

# **Green Innovation Report**

## Kao Corporation - 2024

ISIN: JP3205800000, Ticker: 4452, Country: JP, Sector: Personal Care Products

This report evaluates the green innovation activities of the company over the past decade, based on inventions published in green technology areas defined by the IPC Green Inventory. This inventory, established by the World Intellectual Property Organization, identifies technologies aligned with the United Nations' definition of Environmentally Sound Technologies. These innovations contribute to mitigating humanity's impact on climate change in support of the Sustainable Development Goals.

### **Innovation Metrics**

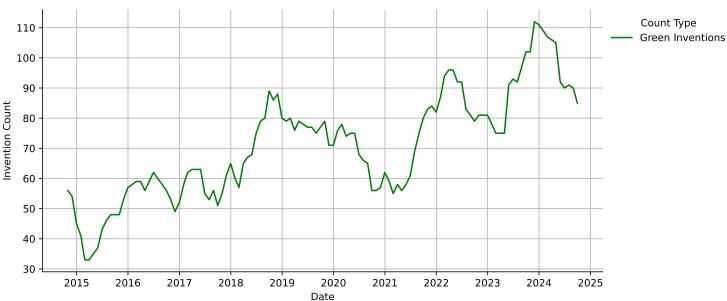
#### Invention Count (last 12 months)

#### Green Invention Count (last 12 months)

774 Inventions

85 Green Inventions

Each invention reflects a substantial investment of R&D and legal resources. Consequently, green inventions provide a reliable and high-integrity metric for measuring a company's innovation efforts in green technologies and sustainability.



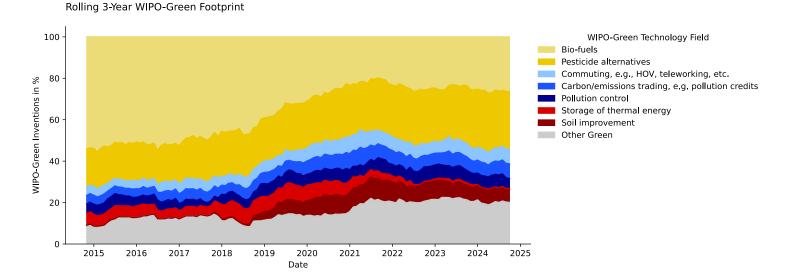
Rolling 1-Year Invention Count

The graph above illustrates the number of green inventions published by the company over the past decade. Data is presented monthly, with each point representing the total green invention count for the preceding 12 months.



## **Green Technology Footprint**

The graph below showcases the temporal distribution of the company's green innovation activity across technology fields listed in the IPC Green Inventory. This distribution highlights the green technology footprint and its evolution as part of the company's innovation strategy.



The table below provides a quantitative analysis of the growth and significance of the company's key green technology fields. For each field, the most frequently appearing keywords in recent inventions offer valuable insights into the company's green innovation activities.

WIPO-Green Technology Field	Absolute Growth (3y)	Percentage of Green Inventions (3y)	Keywords (3y)
Pesticide alternatives	87	27.8%	virus inactivator, virus inactivation composition, virus inactivator composition, disinfectant composition, virus inactivation agent
Bio-fuels	83	26.5%	$\boldsymbol{\alpha}$ amylase variant, atopic dermatitis, aromatic compound, lipase variant, enzyme composition
Commuting, e.g., HOV, teleworking, etc.	22	7.0%	information processing, product proposal, composite container collection, application effect visualization, visceral fat area
Soil improvement	19	6.1%	shield tunneling, soil modifier, soil cement, pressure fluid jet, liquid detergent composition
Pollution control	15	4.8%	water treatment agent, hydrous sediment, acidic compound, accelerator composition, waste water
Storage of thermal energy	2	0.6%	exothermic composition, exothermic body

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