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Policy Report

Regressive Taxation and Energy Transition Risks: A Policy Evaluation of GST-Induced Constraints on Solar Growth in Pakistan

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Disclaimer

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Policy Report on

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Contents

Executive Summary 6

1. INTRODUCTION 7

1.1 Pakistan's Energy Crisis and Renewable Energy Goals 7

1.2. Significance of Study 7

1.3. Objectives 8

2. SOLAR MARKET LANDSCAPE OF PAKISTAN 9

2.1. Market Structure 9

2.2. Import Dependency 9

2.3. Cost, Financing, and Incentive Mechanisms 10

3. DESCRIPTION OF TAX POLICY 11

3.1 Policy Announcement and Scope 11

3.2 Government's Rationale 11

3.3 Stakeholder and Parliamentary Response 11

4. CONCEPTUAL AND ANALYTICAL FRAMEWORK 12

4.1 Theoretical Framework 12

4.2 Hypothesized Effects of GST Policy 12

5. DATA AND METHODOLOGY 14

5.1 Analytical Approach and Objectives 14

5.2 Data Sources and Frequency 14

6. RESULTS AND INTERPRETATIONON 16

6.1. Long-Term Trends in Solar Capacity and Price 16

6.2. Long-Term Trends in Solar Capacity and Electricity Tariff 17

6.4 Counterfactual Comparison: Tax Impact on Prices and Adoption Gap 20

6.5 Discussion 21

7. POLICY RECOMMENDATIONS 22

8. CONCLUSION 23

References 24

List Of Figures

Figure 1: Pakistan Solar Capacity and Price Trends	17
Figure 2: Pakistan Solar Capacity and Electricity Tariff Trend	18
Figure 3: Forecasted Solar Capacity in Pakistan (2015–2029)	19
Figure 4: Forecasted Solar Panel Prices in Pakistan with and without 10% GST (2025–2029)	20

Executive Summary

Pakistan's energy sector has witnessed a notable shift towards renewable sources in recent years, with solar photovoltaics (PV) playing an increasingly central role in addressing chronic electricity deficits, tariff inflation, and reliance on imported fossil fuels. The accelerated uptake of net-metered rooftop systems, driven by declining global panel prices, enabling policies, and rising consumer demand, has positioned solar energy as a pivotal component of the country's energy transition strategy. However, 10 per cent General Sales Tax (GST) imposition on imported solar panels in the Federal Budget 2025–26 marks a significant policy departure from previous exemptions that aimed at incentivizing solar adoption. This study critically evaluates the implications of revised taxation framework on Pakistan's solar market, drawing on descriptive data trends, econometric forecasts, and stakeholder insights.

The findings indicate that the GST may increase system costs by approximately 08 to 12 per cent, disproportionately affecting residential users and small-scale commercial adopters. Forecast simulations suggest that by 2029, national solar capacity may reach only 2.16 GW under the current tax regime, cause substantial deviation from previous growth trajectories and raise concerns about stagnation in the sector. This slowdown may also derail Pakistan's progress towards its renewable energy targets and Nationally Determined Contributions (NDCs) under the Paris Agreement. The analysis underscores the broader risks of fiscal policy misalignment in renewable energy transitions, echoing evidence from comparative international contexts where sudden tax reforms have suppressed market growth and investor's confidence.

With the intent to restore coherence between fiscal, industrial, and climate objectives, the study proposes adopting a differentiated GST structure based on system scale and user category, targeted incentives for domestic solar manufacturing, the continuation of concessional financing instruments, and the preservation of NEPRA's existing net metering framework. Collectively, these measures are essential to ensure that short-term revenue considerations do not undermine long-term sustainability imperatives. While the fiscal rationale underpinning the GST revision is acknowledged, a more nuanced and sector-sensitive policy design is required to safeguard the socio-economic and environmental benefits of solar energy. The study calls for an integrated policy response that balances fiscal discipline with equitable energy access and industrial competitiveness.

1. INTRODUCTION

1.1 Pakistan's Energy Crisis and Renewable Energy Goals

Pakistan's persistent energy crisis marked by load-shedding, ballooning circular debt, and an overreliance on imported fossil fuels has long undermined its economic resilience and social equity. In 2019, , the government adopted the Alternative & Renewable Energy (ARE) Policy, setting ambitious targets to generate 20% of electricity from renewables by 2025 and 30% by 2030 (Government of Pakistan, 2019) Though hydropower remains dominant in the renewable mix, solar energy has rapidly emerged as a transformative solution of the crisis, driven by falling global module prices and surging domestic electricity tariffs. As of March 2025, net-metered solar capacity had reached approximately 2.8 GW, up from 2.5 GW in the previous fiscal year reflecting growing household and SME adoption in urban centers (Jowett, 2025). In 2024 alone, Pakistan imported an estimated 17 GW of solar panels, primarily from China, positioning it as one of the fastest-growing solar markets globally (Jilani, 2025). Solar's contribution to national electricity generation has grown from only 4% in 2021 to approximately 14% by early 2025 (Maguire, 2025). However, this momentum faces new headwinds: in the 2025-26 federal budget, the government imposed a 10% General Sales Tax (GST) on imported solar panels down from an initially proposed 18% citing the need to support domestic manufacturing. Industry stakeholders have since warned that this measure risks reversing recent adoption gains and inflating system costs for end users (Jacobo, 2025).

1.2. Significance of Study

This study holds academic and policy relevance while examining the implications of fiscal policy, specifically the imposition of a 10% General Sales Tax (GST) on imported solar panels. In a context where solar energy is increasingly viewed as a viable and necessary solution to address electricity affordability, energy security, and decarbonization targets, it is essential to understand the sensitivity of adoption rates to policy-induced cost changes. The study further provides empirical insight into how pricing interventions influence market behaviour, particularly in the residential and small-scale commercial segments.

By integrating descriptive analysis with projections, the study contributes to a broader discourse on the interaction between taxation, renewable energy uptake, and energy equity in developing economies. The findings have direct implications for the implementation of Pakistan's Alternative and Renewable Energy Policy (2019) and offer guidance to policymakers on designing supportive instruments that can sustain renewable energy momentum while meeting fiscal objectives. Furthermore, the study adds to the scholarly literature on energy transition pathways in low- and middle-income countries navigating structural and financial constraints.

1.3. Objectives

- Assess the impacts of the new solar panel import tax on energy affordability, solar deployment, and local industry dynamics.
- Evaluate the effect of a 10% General Sales Tax (GST) on solar imports in shaping adoption trends and overall system affordability.
- Project future solar capacity expansion under taxed and non-taxed scenarios using historical data, forecasting models, and qualitative insights to recommend a just, effective, and climate-sensitive fiscal strategy for Pakistan's solar sector.

2. SOLAR MARKET LANDSCAPE OF PAKISTAN

2.1. Market Structure

The structure of Pakistan's solar market is dominated by distributed rooftop systems. Residential adoption has surged, particularly in the Punjab, as households install solar panels to mitigate frequent grid outages and rising electricity tariffs. According to Isaad & Shah (2024) net-metered installations offer attractive two to four years payback periods, prompting widespread uptake across residential, commercial, agricultural, and institutional segments. Beyond homes, commercial and industrial users, including textile exporters, cold storage operators, educational institutions, and healthcare facilities are increasingly leveraging the net-metering framework of National Electric Regulatory Authority (NEPRA) to reduce operational costs and enhance energy security (Gwadar Pro, 2025). In contrast, utility-scale solar remains limited in scope. The most prominent example is the Quaid-e-Azam Solar Park (QASP) in Bahawalpur, initially developed with 100 MW under ADB financing. Despite plans to expand to 1 GW, no additions of comparable scale have been made in recent years, highlighting the decentralized and consumer-driven trajectory of Pakistan's solar sector (Azad, 2015).

2.2. Import Dependency

Despite this impressive deployment, Pakistan's solar energy sector remains heavily reliant on imported photovoltaic (PV) modules. Over 90% of panels are imported from China. In 2024 alone, these imports ranged between 16 and 22 GW (Bhambhani, 2025). Pakistan Solar Association (PSA) reported that between 2020 and June 2024, over 27 GW of PV modules were imported, largely under concessional or zero-rated tax regimes. This heavy dependency exposes the sector to global price volatility and fiscal policy risk, particularly following the introduction of 10% General Sales Tax (GST) on solar imports (Roberts, 2025; Barnard, 2025).

2.3. Cost, Financing, and Incentive Mechanisms

	Global Price Drop (Early 2024): Solar panel prices fell from US$ 0.18/ Watt → US$ 0.137/Watt, lowering rooftop system costs.
	NEPRA's Net Metering Policy: Consumers can export surplus power to the grid and earn credits, boosting solar investment returns.
	State Bank Support (2019): Renewable Energy Refinancing Scheme offers concessional loans up to PKR 1 million at subsidized rates.
	Financing Challenges (2024): Uptake slowed due to high policy rates and banks' credit risk aversion.
	Provincial Initiatives: * **Punjab – Roshan Gharana (2024)**[1]: Targeted 50,000 subsidized rooftop systems * **Sindh – Community pilots**[2]: Smaller-scale, localized solar access projects.
	Rapid Market Growth: Driven by favorable policies, falling costs, and rising consumer demand.
	Vulnerability: Heavy reliance on imported panels, with limited domestic manufacturing capacity.
	Policy Shock: New 10% GST on imported panels threatens affordability, expansion, and energy transition goals.

1 https://www.zameen.com/news/punjab-approves-roshan-gharana-solar-initiative.html

2 https://engineeringreview.com.pk/solar-minigrids-for-off-grid-rural-electrification-a-sustainable-solution-to-bridge-sindhs-energy-access-gap/

3. DESCRIPTION OF TAX POLICY

3.1 Policy Announcement and Scope

The imposition of 10% GST on all imported solar panels reversed their earlier zero-rated status under the Sixth Schedule of the Sales Tax Act, 1990. Initially announced at 18% in the federal budget 2025-26, the tax was later revised following political and industry backlash (Khan & Sherani, 2025). The policy applies uniformly to imported photovoltaic systems regardless of size or use. With most of Pakistan's solar panels sourced from China, Malaysia, and the South Korea[1], this measure affected nearly the entire domestic solar supply chain.

3.2 Government's Rationale

Officials from the Federal Board of Revenue (FBR) and the Ministry of Finance justified the GST as part of a broader fiscal consolidation programme aligned with the recommendations of International Monetary Fund (IMF). According to government estimates, the tax is expected to generate PKR 20 billion annually (Khan, 2025). The Ministry also argued that the measure would help promote domestic manufacturing by pitching a level playing field between imported and locally assembled solar technology. However, Pakistan currently lacks the industrial base to meet solar demand at scale, raising concerns about the feasibility of this objective (Federal Govt agrees 2025).

3.3 Stakeholder and Parliamentary Response

The announcement drew widespread criticism from industry, civil society, and parliamentary bodies. Pakistan Solar Association (PSA) warned that the GST would increase 20-25% increase in system costs, deterring new installations and slowing the sector's momentum (PSA opposes 2025). Both the National Assembly and Senate Standing Committees on Finance formally rejected the 18% GST, calling it "discriminatory" and inconsistent with Pakistan's renewable energy and climate goals (Ansari, 2025).

On 18 June 2025, the government announced the revised figure, reducing GST from 18 % to 10% (Khan, 2025).

1 https://www.volza.com/p/solar-panel/import/import-in-pakistan/

4. CONCEPTUAL AND ANALYTICAL FRAMEWORK

4.1 Theoretical Framework

Apart from other setbacks, the 10% GST resulted in a fiscal shock to a market that is highly price-sensitive and import-dependent. At the center of the analytical framework lies the law of demand and price elasticity. According to economic theory, an increase in the price of goods, especially one that constitutes a significant up-front investment, leads to a contraction in demand, especially when income and substitute constraints exist (Hausman, 1979). This is particularly relevant in case of solar PV systems in developing countries, where demand is elastic due to limited purchasing power and credit access (Ondraczek et al. 2015). In Pakistan, the solar market has expanded rapidly over the past decade, driven by high electricity tariffs and falling global PV prices. However, most of this growth has been enabled by imported hardware, meaning the market is acutely exposed to exogenous shocks, including trade restrictions and taxation.

This analysis also draws from public policy coherence and climate alignment frameworks, which assess whether fiscal policies reinforce or contradict a country's climate goals. Pakistan's NDC under the Paris Agreement targets a 60% renewable energy share by 2030, conditional on international support[2]. However, by making solar more expensive, the GST policy risks undermining these commitments as a classic case of climate-incoherent taxation (Steckel et al. 2017).

4.2 Hypothesized Effects of GST Policy

The following effects are hypothesized based on economic theory and evidence from international experience:

- Price Channel: The 10% GST increases the consumer price of imported solar panels, thereby raising total system costs. According to a study by Mundaca (2007), such upfront cost increases can significantly reduce adoption rates, especially in developing countries with low household savings and limited financing access.
- Elasticity Channel: The demand for solar energy is moderately elastic in emerging

2 https://unfccc.int/sites/default/files/NDC/2022-06/Pakistan%20Updated%20NDC%202021.pdf

economies (Burke et al. 2019). A 10-20% increase in panel costs could translate into a 15-30% decline in new installations, particularly in the residential and SME segments. Elasticity effects are especially pronounced when no complementary subsidies are in place (International Renewable Energy Agency [IRENA] 2021).

- Credibility Channel: Abrupt or inconsistent fiscal measures can undermine policy credibility, deter investment, and reduce the long-term attractiveness of renewable energy markets. Empirical work by Pahle et al. (2016) shows that uncertainty in subsidy or tax regimes is a key barrier to private sector participation in clean energy transitions.

5. DATA AND METHODOLOGY

5.1 Analytical Approach and Objectives

This study adopts a descriptive statistical and trend-based methodology to evaluate the implications of GST on solar panel imports. Given the data limitations associated with disaggregated household-level solar adoption and the challenge of running a robust econometric model, this approach is selected to provide a transparent and evidence-based assessment of historical trends in solar capacity growth, price movements, and enabling policies.

This section assesses how price and policy shifts, especially the new GST regime, are likely to affect solar uptake, based on past correlations between cost signals and market behaviour. The analysis focuses on long-term trends in installed solar capacity and import prices, while overlaying key policy milestones such as the introduction of net metering in 2017, the SBP's refinancing scheme in 2019), and the GST in 2025.

5.2 Data Sources and Frequency

The analysis relies entirely on secondary data from official and credible sources. All datasets used are annual in frequency, covering the period 2015 to 2024, unless otherwise specified

Indicator	Data Source	Frequency	Notes
Installed Solar Capacity (GW)	Our World in Data[1]	Annual	From NEPRA State of Industry Reports (2015–2024)
Import Price of Solar Panels (USD/Watt)	Our World in Data[2]	Annual Avg	Derived from import unit values for HS Code 8541.40 (solar cells/ modules)
Average Consumer Electricity Tariff (PKR/ kWh)	NEPRA Tariff Determinations and Annual Reports[3]	Annual	National average tariff

Table 1: List of Variables Used

1 https://ourworldindata.org/grapher/installed-solar-pv-capacity

2 https://ourworldindata.org/grapher/solar-pv-prices

3 https://nepra.org.pk/tariff/Distribution%20XWDISCOs.php

6. RESULTS AND INTERPRETATIONON

6.1. Long-Term Trends in Solar Capacity and Price

Figure 1 presents a composite visual of trends in solar capacity (in gigawatts) and average solar panel prices (PKR/Watt) over a 10-year period. The blue bars depict cumulative installed capacity, while the orange line shows average panel price trends.

The graph demonstrates a clear inverse relationship between solar panel prices and installed capacity in Pakistan. In earlier years, i.e. one to po4), solar panel prices remained relatively high above PKR 50/Watt corresponding with modest growth in capacity, which remained below 0.6 GW. However, as prices began to decline significantly from Year 5 onwards, adoption accelerated. By Year 10, installed solar capacity had risen to approximately 2.5 GW, while panel prices dropped below PKR 20/Watt.

This trend aligns with global evidence suggesting that solar adoption in developing countries is highly sensitive to upfront costs. As highlighted in IRENA (2021), the steady decline in photovoltaic (PV) module prices has been a principal driver of solar uptake across emerging economies, where household and small business purchasing power is often constrained. In the context of Pakistan, the sharp rise in adoption observed between Years 9 and 10 likely reflects a convergence of multiple enabling factors. These include improved affordability due to lower international module prices, broader access to NEPRA's net metering framework, expansion in supplier and installer networks that improved market accessibility and increased public awareness of solar energy as a viable long-term cost-saving investment. Collectively, these dynamics underscore the critical role of both market conditions and supportive policy instruments in accelerating solar deployment in lower-middle-income contexts.

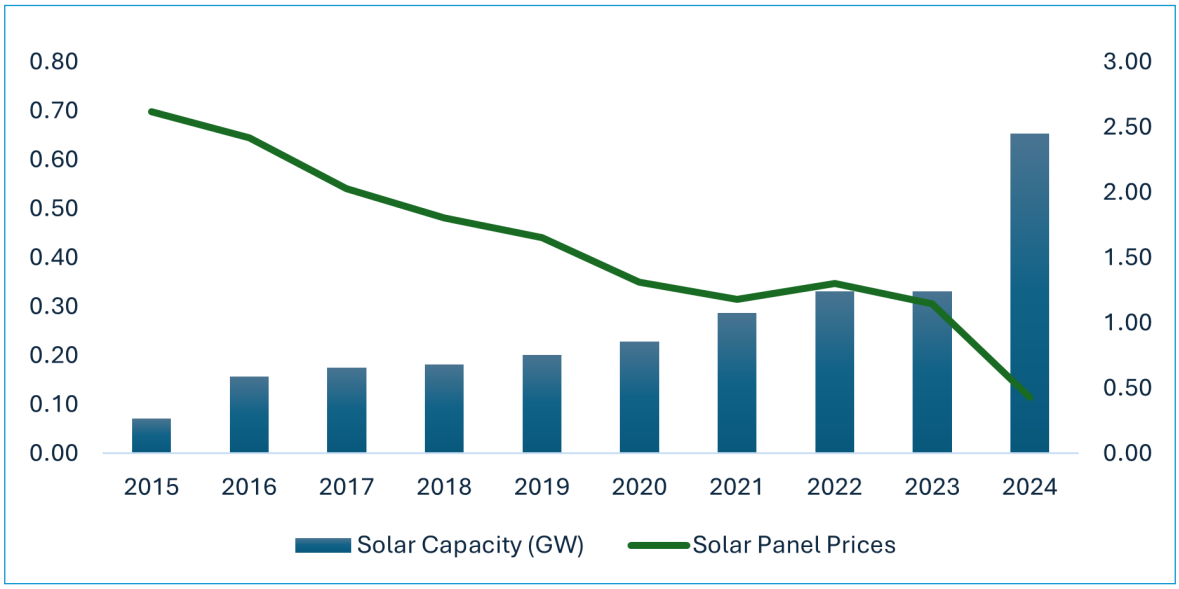

Figure 1: Pakistan Solar Capacity and Price Trends (Source: Authors own Illustration)

This pattern reinforces the importance of policy timing and certainty. Unannounced or abrupt fiscal changes such as the 10% GST can trigger short-term surges but may also cause long-term volatility in investment and adoption patterns.

6.2. Long-Term Trends in Solar Capacity and Electricity Tariff

Figure 2 presents trends in average electricity tariffs (in USD/kWh) alongside solar capacity expansion in Pakistan from 2015 to 2024. The orange line shows the national average electricity tariff, while the blue line represents total installed grid-connected solar capacity in gigawatts (GW).

The data reveals a stark upward trajectory in electricity tariffs, particularly from 2021 onward. Between 2015 and 2019, the average tariff remained relatively stable, hovering around PKR 12–14 per kWh. However, a sharp escalation is observed post-2020, with tariffs rising to over PKR 50 per kWh by 2024, an increase of more than 250% in just four years. During this same period, solar capacity, though initially stagnant, begins to rise more noticeably.

The graph illustrates a clear co-movement between rising tariffs and increased solar adoption. This suggests that the steep increase in electricity costs may act as a catalyst, pushing more consumers, especially households and commercial entities, to invest in solar energy systems as a cost-saving alternative. In essence, solar transitioned from a green option to an economic imperative, as users sought to reduce their dependence on grid electricity and hedge against future price volatility.

This trend is consistent with international patterns in price-sensitive energy markets, where solar distribution becomes increasingly attractive as utility tariffs climb. In Pakistan's case, this dynamic is further amplified by the availability of net metering, which allows consumers to offset their energy bills by feeding excess solar power back into the grid.

Thus, the rise in electricity tariffs did not occur in isolation; it contributed directly to a parallel rise in solar capacity, signaling that pricing reform and tariff pressures are shaping the trajectory of renewable energy adoption in the country.

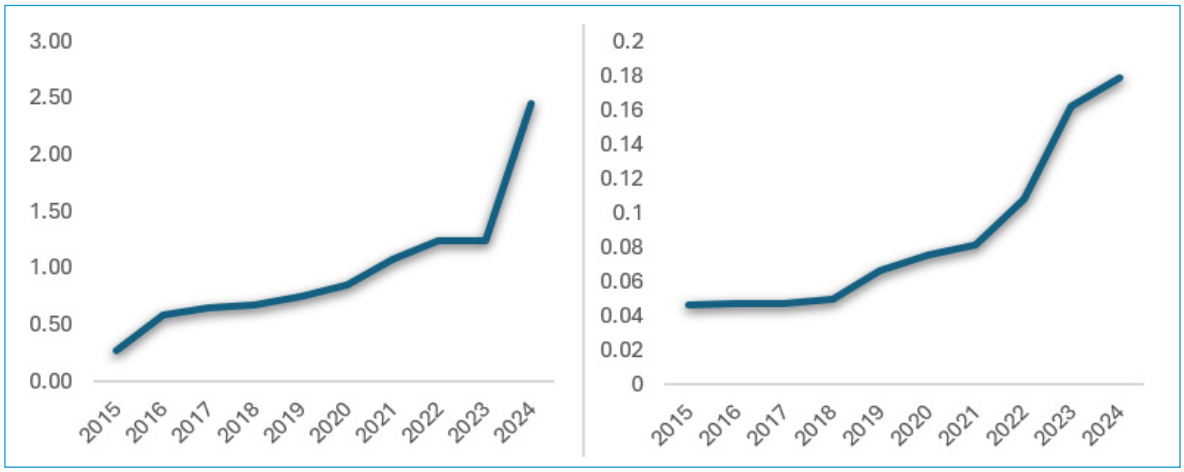

Figure 2: Pakistan Solar Capacity and Electricity Tariff Trend (Source: Authors Own Illustration)

Figure 3 and Table 2 provide a comprehensive overview of Pakistan's solar capacity expansion and the effect of fiscal policy interventions on its growth trajectory. Between 2015 and 2024, Pakistan witnessed remarkable gains in solar deployment, with installed capacity rising from 270 MW to 2.45 GW. This period of rapid growth was underpinned by falling global module prices, rising electricity tariffs, and the success of NEPRA's net metering regime. The most significant increase occurred in 2024, with solar capacity nearly doubling year-on-year from 1.24 GW to 2.45 GW reflecting a remarkable 97.6% growth in a single year.

However, the introduction of a 10% GST on imported solar panels in July 2025 sharply reversed this trend. The immediate aftermath was a contraction in installed capacity to 1.971 GW in 2025, reflecting a 19.5% decline from the previous year. From 2026 onward, marginal growth in installed solar capacity continues to decline despite falling panel prices. In 2026, solar capacity increases by only 0.061 GW, marking a modest 3.1% rise from the previous year. This deceleration persists in subsequent years: in 2027, the capacity rises by just 0.049 GW (2.4%), followed by a 0.041 GW (2.0%) increase in 2028. By 2029, annual growth falls further to a mere 0.034 GW, representing only a 1.6% year-on-year increase. This continuous downward trend highlights the weakening momentum in Pakistan's solar adoption trajectory following the imposition of the 10% GST, in sharp contrast to the 97.6% increase witnessed in 2024 alone.

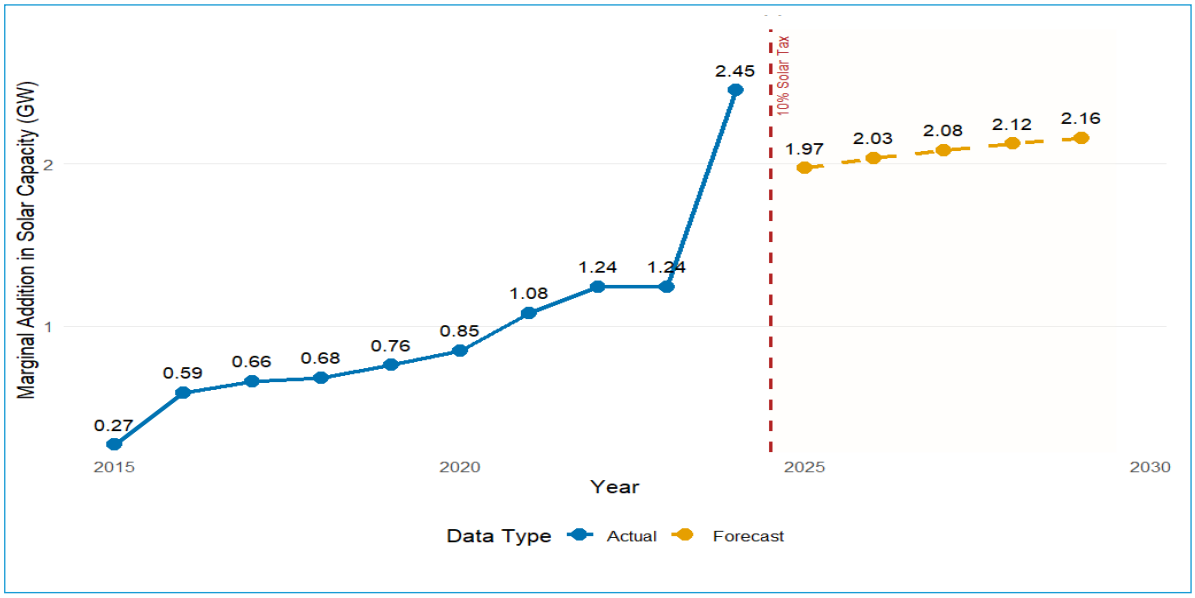

Figure 3: Forecasted Solar Capacity in Pakistan (2015–2029) (Source: Authors own Illustration)

This illustrates a critical decoupling between declining solar equipment prices and adoption rates. Theoretically, a steady reduction in global module prices from USD 0.109/Watt in 2025 to USD 0.050/Watt in 2029 should catalyze wider uptake. However, the policy-induced increase in landed system costs estimated at 8-12% due to GST and associated charges has effectively muted this incentive, especially for smaller residential and SME-scale users. In a market where the majority of installations are self-financed and sensitive to upfront costs, even modest tax burdens can disproportionately hinder growth.

Year	Capacity (GW)	Price (USD/Watt)	Type
2015	0.270	0.700	Actual
2016	0.590	0.640	Actual
2017	0.660	0.540	Actual
2018	0.680	0.480	Actual
2019	0.760	0.440	Actual
2020	0.850	0.350	Actual
2021	1.080	0.320	Actual
2022	1.240	0.350	Actual
2023	1.240	0.310	Actual
2024	2.450	0.120	Actual
2025	1.971	0.109	Forecast
2026	2.032	0.089	Forecast
2027	2.081	0.073	Forecast
2028	2.122	0.060	Forecast
2029	2.156	0.050	Forecast

Table 2: Solar Capacity vs. Panel Prices in Pakistan (2015–2029) (Source: Authors own Illustration)

Furthermore, this stagnation arrives at a critical juncture when solar deployment began to diversify beyond residential users. Commercial and small industrial consumers, facing escalating electricity tariffs, had begun adopting solar to hedge against energy price volatility. GST has undermined the return on investment for these groups, potentially

reversing this positive shift. The observed post-2025 slowdown thus reflects not just a temporary policy shock, but a structural vulnerability in Pakistan's solar transition where adoption is highly contingent on stable, supportive fiscal and regulatory environments.

6.4 Counterfactual Comparison: Tax Impact on Prices and Adoption Gap

Figure 4 compares forecasted solar panel prices in US$ per Watt under two scenarios: with and without 10% GST imposed from 2025 onwards. As shown, while global technological improvements and economies of scale are expected to continue driving prices downward, the GST presence maintains a persistent upward deviation in local prices.

In a tax-free scenario (blue line), panel prices are expected to fall from USD 0.098/Watt in 2025 to USD 0.048/Watt in 2029, following historical trends of global cost reduction. However, in the taxed scenario (orange line), prices begin higher, at approximately USD 0.108/Watt in 2025 and only fall to US$ 0.058/Watt by 2029. This persistent 15-20% cost differential cumulatively inflates the capital expenditure for rooftop and small-scale solar installations.

The result is a widening adoption gap. Assuming Pakistan's solar capacity continued to grow at its 2020-2024 average annual growth rate (CAGR of ~22%), the country could have reached around 3.9 to 4.2 GW by 2029 in a no-tax scenario. Instead, the capacity is expected to plateau at just 2.16 GW, reflecting a potential shortfall of 1.7-2.0 GW. This implies:

- Over 40% unrealized adoption relative to potential,
- Lost opportunities for reducing peak load pressure on the national grid,
- A significant gap in achieving Pakistan's renewable energy targets under its Nationally Determined Contributions (NDCs).

In economic terms, the tax acts as a barrier to distributed energy democratization. While commercial and utility-scale projects may absorb such costs more easily, residential and SME consumers, who drove much of the pre-2024 growth, face an eroded return on investment and longer payback periods. This discourages new entrants into the market and reduces the pace of household-level energy independence.

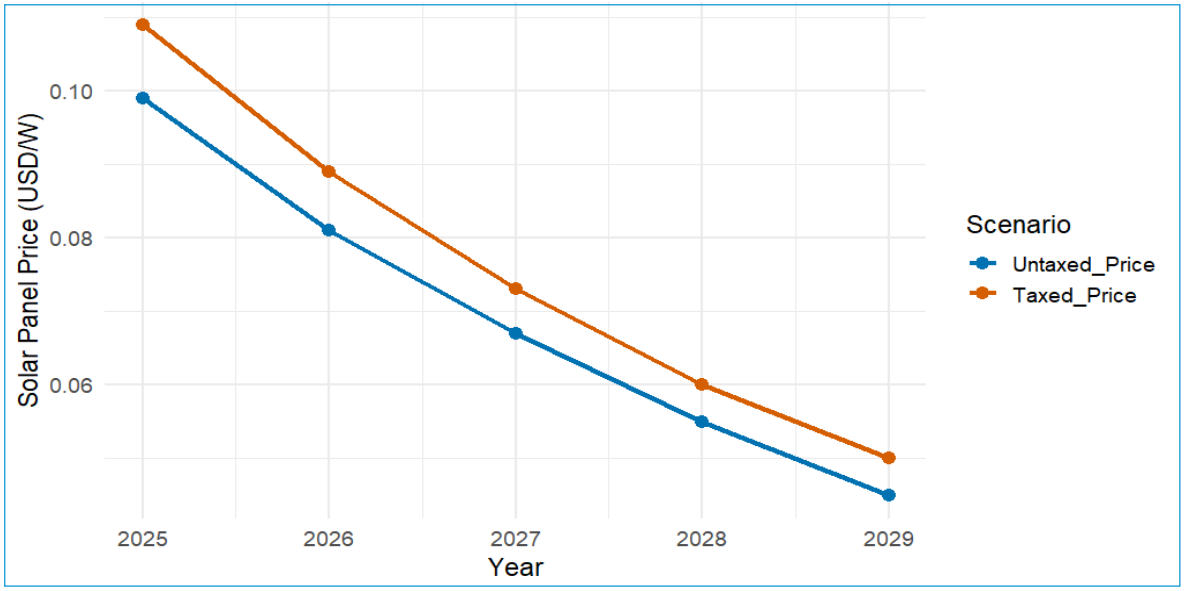

Figure 4: Forecasted Solar Panel Prices in Pakistan with and without 10% GST (2025–2029)
(Source: Authors own Illustration)

6.5 Discussion

The empirical results show a fundamental tension between Pakistan's solar market fundamentals and its evolving fiscal policy; mirroring patterns observed in other developing economies. Historically, the rapid decline in global module prices (from PKR 0.70/Watt in 2015 to PKR 0.12/Watt in 2024) and rising electricity tariffs drove capacity growth from 0.27 GW to 2.45 GW. After 2025, the imposition of a 10% GST significantly dampened this momentum, despite further price reductions.

This dynamic aligns with Oliva & Santamaria (2025), who emphasize that policy consistency plays a vital role in sustaining PV adoption momentum over and above cost reductions. Their review of developing countries shows that economic factors alone aren't sufficient to drive adoption when fiscal shocks like sudden tax impositions enter the equation. Similarly, studies in developing world contexts find that tariff increases and shortened payback periods are the most critical triggers for uptake in sectors like manufacturing and agriculture. In Pakistan's case, the tax reintroduced cost burdens just as households and SMEs faced high energy tariffs and inflation.

The forecasted shortfall of 1.7–2.0 GW by 2029 represents an adoption gap exceeding 40%. This cannot be explained by price trends alone. Burke et al. (2019) and IRENA (2021) demonstrate that price elasticity of solar demand in emerging markets is high, and that even modest policy-driven cost increases significantly suppress deployment, a phenomenon clearly observed here. Moreover, literature on fiscal incentives suggests that tax instruments, such as import exemptions or value-added tax reductions, can be among the most effective levers for stimulating renewable energy deployment second only to direct subsidies.

In conclusion, Pakistan's experience underscores two vital points:

- Policy Levers Matter as Much as Prices: Even with declining global module prices and increasing grid tariffs, fiscal policy, and tax imposition can disrupt investment choices and thwart market growth.
- Fiscal Policy Should Complement, Not Undermine, Market Trends: Introducing taxes without targeted compensatory mechanisms undermines solar adoption and weakens energy transition outcomes.

As academic studies consistently show, from developing economies to global meta-analyses, the combination of price decline and supportive, predictable incentives is necessary for sustained PV adoption. Pakistan's case illustrates the opposite: when fiscal policy curtails this synergy, growth is halted, with significant energy and climate consequences.

7. POLICY RECOMMENDATIONS

Based on the results, the study proposes the following policy measures.

- Introduce Tiered GST Structure Based on System Size and End-Use: To strike a balance between fiscal objectives and energy transition goals, the government should adopt a tiered GST regime. For instance, residential and agricultural systems below a certain capacity threshold (e.g. 10 kW) could be subject to a reduced GST rate (e.g., 0–5%), while large-scale commercial and industrial systems may continue to pay the full 10% rate.
- Enhance Domestic Solar Manufacturing through Targeted Incentives: If the policy goal is to stimulate local industry, GST should be complemented with supportive supply-side policies: concessional financing, tax holidays on raw material imports, and investment subsidies for solar manufacturing plants.
- Expand and refinance the SBP's Renewable Energy Scheme: To cushion the impact of price hikes post-GST, the State Bank of Pakistan's Renewable Energy Refinancing Scheme should be expanded and restructured to provide longer-tenure and lower-interest loans to households and SMEs. A differentiated interest structure, e.g. 3-5% for residential and agricultural consumers, could help absorb cost shocks. Increased risk guarantees for commercial banks can also address the current credit reluctance in the sector.

8. CONCLUSION

The imposition of a 10% General Sales Tax (GST) on imported solar panels under Pakistan's FY 2025–26 federal budget marks a critical shift in the policy landscape governing the country's renewable energy sector. This report has analyzed the evolution of solar capacity, pricing trends, and the forecasted implications of this fiscal measure on adoption patterns. While Pakistan has made considerable strides in expanding solar energy driven largely by net metering, global price declines, and high grid electricity tariffs, the introduction of GST introduces both economic and structural challenges to the sector's continued expansion.

The analysis demonstrates that although the revised tax rate is less severe than the originally proposed 18%, it still imposes additional financial burdens on residential and small-scale consumers, particularly in a market that is heavily reliant on imported panels. At the same time, the absence of a mature domestic manufacturing base limits the short-term viability of the government's industrial development rationale.

Despite these challenges, the solar sector remains resilient. Evidence suggests that with appropriate policy safeguards, such as net metering incentives, expansion of concessional financing, and targeted support for lower-income consumers, the growth trajectory can be sustained. Furthermore, a differentiated and consultatively developed tax framework, aligned with national climate targets and equity objectives, would mitigate risks of market disruption and reinforce investor confidence.

In conclusion, while the GST represents a departure from past tax exemptions, it needs not to derail Pakistan's renewable energy goals if accompanied by coherent policy design and institutional coordination. Sustained growth in the solar sector will depend on regulatory predictability, affordability, and inclusive access to clean energy technologies across socioeconomic segments.

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