I. Toray’s Vision

II. Reviewing the Medium-Term Management Program, Project AP-G 2022

III. Medium-Term Management Program, Project AP-G 2025

   III-1. Seizing Profit Opportunities
   III-2. Strengthening the Management Foundation
           Human Resource Development, Risk Management, and Financial Soundness

IV. FY 2030 Sustainability Targets
    Accelerating Efforts to Achieve the Toray Group Sustainability Vision

<Reference> Segment Information
**Toray Philosophy**

**Corporate Philosophy**

Contributing to society through the creation of new value with innovative ideas, technologies and products

**Corporate Missions**

For our customers:
To provide new value to our customers through high-quality products and superior services

For our employees:
To provide meaningful work and fair opportunities

For our shareholders:
To practice sincere and trustworthy management

For society:
To establish ties and develop mutual trust as a responsible corporate citizen

**Vision**

Toray Group Sustainability Vision
**Toray Group Sustainability Vision**

*We deliver innovative technologies and advanced materials that provide real solutions to the challenges the world faces with balancing development and sustainability.*

<table>
<thead>
<tr>
<th>Toray Group’s contributions</th>
<th>Toray Group’s vision for the world</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accelerating measures to counter climate change</td>
<td>1. A net zero emissions world, where greenhouse gas emissions are completely offset by absorption</td>
</tr>
<tr>
<td>Realizing sustainable, recycling-based use of resources and production</td>
<td>2. A world where resources are sustainably managed</td>
</tr>
<tr>
<td>Providing clean water and air, and reducing environmental impact</td>
<td>3. A world with a restored natural environment, with clean water and air for everyone</td>
</tr>
<tr>
<td>Contributing to better medical care and hygiene for people worldwide</td>
<td>4. A world where everyone enjoys good health and hygiene</td>
</tr>
</tbody>
</table>
Reviewing the Medium-Term Management Program, Project AP-G 2022
To achieve **sound, sustainable growth** for the Toray Group by pursuing business expansion through **active investment**, while carrying out **structural reforms** and **reinforcing the financial structure** to facilitate this growth strategy.

### Basic Strategies of Project AP-G 2022

#### “Resilience and Proactive Management”
**Sustainable Growth and New Development**

<table>
<thead>
<tr>
<th>3 Basic Strategies</th>
<th>Specific Initiatives</th>
</tr>
</thead>
</table>
| 1 Global expansion in growth business fields | (1) Green Innovation business expansion  
(2) Life Innovation business expansion     |
| 2 Strengthening competitiveness           | (1) Total cost reductions  
(2) Business advancement and high added value creation  
(3) Enhancing workplace competency in sales & marketing and production     |
| 3 Strengthening the management foundation | (1) Strengthening financial structure by improving cash efficiency  
(2) Business structure reform of low-growth and low-profitability businesses |

#### Group-Wide Initiatives

<table>
<thead>
<tr>
<th>New business creation</th>
<th>Reduction of greenhouse gas emissions in production activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced business management by utilizing digital technology</td>
<td>Ensuring the Toray Philosophy is fully embraced</td>
</tr>
</tbody>
</table>
Achieved revenue targets for both the Green Innovation (GR) and Life Innovation (LI) businesses

Green Innovation (GR) businesses

- Strong sales of carbon fiber for wind turbine blades, and water treatment membranes, etc.
- Achieved revenues compared to target due to recovery from the COVID-19 pandemic impact

Life Innovation (LI) businesses

- Revenues exceeded target due to greater shipments of nonwoven fabrics for hygiene products and materials for sports applications
Progress on Reducing Greenhouse Gas Emissions and Water Usage

Achieved FY 2022 targets for greenhouse gas emissions and water usage per unit of revenue

<table>
<thead>
<tr>
<th>Progress</th>
<th>FY 2022 Forecast</th>
<th>FY 2022 Target (Baseline: FY 2013)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GHG gas emissions per unit of revenue in production activities</td>
<td>26% Reduction</td>
<td>20% Reduction</td>
</tr>
<tr>
<td>Water usage per unit of revenue in production activities</td>
<td>27% Reduction</td>
<td>25% Reduction</td>
</tr>
</tbody>
</table>

Note: The calculation of the figure for the baseline of FY 2013 includes data for companies that joined the Toray Group in FY 2014 or later.

Examples

- Regular energy-saving activities and greater cooperation, as well as sharing and implementing successful improvement models across the entire Toray Group

- Fuel conversion
  - Implemented elimination of coal-fired power generation in Indonesia (switched to power purchasing)
    - ITS: Terminated in 2021
    - ETX: Planned termination in 2024
    - ITS: P.T. Indonesia Toray Synthetics
    - ETX: P.T. Easterntex
  - (250,000 tons of CO₂/year emissions reduction)

- Renewable Energy
  - Replaced coal-fired boilers with purchased electricity and expanded the use of biomass fuel; Promoted wastewater recycling using Toray water treatment technology
  - Expanded to five Toray plants and 20 group companies worldwide.
  - Additionally, five companies in China plan to begin operating these facilities in 2023

- Installation of renewable energy facilities
  - Head Office in Tokyo: Adoption of 100% renewable electricity in April 2022
  - (1,500 tons of CO₂/year emissions reduction)
Revenue, Core Operating Income, and Cash Flow

Revenue increased, but did not reach the target. Core operating income declined considerably compared to the target. FCF and D/E ratio significantly improved compared to the target on efforts to reinforce the financial structure.

In FY 2022, revenue increased as demand, which had declined since FY 2020 due to the pandemic, recovered. Other factors were progress on passing on higher raw material and fuel costs to sales prices, as well as foreign exchange gains. However, revenue fell short of the AP-G2022 target due to a decline in sales volume. Core operating income was significantly lower than target due to the decline in sales volume and the impact of soaring raw material and fuel prices.

FCF was significantly higher than planned due to careful assessment of capital investment projects during the COVID-19 pandemic. D/E ratio significantly surpassed the guideline of "around 0.8" and strengthened the management foundation.

*As of February 8, 2023
Variance Analysis of Core Operating Income

Core operating income did not reach the target. The main reasons were: the change in people’s behavior due to the pandemic; the decrease in sales volume of products for aircraft and automobiles due to supply constraints; and soaring raw material and fuel prices caused by the prolonged war in Ukraine.

<table>
<thead>
<tr>
<th>Segment</th>
<th>Difference (Billion Yen)</th>
<th>Factors for Increase/Decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fibers &amp; Textiles</td>
<td>-24.5</td>
<td>Income decreased due to pandemic-induced changes in the demand structure, such as a shift from formal wear to sports and outdoor apparel. Another factor include a drop in sales volume of materials for industrial applications, and the impact of soaring raw material and fuel prices.</td>
</tr>
<tr>
<td>Performance Chemicals</td>
<td>-55.0</td>
<td>Resins &amp; Chemicals Business</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Films Business, Electronic &amp; Information Materials Business</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Income decreased significantly due to lower sales volume. The market is currently in an adjustment phase following a period of unusually high telecommuting-driven demand for TV and smartphone display-related products and special demand for semiconductors. The sharp rise in raw material and fuel prices also had a significant impact.</td>
</tr>
<tr>
<td>Carbon Fiber Composite Materials</td>
<td>-9.0</td>
<td>Sales volume fell due to the impact of lower build rates for commercial aircraft in aerospace applications. However, higher sales of carbon fiber for wind turbine blades and pressure vessels in industrial applications helped to minimize the decline in income.</td>
</tr>
<tr>
<td>Environment &amp; Engineering</td>
<td>+2.0</td>
<td>Income grew due to promotion of high value-added products for seawater desalination applications undertaken to expand the reverse osmosis (RO) membrane business. Another contributing factor was a net change in price due to the depreciation of the yen.</td>
</tr>
<tr>
<td>Others</td>
<td>+6.5</td>
<td>Income increased due to a reduction in fixed costs for Toray Industries, Inc.</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>-80.0</strong></td>
<td></td>
</tr>
</tbody>
</table>

*As of February 8, 2023

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### Achievement status of Financial Targets

<table>
<thead>
<tr>
<th></th>
<th>FY 2020 Actual</th>
<th>FY 2021 Actual</th>
<th>FY 2022 Forecast*</th>
<th>AP-G 2022 FY 2022 Target</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Revenue</strong></td>
<td>1,883.6</td>
<td>2,228.5</td>
<td>2,510.0</td>
<td>2,600.0</td>
</tr>
<tr>
<td><strong>Core Operating Income</strong></td>
<td>90.3</td>
<td>132.1</td>
<td>100.0</td>
<td>180.0</td>
</tr>
<tr>
<td><strong>Core Operating Margin</strong></td>
<td>4.8%</td>
<td>5.9%</td>
<td>4.0%</td>
<td>7%</td>
</tr>
<tr>
<td><strong>ROA</strong></td>
<td>3.2%</td>
<td>4.5%</td>
<td>Around 3%</td>
<td>Around 7%</td>
</tr>
<tr>
<td><strong>ROE</strong></td>
<td>3.9%</td>
<td>6.4%</td>
<td>Around 5%</td>
<td>Around 9%</td>
</tr>
<tr>
<td><strong>Free Cash Flow</strong></td>
<td>-</td>
<td>-</td>
<td>Around 200.0 (3-year total)</td>
<td>120.0 or more (3-year total)</td>
</tr>
<tr>
<td><strong>D/E Ratio</strong></td>
<td>0.79</td>
<td>0.67</td>
<td>Around 0.7</td>
<td>Around 0.8 (guideline)</td>
</tr>
</tbody>
</table>

*As of February 8, 2023

---

Assumed exchange rate in AP-G 2022: ¥105 / US $  
ROA = Core Operating Income / Total Assets  
ROE = Net Profit Attributable to Owners of Parent / Average Equity Attributable to Owners of Parent
## Achievement status of Sustainability Targets

<table>
<thead>
<tr>
<th></th>
<th>FY 2020 Actual</th>
<th>FY 2021 Actual</th>
<th>FY 2022 Forecast</th>
<th>AP-G 2022 FY 2022 Target</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Revenue from GR Business</strong> (Billion Yen)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>711.8</td>
<td>832.2</td>
<td>1,000.0</td>
<td>1,000.0</td>
</tr>
<tr>
<td><strong>Revenue from LI Business</strong> (Billion Yen)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>276.6</td>
<td>308.4</td>
<td>380.0</td>
<td>300.0</td>
</tr>
<tr>
<td><strong>CO₂ emissions avoided in value chain</strong></td>
<td>6.4-fold</td>
<td>8.0-fold</td>
<td>9.5-fold</td>
<td>5.3-fold</td>
</tr>
<tr>
<td><strong>Water filtration throughput contribution by Toray’s water treatment membranes</strong></td>
<td>2.0-fold</td>
<td>2.2-fold</td>
<td>2.4-fold</td>
<td>2.4-fold</td>
</tr>
<tr>
<td><strong>Greenhouse gas emissions per unit of revenue in production activities</strong></td>
<td>14% Reduction (290tons/100 million yen)</td>
<td>21% Reduction (267tons/100 million yen)</td>
<td>26% Reduction</td>
<td>20% Reduction</td>
</tr>
<tr>
<td><strong>Water usage per unit of revenue in production activities</strong></td>
<td>18% Reduction (12,520tons/100 million yen)</td>
<td>28% Reduction (10,905tons/100 million yen)</td>
<td>27% Reduction</td>
<td>25% Reduction</td>
</tr>
</tbody>
</table>

Each relative ratio is calculated in comparison to FY 2013.
Summary of AP-G 2022

<table>
<thead>
<tr>
<th>Basic strategies</th>
<th>Summary</th>
</tr>
</thead>
</table>
| Global expansion in growth business fields | - Revenues from GR and LI businesses increased even during the COVID-19 pandemic, meeting target.  
- Profitability decreased due to increased costs such as rising raw material and fuel prices, as well as the relative decline in the value of existing products caused by increased competition. |
| Strengthening competitiveness | - Achieved the goals of the New Total Cost Reduction Project (variable cost reduction, fixed cost reduction, and production process innovation). |
| Strengthening the management foundation | - Significantly improved free cash flow (three-year total) compared to the target due to a significant decrease in capital investment and R&D expenses for three years from the planned figures, and by controlling fixed costs.  
- D/E ratio improved significantly compared to the target, due to an increase in retained earnings and in equity due to foreign exchange impacts at group companies outside Japan. |
| Sustainability | - Pursued initiatives to achieve carbon neutrality and exceeded KPIs for CO₂ emissions avoided in value chain and greenhouse gas emissions, etc.  
- Clarified risks and opportunities and shared the information by issuing the Toray Group TCFD Report, etc. |
| Compliance | - Thoroughly investigated the root causes of inappropriate actions related to UL certification and implemented measures to prevent recurrence.  
- Carried out Mission BEAR initiative to instill compliance awareness “Have the integrity to do the right thing in the right way” within the Group. |

New Medium-Term Management Program Challenges

1. Expanding business and improving profitability (profit margin)
2. Accelerating sustainability measures
3. Improving asset efficiency (concentrating management resources on growth business fields)
4. Enhancing internal controls and promoting even greater compliance awareness
Medium-Term Management Program
Project AP-G 2025
(FY 2023-2025)
“Innovation and Resilience Management”
—Value Creation for New Momentum
The business environment has been changing rapidly due to the continued spread of COVID-19 and heightened geopolitical risks. While multifaceted risk management is required, there are many social issues that the Toray Group can help solve. This will increase opportunities for the Group to create new value through its business activities.

<table>
<thead>
<tr>
<th>Business Environment</th>
<th>Impact on the Toray Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increasing need for sustainability measures</td>
<td>- Increase in profit opportunities in fields related to sustainability and digital technology</td>
</tr>
<tr>
<td>- Expansion of initiatives to mitigate climate change and achieve carbon neutrality</td>
<td>- Acceleration of digital technology use</td>
</tr>
<tr>
<td>- Increased momentum for building a circular economy and protecting ecosystems</td>
<td>- Respect for diverse human resources and values</td>
</tr>
<tr>
<td>- Basic policy for Green Transformation (GX)</td>
<td>- Enhancement of risk management</td>
</tr>
<tr>
<td>Diversification of values</td>
<td>- Thorough safety, accident prevention and environmental preservation</td>
</tr>
<tr>
<td>- Diversification of work styles and work-related values</td>
<td></td>
</tr>
<tr>
<td>- Greater longevity, accelerated population aging, and a declining working population</td>
<td></td>
</tr>
</tbody>
</table>
Project AP-G 2025 “Innovation and Resilience Management”

Toray Group will achieve sustainable growth driven by the Sustainability Innovation Business and the Digital Innovation Business

<table>
<thead>
<tr>
<th>Five Basic Strategies of Project AP-G 2025</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Seizing Profit Opportunities</strong></td>
</tr>
<tr>
<td><strong>Strategy 1. Sustainable growth</strong></td>
</tr>
<tr>
<td>Focusing management resources on Sustainability Innovation Business and Digital Innovation Business</td>
</tr>
<tr>
<td><strong>Strategy 2. Ultimate value creation</strong></td>
</tr>
<tr>
<td>Maximizing profitability by making the most of tangible and intangible assets, and by collaborating with external partners</td>
</tr>
<tr>
<td><strong>Strategy 3. Product and operational excellence</strong></td>
</tr>
<tr>
<td>Promoting cross-organizational cost reduction activities leveraging enhancement of quality strength and organizational strength, which are the sources of competitiveness</td>
</tr>
<tr>
<td><strong>Strengthening the Management Foundation</strong></td>
</tr>
<tr>
<td><strong>Strategy 4. Enhancement of people-centric management</strong></td>
</tr>
<tr>
<td>Preserving and further building upon the legacy of our corporate culture, which prioritizes developing people, while promoting individual career development, and improving job satisfaction</td>
</tr>
<tr>
<td><strong>Strategy 5. Risk management and governance</strong></td>
</tr>
<tr>
<td>Ensuring sound organizational management by enhancing internal controls and improving management capabilities</td>
</tr>
</tbody>
</table>
# Financial Targets for FY 2025

<table>
<thead>
<tr>
<th></th>
<th>FY 2022 Forecast(^1)</th>
<th>AP-G 2025 FY 2025 Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>2,510.0 billion yen</td>
<td>2,800.0 billion yen</td>
</tr>
<tr>
<td>Core Operating Income</td>
<td>100.0 billion yen</td>
<td>180.0 billion yen</td>
</tr>
<tr>
<td>Core Operating Margin</td>
<td>4%</td>
<td>6%</td>
</tr>
<tr>
<td>ROIC(^2)</td>
<td>About 3%</td>
<td>About 5%</td>
</tr>
<tr>
<td>ROE</td>
<td>About 5%</td>
<td>About 8%</td>
</tr>
<tr>
<td>Free Cash Flow</td>
<td>Around 200.0 billion Yen (3-year total)</td>
<td>Positive (3-year total)</td>
</tr>
<tr>
<td>D/E Ratio</td>
<td>Around 0.7</td>
<td>0.7 or lower (guideline)</td>
</tr>
</tbody>
</table>

Assumed exchange rate in AP-G 2025: ¥125 / US $ 

\(^1\): As of February 8, 2023  

\(^2\): ROIC = Core Operating Income after Tax / Average Invested Capital
## Sustainability Targets for FY 2025

<table>
<thead>
<tr>
<th>Category</th>
<th>FY 2013 Actual (Baseline) (J-GAAP)</th>
<th>FY 2022 Forecast (IFRS)</th>
<th>AP-G 2025 FY 2025 Target (IFRS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenues from Sustainability Innovation Business</td>
<td>562.4 billion yen</td>
<td>1,300.0 billion yen</td>
<td>1,600.0 billion yen</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(2.3-fold)</td>
<td>(2.8-fold)</td>
</tr>
<tr>
<td>CO₂ emissions avoided in value chain</td>
<td>38 million tons</td>
<td>9.5-fold</td>
<td>15.0-fold</td>
</tr>
<tr>
<td>Water filtration throughput contribution by Toray’s water treatment membranes</td>
<td>27.23 million tons/day</td>
<td>2.4-fold</td>
<td>2.9-fold</td>
</tr>
<tr>
<td>Greenhouse gas emissions per unit of revenue in production activities</td>
<td>337 tons/100 million yen</td>
<td>26% reduction</td>
<td>40% reduction</td>
</tr>
<tr>
<td>Greenhouse gas emissions of Toray Group in Japan</td>
<td>2.45 million tons</td>
<td>18% reduction</td>
<td>20% reduction</td>
</tr>
<tr>
<td>Water usage per unit of revenue in production activities</td>
<td>15,200 tons/100 million yen</td>
<td>27% reduction</td>
<td>40% reduction</td>
</tr>
</tbody>
</table>

Each relative ratio is calculated in comparison to FY 2013.
Seizing Profit Opportunities
Innovation Management Focused on Value Creation
Expanding revenues from businesses related to Sustainability Innovation Business and Digital Innovation Business to about 60% of total

Growth Business Fields under AP-G 2025

1. Products that accelerate measures to counter climate change
2. Products that facilitate sustainable, recycling-based use of resources and production
3. Products that help provide clean water and air and reduce environmental impact
4. Products that help deliver better medical care and hygiene for people worldwide

Materials, equipment, technologies, and services that help improve convenience and productivity by supporting the widespread adoption of digital technology

Revenue from Growth Business Fields

- Gross profit margin of all growth business fields: 59%
- Gross profit margin of growth business fields: 54%

Investment in growth business fields:
- Capital Investment: 270 Billion Yen
- R&D: 180 Billion Yen

Total Investment: 450 Billion Yen
Target

FY 2025 revenues from Sustainability Innovation Business: 1.6 trillion yen

Sustainability Innovation (SI) Business

- Contributing to better medical care and hygiene for people: 26%
- Providing clean water and air: 14%
- Promoting resource recycling: 7%
- Accelerating measures to counter climate change: 53%

Revenue from of SI Business

Expand at an annual growth rate of 7%

- FY 2022: 1.3 trillion yen
- 2022 Forecast: 1,300 (Billion Yen)
- 2025 Target: 1,600 (Billion Yen)

Contributing to better medical care and hygiene for people:

- e.g. Providing clean water and air:
- e.g. Promoting resource recycling:
- e.g. Accelerating measures to counter climate change:
- e.g.
Sustainability Innovation Business (1): Accelerating Measures to counter climate change

Products that contribute to building a Hydrogen-Powered World

Developing a wide range of core materials for production, transport, storage, and utilization of hydrogen

### Core Materials for Water Electrolysis

- **CP**
- **Electrolyte Membranes** (Produced in Germany by Greenerity)
- **CCM**

### Size of Market Relating to Electrolyte Membranes for Water Electrolyzers

<table>
<thead>
<tr>
<th>Year</th>
<th>Value (Billion Yen)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2022</td>
<td>20</td>
</tr>
<tr>
<td>2025</td>
<td>160</td>
</tr>
<tr>
<td>2030</td>
<td>Estimated by Toray</td>
</tr>
</tbody>
</table>

**Notes:**
- CCM: Catalyst Coated Membrane
- MEA: Membrane Electrode Assembly
- CP: Carbon Paper
- GDL: Gas Diffusion Layer
Demand for CNG tanks is increasing steadily for delivery vehicles and for CNG transport
Hydrogen tanks are increasingly being used in fuel cell vehicles, logistics trucks, railcars, and ships

Maintaining the world’s top market share for compressed natural gas (CNG) and hydrogen tanks

Applications

Demand Forecast of Carbon Fiber for Pressure Vessels

Expand at an annual growth rate of 42%
Sustainability Innovation Business (3): Products that help provide clean water and air and reduce environmental impact

Reverse Osmosis (RO) Membranes

Working to secure the world’s top market share through the global development of new high-performance products

- Building a local production for local consumption system to respond quickly to increased demand in RO membranes, where demand continues to expand, particularly in the Middle East and China
- Continuously improving meticulous after-sales service through global production, sales, and technical support systems
- Developing new high-performance products and driving cost reductions

Industrial RO Membrane Market Size

Expand at an annual growth rate of 5%

<table>
<thead>
<tr>
<th>(10,000 Elements)</th>
<th>CY</th>
<th>2022</th>
<th>2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>250</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>300</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>350</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Global Expansion of Toray Group’s RO Membrane Business (2022)

Delivered to 99 countries. The number of large-scale water treatment plants we have delivered to is over 100.
Expansion of Digital Innovation Business

Target

Achieve 250 billion yen revenue in FY 2025 mainly for semiconductor and display applications

Digital Innovation (DI) Business

- Electronic coating and mounting materials
- RO membranes for ultrapure water production
- Display materials
- Cleaning and stripping solvents
- Semiconductor manufacturing and inspection equipment
- Release film for semiconductor molds
- Flexible printed circuit boards
- PPS resin for power modules
- Courtesy of Mitsubishi Electric Corporation

Revenue from DI Business

Expand at an annual growth rate of 16%

250 Yen

2022 Forecast
2025 Target

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Digital Innovation Business (1)
Application Development for Electronic Coating Materials

Expanding our achievements and technical expertise globally to become the industry’s de facto standard

Market Sizes for Each Electronic Coating Material Application

Leveraging polyimide technology developed over the years to rapidly create high value-added products that meet customer needs in a timely manner

Electronic Coating Materials

Polyimide Technology

Semiconductor/electronic parts
- Memory/Logic/Power Semiconductor
- Frequency Filters, etc.

Displays
- OLED
- MicroLED Displays

Market Size of Semiconductors
Expand at an annual growth rate of 7%

(Billion Dollars)
0 200 400 600
2023 2024 2025

Market Size of OLED
Expand at an annual growth rate of 10%

(Billion Dollars)
0 20 40
2023 2024 2025

Estimated by Toray

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Leveraging the Toray Group’s collective strengths to expand the business globally

- Proposing packages of materials and processes, paired with manufacturing and inspection equipment, to provide total solutions

**MicroLED Display**
- Toray Group
  - Materials
  - Manufacturing and inspection equipment

  - Customers
  - MicroLED Display
  - Quality improvement
  - Increased productivity

**Power Semiconductor**
- Toray Group
  - Materials
  - Manufacturing and inspection equipment

  - Customers
  - Power Module
  - Performance improvement
  - Increased productivity

New company (TRENGEU) to be established in Germany (April 2023)

Toray Singapore Research Center (TSRC) established (June 2022)
By making the most of the Toray Group’s strengths, enhancing our ability to create value while strengthening our competitiveness to seize new profit opportunities.

The Toray Group’s Strengths

- Proposing solutions based on materials
- Creating new technologies through the pursuit of ultimate limits and technology integration
- Demonstrating the collective strengths of our R&D organizations
- Ensuring a stable supply of high-quality products
- Building a global value chain

Leveraging digital technology with a focus on the frontlines

Ultimate value creation
- By pairing tangible and intangible assets, work to extend value chains and create cross-organizational value
- Create new businesses that help solve social issues

Enhancing product and operational excellence
- Further improve quality, which is the cornerstone of the Toray Group brand
- Promote cross-organizational cost reduction activities that leverage the Group’s collective strengths
Examples of Initiatives to Create High Added Value for Businesses

Marketing our added value

- **Film for semiconductor processes**
  - Reducing film contaminants to support the miniaturization of semiconductor circuits
  - Improving semiconductor performance
  - Improving customer yields

  Helping to improve the value of customer products

- Building a global value chain for automotive materials
  - Creating value by making the most of technical resources, personal networks, and expertise through collaboration across regions, organizations, and products.
  - Environmental measures (for achieving carbon neutrality, and a circular economy)
  - Responding to needs for new parts and new materials associated with the shift to BEVs and FCVs

  Helping to improve the value of customer products and developing win-win relationships

Extension of the Value Chains

- **Water treatment subscription service**
  - Supporting operation and maintenance management using Toray’s proprietary real-time monitoring system, TORAYWISE™
  - Reducing burden on operation managers
  - Ensuring stable facility operation

  Expansion of adoption at facilities worldwide

- **Environmental measures (for achieving carbon neutrality, and a circular economy)**
- **Responding to needs for new parts and new materials associated with the shift to BEVs and FCVs**

Collaboration across regions, organizations, and products:

- Development-marketing collaboration:
  - Japan
  - China
  - Europe
  - Americas

Ascertaining customer needs:

- Automobile manufacturers (worldwide)
- Leading parts suppliers (worldwide)

Accelerating solution proposal:

Providing value to customers using our global development and marketing system
New Business Creation: Driving FT Project

Aiming to generate a total of one trillion yen in sales across the target themes in the 2020s by concentrating resources on large-scale themes that can help solve social issues and become growth drivers for the Toray Group

### Future TORAY-2020s Project (FT Project)

<table>
<thead>
<tr>
<th>Growth Business Field</th>
<th>Theme</th>
<th>Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Products that accelerate measures to counter climate change</td>
<td>Materials related to hydrogen and fuel cells</td>
<td>Long-term development</td>
</tr>
<tr>
<td>Products that facilitate sustainable, recycling-based use of resources and production</td>
<td>Products and process technologies utilizing biomass</td>
<td>Business development</td>
</tr>
<tr>
<td>Products that help provide clean water and air and reduce environmental impact</td>
<td>Environmentally friendly printing solutions</td>
<td>Business development</td>
</tr>
<tr>
<td>Products that help deliver better medical care and hygiene for people worldwide</td>
<td>Next-generation medical care</td>
<td>Business expansion</td>
</tr>
<tr>
<td>Digital related products</td>
<td>Next-generation display solutions</td>
<td></td>
</tr>
</tbody>
</table>

#### Products

- **Electrode base materials**
- **Hydrogen tank materials**
- **CCM / MEA**
- **Electrolyte membranes**
- **Environmentally friendly printing materials that contribute to CO2 emissions reduction and are VOC-free**
- **Cancer drugs**
- **Cancer diagnostic agents**
- **Cardiac diagnosis and treatment devices**
- **Next-generation display materials and manufacturing equipment**
Quality strength is the ability to provide a stable supply of the products that customers need. In order to ensure reliable worldwide delivery of the quality that is the cornerstone of the Toray brand, we are promoting the Quality Strength Enhancement Project. The aim is to thoroughly improve quality strength through integrated control and monitoring using digital technology.

### Quality Strength Enhancement Project (QE Project)

**Comprehensively managing process capability for each product, utilizing digital technology.**

**Enhancing quality strength in every phase,** from design and development to sales.

#### Measures

- **Design and development**
  - Design and development that makes it easier to produce high-quality products

- **Production**
  - Process capability and quality control system for each product and piece of equipment

- **Sales**
  - Reflecting reliably and properly customer performance requirements to quality

#### Effects

- Reliable high quality achieved in mass production
- Stable production of high-quality products
- Appropriate product standards
Promoting cross-organizational cost-reduction initiatives that leverage the collective strengths of the organization.

**Total Cost Reduction Project**

<table>
<thead>
<tr>
<th>Variable cost reduction activities</th>
<th>Fixed cost reduction activities</th>
<th>Production process innovations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effect target</td>
<td>Effect target</td>
<td>Effect target</td>
</tr>
<tr>
<td>125 billion yen / 3 years</td>
<td>60 billion yen / 3 years</td>
<td>15 billion yen / 3 years</td>
</tr>
</tbody>
</table>

Cumulative cost reduction of 200 billion yen over 3 years

The Group will roll out a mechanism for sharing information on inter-organizational activities and cost reduction initiatives group-wide. It will also enhance efforts to control costs and improve yields at group companies outside Japan in particular.
Utilizing Digital Technology

Strengthening value creation and competitiveness by investing in data infrastructure construction, technology integration, and development of human resources fluent in digital technologies, as well as by employing advantageous digital technologies to resolve frontline issues and create new value.

### Investment related to digital technology: 20 billion yen

<table>
<thead>
<tr>
<th>Building a global data infrastructure</th>
<th>Promoting the accumulation, sharing, and visualization of data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combining analysis and simulation technologies</td>
<td>Using AI and MI* to capture benefits of digitally leveraged manufacturing</td>
</tr>
<tr>
<td>Cooperating with value chain partners</td>
<td>Real-time cooperation and management</td>
</tr>
<tr>
<td>Development of human resources fluent in digital technologies</td>
<td>Establishing a base of human resources fluent in digital technologies totaling 2,000 people group-wide</td>
</tr>
</tbody>
</table>

- Focusing on the development of senior leaders and leaders who are familiar with both the frontlines and digital technology

#### Level of Digital Fluency

- **Expert**: Over 20 people
- **Senior Leader**: Over 200 people
- **Leader**: Over 600 people
- **Associate**: Over 1,200 people
- **General Digital Personnel**

---

**Enhancing value creation capability and competitiveness by adopting digital technologies with a focus on the frontlines**

**New material and service creation**
- Advancing and developing simulation and informatics technologies
- Combining material analysis, molding/chemical engineering analysis, and simulation technology

**Manufacturing cost reduction, and quality improvement**
- Improving production efficiency using advanced process monitoring and data analysis
- Raising the level of supply chain management using production planning simulations

---

*Materials Informatics*
Creating New Material and Services with Digital Technology

Accelerating the creation of new materials and driving business expansion by further advancing the MI, AI, and simulation technologies that Toray has developed over the years

1. Customer solution provision: Material concierge service

Optimal resin selection service launched in February 2023

- **Concierge system**
  - Vast amounts of material data
  - AI
  - Direct input of desired physical properties
  - Immediate optimum resins proposals

- **Customer**
  - **Advantages**
    - Enables optimal material selection with limited material knowledge
    - Reduces development time to 1/4 or less

2. R&D efficiency: Utilization of integrated MI

Halving the conventional CFRP development period to achieve both flame resistance and mechanical properties

- **Toray**
  - Vast amounts of material data
  - Integrated MI*
    - Combines multi-scale simulations and self-organizing maps

- **Achieving target physical properties in a short period of time**
  - Relative value (%)
  - Development period
  - Conventional product: 100, Development period: 50
  - Integrated MI usage: 50% decrease
Strengthening the Management Foundation
Resilience Management Focused on Human Resource Development, Risk Management, and Financial Soundness
Enhancing the Toray Group’s human resources base by respecting individual autonomy, enhancing expertise, and promoting career development

Enhancement of people-centric management

- Actively appointing young core human resources
- Planned promotion of locally hired staff to management positions at group companies outside Japan
- Developing and providing career opportunities for highly specialized human resources
- Empowering women in the workforce and supporting their networking
- Providing opportunities for senior human resources

- Supporting self-reliant career development based on career path worksheets used by employees and their superiors
- Developing professional human resources by supporting employee self-development and empowering them to acquire abilities and skills
- Expanding opportunities such as internal recruitment, encouraging employees to take on new challenges
- Training leaders who can develop workplace competency
- Creating workplaces environments and opportunities that lead to employee pride in working for the Toray Group
- Enabling work styles that accommodate employee life stages, along with career development
- Building an organizational culture that values feedback from the frontlines
- Actively appointing young core human resources
- Planned promotion of locally hired staff to management positions at group companies outside Japan
- Developing and providing career opportunities for highly specialized human resources
- Empowering women in the workforce and supporting their networking
- Providing opportunities for senior human resources

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- Creating workplaces environments and opportunities that lead to employee pride in working for the Toray Group
- Enabling work styles that accommodate employee life stages, along with career development
- Building an organizational culture that values feedback from the frontlines
Enhancing Risk Management and Group Governance

Achieving sound organizational management by improving internal controls and management capabilities

<table>
<thead>
<tr>
<th>Risk Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Implementing risk management through a group-wide risk management system</td>
</tr>
<tr>
<td>- Enhancing the risk management system and response to national economic security needs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Internal controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Ensuring the effectiveness of internal controls by improving the operation and quality audit systems</td>
</tr>
<tr>
<td>- Improving internal controls by promoting operation flow digitization</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Enhancing Toray Group management capabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Enhancing management capabilities of group companies in each country and region</td>
</tr>
<tr>
<td>Legal affairs and compliance</td>
</tr>
<tr>
<td>Development of management human resources</td>
</tr>
<tr>
<td>Internal controls</td>
</tr>
<tr>
<td>Information security</td>
</tr>
<tr>
<td>Financial risk management</td>
</tr>
<tr>
<td>DX promotion</td>
</tr>
</tbody>
</table>
Maintaining and Enhancing Financial Soundness

Improving asset efficiency in terms of cash flow and ROIC, while expanding high-growth, high-profitability businesses by achieving both business growth and greater profitability

Seizing Profit Opportunities
- Expanding businesses in growth fields (SI/DI businesses)
- Improving profitability through value creation
- Improving reliable return on investment
- Investing necessary management resources to achieve targets
- Promoting M&A in areas where synergies can be expected

Growing core operating income

Strengthening the Management Foundation
- Using a D/E ratio guideline of 0.7 or lower
- Enhancing management of free cash flow
- Reducing working capital by maintaining Cash Conversion Cycle Improvement (3C-i) activities
- Enhancing structural reforms based on Four categories for growth potential and profitability

Efficient management of invested capital

Four categories for growth potential and profitability

- Expanding high-growth, high-profitability businesses, and increasing profitability
- Continuing structural reforms for low-growth, low-profitability businesses

High-growth and low-profitability businesses
- Capital Investment
- Enhancing competitiveness

High-growth and high-profitability businesses
- Capital Investment
- M&A

Low-growth and low-profitability businesses
- Business structure reform

Low-growth and high-profitability businesses
- Capital Investment
- Increasing market share
Revising the D/E ratio guideline from “about 0.8” to “0.7 or lower” to support sound, sustainable growth with a strong financial foundation.

**AP-G 2025 targets**
- Free cash flow: Positive (3-year total)
- D/E ratio: 0.7 or lower

**3-year total of Capital Allocation (FY 2023-2025)**

**CF from Operating Activities**
- 760 billion yen

**CF from Investing Activities (Net investment)**
- 720 billion yen

**CF from Financing Activities**
- Interest-bearing liabilities, etc.

**Business investment**
- Capital investment: 500 billion yen
  - Including investments for growth business fields: 270 billion yen
- R&D Expenses: 220 billion yen
  - Including investments for growth business fields: 180 billion yen
- Shareholder returns policy
  - While maintaining stable continuous dividends, aiming to increase dividends based on earnings growth
  - Dividend payout ratio of 30% or more
Capital Investment and R&D Expenses

Focusing 50% of capital investment and 80% of R&D expenses on growth business fields

**Breakdown of Capital Investment**

- Regular investment, etc.: Growth business fields
- Environment compliance investment
- Digital-related
- Growth business fields: 3-year total: 500 billion yen

**Breakdown of R&D Expenses**

- Others
- Growth business fields: 3-year total: 220 billion yen

For M&A, conduct strategic investments separately from capital investments
FY 2030 Sustainability Targets
Accelerating Efforts to Achieve the Toray Group Sustainability Vision
## Toray Group Sustainability Vision: FY 2030 Targets

Accelerating sustainability initiatives by setting higher targets for FY 2030

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Supply of Green Innovation products</strong></td>
<td>4-fold</td>
<td><strong>Supply of Sustainability Innovation products</strong>¹</td>
<td>4.5-fold</td>
</tr>
<tr>
<td><strong>Supply of Life Innovation products</strong></td>
<td>6-fold</td>
<td><strong>CO₂ emissions avoided in value chain</strong>²</td>
<td>25-fold</td>
</tr>
<tr>
<td><strong>CO₂ emissions avoided in value chain</strong>²</td>
<td>8-fold</td>
<td><strong>Water filtration throughput contribution by Toray's water treatment membranes</strong>³</td>
<td>3.5-fold</td>
</tr>
<tr>
<td><strong>Water filtration throughput contribution by Toray’s water treatment membranes</strong>³</td>
<td>3-fold</td>
<td><strong>GHG emissions in production activities</strong>⁴</td>
<td><strong>Per unit of revenue across the Toray Group</strong>⁴</td>
</tr>
<tr>
<td><strong>GHG emissions in production activities</strong>⁴</td>
<td>Per unit of revenue across the Toray Group⁴</td>
<td><strong>Greenhouse gas emissions of Toray Group in Japan</strong>⁵</td>
<td>40% or more reduction</td>
</tr>
<tr>
<td><strong>Water usage in production activities</strong></td>
<td>Per unit of revenue across the Toray Group</td>
<td><strong>Water usage in production activities</strong></td>
<td><strong>Per unit of revenue across the Toray Group</strong></td>
</tr>
</tbody>
</table>

1. (1) Products that accelerate measures to counter climate change; (2) products that facilitate sustainable, recycling-based use of resources and production; (3) products that help provide clean water and air and reduce environmental impact; and (4) products that help deliver better medical care and hygiene for people worldwide.
2. Toray calculates the CO₂ emissions reduced throughout the value chain of products in accordance with the chemical sector guidelines of the Japan Chemical Industry Association, the International Council of Chemical Associations (ICCA), and the World Business Council for Sustainable Development (WBCSD).
3. Water treated annually with Toray water treatment membranes. It is calculated by multiplying the amount of fresh water that the Toray membranes can produce per day, including reverse osmosis (RO), ultrafiltration (UF) and membrane separation bioreactors (MBR), by the number of membrane elements sold.
4. With the use of renewable energies and other zero emission power sources rising worldwide, the Toray Group aims to employ zero-emission power sources at a rate equivalent to or better than the targets in each country by fiscal 2030.
5. In Japan, Toray works to surpass the reduction target set for the industrial sector by the Japanese government (absolute emissions reduced by 38%) in its comprehensive plan (Cabinet decision on October 22, 2021) based on Japan’s Act on Promotion of Global Warming Countermeasures.
Carbon Neutrality Initiatives

Helping the broader society to reduce overall greenhouse gas emissions through the Sustainability Innovation (SI) Business. Also reducing Toray Group greenhouse gas emissions* by maximizing the use of renewable electricity, hydrogen, and low carbon-footprint raw materials, based on expansion of the SI Business. (*Scope 1, 2, 3)

**Contributing to building a carbon-neutral world**

Increasing the Volume of Greenhouse Gas Emissions Avoided through the Sustainability Innovation (SI) Business

- Reducing emissions
- Promoting carbon capture

**Achieving carbon neutrality for the Toray Group by 2050**

Adopting greenhouse gas emissions reduction technology in business activities

- Maximizing the use of zero-emission electricity and fuels
- Increasing the efficiency of existing production processes
- Developing innovative low-greenhouse gas emission production technologies
- Developing and maximizing the use of recycling technology and biotechnology
- Taking on the challenge of CO$_2$ recycling and carbon capture

**Returns from the SI Business**

**FY2030 Target [Compared to FY2013]**

- Supply of Sustainability Innovation products: 4.5-fold
- CO$_2$ emissions avoided in value chain: 25-fold

**FY2030 Target [Compared to FY2013]**

- GHG emissions in production activities: Over 50% reduction
- GHG emissions per unit of revenue for the entire Toray Group: Over 40% reduction
- GHG emissions of Toray Group in Japan: Over 40% reduction

*Scope 1, 2, 3*
Promote carbon neutrality for the planet

**CO₂ emissions avoided in value chain (Baseline: FY 2013)**

<table>
<thead>
<tr>
<th>(FY)</th>
<th>2013</th>
<th>2022</th>
<th>2025</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline year:</td>
<td>38 million tons</td>
<td>9.5-fold (Forecast)</td>
<td>15-fold New target after review</td>
<td>25-fold 8-fold (Previous target) New target after review</td>
</tr>
</tbody>
</table>

**Emissions reduction in the SI Business**
- Energy conservation (Carbon fiber for aircraft, and comfortable clothing, etc.)
- Renewable energy (Carbon fiber for wind turbine blades, and materials to build hydrogen infrastructure, etc.)
- Water treatment
- Air purification
- Recycling
- Biomass-based materials
- Low environmental impact

**Volume of CO₂ emissions avoided through use of Toray products**
- CO₂ emissions avoided by lowering life cycle emissions with materials that reduce aircraft weight*1
  - Conventional aircraft: 395 (Kt-CO₂/unit)
  - CFRP aircraft: 368 (Kt-CO₂/unit)
- CO₂ emissions avoided by using RO membranes for seawater desalination*1
  - Evaporation method: 336 (t-CO₂/2.6m³-water)
  - RO membrane method: 53 (t-CO₂/2.6m³-water)

*1 Figures in the circles above represent CO₂ emissions for the entire product life cycle

Source: Innovations for Greenhouse Gas Reductions, Japan Chemical Industry Association (JCIA)
Achieving Carbon Neutrality across the Toray Group

Emission Reductions in Production Activities

Toray Group will reduce greenhouse gas emissions in the production stage by switching to cleaner fuels and leveraging the Group’s proprietary knowledge and technologies. We have raised our emissions reduction target for FY 2030 because our own carbon neutralization and sustainability initiatives are progressing ahead of plan.

**Through the Challenge 50+ Project, aiming to achieve the following targets by FY 2030 compared to FY 2013**

<table>
<thead>
<tr>
<th><strong>Target</strong></th>
<th><strong>GHG Emissions Reduction</strong></th>
<th><strong>Water usage reduction</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower GHG emissions per unit of revenue across the Toray Group by:</td>
<td><strong>50% or more</strong> (Increased from the previous target of 30%)</td>
<td><strong>50% or more</strong> (Increased from the previous target of 30%)</td>
</tr>
<tr>
<td>Lower GHG emissions of Toray Group in Japan by:</td>
<td><strong>40% or more</strong> (Increased from the previous target of 7%)</td>
<td></td>
</tr>
<tr>
<td>GHG emissions per unit of revenue across the Toray Group</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1,000 tons/100 million yen)</td>
<td></td>
<td>(1,000 tons/100 million yen)</td>
</tr>
<tr>
<td>Over 50% reduction</td>
<td></td>
<td>Over 50% reduction</td>
</tr>
<tr>
<td><strong>2010</strong></td>
<td><strong>2015</strong></td>
<td><strong>2020</strong></td>
</tr>
<tr>
<td>0.4</td>
<td>0.3</td>
<td>0.2</td>
</tr>
</tbody>
</table>

**Measures**

- GHG Emissions Reduction
  - Replacing coal-fired boilers with purchased electricity
  - Fuel conversion
  - Expanding use of biomass fuels
  - Maintaining energy-saving activities
  - Expanding use of renewable electricity
  - Deploying successful improvement models across the Group

- Water usage reduction
  - More wastewater recycling using Toray water treatment technology

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Initiatives to Build a Circular Economy

Accelerating initiatives for biomass-based plastic products and material/chemical recycling

**Raw materials**

- **Fossil resources**
  - Membrane-integrated biotechnology

- **Biomass**

- **Air/Emission gas** (CO₂)

**Production, use**

- **Use of plant-based raw materials** (Bio-based PET, nylon raw materials, etc.)

- **Raw Materials**

- **Pellets**

- **CO₂**

- **Chemical Recycling**

- **Toray’s technologies related to energy and water that support a circular economy**
  - Electric power from renewable energy
  - Green Hydrogen
  - Water Treatment

**Waste (minimize)**

- **Toray materials** (fibers and textiles, resins, films)

- **Used plastics** (including those generated outside the Toray Group)

- **Toray materials**

- **PET (fibers and textiles, films), ABS resins**

- **Nylon fiber products**

- **Material recycling**

- **Gas separation membrane**

- **CO₂ recycling**

- **Toray’s Technology and Products**
Toray Group has established proprietary recycling systems that collect and recycle surplus materials and used products and convert them into recycled raw materials. Based on new system development, recycling technology advancement and conversion to biomass-based raw materials, these systems contribute to recycling-oriented use of resources and production, while improving the value of Toray Group products and businesses.

### Examples of Recycling-Oriented Use of Resources

#### Recycling

- **Recycled PET film ECOUSE™ Lumirror™**
  - Recycled film made from used film collected from our customers. The manufacturing process emits significantly less CO₂ than the process for conventional products.

- **Fiber made from recycled plastic(PET) bottles &+™**
  - Enabling Used plastic(PET) bottles are recycled to create the raw material for high-quality, high-performance fiber.
  - Verification of recycling by Toray
  - Product commercialization promoted through cross-industry collaboration

#### Biomass

- **Switching to Biomass-Based Materials**
  - Transitioning to biomass-based materials, which will help society move away from fossil fuels and reduce greenhouse gas emissions.

  - **Partial bio-based PET fiber** (Since FY2013) Mass production
    - Made from non-edible sugar cane molasses
    - Ultrasuede™PX

  - **100% bio-based PET fiber** (Since FY2017) Pilot sales
    - Made from sugar cane

  - **100% bio-based nylon 510 fiber** (Since FY2022) Pilot sales
    - Made from Non-edible castor-oil plant
    - Ecodear™N510

### Financial Targets

- **Revenue target for products that facilitate sustainable, recycling-based use of resources and production in the SI Business in FY 2030 (P22)**
  - 400 billion yen

- **Target for percentage of raw materials sourced from recycling, derived from biomass, or produced with CO₂ recycling used in Toray core polymers (**1) in FY 2030**
  - 20%

*1 PET and nylon polymers
Summary

Toray Group Sustainability Vision
We deliver innovative technologies and advanced materials that provide real solutions to the challenges the world faces with balancing development and sustainability.

Project AP-G 2025
“Innovation and Resilience Management”
Value Creation for New Momentum

Seizing Profit Opportunities

1. Expanding businesses related to Sustainability Innovation Business and Digital Innovation Business
2. Maximizing value to the customers by making the most of tangible and intangible assets, and by collaborating with external partners, to improve profitability
3. Enhancing quality strength and leveraging digital technology to promote competitiveness

Strengthening the Management Foundation

4. Promoting individual career development, while improving job satisfaction and pleasant working environment
5. Controlling risks on business operations properly
<Reference>
Segment Information
Revenues and Core Operating Income Targets by Segment

### Revenues

<table>
<thead>
<tr>
<th>Segment</th>
<th>2022</th>
<th>2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fibers &amp; Textiles</td>
<td>997.0</td>
<td>1,030.0</td>
</tr>
<tr>
<td>Performance Chemicals</td>
<td>282.0</td>
<td>1,040.0</td>
</tr>
<tr>
<td>Carbon Fiber Composite Materials</td>
<td>234.0</td>
<td>370.0</td>
</tr>
<tr>
<td>Environment &amp; Engineering</td>
<td>1,040.0</td>
<td>2,800.0</td>
</tr>
<tr>
<td>Life Science</td>
<td>280.0</td>
<td>20.0</td>
</tr>
<tr>
<td>Others</td>
<td>2,510.0</td>
<td>2,800.0</td>
</tr>
<tr>
<td>Adjustment</td>
<td>60.0</td>
<td>20.0</td>
</tr>
</tbody>
</table>

### Core Operating Income

<table>
<thead>
<tr>
<th>Segment</th>
<th>2022</th>
<th>2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fibers &amp; Textiles</td>
<td>22.0</td>
<td>27.0</td>
</tr>
<tr>
<td>Performance Chemicals</td>
<td>15.0</td>
<td>36.0</td>
</tr>
<tr>
<td>Carbon Fiber Composite Materials</td>
<td>15.0</td>
<td>35.0</td>
</tr>
<tr>
<td>Environment &amp; Engineering</td>
<td>51.5</td>
<td>91.0</td>
</tr>
<tr>
<td>Life Science</td>
<td>2.0</td>
<td>2.0</td>
</tr>
<tr>
<td>Others</td>
<td>26.0</td>
<td>40.0</td>
</tr>
<tr>
<td>Adjustment</td>
<td>-26.0</td>
<td>-40.0</td>
</tr>
</tbody>
</table>

(All figures in Billion yen)
Capital Investment by Segment

AP-G 2022: 3-year Total
(FY 2020-2021 results and forecast for FY 2022)

- Performance Chemicals: 43%
- Fibers & Textiles: 21%
- Environment & Engineering: 9%
- Life Science: 6%
- Other: 2%
- Carbon Fiber Composite Materials: 19%

Total: 388 Billion Yen

AP-G 2025: 3-year Total

- Performance Chemicals: 36%
- Fibers & Textiles: 20%
- Environment & Engineering: 6%
- Life Science: 4%
- Other: 1%
- Carbon Fiber Composite Materials: 33%

Total: 500 Billion Yen
Promoting environmentally friendly materials and rebuilding recycling supply chains. Driving business expansion in growth fields and high value-added strategies with functional fibers.

Business expansion in growth fields based on high-performance, highly textured products that make use of environmentally friendly materials

- Promoting material recycling, chemical recycling, and the use of biomass-based raw materials to help build a circular economy
- To meet the needs of a circular economy, rebuilding the recycling supply chain and developing an integrated business across the entire value chain by collaborating with customers

Business expansion in growth fields, and creating high added value with proprietary technologies

- In the expanding automotive market, reaping the benefits of capital investment in ultra-microfiber nonwoven material with a suede texture and airbags
- Creating new demand and high added value with functional fibers created using NANODESIGN™ technology

![Graph showing revenue and core operating income growth](image-url)

- **FY 2022 Forecast**
  - Revenue: 997.0 Billion yen
  - Core Operating Income: 51.5 Billion yen
  - ROIC: 6%

- **FY 2025 Target**
  - Revenue: 1,030.0 Billion yen
  - Core Operating Income: 64.0 Billion yen
  - ROIC: 7%

*1: ROIC = Core Operating Income after Tax / Average Invested Capital
Performance Chemicals

Resins & Chemicals Business

**Contributing to building a sustainable world by creating high value-added products**

- Becoming an open organization, rebuilding the quality assurance system, and enhancing chemical substance management
- Creating high value-added businesses by developing high performance products and practicing proposal-based product development

Films Business

**From plastic films to environmentally friendly functional films**

- Expanding films for electronic component manufacturing processes (MLCC, semiconductor package, and polarizing plate applications)
- Expanding and accelerating the development of environmentally friendly products

Electronic & Information Materials Business

**Expanding sales of strategic products in growth markets and regions based on “The One Strategy” set forth by the Electronic & Information Materials Business**

- Expanding the Digital Innovation Business by rapidly creating high value-added electronic materials in a timely manner
- Delivering continuous business expansion by providing solutions that employ advanced materials to customers

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![Graph](chart.png)

- **Revenue (left axis)**
- **Core operating income (right axis)**
- **ROIC**

- **Growth Business Field**
  - FY 2022 Forecast: 926.0 Billion yen
  - FY 2025 Target: 1,040.0 Billion yen
  - Growth: 3%

- **Growth Business Field**
  - FY 2022 Forecast: 35.0 Billion yen
  - FY 2025 Target: 91.0 Billion yen
  - Growth: 8%
### Revenue Target by Subsegment

<table>
<thead>
<tr>
<th>Subsegment</th>
<th>FY 2022 Forecast</th>
<th>AP-G 2025 FY 2025 Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resins &amp; Chemicals</td>
<td>427.0</td>
<td>550.0</td>
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<tr>
<td>Films</td>
<td>327.0</td>
<td>400.0</td>
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<tr>
<td>Electronic &amp; Information Materials</td>
<td>56.0</td>
<td>100.0</td>
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<tr>
<td>Trading, other</td>
<td>553.0</td>
<td>590.0</td>
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<tr>
<td>Reconciliations</td>
<td>▲437.0</td>
<td>▲600.0</td>
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<tr>
<td>Total</td>
<td>926.0</td>
<td>1,040.0</td>
</tr>
</tbody>
</table>
Carbon Fiber Composite Materials

Maintaining the global industry’s top position by pursuing high functionality and reliability (usability). Capturing market growth in both aviation and industrial/sports applications.

Capturing recovering aircraft demand

Enhancing profit structure by improving profitability in industrial applications

Capturing expanding markets based on large-scale capital investment

- Expanding business in energy fields such as wind turbine blades and fuel cell vehicles (tanks and electrode substrates)

Serving mobility fields such as urban air mobility (UAM), where growing demand is expected in the future

Improving the quality of carbon fiber products, which has a direct impact on improving the value of consumer products
Securing top market share for reverse osmosis (RO) membranes and expanding the engineering business

**Water Treatment Business**
- Enhancing global production and sales systems to better achieve the principle of local production for local consumption
- Accelerating the development and launch of new products that capture the needs of growth business fields, and expanding sales
- Boosting technical service capabilities and providing a high level of value to customers

**Engineering Business**
- Expanding business related to manufacturing plants and equipment for pharmaceuticals, LiBs (rechargeable batteries), and electronics equipment, which are growing markets
- Improving technology and cost competitiveness by enhancing integrated Group management
- Expanding business by utilizing the Group’s sites around the world (LIB coaters and power semiconductors)
Life Science

Strengthening the business foundation by pursuing business development outside Japan, expanding indications, improving existing products, and ensuring thorough cost reductions

**Pharmaceuticals Business**
- Maintaining the business foundation and securing earnings by expanding outside Japan and augmenting indications for oral pruritus improvement drug REMITCH®

**Medical Devices Business**
- Expanding sales by improving existing products such as the HotBalloon™ ablation catheter and progressively releasing them on the market
- Expanding worldwide sales of dialyzers with high added value
- Expanding sales by enhancing solution proposals with new dialysis equipment products and management systems that utilize DX and AI technologies

**New Businesses**
- Establishing a business structure for pancreatic cancer diagnostic agents and releasing them

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