Polymer Solutions

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Message from the Division Head

The domestic petrochemical industry is facing the need for fundamental structural reform due to the drop in domestic demand, the impact of new and expanded petrochemical plants in China, and responses to decarbonization. There is a series of industry reorganizations, including consolidation of ethylene centers and withdrawal from derivative product businesses. Our company, with integrated production from raw material styrene monomers to food packaging containers, and a significant portion of this division's sales coming from the styrene business, is also facing required structural reform.

This fiscal year, we will focus on business restructuring, including collaboration with other companies and downsizing, as well as stable operation and social implementation of the polystyrene chemical recycling demonstration facility that began operation last year. We will strive to make our styrene chain a sustainable business that contributes to achieving a circular economy.

Strategies for Achieving the Goals of the Management Plan "Mission 2030" (Strategies toward 100% "Three-Star Businesses")

Strategic areas and markets	[Key products]	[2024 results]	[2026 plan]	[Division Goals for 2030]
Automotive Energy industry Housing and home appliances	● High-performance styrene-based resins (MS, IP, ABS) ● Special additives for oil and gas field drilling, building materials, etc. (Poval) ● Building materials, flexible air conditioning materials, gutters, aluminum ducts (Denka Astec)	● Launch of high-performance transparent resin (DSPL: MS-TX300) ● Promote the development of high-performance polyvinyl alcohol: Polyvinyl alcohol for water-soluble fibers (Applications: new sustainable-design laundry detergents, etc.) ● Launch of new gutter "AR120": Denka Astec ● Launch of rainwater tank "PURE EDEN": Denka Astec	● Forecast the trend in the petrochemistry industry, aiming at optimization of management structure with alliances in the relevant businesses in mind (1) Structural reform in the styrene chain business (2) ROIC improvement (3) Response to geopolitical risks (4) DX promotion (5) New business creation ● Develop a system to achieve a circular economy (1) Achieve horizontal recycling with customers (2) Expand outlets through the penetration of the resource circulation system brand "D-NODE™" ● Expand achievements in high-performance Poval ● Increase profits through consolidation of Toyokalon business at DAPL	● Portfolio transformation: Improving corporate value through portfolio transformation, increasing added value, new business creation, and alliance building ● Sustainable & Disruptive Innovation: Create new three-star businesses through: Innovation utilizing the styrene chain and Denka's elemental technologies and Innovation through M&A and the utilization of external resources ● Ahead to green: ・Styrene chemical recycling ・Promotion of environmental products ・Establish circular economy models from upstream to downstream through collaboration with local communities
Food packaging materials Hair products	● High-performance styrene-based resins (CLEAREN, MS, AS) ● Oil-resistant, heat-resistant, high-strength thin sheets (BOPS) ● Functional barrier sheets ● Raw yarn for wigs and hairpieces (Toyokalon)	● Start of operation of polystyrene chemical recycling demonstration plant ● Entered into a business partnership agreement with Ichihara City, Chiba, for collection of used polystyrene ● Sustainable products: Launch of environmentally friendly material "Biomass BOPS" ● Started discussions with customers in the household packaging and functional resin divisions to realize horizontal recycling ● Toyokalon business: Decided to consolidate production at DAPL to achieve structural reform and transition to a high-profit business		

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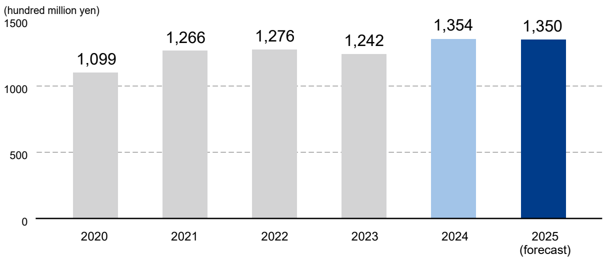
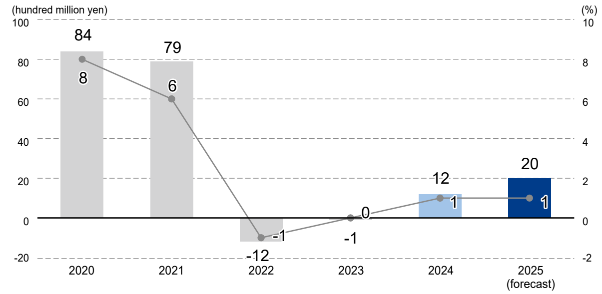
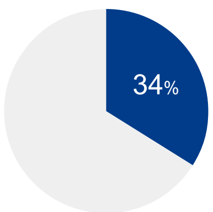
Net Sales Trends and Outlook



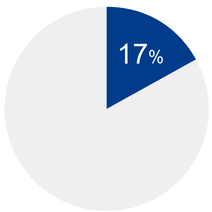
Trends and Outlook for Operating Income/ Operating Income Ratio



Percentage in Overall Net Sales (FY2024)



Percentage in All Employees (FY2024)



SWOT Analysis

Strengths S

- An integrated manufacturing and marketing system that encompasses a range of styrene-based operations from the production of raw materials to the manufacture of processed products
- Development of plastic resins and processed products in a way that accommodates growing needs for eco-friendly solutions
- Global business capabilities backed by a two-location production system comprising of bases in Japan and Singapore
- A diverse range of resin processing technologies, including those associated with polymer structure design and control and the production of sheets, films, and synthetic fiber
- Synergies arising from the combination of materials and processed products as well as solution proposal and development capabilities supported by such synergies

O Opportunities

- Development of plastic resins and processed products in a way that accommodates growing needs for eco-friendly solutions
- Establishment of a comprehensive recycling system that takes full advantage of the strengths afforded by our integrated production system, extending from raw materials to processed products, and thereby meeting demand arising from the growing trend towards resource recycling
- Versatile expansion stemming from our diverse product lineup
- Operation of a polystyrene chemical recycle demonstration plant for social implementation

Weaknesses W

- Expand petrochemical plants in China (global supply-demand balance changes)
- Time lag between fluctuations in the prices of raw materials (e.g. naphtha and benzene) and product price revisions reflecting these external conditions

T Threats

- A decline in the need for plastic due to environmental problems induced by waste plastics (especially single-packaging containers)
- Intensification of price competition in step with the improvement in the quality of products manufactured by overseas competitors
- Unstable procurement of various raw materials (due to rises in costs, the abolishment of certain materials, etc.)
- Restructuring of the petrochemistry industry at a global scale

"Investment" for Further Growth

- Implement styrene chemical recycling (SCR) in society
- Install equipment for high-performance PVA production
- Construct new high-performance polymer facilities

"Cash Generation" through Strengthening Existing Businesses

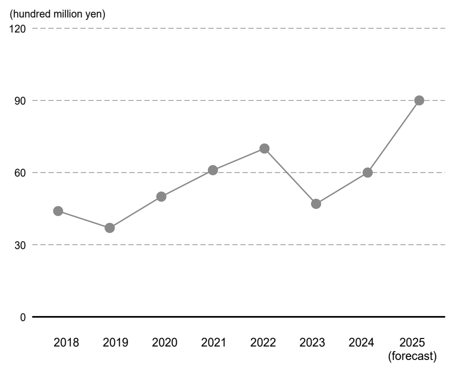
Structural transformation

- Promote fundamental reforms by combining overall and individual optimization of the styrene chain
- Downsize, contract manufacturing with competitors, recycling, logistics, etc.

ROIC Improvement

- Optimize production through rational decision-making, transfer or withdrawal from unprofitable businesses
- Improve profitability through cost reduction and introduction of differentiated, high value-added products

Investment value trends



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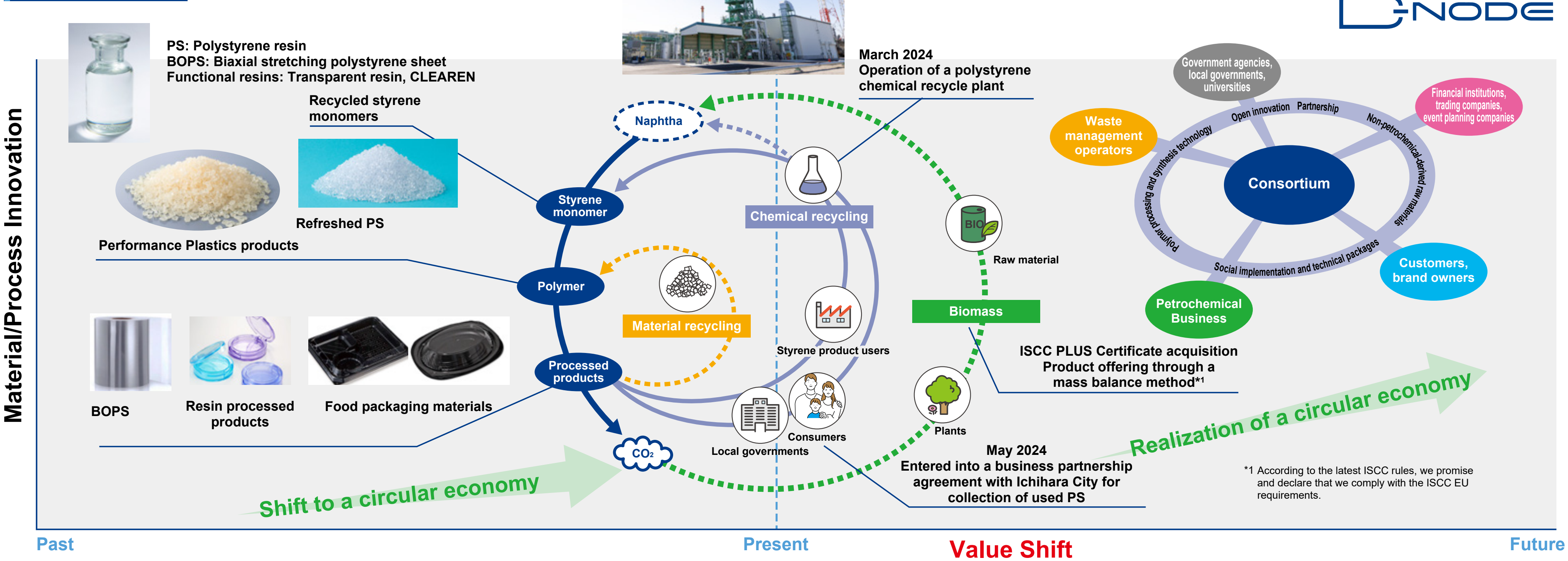

Contributing to Society through Business

● The Denka Group Provide New Values by Leveraging the Characteristics of the Styrene Chain and Achieving a Circular Economy.

Denka and Toyo Styrene Co., Ltd., an affiliate accounted for under the equity method began operating a polystyrene chemical recycle plant at the Chiba Plant from March 2024, based on the common idea that establishing a new recycle system to recycle resources is necessary. It is a new initiative to collect used containers including food packaging materials (post-consumer materials) and remnant materials (post-industrial materials) generated from sheet and container production plants (processes), decompose chemically, recycle as row materials for plastic products. It is positioned as the first step towards a circular economy. In this initiative, a business partnership agreement has been concluded with Ichihara City, Chiba Prefecture, and Denka, Toyo Styrene, and Denka Polymer acquired ISCC PLUS Certificates for their styrene chain, enhancing the effectiveness of our initiatives.

To promote these activities, the Denka Group has launched its own resource circulation system brand, "D-NODE™," with the aim of achieving a sustainable society.

Through "D-NODE™," we will contribute to further reduction of fossil-derived raw materials by promoting recycling through appropriate methods, including chemical and material recycling, and the use of biomass materials (including mass balance methods).

[Future movement]

The Denka Group aims to achieve a circular economy by proposing the formation of a consortium in which customers, local communities, municipalities, and other diverse stakeholders collaborate. We will promote technological development and social demonstration experiments that cannot be achieved by a single company, with the aim of achieving a sustainable society.