STRATEGIC HORIZON
ENERGY STATECRAFT · VOLUME 01 OF 08

The Great Energy Transition Divide

Who controls the technologies that matter

The energy transition is not a climate competition. It is a strategic contest. The states that navigate it best will not be those that decarbonise fastest, but those that build sovereign positions in the technologies that matter. Europe is on course to decarbonise successfully and arrive at 2040 with less control over its energy system than it has today. That is not an argument for slowing down. It is an argument for doing it differently.

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EDITORIAL NOTE

What this volume is for

This is the anchor volume of an eight-part series. It does not settle any single question. It establishes the frame the other seven volumes work inside, and it states the positions that frame commits Strategic Horizon to.

Strategic Horizon publishes opinion. Each section closes with a marked assessment and explicit recommendations, placed where the evidence sits rather than deferred to a concluding chapter. A reader who disagrees should be able to name the claim they reject.

Two constraints. First, no figure here is taken from FR-2026-01, the European Energy Strategic Reference, which the March 2026 disruption overtook and which is being reworked. Second, where reputable institutions report materially different values for the same indicator, the divergence is stated where the figure is used rather than resolved by editorial preference.

EXECUTIVE SUMMARY

The argument in brief

- **The hydrogen versus electrification debate is the wrong question, and it persists because it is useful.** Prolonged indecision protects incumbent assets, national champions and sunk positions. The engineering answer has been available for years: electrify where direct electric systems compete, deploy hydrogen where system constraints make it decisive. The debate continues anyway.
- **The real question is control.** Who owns the supply chains, who sets the standards, who can withhold. Europe optimises for carbon and treats supply chain sovereignty as a secondary concern. A carbon-neutral Europe dependent on Chinese components for every critical technology has not achieved autonomy. It has changed landlords.
- **The capital divide is wider than the technology divide.** The same solar panel costs roughly the same everywhere. The money to buy it does not. Financing runs from under two per cent for a Chinese state grid builder to sixteen per cent in parts of Africa. That spread decides more outcomes than any cost curve.
- **March 2026 tested the frame.** The Hormuz closure delivered the largest supply disruption in the history of the oil market. Europe lost almost no volume and absorbed a fifty per cent gas price move regardless. Diversifying the flag on the tanker is not sovereignty.
- **The technologies with the best economics have the worst geopolitical profile.** This is not coincidence. It is the result of fifteen years of consistent Chinese industrial strategy, and it is the structural finding the ETGEM Matrix exists to make visible.

> SH VERDICT
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> **Europe is running the transition as an accounting exercise and will win it on the metric it chose.** Emissions will fall. Targets will be met. And the resulting system will run on components Europe does not make, fuel Europe does not control and capital priced elsewhere. The series that follows is an argument that this outcome is avoidable, that the window to avoid it is roughly five years wide, and that nothing required to do so

depends on a concession from Beijing or Washington.

SECTION I

The False Binary

The hydrogen versus electrification framing did not come out of engineering. It came out of three interests converging: incumbents protecting asset positions, governments defending national champions, and financiers holding sunk costs in one pathway. All three benefit from an unresolved debate. The longer it runs, the longer existing infrastructure holds value and existing relationships stay relevant.

There is real complexity underneath, which is what makes the framing durable. Electrification is more efficient in most applications, because converting electricity to motion or heat directly involves fewer steps than making hydrogen first. But energy density, process heat and molecular feedstock requirements carve out a set of uses where direct electrification runs into physics rather than cost.

The application hierarchy

The principle is not hydrogen versus electrification. It is: electrify wherever battery or direct electric systems compete on performance; deploy hydrogen and its derivatives where system-level constraints give it a decisive advantage. Both lists are short and bounded.

Hydrogen holds the system advantage	Direct electrification is decisively superior
Green steel via direct reduction — blast furnace chemistry needs a reducing agent electricity cannot supply	Passenger vehicles — battery EVs already hold commercial and efficiency advantage over fuel cells
Green ammonia and fertiliser — Haber-Bosch requires a hydrogen feedstock with no electric substitute	Building heat — heat pumps deliver two to three times more useful heat per unit of electricity
Long-haul maritime shipping — energy density beyond what batteries provide for deep-sea voyages	Rail — electrification is the established infrastructure standard
Long-haul aviation — same density constraint; hydrogen-derived SAF is the available pathway	Urban bus fleets — battery systems meet range with superior round-trip efficiency
Industrial heat above 400°C — cement, glass, ceramics	Short-duration grid storage — lithium-ion and flow batteries compete effectively

Figure 1. The Strategic Horizon Application Hierarchy. Full sector-by-sector derivation appears in Volumes 02 to 05.

Applied honestly, the hierarchy redirects money. Passenger vehicle hydrogen infrastructure and building-heat hydrogen programmes lose their claim; grid-scale storage and the hard-to-electrify sectors gain it. The indicative reallocation is on the order of EUR 40 to 60 billion a year of currently misallocated public subsidy and infrastructure commitment. The derivation is deferred to later volumes; the direction is not in doubt.

SH ASSESSMENT I/1

The debate as framed serves the people who profit from it staying open.

Incumbents, national champions, sunk-cost investors. Not anyone who needs a coherent European strategy. The harder question is not which technology is better in the abstract but which pathway serves European autonomy given who controls what, where, and with how much leverage.

Recommendations I/1-R — Adopt the application hierarchy as a formal EU policy principle. Redirect subsidy from passenger-vehicle hydrogen and building-heat hydrogen toward grid-scale storage and genuine hard-to-electrify applications. Commission an independent Application Hierarchy Review by ENTSO-E, IRENA and the IEA, mapping every significant end-use against the frontier, so that lobbying stops substituting for engineering analysis.

SECTION II

The Three Questions

The hydrogen debate operates almost entirely on one dimension. Cost curves, efficiency metrics, integration challenges, deployment timelines: all argued intensively. Who controls the supply chains gets cursory treatment. Which pathway serves European sovereignty is barely raised at all.

That omission is structural, not accidental. European institutions separated energy economics from geopolitics decades ago. Energy analysts produce technology assessments; foreign policy analysts track geopolitical risk; the two communities rarely publish together. The ETGEM Matrix in Section VII exists to close that gap.

The geopolitical profile of electrification

Chinese manufacturing dominance in this sector has no precedent in the history of energy technology. Between 80 and 97 per cent of every significant stage of the solar PV chain sits in China: polysilicon, ingot, wafer, cell, module. Chinese firms hold roughly 39 per cent of the global EV battery market, CATL alone approaching a third. Over 90 per cent of rare earth processing is Chinese, and between 60 and 80 per cent of several battery mineral refining stages including lithium hydroxide and cobalt.

This does not make electrification the wrong pathway. It makes European electrification, as currently structured, a deepening dependency with no mitigation attached. The failure is in supply chain governance, not in technology choice. Europe can electrify and hold autonomy at the same time, but only if sovereignty is treated as a co-equal objective with carbon reduction rather than an afterthought.

And of hydrogen

Hydrogen’s profile is different and, for now, more favourable. It is also on a trajectory to repeat the solar pattern. Chinese manufacturers already produce alkaline electrolysers at USD 300 to 500 per kilowatt against Western equivalents at USD 700 to 1,500 — a gap driven by manufacturing scale, labour cost and state support. Without explicit electrolyser manufacturing protection, the hydrogen economy of the 2030s will be built on Chinese electrolysers. Same dependency, different point in the chain, ten years later.

The HALEU chain is a separate exposure. High-assay low-enriched uranium, required by most advanced reactor designs including TerraPower Natrium and X-energy Xe-100, was until 2024 produced commercially only by Russia’s TENEX. Centrus Energy’s Piketon facility now produces roughly 6 MTU a year, about five per cent of what a meaningful deployment programme would need.

And there is the physical layer, which the technology debate ignores entirely. The Nord Stream sabotage of September 2022 established that submarine energy infrastructure can be destroyed with limited attribution and no immediate accountability. Planned hydrogen import corridors — the SoutH2 route from North Africa through Italy and Austria to Germany — and the HVDC interconnectors carrying offshore wind to demand centres will cross the same water. The security architecture for those corridors does not exist at the scale required.

SH ASSESSMENT II/1

Brussels optimises for carbon and treats supply chain sovereignty as secondary. A European system that is carbon-neutral and dependent on Chinese components for every critical technology is not strategically autonomous. It has exchanged one form of external control for another. This is the central error the series is written to correct.

Autonomy does not mean autarky. No realistic energy system for 450 million people in an integrated global economy is self-sufficient. It means a system in which no single external actor can hold European economic performance hostage through supply restriction, price manipulation or infrastructure disruption. By that test, the current trajectory — accelerating solar and battery deployment without sovereignty measures, while replacing Russian pipeline gas with American LNG — is not building autonomy. It is diversifying dependency.

Recommendations II/1-R — Mandate a Supply Chain Geopolitical Concentration Index for all EU-funded clean energy projects, with automatic strategic review where a single non-allied state controls more than 60 per cent of a critical input. Capitalise a European Clean Technology Supply Chain Resilience Fund at EUR 10 billion for wafers, cells and electrolysers. Extend the Baltic Sentry model into a NATO-EU Joint Infrastructure Protection Framework covering planned hydrogen and HVDC subsea corridors.

SECTION III

China’s Calculus

China’s clean energy strategy is not an environmental programme. It is the most sophisticated industrial positioning exercise of the century. Beijing worked out earlier than Western governments that the transition would need specific technologies in enormous quantity, and that those supply chains could be taken through patient state-directed investment in manufacturing, raw materials and standards.

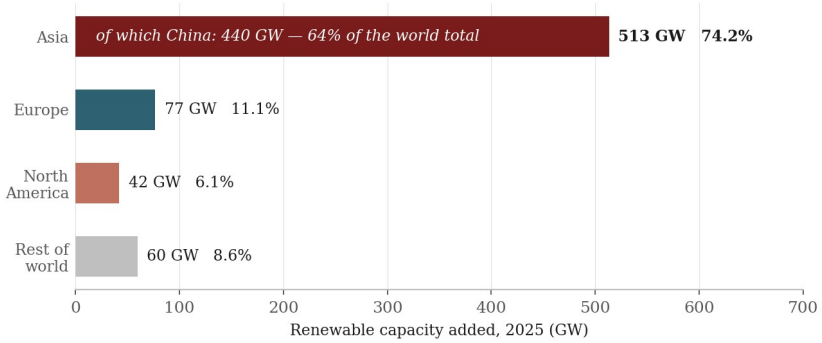


Figure 2. Renewable capacity added in 2025, by region. Asia took three-quarters of global additions; China alone took 64 per cent. Source: IRENA, Renewable Capacity Statistics 2026.

The Belt and Road energy portfolio shows the logic operating on two tracks at once. BRI energy investment reached a record USD 128.4 billion in 2025, simultaneously the

dirtiest and the greenest it has ever been: over USD 71.5 billion into oil and gas, more than three times the previous record, alongside USD 18.3 billion into clean energy and 22 GW of planned wind, solar and waste-to-energy across developing nations. Not a contradiction. Dominate fossil infrastructure in the near term while building the manufacturing and standards position for what replaces it.

The battery position is the visible edge. CATL holds around 39 per cent of the global EV battery market. BYD is the largest EV manufacturer in the world by volume. Chinese firms dominate the lithium iron phosphate patent landscape and are moving fast on solid state. These advantages are structural rather than cyclical: fifteen years of deliberate investment in capacity and integration, not replicable by Western producers inside a decade under normal market conditions.

Rehearsals

The gallium and germanium restrictions of July 2023 were a rehearsal, not a weapon. China holds roughly 80 per cent of global gallium production and 60 per cent of germanium, both critical to compound semiconductors used in solar, EV power electronics and military systems. The licensing regime created friction and uncertainty without halting supply. A calibrated demonstration. European policymakers who read it as a market event rather than a signal misread it.

Meyer Burger is the other lesson. One of the last European producers of high-efficiency solar cells closed its European production permanently in 2024, unable to compete with subsidies at a scale that made Western production unviable regardless of quality. That was not a market efficiency outcome. It was the result of a fifteen-year state strategy that European industrial policy failed to counter until the advantage was irreversible.

SH ASSESSMENT III/1

Treating Chinese panels and batteries as simply cheap clean energy is the same category error as treating Russian gas as simply cheap reliable energy. The consequence of the first error became visible on 24 February 2022. The consequence of the second will become visible when the next crisis creates conditions to exercise leverage — not necessarily by embargo, and not necessarily by China, but through price manipulation, licensing friction, standards capture and investment restriction, none of which triggers WTO action.

The 2023 restrictions were leverage demonstrated, not leverage used. The full exercise has not happened yet.

Recommendations III/1-R — Introduce EU domestic content requirements on the IRA model for all projects receiving EU public finance: 40 per cent European content by 2027, 60 per cent by 2030, for solar PV, storage and electrolysers. Establish a Strategic Materials Emergency Reserve covering gallium, germanium, rare earths and battery-grade lithium at a minimum six months of supply. Negotiate binding Supply Chain Diversification Compacts with South Korea, Japan, Australia, India and Morocco.

SECTION IV

America’s Energy Power

The Inflation Reduction Act was never primarily climate policy. It was industrial strategy with three objectives: restore American clean technology manufacturing, compete with China for the industries of the transition, and make the United States indispensable to allied energy systems through both fuel supply and technology partnership.

Its credits mobilised an estimated USD 300 billion of private clean energy investment between 2023 and 2026. That capital was geographically targeted — plants announced in states with competitive Senate races, battery factories through the industrial Midwest — and strategically consequential: it redirected flows that would otherwise have spread more evenly across North American, European and Asian locations.

The 2025 reconciliation act has since reversed much of it. The technology-neutral production and investment credits now terminate for wind and solar projects beginning construction after 4 July 2026 unless placed in service by the end of 2027; offshore wind leasing was paused; foreign entity of concern rules were tightened. American clean energy policy has become a two-term variable, which is itself a planning fact for European industry.

The LNG relationship

Less discussed in European energy policy, and equally consequential. The United States became the world's largest LNG exporter in 2023, with European buyers taking roughly 45 per cent of US exports. That makes Washington Europe's supplier of last resort. Preferable to Russian pipeline gas on political alignment; not the same thing as independence. The price discovery, the supply decisions and the infrastructure investments that govern European LNG availability are made in Houston and Washington, not Brussels or Berlin.

SH ASSESSMENT IV/1

The correct European response to the IRA was never WTO litigation. Policymakers who read it as a trade problem rather than a strategic realignment produced a response that was both inadequate and aimed at the wrong target. The competitive pressure is real. The answer to it is structural, not legal.

The reversal of 2025 does not vindicate the litigation view. It confirms the deeper point: American policy is now a variable Europe cannot plan against, in either direction. A supplier whose industrial policy inverts every four years is not a stable foundation, whatever its alignment.

Recommendations IV/1-R — Launch a European Clean Technology Competitiveness Act with technology-neutral production credits for EU-manufactured solar, wind, storage and electrolyser components, targeting EUR 200 billion of private manufacturing investment over five years. Negotiate an EU-US Clean Energy Alliance coordinating R&D, supply chain diversification and mutual market access. Cap LNG import agreements at ten years with explicit hydrogen infrastructure cooperation obligations, so that American supply does not embed the way Russian supply did.

SECTION V

Europe's Position

Europe faces a trilemma its policy framework has not honestly acknowledged. The Green Deal presents decarbonisation, competitiveness and strategic autonomy as jointly achievable. They are — but not on the stated timelines, and not without sequencing choices Brussels has so far declined to make.

REPowerEU worked. Russian pipeline gas fell from 45 per cent of EU supply in 2021 to roughly 3 per cent by 2026. Six floating regasification units were built in Germany inside eighteen months. Norwegian supply expanded, Azerbaijani flows increased. What REPowerEU did not touch was supply chain sovereignty. The solar, storage and

charging build-out that accompanied gas diversification deepened Chinese dependency at exactly the pace Russian dependency fell. The structure of external dependency changed. Its depth did not.



Figure 3. Europe's binding constraint is not generation. Sources: IRENA; Beyond Fossil Fuels; European Commission; ENTSO-E.

The Draghi diagnosis of September 2024 holds. European industrial electricity at roughly EUR 120 to 145 per megawatt-hour against roughly EUR 55 in the United States is a structural disadvantage, and absent deliberate intervention it is permanent rather than cyclical. The EUR 303 billion annual investment gap the report identified is not a capital availability problem. The instruments exist, the financing can be designed, and capital markets have shown appetite for clean energy assets. What is missing is the decision to deploy at scale.

Central Europe shows the limits of a uniform framework applied to non-uniform starting conditions. Poland remains the Union's largest coal consumer, with coal around 58 per cent of generation in 2025 and no nuclear power before 2033 at the earliest. Hungary combines aggressive solar deployment, Rosatom-dependent nuclear expansion at Paks II and continued TurkStream reliance — a different configuration of the same tension. Neither is an argument against the transition. Both are arguments for taking system security seriously as a co-equal objective.

SH ASSESSMENT V/1

The trilemma is achievable by 2040 with the right sequencing decided now. It is not achievable by 2030 without trade-offs. The question is which compromise damages European interests least. That is a geopolitical judgement, not a technical one, and it is precisely the judgement European energy policy declines to make out loud.

Three things follow. Manufacturing capacity must be built before, not after, the deployment that depends on it. Infrastructure with a five to ten year lead time — grid, storage, electrolysers, mineral processing — must start now to exist when demand peaks between 2030 and 2035. And member states starting from different baselines need an architecture that takes their security constraints seriously rather than a template applied uniformly.

Recommendations V/1-R — Adopt a Technology Sovereignty Sequencing Framework: 2026–28 grid, storage and European manufacturing; 2028–32 hydrogen at scale in hard-to-electrify applications with domestic and allied chains; 2032–40 an integrated system with genuine supply chain sovereignty. Introduce a Sovereignty Baseline Protection Clause in taxonomy and state aid rules, permitting transitional baseload beyond standard phase-out dates where a documented nuclear or SMR programme is the replacement. Implement the Draghi energy recommendations in full and immediately.

SECTION VI

March 2026

A framework written before February 2026 would need revision. This one was tested.

The Strait of Hormuz closed on 28 February 2026 following military action against Iran. Within forty-eight hours transits had effectively stopped and more than 150 tankers were anchored outside rather than risk passage. Brent peaked near USD 126 in March. Asian LNG rose 54 per cent in seven weeks. The IEA called it the largest supply disruption in the history of the global oil market. Five months later, traffic had not returned to normal.

What it confirmed

Europe lost almost no Hormuz volume. Qatar supplied around 6 per cent of European LNG imports in the first quarter of 2026; the United States and Russia, the two largest suppliers, were untouched and set a quarterly record. Yet European TTF moved from roughly EUR 32 per megawatt-hour in late February to above EUR 50 by mid-March, against storage near 28 per cent.

The transmission was price, not volume. A system priced at the margin on a common market inherits every supplier failure anywhere in that market, whether or not its own cargoes move. Roughly 17 per cent of Qatari export capacity was removed by strikes on Ras Laffan, and the whole market repriced. National exposure was concentrated rather than shared: Italy took 33 per cent of its 2025 LNG from Qatar, Poland 25 per cent, Belgium 16 per cent.

Europe’s response was to deepen concentration on its largest supplier, from 58 per cent of LNG imports in 2025 to 63 per cent in the first quarter of 2026. Volume 02 examines what the same shock did to the Chinese system, which absorbed the gas side through domestic coal and renewables and the oil side through stockpiles, pipeline volumes and the EV fleet.

SH ASSESSMENT VI/1

Diversifying the flag on the tanker is not sovereignty. This is the sharpest available demonstration of the argument in Section II. Europe executed the textbook diversification play, replaced its dependency with a politically aligned one, and still paid a fifty per cent price move on a supply failure that did not touch its own cargoes.

The lesson generalises past gas. Every argument in this series about component supply chains is the same argument in a different commodity. Alignment of the supplier does not change the arithmetic of concentration. What matters is whether a single point of failure anywhere in the system can reprice or restrict what Europe needs — and in solar, batteries and rare earth processing that point is more concentrated than it ever was in gas.

Recommendation VI/1-R — Introduce two security-of-supply metrics the Union does not currently maintain: sovereign reserve cover, measuring the share of dispatchable reserve running on domestic or overland fuel; and a supplier concentration ceiling applied irrespective of political alignment. Hormuz tested both, and Europe failed the second more clearly than the first.

SECTION VII

The ETGEM Matrix

Every volume in this series assesses technologies through the Strategic Horizon Energy Technology and Geopolitical Exposure Matrix — ETGEM. This section introduces it; Volume 06 sets it out in full.

Most technology assessment frameworks score two dimensions: technical maturity and economics. Necessary, insufficient. A technology that scores well on both but whose supply chain sits inside a single non-allied state is a different strategic proposition from one with identical performance and a distributed chain. Conventional assessment does not capture the difference, so decision-makers do not see it.

ETGEM scores five dimensions — Technology Maturity, Economics, Scalability, Supply Chain Concentration and Geopolitical Exposure — each on a one to five scale where five is most favourable for European strategic autonomy. The published Core Score weights all five equally, on the principle that no single dimension dominates across all decision contexts. Advisory Strategic Profiles may apply decision-specific weighting: a government prioritising security over cost would weight the last two dimensions higher.

Supply Chain Concentration takes the Herfindahl-Hirschman Index as a quantitative input. The index informs the score without determining it. Analyst judgement integrates it with the number of chain stages held by one actor, the documented history of weaponisation, the availability of credible diversification and the consequences of disruption.

Technology	1	2	3	4	5	Core	Strategic note
Utility solar PV	5	5	4	**1**	**1**	3.2	Best economics, worst geopolitical profile. Chinese dominance across every stage.
Lithium-ion, grid scale	5	4	3	**1**	**1**	2.8	Operationally essential, strategically exposed. Requires domestic content policy.
Onshore wind	5	5	4	3	3	**4.0**	Best overall profile. European manufacturers competitive. Grid integration is the constraint.
PEM electrolysers	4	2	3	3	2	2.8	Real potential from 2035. Electrolyser chain needs protection now, not then.
Advanced SMR	2	3	2	2	2	2.2	2033–35 earliest. HALEU near-monopoly is a red line risk.

Figure 4. ETGEM preview, five illustrative technologies. Columns 1 to 5 are Technology Maturity, Economics, Scalability, Supply Chain Concentration and Geopolitical Exposure; five is most favourable for European strategic autonomy. Volume 06 publishes the full matrix — twenty-eight technologies, the scoring rubric and the concentration evidence — in open access.

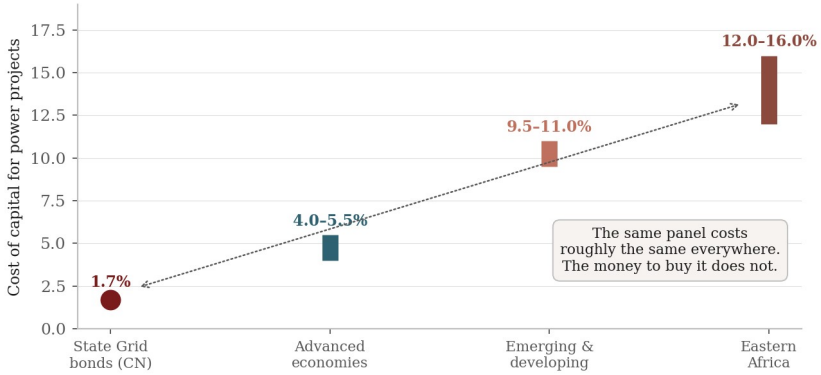


Figure 5. The dimension no cost curve captures. Sources: IEA Cost of Capital Observatory; Clean Air Task Force; State Grid Corporation of China bond issuance.

SH ASSESSMENT VII/1

The technologies with the best economics have the worst geopolitical exposure. That is not coincidence. It is the visible result of fifteen years of consistent Chinese industrial strategy, and the reason conventional two-dimension assessment keeps producing recommendations that look correct and compound the problem.

A second pattern deserves equal attention, and Figure 5 makes it plain. The panel costs roughly the same everywhere. The money to buy it does not. Financing runs from under two per cent for a Chinese state grid builder to between twelve and sixteen per cent in Eastern Africa, with emerging economies at nine to eleven. Narrowing that gap by a single percentage point would free around USD 150 billion a year. No cost curve captures this, and it decides more deployment outcomes than any technology comparison in the literature.

Recommendations VII/1-R — Mandate ETGEM or an equivalent five-dimension assessment for EIB, InvestEU and EU Hydrogen Bank evaluation: no clean energy project above EUR 50 million should receive EU public finance without a geopolitical exposure assessment. Establish an annual EU Energy Technology Geopolitical Risk Report as a standing Commission instrument.

SECTION VIII

Conclusion — The Strategic Horizon View

The energy transition is a strategic contest, not a climate competition. The states and institutions that come out of it best will not be those that decarbonise fastest. They will be those that hold sovereign positions in the technologies that matter, that reduce their exposure to leverage, and that make pathway choices serving their strategic interests alongside their climate commitments.

What the divide actually is

The title of this volume names a divide, and it is worth being precise about where it runs. It is not between hydrogen and electrons; that argument is settled and the hierarchy in Section I settles it. It is not between fast and slow decarbonisers; the deployment numbers do not sort that way.

The divide is between systems that treat energy as a market to optimise and systems that treat it as an instrument to control. China has spent fifteen years on the second view and now supplies the equipment for everyone running the first. Europe has run the first view with unusual discipline and arrived at 2026 with world-leading climate policy, industrial electricity at two to three times American prices, 1,700 GW of renewable projects stuck in connection queues, and dependency on a supplier it has named a systemic rival.

And a third of the world is not in the argument at all. Africa holds around 60 per cent of the best solar resource on earth and 85 per cent of the global electricity access gap, and receives about 3 per cent of global clean energy investment. That is not a technology problem or a resource problem. It is a cost of capital problem, and it is the clearest evidence that the constraint on the transition has moved from engineering to finance.

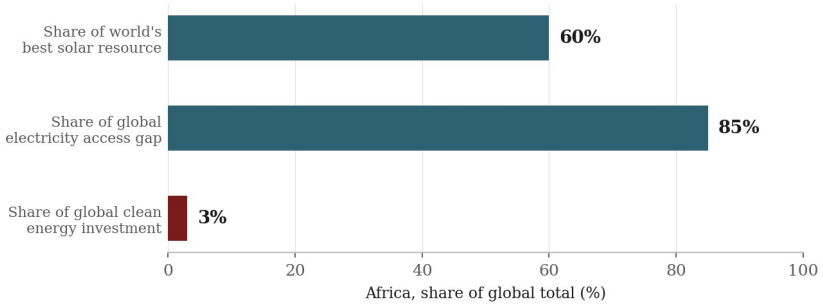


Figure 6. Africa's position in the global transition. Sources: IEA; World Bank Mission 300; SEforALL.

The verdict

STRATEGIC HORIZON VERDICT

Europe is on course to decarbonise successfully and to arrive at 2040 with less control over its energy system than it has today. Both halves of that sentence are load-bearing. The targets will be met. The components will be foreign, the fuel will be seaborne, and the capital will be priced by people who are not in the room. That is not a failure of ambition. It is a failure to ask what the ambition was for.

The window is roughly five years wide and it is closing at the speed of the deployment itself. Every gigawatt installed without a sovereignty condition attached is a gigawatt of dependency that will outlast the government that approved it. Manufacturing share in solar and batteries is gone. Electrolysers, grid equipment, mineral processing and system architecture are not gone yet.

Nothing required to change this depends on a concession from Beijing or Washington. Domestic content rules, a resilience fund, sequencing, permitting reform, a reserve cover metric, ETGEM in the funding process: all of it is European law, European money and European administrative practice. The instruments exist. The decision has not been taken.

What the series will do

Volume 02 applies this frame to China and finds an electrification programme run as industrial sovereignty policy. Volume 03 does the same for the United States and finds the opposite bet: supply as leverage rather than control. Volume 04 turns to Europe, and Volume 05 to hydrogen, where the manufacturing question was settled while the applications argument continued. Volume 06 publishes the full ETGEM matrix. Volume 07 converts the evidence into positions, disruptors and scenarios to 2035, and Volume 08 delivers the verdict.

Five recommendations run through all of it. Domestic content requirements before 2027, because without them every deployment deepens dependency. The application hierarchy as formal policy. The Draghi investment gap closed through front-loaded public finance, since it is a failure of will rather than of capital. A differentiated architecture for member states whose systems start elsewhere. And ETGEM, or something like it, inside the funding decision rather than alongside it.

The technology is available. The capital exists. The frameworks can be drafted. What is missing is the clarity to ask the right question and the will to answer it out loud.

On the limits of this volume

This is an anchor volume and its function is framing rather than proof. Several quantities here — the EUR 40 to 60 billion reallocation, the ETGEM preview scores, the Central

European system security argument — are stated as working positions whose derivation belongs to later volumes and is not attempted here. The March 2026 disruption remains unresolved at the time of writing; a settlement or a further escalation would each change what Section VI supports. And where institutions report different figures for one quantity, the divergence is stated at the point of use rather than resolved by preference.

Principal sources: IEA (World Energy Investment 2026, Global Hydrogen Review, Cost of Capital Observatory); IRENA; Ember; ENTSO-E; Eurostat; European Commission; European Court of Auditors; Beyond Fossil Fuels; Draghi Report on European Competitiveness; Green Finance and Development Center; BloombergNEF; WindEurope; SolarPower Europe; IAEA PRIS; World Bank Mission 300; SEforALL; Clean Air Task Force; Chatham House; IEEFA. © Strategic Horizon 2026. Volume 01, v2.2. Open access. Reviewed by Ciceró and Solon; see the note on limits in Section VIII.