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ICMA POLICY NOTE

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Brief analysis of specific economic issues for providing useful input to policymakers

SHOULD PAKISTAN EXPAND THE USE OF SOLAR ENERGY IN INDUSTRIES TO LOWER ELECTRICITY COSTS?

Research and Publications Department

Institute of Cost and Management Accountants of Pakistan

Message from Vice President ICMA and Chairman, Research and Publications Committee

I am pleased to share the latest ***Policy Note*** from the Research and Publications Department of ICMA. This fourth edition in our ongoing series explores a timely and important question: ***Should Pakistan expand the use of solar energy in industries to reduce electricity costs?***

The Policy Note highlights the sharp rise in industrial electricity tariffs, which has adversely affected the competitiveness and operational efficiency of many businesses—particularly those in energy-intensive sectors. It advocates for greater adoption of solar energy in the industrial sector as a strategic and practical solution to reduce costs, lower reliance on an unstable power grid, and strengthen long-term economic resilience.

Through a detailed comparison of DISCO tariffs and solar energy costs, the document presents a strong case for transitioning to a hybrid energy model. With industrial solar tariffs now significantly lower than conventional electricity rates, this shift offers the potential for substantial cost savings, enhanced export competitiveness, and alignment with Pakistan's renewable energy and sustainability goals.

The Policy Note also examines recent government reforms—including net metering, green financing, and peer-to-peer energy trading—and outlines 30 actionable recommendations to promote solar adoption in industrial zones. These cover areas such as tax incentives, solar R&D, public-private partnerships, and grid modernization.

I would like to express my sincere appreciation to the members of the Research and Publications Committee for their continued guidance and support. I also commend the Research and Publications team for their dedicated efforts in developing this comprehensive and insightful Policy Note. Their work adds significant value to policy discussions and supports ICMA's mission of fostering sustainable economic growth and national development.

Muhammad Yasin, FCMA

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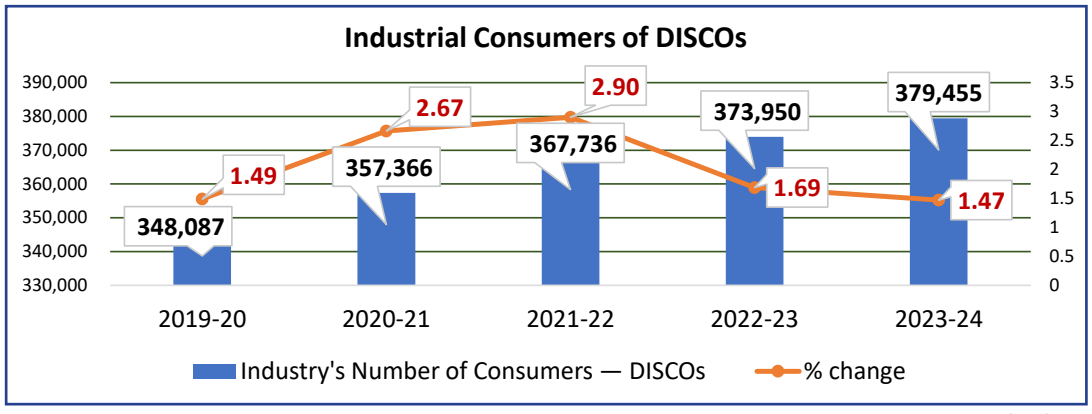
Should Pakistan expand the use of solar energy in Industries to lower electricity costs?

Preamble

Pakistan's electricity sector is crucial for socio-economic development but faces ongoing challenges, such as rising tariffs, inefficiencies, circular debt, and currency depreciation. The rupee's depreciation—from 204.85/USD in FY22 to 281.29/USD in FY25 (as of April 2025)—has escalated the cost of servicing foreign debt and importing fuel, resulting in higher electricity prices. In FY24, GDP growth slowed to 2.5% under these pressures, while industries experienced decreased productivity and competitiveness due to frequent power outages and escalating costs. Over the past five years, Pakistan's electricity distribution companies (DISCOs) have expanded their consumer base to 36.5 million by FY2024. However, the share of industrial consumers has dropped from 2.67% in FY2021 to 1.47% in FY2024, driven by rising tariffs and an unreliable power supply.

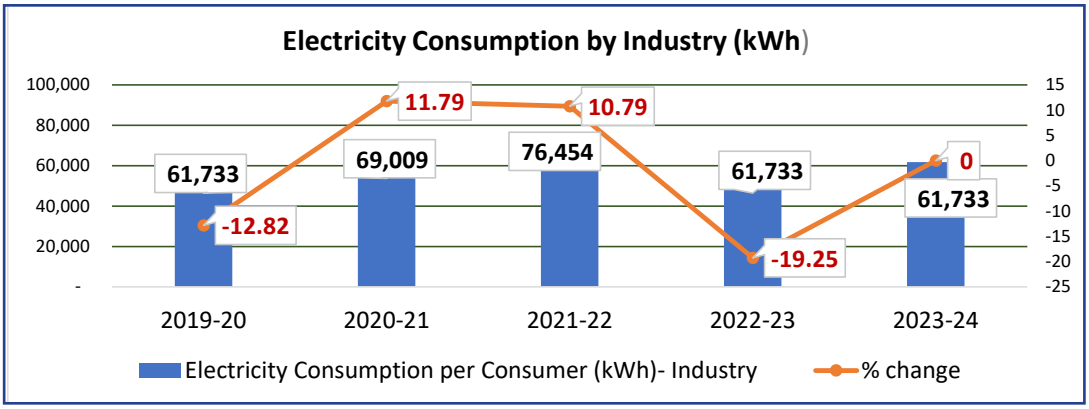
Figure 1



Source: NTDC, Power System Statistics 49th edition

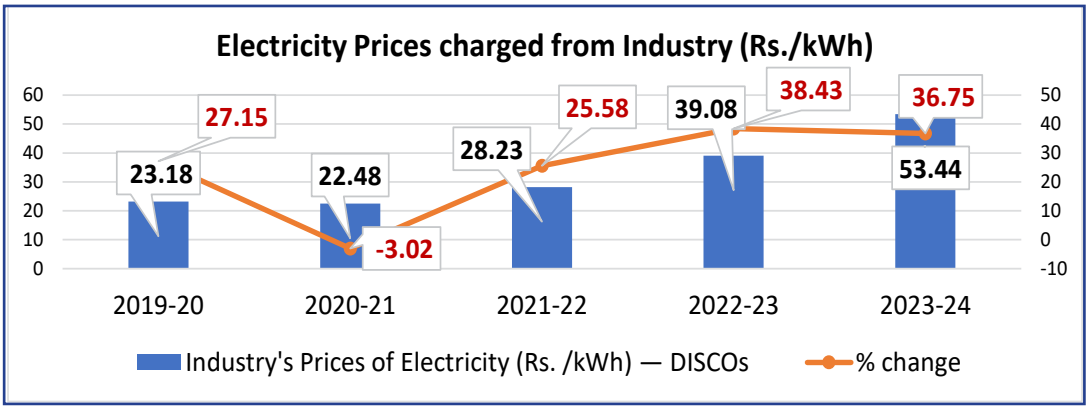
The industrial sector's electricity consumption decreased from 69,009 kWh in FY2021 to 61,733 kWh in FY2023, coinciding with a 130% increase in electricity prices, which rose to Rs. 53.44 per kWh (see Figures 2 and 3). The higher costs have led many industries to explore more affordable alternatives, such as solar energy.

Figure 2



Source: NTDC, Power System Statistics 49th edition

Figure 3



Source: NTDC, Power System Statistics 49th edition

Should Pakistan expand the use of solar energy in industries to lower electricity costs?

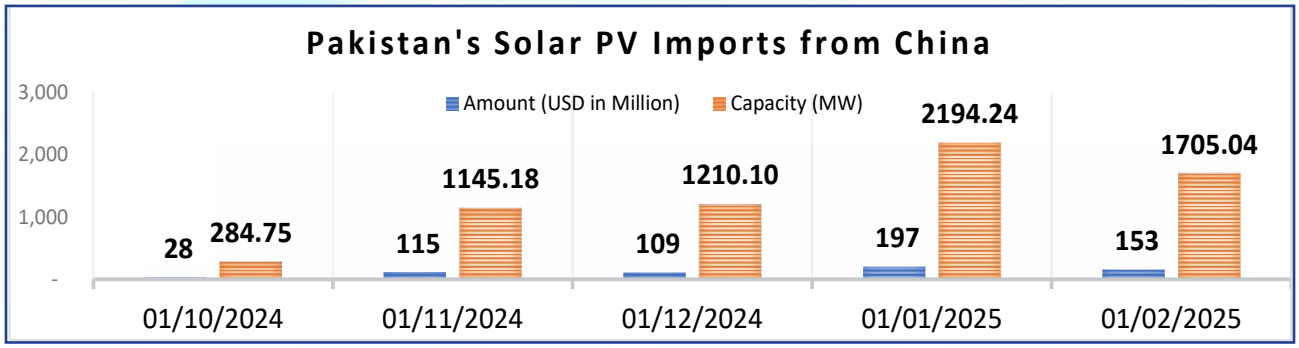
Yes—expanding solar energy use in industries is both a practical and necessary step. Industrial electricity prices surged by 36.75% in FY2024 alone, with a cumulative increase of approximately 130% from FY2020 to FY2024, including a steep 38.43% rise in FY2023. These rising costs are straining businesses, especially energy-intensive sectors. In contrast, solar power offers a stable and affordable alternative, with rates between 3 to 11 cents per kilowatt-hour—far lower than the current average of 13.5 cents. Widespread solar adoption can reduce operational expenses, enhance industrial competitiveness, and protect firms from future energy price volatility.

Industrial Shift to Solarization

Pakistan's industrial sector is increasingly turning to solar power due to high electricity tariffs—reaching up to Rs. 54.56 per kWh—and frequent power outages. Captive solar generation has already crossed 1 GW and is expected to grow to 2–3 GW. Solar energy helps industries cut costs and meet renewable energy requirements for exports, particularly in the textile sector.

Northern Karachi, with strong solar and wind resources, is emerging as a key hub for industrial solar adoption. The national solar market is projected to grow from 2.07 GW in 2025 to 13.97 GW by 2030. As of June 2024, installed solar capacity is 680 MW, with more industries opting for net metering due to high tariffs and falling photovoltaic (PV) costs. By 2033, total installed capacity could reach 44.7 GW, including 4.7 GW from variable renewable energy, potentially saving USD 3.7 billion. The following comparative analysis, based on solar PV import data from China, highlights the growing adoption and assesses the potential for a full solar transition in industrial energy use.

Figure 4



Source: https://ember-energy.org/

Comparative Analysis of Solar Energy and DISCOs

(1) Tariff charged

Electricity tariffs for industrial consumers under DISCOs show significant variation across regions and usage categories. In many cases, the rates are exceptionally high:

- Peak-hour charges for industrial loads above 25 kW reach up to **Rs. 54.56/ kWh** under TESCO.
- Off-peak rates also remain elevated, such as **Rs. 46.41/kWh** in the same region.

These high variable charges increase the cost of doing business, adding pressure on industries already affected by the energy crisis and rising circular debt. The quarterly tariff adjustments implemented in FY2023-24 have further reduced electricity demand. As a result, **exports fell by 15% in November 2023,** and continued high energy costs risk deepening industrial slowdown, job losses, and economic stress.

Table 1

DISCO-wise National Average Uniform Determined Tariff with Prior Year Adjustment for Industry [Rs. /kWh] for FY2024-25													
Category	Fixed Charges Rs. / Cons./M	Fixed Charges Rs. / kW/M	PESCO	HESCO	GEPCO	QESCO	MEPCO	FESCO	LESCO	IESCO	SEPCO	TESCO	UNA
B1	1000	-	29.19	44.59	27.35	41.37	28.89	29.52	26.94	21.98	33.71	46.3	29.38
B1-Peak	-	-	35.71	51.11	33.87	47.89	35.41	36.04	33.46	28.5	40.23	52.82	35.29
B1-Off Peak	1000	-	29.3	44.7	27.46	41.48	28.99	29.63	27.05	22.09	33.82	46.41	28.64
B2	-	1250	27.52	42.92	25.68	39.7	27.21	27.85	25.27	20.31	32.04	44.63	28.8
B2-TOU (Peak)	-	1250	37.29	52.43	35.39	49.24	36.89	37.4	34.9	30.15	41.73	54.56	37.34
B2-TOU (Off-Peak)	-		26.59	41.83	24.78	38.64	26.28	26.8	24.3	19.54	31.12	43.96	26.64
B3-TOU (Peak)	-	1250	34.97	50.21	33.31	47.34	34.67	35.22	32.71	27.77	39.27	52.35	34.86
B3-TOU (Off-Peak)	-		25.78	41.03	24.12	38.16	25.48	28.04	23.53	18.59	30.08	43.17	25.57
B4-TOU (Peak)	-	1250	36.4	51.6	33.83	47.85	36.65	34.24	34.24	29.24	40.6	52.78	35.95
B4-TOU (Off-Peak)	-		26.91	42.11	24.34	38.1	27.16	26.5	24.75	19.75	31.11	43.29	26.06
Temporary Supply	5000	-	32.58	47.99	30.75	44.77	32.92	32.28	30.34	25.38	37.11	49.7	32.81

Source: NEPRA

In contrast, solar energy presents a more cost-effective and stable alternative. Under long-term Power Purchase Agreements (PPAs), solar tariffs are adjusted quarterly based on inflation, exchange rate fluctuations, and other economic factors. Despite these adjustments, solar tariffs remain relatively lower and more predictable than DISCO rates.

The older solar plants such as Crest Energy and Best Green Energy still operate at higher tariffs, around Rs. 50/kWh whereas newer solar projects like Atlas Solar and Gharo Solar offer significantly lower rates, often below Rs. 18/kWh. Over time, most solar tariffs have remained stable or declined slightly, reflecting improvements in technology and project financing. This comparison underscores the economic advantage of solar energy, particularly for industrial users seeking reliable, affordable, and long-term energy solutions.

Table 2

Indexed/ Adjusted Tariff of Solar Power Plants on Quarterly Basis (Rs./kWh) As on 1st of					
Power Plant	**Year**	**July**	**October**	**January**	**April**
Quaid-e-Azam Solar	2023-24	32.458	32.590	31.660	31.237
Appollo Solar	2023-24	47.674	48.298	47.031	46.290
Best Green Energy	2023-24	50.590	51.157	49.692	48.797
Crest Energy	2023-24	50.861	51.450	50.008	49.136
Harappa Solar	2023-24	29.982	31.501	31.000	30.675
AJ Power	2023-24	29.188	30.532	28.717	29.401
Gharo Solar	2023-24	17.804	18.504	18.156	17.953
Oursun Pakistan	2023-24	33.872	35.114	34.266	34.021
Atlas Solar	2023-24	14.928	15.018	14.627	14.593

Source: NEPRA

Summary of Tariffs: DISCOs vs. Solar Power Plants (Rates in Rs. /kWh)		
Category	**DISCOs (FY 2024-25)**	**Solar Power Plants** (Quarterly Indexed as of April 1, 2024)
Highest Tariff	Up to Rs. 54.56/kWh (TESCO, B2-TOU Peak)	Up to Rs. 51.45/kWh (Crest Energy – older PPA)
Lowest Tariff	As low as Rs. 18.59/kWh (IESCO, B3-TOU Off-Peak)	As low as Rs. 14.59/kWh (Atlas Solar – newer PPA)
Average Peak Tariff	Rs. 35–52/kWh (varies by region and load type)	Rs. 30–50/kWh (mostly older, high-cost projects)
Tariff Trend	Increasing – due to capacity payments, rising costs, and circular debt	Stable to Declining – influenced by macroeconomic factors and newer, competitive projects

DISCOs

Industrial consumers face high tariffs, especially during peak hours, exceeding Rs. 50/kWh in some regions. These charges have led to a 15% drop in exports (Nov 2023) and reduced industrial productivity, resulting in job losses.

Solar Energy

New solar projects like Atlas and Gharo offer tariffs as low as Rs. 14.59 to Rs. 18/kWh. Older plants also show tariff declines due to inflation-indexed quarterly adjustments.

Economic Implications

With DISCO tariffs rising and consumption falling, solar energy emerges as a more sustainable and cost-effective alternative. The trend reflects a shift toward competitive bidding, decentralized energy, and renewable adoption.

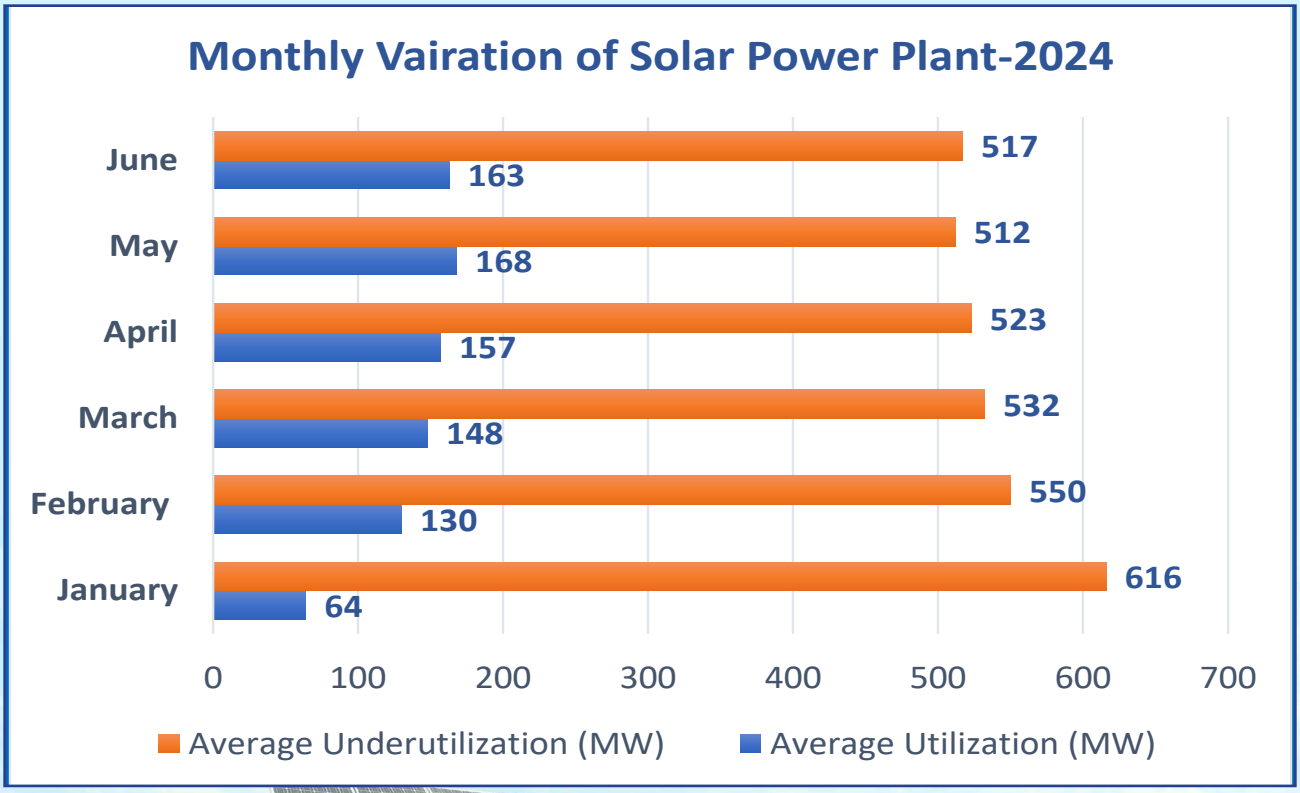
(2) Monthly Variation in Solar Energy

As per NEPRA, the projected solar power generation for FY2023-24 was 2,563 GWh, while the actual generation was significantly lower at 1,015 GWh. **Figure 5: Monthly Variation of Solar Power Plants – 2024** highlights the changes in solar energy utilization during the first half of the year. These changes closely reflect the capacity factor trends, which are mainly driven by variations in solar irradiance.

- In **January 2024,** the lowest capacity factor of 9.41% was recorded, along with the lowest utilization (64 units) and highest underutilization (616 units). This was due to weak sunlight during winter.

- By **May 2024,** the capacity factor peaked at 24.71%, with the highest utilization (168 units) and lowest underutilization (512 units), showing strong performance during peak sunlight months.

Figure 5



Source: NEPRA- State of the Industry Report 2024

This pattern confirms that solar irradiance is the key factor affecting solar plant output. Seasonal changes directly impact energy generation and capacity utilization.

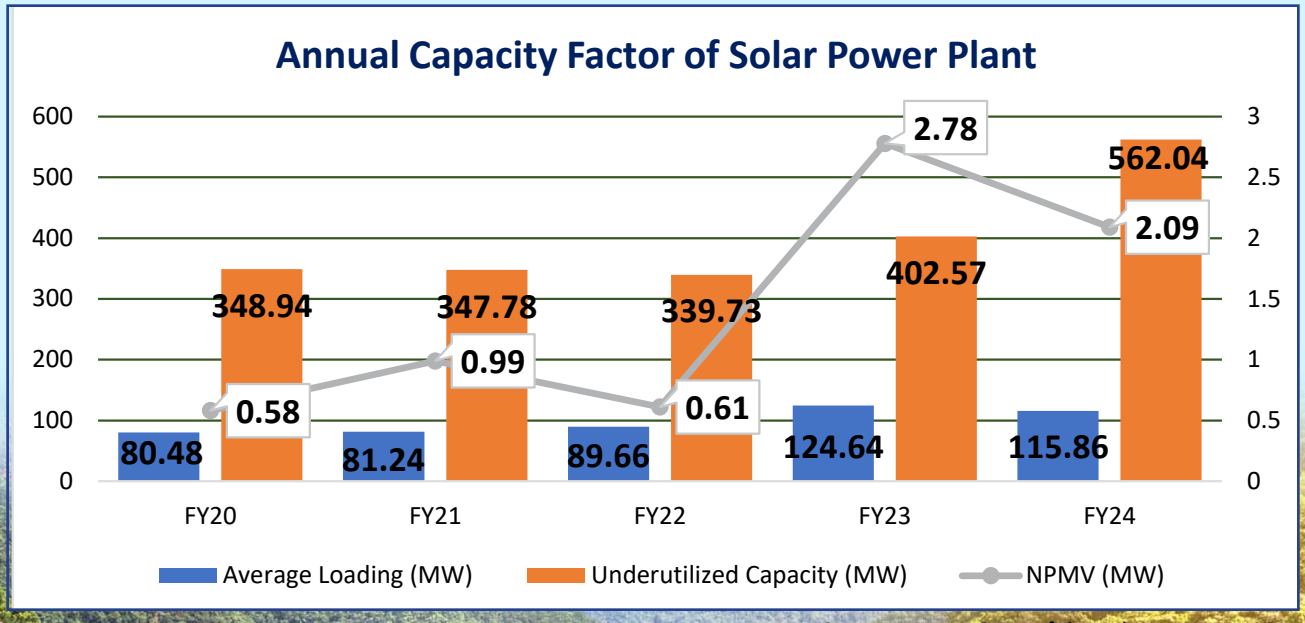
The Annual Capacity Factor of Solar Power Plants chart presents a five-year trend (FY2019-20 to FY2023-24) of utilized and underutilized capacity in MW, along with Net Plant Monthly Variability (NPMV):

- From **FY2019-20** to **FY2021-22**, installed capacity remained around **429 MW**. Average loading rose from **80.48 MW (18.74%)** to **89.66 MW (20.88%)**, while underutilized capacity slightly decreased from **348.94 MW** to **339.73 MW**, indicating a marginal improvement in utilization.

- In **FY2022-23**, capacity increased to **527 MW**. The capacity factor improved to **23.64%**, but underutilized capacity also rose to **402.57 MW**.

- In **FY2023-24**, capacity increased further to **678** MW. However, the capacity factor declined to **17.09%**, with underutilized capacity reaching a peak of **562.04 MW**, indicating inefficiencies in utilizing the expanded capacity.

Figure 6



Source: NEPRA- State of the Industry Report 2024

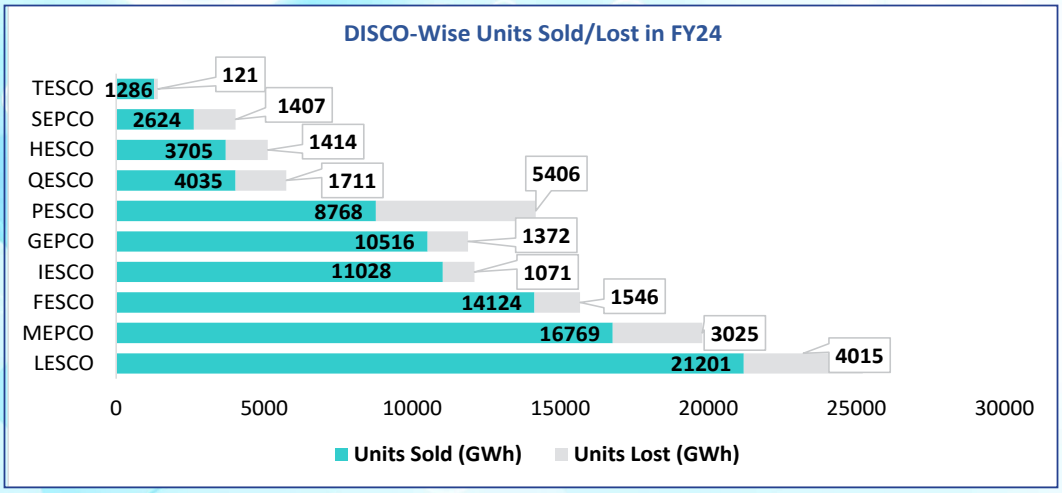
NPMV Analysis

The Net Plant Monthly Variability (NPMV) shows increasing yearly changes in solar power output, with values rising from 0.58 to 0.99 and 2.09. These fluctuations are mainly caused by changes in sunlight (solar irradiance), weather conditions, and some operational inefficiencies.

Data from FY2023–24 highlights performance differences among distribution companies. While some performed well, others recorded high losses, showing the need for better systems and urgent improvements.

Summary of Distribution Company Losses		
Performance Level	**Companies**	**Losses in FY2023–24**
Low Loss (Good Performance)	IESCO, TESCO	Less than 9%
Moderate Loss	FESCO, GEPCO	9% TO 15%
High Loss (Needs Improvement)	LESCO, MEPCO	15% to 20%
Very High Loss (Critical)	HESCO, QESCO, SEPCO, PESCO	Over 27% to 38%

Figure 7



Source: NEPRA

Summary of Annual Solar Capacity Trends and DISCO-Wise Performance

Aspect	Annual Solar Capacity Trends (FY2019–24)	DISCO-wise Performance (FY2023–24)
Focus	**Solar plant performance over five years**	**Efficiency of electricity distribution companies**
Key Metrics	**Installed & Utilized Capacity, CF, NPMV**	**Distribution Loss %, Billing Recovery, Technical/ Non-Tech Losses**
Performance Trend	**Capacity ↑ from 430 MW to 680 MW; CF ↑ to 82.65%**	**IESCO/TESCO best (<9% loss), FESCO/GEPCO mid (9-12%), LESCO/MEPCO moderate (15–16%), others critical (28–38%)**
Variability (NPMV)	**NPMV ↑ in FY23–24 (e.g., 2.09), shows output inconsistency**	**Large regional disparities highlight weak governance**
Cause of Inefficiency	**Weather, system underuse, ops issues**	**Theft, poor infra, weak admin & governance**
Implications	**Improve efficiency, manage variability, optimize capacity**	**Reforms crucial for loss reduction and reliability**

Key Insights

Rising Net Plant Monthly Variability [NPMV]	High Distribution Losses	Comprehensive Energy Strategy
Rising NPMV signals growing instability in solar generation, highlighting the need for operational improvements and better forecasting.	High distribution losses in PESCO, QESCO, HESCO, and SEPCO continue to undermine overall power sector efficiency.	A comprehensive energy strategy is essential —focusing on both solar infrastructure and distribution system reliability to ensure energy sustainability.

(3) Pakistan's Power Sector Reforms supporting Solar Energy

National Objectives

a) Modernize power infrastructure and expand renewable energy, especially solar.

b) Promote solar adoption in both industrial and residential sectors.

c) **Key policy frameworks:**

- National Electricity Plan (2023–2027)
- Fast Track Solar Photovoltaic (PV) Initiatives (2022)
- Integrated Generation Capacity Expansion Plan (IGCEP 2024–2034)
- Transmission System Expansion Plan (TSEP 2024–2034)

d) Innovative Models Promoting Solar Energy

- Peer-to-Peer (P2P) Energy Trading
- Green Financing
- K-Electric's Solar Projects

These initiatives help reduce industrial reliance on expensive grid electricity.

Key Market Reforms Driving Solar Integration in Pakistan

Sr.	Reform/Policy	Key Features of Refoms/Policy
1	**Competitive Trading Bilateral Contract Market (CTBCM) – Approved in 2023**	Enables large industries to directly purchase electricity through Power Purchase Agreements (PPAs), reducing costs by up to 20%. Supported by a PKR 500 billion investment in the Matiari–Lahore High Voltage Direct Current (HVDC) transmission line, improving power flow transparency and capacity.
2	**Peer-to-Peer (P2P) Energy Trading**	A blockchain-based system allowing real-time trade of solar power. Reduces grid stress by 15%, shortens solar payback to under 6 years, and supports Variable Renewable Energy (VRE) targets, including 10% by 2034.
3	**Fast Track Solar Photovoltaic (PV) Initiatives**	Aims to add 500 MW by 2025 through transparent bidding, lowering cost to USD 0.04/kWh. Supports 25% growth in rooftop solar and the development of mini-grids benefiting over 50,000 households and boosting rural productivity.
4	**National Electricity Plan (2023–2027)**	Focuses on integrating Distributed Energy Resources (DERs), modernizing the grid, and reducing Greenhouse Gas (GHG) emissions by over 1 million tons annually. Backed by global partnerships, including the World Bank.
5	**Integrated Generation Capacity Expansion Plan (IGCEP 2024–2034)**	Forecasts increase in installed capacity from 42,000 MW in 2024 to 57,000 MW by 2034, including 5,539 MW from new solar projects. By 2034, solar will contribute 15.9% of the energy mix, and non-hydro renewable energy will make up 22%. Allocates USD 15 billion for grid modernization, smart technologies, and Battery Energy Storage Systems (BESS).
6	**Transmission System Expansion Plan (TSEP 2024–2034)**	Introduces renewable energy corridors in Sindh, Punjab, and Balochistan to support solar farms and industrial hubs. Includes a 100 MWh BESS pilot project to improve grid reliability.

Ongoing Solar Projects: Snapshot

Details	Figures
Total Upcoming Capacity	901.52 MW
Major Developers	Zorlu Solar, Siachen Energy, Access Solar, Access Electric
K-Electric Contribution	580 MW (across 4 projects between 2025–2027)

These initiatives underscore Pakistan's growing focus on a sustainable, solar-powered energy future.

Pakistan's Solar Policy Shift and Its Impact on Industry

A New Net Metering Framework

Pakistan's solar power sector is undergoing a significant policy transformation, reflecting the government's intent to balance sustainability with economic equity. The revised net metering policy marks a strategic shift from the earlier incentive-heavy framework toward a model that is more aligned with the true costs of grid electricity and infrastructure management. Under this new regime, a clear distinction has been drawn between existing and new solar consumers. While existing users will continue to benefit from the Rs. 27 per unit buyback rate under the National Average Power Purchase Price (NAPPP), new consumers will transition to a gross metering structure, receiving Rs. 10 per unit. This change, based on the marginal cost of electricity supplied by the grid, aims to adjust incentives while ensuring a more equitable energy landscape.

Impact on Return on Investment

Although this transition is expected to extend the payback period for solar investments, it does not diminish the long-term viability of solar energy—particularly for high-consumption users. Where previously a 10kW rooftop system could achieve a payback within 1.5 to 2 years, the new framework may extend this to 3 to 5 years. However, this timeframe still compares favorably with international norms, where typical solar return on investment (ROI) periods range from 4 to 7 years. Despite the slower returns, solar energy remains a practical and cost-effective choice, especially in light of Pakistan's escalating grid tariffs.

Rationale Behind the Policy Shift

The policy revision also seeks to address structural issues that have emerged from the rapid growth in solar adoption. With solar imports crossing the USD 2 billion mark in 2024 alone, concerns over rising cross-subsidies and grid stress have become more pronounced. Under the previous net metering structure, higher-income households and businesses were able to capitalize on generous buyback rates, effectively passing on the burden of grid maintenance to non-solar consumers. The new approach is designed to ensure that all users contribute fairly to the upkeep of the national grid, while also curbing speculative solar installations that were driven primarily by financial arbitrage rather than sustainability goals.

Technical and Infrastructure Challenges

Technical challenges, however, remain a pressing concern. Current regulations allow solar installations of up to 1.5 times the sanctioned load, which has increased the risk of transformer overload and reverse power flows—particularly in areas with high solar penetration. Without adequate infrastructure upgrades and real-time monitoring systems, the stability of the national grid could be compromised. These risks underscore the need for targeted investments by DISCOs at the feeder level and the adoption of smarter grid technologies.

The Case for a Hybrid Energy Model

In this evolving landscape, industries stand to gain significantly by adopting a hybrid, solar-centric energy procurement model. Relying solely on grid-supplied electricity is no longer economically or operationally efficient, especially in the face of rising distribution losses and unpredictable tariff adjustments. A forward-looking model would involve a combination of on-site solar generation, long-term power purchase agreements (PPAs) with solar providers, and battery energy storage systems (BESS) to ensure supply reliability and resilience. This approach not only reduces overall energy costs but also insulates industries from future volatility in the energy market.

Economic Rationale for Industrial Solar Adoption

The economic rationale for this transition is compelling. Solar tariffs in Pakistan, currently ranging between Rs. 14.59 and 50 per kWh, are considerably lower than those of DISCOs, which can go as high as Rs. 51.45 per kWh. With government reforms such as the Competitive Trading Bilateral Contract Market (CTBCM) and grid modernization underway, solar is set to become even more cost-effective in the medium term. Moreover, solar power's variability, often seen as a limitation, can be effectively managed through BESS, smart load management, and the creation of microgrids that combine solar and conventional power sources to ensure uninterrupted operations.

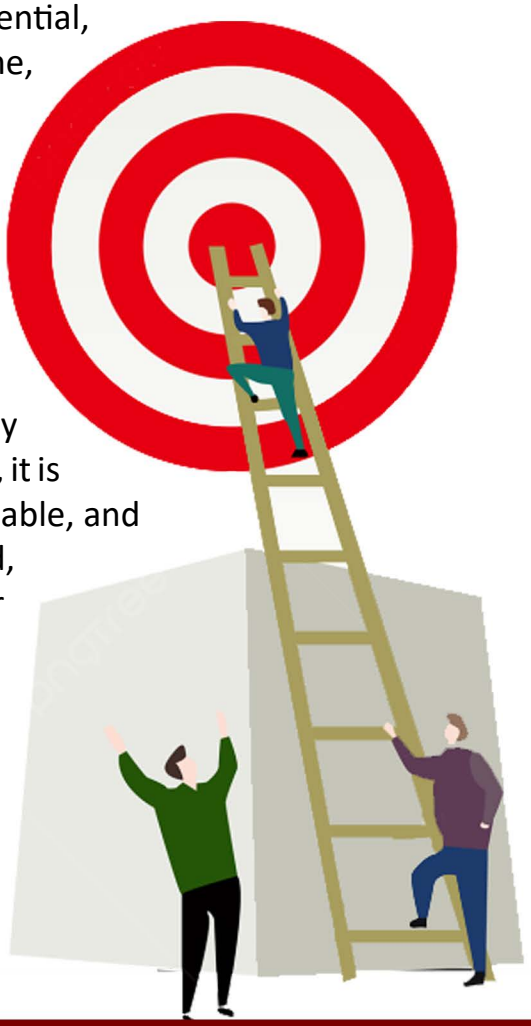
Alignment with National Energy Goals

This strategy also aligns with Pakistan's broader energy vision as laid out in key government frameworks such as the National Electricity Plan (2023–2027) and the Indicative Generation Capacity Expansion Plan (IGCEP 2024–2034), both of which emphasize renewable energy adoption and grid modernization. By securing long-term solar energy contracts and investing in on-site generation, industries can lock in lower, predictable electricity costs, enhance their energy independence, and improve their export competitiveness.

Enabling the Transition

Moving forward, a coordinated effort will be essential to enable this transition. Regulatory bodies like NEPRA must ensure clarity and consistency in the gross metering framework to restore investor confidence and attract fresh capital. Simultaneously, expanding access to concessional green financing—such as the State Bank of Pakistan's refinance scheme for renewable energy—can help reduce upfront investment barriers. Encouraging local manufacturing of solar components and battery storage systems will also be critical in reducing reliance on imports and enhancing supply chain resilience.

For industries considering this transition, a practical first step would be to conduct detailed energy audits to assess on-site solar potential, model expected savings under the new tariff regime, and evaluate hybrid system feasibility. Such assessments can guide strategic investments and facilitate access to financing instruments tailored for clean energy projects.



Conclusion

In conclusion, while the new net metering policy may seem like a step back in terms of short-term returns, it is in fact a step forward toward a more balanced, reliable, and future-ready energy system. By embracing a hybrid, solar-first approach, Pakistan's industrial sector has a unique opportunity to lead the shift toward a cleaner and more cost-efficient energy future—strengthening both environmental sustainability and economic resilience.

ICMA Policy Recommendations

01 Government-backed Solar Subsidies

Provide subsidies to reduce initial costs for industries investing in solar energy.

02 Long-Term Solar Agreements

Negotiate low-cost, long-term Power Purchase Agreements (PPAs) for stable energy prices.

03 National Solar Policy

Incorporate solar energy into Pakistan's national industrial policy to encourage long-term investments.

04 Tax Benefits for Solar Investments

Offer tax breaks or exemptions to make solar energy investments financially attractive.

05 On-Site Solar Installations

Install rooftop or community solar systems to reduce reliance on the grid and lower energy costs.

06 Battery Storage Integration

Use energy storage systems with solar to manage fluctuations and ensure a reliable energy supply.

07 Green Financing Options

Provide low-interest loans and green bonds to make solar installations affordable for industries.

08 Solar in Industrial Zones

Implement solar infrastructure in industrial zones for reliable and cost-effective power.

09 Solar-Powered Water Heating Systems

Encourage industries to adopt solar-powered water heating systems to reduce overall energy consumption.

10 Solar Developer Partnerships

Foster partnerships between industries and solar developers to reduce costs and speed up adoption.

11 Public-Private Solar Projects

Develop joint public-private solar energy projects to expand solar adoption across industries.

12 Invest in Solar R&D

Promote research and development of solar technologies tailored to industrial needs to lower costs.

13 Support Large-Scale Solar Farms

Encourage the development of large solar farms to provide affordable energy for industries.

14 Solar Integration with Existing Infrastructure

Promote integrating solar into existing industrial systems to reduce costs and improve efficiency.

15 Industry Partnerships

Collaborate with other industries to share costs and benefits of large-scale solar projects.

ICMA Policy Recommendations (Continued)

16 Excess Solar Compensation

Fairly compensate industries for any extra solar energy they feed back into the grid.

17 Dynamic Pricing

Implement time-based pricing to encourage industries to use solar power during off-peak hours.

18 CSR Solar Investments

Encourage large companies to invest in solar through their Corporate Social Responsibility (CSR) programs.

19 Green Energy Standards

Introduce certifications for industries adopting solar energy, promoting environmental responsibility.

20 Solar Training Programs

Launch training programs to increase local expertise in solar energy systems.

21 Simplify Solar Imports

Ease regulations for importing solar equipment to make installation cheaper and easier for industries.

22 Transition to Net Billing

Switch to net billing, compensating solar users for surplus power based on market rates.

23 Solar Industrial Clusters

Set up industrial zones where solar energy is used for production, improving efficiency.

24 Local Solar Manufacturing

Encourage local production of solar panels and components to reduce costs and create jobs.

25 Solar Energy Audits for Industries

Implement mandatory energy audits to identify areas where solar energy can be effectively used.

26 Expand Solar in Rural Industries

Provide solar solutions to rural industries with limited access to reliable electricity.

27 Global Solar Partnerships

Collaborate with countries that have successful solar programs to share knowledge and technology.

28 Fair Grid Contributions

Introduce minimum bills and demand charges for net-metered users to ensure fair contribution to grid maintenance.

29 Solar in Energy-Intensive Sectors

Focus on high-energy-demand industries like cement and textiles to reduce their energy costs using solar energy.

30 Solar-Powered EV Charging Stations

Encourage industries to invest in solar-powered electric vehicle (EV) charging stations, promoting cleaner transportation options.

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Research and Publications Team

Shahid Anwar, Director

Maiyra Ahmed, Assistant Director

Muhammad Wajahat Khan, Graphic Designer