

Nature-friendly Products & Eco-factories

Initiatives for Global Warming Prevention

Continuously Reducing CO₂ Emissions on the Basis of Emission Intensity in terms of Sales Amounts

The Hitachi Construction Machinery Group has been a forerunner in addressing CO₂ emission reductions to tackle global warming that has become more and more serious and achieving steady results.

Though the CO₂ emissions have tended to increase along with increasing production, the group has continuously reduced CO₂ emission intensity in terms of sales amounts.

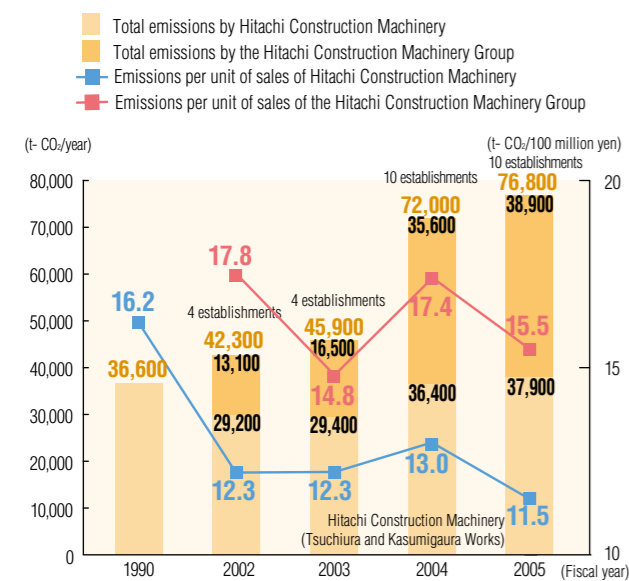
Efforts for CO₂ Emissions Reduction at the Production Stage

The Hitachi Construction Machinery Group has positively addressed reduction efforts for CO₂ emissions. The actions have been extended to the Tsuchiura Works and other establishments of domestic and overseas Group companies with heavy environmental burdens. (Establishment subject to the efforts in Fiscal 2005: 2 establishments of Hitachi Construction Machinery; 8 domestic establishments and 2 overseas establishments of Group companies)

Though the Group has made efforts to reduce emissions through energy substitution from heavy oil to electricity, introduction of energy saving facilities and other energy saving measures, drastic increase in production since Fiscal 2003 resulted in a continuous excess of energy use over reduced energy. In Fiscal 2005, the total emission amount was 76,800t-CO₂/year and emissions per unit of sales were 155t-CO₂/billion yen. This means a total increase of 4,779t-CO₂/year compared to the previous year, and about 20t-CO₂/billion yen reduction in emission per unit of sales.

The Hitachi Construction Machinery Group has set up a united reduction target by 2010 of 7% with reference to the level in Fiscal 1990 and 25% with reference to the level in Fiscal 1990 in terms of emissions per unit of sales (5% reduction overseas with reference to the level in Fiscal 2003.) The Group is committed to reducing the emissions per unit of sales as well as a total reduction in emissions.

Trends in CO₂ emissions and emissions intensity



Promotion of Energy-saving Activities

The Hitachi Construction Machinery Group promotes energy-saving activities at not only production establishments but also service establishments throughout the country. In Fiscal 2005, efforts were mainly focused upon efficiency improvements, air-related measures at factories and reduced standby power consumption.

For efficiency improvements, a total of 415t of CO₂ emissions could be reduced at the Tsuchiura Works of Hitachi Construction Machinery and Hitachi Construction Machinery Camino, thanks to the adoption of amorphous transformers and ceramic metal halide illuminations.

The Tsuchiura Works of Hitachi Construction Machinery and Hitachi Construction Machinery Tierra employed countermeasures against air leakage at factories, reducing 92t of CO₂ emissions. Efforts on standby power consumption reduction were made at the Kasumigaura Works of Hitachi Construction Machinery, reducing 10t of CO₂ emissions.

Major Energy Saving Actions

Classification	Major Energy Saving Measures	Reduced CO ₂ amount (t/year)
① Efficiency improvements	Adoption of amorphous transformers Ceramic metal halide illuminations, etc.	415
② Air-related measures at factories	Optimization of pressure settings Countermeasures for regular air leakage prevention	92
③ Reduced standby power consumption	Linkage of machine tools and mist collectors, etc.	10
④ Cool Biz + Warm Biz	Energy saving efforts at the Head Office, etc.	40

Fiscal 2006 Targets
 CO₂ emissions reduction (Japan): 3.8% reduction (Reference year: 1990)
 Reduction of CO₂ emissions per unit of sales (Japan): 21% reduction (Reference year: 1990)
 Reduction of CO₂ emissions per unit of sales (overseas): 2% reduction (Reference year: 2003)

Participating in "Team Minus 6%"

For the purpose of strengthening energy saving activities within the Group and to raise awareness of energy saving of individual employees, the Hitachi Construction Machinery Group participated in "Team Minus 6%," a national campaign promoted by the Japanese government for global warming prevention.

Efforts were made not only in production establishments but also Head Office and nationwide service establishments.

In summer, Cool Biz*¹ was adopted while in winter it was Warm Biz*². Consequently, the former resulted in a 7.1MWh power saving or 25t of reduced CO₂ emissions equivalent to 2.2 million yen, and the latter had 41MWh power savings or 15t of reduced emissions equivalent to 1.3 million yen.

* 1,2 Cool Biz and Warm Biz are campaign names that were chosen and coined by the Ministry of the Environment. During these campaigns, workers turn to a more casual dress code to save energy through limiting air conditioning.

Results of Activities by "Team Minus 6%"

	Reduced amount of power used (MWh)	Reduced amount of CO ₂ emissions (t)	Reduced cost of power used (k ¥)
Cool Biz: June 2005 to September 2005	71	25.4	2,200
Warm Biz: December 2005 to March 2006	41	14.9	1,300
Total	112	40.3	3,500

Reduction of Greenhouse Gas Emissions During Transportation

To reduce environmental burdens during transportation, the Hitachi Construction Machinery Group has made efforts including an improved ratio of loading trips* to total trips through the domestic transportation network as well as joint transportation with a construction machinery manufacturer in Kansai.

As part of the concentration of import and export at the Hitachinakinato Port in Fiscal 2005, the port of exit for main equipment for China was changed from the Keihin area to this port. Reduction effects were about 56kℓ for the amount of fuel oil used and 146t in CO₂ emissions. Timed with the startup of the Tsuchiura Logistics Center of Hitachi Construction Machinery Logitech, loading of containers conventionally carried out at the Tsukuba International Cargo Terminal has been moved to the Tsuchiura Logistics Center, which resulted in a reduction



Tsuchiura Logistics Center of Hitachi Construction Machinery Logitech completed in February 2005

* Ratio of loading trips to total trips: Ratio of loaded mileage covered by transportation trailers to total mileage

of the number of 25km trips between the Logistics Center and the Terminal. Moreover, efficiency improvements in loading containers led to a reduced number of containers used. In total, the amount of fuel oil used was reduced by about 41kℓ and 111t in CO₂ emissions.

Comparison of reduction effects of CO₂ emissions and amount of light fuel oil used by reorganized distribution network

- ◆ CO₂ emissions (results)
- Amount of light fuel oil used (results)
- ▲ CO₂ emissions (if Yokohama port is used)
- Amount of light fuel oil used (if Yokohama port is used)

