

The Board Gap Nobody Is Talking About

The NED Landscape in Energy Transition:

Where Demand Is Building and Where Governance Experience Is Genuinely Hard to Find

THE ONE-PAGE VERSION (FOR THOSE WHO BILL BY THE HOUR)

Energy transition boards are multiplying faster than the qualified non-executives to sit on them. The UK alone is targeting £40bn of annual clean energy investment through 2030. Globally, over 76 million people now work in energy - yet 76% of Energy & Utilities employers report a talent and skills gap. At board level, the picture is worse: only 43% of Fortune 100 directors hold any ESG credentials, and climate-specific expertise remains rare. Meanwhile, the geopolitical shock of Trump's IRA rollback has concentrated European and UK boardroom demand further - creating a governance arms race with too few credible players. The intersection of regulatory literacy, investment acumen, and technical understanding of hydrogen, CCUS, storage and grid infrastructure is not a profile that appears often. For boards, this is a systemic risk. For search consultants and smart candidates, it is the opportunity of a decade.

Key Numbers at a Glance

£40bn / yr	UK annual clean energy investment required 2025–2030 (NESO / HM Government)
76 million	Global energy sector workers in 2024 - up 5 million since 2019 (IEA, 2025)
76%	Energy & Utilities employers experiencing a talent and skills gap (industry survey, 2024)
43%	Fortune 100 board members with any ESG credentials - up from 29% in 2018 (NYU Stern, 2023)
~200,000	UK green energy skills shortfall by 2030 (PwC Green Jobs Barometer)
50 GW	Offshore wind target the UK must reach by 2030 - from 15 GW today

NED INTELLIGENCE SERIES

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1. The Burning Platform

The energy transition is not a distant aspiration - it is an active, capital-intensive, time-constrained industrial programme that is already straining the governance frameworks designed to oversee it. Globally, the IEA reports that energy sector employment reached 76 million people in 2024, up more than 5 million since 2019. The power sector now accounts for three-quarters of all recent employment growth and has overtaken fuel supply as the largest employer in energy.

And yet, the very boards charged with directing this transformation - signing off capital allocation, overseeing regulatory compliance, stress-testing risk frameworks and holding management accountable - frequently lack the specialist experience to do so effectively. A major joint study by INSEAD research found that boards are committed to addressing climate change but have measurable knowledge and experience gaps that threaten their ability to drive change. NYU Stern's Centre for Sustainable Business, having reviewed all Fortune 100 board members in 2023, found that while the proportion holding any ESG credentials had improved from 29% to 43% since 2018, climate-specific expertise and worker welfare remained woefully under-represented. The progress is real but entirely insufficient given the scale of what is being governed.

In short: the sector is hiring at record speed at every level - and the most critical vacancies are in the boardroom.

THE GOVERNANCE PARADOX

Companies are deploying billions into novel technologies - floating offshore wind, green hydrogen, long-duration storage, carbon capture - while being overseen by boards whose average member has no direct experience of any of them. The liability is not hypothetical.

2. The Geopolitical Context: Why This Cannot Wait

If the energy transition's trajectory was already demanding, the geopolitical environment of 2025–2026 has introduced a volatility that makes experienced board-level governance more important - and harder to find - than ever.

The United States: Reversal and Redistribution

President Trump's return to the White House in January 2025 marked a decisive shift in US energy policy. Climate ambition has been deprioritised in favour of speed, reliability and national security, with energy recast as a strategic asset rather than an environmental imperative. The practical consequences have been significant: at least two billion-dollar US battery plant projects were cancelled within the first months of the new administration, and the IRA - which mobilised over \$300 billion in clean-energy investments - has had key provisions curtailed or frozen. Tariffs on clean energy equipment have pushed average effective US tariff rates to approximately 15%, levels not seen in decades.

The longer-term picture, however, is more nuanced. Despite federal headwinds, renewables continued to grow through 2025, underpinned by the underlying economics of wind and solar, which remain among the cheapest sources of new power. GlobalData projects that solar PV alone will account for 61.7% of investments in the US power market between 2025 and 2030. The IRA, despite attacks on it, has proven politically difficult to repeal outright: 21 Republican lawmakers signed letters opposing repeal because their constituencies are direct beneficiaries.

For energy transition boards globally, the consequence of US policy uncertainty is a redistribution of capital flows and leadership ambition - toward Europe, the UK, and the Indo-Pacific. Boards that understand how to navigate this rebalancing are in genuine demand.

The UK: All-In on Clean Power by 2030

While Washington retreats, London has doubled down. The UK government's Clean Power 2030 Action Plan, published in December 2024, sets out the most ambitious near-term clean energy target of any major economy. The goal: 100% of the UK's electricity demand met from clean sources by the end of the decade. The numbers are extraordinary:

- 43–50 GW of offshore wind (from 15 GW today)
- 27–29 GW of onshore wind
- 45–47 GW of solar power
- 23–27 GW of battery storage capacity
- 4–6 GW of long-duration energy storage
- Development of hydrogen-to-power and gas with carbon capture
- 80 major network and infrastructure projects to be completed

Underpinning this is £40 billion of annual investment through 2030. The National Energy System Operator (NESO), launched in October 2024 as a new independent government body, is responsible for translating this policy into operational reality - and is itself actively seeking NEDs with investor mindsets, regulatory fluency and whole-system energy expertise.

Most clean power technologies need planning permission in place by 2026. This is not a five-year problem. It is happening right now. And the boards charged with delivering it need to be capable of the task.

Europe: Competitive Acceleration

The European Union's Green Deal and its successor frameworks continue to accelerate transition timelines. The EU manufacturing capacity expansion for clean energy is estimated to require over one million new jobs by 2030 at a time when industry is already reporting severe labour shortages. The Joint Research Centre has highlighted that energy supply and manufacturing are among the sectors with the highest upskilling needs - and that employee participation in training is running at 14%, against a 60% target. Boards across European energy companies and infrastructure investors are grappling with the same supply-demand imbalance for qualified governance oversight.

THE POLICY SIGNAL FOR BOARDS

US retrenchment has not slowed the global transition - it has redirected its centre of gravity. UK and European boards with genuine transition experience are inheriting a competitive advantage in attracting capital. The ability to articulate climate risk, green financing frameworks and regulatory complexity to institutional investors is now a board capability, not a management one.

3. Where NED Demand Is Building

The demand for experienced NEDs in the energy transition space is not uniform. It clusters in particular types of organisations, at particular stages of maturity, and around particular capability gaps.

Offshore Wind Developers and Operators

This remains the highest-volume area of NED demand in UK energy transition. The scale of the 2030 offshore wind ambition - requiring delivery of two to three major CfD auction rounds and 12+ GW of new capacity per round - means boards of developers, project companies and infrastructure funds all need directors who understand consenting risk, supply chain complexity, marine environment regulation and the mechanics of CfD contracts. Boards with directors who have navigated previous offshore build-out cycles are demonstrably better positioned to challenge management assumptions about delivery timelines and cost profiles.

Grid and Network Infrastructure

Grid upgrade is the bottleneck nobody adequately priced. The UK's Clean Power 2030 Action Plan acknowledges that approximately twice as much new transmission infrastructure must be built by 2030 as was built in the entire previous decade. Boards of regulated network companies (National Grid, SSEN, National Grid Electricity Distribution and their project subsidiaries) require NEDs with both regulatory economics experience - understanding of the RIIO framework - and operational infrastructure delivery credentials. This combination is rare. It typically requires a background straddling Ofgem-regulated environments and major infrastructure programme delivery, and very few individuals have both.

Green Hydrogen and CCUS

Hydrogen and carbon capture, utilisation and storage (CCUS) are commercially early-stage but strategically critical - both appear in the UK government's 2030 clean power pathway and are designated beneficiaries of the National Wealth Fund's £5.8 billion infrastructure allocation. The challenge for boards is that these technologies have no established governance playbook. NED demand here is for individuals who can apply analogous experience - from oil and gas operations, large-scale industrial project delivery or regulated market design - to novel commercial and technical structures. The overlap between upstream O&G expertise and CCUS governance is meaningful, but most O&G-experienced directors are being competed for aggressively across multiple transition contexts simultaneously.

Battery Storage and Long-Duration Energy Storage (LDES)

The planned deployment of 23–27 GW of short-duration battery storage and 4–6 GW of LDES by 2030 is creating board-level demand that barely existed as a category three years ago. Companies at every stage of the BESS and LDES value chain - technology providers, project developers, grid-balancing services operators, infrastructure funds holding operational assets - are constituting new boards or refreshing existing ones. NED profiles sought combine technology credibility, market design understanding and financial oversight capability. Supply is thin.

Private Equity-Backed Transition Platforms

Infrastructure and private equity funds with transition-focused mandates are one of the fastest-growing sources of NED demand. As capital has poured into clean energy - both before and despite Trump's US rollback - the platforms and portfolio companies they back require advisory board members and independent directors who can credibly represent institutional investor interests, stress-test management teams and navigate complex stakeholder landscapes. The profile sought here is typically a combination of former C-suite energy sector experience and financial markets fluency, specifically the ability to speak the language of an investment committee. NESO's own most recent NED appointment explicitly sought a director who could bring "the investor mindset" to its board.

Regulated Utilities in Transition

Legacy utilities - across generation, supply and networks - are undergoing structural transformation of their business models, portfolios and regulatory obligations simultaneously. Board-level competencies that were perfectly adequate five years ago are being tested against circumstances they were never designed for. The demand here is not for pure "transition specialists" but for NEDs who can bridge the old and new: individuals who understand how a regulated utility creates value, but who can apply that understanding to decarbonisation strategy, capital programme oversight in novel technologies, and the people and culture dimensions of major workforce transitions.

Public and Para-Public Bodies

The establishment of NESO in October 2024 is a model for what is coming: more specialised, independent governance bodies with statutory functions in the energy system. Great British Energy, the state-owned energy company launched by the current UK government, will require its own board. The Climate Change Committee, Ofgem, the Nuclear

Decommissioning Authority and other public interest bodies all require periodic board renewal. These roles demand individuals who can operate in a politically complex, high-scrutiny environment while retaining technical credibility. They are, uniformly, harder to fill than equivalent private sector roles at comparable seniority.

4. Where Governance Experience Is Genuinely Hard to Find

The gap is not simply one of quantity - although shortages of available candidates are real. It is primarily one of specific, overlapping competencies that simply have not had time to accumulate in sufficient numbers in the available population of experienced directors.

The Specific Competency Clusters That Are in Short Supply

1. Whole-System Energy Literacy

The energy transition requires board members who can think across the system - generation, storage, networks, demand response, markets, and the regulatory frameworks governing each. The historical pattern of sector specialisation (you are either an oil and gas person, or a renewables person, or a networks person) does not equip directors for the “whole system” governance requirement that NESO’s own board mandate now explicitly describes. Boards need people who understand how offshore wind interacts with battery dispatch, how hydrogen-to-power complements CCUS, and how locational pricing signals affect investment decision-making. This is not a common profile.

2. Regulatory Economics and Market Design

Ofgem’s RIIO framework, CfD auction mechanics, capacity market design, the Review of Electricity Market Arrangements (REMA) - these are the financial architecture of the UK’s energy transition. NEDs on regulated company boards who cannot interrogate these frameworks are unable to provide meaningful oversight of management’s regulatory strategy. The pool of individuals who have worked closely enough with these mechanisms to govern them effectively - without being current employees of a regulated entity - is genuinely small.

3. Climate Finance and Green Capital Markets

Institutional investors are increasingly demanding climate disclosure that mirrors financial reporting. Green bonds, sustainability-linked loans, TCFD and CSRD compliance, blended finance structures for emerging market transition projects - these are now board-level competencies, not treasury functions. The intersection of deep financial markets experience with energy transition knowledge is sparse. Most capital markets veterans lack the energy sector depth; most energy sector veterans lack the capital markets sophistication. Finding both in a single director is a needle-in-haystack exercise.

4. Technology Governance for Unproven Technologies

When a board signs off capital expenditure on a floating offshore wind farm, a large-scale hydrogen electrolyser or a grid-scale LDES facility, the technology risk profile is categorically different from anything in their governance training. Analogous experience from sectors such as nuclear, large-scale chemicals, advanced manufacturing, or deep-sea resource extraction is relevant - but most technology governance competence frameworks were not designed with energy transition in mind. The risk of directors nodding through decisions they cannot meaningfully evaluate is high.

5. Geopolitical and Supply Chain Risk

The Trump administration’s tariffs pushed average effective US tariff rates to around 15% by end-2025. Tariff-related job postings in the power sector surged 657% year-on-year during 2025, according to GlobalData. For boards of developers and manufacturers sourcing equipment internationally - solar panels, wind turbines, battery cells, power electronics - geopolitical risk is now a first-order board agenda item. Directors with supply chain resilience experience, international trade law literacy, or prior roles in geopolitically exposed industries are suddenly relevant in energy boardrooms in ways that would have seemed obscure five years ago.

6. People, Culture and Workforce Transition

The workforce implications of energy transition are structurally overlooked at board level. Industry research (PwC Green Jobs Barometer) identifies a UK skills shortfall of approximately 200,000 green energy workers by 2030. IRENA notes that while renewable energy jobs grew to 16.6 million globally in 2024, employers are increasingly struggling to fill specialist vacancies. NESO itself - having expanded from under 600 to over 1,600 permanent employees in two years - explicitly sought a NED with HR and organisational change expertise for exactly this reason. For any energy transition organisation undergoing rapid scale-up, board-level oversight of workforce capability, culture, and succession planning is not a soft governance priority. It is a delivery risk.

THE PROFILE THAT BOARDS ACTUALLY NEED (AND RARELY FIND)

The ideal NED profile for a leading energy transition company is simultaneously: technically credible in at least one novel technology; fluent in regulatory economics; conversant with green capital markets; experienced in large-scale infrastructure delivery; and capable of providing independent challenge in a high-scrutiny public or investor-facing environment. This is not a single career path. It is an accretion of experience across 20–30 years. Boards that insist on finding this in full will wait indefinitely. Boards that map their specific gaps and recruit deliberately against them will gain competitive advantage.

5. Structural Tensions Boards Must Navigate

Speed vs Governance Rigour

The UK Clean Power 2030 Action Plan explicitly states that achieving its targets requires “prioritising pace over perfection.” This is a reasonable operational posture for project delivery teams. It is a dangerous one for boards to internalise. The history of major infrastructure programmes - nuclear, large-scale renewables, high-speed rail - is full of projects where governance rigour was sacrificed for speed and the cost was borne years later. Energy transition boards need to understand the specific risk profile of each technology pathway in their portfolio, set credible governance gates, and resist management pressure to accelerate past them. NEDs who have sat on boards through previous infrastructure delivery cycles are disproportionately valuable for this reason.

The ESG Backlash and the Governance Temptation

The US policy environment has given ammunition to those who want to de-emphasise ESG at board level. Several major US corporations have quietly wound down their ESG committees or downgraded sustainability reporting functions. In Europe and the UK, the regulatory direction is the opposite: the Corporate Sustainability Reporting Directive (CSRD) and Transition Plan Taskforce requirements are increasing disclosure obligations. Boards navigating global capital markets must hold two truths simultaneously: ESG is politically contested in one of the world's largest economies, and it is legally mandated in others. NEDs with direct experience of multi-jurisdictional regulatory compliance are in particular demand.

Independence vs. Deep Expertise

Corporate governance codes emphasise independence. But the most genuinely qualified candidates for NED roles in energy transition often carry sector affiliations, investor relationships or advisory arrangements that test conventional independence tests.

Nomination committees will increasingly need to make explicit trade-offs: a director with fifteen years of hands-on offshore wind development experience who sits on one other developer board may serve the governance interest of a net zero-aligned utility better than a “pure independent” whose energy knowledge is academic. Getting comfortable with managed conflicts, with proper disclosure, is a board maturity challenge for this sector.

6. What Good Governance Looks Like in This Sector

Boards that are genuinely fit for purpose in energy transition share a set of observable characteristics that are measurable in recruitment, in board evaluation, and in public disclosure.

- A formal skills matrix that maps individual director competencies against the organisation's specific technology and market exposure
- At least two to three directors with direct expertise in the most material sustainability issues facing the business, rather than relying on a single sustainability champion
- Regular external challenge - through expert advisory panels, sector peer benchmarking, or structured board education - on technology and market evolution
- Explicit board accountability for the organisation's transition plan, not delegated to a sustainability committee or management function
- Workforce and talent risk as a standing board agenda item, not a management update
- A nomination committee that is actively scanning emerging NED talent - including from adjacent sectors - rather than defaulting to known names from existing networks

The Corporate Governance Institute identifies digital literacy, ESG expertise, crisis management, stakeholder engagement and strategic thinking as the five defining board competencies of 2025. In energy transition, all five are tested simultaneously, every quarter.

7. The Talent Dimension: A Note for Organisations Seeking NED Capability

This is where governance meets search - and where the real constraint becomes visible. The competency gaps described in this paper are not solved by broadening a job specification or running a wider search process. They reflect a structural lag: the people with the right experiential depth to govern an offshore hydrogen-to-power project, an LDES portfolio company, or a reformed electricity market operator simply have not yet had the career pathways that would create them in large numbers. The pipeline is building, but it is not there yet.

For organisations seeking NED talent in this space, several observations from the search market are material:

- The most in-demand NED profiles are being competed for across energy, infrastructure, finance and the public sector simultaneously. Speed and quality of process matters.
- Candidates with specific technical depth - in offshore wind, grid, hydrogen, CCUS - often lack formal board experience. Boards need to decide how much weight they place on track record of governance versus track record of substance.

- The adjacent sector pool is genuinely relevant. Executives from nuclear, aerospace, defence, large-scale chemicals and advanced manufacturing carry transferable governance instincts that energy transition boards underestimate.
- Portfolio career structuring is increasingly how the best candidates manage their NED activity. Understanding a candidate's existing commitments, potential conflicts, and bandwidth realistically is critical before process begins.
- Diversity of perspective is not just a governance box to tick - it is a functional advantage. Boards that draw on women and individuals from non-traditional energy backgrounds demonstrably bring different risk lenses to technology and social licence questions that are material in this sector.
- Remuneration expectations for specialist NED roles in energy transition are rising in line with the complexity and liability of the position. Boards that price NED fees against legacy infrastructure benchmarks will struggle to attract the quality of candidate the role genuinely demands.

Above all, the nomination process for energy transition NEDs should be treated with the same rigour, urgency and strategic intentionality as the appointment of a CEO or CFO. The governance gap at the top of this sector is not an abstract concern. It is a material risk to capital allocation, regulatory compliance, and the delivery of the clean energy infrastructure on which net zero commitments depend.

The boards that solve this problem in the next 24 months will be better positioned for the decade of delivery that follows. Those that do not will find out what governance failure in a capital-intensive, politically scrutinised, technically complex sector costs - the hard way.

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