Vaari Nirvana
purifying water, preserving nature

Pay More Once, Save Every Year

Why a VaariNirvana SUSBIO EcoTreat plant makes financial sense against a traditional STP

A VaariNirvana EcoTreat plant costs more to buy than a civil-built traditional STP. But a sewage plant is a **15–30 year commitment**, and most of what it costs over its life is **running cost**: operators, power, maintenance and sludge. EcoTreat cuts those costs every year, recovers its higher price in about **five years**, and is cheaper for the rest of its life.

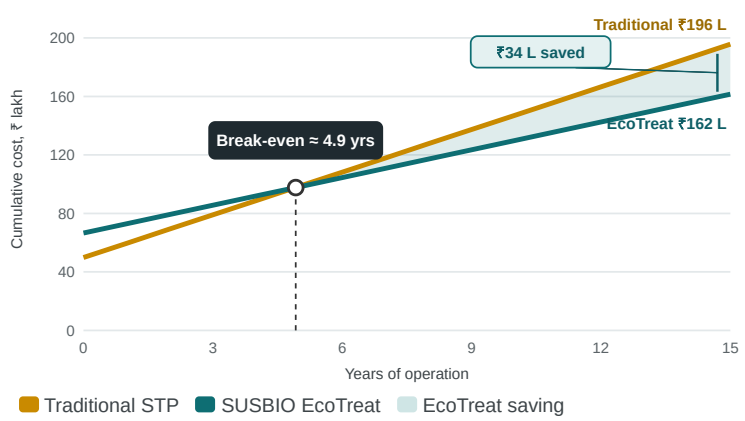
+₹16.7 L
Extra upfront cost after crediting the land it frees up

₹3.4 L / yr
Lower running cost, every year (35% less)

≈ 4.9 yrs
Simple payback of the extra investment

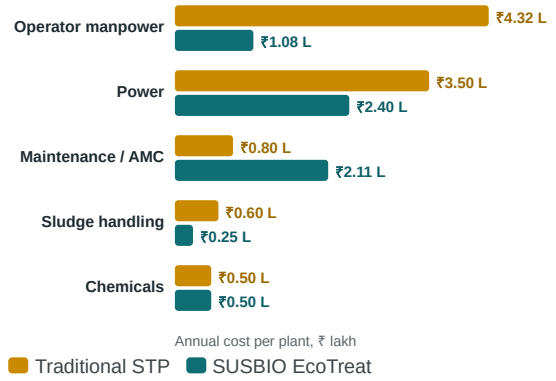
₹34 L
Saved over 15 years; ₹9.1 L in today's money (NPV at 10%)

Total cost of ownership over 15 years



Lines start at the initial cost (plant + land) and rise by each year's running cost. EcoTreat starts higher but rises more slowly, so the lines cross in year five.

Where the yearly saving comes from



Total: ₹9.7 L vs ₹6.3 L a year. Fewer operator hours is the biggest saving. EcoTreat's maintenance line is higher because the VaariNirvana annual maintenance contract covers full service, blowers and media.

1 Biology does the work for free

The anaerobic chambers remove about half the organic load with no air and no power, so only the MBBR stage needs a blower, and it uses small diaphragm units.

2 Less labour, every shift

No return-sludge pumping, no sludge-age tuning and automated dosing mean a visiting operator instead of round-the-clock shift staff.

3 Half the land

One compact vessel instead of a chain of tanks frees about 180 m² per 75 KLD plant for parking, gardens or buildings.

4 Factory quality, weeks not months

Prefabricated FRP arrives ready and is commissioned in weeks, so treated water is available sooner and there is less on-site construction risk.

5 No hidden extras

Quiet blowers need no acoustic room; a sealed, vented tank needs no odour covers; corrosion-free FRP avoids concrete repair cycles.

6 Less sludge to handle

Sludge is digested inside the tank and removed by tanker every 12–18 months, instead of daily wasting to drying beds.

How robust is the payback?

If this changes…	Yearly saving	Payback
Base case (₹8/kWh; 2 vs 0.5 operators)	₹3.4 L	4.9 yrs
Wages rise 25%	₹4.2 L	4.0 yrs
Power tariff rises to ₹10/kWh	₹3.7 L	4.6 yrs
Traditional plant adds an acoustic blower room	₹3.4 L	shorter
EcoTreat needs a full-time operator (1.0)	₹2.3 L	7.2 yrs

Value not counted in the numbers

- Quiet operation next to homes, hostels and wards
- No open-tank odour or insects
- Easy expansion by adding modules

Best fit for EcoTreat

- Decentralised flows of about 2–150 KLD per site
- Campuses, hospitals, hostels, apartments and hotels

VaariNirvana price
₹57.5 L
75 KLD installed, ex-GST

₹41.3 L
EcoTreat 75 KLD package: FRP plant, blowers, 2 pumps and tertiary filtration

₹1.8 L
Transport to site

₹6.5 L
Installation, commissioning, 30-day trial and NABL tests

₹8.0 L
Civil works: RCC slab and collection tank (standard site)

₹2.1 L / yr
Optional annual maintenance contract (included in running cost)

Indicative example for one 75 KLD plant on a standard site, ex-GST, constant prices. Traditional STP ₹31.9 L at the 2026 market mid-rate of ₹42,500/KLD (MBBR/RCC turnkey). Land valued at ₹5,000/m² (180 vs 360 m²). Running costs: 82 vs 120 kWh/day at ₹8/kWh; 0.5 vs 2 operators at ₹18,000/month; traditional maintenance at 2.5% of capex a year. Site-specific civil works, piling and flood protection are quoted separately. Actual figures depend on site, flow and tariff.

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