

# THE COMPETITIVENESS GAP:

## How Pakistan's Power Sector Became the Primary Barrier to Industrial Growth

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### EXECUTIVE SUMMARY

Pakistan's industrial electricity tariff — at 15.7 US cents per kilowatt-hour (all-inclusive, June 2025) — has become the single most consequential barrier to manufacturing competitiveness in the country. At a time when India pays 6.3 cents/kWh and Vietnam 8.0 cents/kWh for industrial power, Pakistani manufacturers face tariffs roughly double the regional average, embedding a structural cost disadvantage into every unit of production. Four distinct dysfunctions have converged to produce this crisis: a cross-subsidisation architecture that inverts the economic logic of industrial pricing; a CPEC-era capacity trap that forces firms to pay for power they cannot reliably use; distribution system losses that translate into a hidden Rs 1.1 trillion annual burden on paying consumers; and governance fragmentation that leaves no institution accountable for the industrial competitiveness consequences of energy pricing decisions. The results are measurable: three consecutive years of large-scale manufacturing contraction, 187 textile mill closures, and an export trajectory that has placed Pakistan far behind Vietnam (\$44 billion) and Bangladesh (\$47 billion) in global apparel markets. Six targeted interventions — from institutionalising regionally competitive industrial tariffs to establishing a permanent Industrial Energy Competitiveness Council — would address these failures systematically.

**Key Terms:** Cross-Subsidisation · Circular Debt · Capacity Payments · Regionally Competitive Energy Tariff · De-industrialisation · CTBCM · Large-Scale Manufacturing

### AT A GLANCE: ENERGY & INDUSTRIAL COMPETITIVENESS INDICATORS

Indicator	Value	Source (APA)
Pakistan industrial electricity tariff (all-inclusive)	15.7 US cents/kWh (June 2025)	GlobalPetrolPrices.com, citing NEPRA / LESCO / IESCO (2025)
Industrial tariff: India / China / Vietnam / Bangladesh	6.3 / 7.7 / 8.0 / 10.1 US cents/kWh	IEA Electricity 2025 (India, China); GlobalPetrolPrices.com (Vietnam, Bangladesh)
Installed generation capacity / Average utilisation	45,888 MW / 33.88%	NEPRA State of Industry Report (2024)
Capacity payments — FY2024-25	PKR 1.806 trillion (61–65% of PPP)	NEPRA Performance Evaluation Report FY2024-25
Circular debt stock (June 30, 2024)	Rs 2.394 trillion	NEPRA State of Industry Report (2024)
Large-Scale Manufacturing growth — FY2024-25	-1.5%	Pakistan Economic Survey 2024-25, Ch. 3 (PBS)
Textile mill closures (2024–25)	187 mills (147 in Punjab)	Profit Pakistan Today, January 2025

## 01 | THE PROBLEM: Pakistan's Industrial Energy Pricing in Global Context

Pakistan's electricity pricing system is failing its industrial economy. At 15.7 US cents per kilowatt-hour — all taxes, surcharges, and levies included — Pakistan's industrial electricity tariff stands roughly double the regional average and above the European Union's average of 11.5 cents/kWh, despite Pakistan's far lower per-capita income and manufacturing wage base (GlobalPetrolPrices.com, 2025; IEA, 2025). The competitiveness arithmetic is unforgiving: Indian manufacturers pay 6.3 cents/kWh, Chinese competitors 7.7 cents, Vietnamese producers 8.0 cents, and even Bangladesh — a regional peer with no significant indigenous energy endowment — pays just 10.1 cents. Every kilowatt-hour consumed by a Pakistani textile mill, engineering firm, or chemical plant carries an embedded tariff disadvantage of 5–9 US cents relative to the factories it competes with in global markets.

The consequences of this pricing regime are not theoretical — a natural experiment already exists in the Pakistani data. In FY2021–22, the government introduced Regionally Competitive Energy Tariffs (RCET), reducing the industrial electricity rate to 9 US cents/kWh for export-oriented manufacturers. Textile exports surged 54% within a single fiscal year — from \$12.5 billion to a record \$19.3 billion (PIDE, n.d.). When RCET was subsequently withdrawn and tariffs climbed to approximately 17.5 cents/kWh, exports collapsed to \$16.5 billion in FY2022–23 and have since remained flat in the \$16.5–17.5 billion range. The direction and magnitude of the response are unambiguous: energy pricing is a primary, not incidental, determinant of Pakistan's manufacturing competitiveness. The experiment has already been run; its lesson has not yet been institutionalised.

The structural damage has since accumulated at scale. Three consecutive fiscal years of large-scale manufacturing (LSM) contraction — -7.0% in FY2022–23, near-stagnation at +0.9% in FY2023–24, and -1.5% in FY2024–25 — represent the worst sustained manufacturing downturn in Pakistan's recent economic history (PBS, 2025). LSM contributes 67.5% of manufacturing value-added and 8.0% of GDP, meaning these contractions carry significant macroeconomic weight. Across the textile sector alone, 187 mills have ceased operations — 147 in Punjab, concentrated in Kasur, Multan, and Faisalabad — while over 100 spinning mills have shuttered and remaining mills operate below 50% capacity. Energy costs, which normally account for 35–40% of conversion costs in textile spinning, peaked at 55% of conversion costs in early 2025, according to data from the All Pakistan Textile Mills Association (APTMA).

Pakistan's global textile market share has declined from approximately 2.25% to around 1.7% during this period, according to industry estimates. In the first half of 2025, industry trade data indicates the competitive gulf in garment exports: China at \$38.1 billion, Vietnam \$8.93 billion, India \$4.07 billion, Bangladesh \$2.79 billion — and Pakistan \$1.37 billion. Vietnam's textile and apparel exports reached \$44 billion in calendar year 2024, surpassing Bangladesh as the world's second-largest textile exporter. Pakistan's export-to-GDP ratio has stagnated at 10.48%, against India's 21.85% and Vietnam's 87.18%. This is not a crisis of inevitability. Pakistan has 45,888 MW of installed generation capacity — far exceeding current demand of approximately 30,150 MW (NEPRA, 2024). The competitiveness gap is a product of four interlocking structural dysfunctions, each policy-correctable, each diagnosed in the section that follows.

## 02 | STRUCTURAL FAILURES: FOUR CONVERGING GAPS

Four distinct structural failures have converged to transform Pakistan's energy pricing into a systematic constraint on industrial competitiveness — and, by extension, on export growth, employment, and the structural transformation of the economy.

### Gap 1 — The Cross-Subsidisation Burden: Industrial Consumers Taxed to Subsidise Others

Pakistan's electricity tariff architecture contains a fundamental inversion. Industrial consumers — who purchase power at higher voltages, with more predictable load profiles, and at lower cost-of-supply per unit delivered — are charged above cost-of-supply in order to fund residential lifeline slabs and subsidised agricultural tubewell connections. Using FY2020–21 NEPRA data, FPCCI estimated that industrial consumers paid Rs 85.6 billion more than the cost-recovery tariff in that year alone, while residential consumers received a Rs 302.8 billion subsidy shortfall and agriculture Rs 64.6 billion (FPCCI, 2024). By November 2025, FPCCI representatives testified before NEPRA that the cross-subsidy burden on industry had grown to over Rs 330 billion. The government's own partial acknowledgement — eliminating Rs 4–4.57/unit of cross-subsidy from industrial tariffs via SRO in February 2025, saving approximately Rs 150 billion annually — confirms the scale of the problem while leaving the residual burden substantial.

The social logic underpinning cross-subsidisation is further undermined by evidence on actual incidence. A World Bank study found Pakistan's residential electricity subsidies “unfairly benefited higher-income households,” as progressive slab structures are poorly targeted (World Bank, 2016). More recently, PIDE's analysis of circular debt and tariff burdens found that lower-income quintiles pay higher effective rates proportionally due to uniform surcharges applied across all consumption levels — meaning the protective logic of the cross-subsidy system is not only distorting for industry but regressive in its actual household incidence (PIDE, 2025). The protected consumer base has expanded from 9.4 million to 21.5 million — partly because rooftop solar adoption by middle-class households shifts their grid consumption into lower subsidy-eligible slabs, while industrial consumers absorb the growing residual burden. PIDE researcher Afia Malik has articulated the structural distortion precisely: “Industrial consumers use more electricity at higher voltages, making supply more efficient and cost-effective. When the industry overpays to subsidize others, it distorts demand and harms competitiveness.”

### Gap 2 — The Idle Capacity Trap: Paying for Power That Cannot Be Used

Pakistan's power sector contains a structural paradox of considerable severity. NEPRA's State of Industry Report 2024 documents installed generation capacity of 45,888 MW against maximum demand of approximately 30,150 MW and maximum load actually served of just 25,516 MW — an average annual capacity utilisation of only 33.88% (NEPRA, 2024). Two-thirds of installed power infrastructure sits idle while every consumer pays for it through embedded capacity charges. The origins lie in the CPEC-era generation expansion, which added 9,504 MW of new capacity exceeding \$15 billion in cost between 2015 and 2020. Capacity payments — fixed charges owed to Independent Power Producers regardless of dispatch — stood at just Rs 384 billion in 2015; by calendar year 2024 they had reached PKR 2.1 trillion, and PKR 1.806 trillion in FY2024–25 alone, constituting 61–65% of total Power Purchase Price (IEEFA, 2024; NEPRA, 2024). NEPRA's own decomposition is stark: removing capacity charges would reduce per-unit generation cost from Rs 30.6/kWh to Rs 12.8/kWh — a 58% reduction — meaning fuel costs constitute barely a third of what manufacturers actually pay (IGC, 2025).

Industrial firms face a genuine double-cost burden: they pay grid tariffs embedding idle capacity costs and simultaneously invest in expensive captive generation — diesel gensets and own solar installations — to manage chronic reliability failures. This double-cost is not captured in headline tariff comparisons with regional peers, meaning the true competitive disadvantage may be larger than the 15.7 versus 8.0 cents comparison suggests. The government has pursued IPP renegotiation in multiple phases, with 29 renegotiated agreements projected to yield Rs 3.498 trillion in lifetime savings. Chinese CPEC IPPs remain the most complex to renegotiate, with over \$2 billion in outstanding capacity payment receivables (The Diplomat, 2025).

### Gap 3 — Distribution System Dysfunction: The Hidden Cost Multiplier

The generation and capacity payment crisis is compounded by a distribution system operating far below the efficiency required to deliver power competitively. NEPRA recorded actual transmission and distribution losses of 18.31% across DISCOs in FY2024–25 against the allowed standard of 11.77% (NEPRA, 2024). Including collection losses — DISCO under-recoveries relative to billing — the combined shortfall reached approximately 26%, translating to roughly Rs 1.1 trillion annually. NEPRA described this figure as “almost equal to the federal development programme.” Annual circular debt inflows from T&D losses alone totalled Rs 276 billion in FY2023–24; DISCO under-recoveries contributed a further Rs 314.51 billion. These losses are socialised through tariff surcharges borne disproportionately by paying industrial consumers, who are least able to evade billing.

The circular debt stock reached Rs 2.394 trillion as of June 30, 2024 (NEPRA, 2024). A Rs 1.225 trillion bank restructuring deal reduced it to Rs 1.614 trillion by June 2025, but it crept back to Rs 1.837 trillion by November 2025 — demonstrating that one-time fiscal injections cannot address the structural accumulation drivers. PIDE’s Working Paper 2024:2 quantifies the macroeconomic transmission: a 10% increase in circular debt causes approximately 10% higher production costs economy-wide, and a 1% increase in circular-debt-induced tariff hikes reduces manufacturing exports’ share by 0.14%; the total public welfare loss attributable to power sector debt has been estimated at US\$13 billion (PIDE, 2024). Distribution Companies continue to operate as public monopolies with no meaningful performance accountability; NEPRA recommended ending the uniform national tariff policy — which it says “fosters inefficiency” — in its SIR 2024 (NEPRA, 2024).

### Gap 4 — Governance Fragmentation: No Institution Accountable for Industrial Energy Competitiveness

Perhaps the deepest structural failure is institutional. Tariff-setting (NEPRA), power procurement (CPPA-G), grid operation (NTDC), industrial policy (Ministry of Industries, BOI), special economic zones (SEZ Authority), and investment facilitation (SIFC) operate in separate silos with no formal coordination mechanism for assessing the industrial competitiveness consequences of energy pricing decisions. NEPRA’s statutory mandate is cost-recovery — not industrial development. The trade-off between fiscal sustainability of the power sector and competitive viability of manufacturing has no institutional address. No mechanism exists for competitiveness impact assessment before tariff determinations. The consequence is that consequential decisions — most notably the withdrawal of RCET — were made without modelling their export or employment implications.

The January 2026 launch of the Competitive Trading Bilateral Contracts Market (CTBCM) marks a structural improvement, formally transitioning from a centralised single-buyer model and allowing bulk

consumers ( $\geq 1$  MW load) to purchase electricity directly from generators at negotiated rates. The government has initiated stakeholder consultations for 800 MW of wheeling demand through competitive auctions — 200 MW in 2026, scaling to 800 MW by 2030. These reforms address market structure without resolving the cross-subsidy architecture, the capacity payment overhang, or the absence of an integrated energy-industrial policy framework. The IMF Executive Board, completing its second review of the Extended Fund Facility in December 2025, was explicit: “Accelerating reforms in the energy sector is critical to safeguarding its viability and improving Pakistan’s competitiveness” (IMF, 2025b). The institutional architecture to pursue those reforms in an industrially coherent manner does not yet exist.

**TABLE 1 — Structural Gap Analysis Matrix**

Gap Type	Diagnosis	Economic Consequence	Priority
Gap 1 — Cross-Subsidisation Burden	Industrial consumers charged above cost-of-supply to fund residential and agricultural subsidies; Rs 330+ billion annual burden by 2025 (FPCCI, 2024)	Tariff inversion: industry taxed to sustain political pricing elsewhere; embedded anti-competitive manufacturing cost	Critical
Gap 2 — Idle Capacity Trap	33.88% utilisation rate; PKR 1.806 trillion capacity payments (61–65% of PPP) for largely idle CPEC-era generation plant (NEPRA, 2024)	Double-cost burden: inflated grid tariffs plus captive generation investment; removing capacity charges would cut per-unit cost by 58%	Critical
Gap 3 — Distribution Dysfunction	Actual T&D losses 18.31% vs 11.77% allowed; combined shortfall ~26%; Rs 1.1 trillion annual socialised loss (NEPRA, 2024)	Excess losses borne by paying industrial consumers via tariff surcharges; Rs 591 billion annual circular debt inflow from T&D and under-recovery	High
Gap 4 — Governance Fragmentation	No formal mechanism for competitiveness impact assessment in tariff-setting; NEPRA mandate is cost-recovery only; seven institutional silos with no coordination	Consequential pricing decisions (e.g. RCET withdrawal) made without modelling export or employment consequences; no institutional home for energy-industrial trade-offs	High

### 03 | POLICY RECOMMENDATIONS: SIX ACTIONABLE REFORMS

The evidence points not toward fatalism but toward a specific and sequenced reform agenda. Six interventions are both urgent and institutionally within reach — each addressing a distinct dimension of the competitiveness gap while building coherently toward a power sector that enables rather than retards industrial growth.

#### 1

### Institutionalise Regionally Competitive Industrial Energy Tariffs as a Permanent Mechanism

The Ministry of Energy, in coordination with NEPRA and the Ministry of Commerce, should formally institutionalise the Regionally Competitive Energy Tariff (RCET) as a permanent, rules-based instrument — not a discretionary measure subject to fiscal convenience. The RCET should be set at or below the regional benchmark of 7.4 US cents/kWh identified by PIDE-APTMA research, with annual rebasing against a basket of competitor country rates (PIDE, n.d.). Cross-subsidy transfers should be separately funded through budgetary appropriation rather than embedded in the industrial tariff structure. Pakistan's FY2021–22 experience — a 54% export surge to a record \$19.3 billion within a single year of RCET introduction — is the strongest available evidence that the mechanism produces rapid, measurable competitive gains.

**International Precedent:** *Bangladesh Power Development Board (BPDB) Export Processing Zone dedicated tariff structure — providing preferential industrial rates to EPZ manufacturers as a deliberate export promotion instrument, separated from the general consumer tariff structure.*

2

### Accelerate CTBCM Open Access and Lower the Consumer Eligibility Threshold

NEPRA and CPPA-G should accelerate the Competitive Trading Bilateral Contracts Market (CTBCM), launched on January 22, 2026, by progressively lowering the consumer eligibility threshold from 1 MW to 0.5 MW within 12 months and to 0.25 MW within 24 months. Industrial clusters and special economic zones should be designated priority open-access zones with fast-tracked wheeling rights. This would enable manufacturers to negotiate power directly from renewable energy generators — particularly solar and wind — at rates substantially below DISCO-mediated tariffs, bypassing the cross-subsidy and capacity payment burden embedded in the regulated tariff structure. The 800 MW wheeling demand consultation already underway provides a credible implementation pathway.

**International Precedent:** *India's Electricity Amendment Act 2022 — expanded open access provisions to smaller consumers and mandated non-discriminatory wheeling, enabling energy-intensive industries to procure directly from renewable sources at competitive rates.*

3

### Replace Cross-Subsidisation with Targeted Direct Transfers via BISP

The Ministry of Finance, in coordination with BISP and NEPRA, should replace the cross-subsidy architecture embedded in electricity tariffs with direct income transfers to vulnerable households through the existing Benazir Income Support Programme infrastructure. The World Bank's 2016 analysis established that Pakistan's residential electricity subsidies "unfairly benefited higher-income households" — the cross-subsidy mechanism is both fiscally costly and poorly targeted (World Bank, 2016). A direct transfer system would protect genuinely low-income consumers while eliminating the Rs 330+ billion annual burden on industrial tariffs, aligning with IMF programme conditionality requiring the phase-out of untargeted subsidies (IMF, 2024a).

**International Precedent:** *Indonesia's PLN subsidy-to-cash transfer reform (2010–2015) — replaced blanket electricity subsidies with verified cash transfers to low-income households via the Unified Database, reducing fiscal cost while improving the precision of social protection targeting.*

4

### Legislate a Circular Debt Prevention Framework with Automatic Fiscal Triggers

The Ministry of Finance, working with the Ministry of Energy and CPPA-G, should enact a Circular Debt Prevention Framework establishing a legally binding ceiling on the circular debt stock (as a share of GDP), automatic tariff rebasing or fiscal appropriation when thresholds are breached, and mandatory

quarterly reporting to Parliament. Pakistan has experienced repeated cycles of debt accumulation followed by large, one-time government bailouts — resolving symptoms while leaving structural drivers intact. PIDE’s Working Paper 2024:2 establishes that every 10% increase in circular debt generates approximately 10% higher production costs across the economy: preventing debt accumulation is therefore industrial policy, not merely fiscal housekeeping (PIDE, 2024). Circular debt elimination by 2031 is an explicit IMF EFF structural benchmark (IMF, 2024a), making statutory prevention mechanisms central to programme compliance.

**International Precedent:** *Chile’s Electricity Price Stabilisation Fund (FEPC) — a legally mandated fiscal buffer that automatically absorbs electricity price shocks, with transparent, statute-governed accumulation and drawdown rules that prevent cost pass-through crises.*

5

### Complete DISCO Privatisation with Enforceable Performance-Based Efficiency Mandates

The Ministry of Energy and provincial governments should complete the Distribution Company privatisation programme — an IMF structural benchmark under the September 2024 Extended Fund Facility (IMF, 2024a) — with time-bound, enforceable efficiency mandates. Each privatised DISCO should reduce actual T&D losses by no less than 2 percentage points per year until reaching the NEPRA-allowed standard of 11.77%. Bridging the current 18.31% actual loss rate to the allowed standard would reduce annual circular debt inflows by an estimated Rs 276 billion and lower the effective tariff burden on all consumers. The ADB’s \$200 million loan approved in December 2024 for power distribution modernisation provides a complementary financing pathway (ADB, 2024).

**International Precedent:** *K-Electric (KE) — Pakistan’s own privatised integrated power utility in Karachi — demonstrates that private sector management under regulatory oversight can achieve measurable improvements in distribution efficiency and service reliability relative to public DISCO performance.*

6

### Establish a Permanent Industrial Energy Competitiveness Council

The Prime Minister’s Office, in coordination with the Ministry of Industries and Ministry of Energy, should establish an Industrial Energy Competitiveness Council (IECC) — a permanent inter-ministerial body mandated to assess the competitiveness impact of all material tariff determinations, capacity payment decisions, and energy sector structural changes before finalisation. The Council should include representation from NEPRA, CPPA-G, Ministry of Industries, BOI, SEZ Authority, and major industrial associations (APTMA, FPCCI), with a technical secretariat in PIDE or an equivalent research institution. This directly closes the governance gap at the heart of the crisis: no formal mechanism currently requires energy pricing decisions to be evaluated for their industrial and export consequences before implementation.

**International Precedent:** *Turkey’s Energy Intensive Industry (EII) Support Scheme — coordinated between the Energy Market Regulatory Authority (EPDK) and the Ministry of Industry and Technology, providing sector-specific tariff relief and energy efficiency incentives for designated energy-intensive manufacturers.*

TABLE 2 — Implementation Roadmap

Reform	Lead Institution	Int’l Precedent	Horizon
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Institutionalise RCET as permanent mechanism	Ministry of Energy / NEPRA / Ministry of Commerce	Bangladesh BPDB EPZ dedicated tariff structure	Near-term (0–12 months)
Accelerate CTBCM open access; lower threshold to 0.5 MW	NEPRA / CPPA-G	India Electricity Amendment Act 2022	Near-term (0–12 months)
Replace cross-subsidies with BISP direct transfers	Ministry of Finance / BISP / NEPRA	Indonesia PLN subsidy-to-cash transfer reform (2010–15)	Medium-term (1–3 years)
Enact Circular Debt Prevention Framework (statutory)	Ministry of Finance / Ministry of Energy / CPPA-G	Chile Electricity Price Stabilisation Fund (FEPC)	Medium-term (1–3 years)
Complete DISCO privatisation with efficiency mandates	Ministry of Energy / Provincial Govts	K-Electric (domestic precedent)	Medium-term (1–3 years)
Establish Industrial Energy Competitiveness Council	PM's Office / Ministry of Industries / NEPRA	Turkey Energy Intensive Industry Support Scheme	Near-term (0–12 months)

## 04 | CONCLUSION

Pakistan's power sector has produced a paradox that few economies can claim: a country with 45,888 MW of installed generation capacity — substantially more than it currently needs — that nonetheless charges its manufacturers double the regional average for electricity. The competitiveness gap documented in this brief is not a product of resource scarcity or technological backwardness. It is the output of four interlocking policy dysfunctions, each with a clear institutional origin and a correspondingly clear remedy: a cross-subsidisation architecture that inverts the logic of competitive pricing; a capacity payment structure that locks in the cost of idle infrastructure; a distribution system whose losses are socialised onto the most diligently paying segment of consumers; and a governance framework that has never formally required energy pricing decisions to account for their industrial and export consequences.

The consequences are no longer prospective. Three consecutive years of large-scale manufacturing contraction, 187 mill closures, a Rs 2.394 trillion circular debt stock, and an export trajectory that places Pakistan far behind Vietnam, Bangladesh, and India in markets it was once competitive in constitute a measurable de-industrialisation — one directly traceable to the energy pricing regime. Pakistan has already conducted the natural experiment: RCET-era data from FY2021–22 demonstrate that when industrial electricity prices fall to regionally competitive levels, manufacturing responds rapidly and at scale. The mechanism is not in dispute. What is in dispute is whether Pakistan's institutional architecture can deliver reform sequentially and durably, rather than in politically reversible, crisis-driven episodes.

The six interventions proposed in this brief address each of the identified gaps — institutionalising the RCET mechanism, expanding competitive market access, replacing cross-subsidies with targeted transfers, constraining circular debt through statute, completing distribution privatisation, and creating a permanent accountability structure for industrial energy policy. None is individually novel: elements of each have been recommended by NEPRA, PIDE, the World Bank, the ADB, and successive IMF reviews. The World Bank's October 2024 Pakistan Development Update, dedicated specifically to power sector distribution reform, underscored that structural reforms in the sector are essential to sustained economic recovery (World Bank, 2024). What is absent is not the analysis but the institutional coherence to pursue

reform sequentially, durably, and across silos. Pakistan's manufacturing sector cannot indefinitely absorb a tariff disadvantage that compounds with every quarter of inaction. The competitiveness gap is correctable — and the window in which correction remains transformative rather than merely remedial is narrowing with each fiscal year that the power sector continues to tax what it should enable.

## ABOUT THE AUTHOR

Dr. Ghulam Mohey-ud-din is a Lead Strategic Economist and Policy Advisor with 18+ years of experience in urban economics, spatial econometrics, industrial development, and evidence-based policy design. His work spans Gulf economies, Vision 2030 frameworks, and South Asian emerging markets.

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