

INDIA · POWER GRID · ENERGY TRANSITION

Two Supercycles, *Running on One Wire*

India's AI infrastructure and energy-transition buildouts are converging on a handful of companies — and handing them real pricing power

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Two investment super cycles are currently underway globally – and we have a long runway ahead for both. These are (1) AI infrastructure buildout and (2) the transition of the world’s energy system away from fossil fuels, also known as the renewable energy transition. *Both are running concurrently rather than in sequence*, competing for the same finite pool of copper, skilled labour, turbines, transformers, switchgears, memory and semiconductor capacity.

TWO SUPERCYCLES, US\$20 TRILLION, FIVE YEARS

Both global cycles are playing out in India with as much intensity as anywhere else globally and have significant investment implications for equity market investors. Here we will talk about what this means for investors in Indian equities. Let us understand the size and scale of these two Investment super cycles, globally.

McKinsey projects worldwide data-center AI infrastructure cumulative spend approaching **US\$6.7-7 trillion** by the end of the decade. Running in parallel, Bloomberg Nef’s base-case Economic Transition Scenario puts average annual global energy transition investment at approximately **US\$2.9 trillion** over the next five years, implying a cumulative figure of roughly **US\$14-15 trillion** between 2026 and 2031 — nearly double the AI infrastructure figure. Together, these two cycles are expected to see cumulative investments of almost **US\$20-US\$21 trillion** over the next five years.

AFTER CHINA: FROM STEEL TO ELECTRONICS

Let us put scale and past comparables in perspective to realize how significant these two super cycles occurring simultaneously are. The last investment cycle of a similar magnitude was the fixed asset focused, urbanization of China between 2002 and 2012. China’s urbanization and infrastructure buildout is estimated to have absorbed US\$14-15 trillion of cumulative fixed capital formation and drove the country to account for roughly half of all incremental global demand growth for iron, steel, copper and coal, spurring a Supercycle in commodities and commodity equities. While the scale and magnitude may be similar, the character of what we saw in China then and what we will witness in this cycle is fundamentally different: China’s cycle was materials-growth-intensive. *Today’s twin Supercycle is intelligence and electricity-intensive*, a bet on compute, electrons, and the physical infrastructure needed to generate, move and consume power at a scale and speed the grid was never designed for.

INDIA REMAINS PART OF BOTH THESE GLOBAL SUPER CYCLES

This global cycle is playing out in India with as much intensity as anywhere else globally, and again as two parallel buildouts rather than one. On the AI side, India is racing to build sovereign compute and hyperscale data-center capacity to serve both domestic demand and its ambitions to become a global AI hub. As we have extensively spoken about AI infrastructure in earlier issues of The Beam, we will focus more on the energy transition in this issue. On the energy side, India’s renewable energy transition is running on an aggressive timetable: the country is targeting **500 GW** of non-fossil generation capacity by 2030, up from roughly **283 GW** installed as of March 2026, a target that carries with it a corollary and arguably underappreciated investment requirement in grid and transmission capacity to actually deliver that power to load centers.

NO WIRES, NO POWER

It is important to understand why this cycle is so significant and why just building renewable energy is only one part of the cycle. Let us explain this in simple analogy - assume a power plant is a factory, and the grid is the road that carries what it makes to the market — it does not matter how big the factory is if the road cannot carry its output. India's renewable buildout has that problem in an acute form, because solar and wind (the factory) sit far from demand (the market), transmission lines (the road) need to be built to carry the power generated to centers of demand growth which may hundreds of miles away. The evidence is already visible: ICRA estimates roughly a third of India's newly commissioned renewable capacity is currently held back for lack of transmission. India's stranded renewable projects have doubled to more than 50 GW. *Grids, not generation, are now the defining bottleneck* in India's energy transition. In short, doubling renewable capacity from 283 GW to 500 GW is as much a 'wire-building' target (transmission) as a generation target — and right now, the harder one to hit.

INDIA'S MULTIBILLION DOLLAR INVESTMENT SUPER CYCLES

India's AI and data-center infrastructure build is estimated to require almost **US\$100-150bn** of investment by 2031-32 with installed data-center capacity expected to rise from **1.6 GW** in 2025 to **7-8 GW** by 2030-2032.

India's renewable energy transition, by comparison, is estimated at over **US\$300 billion** of cumulative investment by 2030 — US\$190-215 billion for generation capacity to reach the 500 GW target. These figures underscore the fact that India will not be a bystander to both these global super cycles.

WHERE THE TWO CYCLES COLLIDE

From an investment perspective, investors must understand that both of India's cycles collide at a common chokepoint - gigawatt-scale power transformers, switchgear and HVDC converter stations — the highest-voltage, highest-value equipment India's power system has, and the hardest of all to build more of. Let us explain! This is the layer where power is stepped up to travel long distances, stepped back down to usable voltages near load centers, and, on the very largest corridors, converted from AC to DC and back so that moving gigawatts over 900-plus kilometers does not lose an uneconomic share of the power in transit; nothing further down the voltage chain can substitute, because ordinary distribution-grade equipment simply cannot carry gigawatt-scale flows. It is also the hardest layer to add capacity to. A 765 kV transformer or an HVDC converter station takes years to design, manufacture, and type-test and certify with Power Grid before it can go into service, unlike lower-voltage equipment that can be qualified far more quickly. Both of India's super cycles are converging on exactly this tier. Hyperscale AI data centers draw continuous gigawatt-scale loads and need large step-down transformers and switchgear to pull that power reliably off the grid; Power Grid Corporation's renewable-evacuation corridors, several of which now run at HVDC scale, need the same category of equipment to move power hundreds of kilometers from Rajasthan and Gujarat to load centers. *This is where the two Indian super cycles genuinely collide* — and it is also where the number of credible domestic suppliers is smallest.

AN OLIGOPOLISTIC SUPPLY BASE

At gigawatt scale, India effectively has a handful of credible suppliers including Hitachi Energy India, Siemens Energy India, Schneider, CG Power, Voltamp and GE Vernova T&D. It is a genuinely narrow supplier base built on multi-decade technology and deep certification moats that new entrants will struggle to replicate.

ORDERS OUTRUNNING CAPACITY

The order books of these companies are already surging faster than their capacity can grow. India's largest homegrown transformer and switchgear manufacturer has taken its transformer capacity from **17,000 MVA to roughly 65,000 MVA** in a year, yet its standalone order book still climbed **59% year-on-year** to ₹15,719 crore; the Indian listed arm of one of the world's largest grid-technology and HVDC majors has seen its backlog rise **53.5%** to a record ₹29,555 crore; and the Indian listing of a major German engineering group's energy business has grown its order book **22%** to ₹184.3 billion, even as its transformer plant only finishes doubling capacity in mid-2027. In each case, demand arrives faster than new capacity can be commissioned and certified.

THE MARGINS ARE ALREADY MOVING

Importantly, pricing power is now showing up in the numbers, not just in order intake. India's largest homegrown transformer and switchgear manufacturer saw its Power Systems segment margin expand **281 basis points** and consolidated profit before tax grow **34% year-on-year**; the Indian listed arm of one of the world's largest grid-technology and HVDC majors reported net profit up **157%**, growing faster than its already-record backlog. *That combination — order books lengthening while margins expand at the same time on pricing power — is the sweet spot for investors.*

THIS COULD BE A LONG-TERM COMPOUNDING THESIS

It is true that valuations across this group have already re-rated meaningfully. But the investment case does not depend on re-rating continuing on its own; it depends on two things holding together. The first is earnings visibility here appears to be genuinely long dated, running on multi-year backlogs rather than a single good quarter. The second is the near-oligopolistic structure of gigawatt-scale equipment supply gives this group of companies pricing power, the ability to raise prices as demand outruns capacity rather than simply riding volume. The validation of the thesis will come from each company's quarterly results - whether order-book momentum keeps building and whether management continues to report EBITDA margin expansion alongside it — that is where the market will see, quarter by quarter, whether the pricing power is holding. We will surely be assessing these trends. So should you!

The company names referenced in this note are for illustrative purposes only, intended to help readers navigate a complex sector in India. They do not constitute stock recommendations, investment advice, or an endorsement of any specific company.

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