

CHALLENGE! 3 Factory with Zero CO₂ Emissions

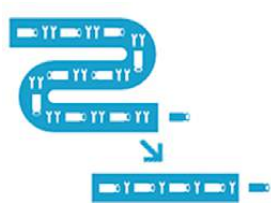
TARGET Factory with
Zero CO₂ Emissions



Because CO₂ is emitted from each business site when products are produced, this effort to reduce CO₂ in the factories is essential to mitigate global warming.

In addition to pursuing continual improvement and introducing innovative technologies at production sites, the Hino Group will concurrently promote the active use of renewable energy while striving to attain the high target of “zero factory CO₂ emissions”.

**Acceleration of
Continual improvement**



Hino Motors will accelerate continual improvements that are being taken at production sites, reduction of machining time, completely eradicate overburden, waste and inconsistency dormant in each process, and promote simplification and streamlining by reduction the machining time, the number of processes, and length of the machining line.



**Introduction of
Innovative technology**



Hino Motors will take steps to automate production while rigorously pursuing greater efficiency by actively introducing innovative technologies including IoT at production sites to further reduce CO₂ emissions in each process.



**Proactive use of
Renewable energy**



The Hino Group has introduced renewable energy such as solar power, mainly at production sites. Hino Motors will seek to fully use environmentally friendly energy by further accelerating the pace of its introduction and ensuring that the energy used in each process is covered by renewable energy.



Daily Improvement Initiatives

Continual improvement

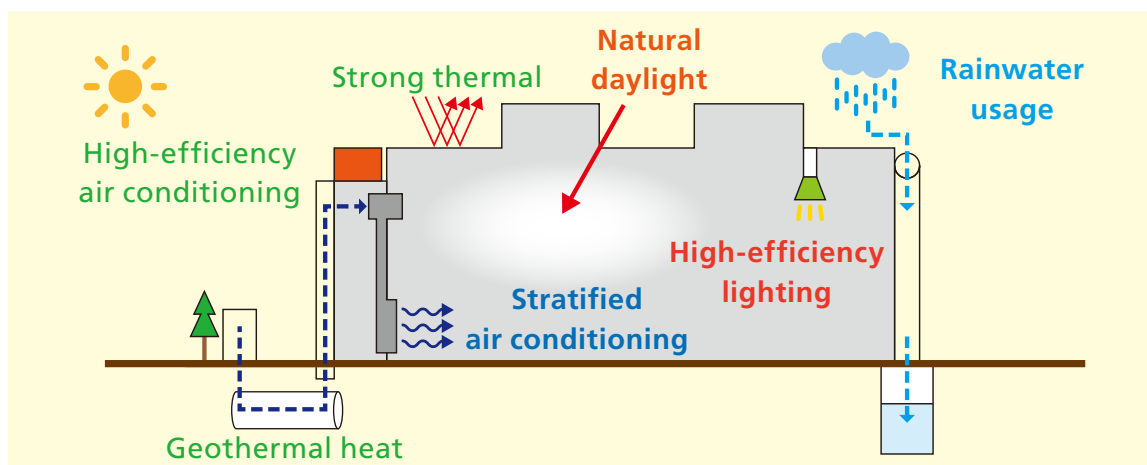
Recognizing climate change as one of the major challenges facing humanity, Hino Motors is working hard to reduce CO₂ emissions. In its continuing endeavors to reduce CO₂ emissions, the Company is carrying out regular activities with the participation of all employees to improve efficiency at all of its production sites, while also striving to reduce wasted energy. In fiscal 2017, the Company formulated a new long-term environmental vision for the future, the Hino Environmental Challenge 2050. It also launched the Factory Zero CO₂ Emissions Challenge that same year, aiming to eliminate CO₂ emissions due to production activities by 2050. Pursuing these challenges, Hino Motors has implemented a wide range of daily energy-saving activities.

Major Initiatives

- Adopting electric booster pump systems
- Replacing fluorescent lighting with LEDs
- Applying thermal insulation paint to furnaces
- Switching to electric transport vehicles inside plants

Example | Creating a plant that utilizes natural energy

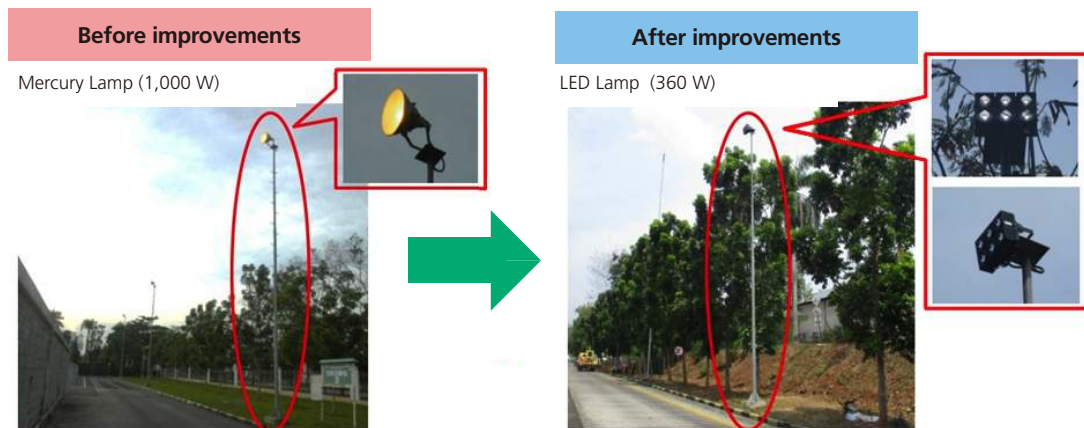
The Koga Plant, which started full operation from September 2017, is proactively using natural energy such as air conditioning that utilizes geothermal heat and natural daylight from the sky. The plant is also working to effectively reduce CO₂ emissions by promoting greater efficiency in other equipment including air conditioning and lighting. Through daily improvements including these, Hino Motors will continue to work toward “zero factory CO₂ emissions.”



The Koga Plant is also creating a workplace environment where it is easier for employees to work (Please refer here [page 86] for examples of key initiatives).

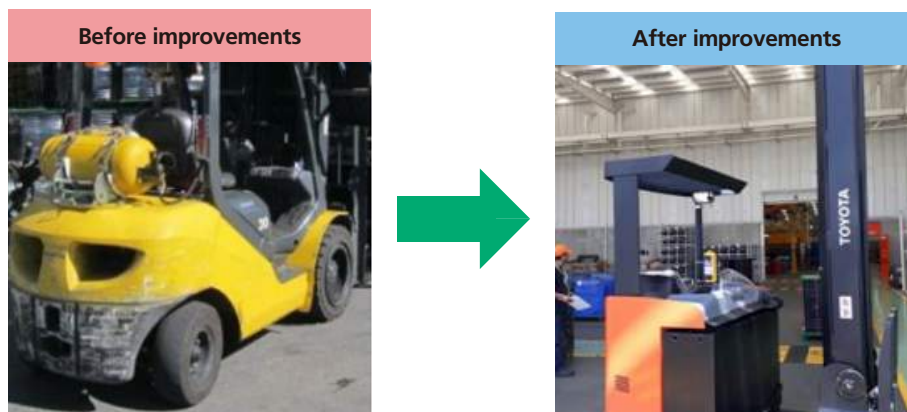
Example | LED lighting in the factory

At overseas factories, we are working to reduce the environmental impact in our factories through kaizen activities. PT. HINO MOTORS MANUFACTURING INDONESIA is working on CO₂ reduction at the assembly plant, and as part of it, we replaced Mercury lamps on the premises of the factory with LED lamps. Total replacement of 8 pieces has been implemented. As a result, the amount of electricity used decreased by 22,116 kWh per year, resulting in a reduction of 16.3 tons of CO₂ emissions per year.



Example | Introduction of electric forklift

Hino Motors Manufacturing Colombia, S.A. has introduced electric forklifts instead of combustion forklifts fueled by gasoline or LPG. Before the introduction, we had consumed 48 gallons of gasoline and 40 cylinders of LPG per month, and total emission of CO₂ was 767.2kg-CO₂ per month. By using the electric forklifts, the CO₂ emission was reduced by one fourth with 940 kWh of electricity per month. As a result, we would continuously reduce 7t-CO₂ per year compare to use of combustion forklifts.



Initiatives related to renewable energy

Renewable Energy

Hino Motors is installing solar power equipment as an initiative to make use of renewable energy. Electricity generated by the equipment is used for lighting inside its factories and offices as well as outside lights on the premises.

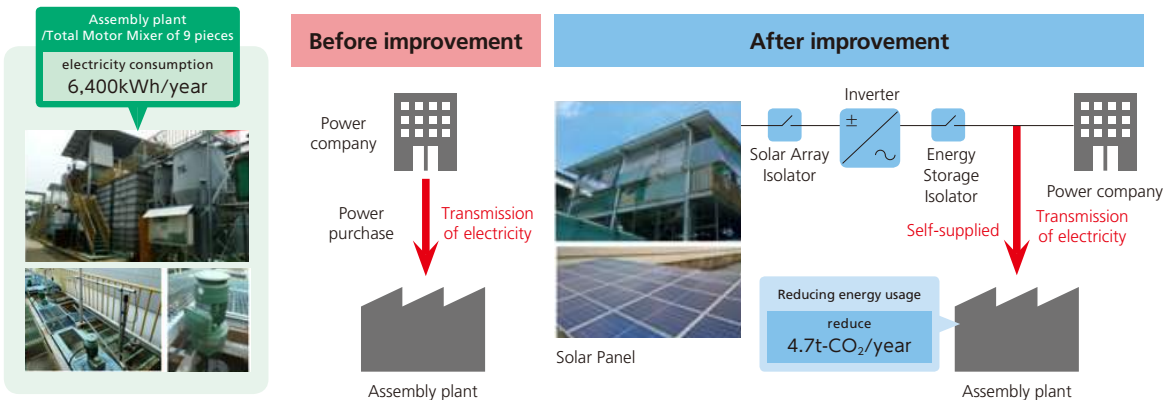
In the future, Hino Motors plans to pursue initiatives that not only save energy at its existing business facilities but also incorporate the broader perspective of combating climate change.



Solar panels installed at the Koga Plant 2.1 kw

Example | Introduction of solar cell system

PT. Hino Motors Manufacturing Indonesia is working on saving energy by introducing solar cell system for power sources to motor mixer in assembly plant at Waste Water Treatment Plant area. Having introduced the renewable energy source, we have been able to not only independently supply electricity but also save about 6,400 kWh of energy, which was an annual amount of energy used for nine pieces of the motor mixers. As a result, we succeeded to reduce 4.7t-CO₂.



VOICE



As a good corporate citizen, we practice environmentally conscious production activities

Plant Manager, HMMI
Subkhan Purnama

We practice production activity considering the environment as a good corporate citizen. In order to do so, our company is ISO14001 certificated in 2005 and build an environmental management system at early stage after factory startup. As part of activities, I participated in the environmental rating "PROPER" conducted by The Ministry of Environment and Forestry (Indonesia) and acquired

the second highest ranking from the top (Green Proper) .

Specially, we act on 3 major principles of the production environment, annually.

- To achieve zero abnormality and zero complaints by following the law
- To minimize the environmental risk by preventive activity
- improving the environmental performance (CO₂ reduction, water usage , waste ,etc.)

Through the environmental management system, we believe it is important to contribute to the sustainable development of companies.