

## We took advantage of geographic features to refurbish plants in ways that better conserve energy

### Promoting large-scale energy conservation improvements at our plants

#### Leveraging regional features to promote energy conservation improvements

Most energy consumed in NTN group plants is by facility requirements such as compressors, air conditioning, and lighting. As such, reducing CO<sub>2</sub> emissions at our plants requires large-scale energy conservation improvements. For this reason, the NTN group utilized various national-level subsidies and other sources to carry out this major refurbishment work on its plants.

In fiscal 2009, the Nagano Works performed construction work to improve energy conservation through a grant from the New Energy and Industrial Technology Development Organization (NEDO). Specific improvements included the introduction of a high-efficiency turbo chiller, optimal cooling water pump flow controls, and optimal free-cooling controls.

Of these innovations, free cooling takes advantage of the cool climate characteristic of Nagano Prefecture, using the cool air for air conditioning. With this change, we can expect to reduce CO<sub>2</sub> emissions by 600 tons annually, and save some 22 million yen in annual energy costs.



High-efficiency turbo chiller (Nagano Works)

### CO<sub>2</sub> Reduction Targets

#### New CO<sub>2</sub> reduction targets set for fiscal 2010

In 2008, the NTN group set a company-wide target to limit total CO<sub>2</sub> emissions from all domestic sites to 317,000 tons in 2010 (a 10% reduction from fiscal 2007).

In fiscal 2009, we met our target of 250,000 tons, reflecting lower production volume and CO<sub>2</sub> reduction of roughly 11,000 tons due to large-scale energy conservation improvements conducted at major works through the preceding fiscal year.

#### Total CO<sub>2</sub> emissions



With production volume now expected to rise, we set a target of 290,000 tons for fiscal 2010. This figure represents an even stricter target than the 317,000 tons originally targeted for the year back in 2008.

From a medium-term viewpoint, we have also set a target of 275,000 tons for fiscal 2012, the final commitment year for countries under the "Kyoto Protocol."

### Utilization of Natural Energy

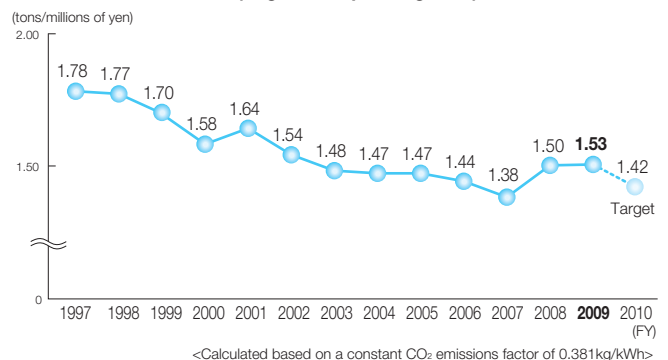
#### Active utilization of natural energy

As part of efforts to lower its CO<sub>2</sub> emissions, the NTN group actively utilizes generated power from wind, solar and other renewable forms of energy. In fiscal 2009, we introduced a wind turbine at NTN Houdatsushimizu Corp. that began operating in October. Meanwhile, the solar and wind generators installed at Elemental Technology R&D Center in fiscal 2008 are being used to recharge electric vehicles.

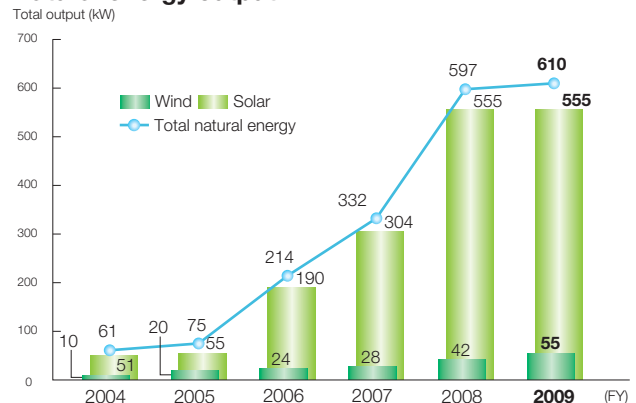


Wind power generator (NTN Houdatsushimizu Corporation)

#### CO<sub>2</sub> emission rate (original 10 operating sites)



#### Natural energy output



## Reducing the impact of logistics on the environment

### Encouraging a modal shift and fewer containers to reduce CO<sub>2</sub> emissions

99.8% of the NTN group's product output is shipped by truck, and all of this is left to logistics companies. Our yearly volume of product transport for fiscal 2009 was approximately 72 million ton-km\*<sup>1</sup>, which means that we are a "Designated Consigner" (shipping 30 million ton-km or more of cargo a year) under the amended Act on the Rational Use of Energy of 2006. In the medium- to long-term, we are required to improve our average annual energy use rate by 1%.

Prior to the legal amendment, the NTN group had set a target: Reduce CO<sub>2</sub> emissions from logistics (per distance driven) by 12% over fiscal 1998 levels by fiscal 2010. To this end, NTN has worked to raise awareness of eco-driving at logistics companies, encouraging them to adopt the use of digital tachographs\*<sup>2</sup> and to switch to low-pollution vehicles.

In addition to these efforts, in fiscal 2009, the target that we set was a 1% reduction over fiscal 2008 (12,300 tons), and we worked to make a modal shift to rail and marine shipments and to modify the way that containers for export are stacked to reduce the amount of cargo. The downturn in the economy also reduced shipments, resulting in a total reduction of 10,600 tons, which was a 14% reduction from fiscal 2008.

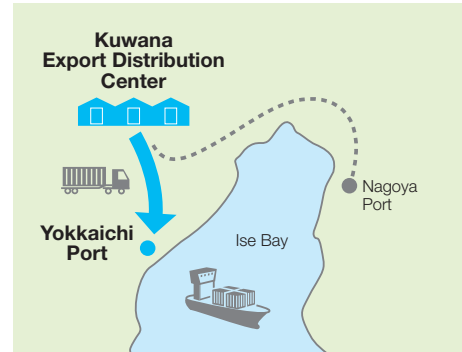
\*1 ton-km: Cargo weight (in tons) multiplied by the distance transported (in kilometers).  
\*2 Digital tachograph: A measuring device that records driving information, enabling users to assess vehicle operating status, improvements in fuel economy and other data.

### Shifting port usage to Yokkaichi Port to reduce CO<sub>2</sub> emissions

In a bid to reduce CO<sub>2</sub> emitted from the transport of containers from the Kuwana Export Distribution Center, NTN has shifted the port it uses from Nagoya Port to Yokkaichi Port. This shift has shortened the transport distance in Japan (from 20 kilometers to 12 kilometers), and reduced CO<sub>2</sub> emissions from cargo transport by 14.1 tons in fiscal 2009.

For this initiative, NTN has been recognized by Yokkaichi Port Authority as eligible for the authority's "Yokkaichi Port Green Logistics Promotion Assistance Program." This program provides

support to private-sector entities seeking to use the port to reduce carbon emissions associated with the transport of container freight. Assistance funds are then supplied to companies that qualify based on their CO<sub>2</sub> reduction rate.



## Utilizing Green Power

### Using green power for the "NTN Report"

In addition to the sale of wind power, Japan Wind Development Co., Ltd., an NTN customer, sells renewable energy certificates. These certificates serve as guarantees of environmental added value, such as energy savings and reductions in CO<sub>2</sub> enabled by renewable energy, and can be traded (sold) for this value. Japan Wind Development holds conferences on how to effectively utilize these renewable energy certificates in which NTN has been participating.

For the publication of our fiscal 2009 CSR Report, we purchased green power to cover the electricity consumed in the printing and binding process, for which Japan Wind Development issued renewable energy certificates. Green power is also being used for the fiscal 2010 NTN Report.



Rokkashomura in Aomori Prefecture

### CO<sub>2</sub> emissions from truck transport



Green power certificate