

UV Disinfection Systems

ANMD-MRS10-099 · Water & Environmental Technologies

A Global Sustainability Due Diligence & Market Research Study

History 2020–2024 · Base Year 2025 · Forecast 2025–2032 · Outlooks 2035 / 2040 / 2050 · Currency US\$

WHY THIS REPORT

UV disinfection systems inactivate pathogens in water without chemicals — using ultraviolet light from low-pressure, medium-pressure, amalgam and emerging UV-LED sources, and advanced oxidation for micro-pollutant destruction. This decision-grade study sizes the global market three ways — value, treatment capacity (MLD) and units — across UV technology, lamp type and application, across seven regions and four scenarios to 2032, with outlooks to 2050.

SUSTAINABILITY & SDG IMPACT — THE ANMD LENS

Sustainability is this report's backbone, not an afterthought. UV disinfection protects health without chemical by-products and enables safe reuse, advancing water security and quality.

Mapped Sustainable Development Goals:

SDG 6 Clean Water & Sanitation	SDG 9 Industry, Innovation & Infrastructure	SDG 11 Sustainable Cities & Communities	SDG 12 Responsible Consumption	SDG 13 Climate Action
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Measurable sustainability outcomes assessed:

- Pathogen inactivation without disinfection by-products
- Micro-pollutant removal via advanced oxidation
- Compact, reliable, chemical-free barrier
- Lamp energy, mercury-lamp disposal and e-waste as material risks

Framework alignment: Double materiality mapped to GRI, SASB, ISSB, TCFD, TNFD, CSRD and the EU Taxonomy, with greenwashing and SDG-washing screens applied throughout.

WHAT'S INSIDE AT A GLANCE

53 Chapters	9 Report Parts	7 Regions Covered	40+ Country Markets
2025–32 Forecast Horizon	4 Forward Scenarios	25+ Companies Profiled	5 SDGs Mapped

REPORT COVERAGE

Geographic scope: North America, Europe, Asia Pacific, Latin America, Africa, Middle East and Rest of World — with named country intelligence. North America leads installed base; Europe drives micro-pollutant UV-AOP; Asia Pacific scales fastest; other regions assessed on their own merits.

MARKET OVERVIEW

From drinking-water add-on to multi-purpose barrier — where chemical-free UV tackles pathogens and micro-pollutants.

UV disinfection is moving from a drinking-water add-on to a core multi-purpose treatment barrier. Demand is driven by chemical-free disinfection, micro-pollutant rules and water reuse across North America, Europe and Asia Pacific. The market is read three ways — value, treatment capacity and units — and forecast under four scenarios, each region reported separately.

- **North America leads installed base** — United States and Canada, on drinking-water and wastewater UV adoption and tightening standards
- **Europe drives micro-pollutant UV-AOP** — Germany, Switzerland and the Netherlands, where advanced oxidation tackles trace contaminants
- **Asia Pacific scales fastest** — China, India and Japan, combining urban water investment with reuse and industrial demand
- **UV-LED is the emerging differentiator** — mercury-free, instant-on diodes open compact point-of-use and decentralised applications

REGIONAL OUTLOOK

Across seven reporting regions, the report separates leading markets from high-growth and emerging ones — each profiled in full rather than aggregated into Rest of World.

Region	Stage	Lead Markets & Drivers
North America	Installed-base leader	United States, Canada — drinking-water & wastewater UV, reuse
Europe	UV-AOP leader	Germany, Switzerland, Netherlands — micro-pollutant UV-AOP
Asia Pacific	Fastest growth	China, India, Japan — urban water, reuse, industry
Middle East	Reuse-led	Saudi Arabia, UAE — reuse disinfection, sovereign projects
Latin America	Emerging	Brazil, Chile — municipal & industrial disinfection
Africa	Frontier	South Africa, Egypt — drinking-water & reuse disinfection

KEY MARKET DRIVERS & RESTRAINTS

Drivers	Restraints
<ul style="list-style-type: none"> • Chemical-free disinfection demand • Disinfection by-product avoidance • Micro-pollutant & reuse regulation • UV-LED & amalgam efficiency gains • Water-reuse & wastewater UV adoption 	<ul style="list-style-type: none"> • Lamp energy use & replacement • Mercury-lamp regulation & disposal • No residual disinfection downstream • Fouling & water-clarity dependence • UV-LED cost & efficiency limits

SEGMENTATION SNAPSHOT

By UV Technology	Low-pressure · medium-pressure · UV-LED · UV-AOP (advanced oxidation) · amalgam-lamp
By Lamp Type	Mercury low-pressure · medium-pressure · amalgam · LED
By Application	Municipal · industrial · commercial & residential
By End User	Utilities · municipalities · industry · buildings
By Business Model	Equipment sales · EPC · Water-as-a-Service
By Scale	Decentralised · commercial · municipal / utility-scale

TABLE OF CONTENTS — PARTS & CHAPTERS

The full report is organised into nine parts across 53 chapters, listed below. Detailed sub-headings, country tables and directories are provided in the full report.

Part I — Report Foundation, Discovery and Strategic Intelligence

- › Chapter 1. Scope, Methodology and Report Architecture
- › Chapter 2. Industry Discovery Summary — UV Disinfection Systems
- › Chapter 3. Executive Intelligence and Decision Dashboard
- › Chapter 4. Strategic Findings, Materiality and Investment Verdict Preview

Part II — Market Intelligence, Sizing, Forecasting and Segmentation

- › Chapter 5. Industry Overview and Market Evolution
- › Chapter 6. Market Dynamics
- › Chapter 7. Global Market Size and Forecast, 2020–2032
- › Chapter 8. Market Segmentation Analysis
- › Chapter 9. End-User and Demand-Side Intelligence
- › Chapter 10. Pricing, Cost and Commercial Model Intelligence

Part III — Regional and Country Intelligence

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- › Chapter 12. North America Market Intelligence
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- › Chapter 18. Rest of World Market Intelligence

Part IV — Technology, Innovation and Category-Specific Intelligence

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- › Chapter 20. Emerging and Next-Generation Technology Intelligence
- › Chapter 21. Category-Specific Intelligence Module
- › Chapter 22. Research, Innovation and Funding Landscape

Part V — Company, Competition, Patent and Project Intelligence

- › Chapter 23. Competitive Landscape
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- › Chapter 25. Mergers, Acquisitions, Partnerships and Ecosystem Intelligence
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- › Chapter 27. Project, Deployment and Case-Study Intelligence

Part VI — Sustainability, ESG, SDG, Climate and Natural-Capital Intelligence

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- › Chapter 38. Policy, Regulation and Incentive Intelligence
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- › Chapter 41. Investment, Sustainable Finance and Bankability Intelligence

Part VIII — Scenario, Future Intelligence and Final Due Diligence Verdict

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- › Chapter 44. Risk Register, RAG Rating and Anti-Greenwashing Screen
- › Chapter 45. Bottom-Line Verdict and Strategic Recommendations
- › Chapter 46. Implementation Roadmap and Stakeholder Playbooks

Part IX — Annexes, Directories and Reference Material

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- › Chapter 48. Corporate Directory and Company Intelligence Annex
- › Chapter 49. Patent Directory and Patent Intelligence Annex
- › Chapter 50. Project Intelligence Annex
- › Chapter 51. Forecast Annex
- › Chapter 52. Sustainability KPI Annex
- › Chapter 53. Reference Annexes

COMPETITIVE & INVESTMENT SNAPSHOT

The competitive field spans global UV majors, advanced-oxidation specialists, and emerging UV-LED innovators. Deal activity — UV-LED launches, UV-AOP projects and reuse-disinfection contracts — signals a market consolidating around chemical-free, validated treatment.

Representative players profiled in the full report:

Xylem Inc. (Wedeco) · Veolia Environnement S.A. (Trojan Technologies) · Halma plc (Berson / Hanovia) · Atlantium Technologies Ltd. · Kuraray Co., Ltd. (Calgon Carbon) · and 20+ further profiled players.

Investment intelligence: venture, infrastructure, development, climate and blended finance, green bonds and sustainability-linked loans — culminating in a bankability assessment and a conditional investment view.

KEY QUESTIONS THIS REPORT ANSWERS

- How large is the global UV disinfection market, and how fast will it grow to 2032?
- Which regions, countries and segments offer the strongest risk-adjusted opportunity?
- How does UV-LED change the addressable market versus mercury-lamp systems?
- Who leads, and where is the competitive and patent white space?
- Is the investment case bankable — and under what conditions?
- How does the category align with the SDGs, water quality and disclosure regulation?

WHY ANMD — THE DIFFERENCE

Most market studies stop at units and revenue. This report is built as a sustainability due diligence instrument — fusing market sizing with ESG, SDG, climate, water and natural-capital intelligence and a decision-ready bankability view in a single architecture.

- **Triangulated sizing** — every market read three ways so value, volume and the physical-unit views reconcile rather than conflict.
- **Region-honest forecasting** — Latin America, Africa and the Middle East reported in full, never hidden inside Rest of World, every forecast resolved to the 2025 base year.
- **Integrated evidence base** — company, patent and project databases linked to the analysis, with published-filing patents and FTO treated as an indicator, not a legal conclusion.
- **No-fabrication discipline** — every estimate carries a data-confidence rating and disclosed sources; gaps are flagged for further diligence, never filled with invented numbers.
- **Anti-greenwashing rigour** — SDG-washing and greenwashing screens plus claim-substantiation checks built into the ESG and project analysis.
- **Decision-first structure** — 9 Parts and 53 Chapters culminating in stakeholder playbooks and a clear, conditional investment view.

WHO SHOULD BUY THIS REPORT

Investors, manufacturers, developers, utilities, lenders and policymakers, and strategic corporate planners and decision-makers.

Access the Full Report

The complete report delivers all 53 chapters in full, with every sub-heading, country table, company and patent directory, forecast model and due diligence checklist.

Purchase at www.anewmarketdynamics.com · Standard & Premium licences · Single-Site (SSL) and Global-Site (GSL) options at checkout.

Want the Complete Detailed Table of Contents?

This prospectus lists the nine parts and 53 chapters. The complete detailed table of contents — every sub-heading, country table, exhibit, company and patent directory and annex — is available on request to registered users. To receive it, register with your official company email at www.anewmarketdynamics.com. The full detailed table of contents will be sent directly to your registered company email address.