

# Magnetic Water Treatment

## A Unifying Technology for Global Sustainability

### Aligning with Continental Sustainability & Development Frameworks:

Magnetic Water Treatment (MWT) offers a forward-looking, non-chemical approach to water management—one that aligns seamlessly with continental sustainability and development agendas. Its ability to enhance water quality without additives makes it a scalable solution for diverse geographies and policy environments.

MWT delivers a rare synthesis of economic efficiency, ecological restoration, and social impact. By addressing multiple objectives—resource optimization, pollution reduction, and infrastructure resilience—it supports the integrated priorities of governments, industries, and communities alike.

Whether in agriculture, manufacturing, or urban planning, MWT adapts to local realities while advancing global goals. It is not merely a technology—*it is a strategic enabler for 21st-century water stewardship.*



### Cross-Cutting Policy Benefits

MWT acts as a cross-cutting enabler for critical global challenges:

- **Climate Action:** Reduces energy consumption and minimizes environmental impact.
- **Food Security:** Improves agricultural productivity through better water quality.
- **Economic Development:** Extends infrastructure lifespan and reduces operational costs.

(MWT supports policymakers in achieving targets related to carbon neutrality, water security, and sustainable agriculture).

### From Local Solutions to Global Impact

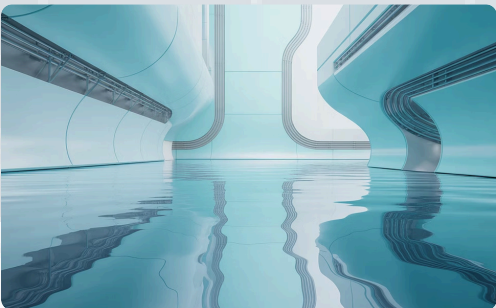
From India's irrigation fields to Africa's rural water schemes, from South America's agro-industries to North America's smart cities — Magnetic Water Treatment is redefining how the world thinks about water performance and resilience. The technology's scalability means it serves equally well whether installed in a small village water system serving hundreds or a major industrial complex using millions of gallons daily.

This universality, combined with minimal operational complexity, makes MWT accessible to diverse stakeholders regardless of technical capacity or resource availability.



#### Economic Prudence

Reduces OPEX through lower chemical, energy, and maintenance costs. Decreases CAPEX by extending equipment lifespan. Achieves typical payback periods of 12-24 months.



#### Environmental Stewardship

Enables chemical-free operation, eliminating hazardous discharge. Saves carbon through reduced energy and chemical production. Supports water reuse and resource recovery.



#### Public Service Excellence

Improves universal water access and public health outcomes. Strengthens national sustainability goals and climate commitments. Enhances water security and resilience.

### Strategic Alignment with Global Frameworks

**Magnetic Water Treatment (MWT)** emerges as a **unifying enabler** of global water-energy-food nexus goals — bridging regional frameworks under a single sustainability logic: Supports key initiatives such as:

- **EU Green Deal:** Contributing to climate neutrality and circular economy goals.
- **India's Jal Jeevan Mission:** Enhancing water security and quality across communities.
- **Africa's Agenda 2063:** Fostering sustainable development and resource management.
- **Saudi Vision 2030:** Driving economic diversification and environmental protection.

**Less Energy. Less Chemicals. More Life per Drop.**





# Africa:

## Agenda 2063 & Continental Water Strategies

Africa's transformative **Agenda 2063** envisions a prosperous, integrated continent with high living standards and sustainable resource management. Magnetic Water Treatment (MWT) powerfully aligns with this vision, offering affordable solutions to critical water challenges.

With agriculture employing over 60% of Africa's workforce and contributing significantly to GDP, enhancing water-use efficiency directly drives economic growth, food security, and poverty reduction across the continent. The African Union's **Comprehensive Africa Agriculture Development Programme (CAADP)** aims to modernize agriculture and achieve 6% annual agricultural growth.



MWT supports this objective as it greatly enhances yields and nutritional content in food produce. Its benefits are significant, and compliments Animal husbandry & Fishery sectors too. Benefits:

- Enhances yields by 35% to 100%
- Reduces fertilizer & Pesticide usage by 50% to 70%
- Reduces water usage by 30%. Proportionately saves enerfy cost for pumping water.
- Facilitates usage of unsuitable hard water ( Upto 12 E.C), to cultivate even salt-intolerant crops.
- Compliments Drip and Sprinkler systems usage as they function efficiently without scaling related issues.
- Increases meat and milk yields with reduced feed usage.

The technology's unique ability to improve yields while reducing input costs creates immediate economic benefits for farming communities.

### African Water Vision 2025

**Equitable Water Use:** Enables low-cost decentralized water treatment suitable for rural communities and peri-urban settlements across the continent



### Climate Change Strategy

Africa's Climate Change Strategy (2022–2032) emphasizes building drought resilience. MWT improves soil moisture retention by 20–35% and enhances crop water productivity, helping communities adapt to increasingly variable rainfall patterns and extended dry seasons.



### AfCFTA Framework

The African Continental Free Trade Area strengthens intra-African trade. MWT provides low-cost water treatment for industrial sectors including food processing, textiles, and manufacturing, improving product quality and competitiveness across borders.



### Green Stimulus Programme

Africa's Green Stimulus Programme focuses on green recovery and job creation. MWT deployment creates employment opportunities through clean water retrofits, agritech installation, and maintenance services while building local technical capacity.



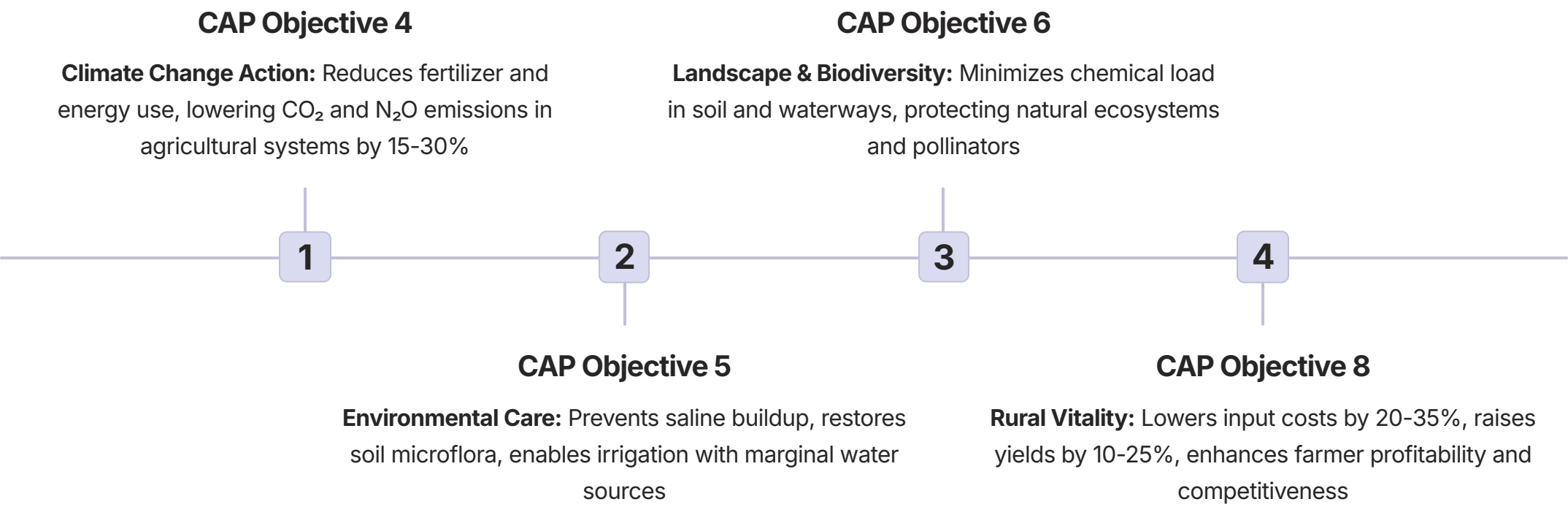
# European Union:

## CAP, Green Deal & Circular Economy Goals

The European Union's ambitious climate and environmental policies present extraordinary opportunities for Magnetic Water Treatment integration. MWT aligns directly with the Common Agricultural Policy (CAP) 2023-2027, which allocates over **€387 billion** toward sustainable farming.

This technology supports the EU's legally binding targets under the Green Deal, including the Farm to Fork Strategy's goals of reducing pesticide use by **50%** and fertilizer use by **20% by 2030**.

By improving nutrient uptake efficiency and soil health, MWT enables farmers to maintain or increase yields while dramatically cutting chemical inputs.



### Green Deal Integration & Water Framework Directive

The Water Framework Directive's goal of achieving "Good Water Status" across all EU water bodies by **2027** requires innovative solutions.

MWT prevents scale and corrosion in water distribution networks, cutting residue discharge and promoting sustainable water cycles.

This chemical-free approach aligns with the EU's precautionary principle and supports member states in meeting stringent environmental standards, reducing chemical pollution while maintaining economic viability.

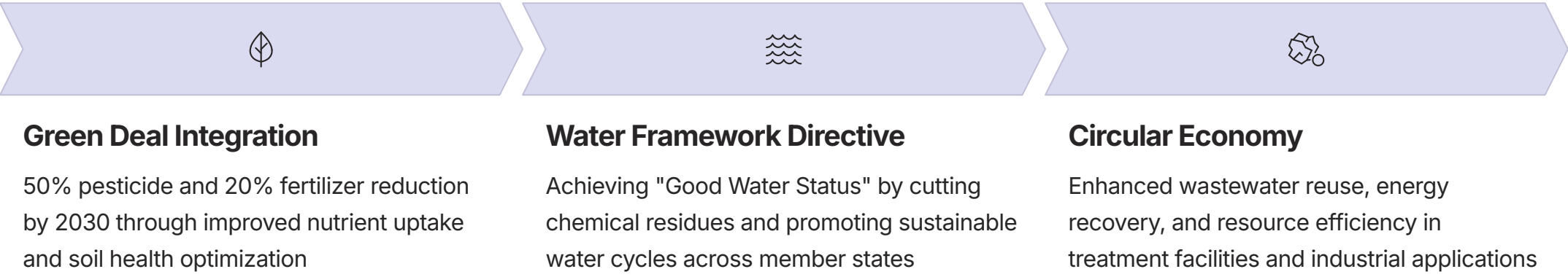


### Circular Economy Action Plan

Under the Circular Economy Action Plan, MWT enhances wastewater reuse capabilities and energy recovery in treatment facilities.

By improving biogas production and increasing sludge recovery, the technology contributes to resource efficiency and waste minimization goals.

With the EU Emissions Trading System expanding to agriculture, MWT's capacity to reduce energy consumption and lower greenhouse gas emissions creates pathways for carbon credit generation and climate finance.





# North America:

## Sustainability, Climate-Smart Agriculture & Infrastructure Resilience

North America's mature regulatory frameworks and ambitious climate commitments create strong policy drivers for Magnetic Water Treatment adoption. The United States, Canada, and Mexico have established comprehensive environmental standards, agricultural sustainability programs, and infrastructure modernization initiatives that MWT directly supports.

With North American agriculture representing a **\$400 billion sector** and industrial water use exceeding **15 billion gallons daily**, even modest efficiency improvements translate to substantial economic and environmental benefits.



### EPA Clean Water Act

Maintaining the integrity of national waters requires reducing chemical discharge and preventing pollution. MWT eliminates chemical treatment needs, cutting toxic residues by **90-100%** while preventing scale and corrosion damage. This supports compliance with discharge permits and protects sensitive aquatic ecosystems.



### USDA Climate-Smart Agriculture

The U.S. Department of Agriculture's climate-smart initiatives provide funding for practices that sequester carbon and reduce emissions. MWT enhances crop hydration efficiency by **15-30%**, improves nutrient uptake, and reduces fertilizer runoff—qualifying for climate-smart commodity programs and conservation incentive payments while improving farm profitability.



### DOE Industrial Decarbonization

The Department of Energy's Industrial Decarbonization Roadmap targets emission reductions across manufacturing sectors. MWT improves cooling system efficiency in power plants, refineries, and chemical facilities, cutting electricity consumption by **10-25%** and reducing Scope 2 emissions. This supports corporate sustainability commitments and regulatory compliance.

### Canada Federal Sustainable Development Strategy

Canada's FSDS promotes clean, sustainable industries through technology adoption and best practices. MWT reduces the chemical footprint in food processing, energy production, and mining operations—sectors critical to Canada's economy. The technology aligns with provincial water stewardship programs in British Columbia, Alberta, and Ontario, where water quality protection is a top priority.



### North American Water Reuse Action Plan

The trilateral Water Reuse Action Plan aims to expand safe water reuse across borders, addressing scarcity in the southwestern United States and northern Mexico. MWT increases performance and lifespan of treatment plants by preventing scaling in membrane systems and improving biological treatment efficiency, making reuse economically viable at scale.



### California Water Resilience Portfolio

California's WRP addresses the state's chronic water challenges through diversified strategies including conservation, reuse, and drought resilience. MWT enables productive use of saline groundwater and brackish sources, reducing freshwater stress. The technology has demonstrated **25-40% water savings** in California agriculture, helping growers maintain production during severe droughts while complying with the Sustainable Groundwater Management Act.





# Middle East:

## Water Security & Vision 2030 Frameworks

### Vision 2030: Strategic Water Transformation

Water scarcity profoundly shapes the Middle East's development and strategic priorities. With less than 1% of global freshwater resources supporting 6% of the world's population, innovative water management isn't just an option—it's essential for survival.

Nations across the Gulf Cooperation Council (GCC) and the wider Middle East have initiated ambitious national visions that prioritize water security, backed by over \$200 billion in water infrastructure investments planned for the next decade.

**Magnetic Water Treatment (MWT) offers transformative potential to address multiple critical needs within this context.**

#### GCC Water Security Strategy (2023–2035)

Securing sustainable water supplies through improved desalination efficiency and reduced scaling in thermal and membrane systems, extending plant lifespan by 30-40%

#### Saudi Vision 2030 – Water Transformation Plan

Optimizing national water resources by cutting energy costs in desalination plants by 20-30% and extending pipeline and distribution network lifespan

#### UAE Water Security Strategy 2036

Achieving 100% water security index through enhanced reuse capacity, minimized chemical dependence, and improved water quality across all sectors

#### Qatar National Vision 2030

Sustainable natural resource management via improved irrigation efficiency for landscaping and agriculture, plus enhanced reclaimed water quality



### Innovative Water Infrastructure & Desalination

Desalination plants are vital but energy-intensive, with reverse osmosis systems consuming up to 4 kWh per cubic meter.

Magnetic Water Treatment (MWT) prevents fouling in RO membranes and scaling in thermal desalination units, significantly reducing energy consumption and the need for frequent chemical cleaning.

This technology can extend membrane life by 40-60%, Reduce chemical usage by 50% and minimize energy consumption by upto 30%, leading to millions in savings and a reduced environmental impact from membrane disposal.

For a region heavily reliant on carbon-intensive electricity generation, these energy savings are crucial for achieving decarbonization goals.



The Middle East Green Initiative, launched at COP27, underscores regional commitment to climate action, including emissions reduction and reforestation.

MWT supports these goals by eliminating chemical-based treatment processes, reducing carbon footprints in industrial cooling systems, and enabling wastewater reuse for critical landscape irrigation and urban greening projects in arid climates.

Moreover, the chemical-free nature of MWT protects the sensitive marine ecosystems of the Arabian Gulf, Red Sea, and Mediterranean from the ecological concerns associated with desalination brine discharge.



# South America:

## Low-Carbon Growth & Ecological Transition

South America's rich agricultural heritage and biodiversity make environmental sustainability both an economic imperative and an ecological responsibility. The continent accounts for significant global food production, yet faces mounting pressure to reduce greenhouse gas emissions while maintaining productivity.

Magnetic Water Treatment offers a pathway to achieve both objectives, supporting the region's transition to low-carbon agriculture while preserving its invaluable ecosystems including the Amazon rainforest, Andean watersheds, and Pantanal wetlands.



### Brazil's ABC+ Programme

Brazil's Low Carbon Agriculture (ABC+) Programme targets a 1.1 billion ton reduction in agricultural GHG emissions by 2030.

MWT contributes by cutting fertilizer inputs by 50%-70%, significantly reducing nitrous oxide (N<sub>2</sub>O) emissions—a greenhouse gas 300 times more potent than CO<sub>2</sub>.

The technology also improves soil carbon balance through enhanced organic matter retention and reduced chemical disruption to soil microbiomes, supporting carbon sequestration in agricultural lands.



### Mercosur Environmental Framework

The Southern Common Market (Mercosur) is harmonizing environmental standards across member states to facilitate sustainable trade.

MWT reduces chemical residues in agricultural products and industrial wastewater, helping producers meet stringent eco-certification requirements for export markets in Europe, Asia, and North America.

This chemical-free approach aligns with consumer demand for sustainably produced goods and strengthens the region's competitive position in global markets.

### Andean Community Environmental Agenda



The Andean region faces unique challenges with water scarcity and soil salinization at high altitudes. MWT enables productive use of saline groundwater sources that would otherwise be unusable, preventing soil salinization and expanding cultivable areas. This is particularly valuable for indigenous communities practicing traditional agriculture in water-stressed environments.

### Amazon Basin Conservation Plan



Protecting the Amazon's biodiversity and hydrological balance requires minimizing agricultural runoff. MWT reduces fertilizer and pesticide requirements by 50-70%, dramatically cutting nutrient and chemical pollution entering rivers and streams. This protects aquatic ecosystems while maintaining agricultural productivity in buffer zones.

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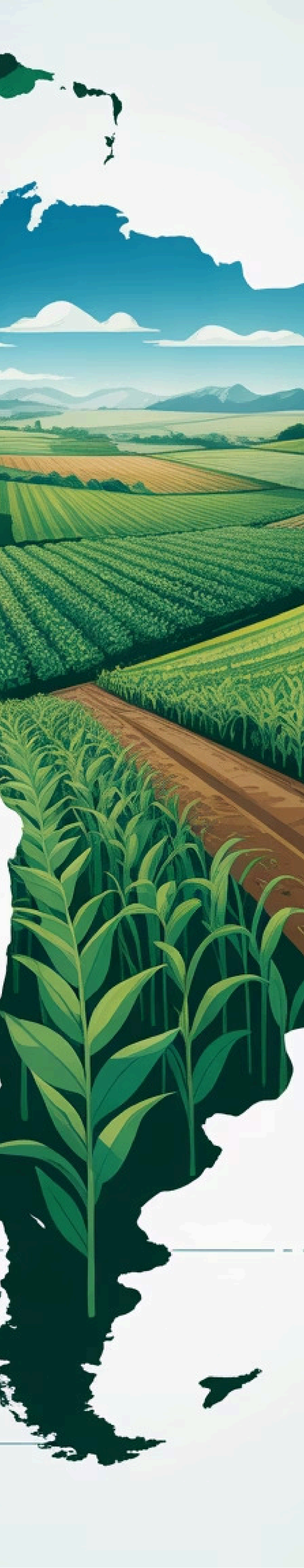
### Circular Economy Coalition

Latin America's Circular Economy Coalition promotes closed-loop production systems. MWT enhances wastewater reuse in food processing, textiles, and manufacturing, while improving energy recovery from biogas production—key elements of circular economy models.

2

### NDC Commitments

Countries' Nationally Determined Contributions under the Paris Agreement require measurable emissions reductions and adaptation measures. MWT delivers on both fronts: cutting energy consumption by 15-25% in water systems while improving drought resilience through better soil moisture management.



# India & South Asia:

## National Missions & Regional Sustainability Frameworks

India's comprehensive water and agriculture policies create an ideal ecosystem for Magnetic Water Treatment adoption. The technology directly supports the government's flagship programs aimed at universal water access, agricultural modernization, and climate resilience.

With over 19 crore rural households targeted under Jal Jeevan Mission and millions of farmers benefiting from irrigation schemes, MWT offers a cost-effective solution to extend infrastructure life and reduce operational expenses across vast networks.



**Jal Jeevan Mission**  
Universal safe drinking water supply

- Reduces scaling in pipelines
- Lowers disinfectant requirements
- Extends infrastructure life by 30-40%



**PMKSY**  
"More Crop per Drop" efficiency

- Prevents drip system clogging
- Improves water use efficiency by 30%
- Reduces maintenance costs



**NMSA**  
Climate-resilient farming systems

- Enables saline water use
- Improves soil health naturally
- Reduces agrochemical dependence

The South Asian region faces unique challenges including groundwater salinity, hard water issues, and energy constraints in irrigation systems. MWT addresses these challenges by enabling the productive use of marginal water sources, reducing pump energy consumption by up to 30% due to reduced irrigation needs, and improving soil health through better water quality. This aligns perfectly with the regional emphasis on climate-smart agriculture and sustainable water management under frameworks like SACEP.

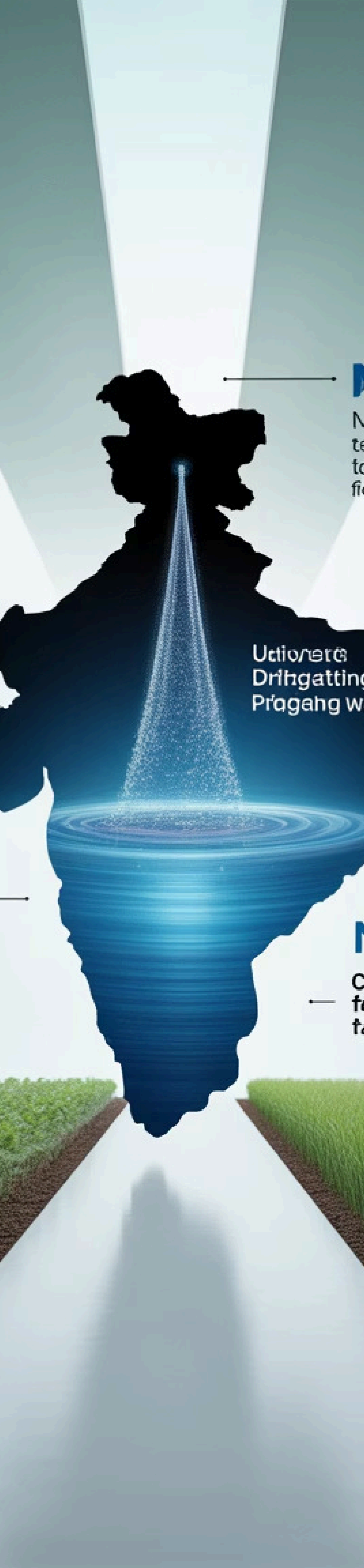
**PM-KUSUM Scheme**  
Solar-powered sustainable irrigation enhancement through pump efficiency improvements and reduced energy consumption from minimized scale formation in systems

**Swachh Bharat Mission**  
Sanitation and wastewater treatment optimization by increasing biogas yield, reducing sludge volume, and improving treatment plant operational efficiency

**National Water Mission**  
Integrated water resource management supporting chemical-free treatment and reuse, perfectly aligned with India's "Catch the Rain" conservation campaign

**SACEP (South Asia Co-operative Environment Program) Framework** Regional cooperation in water sustainability offering scalable, low-energy treatment options suitable for shared water basins across South Asia.  
  
This program supports technologies like Magnetic Water Treatment (MWT) because they offer Scalability, Low energy requirements, Cross-border applicability. Importantly supports multiple policy objectives simultaneously:

- water security,
- energy efficiency,
- environment protection.





# One Technology — Many Solutions

## Policy Integration for a Sustainable Future

Magnetic Water Treatment (MWT) offers a versatile solution at the intersection of technological innovation and policy implementation. It advances multiple sustainability objectives simultaneously, aligning with diverse global frameworks. Coming under:

- India's rural water supply missions
- European Union's Green Deal,
- Africa's agricultural transformation
- The Middle East's water security imperatives.

MWT delivers measurable benefits. It addresses universal challenges like climate change, resource scarcity, and environmental protection across continents.



### Climate Action

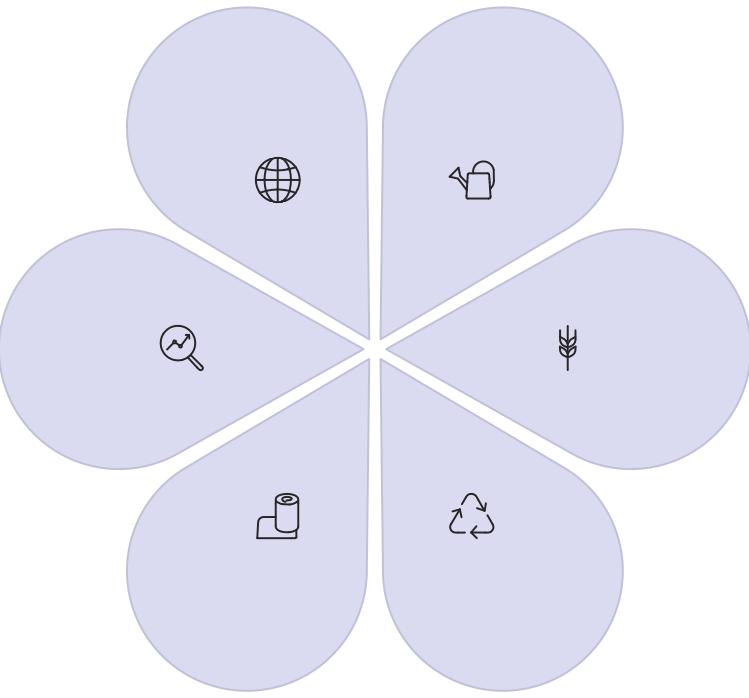
Reduces GHG emissions by 15-30% through lower energy and chemical use

### Economic Growth

Lowers operational costs, creates green jobs, improves competitiveness

### Energy Efficiency

Cuts operational energy consumption by 20-30% across water systems



### Water Security

Extends infrastructure life by 30-40%, enables marginal water use

### Food Systems

Increases yields by 35-100% while reducing agrochemical inputs by 50-70%

### Circular Economy

Enhances wastewater reuse and resource recovery in treatment facilities



MWT's chemical-free, low-energy approach creates powerful synergies across traditionally siloed policy domains, including agriculture, environment, industry, energy, and public health.

By preventing scale formation and improving water quality without chemicals, MWT empowers policymakers to pursue ambitious sustainability targets.

This is achieved while maintaining economic viability and improving quality of life for citizens, showcasing significant cross-sector benefits.

As nations intensify efforts to meet Paris Agreement commitments, Sustainable Development Goals, and domestic climate targets, Magnetic Water Treatment emerges as a practical, scalable tool.

It effectively transforms policy aspirations into operational reality across every sector that depends on water—which is to say, every sector of the modern economy.

"From policy to practice, MWT bridges the gap between sustainability frameworks and implementable solutions—delivering environmental protection, economic benefits, and social progress in one proven technology."





# A Technology That Transcends Borders

**Magnetic Water Treatment** offers a rare convergence of economic, environmental, and social benefits that align with the priorities of governments, industries, and communities worldwide. Its versatility across sectors and adaptability to diverse contexts make it a cornerstone technology for 21st-century water management.



## Economic Prudence

Lower OPEX through reduced chemical, energy, and maintenance costs. Decreased CAPEX by extending equipment lifespan 40-70%. Typical payback periods of 12-24 months create compelling investment cases for both public and private sector adoption.



## Environmental Stewardship

Chemical-free operation eliminates hazardous substance handling and discharge. Carbon-saving through reduced energy consumption and chemical production. Circular economy enabler through improved water reuse and resource recovery systems.



## Public Service Excellence

Supports universal water access and improved public health outcomes. Strengthens national sustainability goals and climate commitments. Enhances water security and resilience against climate-driven water stress and scarcity.

## From Local Solutions to Global Impact

From India's irrigation fields to Africa's rural water schemes, from South America's agro-industries to North America's smart cities — Magnetic Water Treatment is redefining how the world thinks about water performance and resilience.

The technology's scalability means it serves equally well whether installed in a small village water system serving hundreds or a major industrial complex using millions of gallons daily.

This universality, combined with minimal operational complexity, makes MWT accessible to diverse stakeholders regardless of technical capacity or resource availability.



5

Continents

Proven applications across Asia, Africa, Europe, North America, and South America

12+

Sectors

Agriculture, industry, municipalities, environment, and more

50+

Countries

Successful implementations supporting diverse national priorities