

Water management strategies, Water saving Initiatives

March 7, 2024

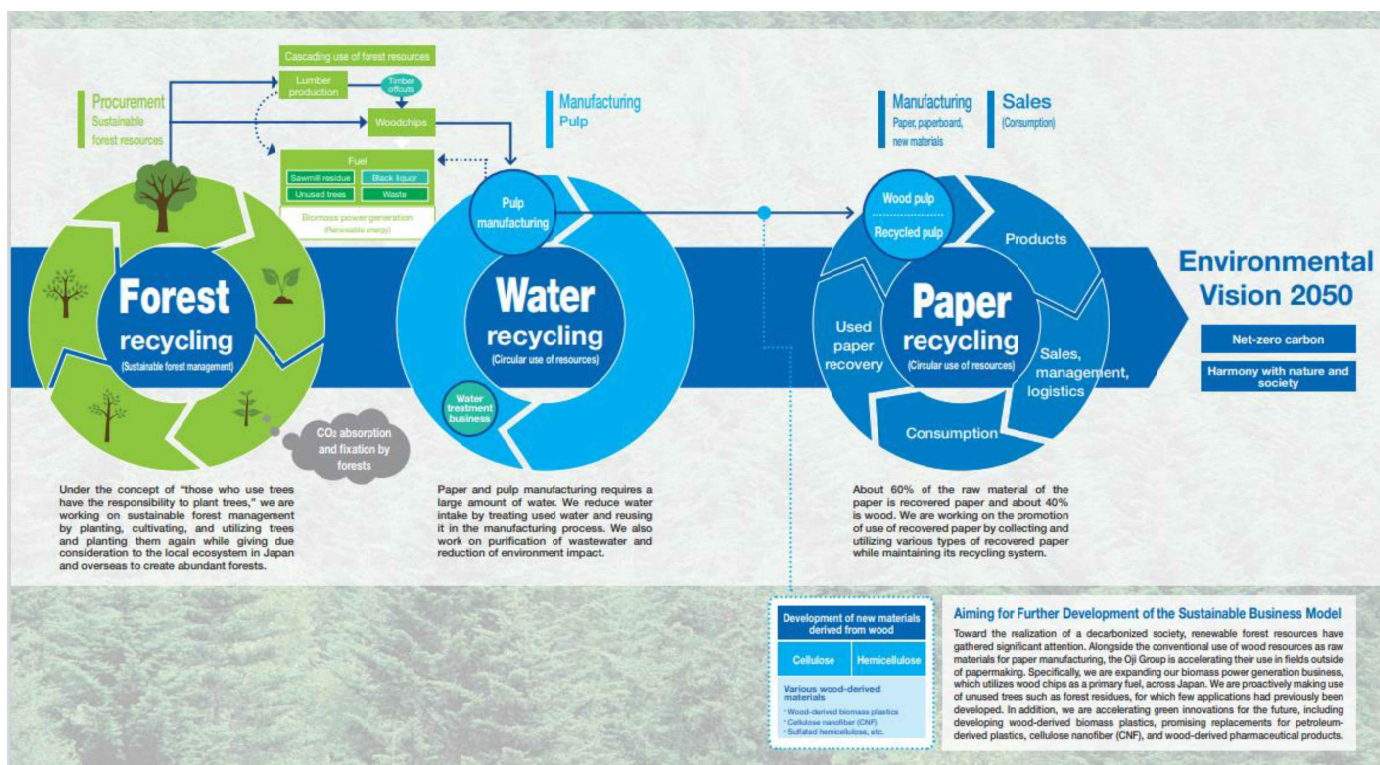
IPPTA Technical Exchange Meeting

Oji Holdings Corporation
Group Technology Division
Reito Ohshima

Sustainable Business Model

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Resource Circulation throughout the Value Chain

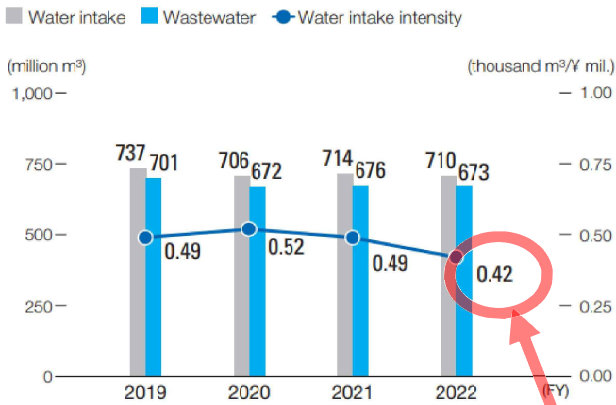


(❌) Quotation from the "Oji Group Integrated Report 2023"

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Water supply

Water Intake*, Wastewater*, and Water Intake Intensity



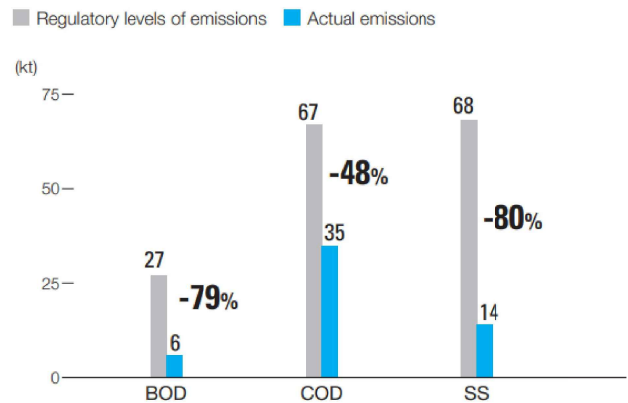
* A star mark indicates that FY2022 figures have been assured by KPMG AZSA Sustainability Co., Ltd.

Water Intake target : 0.44
 ↳ Reduction of water intake intensity by at least 6% from FY2018 (0.48)

(※) Quotation from the "Oji Group Integrated Report 2023"

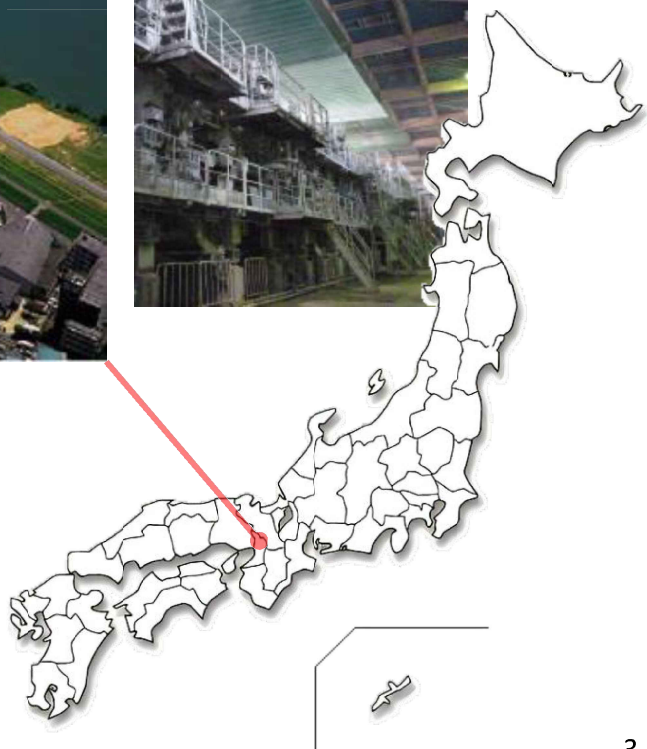
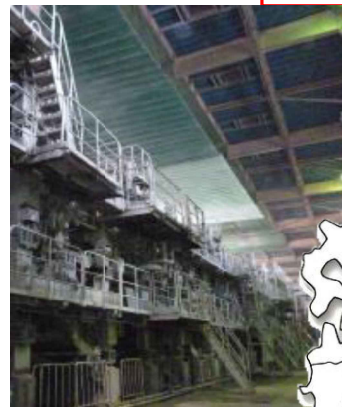
Drainage

Release of Substances of Environmental Concern in FY2022 (Wastewater)



Osaka mill

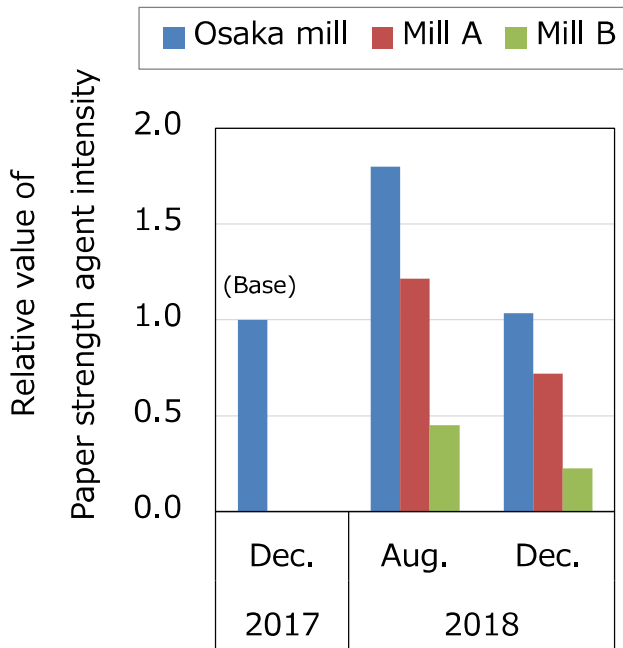
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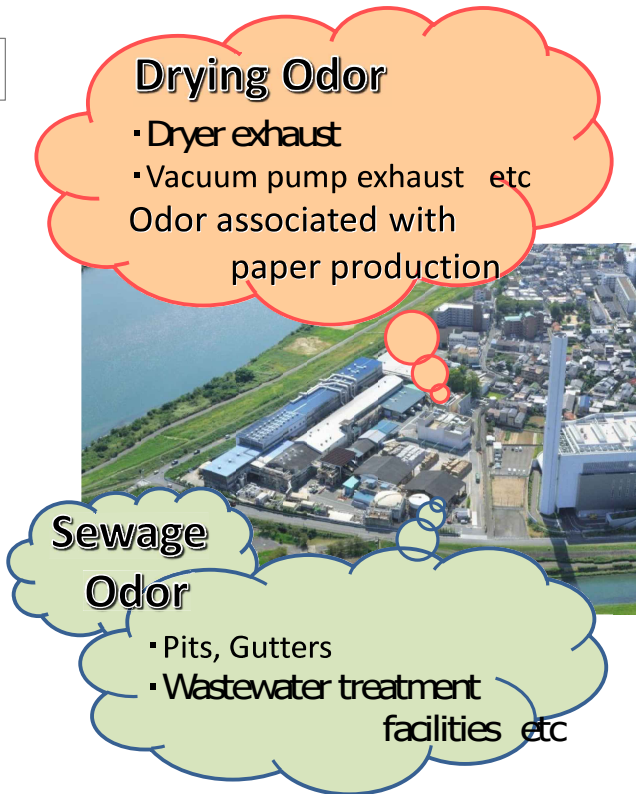
Osaka mill	
Paper Machine	No.2 Paper Machine
Production varieties	Exterior liner
Production Volume	760 t/Day
Water Intake Volume	4,000 m³/Day

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Paper strength agent intensity



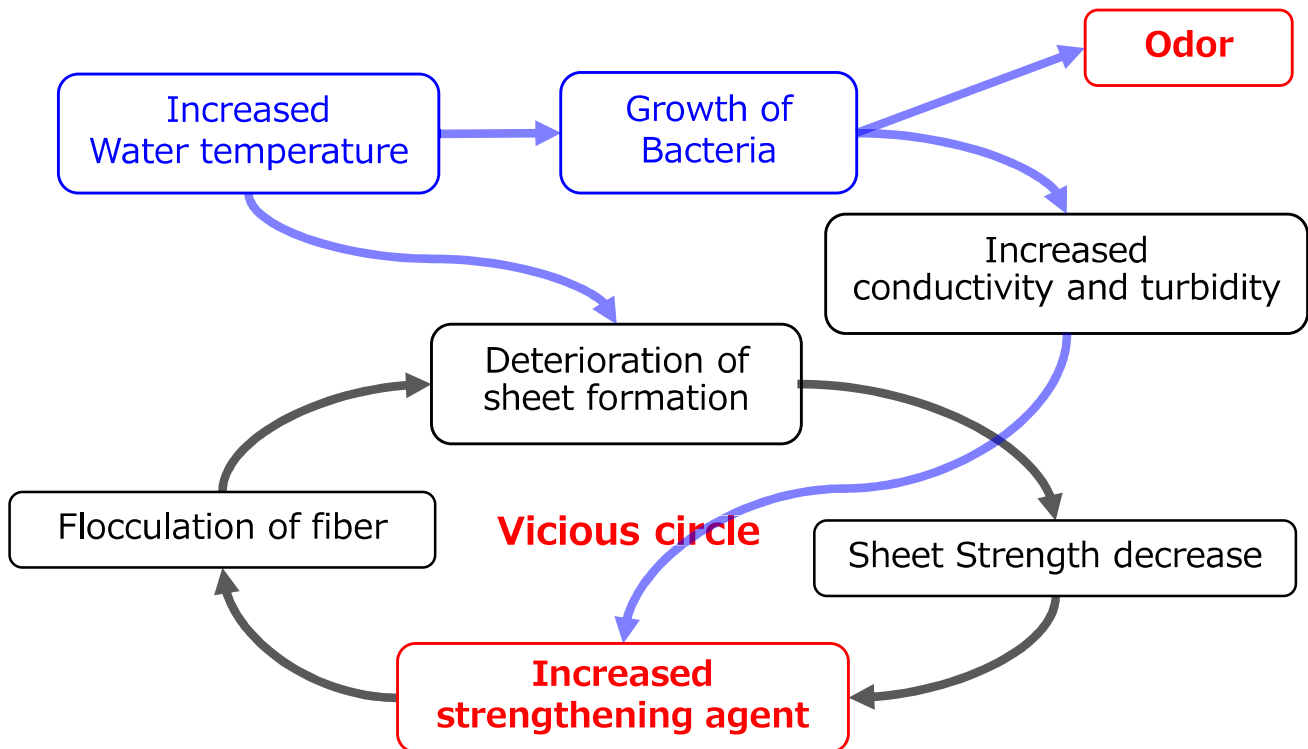
Odor



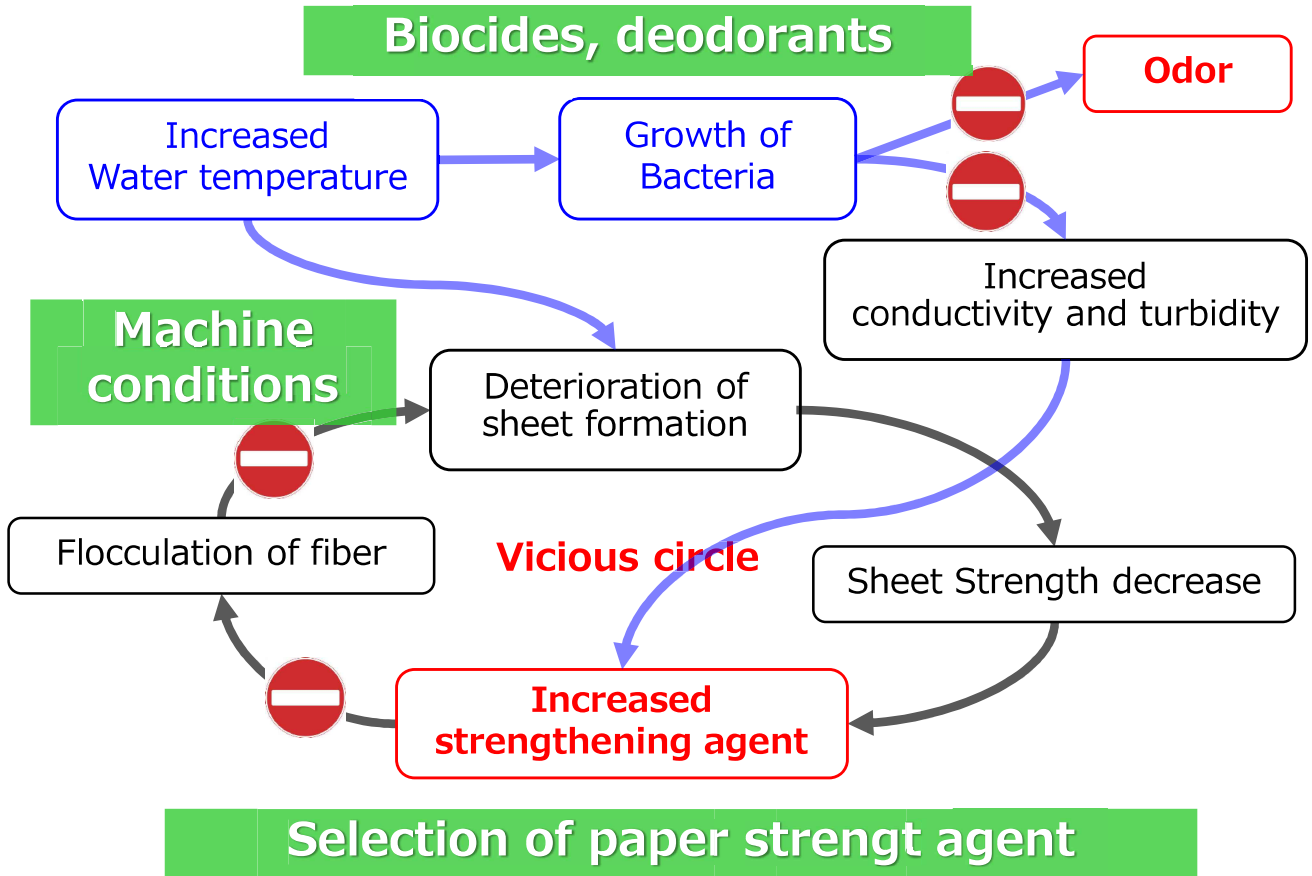
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Causal relationship

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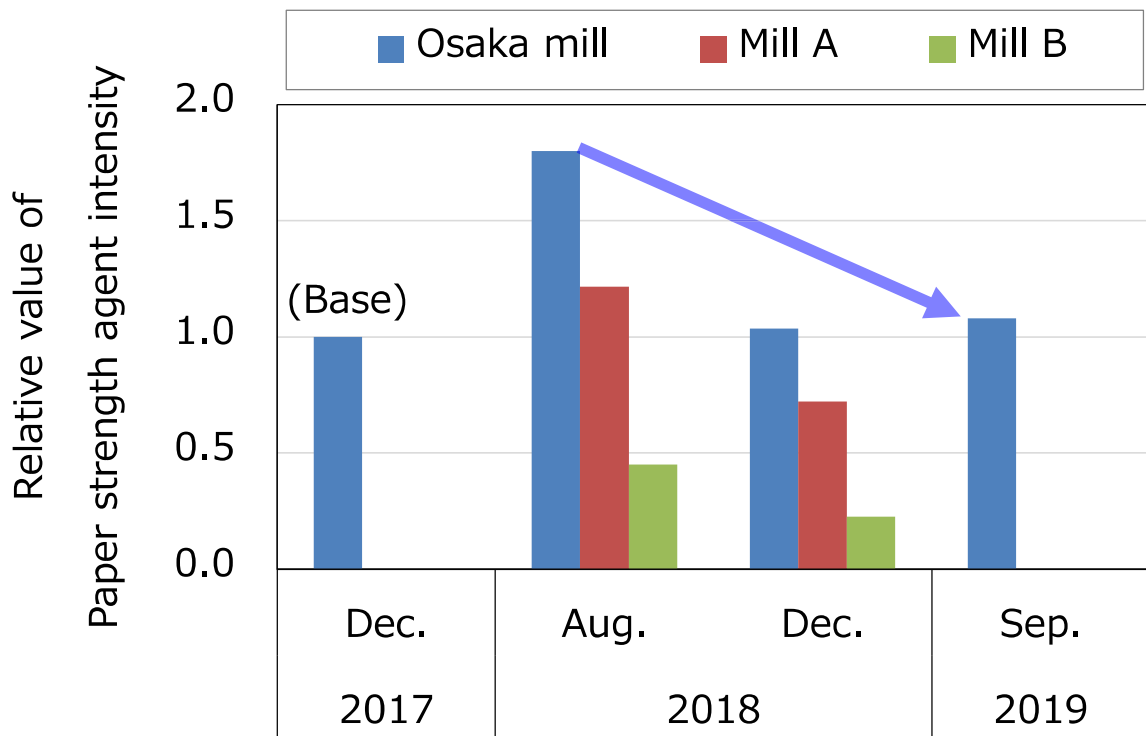


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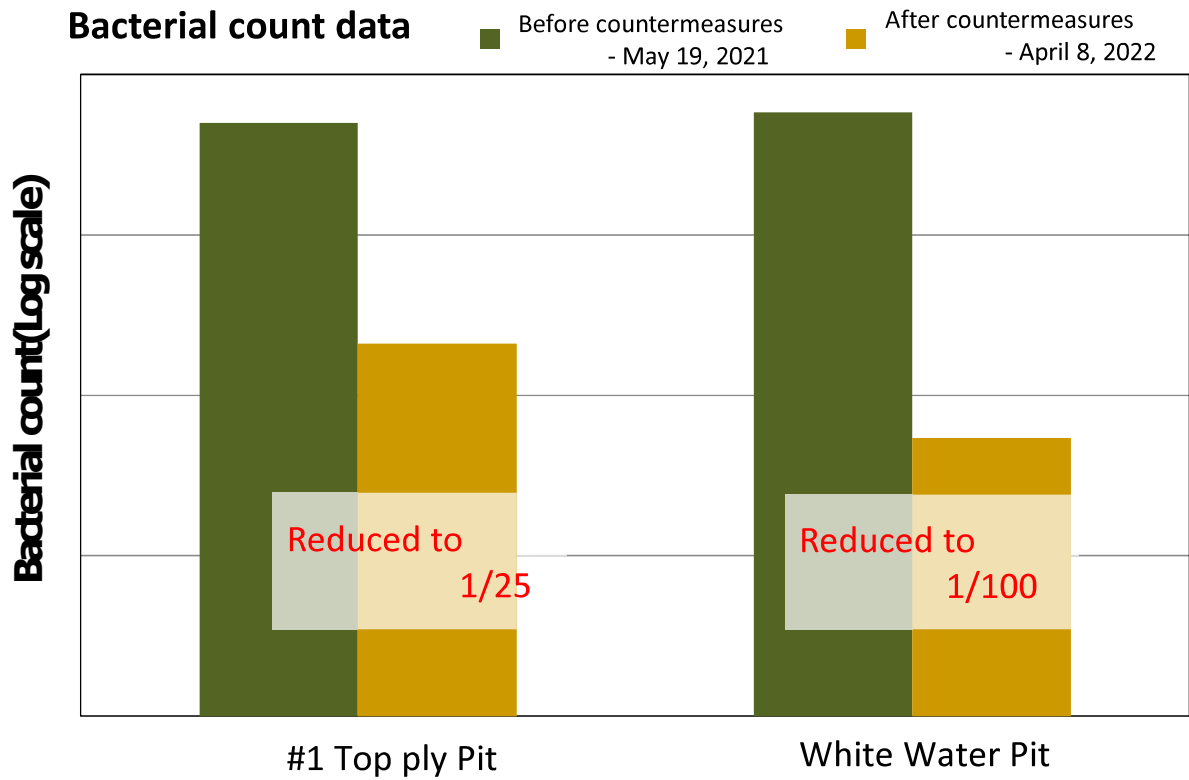
Paper strength agent intensity



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Result of measures against odor ①

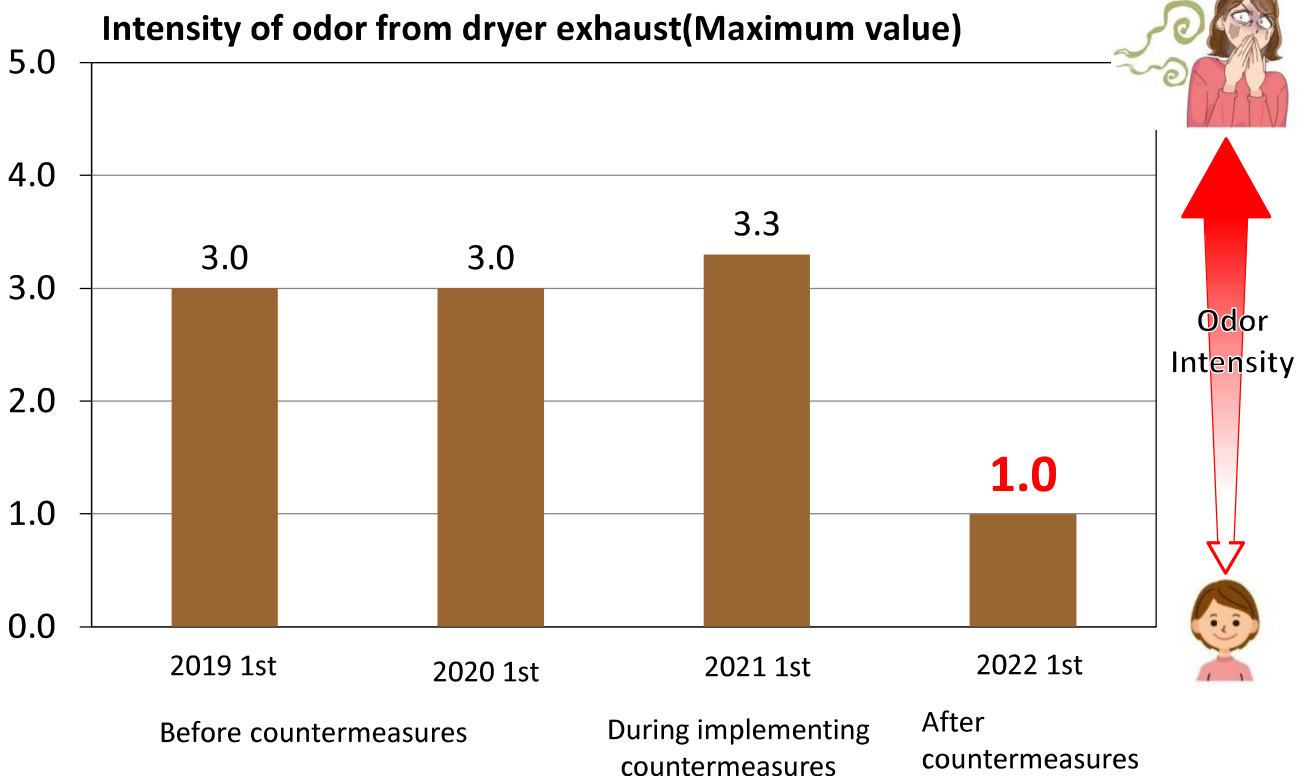
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Result of measures against odor ②

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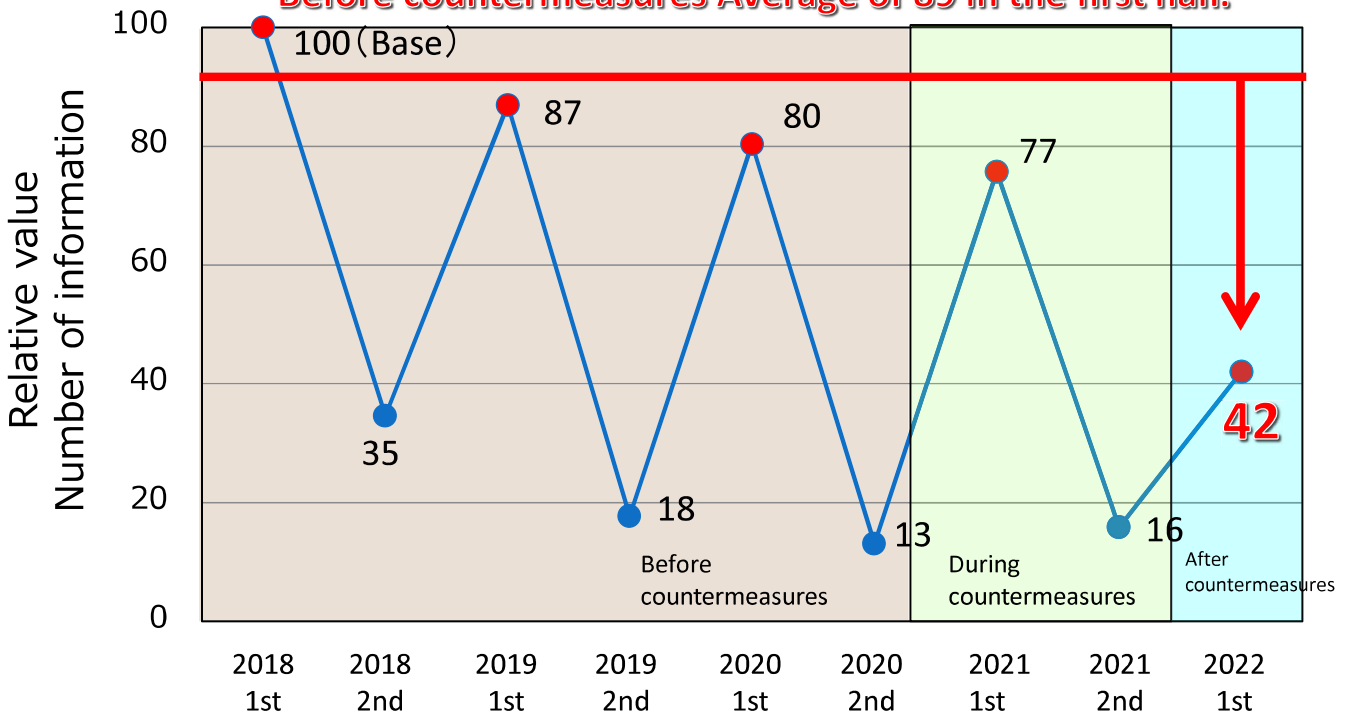


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Result of measures against odor ③

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Number of odor information reports by local residents' environmental monitor
Before countermeasures Average of 89 in the first half.



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Water treatment technology in Oji group

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Paper mills require

- A lot of fresh water
- Demin water for steam
- Huge WWTP



We have

- **Good solutions for cost saving**
Optimal process flow, chemical dosing
- **Know-How of plant operation**
Stable operation to keep water quality

An example of wastewater treatment flow



Primary (DAF)



Secondary (Aeration tank)



Tertiary (Chemical clarification)



Final discharge



Need optimal chemical dosing



Need know-how for stable operation

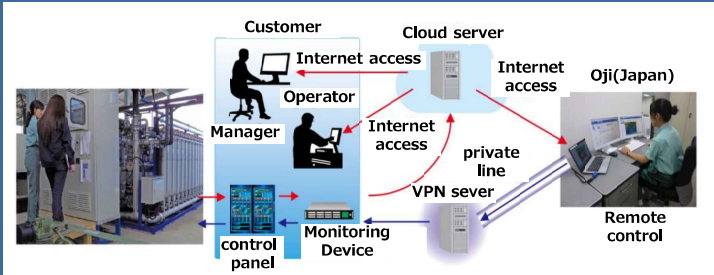
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Consumables sales
(Chemicals, Membrane)



Cost saving and stable operation

Operation and maintenance support



Optimal operation, power saving and troubleshooting

EPC
(Engineering, Procurement and Construction)



Not only new plant, also upgrade and renovation work

OJI

Beyond the Boundaries

