

EARTH FOKUS

Recovering the Invisible Water Loss in Cooling Towers

EcoVapure by EarthFokus

Retrofit water recovery for industrial cooling towers, with **WaterOS** measurement built in.

EarthFokus-The company behind EcoVapure

We help buildings and industries reduce water consumption through assessment-led water management.

WATER INTELLIGENCE ASSESSMENT

Map water flows, establish a water balance and prioritise opportunities to reduce consumption.

WATER MANAGEMENT & MONITORING

Use WaterOS to track consumption, detect losses and support day-to-day operating decisions.

WATER EFFICIENCY SOLUTIONS

Implement solutions based on each site's assessment to reduce water consumption and improve system efficiency.

Measure the impact: Track results through ongoing monitoring.
In-house expertise: Product development, engineering and field deployment.



Industrial Cooling Towers Lose Paid-for Treated Water Every Day

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> Evaporation is accepted as **normal**. But every plume is **treated water** - already processed, pumped, and paid for - disappearing into thin air.

EVAPORATION LOSS OPPORTUNITY

20–600 KL

per day · per high-cooling industrial site

Already treated, conditioned, and paid for — **disappearing as plume.**

CONSTANT MAKE-UP DEMAND

Evaporation drives daily water replacement.

$1.5–6.5/KL

Cost to produce RO / STP-treated water

WHY THIS HASN'T BEEN SOLVED

- Evaporation is treated as unavoidable
- Cooling tower performace is non-negotiable
- No proof at operating conditions



*This is not raw water loss. It is **high-value treated water** disappearing into thin air.*

EcoVapure Recovers Water from Cooling-Tower Exhaust

EcoVapure captures recoverable moisture from the cooling-tower plume, returns collected water to the cooling loop, and measures the impact through WaterOS.

RECOVER WATER

Captures evaporative plume loss from existing cooling towers.

30–45%

Water Recovery (droplet size 1–40 µm).

REDUCE MAKE-UP DEMAND

Returns low-TDS recovered water back into the cooling loop.

~90%

Lower TDS in recovered water

VERIFY SAVINGS

WaterOS tracks recovery, water quality, and tower performance in real time.

TRL 8

Validated system



Built for existing cooling infrastructure **retrofit-ready, measurable, and reusable.**

From Exhaust Vapor to Recovered Water

EcoVapure sits above the tower, intercepts the plume, condenses droplets on patented surfaces, and returns collected water directly to the cooling loop — without stopping operations.



Plume rises

Moisture-laden air exits the cooling tower.



CCS intercepts

Recoverable moisture contacts the CCS surface.



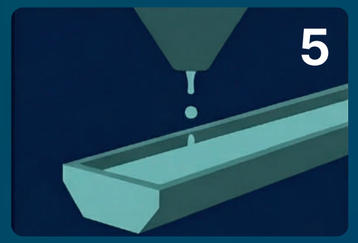
Droplets Coalesce

Fine droplets combine into larger water droplets.



Water Channels

Collected water flows into the drainage path.



Water Returns

Recovered water is returned to the cooling loop.



DESIGNED FOR EXISTING COOLING INFRASTRUCTURE

1. Passive by design

No moving parts, pumps or recovery controls.

2.Hydrophobic surface

Water sheds into the drain path rather than remaining held on the media.

3.Low added resistance

Panel porosity is engineered inside the fan and motor envelope.

4.Retrofit installation

Configured above the existing fan discharge with access retained.

Evaporated water is intercepted, condensed, collected, and **returned as reusable water**.

Water state determines the recovery method

Evaporation is invisible. A visible plume forms only after part of the vapour has condensed into liquid microdroplets.



VISIBLE PLUME

Liquid microdroplets

Intercept → coalesce → drain

The water has already changed phase inside the exhaust. An engineered surface intercepts the droplets and returns the collected water by gravity.



NON-VISIBLE VAPOUR

Gas-phase water

Requires a conversion step

Ambient mixing, cold surfaces, membranes or another assisted route. This is R&D and co-development - not the EcoVapure Capture product offered today.

Visible plume is favourable evidence, not proof on its own. Relative humidity alone is never proof of recoverable water.

One Tower Proved Recovery Without Cooling Loss

A live industrial pilot recovered 2.27M litres/year while keeping cooling performance stable.

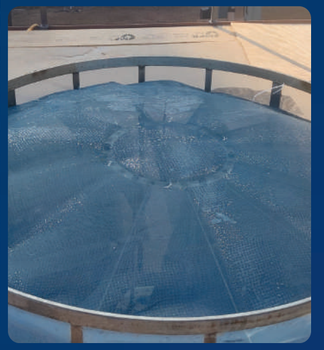
2.27M
litres / year
30% recovery from evaporative loss

11–13°C
Delta-T held
Cooling tower performance not compromised

~90%
Lower TDS
Recovered water is cleaner and reusable







MAKE-UP WATER DEMAND REDUCED

27.1 KL / day → **18.1 KL / day**

WITHOUT RECOVERY | WITH ECOVAPURE

33% reduction in make-up water demand

PILOT TOWER WATER COST SAVED

$4,625 / year

This pilot reflects one smaller tower. **Larger savings scale with tower size, runtime, water cost, and tower count.**

*Recovery was proven **without compromising cooling performance**.*

Paid Audits Open the Door. Pilot Sites Prove the Scale.

We quantify the loss, validate recovery on one tower, then scale across every eligible cooling tower on site.

1

QUALIFICATION STUDY

Water balance, exhaust and plume mapping, tower economics and measurement design.

Exit: GO, Conditional GO or HOLD with a site-specific recovery band.

2

INSTRUMENTED PILOT

Three-week baseline, controlled installation and at least two weeks of measured operation.

Exit: agreed recovery, cooling and fan-energy limits are met.

3

MULTI-TOWER ROLLOUT

Standard configuration per tower class, common installation pack and WaterOS live before testing.

Exit: repeatable verified performance across the selected tower group.

ECOVAPURE IN THE FIELD



EID Parry



MRF - Trichy



Jamna Auto

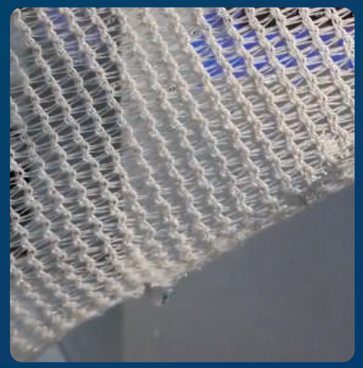


PGP - Gujarat

At ₹150/kL, base-case payback is 1.4-2.6 years

The most attractive first sites combine stable recovery conditions with high effective water cost.

PAYBACK (YEARS)	₹100/kL	₹150/kL	₹200/kL	₹250/kL
Small	4.00	**2.58**	1.90	1.51
Medium	2.79	**1.81**	1.34	1.06
Large	2.18	**1.42**	1.05	0.84







MODEL BASIS

- 330 operating days/year
- Total upfront = hardware + ₹2L WaterOS
- Base recovery: 10 / 20 / 40 kL/day
- Annual O&M/energy allowance: ₹0.3L / ₹0.5L / ₹0.8L
- Civil works and tax excluded

SCREENING RULE *Prioritise sites at or above ₹150/kL effective water cost and target a site-specific payback below three years.*

Patented Technology. Global Recognition.

Advancing cooling-tower water recovery through research collaboration and industrial deployment.

EARTH FOKUS

PATENT GRANTED


The Patent Office, Government Of India
Patent Certificate
EARTH-FOKUS EARTHWISE PRIVATE LIMITED
AN ADAPTABLE EVAPORATED WATER RECOVERY SYSTEM FOR COOLING TOWERS
AN ADAPTABLE EVAPORATED WATER RECOVERY SYSTEM FOR COOLING TOWERS

Adaptable Evaporated Water Recovery System for Cooling Towers

Designed to capture and collect water from cooling-tower exhaust for reuse.

RECOGONISED GLOBALLY

uplink | WORLD ECONOMIC FORUM

UpLink - World Economic Forum
Water Resliance Challenge Winner

isle

Isle Utilities
TAG Group - Innovator

IMAGINE H2O

Imagine H20 Accelrator
Cohort 7 Member



Cii - National Water Award Innovative Water Saving Product (2025 winner)

COLLABORATORS

INDIAN INSTITUTE OF TECHNOLOGY MADRAS

ICCW INTERNATIONAL CENTRE FOR CLEAN WATER

Akamai

PRODUCT ROADMAP

MVP · TRL 5
Prototype testing

→

Modular Design
Standardised, adaptable modules

→

Field Validation
Verify performance across sites

→

Industrial Scale
Assisted recovery for larger towers

Patented Technology. Global Recognition.

A small team combining product vision, business execution, and field deployment.



Arun Subramanian

Founder & MD

8+ years · Product Engineering

Leads company vision, innovation and strategic partnerships.



Rishi Vandhan

Co-Founder & CEO

10+ years · Finance & Business

Leads strategy, enterprise sales, and go-to-market execution.



Siva T

Product Execution Lead

7+ years · Water & Treatment

Leads site deployment, field validation, and customer coordination.



15 **People**

TOTAL TEAM

Spanning product, engineering, deployment, and commercial functions.

ADVISORS

Kasturi

35+ years in smart water management and IoT · Water infrastructure and digital systems expert

Prof. Pallab Sinha Mahapatra

IIT Madras · Research collaboration on cooling-tower water recovery, experimental validation and product development.

EcoVapure’s Next Industrial Pilots

We’re seeking industrial sites and technical partners to advance cooling-tower water recovery.

Host a pilot

- Operating evaporative cooling towers with regular cooling demand.
- A priority to reduce make-up water consumption.
- Site access and engineering support for a measured field trial.

Support development and deployment

- Product engineering and performance validation.
- Installation and commissioning.
- Access to industrial sites and customers.

Priority industries

- Power Generation
- Chemicals & Petrochemicals
- Pharmaceuticals
- Food & Beverages
- Metals & Mining
- Pulp & Paper
- General Manufacturing

Our focus: *Facilities operating evaporative cooling towers, with suitable conditions for a measured water-recovery pilot.*

Pilot with us. Partner with us*. Help turn cooling tower plume into measurable water recovery.*

EARTH FOKUS

Recover Water. Reduce Make-Up. Prove the Impact.

EcoVapure brings water recovery, monitoring, and measurable performance together for industrial cooling towers.

PATENT GRANTED
Protected recovery architecture

COOLING-FIRST
Acceptance before recovery

WATEROS VERIFIED
Measured water-energy balance

TRL 5
Tested in Real world conditions

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