A Comparative Analysis of Electricity Tariff Structure in SAARC Countries

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Electricity tariffs are a key factor in South Asia's energy sector, shaping economic competitiveness, sustainability, and social equity across the region. In SAARC countries, electricity pricing reflects a mix of domestic policies, resource availability, and infrastructure limitations. Most member states rely heavily on fossil fuels and face challenges like underutilized resources, limited renewable energy adoption, and dependence on imported fuels. To address these issues, they have introduced policies to promote clean energy, such as developing hydropower, increasing renewable energy integration, adopting electric vehicles, and reducing reliance on imported coal. This analysis explores sector-wise electricity tariffs in SAARC, providing insights for policymakers, businesses, and consumers.

Overview of Average Electricity Tariffs in SAARC Countries

Electricity tariffs across SAARC countries are shaped by multiple factors, including the availability of indigenous energy resources, the extent of government subsidies, the stage of energy infrastructure development, and international trade in electricity. **Table:1** presents the sector-wise average electricity tariff structure in SAARC countries.

Pakistan

In Pakistan, average electricity tariffs are segmented by sector, and rates differ based on consumption levels and sectoral priorities:

- **Residential Sector:** Residential consumers are charged an average tariff of $0.11 per unit, offering affordable energy for households.
- **Commercial Sector:** Commercial users pay approximately $0.14 per unit, reflecting higher rates due to increased energy demands in this sector.
- **Agricultural Sector:** Agricultural consumers benefit from a subsidized tariff of around $0.13 per unit, designed to support farming activities and ensure food security.
- **Industrial Sector:** Industrial tariffs are set at approximately $0.13 per unit, balancing energy affordability with the need to promote industrial growth and competitiveness.

Bangladesh

Bangladesh has a tiered tariff system that accommodates both subsidized pricing for lower-income households and higher rates for heavy consumers:

- **Residential Sector:** The average tariff is $0.08 per unit, lower than in regional countries.
- **Commercial Sector:** Tariffs are set at $0.12 per unit, balancing affordability with business needs.
- **Agricultural Sector:** A subsidized rate of $0.05 per unit supports agricultural productivity.
- **Industrial Sector**: Industrial users pay $0.12 per unit; meeting energy demands for industrial growth.

Table:1 - Sector-Wise Average Electricity Tariff ($ per Unit) in SAARC

Sector	Pakistan	Afghanistan	Bangladesh	Bhutan	Sri Lanka	India	Maldives	Nepal
Residential	0.11	0.07	0.08	0.03	0.26	0.07	0.16	0.07
Commercial	0.14	0.18	0.12	0.02	0.15	0.09	0.27	0.10
Agriculture	0.13	0.18	0.05	0.02	0.12	0.06	0.27	0.07
Industry	0.13	0.13	0.12	0.02	0.11	0.07	0.42	0.10

- *Source: Country Specific Electricity Regulatory Authorities.*
- *Calculation: ICMA converted the currency of each country into US Dollar, using exchange rates as on 2nd March 2024*

India

India's electricity pricing is characterized by significant regional variations, with a national average structure as follows:

- **Residential Sector:** Average rates are $0.07 per unit, offering affordability to households.
- **Commercial Sector:** Commercial tariffs are $0.09 per unit, relatively lower compared to the region.
- **Agricultural Sector:** A subsidized rate of $0.06 per unit supports the agricultural sector.
- **Industrial Sector:** Industrial users pay an average of $0.07 per unit, with rates varying by state.

Sri Lanka

Sri Lanka's electricity tariffs are higher due to reliance on thermal power generation, which increases the cost of production and distribution:

- **Residential Sector:** Residential tariffs are $0.26 per unit, among the highest in South Asia.
- **Commercial Sector:** Commercial users pay $0.15 per unit, lower than residential rates but higher than in many neighboring countries.
- **Agricultural Sector:** Tariffs for agricultural consumers are around $0.12 per unit.
- **Industrial Sector:** Industrial rates are $0.11 per unit, the lowest among all sectors.

Nepal

Nepal's tariff structure is relatively straightforward, with rates designed to balance affordability with the cost of electricity generation:

- **Residential Sector:** Residential tariffs are charged around $0.07 per unit.
- **Commercial Sector:** Commercial users pay $0.10 per unit.
- **Agricultural Sector:** Agricultural consumers are charged $0.07 per unit.
- **Industrial Sector:** Industrial users face tariffs of $0.10 per unit.

Bhutan

Bhutan's electricity pricing is largely determined by its abundant hydropower resources, allowing for low tariffs across all sectors:

- **Residential Sector:** Residential consumers enjoy one of the lowest electricity rates in the region, at $0.03 per unit.
- **Commercial Sector:** Commercial users pay $0.02 per unit, reflecting Bhutan's affordable energy policy.
- **Agricultural Sector:** Agricultural consumers are also charged $0.02 per unit.
- **Industrial Sector:** Industries benefit from the same tariff of $0.02 per unit, offering highly competitive pricing.

Maldives

Due to its reliance on imported fuel for electricity production, the Maldives has some of the highest tariffs in the region:

- **Residential Sector:** Residential consumers face tariffs of $0.16 per unit.
- **Commercial Sector:** Commercial tariffs are set at $0.27 per unit, the highest in the region.
- **Agricultural Sector:** Agricultural users are charged $0.27 per unit.
- **Industrial Sector:** Industrial tariffs are among the highest in the region, at $0.42 per unit.

Afghanistan

Afghanistan offers some of the lowest electricity tariffs in the region, though this is partially due to reliance on imported electricity and a less developed energy infrastructure:

- **Residential Sector:** Residential tariffs are around $0.07, among the lowest in the region.
- **Commercial Sector:** Commercial users pay about $0.18 per unit.
- **Agricultural Sector:** Tariff for agricultural consumers is $0.18 per unit, relatively higher in the region.
- **Industrial Sector:** Industrial consumers face a rate of $0.13 per unit.

Commonalities in Tariff Rates Across SAARC Countries

Despite the differences in energy resource availability and infrastructure, there are several common trends across the electricity tariff structures in SAARC countries:

a) **Subsidies for the Agricultural Sector:** Many countries, including Pakistan, Bangladesh, and Nepal, offer subsidized electricity rates for the agricultural sector to support food production and rural livelihoods.

b) **Divergence in Residential Tariffs:** Residential tariffs vary significantly across the region. Bhutan and Afghanistan provide highly subsidized rates due to abundant low-cost energy, while Sri Lanka and the Maldives have higher tariffs, reflecting their reliance on imported fuels and thermal power generation.

c) **Higher Commercial and Industrial Rates:** Commercial and industrial tariffs are generally higher, with considerable variation. For instance, industrial rates in India and Sri Lanka are much higher compared to Bhutan, where tariffs remain low due to hydropower dominance.

d) **Reliance on Energy Imports:** Countries like Afghanistan and the Maldives, heavily reliant on electricity imports, face higher tariffs due to the added costs of transmission and the volatility of energy markets.

Conclusion

Electricity tariffs across SAARC countries vary significantly, influenced by resource availability, subsidy policies, and energy infrastructure. Bhutan enjoys the lowest tariffs due to its abundant hydropower resources, ensuring both affordability and competitiveness. In contrast, the Maldives and Sri Lanka have the highest tariffs, driven by their reliance on imported fuels and costly thermal power generation.

Pakistan's tariffs are moderate but higher for industrial and commercial sectors, which impacts business competitiveness and economic growth. While agricultural sector subsidies help support food production, the country faces challenges such as reliance on imported fuels, underutilized renewable resources, and high transmission and distribution losses, driving up energy costs.

A common trend in the region is the subsidy provided to the agricultural sector, while residential and industrial rates show significant disparities. Countries like Pakistan, Sri Lanka, and the Maldives grapple with balancing affordability and sustainability. This highlights the need for regional energy cooperation, greater adoption of renewable energy, and investments in energy infrastructure to reduce costs and enhance energy security.

Policy Recommendations for SAARC Governments

- **Promote Renewable Energy Adoption:** Invest in hydropower, solar, and wind energy in countries like Sri Lanka, Pakistan, and the Maldives to reduce dependence on imported fuels and stabilize tariffs.
- **Subsidy Optimization:** Reevaluate subsidy structures in the agricultural and residential sectors to balance affordability with fiscal sustainability. Countries like Afghanistan and the Maldives should implement targeted agricultural subsidies.
- **Invest in Energy Infrastructure:** Strengthen transmission and distribution networks in countries like Afghanistan and Pakistan to reduce energy losses and improve overall cost-efficiency.
- **Enhance Industrial Competitiveness:** Provide incentives for energy efficiency in industries, particularly in high-tariff countries such as the Maldives and Sri Lanka, to alleviate the cost burden on manufacturing sectors.
- **Diversify Energy Mix:** Reduce reliance on imported fuels by diversifying energy sources. Sri Lanka and the Maldives, for instance, should explore offshore wind and geothermal energy potential.
- **Regional Knowledge Sharing:** Promote knowledge exchange across SAARC nations on best practices for tariff regulation, renewable energy development, and subsidy management.

By adopting these recommendations, SAARC governments can ensure sustainable and equitable electricity access while tackling economic and infrastructure challenges. South Asia possesses significant potential in hydropower, natural gas, solar, wind, and biofuels, offering opportunities for regional cooperation in energy generation, transmission, and trade.

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