

Uttar Pradesh Scenario

June 2026 Peak Demand 32000 MW

Source	MW
UP State Generation	~6,500
Central Sector Allocation	~11,000
Private PPAs	~9,500
Solar & Other Renewables	~2,500
Exchange / Short-term Purchases	~2,500
Total	32,000

SOURCE	PURCHASE COST
Mid State Thermal Stations	4.0 – 4.5
TPC Central Stations	3.5 – 4.0
Hydro Allocations	2.0 – 2.5
Nuclear	3.5 – 4.0
New Utility Solar (without storage)	2.3 – 2.5
Solar + BESS	4.0 – 4.5
Day-Ahead Market Purchases	3 – 4
Real-Time Market during shortages	5 – 20

	Capacity (GW)	Increment (GW)	Avg Annual Addition (GW/yr)	Strategic Significance
	515	—	—	Current installed base; under-construction additions ongoing
	1,315	800	~200	Near-term target; aligns with National Electricity Plan 2032
	2,315	1,000	~200	Mid-decade inflection; RE + storage programmes at

35	2,315	1,000	~200	Mid-decade inflection; RE + storage programmes at scale
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	3,515	1,200	~240	Advanced economy transition; SMR fleet b contributing
t)	4,715	1,200	~240	India@100 Vision; ~5,500 GW if GDP outperfo PwC base case

Projected Capacity (GW)

	2030	2035	2040	2047
India	1315	2315	3515	4715
Uttar Pradesh	263	461	700	940

Distribution constraints

- Overloaded 11 kV feeders.
- Overloaded distribution transformers.
- Long LT lines causing high technical losses.

Lack of metering and
protection devices

Transformer
32KV/33KV

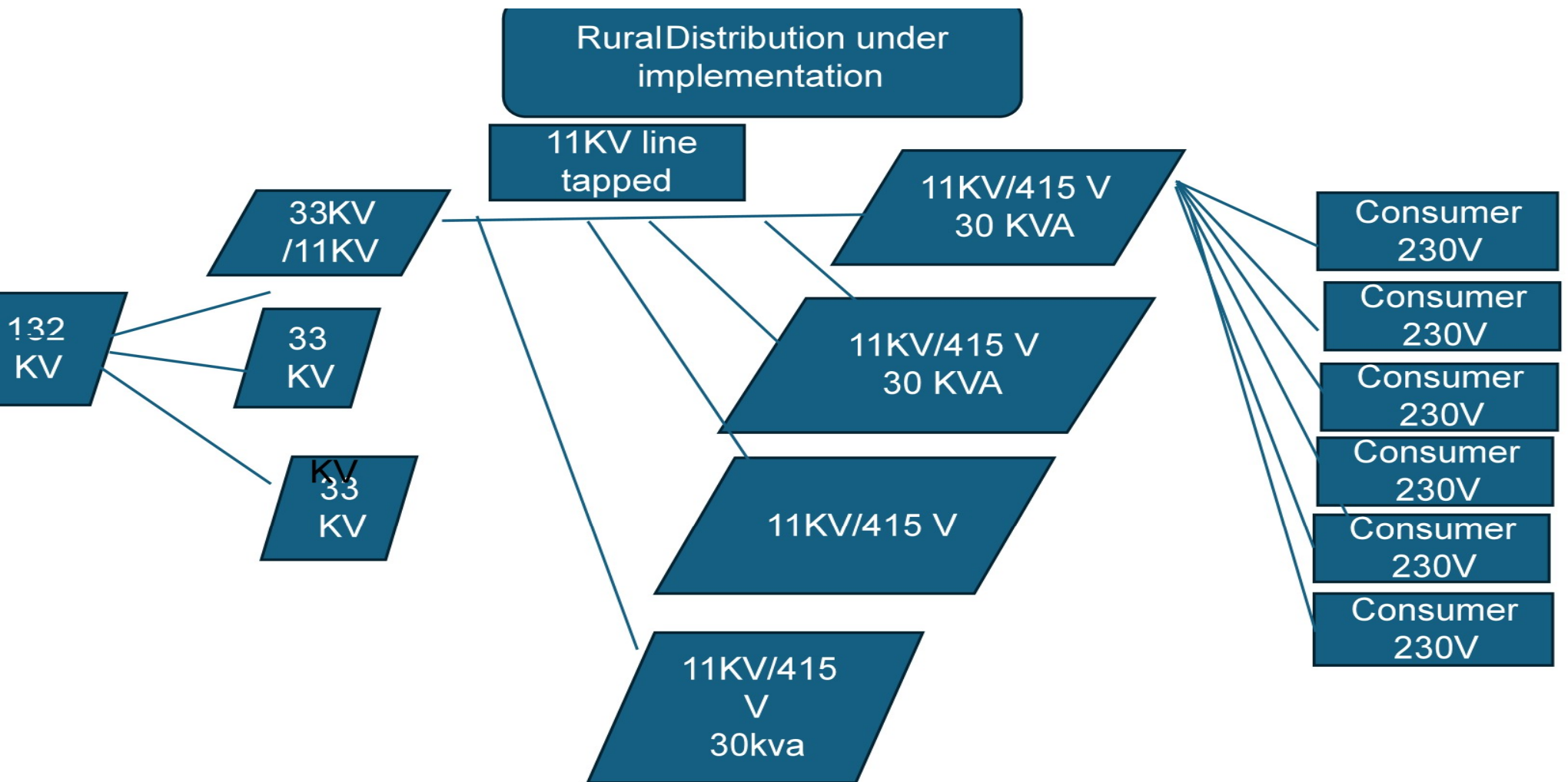
Substation
33 KV / 11 KV
feeders

11KV/415 KV
50/100/150
KVA

Energy balance

Energy supplied at 132 KV = Energy
Out , Difference : losses

Only in case all meters work this is
possible to account for





Increasing Installed Capacity (New Technologies)

Solar plus 100 % storage

Li Fe PHO₄ Batteries in containers

LCOE Rs 6.40 per KWh

Less than new coal plants

GW Scale solar plants in High irradiation areas with land Bundelkhand Region

500 acres of Defence land in Distt Sitapur 100
percent BESS

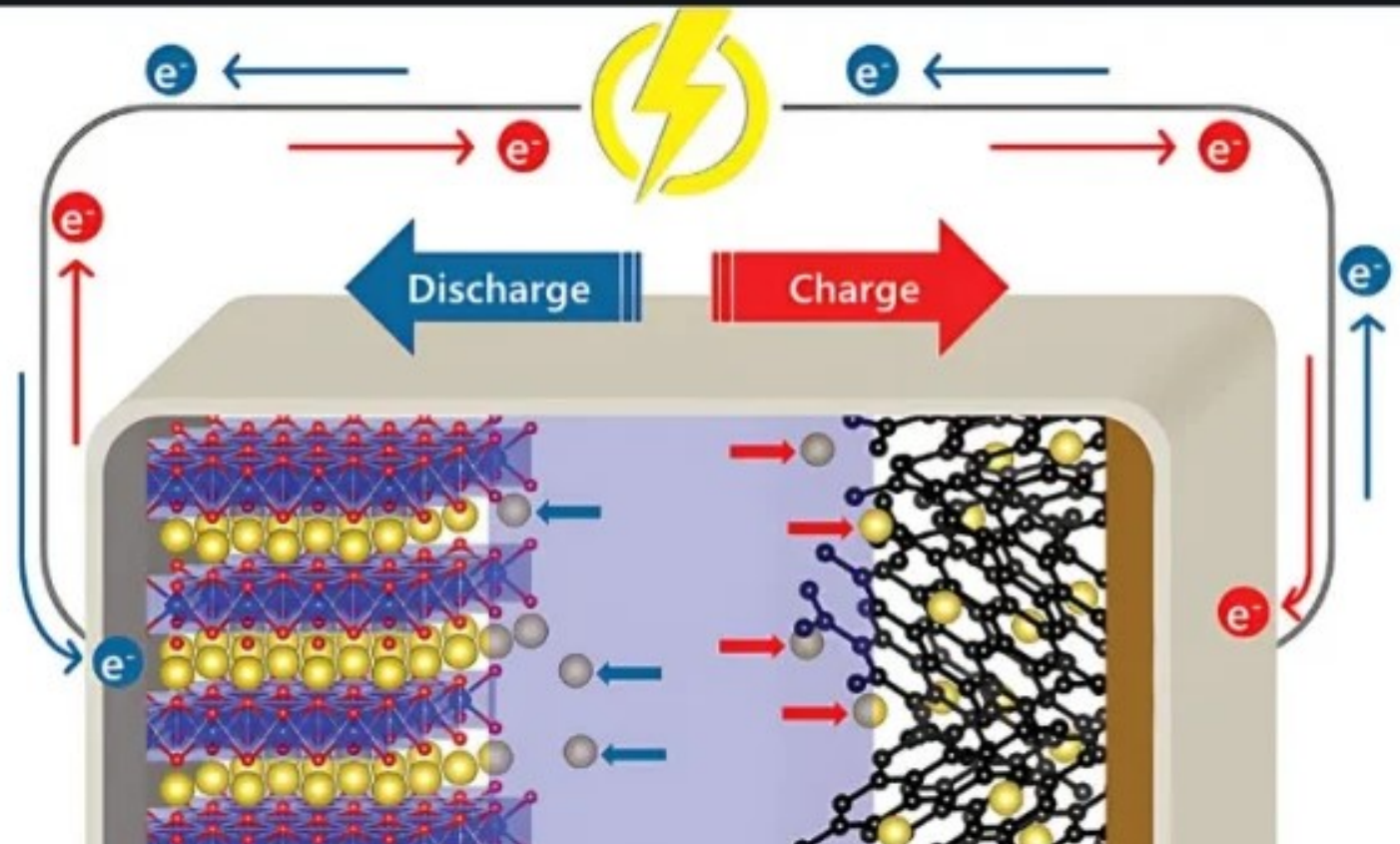
New batteries

Sodium ion

Vanadium Flow

Iron air

How do Sodium-Ion Battery Works?



Small Modular Reactors (SMR)

Working in Russia and China. Implementation period 3 years

