Kuraray Co., Ltd.

Investment in a New EVAL™ Plant

Presenter:

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Please refer to the first slide.

As announced yesterday, we have decided to construct a new EVAL™ plant in Singapore, and we would like to explain the details here.



Before I discuss the details of the investment, I will first briefly explain about EVAL™.

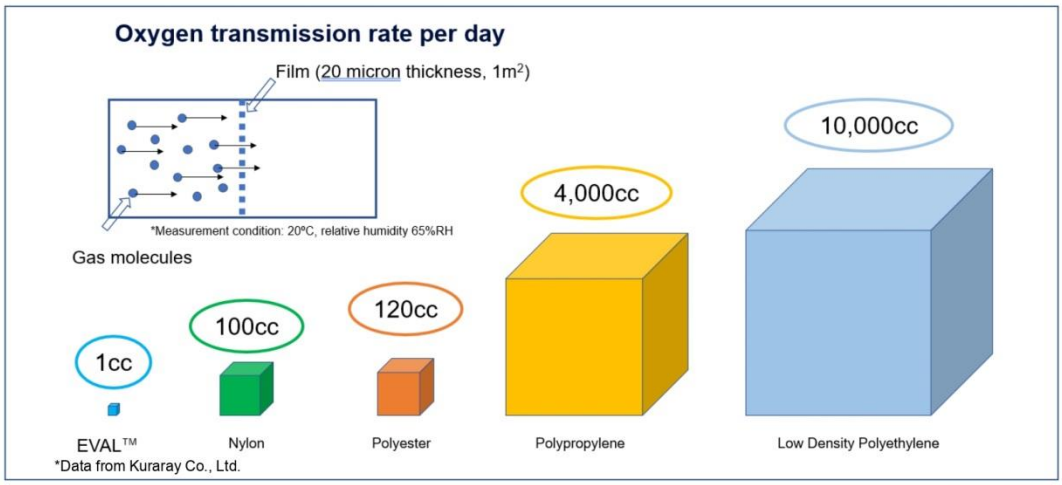
EVOH resin is the functional polymer that we commercialized first in the world. Because of its excellent gas barrier property, it is widely used in food packaging application, contributing greatly to the reduction of food loss.

In addition to food packaging applications, EVAL™ is also used in industrial applications such as gasoline tanks for automobiles, as shown in this slide, floor heating pipes, and vacuum insulation panels for refrigerators, making EVAL™ an indispensable part of modern society.

Gas barrier properties of EVAL™

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Comparison of gas barrier properties



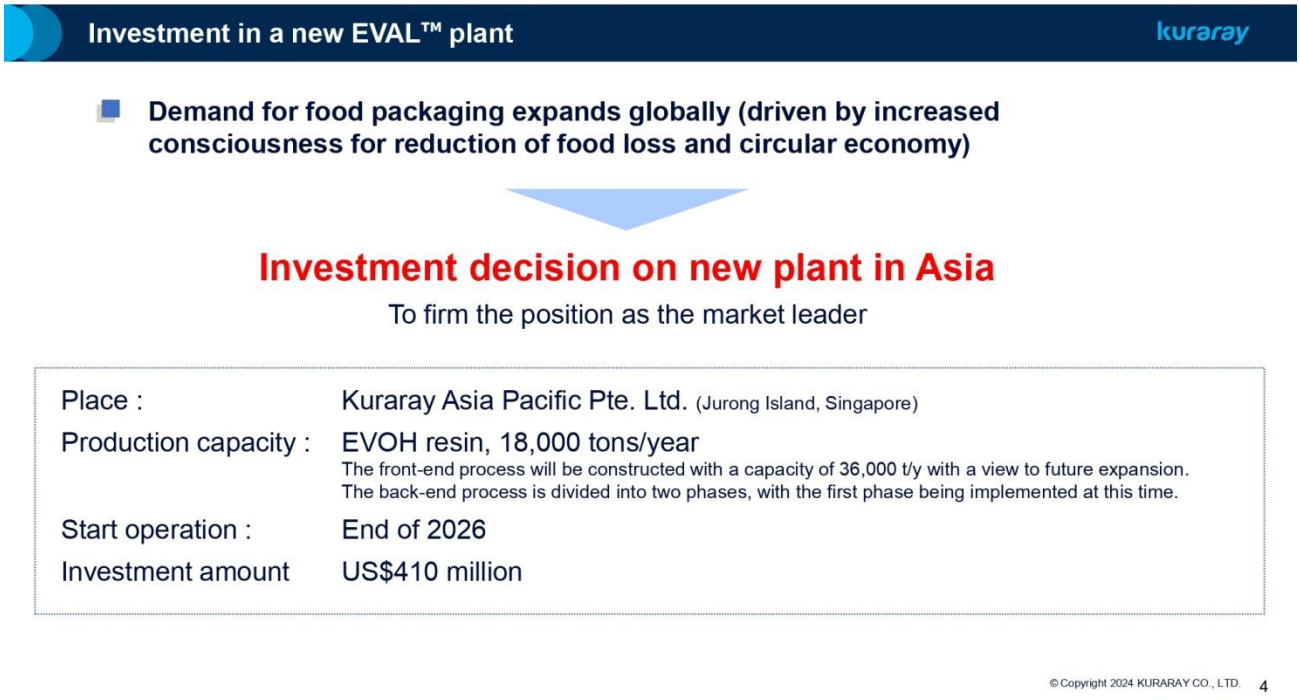
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Let me first explain how excellent EVAL™'s gas barrier properties are.

This slide compares the gas barrier properties of EVAL™ and other polymers using the amount of oxygen passing through various polymers as an indicator.

If, under certain conditions, 1cc of oxygen molecules passes through EVAL™, 100 times more oxygen will pass through other polymers such as nylon and PET, 4,000 times more for polypropylene, and 10,000 times more for polyethylene.

As can be seen from these results, EVAL™ has the highest level of gas barrier performance among commercially available polymers.



This slide provides an overview of the investment in the new plant.

We expect demand to increase in emerging economies, for the purpose of food loss reduction, and, as we will discuss later, in the circular economy.

In order to support the increasing demand for EVAL™ in a timely manner and to further strengthen our position as the market leader, we have decided to construct a new EVAL™ plant at our Singapore subsidiary, Kuraray Asia Pacific Pte. Ltd.

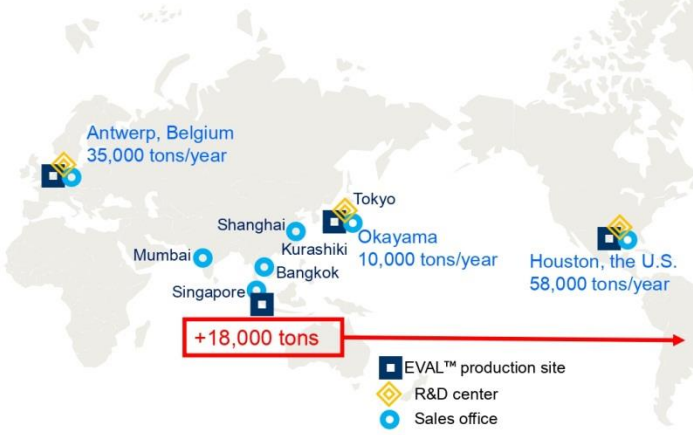
The production capacity is 18,000 tons per year, with an investment of USD410 million, and the start of operation and production is scheduled for the end of 2026.

Although I mentioned that the production capacity is 18,000 tons, the capacity of the front-end process, including polymer polymerization, is designed to be 36,000 tons, with a view to future expansion. The back-end process is to be invested in two phases, with the first phase of this investment having a production capacity of 18,000 tons.

Global network of EVAL™

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- Expand capacity in growing Asian market and strengthen global supply chain
- Enhance technical service in the region (Southeast Asia)



Region	Annual production capacity (tons)			Sites
	2023	Expansion 2024～2026	End of 2026	
Japan	10,000		10,000	Okayama
Europe	35,000	+5,000	40,000	Antwerp, Belgium
Americas	58,000	+5,000	63,000	Houston, the U.S.
Asia		+18,000	18,000	Singapore
Total	103,000	+28,000	131,000	

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This slide describes our global production system after the construction of the new plant.

Our current production capacity is 103,000 tons. When combined with the 5,000-ton each capacity increases announced last year in Europe and the US, plus the new plant, the total capacity increase will be 28,000 tons, giving us a global production capacity of 131,000 tons by the end of 2026.

In Asia, where demand is expected to grow, we also plan to expand our technical center and strengthen our customer support system to expand the market.

Why EVAL™ is selected as environmentally friendly barrier material?

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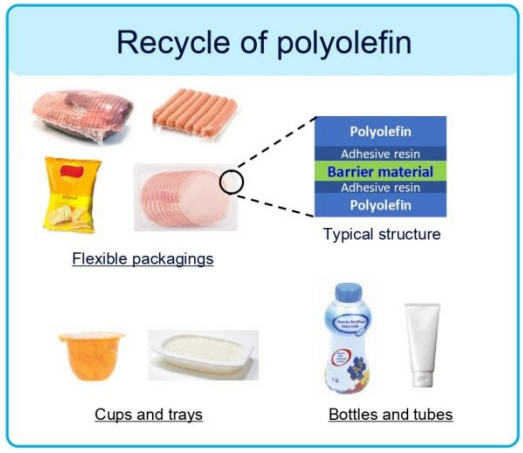
Regulation for recycling packaging materials

- ✓ Europe (Regulations for packaging and its waste)
  - 2025: Extended Producer Responsibility (EPR) to come into force
  - 2030: Mandatory to replace to recyclable packaging materials
- ✓ Laws and regulations are tightening in India and other emerging economies.

Mechanical recycling is becoming more common*

- ✓ Mono-material, made only of polyolefin can be recycled
- ✓ EVOH does not prevent recycling of polyolefin
- ✓ EVOH can replace other barrier materials (aluminum foil, PVDC, vapor deposition PET or Nylon) which do prevent polyolefin recycling.

* A way of recycling. Re-melt packaging materials and reuse it as packaging materials or daily commodities.



*Typical example of polyolefin: Polyethylene (PE) or Polypropylene (PP)

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In addition to the food loss problem in recent years, the issue of food packaging waste is being discussed all over the world. As a solution to this problem, EVAL™ is currently attracting a great deal of attention, and I will explain why on this slide.

Polyolefin materials are widely used as food packaging materials. The cross section of the packaging material is shown on the right. Packaging materials are usually multi-layered, and in many cases, a barrier material is used in the center of the layers.

While countries around the world are promoting recycling-related legislation for food packaging materials, polyolefin mono-material packaging materials are said to be the most suitable for recycling in Europe and the US. Among various barrier materials, EVOH resin is widely recognized by the recycling industry in Europe and the US as the only barrier material that does not inhibit polyolefin recycling because of its similar chemical structure to polyolefin.

Against this backdrop, there is an active movement worldwide to replace barrier materials such as aluminum foil, vapor-deposited PET, and PVDC, which are difficult to recycle, with EVOH. Hence, demand for EVAL™ as an environmentally friendly material is expected to grow rapidly in the future.

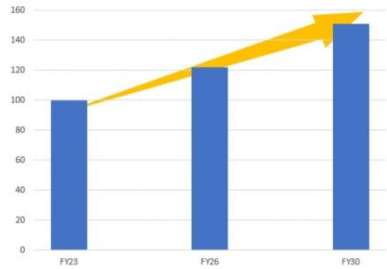
Global demand outlook of EVOH resin

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- Continued high growth led by increased standards of living in emerging economies
- Growing focus on food loss reduction
- Increasing regulations concerning packaging materials and demand for environmentally friendly materials.

Expect 5-6% annual demand growth

<Image of market expansion, 2023 as 100>



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With the increase in demand in emerging economies, the increase in demand for the purpose of food loss reduction, and the global trend toward recycling laws for packaging materials, we expect the demand for EVOH resin—which is highly recyclable—to grow at an average annual growth rate of 5% to 6%.

Finally, we are committed to further expanding our business as a leading company in EVOH resin, a gas barrier polymer, and will continue to contribute to the improvement of the natural and living environment.

That's all from me. Thank you.