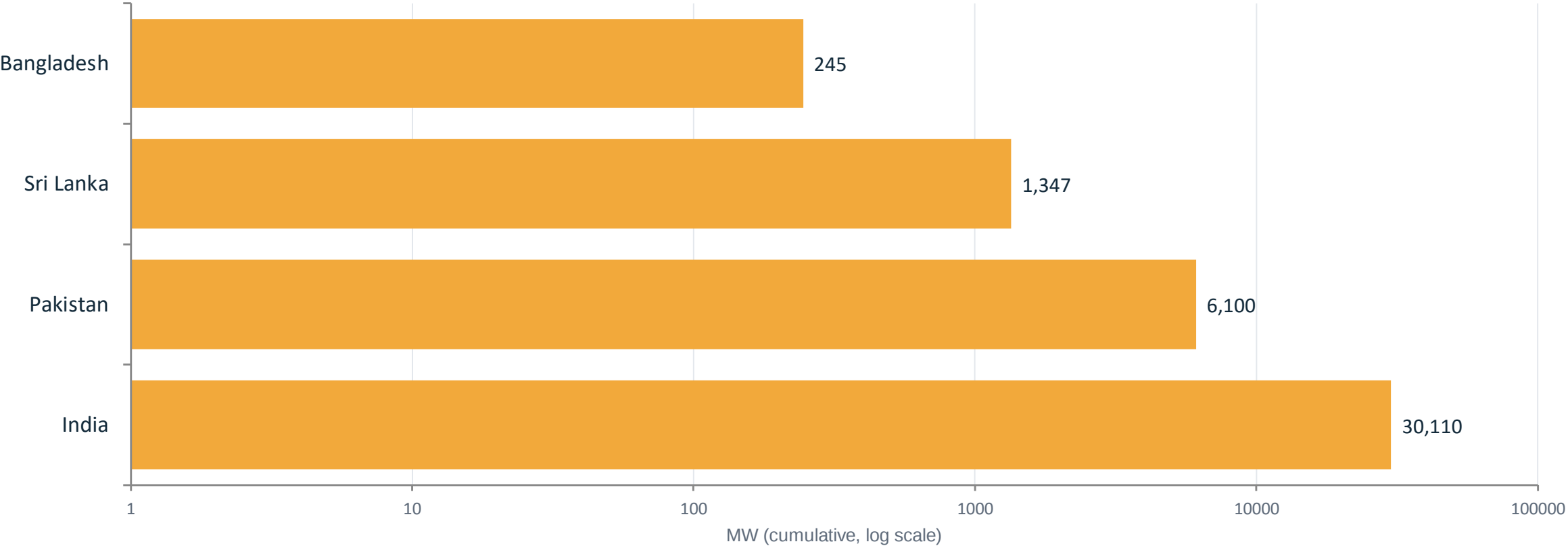


Rooftop solar capacity across SAARC member states

Cumulative net-metered / rooftop solar PV capacity, latest available official data (2024–2025)

Rooftop solar connected at distribution grid level — log scale (MW)

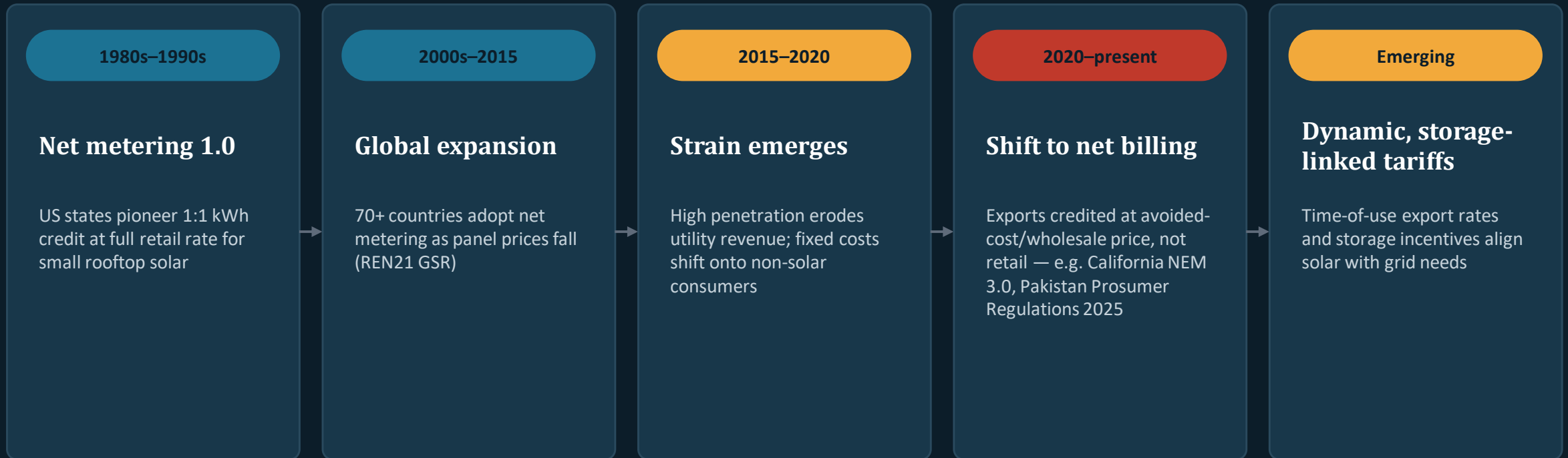


Figures are rooftop solar only — systems installed on consumer premises and interconnected at the distribution (not transmission) level, typically under net metering. Utility-scale / grid-connected solar farms are excluded. A logarithmic axis is used so India's and Bangladesh's figures both remain clearly readable on one chart; read the data labels for actual MW. Nepal and Bhutan are omitted — reliable rooftop-specific figures for these two were not available from official sources.

Sources: NEPRA State of Industry Report 2025 / Renewables First (Pakistan) · PUCSL / SLSEA (Sri Lanka) · SREDA National Database of Renewable Energy — net-metered rooftop (Bangladesh) · MNRE Physical Progress data — Grid Connected Solar Rooftop (India)

Net metering has evolved — from flat credits to cost-reflective tariffs

As rooftop solar penetration rises worldwide, most regulators have moved through the same policy arc



Same direction of travel everywhere: retail-rate 1:1 credit → avoided-cost / market-based export pricing → tariffs that reward self-consumption and grid-friendly behaviour.

Why the incentive regime must evolve

Reliability and consumer protection are the reasons regulators are moving beyond flat net metering

Legacy net metering (1:1 retail credit)

- ✗ Every exported unit valued at full retail price, regardless of grid need
- ✗ Utility revenue erodes as rooftop solar share grows
- ✗ Fixed network costs shift onto consumers without solar (often lower-income)
- ✗ No incentive to shift or store consumption — export floods midday grid

Reformed regime (net billing + smart tariffs)

- ✓ Exports valued near avoided-cost / market price — reflects true grid value
- ✓ Utility (DISCO) revenue and investment capacity stay sustainable
- ✓ Network costs shared more fairly across all consumer classes
- ✓ Time-of-use and storage incentives reward self-consumption and grid support



Grid reliability

Prevents transformer overload and voltage swings from unmanaged, unpriced distributed generation



Utility solvency

Protects DISCO revenue and avoided-cost balance so grid investment and maintenance stay funded



Consumer protection

Stops cost-shifting onto non-solar and lower-income customers who cannot install rooftop systems



Durable solar growth

Right-priced incentives keep solar attractive without destabilising the system that carries it

Takeaway for delegates: the direction (retail-rate credit → cost-reflective export pricing) is now common across mature and emerging markets alike — the right moment to review an incentive regime is before penetration creates the reliability and equity pressure seen elsewhere, not after.