

TORAY IR Day

Medium-Term Management Program Project “IGNITION 2028”

# Water Treatment Business

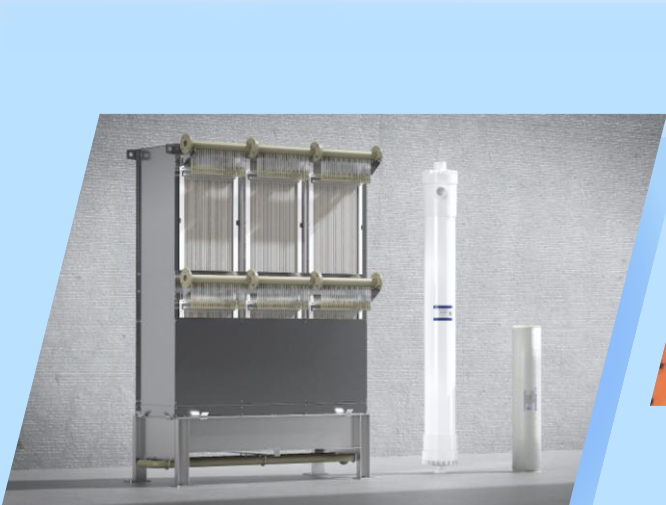
June 8, 2026

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**"IGNITION 2028"**

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**[Explanation of Terms in This Document]**

- IMS: Integrated Membrane System
- LIB: Lithium-Ion Battery
  
- Affiliated Companies and Organization Names  
TBMC: Toray BlueStar Membrane Co., Ltd.  
TMME: Toray Membrane Middle East LLC  
MEWTEC: Middle East Water Treatment  
Technical Center

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I

# Business Overview & Toray's Strengths

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Contributing to better health and improved quality of life by providing safe water, in pursuit of the world Toray aims to create  
**Water Treatment Business is a pillar of Core growth business and Next generation business**

## TORAY VISION 2050

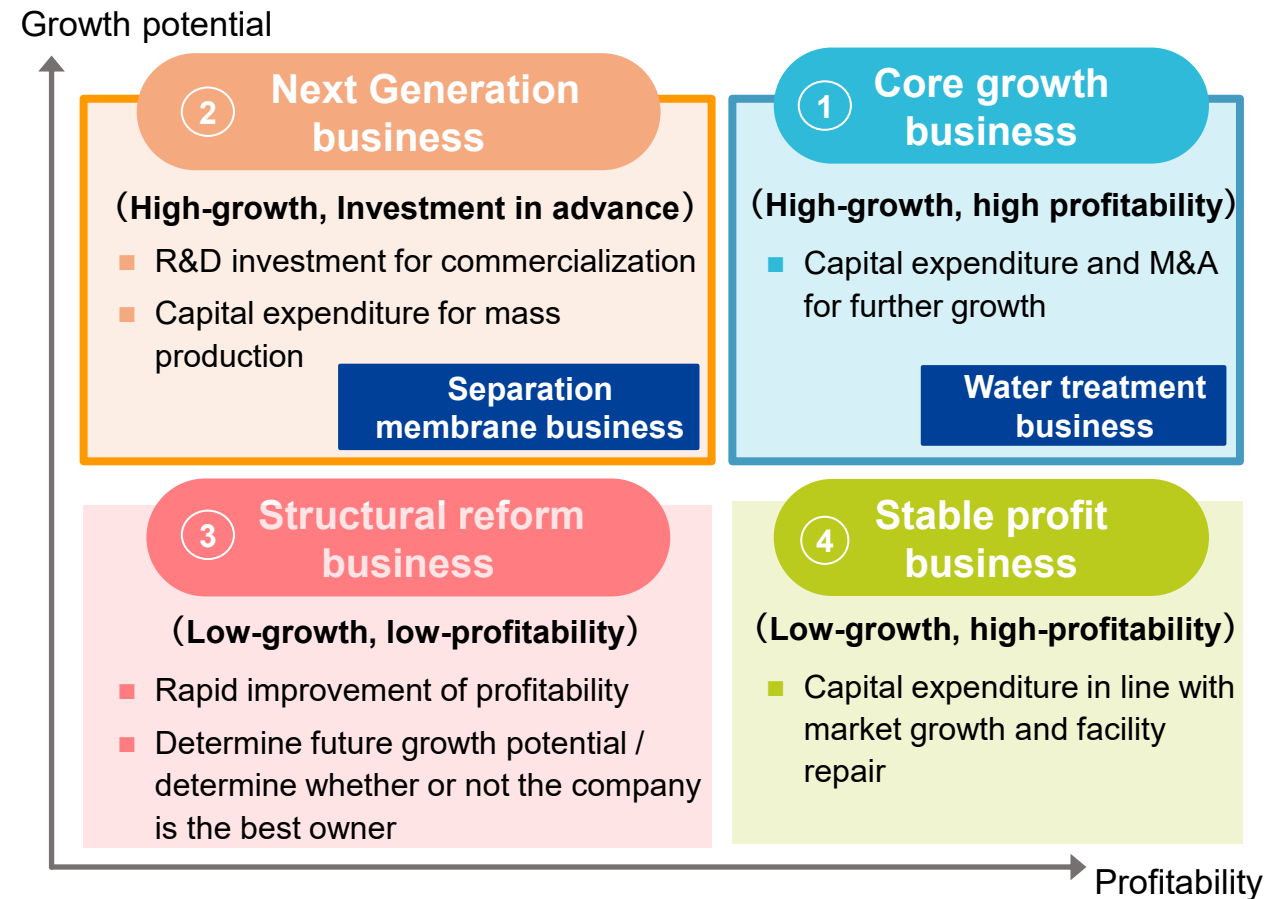
World that Toray envisions in 2050

- 1 A world where people live in harmony with the planet, resources are recycled, and nature regenerates**

Environment | Decarbonizing, Recycling, Air
- 2 A world where prosperity is created and shared in safe and secure societies**

Society | Semiconductor, Space and defense, Mobility
- 3 A world where everyone lives in health and comfort**

People | Water, Healthcare, Comfort



All ranges of membrane products in-house, enabling to provide membranes for various types of raw water  
 A leading water treatment membrane company with fully integrated global operations in production, sales, and technology

## Positioning of Toray's membrane business in the Industry

Membrane Type	Main Use	Position in the Market
RO	<ul style="list-style-type: none"> <li>Seawater Desalination</li> </ul>	<p>No.1 Globally</p>
	<ul style="list-style-type: none"> <li>Ultrapure Water</li> <li>Wastewater Reuse</li> </ul>	
NF	<ul style="list-style-type: none"> <li>Harmful Substance Elimination</li> </ul>	<p>Customized Support</p>
	<ul style="list-style-type: none"> <li>Potable Water</li> </ul>	
UF	<ul style="list-style-type: none"> <li>Pretreatment for Seawater Desalination</li> </ul>	<p>Superior in High Performance, High Durability</p>
MBR	<ul style="list-style-type: none"> <li>Wastewater Treatment</li> </ul>	<p>Superior in High Performance, Easy Handling</p>

## Toray Group's Competitiveness

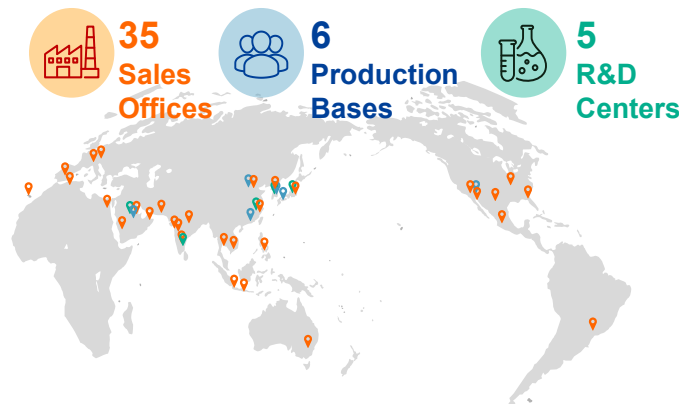
### Accomplishments in Seawater Desalination

- No.1 market share globally (Significant share in the Middle East)
- Have taken a lead in localization in Saudi Arabia, the largest market

### Localization / Global Network

- Global integrated operation system for production, sales, and technology

“Made by Toray” at all locations, in time



### IMS\* proposal

\*Integrated Membrane System

- Wide range of product lineup
- Provide the optimal solution for various water sources and applications

### Product Appeal / Technical Service

- RO:** Started development in the 1960s, became a pioneer in the industry  
 High performance (in removal and durability)  
 ▶ Seamless technical services
- UF:** High durability, high anti-fouling
- MBR:** Ease of operation

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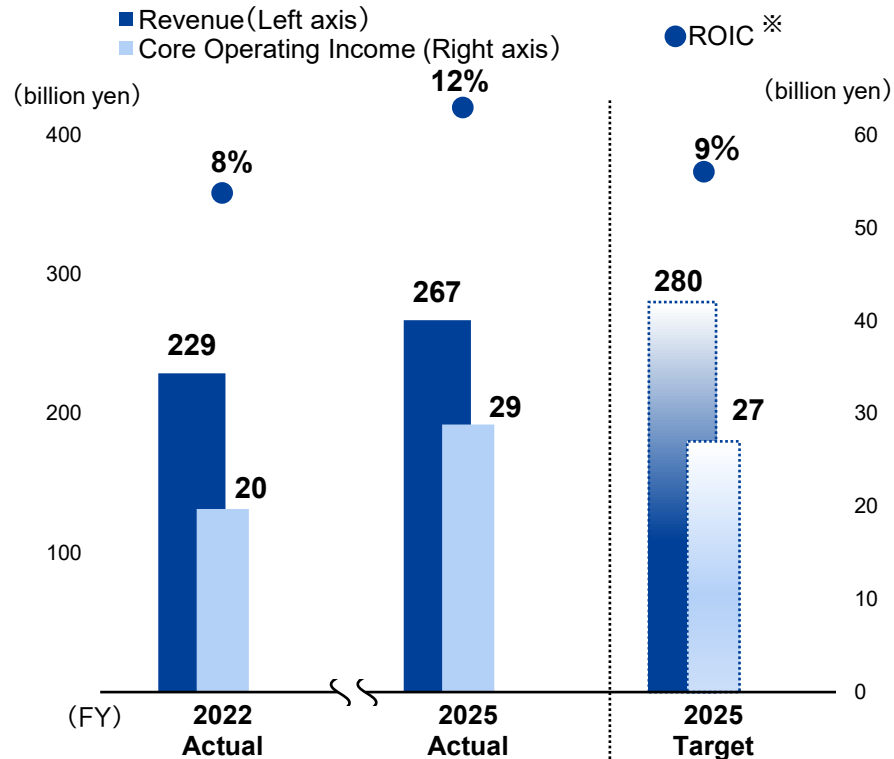
**II**

**Reviewing the Medium-Term  
Management Program  
Project “AP-G2025”**

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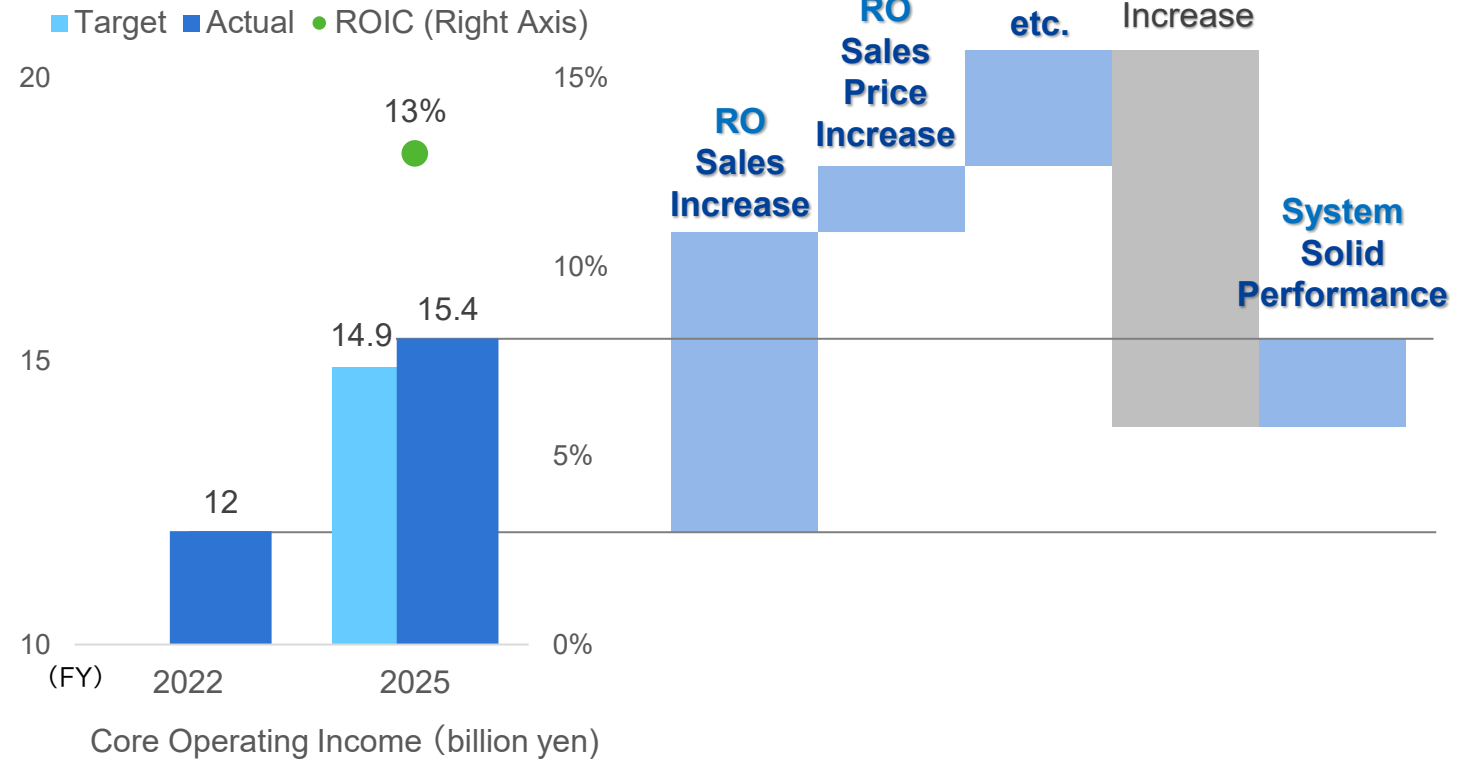
Exceeded targets by capturing growth in RO demand, particularly for seawater desalination  
 Achieved significant profit growth vs. FY2022 and Maintained high ROIC

## Performance Trend (Environment & Engineering segment)



※ ROIC = Core operating income after tax / average invested capital  
 (average of the balances at beginning and end of the period)

## Water Treatment Business



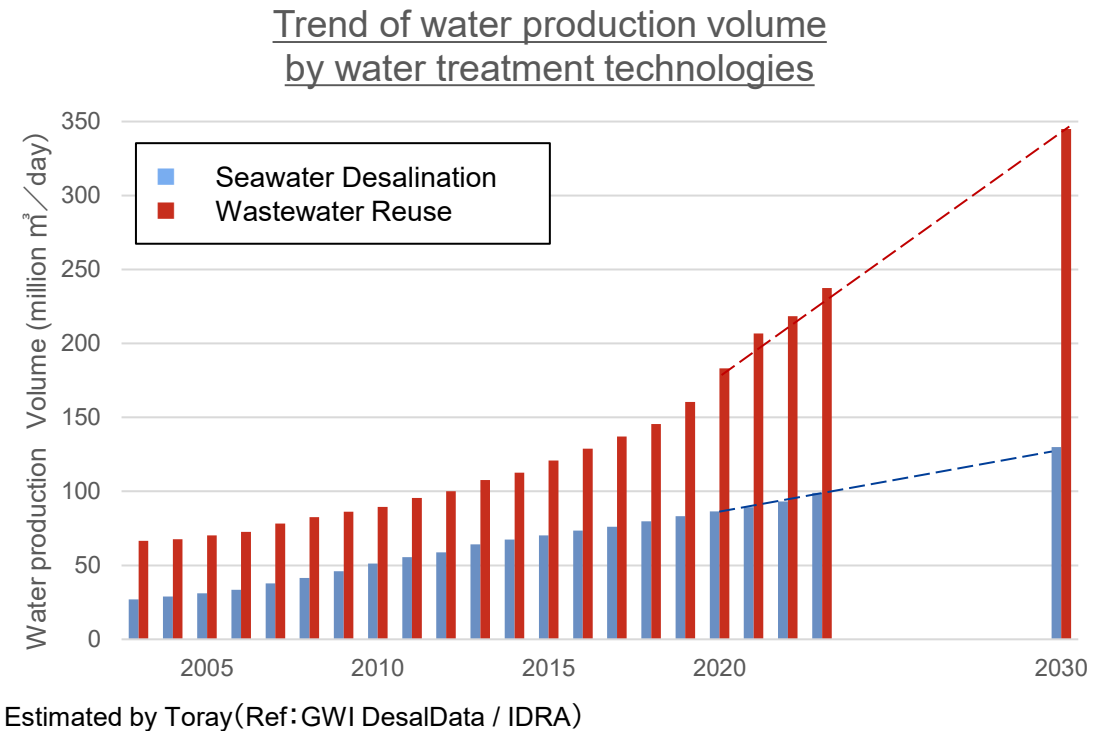
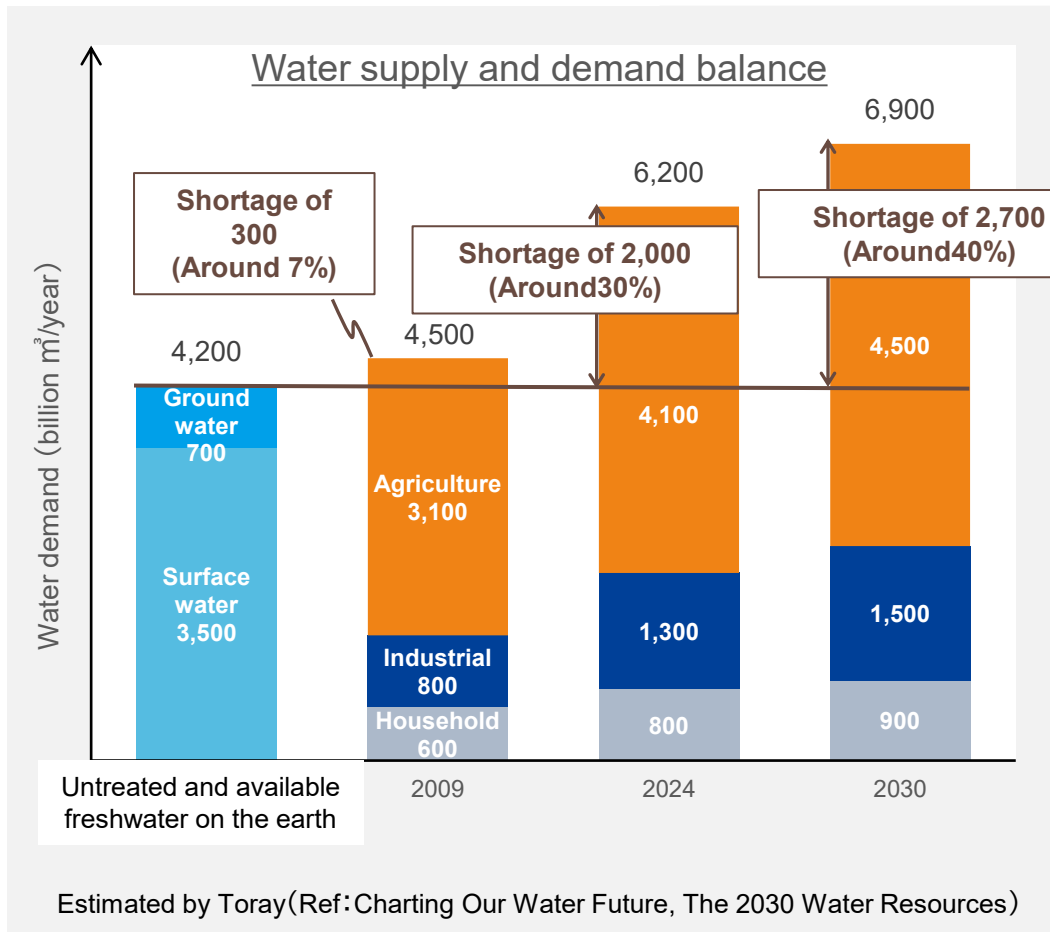
Base Strategy	Contents	Status	Summary
<b>Achieve top market share in RO business</b>	<ul style="list-style-type: none"> <li>■ Expand sales in key applications and achieve No.1 global market share</li> <li>■ Establish global supply chain to support sales expansion</li> </ul>	<p style="text-align: center;">△~○</p>	<ul style="list-style-type: none"> <li>■ Maintained top-tier position, but faced challenges in China due to low-cost local manufacturers</li> <li>■ Achieved vertical start-up of a new casting machine in the Middle East</li> <li>■ Expanded capacity of existing facilities</li> </ul>
<b>Global business expansion in growth applications</b>	<ul style="list-style-type: none"> <li>■ Expand sales in wastewater reuse</li> <li>■ Expand sales in ultrapure water for semiconductors</li> <li>■ Maintain No.1 position in seawater desalination</li> </ul>	<p style="text-align: center;">○</p>	<ul style="list-style-type: none"> <li>■ Accumulated track record of IMS proposals in the U.S.</li> <li>■ Expanded high-value products through TBW series with superior neutral molecule removal</li> <li>■ Continuously supplied to large desalination plants in the Middle East</li> </ul>
<b>Strengthen price and non-price competitiveness</b>	<ul style="list-style-type: none"> <li>■ Promote thorough cost reduction</li> <li>■ Establish integrated technical services</li> </ul>	<p style="text-align: center;">○</p>	<ul style="list-style-type: none"> <li>■ Advanced business continuity through multi-sourcing of raw materials</li> <li>■ Enhanced the global technical service network, including the establishment of the technical center in the Middle East (MEWTEC)</li> </ul>
<b>Enhance sales network and sophistication of sales methods</b>	<ul style="list-style-type: none"> <li>■ Strengthen web and digital marketing</li> <li>■ Enhance collaboration with partners</li> </ul>	<p style="text-align: center;">○</p>	<ul style="list-style-type: none"> <li>■ Enhanced proposal capabilities using AquaGRID® (design and performance evaluation tool)</li> <li>■ Expanded sales staffs and distributors in untapped regions</li> </ul>
<b>Improve profitability of Water treatment system business</b>	<ul style="list-style-type: none"> <li>■ Strengthen public EPC business</li> <li>■ Expand maintenance business</li> </ul>	<p style="text-align: center;">○</p>	<ul style="list-style-type: none"> <li>■ Increased profitability in both EPC and maintenance business and reduced dependence on EPC business</li> <li>■ Established a foundation for the PPP era by accepting capital investment from METAWATER</li> </ul>



# **Business Environment Demand Outlook**

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**By 2030, water demand is expected to rise to 140% of the world's freshwater resources**  
**Growth in wastewater reuse field, due to the ease of water sourcing from residential and industrial areas**



Market growth rate  
 Up to the present: **Water Desalination**  $\approx$  **Wastewater Reuse**  
 Future: **Water Desalination**  $<$  **Wastewater Reuse**

RO membrane demand expected to grow at **4-5%** annually, with regional variations

### By Region

<b>China</b>	Rapid growth of local manufactures Accelerated overseas expansion of Chinese engineering companies due to weak domestic demand
<b>USA</b>	Expanding wastewater reuse, mainly on the West Coast Growing seawater desalination demand toward 2030 as a countermeasure of water scarcity.
<b>MENA</b>	Continued construction of new seawater desalination plant Strengthening industrial localization policies

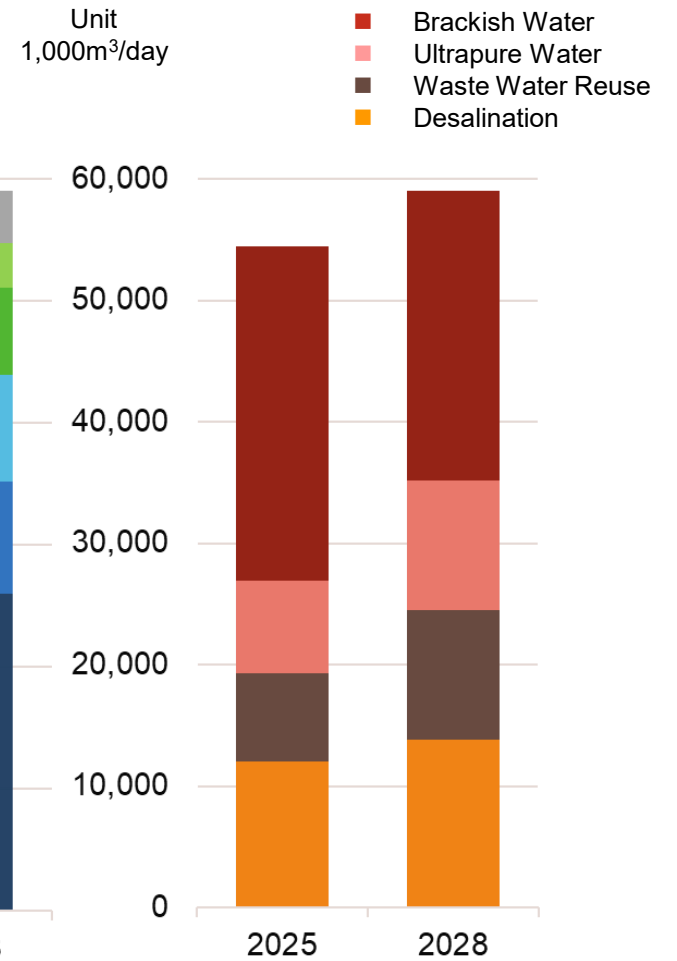
### By Application

<b>Seawater Desalination</b>	Middle East demand gradually shifting from new project to replacement Increase in new plant construction projects outside Middle East, including North Africa
<b>Wastewater Reuse</b>	Expanding at 6-7% per year due to easier access to water sources
<b>Ultrapure Water</b>	Growing at double-digit rates with expansion of IT, EV, and AI data centers

### By Region



### By Application



< Estimated by Toray >

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**IV**

**Medium-Term Management Program  
“IGNITION 2028”**

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**Sustaining and enhancing profitable growth by leveraging growing water scarcity and tighter environmental regulations as opportunities**

**Driving new business creation and commercialization through backcasting from the post-2030 vision**

“IGNITION 2028” Basic Policies

## Establish position as “Leading Company” in water treatment membrane business – Expansion to membrane solutions –

### Water treatment membrane business

- Maintain / improve **high profitability** as fundamental business (source of profit)
- Solve water problems through membrane technology
  - Growth Business Field to be Focused on
    - ✓ Existing Applications :
      - Seawater Desalination
      - Wastewater Reuse
      - Ultrapure Water (for Semiconductor)
    - ✓ New Applications:
      - Cooling Water (for Data Center)
      - Agricultural water
- Provide systematic integrated technical services globally

### New business(Membrane+)

- Create business through **peripheral technologies** that we provide to customers as a water treatment membrane manufacturer
  1. Membrane peripheral support including chemicals
  2. O&M (Operation and Maintenance) support based on ICT (Information and Communication Technology)
- Expand applications of membrane filtration technology (**Separation membrane business**)
  1. Filtration process by membrane for foods
  2. Recovering valuable materials such as lithium

### Water treatment system business

- Expand emerging PPP\* projects
- Expand maintenance business
  - \* PPP: Public Private Partnership Method to promote projects in which government and private sector work together

### Reuse, Recycle

- Establish cleaning and performance restoration technology
- Establish recycle (material / chemical) technology
- Establish business model

## Sustaining and enhancing profitable growth

### Membrane Business

#### Business expansion and further improvement in ROIC

- Harvest returns from investments in new facilities and capacity expansions of existing facilities implemented across consecutive medium-term management programs
- Strengthen product competitiveness and deliver high-value products with a strong value proposition in targeted applications
  - Seawater desalination (Next Generation Seawater RO), Ultrapure water for semiconductors (TBW Series), Wastewater reuse (high-removal UF)
- Differentiation through global deployment of advanced technical services



#### Technical service policy under "IGNITION 2028"

**Functionality Enhancement  
in every region**

Strengthen technical responsiveness to regional needs, by establishing returns inspection spot and R&D center at each location

**Streamlining and standardization of  
technology services**

Utilizing DX and AI technologies, provide top-level technical services without variances among locations

### Water treatment system Business

- Promote initiatives to expansion of Water PPP projects through collaboration with METAWATER
- Strengthen profitability through expansion of maintenance business

## Creating a winning formula from new project to replacement

### Business Environment

#### <New Project>

- In the Middle East, construction of new plants remains strong
- Toray's progress in localization gave it an advantage in winning orders** in Saudi Arabia, in line with Saudization, the government policy
- New projects are also increasing in other regions such as North Africa, Australia, Asia, China, and U.S.
- Chinese manufacturers** are entering the market driven by **the Belt and Road Initiative**

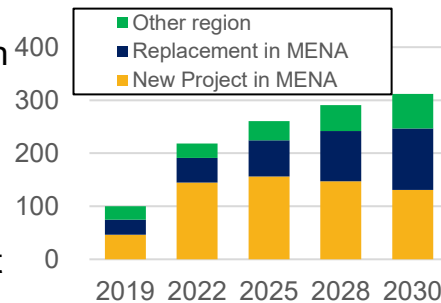
#### <Replacement>

- Replacement demand increases in line with **accumulated construction of new plants**

World's Top 10 Seawater Desalination Plants Using RO Membrane

No	Country	Project Name	Volume (ton/day)	Start of Operation	RO Provider
	UAE	Taweelah IWP	909,000	2023	TORAY
	UAE	Umm al Quwain IWP	681,818	2022	TORAY
	Israel	Soreq 2	670,000	2024	
	Saudi Arabia	Khobar 2 replacement SWRO	630,000	2023	
	Israel	Soreq	624,000	2013	
	Saudi Arabia	Shoaiba 5 (SWCC)	600,000	2024	TORAY
	Saudi Arabia	Rabigh 3 IWP	600,000	2022	TORAY
	Saudi Arabia	Shoaiba 3 Conversion Project	600,000	2025	TORAY
	Saudi Arabia	Jubail 3a IWP	600,000	2023	TORAY
	Saudi Arabia	Jubail 3b IWP	570,000	2024	TORAY

Demand of RO Membrane for Seawater Desalination (FY2019=100)



Estimated by Toray, based on data from DesalData

### Our Strengths



Global No.1 market share

- Outstanding track record in orders and plant operations
- Local production at TMME in Saudi Arabia is ahead of competitors
- Directly providing advanced technical services (plant diagnostics, stable operation support, etc.) through the Middle East Water Treatment Technical Center (MEWTEC)
- Long-term partnerships with leading global developers



New Project



### Business Strategy

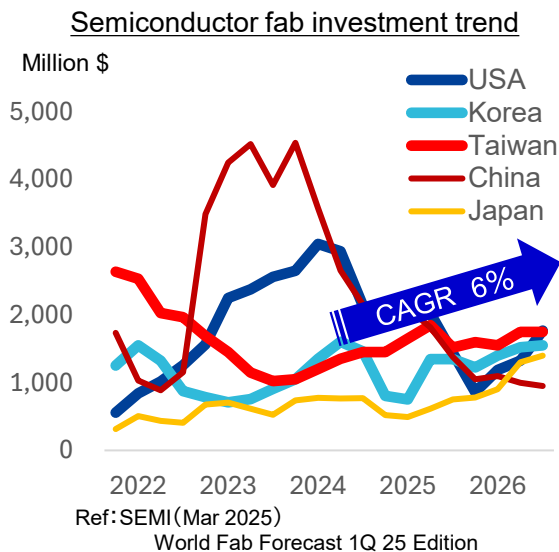
- Strengthen product competitiveness through Next Generation Seawater RO
- Expand production capacity and stabilize supply at TMME
- Capture replacement demand through differentiation enabled by MEWTEC and long-term membrane supply contracts
- Secure Belt and Road Initiative projects through TBMC in China

## Ultrapure water for semiconductors

Contributing to industry needs through the stable supply of High-value products

### Business Environment

- Surge in semiconductor fab construction driven by AI growth and subsidies such as the CHIPS Act
- Strong expectations for water treatment technologies (Wastewater reuse→Ultrapure water)
- Increasingly stringent ultrapure water quality requirements driven by semiconductor miniaturization
- Growing demand for **high-purity electronic-grade chemicals**



### Our Strengths

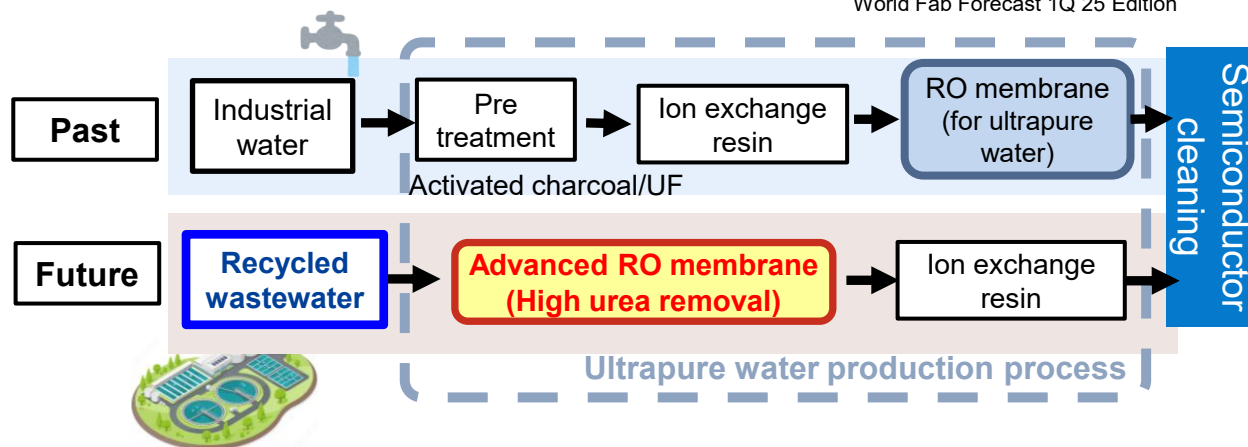


Global No.1 market share

- Industry-leading membranes for removing neutral molecules (silica, urea)
- Top share in this field, supported by extensive track record and database
- Partnerships with water treatment engineering companies with construction capabilities for ultrapure water system

### Business Strategy

- Promote specification approvals by major engineering companies
  - Selected for Phase 1 line deployment at initial fabs
- Strengthen value proposition through high-value products
- Develop new applications through collaboration with customers



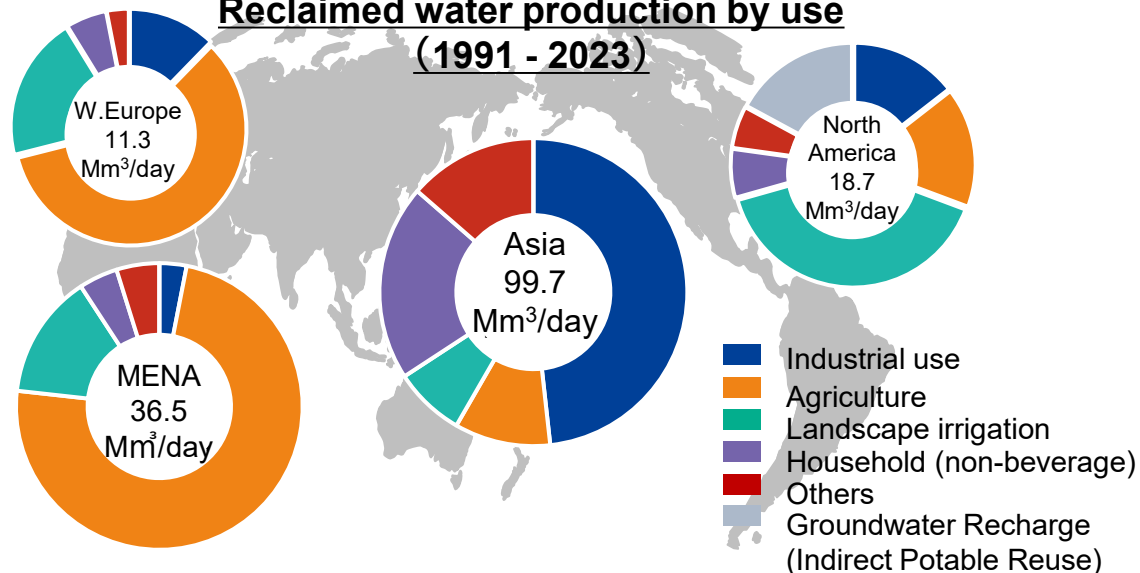
## Contributing to reducing total operating costs of wastewater reuse processes

### Business Environment

- Demand growth at about 6-7% per year, driven by easier access to water sources and stricter environmental regulations
- Various filtration and concentration requirements by country and region
  - < Expected future trends >
  - ✓ U.S.: Increase of IPR (Indirect Potable Reuse)  
Growing attention to DPR (Direct Potable Reuse)
  - ✓ China: ZLD (Zero Liquid Discharge)
  - ✓ India: Dyeing wastewater treatment

### Reclaimed water production by use

(1991 - 2023)



### Our Strengths

- Capability to provide Integrated Membrane System (IMS) solutions
- Provision of technical services tailored to local needs and characteristics
- Extensive track record in the advanced U.S. market

All membrane types

Technical services

Cutting-edge products

Global sales network

### Business Strategy

- Provide region-specific sales and technical services  
(Addressing regionally dispersed demand and local characteristics)
- Build a track record with distinctive new products
- Deliver added value through IMS solutions

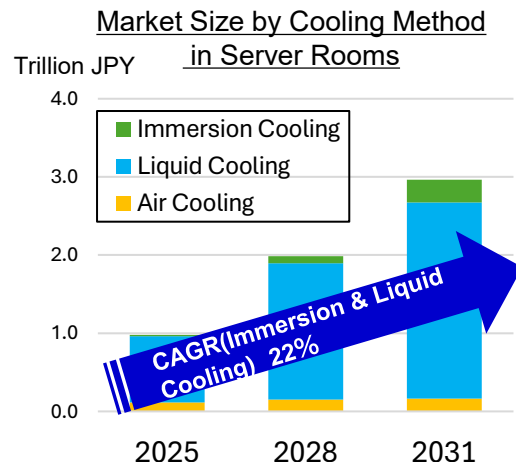


## Cooling water for data centers

Contributing to water challenges in the AI Era through new applications of UF membranes

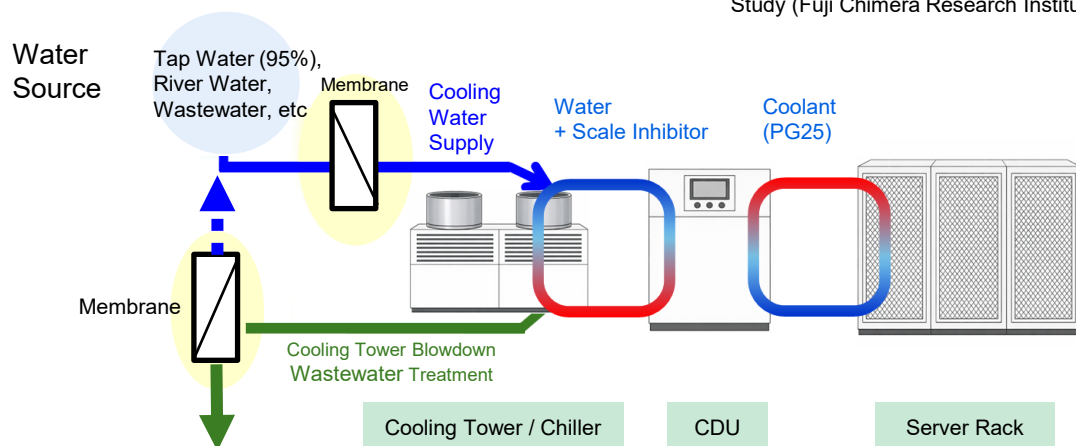
### Business Environment

- Data center water consumption is increasing by 20–30%
- Expansion of **liquid cooling systems**, driven by growing data processing demand
- While tap water currently accounts for 95% of cooling water sources, growing emphasis on cost reduction and water security is driving the use of **river water and reclaimed wastewater**



Ref: 2025 Data Center and AI / Key Device Market Study (Fuji Chimera Research Institute, Inc.)

### Water Flow in Data Center Cooling Systems



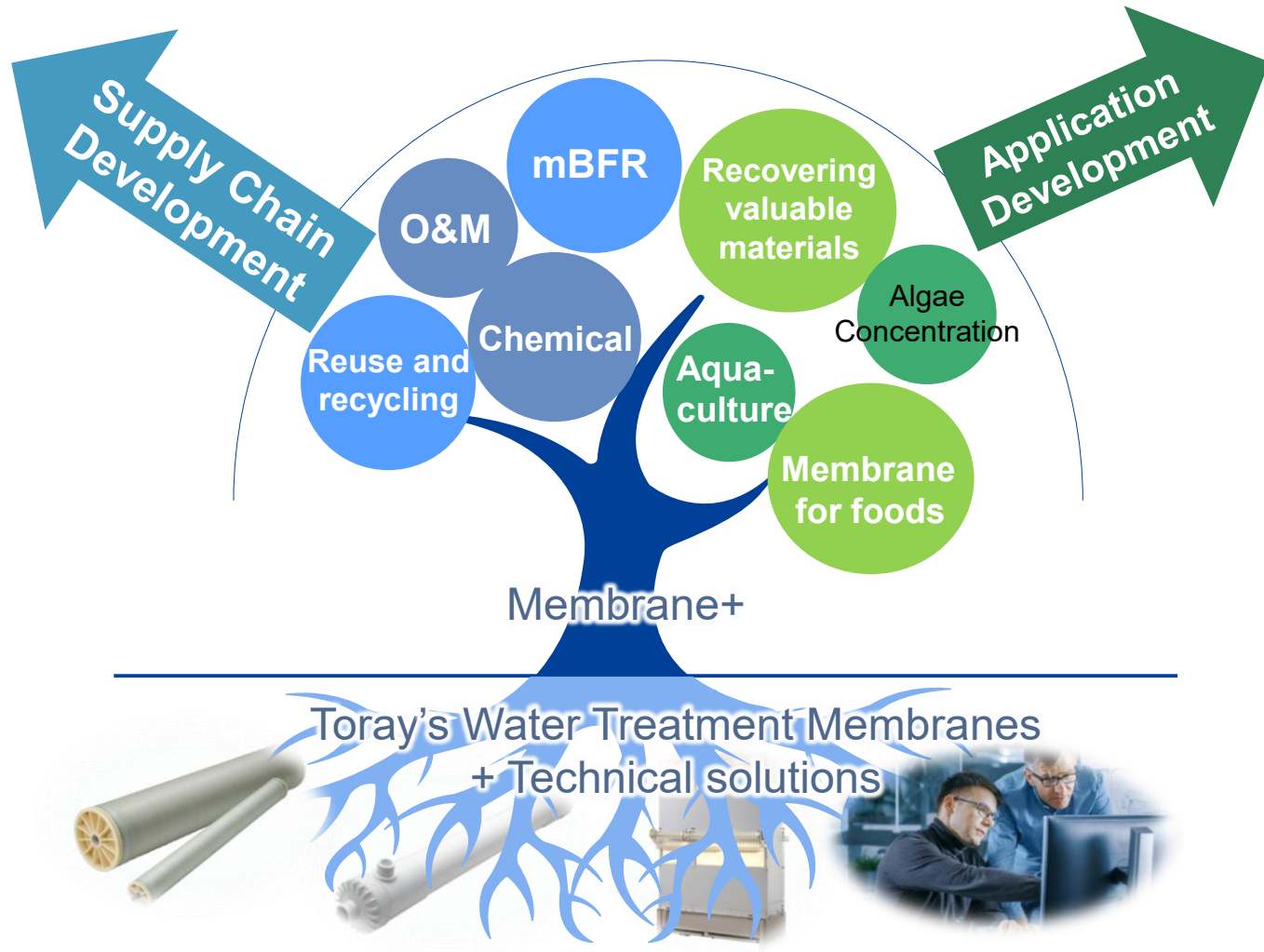
### Our Strengths

- High-durability UF membranes based on proprietary technology → Enabling Low OPEX and suited to remote data center demand
- Proven global supply track record with major hyperscale operators, mainly in the U.S.
- Advanced UF membranes for wastewater reuse with enhanced fine filtration and superior suspended solids removal

### Business Strategy

- Expand IMS (UF + RO) solutions for data center applications
- Promote global standardization for large-scale data center operators
- Strengthen collaboration with engineering companies in each region

## Focus on Creating New Business and Commercialization



### Target of Membrane+ business

- Business based on **membrane peripheral technology** which is provided to customers from membrane manufacturer
- In existing water treatment applications, aim to expand in areas where collaboration is possible, such as **providing process support which leads to increased value for customers**, as well as **peripheral technologies**

Water Treatment SC Expansion

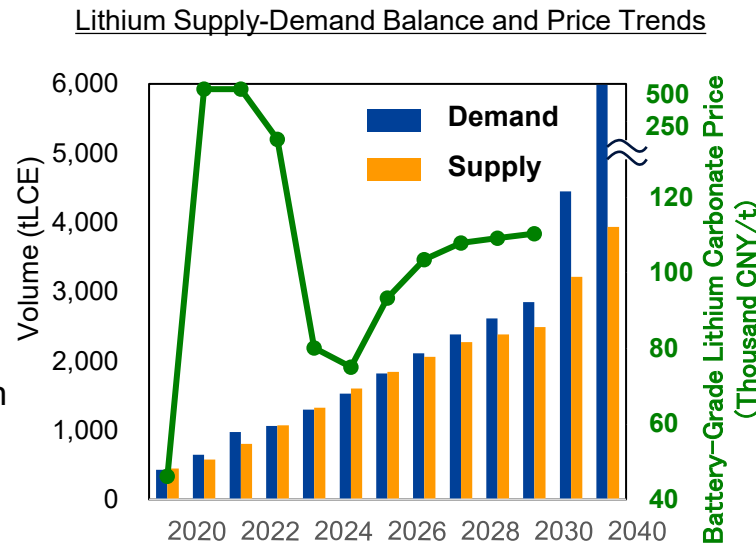
- Promote new applications development utilizing membrane separation technology. Create a **membrane separation business** offering packaging proposals

Expanding Separation Targets

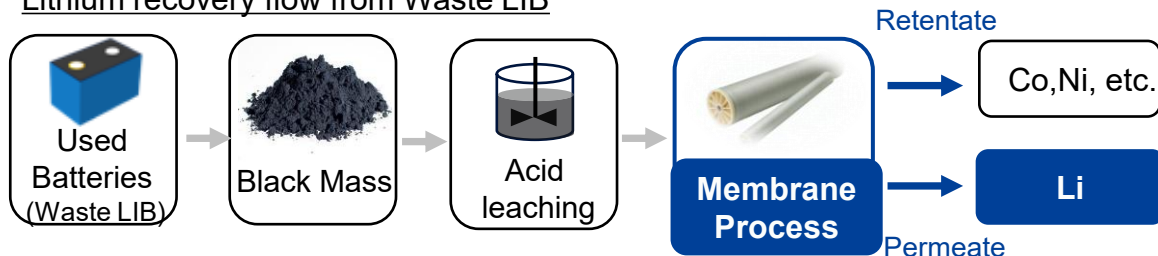
### Contributing to Carbon Neutrality and Economic Security

#### Business Environment

- Lithium prices are on an upward trend, driven by EV growth in China
- Supply from salt lakes and waste LIBs is increasing in light of circular economy and environmental impact
- Usage of membrane is on the rise as conventional methods have issues in efficiency for salt lakes and waste LIB

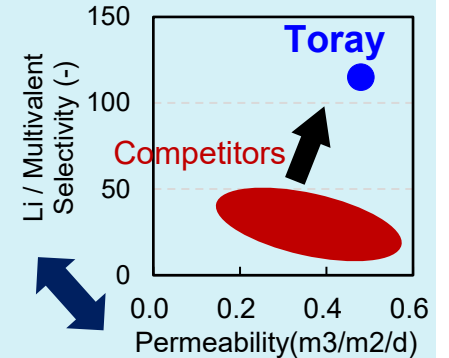


#### Lithium recovery flow from Waste LIB



#### Our Strengths

- Cutting-edge membrane products
- 👍 Breaking the trade-off between selectivity and permeability
- 👍 Combining excellent acid resistance
- Holding patents for membrane processes to recover lithium from acidic solutions



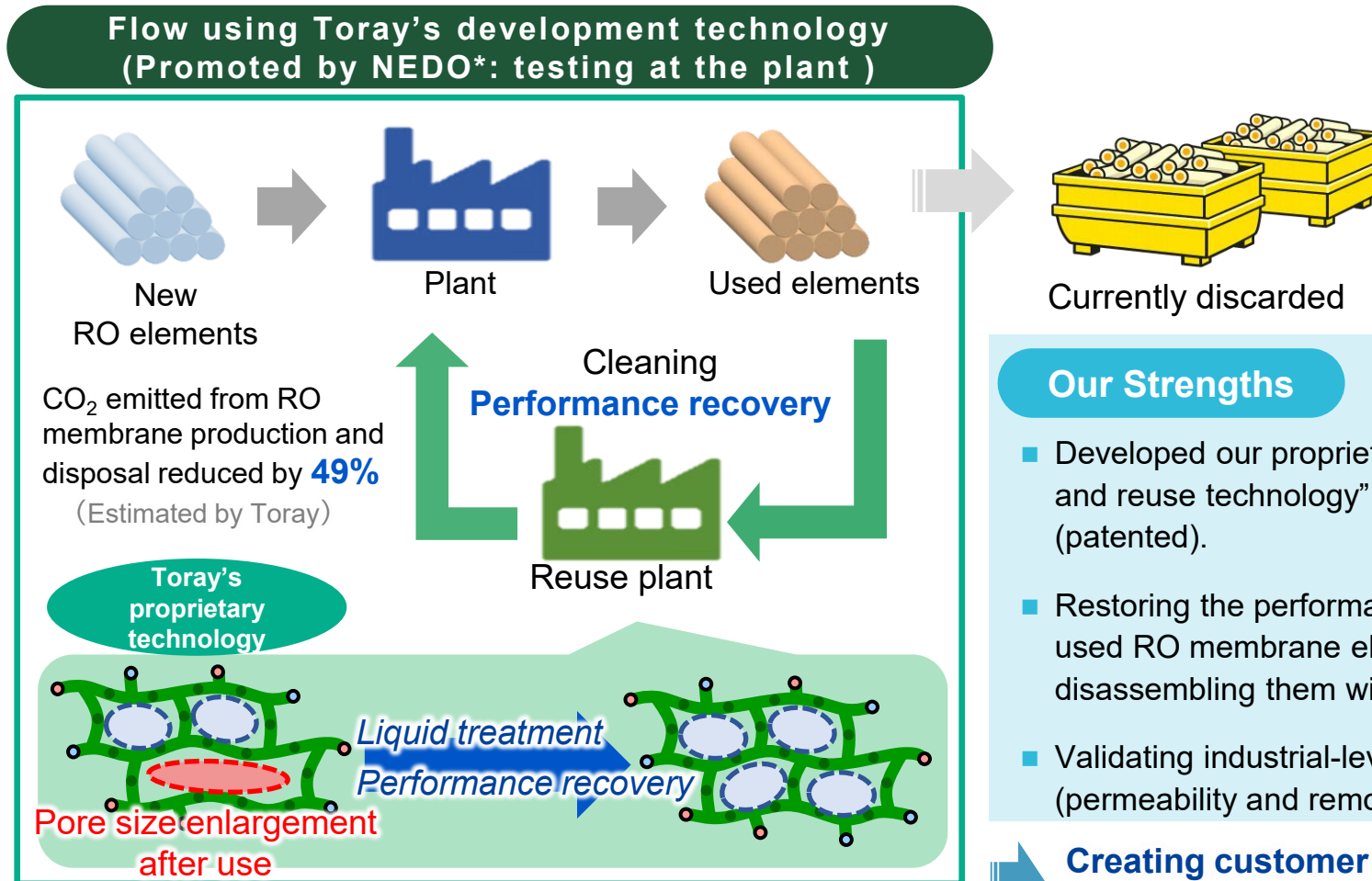
#### Business Strategy

- Early entry into the Chinese lithium recycling market to build a track record
- Drive value proposition through high-performance membranes
- Extend business downstream through membrane process patents
- Expanding business scope to include recovery of valuable materials beyond lithium, such as rare earth elements

Transforming our water treatment membrane business from a disposable model to a high-value circular model.

## Business Environment

- The number of used elements is increasing over the years as the RO membrane market expands
- Calls for reuse are rising due to corporate environmental responsibility.



## Our Strengths

- Developed our proprietary “functional restoration and reuse technology” for RO membranes (patented).
- Restoring the performance and enabling reuse of used RO membrane elements without disassembling them with their original form.
- Validating industrial-level membrane performance (permeability and removal) using full-scale elements.

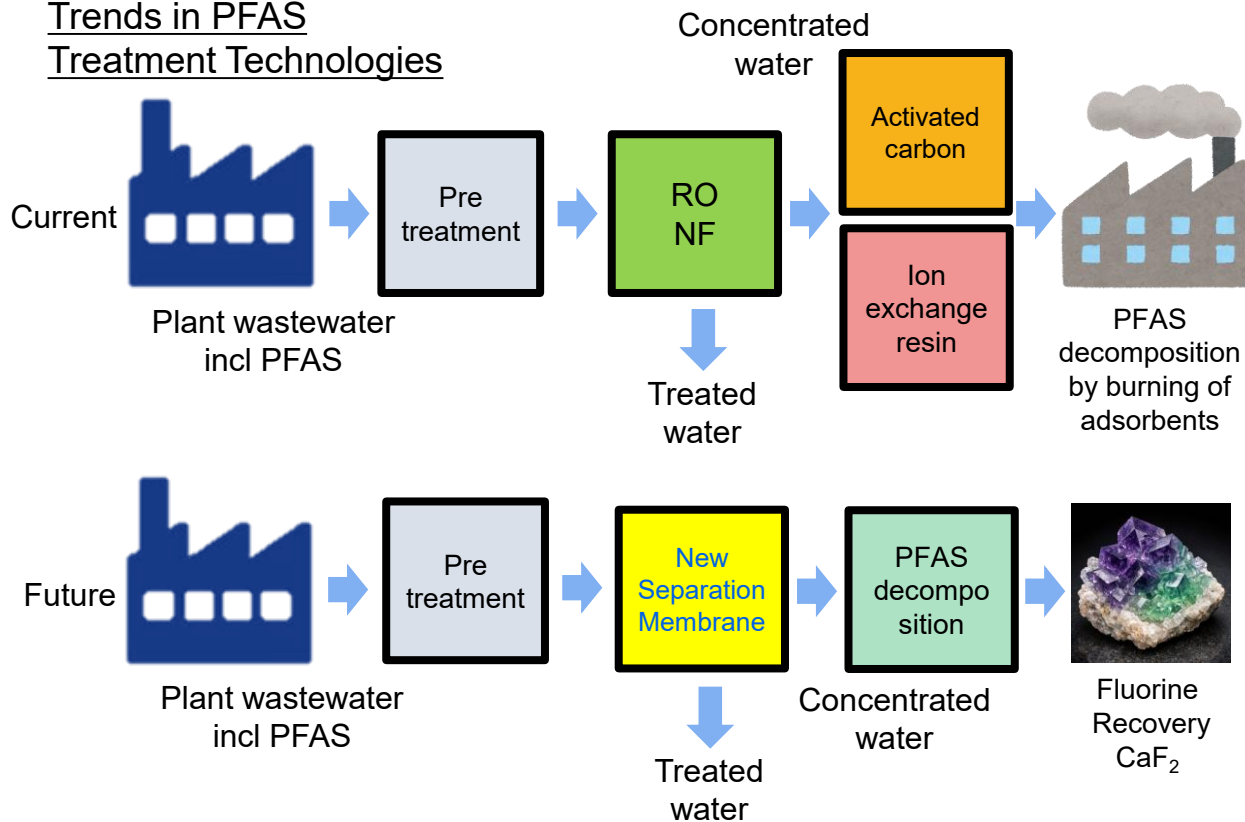
**Creating customer value through cost reduction and ESG-aligned water treatment solutions**

※: Program to Develop and Promote the Commercialization of Energy Conservation Technologies to Realize a Decarbonized Society

## A comprehensive approach to the PFAS issue

### Water Treatment Membrane

#### Trends in PFAS Treatment Technologies



**Under Development of novel separation membranes to enable sustainable processes**

### Household Water Purifier

1

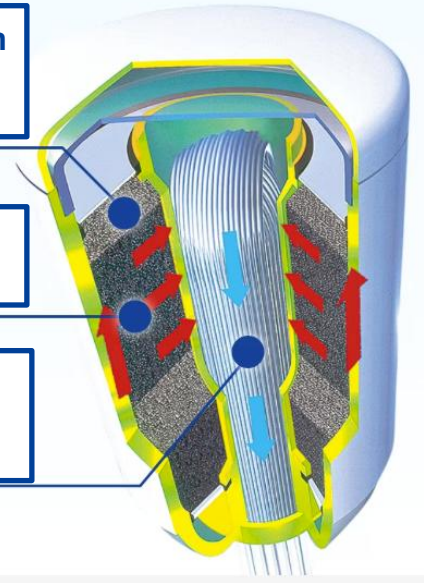
**Granular Activated Carbon**  
Remove PFOS/PFOA, residual chlorine

2

**Ion Exchange Materials**  
Remove soluble lead

3

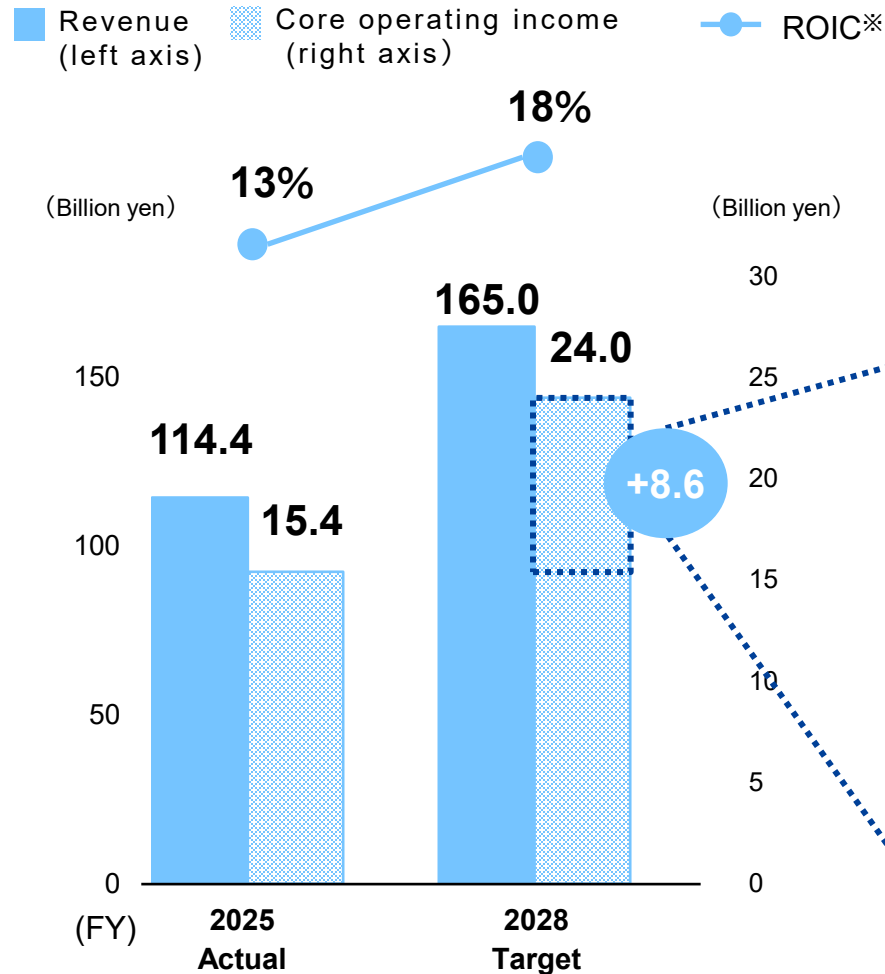
**Hollow Fiber Membrane**  
Remove turbidity, iron rust, and common bacteria



A broad product lineup with PFOS/PFOA removal performance verified through testing in accordance with JWPAS B standard protocols established by the Japan Water Purifier Association

**Directly contributes to everyday safety of general consumers**

# Performance Target for FY2028



※ ROIC = Core operating income after tax / average invested capital (average of the balances at beginning and end of the period)

We aim to achieve core operating profit of **JPY 24.0 billion** (+JPY 8.6 billion vs. FY2025) and ROIC of **18%** (+5pp vs. FY2025) in FY2028, mainly in RO business by **realizing returns on existing investments** while driving expansion in priority applications and **maintaining and enhancing high profitability**, thereby **strengthening our earnings base** and **improving ROIC**.

Growth strategy	
<b>Industrial RO</b>	<ul style="list-style-type: none"> <li>Securing a new large project with Next Generation Seawater RO.</li> <li>Creating a “winning formula” from the new large project for replacements.</li> <li>Driving value-added differentiation in ultrapure water (semiconductor) applications.</li> <li>Enhancing competitiveness in China</li> </ul>
<b>UF MBR</b>	<ul style="list-style-type: none"> <li>Business expansion in wastewater reuse applications.</li> <li>Capturing new demand (e.g., data centers).</li> </ul>
<b>Household</b>	<ul style="list-style-type: none"> <li>Maintain a top share of the Japanese market.</li> <li>Enhancing overseas operations</li> </ul>
<b>System</b>	<ul style="list-style-type: none"> <li>Enhancing the maintenance business.</li> <li>Strengthening capabilities for the PPP market</li> </ul>
<b>New Biz</b>	<ul style="list-style-type: none"> <li>Creating and commercializing new businesses. (Membrane +).</li> </ul>

Box height represents the increase in profit

Descriptions of predicted business results, projections, and business contained in this material are based on predictive forecasts of the future business environment made at the present time.

The material in this presentation is not a guarantee of the Company's future business performance.

