

Hitachi Group Green Technology Transfer Activities

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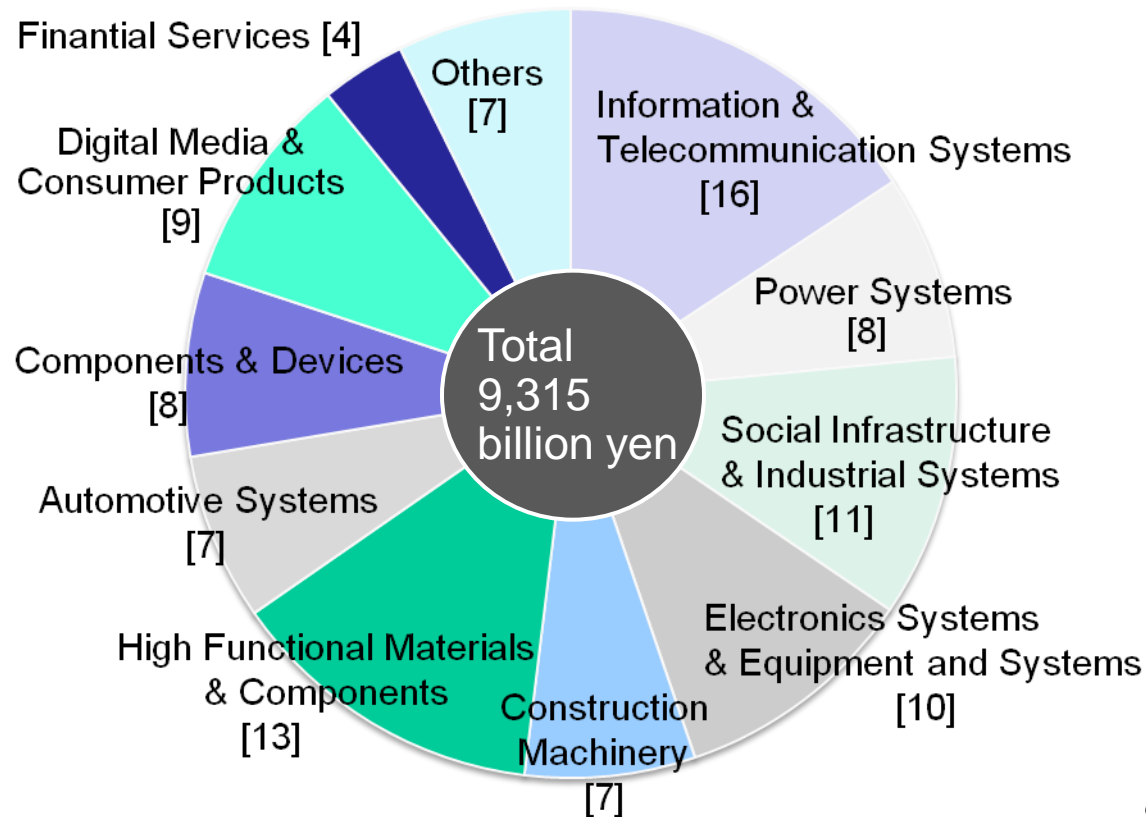
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Profile of Hitachi

Established	February 1, 1920 [Founded in 1910]	
President	Hiroaki Nakanishi	
Number of Employees	361,745	As of March 31, 2011

[Revenues by Industry Segments in 2010]



Global

Leverage Information, Experience and Trust of Hitachi to develop globally

Fusion

Address social innovation needs by synergistic integration of social infrastructure and IT

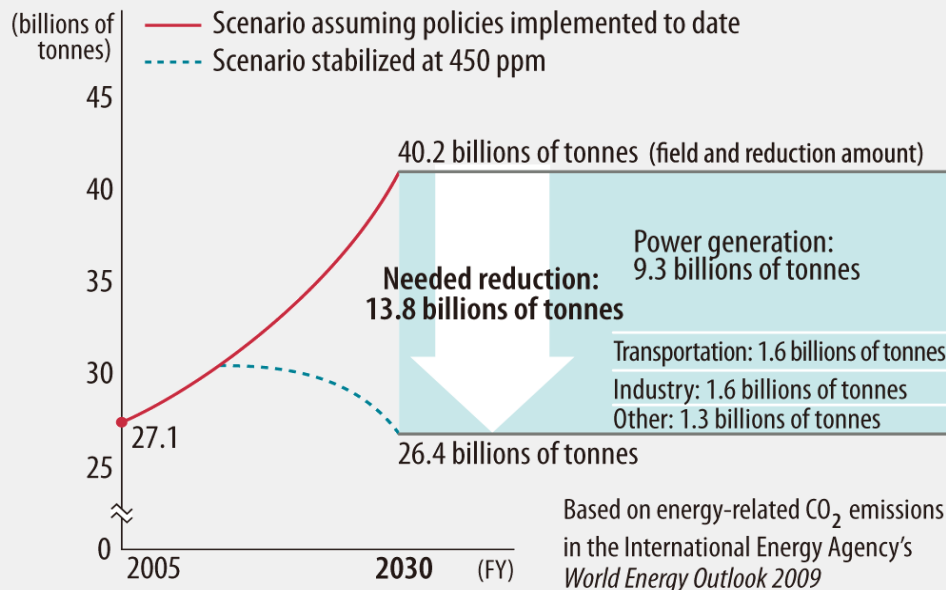
Environment

Refine ability to build environmental systems by drawing on advanced environmental technologies and experience

- Hitachi will help reduce annual CO₂ emissions by 100 million tonnes by 2025 through its products and services

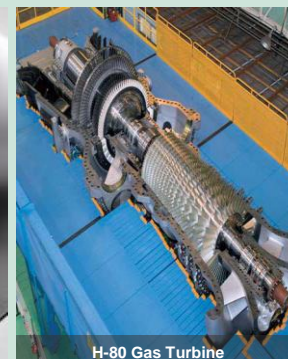
Environmental Issue

Scenarios for World Energy-Related CO₂ Emissions



Technological innovation is needed to reduce energy-related CO₂ emissions

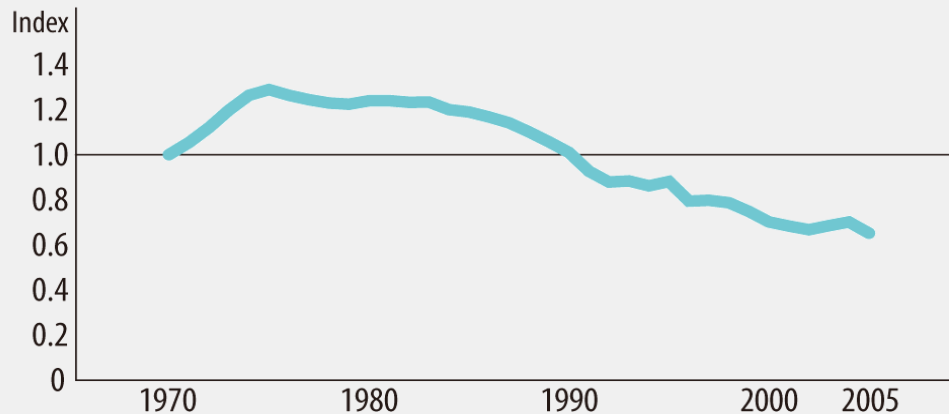
Environmental Business



● Helping preserve ecosystems by cleaning the air, water, and soil

Environmental Issue

Trends in Populations of Freshwater Animal Species*



* An index showing changes in populations of more than 300 species living in inland waters, with the 1970 level as 1.0.

Source: World Wildlife Foundation (WWF) *Living Planet Report 2008*

Conserving the water environment as one protection of preservation of ecosystem is important

Environmental Business



Bunus sewage treatment plant in Malaysia



Clear Ballast system being tested on an oil tanker



Soil decontamination



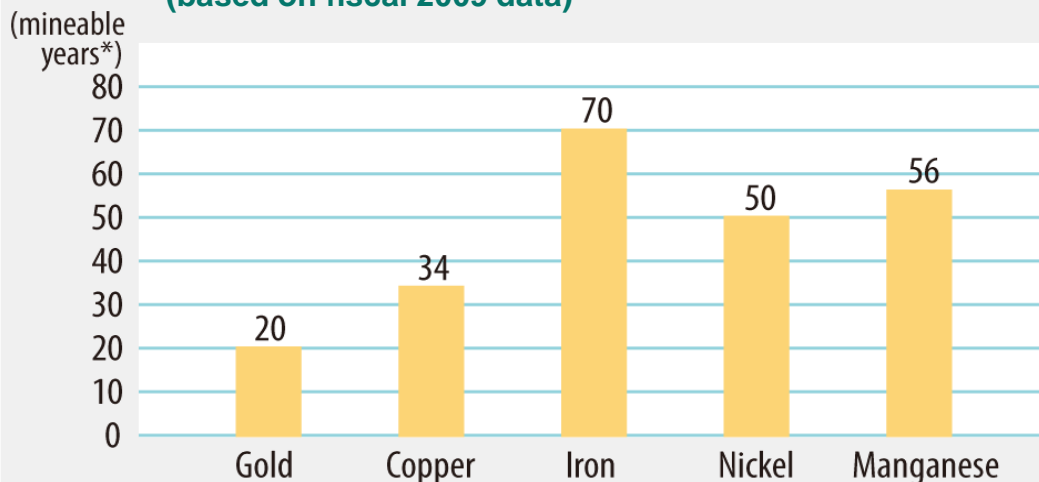
Ballast water purification system (Test device onboard a tanker)

● Hitachi has begun developing technology to separate and recover rare earth*¹ magnets from used products

*1: 17 elements including lanthanum and scandium. Rare earth magnets are magnetic alloys of rare earth elements such as neodymium and dysprosium.

Environmental Issue

Mineable Years of Metal Resources
(based on fiscal 2009 data)



Based on data from U.S. Geological Survey, *Mineral Commodity Summaries 2010*

* Mineable years = reserves/annual production

Technologies and systems are needed to facilitate resource recycling

Environmental Business



Neodymium magnets extracted from dismantled hard disk drives



Rare metals recycling



Dismantled magnet parts

Hitachi Group products that use neodymium magnets



Air conditioners*²
(compressor)



Washing machines
(drum motor)



Refrigerators*²
(compressor)



Hard disk drives
(voice coil motor, spindle motor)



Industrial motors
(PM motor*³)



Permanent magnet open MRI scanner s (gantry - ring where magnetic field is generated)

Parts in () use magnet materials
*²Not all models

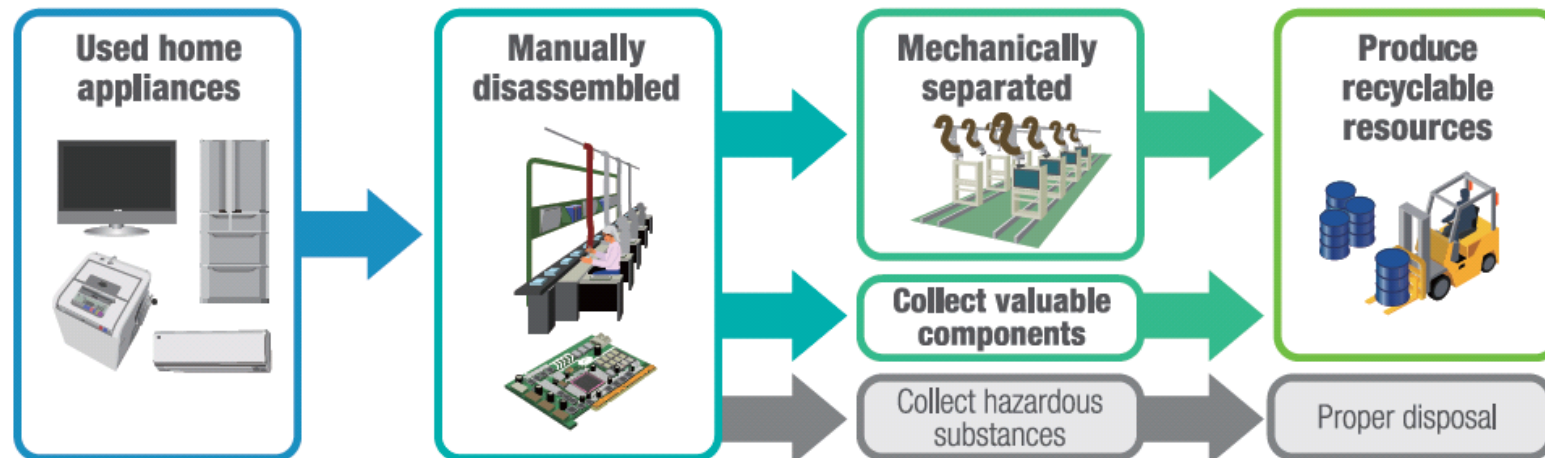
*³ Permanent magnet motor

● Hitachi Technology Transfer Program for Home Appliance Recycling

Home appliance recycling facilitates a resource recycling



Flow of processing at home appliance recycling factories (Hitachi's example)





Ensures great safety and efficiency in resource recycling

Resource production

Produce valuable resources and properly dispose hazardous substances

Zero emission

Reduce the amount of landfill to less than 1%

Low carbonization

Resource recycling is also effective for reduction of CO₂

HITACHI
Inspire the Next 