world.



The cornerstone of this evolution is the smart grid, an advanced electricity network that uses digital technologies to monitor, control, and optimize power flows in real time. Unlike conventional grids, smart grids enable two-way communication between utilities (or grid operators) and consumers, allowing dynamic load balancing, demand response, and seamless integration of distributed energy resources such as solar and wind.[24]

Supporting this is smart energy transmission, which strengthens the grid's backbone through automation and advanced monitoring. Technologies such as phasor measurement units (PMUs), flexible AC transmission systems (FACTS), and dynamic line ratings (DLR) continuously monitor and manage power flow across high-voltage networks to maintain stability, prevent overloads, and efficiently integrate large-scale renewable energy.[25] The World Resources Institute highlights that these solutions can expand grid capacity and relieve congestion far more quickly and cost-effectively than building new high-voltage lines, which often take years to plan and construct.[26]

[24] https://solartechonline.com/blog/what-is-smart-grid-complete-guide/
[25] PMUs are sensors placed along the transmission lines. They measure the voltage, current and frequency of electricity very precisely, many times per second. They provide real-time visibility of grid behaviour and help detect instabilities quickly. FACTs are advanced devices that can redirect electricity on busy lines during peak demand, managing both the amount of real power and reactive power (needed to keep the electricity moving in AC systems). This helps keep the grid stable and reliable. DLRs monitor line and environmental conditions to calculate the actual safe current-carrying capacity of transmission lines.
[26] https://www.wri.org/insights/advanced-transmission-technologies-us-power-grid

At the operational level, smart grid components enable the modern electricity grid to monitor, communicate, and respond in real time. Key components include[27]:

- Sensors, which measure grid data like voltage, current, and frequency.
- Intelligent electronic devices (IEDs), which use the sensor data to provide localised monitoring and protection and respond automatically to problems.
- Communication networks that connect all components in a smart grid, allowing real-time, two-way communication. This enables utilities to monitor, control and optimize the grid remotely. Examples of communication networks: cellular IoT, field arena networks (FAN), wide arena networks (WAN), and home arena networks (HAN).[28]
- Control systems, such as SCADA (supervisory control and data acquisition), to monitor, control and manage the grid from a central location. They collect data from sensors and IEDs and allow operators to analyse performance, detect faults and remotely control equipment.
- Cybersecurity systems, which protect against digital threats with encryption and intrusion detection, while ensuring data integrity and operational security.

On the user side, smart meters empower consumers to monitor and manage their energy usage while enabling new business models like dynamic pricing and demand response.

When supply and demand cannot be perfectly aligned, stationary energy storage steps in. Batteries and other storage systems smooth fluctuations, provide backup power and enable time-shifting of electricity use, critical for ensuring reliability for an increasingly electrified society. Examples of stationary energy storage include pumped-storage hydropower, batteries and other technologies such as compressed air and gravity storage.[29,30]

Finally, there's the issue of integrating variable renewable energy with more stable sources like nuclear power. Smart grids address this through forecasting, real-time monitoring, and automated controls. With energy storage and demand-response programs, excess renewable energy can be stored and dispatched when needed, ensuring stability and sustainability.[31] Nuclear provides a reliable baseload to complement renewables. Emerging technologies like Small Modular Reactors (SMRs) add flexibility, allowing nuclear output to adjust to grid needs. Smart grids coordinate these resources to prevent overgeneration and optimize efficiency.[32]

Together, these technologies form the backbone of a future energy system that is connected, intelligent, and resilient, capable of meeting growing demand with efficiency and reliability.

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[27] https://www.cavliwireless.com/blog/nerdiest-of-things/smart-grids-intelligent-energy-management?utm_campaign=September_Article_NoT_SmartGrid
[28] Cellular IoT uses mobile networks to connect smart grid devices to real-time data transmission. HAN connects devices within a home. WAN connects the utility's central control to substations or remote areas, covering long distances. FAN connect fields devices like smart meters and sensors in a neighbourhood or distribution area to the utility network
[29] Pumped-storage hydropower uses excess electricity to pump water uphill into a reservoir, then releases it through turbines to generate power when needed. Battery storage: large-scale installations of lithium-ion or other battery technologies that store electricity and discharge it during peak demand or outages. Compressed air energy storage (CAES): stores energy by compressing air into underground caverns or tanks, then releases it to drive turbines. Gravity storage: Uses excess energy to lift heavy weights, which can later be lowered to generate electricity.
[30] https://www.iea.org/energy-system/electricity/grid-scale-storage
[31] https://www.iaea.org/bulletin/smart-stable-reliable
[32] https://small-modular-reactors.org/smr-grid-integration/

Policy as the catalyst for electrification and clean energy

In 2025, policy is emerging as the decisive enabler of the energy transition. Governments are tackling long-standing bottlenecks in grid expansion through permitting reforms and planning mandates.

In the U.S., the FAST-41 program now covers major transmission projects, imposing strict timelines and inter-agency coordination. In December 2025, a 330-mile HVDC line was added under FAST-41 to move geothermal power, demonstrating how clean baseload can be prioritized.[33]

Across Europe, the TEN-E regulation fast-tracks critical cross-border energy projects, such as HVDC interconnectors and offshore grids, by imposing a 3.5-year permitting deadline and requiring a single national authority to coordinate approvals. Projects designated as Projects of Common Interest (PCIs) or Projects of Mutual Interest (PMIs)[34] also gain access to Connecting Europe Facility (CEF) funding, with €600 million allocated in 2025 for electricity corridors, smart grids, and CO_2 networks.[35,36]

A standout example is the Celtic Interconnector, which will create the first direct electricity link between Ireland and continental Europe via a high-voltage underwater cable. With a capacity of 700 megawatts -enough to power about 450,000 homes - it enables both import and export of electricity. The project delivers key benefits: improved security of supply, greater integration of renewable energy, optimized use of generation resources during peak periods, and enhanced flexibility for power exchanges between Ireland and mainland Europe.[37]

Complementing TEN-E, REPowerEU provides guidance and mandatory measures for Member States to simplify permitting for renewables and related grid infrastructure, aiming to cut delays and accelerate integration of clean energy across Europe.[38]

In the UK, the new National Energy System Operator has reprioritized interconnection queues, advancing 283 GW of projects and clearing stalled capacity by removing 300 GW of speculative projects from the grid connection queue.[39,40]

Policy is also broadening the clean energy mix. The EU General Court has upheld the European Commission's decision to classify nuclear energy and natural gas as "transitional" activities within the EU Taxonomy.[41,42] On 10 June 2025, the UK Department for Energy Security and Net

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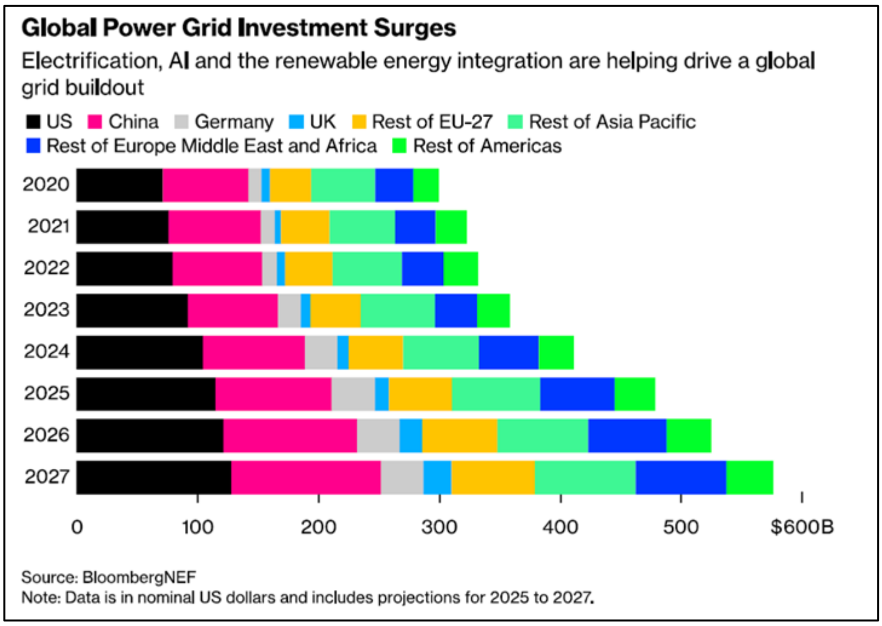
[33] https://www.permitting.gov/newsroom/press-releases/silver-rock-transmission-project-latest-gain-fast-41-coverage
[34] PCIs link energy systems across muvltiple EU Member States, supporting affordable, secure, and sustainable energy in line with climate goals. PMIs connect the EU with non-EU neighbours, leveraging revisions under TEN-E Regulation 2022/869 to foster decarbonization beyond EU borders.
[35]https://cinea.ec.europa.eu/news-events/news/cef-energy-launches-eu600-million-call-energy-infrastructure-projects-2025-04-02_en
[36] https://energy.ec.europa.eu/topics/infrastructure/projects-common-interest-and-projects-mutual-interest/key-cross-border-infrastructure-projects_en#project-map-and-examples
[37] https://energy.ec.europa.eu/document/download/60b8a3f3-eff9-47ea-8c79-cc705488da0b_en?filename=pci_factsheet_celtic_interconnector_2017.pdf
[38] https://www.homaio.com/post/what-is-the-repowereu-plan
[39] https://renewablesnow.com/news/uk-unveils-283-gw-generation-storage-pipeline-after-grid-queue-reform-1286268/
[40] https://www.energyvoice.com/renewables-energy-transition/586395/britain-drops-300-gw-from-grid-queue-as-neso-prioritises-ready-to-build-projects/
[41] A transitional activity is an economic activity recognized under the EU Taxonomy as contributing to climate change mitigation, even though it cannot yet be replaced by a technologically and economically feasible low-carbon alternative.
[42] https://sustainablefutures.linklaters.com/post/102l4qq/eu-general-court-upholds-commissions-classification-of-nuclear-energy-and-natura

Zero selected Rolls-Royce SMR as the preferred bidder to develop the country's inaugural small modular reactors, pending final approvals. The SMR program includes over £2.5 billion in government funding, projected to support ~3,000 construction jobs and generate power for ~3 million homes.[43]

By reducing risk and accelerating timelines, policy is positioning grids, storage, and firm low-carbon generation as strategic infrastructure for electrification and economic growth.

Powering growth: the investment boom in grid modernization and energy storage

In 2025, global investment in grid technology is surging as the energy transition accelerates, driven by the rapid growth of AI, electrification, and renewable integration. Companies specializing in grid infrastructure - from hardware and software providers to battery installers – are attracting newfound investor attention. Alongside this surge, interest in nuclear and geothermal energy is also rising, reflecting a broader shift toward innovative, "all-of-the-above solutions for meeting the world's growing energy needs. This momentum is underpinned by a structural rise in energy demand, especially from data centres, and a multi-year cycle of grid modernization.



BloombergNEF projects global grid spending to reach $479 billion in 2025, rising to $577 billion by 2027. The U.S. leads with $115 billion (about 25% of global investment), while China and the EU/UK each contribute roughly 20%. Transmission infrastructure is accelerating fastest, with a 16% CAGR through 2027 - nearly double the growth rate of distribution - as countries build long-distance lines, new substations, and HVDC corridors.[44]

Global energy storage is also surging. BloombergNEF estimates capacity additions grew 23% in 2025, bringing online roughly 92 GW / 247 GWh worldwide. China remains the dominant player, accounting for nearly half of new installations, while the U.S. contributes about 14%. Despite policy headwinds, the long-term trajectory is clear: global storage capacity is expected to

[43] https://www.gov.uk/government/news/rolls-royce-smr-selected-to-build-small-modular-nuclear-reactors
[44] Bloomberg Newsletter – Grid tech stocks are surging. This is why.

increase eightfold by 2035 compared to 2025 levels, positioning storage as a strategic pillar for electrification and system resilience.[45]

According to IEA, total energy sector investment in 2025 is projected at $3.3 trillion, with $2.2 trillion directed to clean energy categories - including renewables, nuclear, grids, storage, low-emission fuels, efficiency, and electrification - doubling the $1.1 trillion going to fossil fuels. A decade ago, fossil fuel supply investment exceeded spending on electricity generation, grids, and storage by 30%; today, that balance has decisively shifted. Solar PV leads with approximately $450 billion, making it the largest single technology investment. Nuclear spending is estimated to surpass $70 billion, up 50% over the past five years, driven by new builds, refurbishments, and growing interest in small modular reactors (SMRs).[46]

Ensuring electricity security amid rising demand requires grid investment to approach parity with generation spending. However, progress is constrained by challenges such as lengthy permitting processes, tight supply chains for transformers and cables, labour shortages, and regulatory delays. As seen in recent developments, lengthy permitting processes and regulatory delays, previously a major constraint, are now being actively managed.

Despite these headwinds, the outlook remains positive. Historic underinvestment, climate adaptation imperatives, and the increasing frequency of extreme weather events underscore the strategic importance of resilient, flexible grids. Even intermittent market volatility, including concerns over an AI-driven bubble, has not altered the fundamental trajectory: grid modernization is now viewed as essential infrastructure for economic growth and the clean energy transition.

For investors looking to participate in this growth, the Nasdaq Global Electrification Technologies and Smart Grid™ Index (NQGETS™) offers a practical way to access the theme's long-term potential.

Nasdaq Global Electrification Technologies and Smart Grid™ Index (NQGETS™)

The Nasdaq Global Electrification Technologies and Smart Grid Index is designed to track the performance of a selection of companies engaged in the following Nasdaq Patent Sub-Themes: Smart Grid, Smart Energy Transmission, Smart Grid Components, Smart Metering, Stationary Energy Storage, Clean Energy and Nuclear Power.

NQGETS is a modified float-adjusted market capitalization-weighted index, with a 4.5% cap. Following the January reconstitution, which took effect on January 19, 2026, the index consists of 41 securities. Reconstitution and rebalancing occur semi-annually, in January and July.

Forward-looking innovation: patent analysis

Before outlining the eligibility criteria and selection process, it is important to understand why patent analysis is central to this index. Patent activity is a key indicator of technological innovation. To capture this, Nasdaq has developed a theme and sub-theme classification that

[45] https://about.bnef.com/insights/clean-energy/global-grid-investment-could-top-470-billion-for-the-first-time-in-2025-bloombergnef/
[46] https://iea.blob.core.windows.net/assets/1c136349-1c31-4201-9ed7-1a7d532e4306/WorldEnergyInvestment2025.pdf

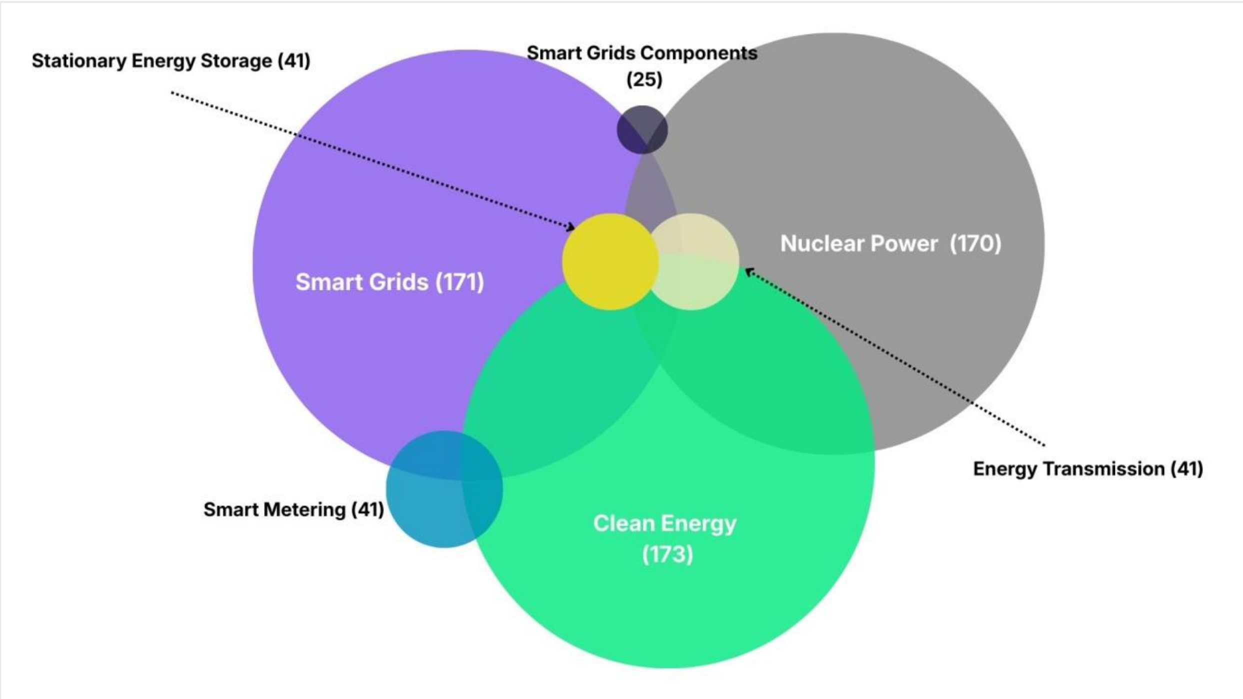
reviews emerging technologies by analysing millions of approved patents on a rolling two-year basis.[47]

This approach provides a quantitative framework to highlight industry leaders, track emerging technologies, and anticipate shifts in the global energy landscape. This forward-looking approach reveals not only today's innovators but also those laying the groundwork for tomorrow's energy systems.

Through this process, the NQGETS Index identifies companies with strong potential for innovation within their respective sectors, all under the broader Electrification theme, by analysing recent patent activity.

Insights from the January 2026 index reconstitution reveal meaningful patterns across Electrification-related themes. The initial universe comprised 405 companies with relevant patent activity. Clean Energy leads with 173 companies filing patents, followed by Smart Grids (171) and Nuclear Power (170), underscoring robust innovation in grid modernization and alternative energy sources. Smaller yet strategically critical segments include Energy Transmission (41), Smart Grid Components (25), Stationary Energy Storage (41), and Smart Metering (41).

The overlap across categories suggests that many companies are innovating in multiple areas, reflecting the interconnected nature of Electrification technologies.



Thematic patent overlap analysis meant to be representative of overlap levels between Clean Energy vs. other individual themes, but does not fully capture cross-thematic overlaps.

[47] For more information: https://www.nasdaq.com/articles/Nasdaq-AI-Team-Supports-the-Index-Business

Eligibility criteria

Having examined the role of patent analysis in uncovering innovation opportunities, we now turn to the eligibility criteria that define the investable universe.

To qualify for inclusion, a security must meet one of the following conditions: be part of the Nasdaq Global™ Index (NQGI™) or be listed on a major U.S. exchange (i.e., any exchange operated under Nasdaq – All Markets, New York Stock Exchange (NYSE) or, Cboe Global Markets Inc).

All securities must have a minimum market cap of $500 million and a six-month average daily traded value of at least $2 million. Furthermore, 20% of each company's shares outstanding must be available to Foreign Institutional Investors (FII).

Finally, the security must be listed on an eligible exchange (per Appendix A in the index methodology) and only one security per issuer is permitted.

Patent scores and selection process

Securities are assigned two scores based on patent filing activity. The Pure Score is a measure of how intensely a company is engaged in a theme, relative to all other themes for which it has recorded recent patent activity. The Contribution Score represents a company's share of overall patents recently filed by all other companies relating to the same theme (e.g., Smart Grid Components).

Potential constituents are grouped by market cap segment (Large/Mid/Small) and sub-theme, then filtered based on Pure and Contribution Scores. The index selection process is designed to highlight companies within the index that demonstrate above-average patent activity. Securities not currently in the index but ranking within the top 35% of Pure and Contribution Scores across each market cap segment and sub-theme are added during each reconstitution. Existing constituents that rank within the top 50% of these scores remain eligible at each reconstitution.

An Intensity Score is also calculated for each security, measuring the number of sub-themes in which the company has qualifying patent filings (i.e., filings that contribute to Pure and Contribution Scores above the required percentile threshold).

Securities are then sorted by Intensity Score, Contribution Ratio, and liquidity, favouring companies with the broadest patent coverage (multiple sub-themes), greatest depth (largest contribution to sub-theme patent volumes), and highest liquidity.

Preference is given to companies within 20 primary ICB subsectors most relevant to the theme[48], while allowing select high-relevance, high-scoring stocks to qualify regardless of industry classification. The index is capped at 100 securities.

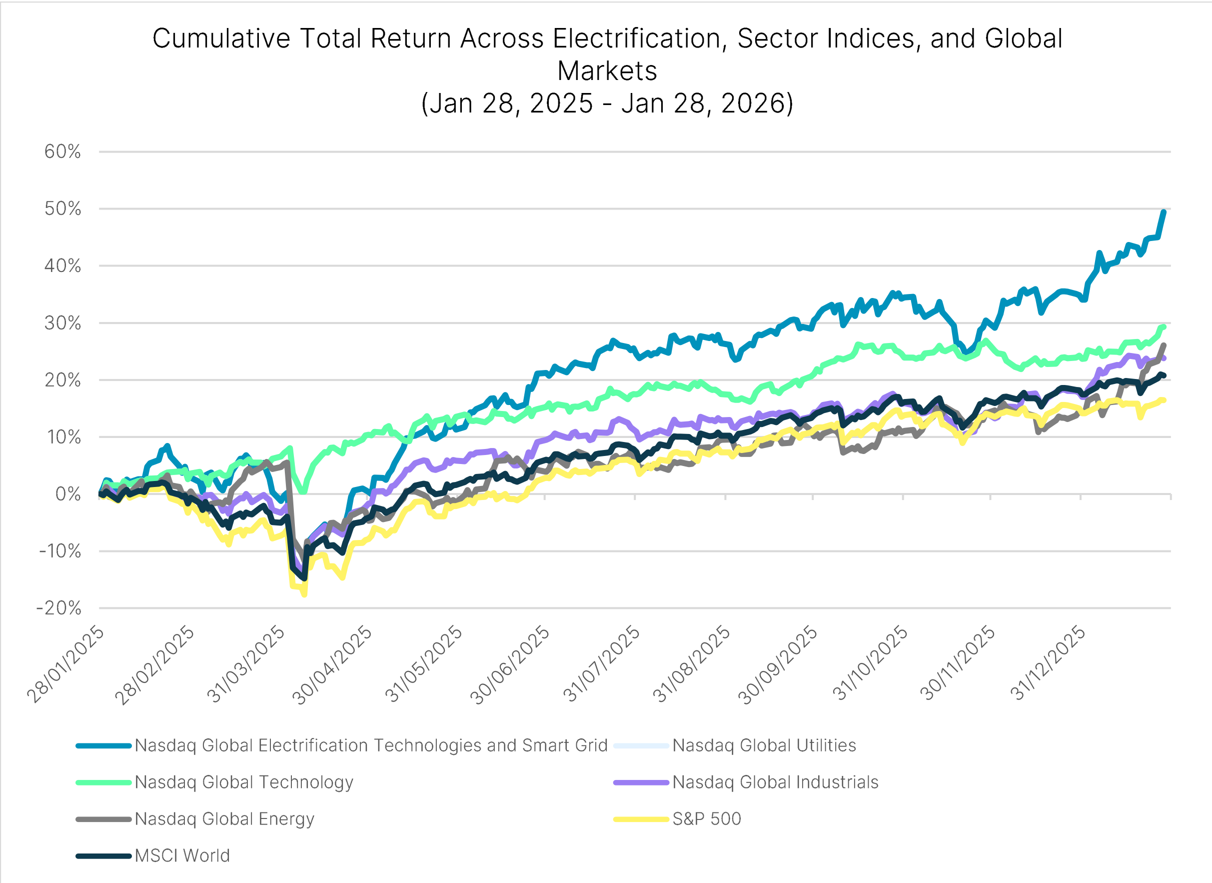
For full details, see the full index methodology.

[48] Each subsector is limited to a maximum of 10 securities. When more than 10 securities qualify within a subsector, they are ranked by Intensity Score, Average Contribution Score percentile, and six-month average daily traded value

Index performance

NQGETS launched on May 29, 2025. Since inception, it has delivered a +33.3% total return, outperforming both the S&P 500 and MSCI World, which returned +19.0% and +18.9%, respectively.[49]

Over the 12 months ending January 28, 2026, the index surged ahead of major sectors, with a total blended (live and simulated) gain of +49.4%, significantly ahead of other sector benchmarks – including the Nasdaq Global Technology™ Index (+29.3%), Nasdaq Global Industrials™ Index (+23.8%), Nasdaq Global Energy™ Index (+26.1%), and Nasdaq Global Utilities™ Index (+29.3%). In comparison, the S&P 500 and MSCI World posted gains of +16.5% and +20.8%, highlighting the superior performance of electrification technologies relative to broad global equity markets.



Source: Nasdaq Global Indexes, Bloomberg

Over a five-year period[50], the index has produced a blended (live and simulated) total return of 60.3%, equivalent to a +9.6% annualized return. Prior to launch, hypothetical back-tested index performance from January 28, 2021 was 19.9%. There was a noticeable pullback in 2022 due to a prolonged bear market across most US & global equities. Since then, a general upward trend has resumed. However, 2025 introduced new headwinds, including tariff adjustments impacting global trade and a recent sell-off linked to AI-driven market rotations. Despite these fluctuations, cumulative returns remain substantially positive, underscoring the resilience of Electrification-related equities over the five-year horizon.

[49] All data is as of January 28, 2026
[50] Start Date: January 28, 2021. End Date: January 28, 2026

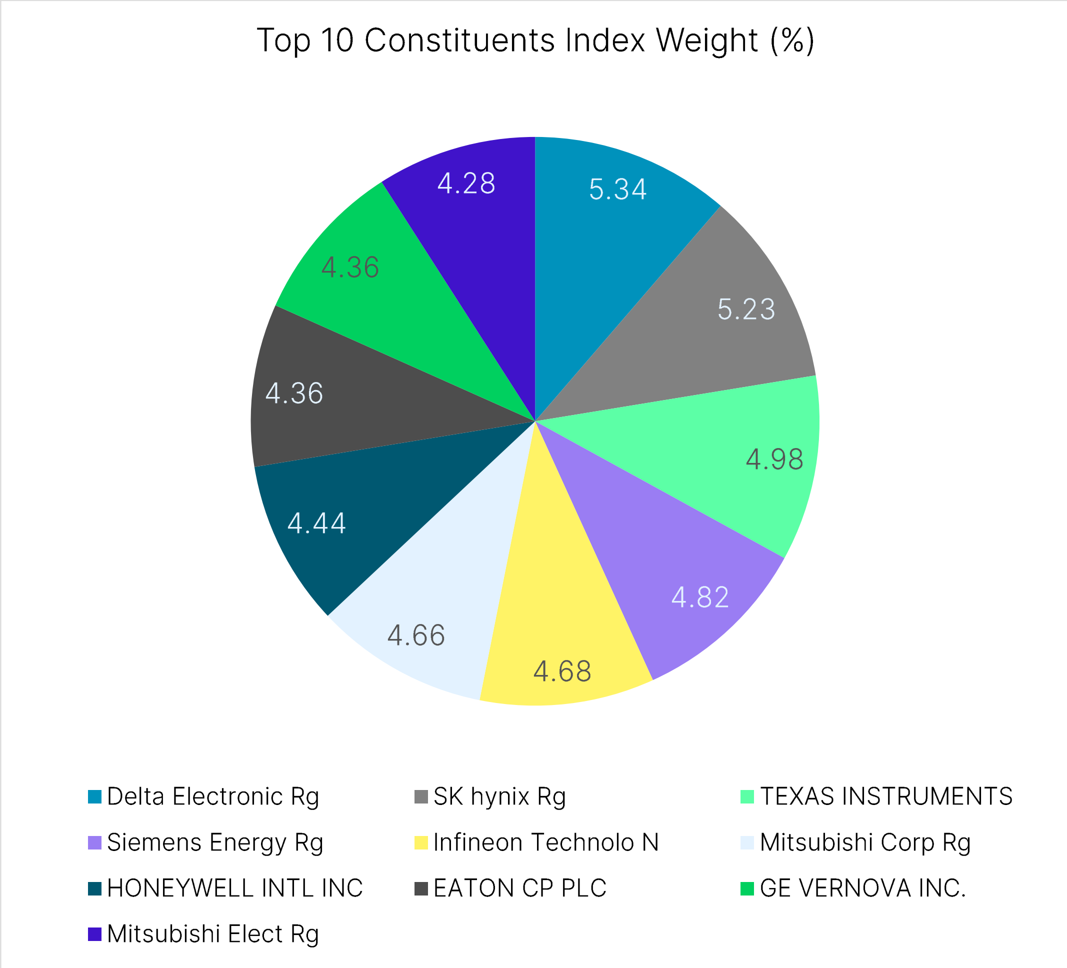
Index Composition

As of January 28, 2026, the top 10 constituents comprise about 47.2% of the total index weight. They represent a diverse mix of global leaders across industrials, energy, and technology. Delta Electronics leads the index with a 5.3% weight and a strong 33% year-to-date (YTD) return, supported by an exceptional 133% gain in 2025. SK hynix follows closely at 5.2% weight with a 31% YTD return and a standout 283% performance in 2025. Siemens Energy remains a notable outperformer with a 20% YTD return on top of a remarkable 171% gain in 2025. Other significant contributors include Infineon Technologies (17% YTD), Mitsubishi Corporation (16% YTD), and GE Vernova, which delivered a solid 9% YTD return alongside a 99% surge in 2025. Mitsubishi Electric also posted a healthy 7% YTD increase, underscoring continued momentum across the smart-grid and clean-energy ecosystem.

Company	Index Weight (%)	YTD Return (%)[51]	2025 Return (%)[52]	ICB Industry	Country	Intensity Score[53]	Sub-theme with Patent Activity
Delta Electronics	5.34	33	133	Industrials	Taiwan	2	Smart Grids, Nuclear Power
SK hynix	5.23	31	283	Technology	South Korea	2	Smart Grids, Stationary Energy Storage
Texas Instruments	4.98	25	-7	Technology	US	2	Smart Grids, Clean Energy
Siemens Energy	4.82	20	171	Energy	Germany	3	Smart Grids, Clean Energy, Nuclear Power
Infineon Technologies	4.68	17	36	Technology	Germany	1	Smart Grids
Mitsubishi Corp	4.66	16	38	Industrials	Japan	6	Smart Energy Transmission, Smart Grids, Stationary Energy Storage, Smart Metering, Clean Energy, Nuclear Power
Honeywell International	4.44	11	-8	Industrials	US	3	Smart Grids, Clean Energy, Nuclear Power
Eaton Corp	4.36	9	-4	Industrials	Ireland	2	Smart Grids, Smart Energy Transmission
GE Vernova	4.36	9	99	Industrials	US	3	Smart Grids, Clean Energy, Nuclear Power
Mitsubishi Electric	4.28	7	72	Industrials	Japan	6	Smart Energy Transmission, Smart Grids, Stationary Energy Storage, Smart Metering, Clean Energy, Nuclear Power

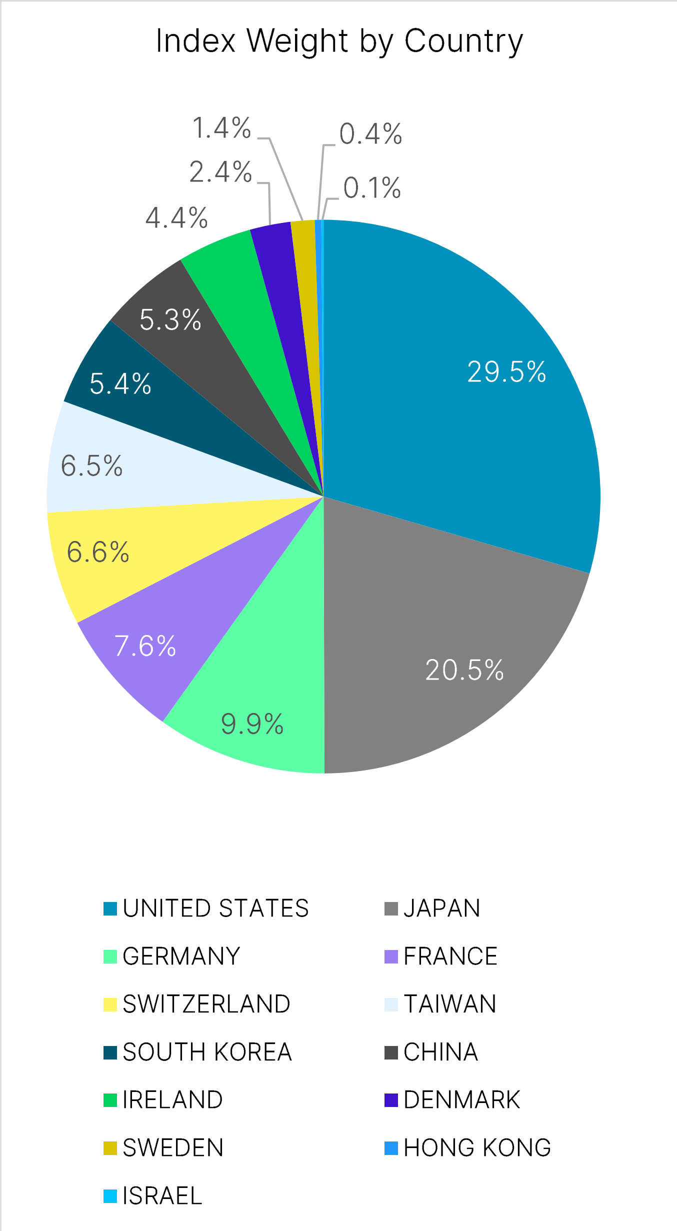
Source: Nasdaq, FactSet

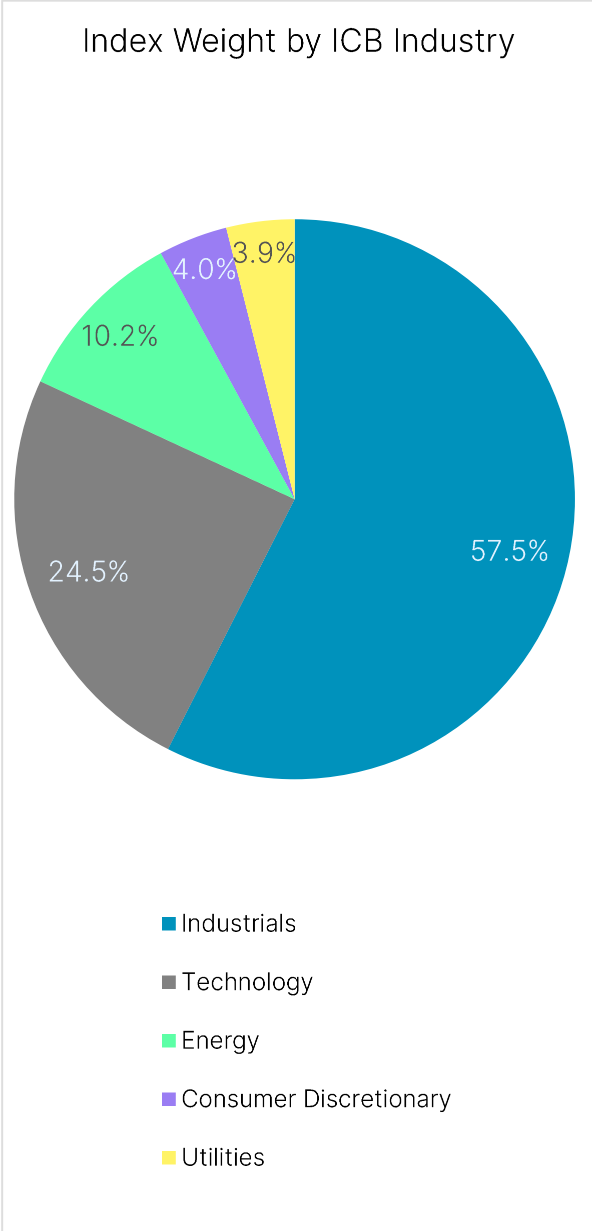
[51] As of January 28, 2026. Price Returns in USD
[52] Price Returns in USD
[53] Such field refers to the sub-themes with patent activity relative to overall patent activity in the initial universe, not to the qualifying patent activity based on minimum-contribution and purity-score selection criteria.



Companies based in the U.S. make up the largest slice of the index exposure with 29.5%. Japan and Germany follow with 20.5% and 9.9%, respectively. Together, these three countries account for nearly two-thirds of the index. Other notable contributors include France, Switzerland, and Taiwan each around 7%. The remaining countries have smaller weights, generally below 5%, with only one or two securities each.

The index is heavily concentrated in Industrials, which account for 57.5% of the total weight, making it the dominant sector. Technology follows with a significant share of 24.5%, indicating a strong tilt toward innovation and digital infrastructure. Energy, Consumer Discretionary and Utilities represent 10.2%, 4.0%, and 3.9%, respectively, providing exposure to essential services and resource-oriented sectors.





Conclusion

Electrification is driving a fundamental transformation of the global energy system. Rapid growth in electricity demand, driven by electric mobility, industrial electrification, and AI infrastructure, is outpacing traditional capacity and exposing vulnerabilities in aging grids. Addressing these challenges requires strategic investment in smart grid technologies, advanced storage solutions, and clean generation sources to ensure reliability, resilience, and sustainability.

The Nasdaq Global Electrification Technologies and Smart Grid™ Index (NQGETS™) seeks to capture this structural shift by tracking companies at the forefront of electrification and grid modernization. Leveraging patent-driven insights, the index identifies innovators developing critical technologies that enable renewable integration, enhance grid flexibility, and strengthen energy resilience. For investors, NQGETS™ provides targeted exposure to the transformative forces reshaping global power systems and driving long-term growth across electrification and smart grid ecosystems.