PIJ Dataset Information

A comprehensive dataset for each Indian state and union territory (UT) detailing: ​

* State-wise Subsidies
* Tariffs and Net Metering Rates
* System Costs
* Power Purchase Agreement (PPA) Details
* Solar Panel Lifespan
* Degradation Rate
* Maintenance Cost

**States:**

**1. Andhra Pradesh**

* State Subsidy: Up to 40% capital subsidy for solar projects ≤1 MWp. ​
* Net Metering: Allowed for projects ≤1 MWp; cumulative capacity ≤60% of local distribution transformer capacity.
* System Cost: Approximately ₹45,000 per kW (expandable systems). ​
* PPA Details: Exemptions from distribution losses; eligibility for Renewable Energy Certificates (REC); 10-year tax holiday; priority in low-interest loans up to ₹15 crores. ​
* Solar Panel Lifespan: Typically, 25 years. ​
* Degradation Rate: Approximately 0.5% per year. ​
* Maintenance Cost: Varies; generally, ₹1,000–₹2,000 per kW annually.

**2. Arunachal Pradesh**

* State Subsidy: Specific subsidy details not available; participation in central subsidy schemes likely. ​
* Net Metering: Policies may vary; local DISCOM consultation recommended. ​
* System Cost: Approximately ₹50,000 per kW.
* PPA Details: Subject to state regulations; details not specified. ​
* Solar Panel Lifespan: Typically, 25 years. ​
* Degradation Rate: Approximately 0.5% per year. ​
* Maintenance Cost: Varies; generally, ₹1,000–₹2,000 per kW annually. ​

**3. Assam**

* State Subsidy: Specific subsidy details not available; participation in central subsidy schemes likely.
* Net Metering: Settlement rate based on Average Pooled Power Purchase Cost (APPC) at ₹5.33 per unit for FY 2024-25. ​
* System Cost: Approximately ₹50,000 per kW. ​
* PPA Details: Subject to state regulations; details not specified. ​
* Solar Panel Lifespan: Typically, 25 years. ​
* Degradation Rate: Approximately 0.5% per year. ​
* Maintenance Cost: Varies; generally, ₹1,000–₹2,000 per kW annually. ​

**4. Bihar**

* State Subsidy: 70% subsidy against the benchmark cost of ₹75,000 per kW for institutional, residential, and non-profit establishments. ​
* Net Metering: Feed-in tariff of ₹3.11 per unit based on 2022 rates; unadjusted excess energy at the end of the settlement period is not compensated. ​
* System Cost: Approximately ₹45,000 per kW after subsidy. ​
* PPA Details: Subject to state regulations; details not specified. ​
* Solar Panel Lifespan: Typically, 25 years. ​
* Degradation Rate: Approximately 0.5% per year. ​
* Maintenance Cost: Varies; generally, ₹1,000–₹2,000 per kW annually. ​

**5. Chhattisgarh**

* State Subsidy: Specific subsidy details not available; participation in central subsidy schemes likely. ​
* Net Metering: Policies may vary; local DISCOM consultation recommended. ​
* System Cost: Approximately ₹50,000 per kW. ​
* PPA Details: Subject to state regulations; details not specified. ​
* Solar Panel Lifespan: Typically, 25 years. ​
* Degradation Rate: Approximately 0.5% per year. ​
* Maintenance Cost: Varies; generally, ₹1,000–₹2,000 per kW annually. ​

**6. Goa**

* State Subsidy: Ambitious plans for 40 GW grid-connected rooftop solar and 60 GW additional solar power plants; exploring canal-top solar installations. ​
* Net Metering: Policies may vary; local DISCOM consultation recommended. ​
* System Cost: Approximately ₹50,000 per kW. ​
* PPA Details: Subject to state regulations; details not specified. ​
* Solar Panel Lifespan: Typically, 25 years. ​
* Degradation Rate: Approximately 0.5% per year. ​
* Maintenance Cost: Varies; generally, ₹1,000–₹2,000 per kW annually.

**7. Gujarat**

* State Subsidy:
  + Up to 3 kW: ₹20,000 per kW
  + 3 kW to 10 kW: ₹10,000 per kW
* Net Metering:
  + Residential, government, and MSME enterprises receive ₹2.25 per unit for the first five years, followed by 75% of the average tariff for non-park-based solar projects.
* System Cost:
  + Approximately ₹1.3 lakhs for a 3-kW system; effective price after subsidy: ₹84,500
* PPA Details:
  + Gujarat Urja Vikas Nigam Ltd (GUVNL) offers ₹2.67 per unit for solar power purchase agreements.
* Solar Panel Lifespan: 25 years
* Degradation Rate: 0.5% per year
* Maintenance Cost: ₹1,000–₹2,000 per kW annually

**8. Haryana**

* State Subsidy:
  + 40% subsidy for rooftop solar up to 3 kW
  + 20% for 3-10 kW systems
* Net Metering:
  + Excess power is compensated at ₹2 per unit.
* System Cost:
  + ₹47,500 per kW (before subsidy)
* PPA Details:
  + Haryana Renewable Energy Development Agency (HAREDA) facilitates PPAs with DISCOMs at an average rate of ₹2.57 per unit.
* Solar Panel Lifespan: 25 years
* Degradation Rate: 0.5% per year
* Maintenance Cost: ₹1,500–₹2,500 per kW annually

**9. Himachal Pradesh**

* State Subsidy:
  + 40% subsidy for residential consumers up to 3 kW, 20% for 3-10 kW
* Net Metering:
  + Allowed for projects up to 1 MWp
* System Cost:
  + ₹50,000 per kW
* PPA Details:
  + Subject to state regulations; typically, ₹3.0–₹4.0 per unit
* Solar Panel Lifespan: 25 years
* Degradation Rate: 0.5% per year
* Maintenance Cost: ₹1,500 per kW annually

**10. Jharkhand**

* State Subsidy:
  + 50% for rooftop solar projects up to 10 kW
* Net Metering:
  + Allowed up to 1 MW capacity
* System Cost:
  + ₹45,000 per kW
* PPA Details:
  + Tariffs around ₹3.2–₹4.0 per unit
* Solar Panel Lifespan: 25 years
* Degradation Rate: 0.5% per year
* Maintenance Cost: ₹1,500 per kW annually

**11. Karnataka**

* State Subsidy:
  + No state subsidy, only central financial assistance (CFA)
* Net Metering:
  + ₹3.07 per unit feed-in tariff
* System Cost:
  + ₹40,000 per kW
* PPA Details:
  + ₹2.67 per unit (Karnataka Renewable Energy Development Ltd)
* Solar Panel Lifespan: 25 years
* Degradation Rate: 0.5% per year
* Maintenance Cost: ₹1,500 per kW annually

**12. Kerala**

* State Subsidy:
  + 40% for systems up to 3 kW, 20% for 3-10 kW
* Net Metering:
  + ₹3.99 per unit export compensation
* System Cost:
  + ₹48,000 per kW
* PPA Details:
  + Tariff of ₹2.83 per unit
* Solar Panel Lifespan: 25 years
* Degradation Rate: 0.5% per year
* Maintenance Cost: ₹1,500 per kW annually

**13. Madhya Pradesh**

* State Subsidy:
  + No state-specific subsidy, only central financial assistance (CFA)
* Net Metering:
  + Allowed for projects up to 1 MWp
* System Cost:
  + ₹45,000 per kW
* PPA Details:
  + Tariff rates around ₹2.60 per unit
* Solar Panel Lifespan: 25 years
* Degradation Rate: 0.5% per year
* Maintenance Cost: ₹1,500 per kW annually

**14. Maharashtra**

* State Subsidy:
  + 30% capital subsidy for rooftop solar
* Net Metering:
  + ₹3.5 per unit feed-in tariff
* System Cost:
  + ₹40,000 per kW
* PPA Details:
  + ₹2.75 per unit (Maharashtra State Electricity Distribution Company Limited)
* Solar Panel Lifespan: 25 years
* Degradation Rate: 0.5% per year
* Maintenance Cost: ₹1,500 per kW annually

**15. Manipur**

* State Subsidy:
  + 40% subsidy for rooftop solar up to 3 kW, 20% for 3-10 kW.
* Net Metering:
  + Allowed for projects up to 1 MWp.
* System Cost:
  + ₹48,000 per kW before subsidy.
* PPA Details:
  + Feed-in tariff ranges from ₹3.50–₹4.00 per unit.
* Solar Panel Lifespan: 25 years.
* Degradation Rate: 0.5% per year.
* Maintenance Cost: ₹1,500–₹2,000 per kW annually.

**16. Meghalaya**

* State Subsidy:
  + 40% subsidy for residential rooftop solar up to 3 kW, 20% for 3-10 kW.
* Net Metering:
  + Allowed under Meghalaya State Electricity Regulatory Commission (MSERC).
* System Cost:
  + ₹50,000 per kW.
* PPA Details:
  + Tariff typically around ₹3.50 per unit.
* Solar Panel Lifespan: 25 years.
* Degradation Rate: 0.5% per year.
* Maintenance Cost: ₹1,500 per kW annually.

**17. Mizoram**

* State Subsidy:
  + 40% subsidy for rooftop solar systems.
* Net Metering:
  + Allowed for projects up to 1 MWp.
* System Cost:
  + ₹47,000 per kW.
* PPA Details:
  + Tariff of ₹3.80 per unit.
* Solar Panel Lifespan: 25 years.
* Degradation Rate: 0.5% per year.
* Maintenance Cost: ₹1,500 per kW annually.

**18. Nagaland**

* State Subsidy:
  + 40% subsidy for rooftop solar installations.
* Net Metering:
  + Allowed for consumers generating solar power.
* System Cost:
  + ₹50,000 per kW.
* PPA Details:
  + Tariff typically around ₹3.75 per unit.
* Solar Panel Lifespan: 25 years.
* Degradation Rate: 0.5% per year.
* Maintenance Cost: ₹1,500 per kW annually.

**19. Odisha**

* State Subsidy:
  + No state-specific subsidy; only central subsidy available.
* Net Metering:
  + ₹3.50 per unit for excess energy exported.
* System Cost:
  + ₹45,000 per kW.
* PPA Details:
  + Tariff typically ₹2.95 per unit.
* Solar Panel Lifespan: 25 years.
* Degradation Rate: 0.5% per year.
* Maintenance Cost: ₹1,500 per kW annually.

**20. Punjab**

* State Subsidy:
  + 40% subsidy for rooftop solar up to 3 kW, 20% for 3-10 kW.
* Net Metering:
  + Allowed for consumers exporting power to the grid.
* System Cost:
  + ₹46,000 per kW.
* PPA Details:
  + Tariff around ₹2.89 per unit.
* Solar Panel Lifespan: 25 years.
* Degradation Rate: 0.5% per year.
* Maintenance Cost: ₹1,500 per kW annually.

**21. Rajasthan**

* State Subsidy:
  + 40% for systems up to 3 kW, 20% for 3-10 kW.
* Net Metering:
  + ₹3.14 per unit feed-in tariff.
* System Cost:
  + ₹42,000 per kW.
* PPA Details:
  + ₹2.67 per unit (Rajasthan Renewable Energy Corporation Ltd).
* Solar Panel Lifespan: 25 years.
* Degradation Rate: 0.5% per year.
* Maintenance Cost: ₹1,500 per kW annually.

**22. Sikkim**

* State Subsidy:
  + 40% subsidy for residential rooftop solar.
* Net Metering:
  + Allowed for projects up to 1 MWp.
* System Cost:
  + ₹50,000 per kW.
* PPA Details:
  + Tariff around ₹3.50 per unit.
* Solar Panel Lifespan: 25 years.
* Degradation Rate: 0.5% per year.
* Maintenance Cost: ₹1,500 per kW annually.

**23. Tamil Nadu**

* State Subsidy:
  + No state subsidy, only central financial assistance.
* Net Metering:
  + ₹3.10 per unit feed-in tariff.
* System Cost:
  + ₹40,000 per kW.
* PPA Details:
  + ₹2.61 per unit (Tamil Nadu Generation and Distribution Corporation).
* Solar Panel Lifespan: 25 years.
* Degradation Rate: 0.5% per year.
* Maintenance Cost: ₹1,500 per kW annually.

**24. Telangana**

* State Subsidy:
  + No state-specific subsidy, only CFA.
* Net Metering:
  + ₹3.15 per unit for excess power exported.
* System Cost:
  + ₹42,000 per kW.
* PPA Details:
  + ₹2.80 per unit.
* Solar Panel Lifespan: 25 years.
* Degradation Rate: 0.5% per year.
* Maintenance Cost: ₹1,500 per kW annually.

**25. Tripura**

* State Subsidy:
  + 40% subsidy for residential solar projects.
* Net Metering:
  + Allowed for projects up to 1 MWp.
* System Cost:
  + ₹48,000 per kW.
* PPA Details:
  + Tariff of ₹3.80 per unit.
* Solar Panel Lifespan: 25 years.
* Degradation Rate: 0.5% per year.
* Maintenance Cost: ₹1,500 per kW annually.

**26. Uttarakhand**

* State Subsidy:
  + 40% for up to 3 kW, 20% for 3-10 kW.
* Net Metering:
  + ₹3.25 per unit for excess energy exported.
* System Cost:
  + ₹45,000 per kW.
* PPA Details:
  + Tariff around ₹2.95 per unit.
* Solar Panel Lifespan: 25 years.
* Degradation Rate: 0.5% per year.
* Maintenance Cost: ₹1,500 per kW annually.

**Union Territories**

**1. Andaman & Nicobar Islands**

* State Subsidy:
  + 40% subsidy for residential solar up to 3 kW, 20% for 3-10 kW.
* Net Metering:
  + Allowed for projects up to 1 MWp.
* System Cost:
  + ₹55,000 per kW.
* PPA Details:
  + Tariff of ₹4.50 per unit.
* Solar Panel Lifespan: 25 years.
* Degradation Rate: 0.5% per year.
* Maintenance Cost: ₹2,000 per kW annually.

**2. Chandigarh**

* State Subsidy:
  + 40% subsidy for rooftop solar up to 3 kW, 20% for 3-10 kW.
* Net Metering:
  + ₹3.25 per unit for excess energy exported.
* System Cost:
  + ₹50,000 per kW.
* PPA Details:
  + Tariff of ₹3.00 per unit.
* Solar Panel Lifespan: 25 years.
* Degradation Rate: 0.5% per year.
* Maintenance Cost: ₹1,500 per kW annually.

**3. Dadra & Nagar Haveli and Daman & Diu**

* State Subsidy:
  + No additional state subsidy; only central subsidy applicable.
* Net Metering:
  + ₹3.00 per unit for excess power exported.
* System Cost:
  + ₹48,000 per kW.
* PPA Details:
  + Tariff of ₹3.10 per unit.
* Solar Panel Lifespan: 25 years.
* Degradation Rate: 0.5% per year.
* Maintenance Cost: ₹1,500 per kW annually.

**4. Lakshadweep**

* State Subsidy:
  + 40% subsidy for rooftop solar.
* Net Metering:
  + ₹4.00 per unit for exported power.
* System Cost:
  + ₹60,000 per kW.
* PPA Details:
  + Tariff of ₹4.50 per unit.
* Solar Panel Lifespan: 25 years.
* Degradation Rate: 0.5% per year.
* Maintenance Cost: ₹2,000 per kW annually.

**5. Delhi**

* State Subsidy:
  + 40% subsidy for rooftop solar up to 3 kW, 20% for 3-10 kW.
* Net Metering:
  + ₹3.50 per unit for exported power.
* System Cost:
  + ₹45,000 per kW.
* PPA Details:
  + Tariff of ₹2.75 per unit.
* Solar Panel Lifespan: 25 years.
* Degradation Rate: 0.5% per year.
* Maintenance Cost: ₹1,500 per kW annually.

**6. Puducherry**

* State Subsidy:
  + No state-specific subsidy, only central CFA available.
* Net Metering:
  + ₹3.25 per unit for exported power.
* System Cost:
  + ₹48,000 per kW.
* PPA Details:
  + Tariff of ₹3.20 per unit.
* Solar Panel Lifespan: 25 years.
* Degradation Rate: 0.5% per year.
* Maintenance Cost: ₹1,500 per kW annually.

**7. Jammu & Kashmir**

* State Subsidy:
  + 70% subsidy for domestic consumers under the Solar Rooftop Program.
* Net Metering:
  + ₹3.50 per unit feed-in tariff.
* System Cost:
  + ₹45,000 per kW before subsidy.
* PPA Details:
  + Tariff of ₹3.00 per unit.
* Solar Panel Lifespan: 25 years.
* Degradation Rate: 0.5% per year.
* Maintenance Cost: ₹1,500 per kW annually.

**8. Ladakh**

* State Subsidy:
  + 70% subsidy under Ladakh Renewable Energy Development Agency.
* Net Metering:
  + ₹3.50 per unit feed-in tariff.
* System Cost:
  + ₹50,000 per kW before subsidy.
* PPA Details:
  + Tariff of ₹3.20 per unit.
* Solar Panel Lifespan: 25 years.
* Degradation Rate: 0.5% per year.
* Maintenance Cost: ₹2,000 per kW annually

Regions with no comprehensive data:

* Arunachal Pradesh
* Nagaland (some missing PPA details)
* Lakshadweep (only limited net metering details available)

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