Please check the sustainability website for details.
https://www.panasonic.com/global/energy/sustainability/environment/decarbonization.html

# Achieving Decarbonization

## Policy

Our Mission is to "Achieve a society in which the pursuit of happiness and a sustainable environment are harmonized free of conflict," and therefore, responding to climate change, an urgent issue common to all humankind, is our most important challenge. To address this challenge, we will work to increase avoided $CO_2$ emissions (when our products and solutions are used by end-users) and reduce $CO_2$ emissions during battery production, including procurement of raw materials, production, and product distribution. By increasing our environmental contribution and reducing our environmental impact, we are working together as a Group and in collaboration with our stakeholders to maximize the value we provide.

| KPI | FY2025 | FY2031 |
|---|---|---|
| Environmental Contribution Index | **4.9** | 10*5 |
| Avoided $CO_2$ emissions*1 (10,000t-$CO_2$) | **1,632** | 4,500*5 |
| Net Zero Factories*2 | **17 sites** | All sites (FY2029) |
| Electricity renewable energy ratio*3 | **46%** | 100% (FY2029) |
| Carbon footprint*4 | **Vs FY2022: –22%** | Vs FY2022: –50% |

*1 The amount of $CO_2$ emissions reductions achieved for our customers and society as a result of the introduction of our products, compared to the baseline level where no products were introduced.
*2 Factories that have achieved virtually zero $CO_2$ emissions by conserving energy, introducing renewable energy, and using credits.
*3 Percentage of electricity, fuel, etc. used by Panasonic Energy that is derived from renewable energy sources (includes certificates, credits, and other externally procured items).
*4 $CO_2$ emissions per unit capacity of lithium-ion batteries for automotive use produced at the North American factories.
*5 Target values revised based on market conditions in-vehicle business and other factors.

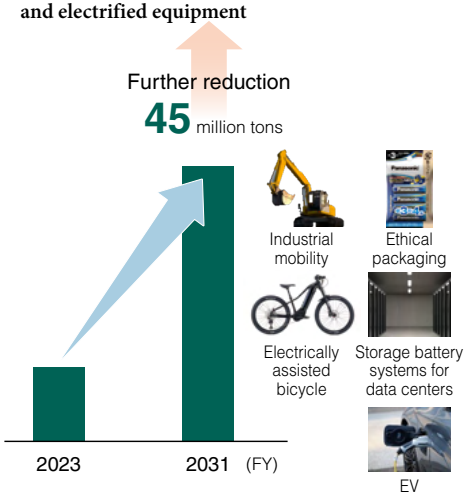
## Increasing avoided $CO_2$ emissions

### Contribution to the environment through our products

Panasonic Energy is working to increase avoided $CO_2$ emissions through mobility electrification and other initiatives to contribute to the environment through the spread of our products and solutions. To increase avoided $CO_2$ emissions, we are looking beyond products like our Li-ion batteries for vehicles and electrically assisted bicycles that reduce $CO_2$ emissions through product electrification, and are now considering products that can be expected to avoided $CO_2$ emissions through the energy saving benefits of replacing conventional products, including our storage battery systems for data centers,*6 whose avoided emissions we quantified for the first time in fiscal 2025. This brings our avoided $CO_2$ emissions to approximately 16 million tons in fiscal 2025.

By fiscal 2031, we aim to achieve avoided $CO_2$ emissions of 45 million tons by continuing to enhance our production capacity and expanding our products and solutions into areas such as industrial mobility, where electrification is progressing, thereby contributing to the decarbonization of society.

**Increasing contribution from the spread of EVs and electrified equipment**




### Relationship between the Inflation Reduction Act (IRA) and avoided emissions

The IRA is the largest investment the U.S. has ever made to tackle climate change.*7 The law is designed to reduce $CO_2$ emissions by 21 billion tons between 2023 and 2050 and to prevent $5.6 trillion in global economic losses from climate change.*8

The IRA provides tax credits and subsidies for industries that contribute to energy security and climate actions. Panasonic Energy benefits from a tax credit of $35/kWh on our automotive batteries produced and delivered in North America.*9 We believe that this tax credit was made possible by our efforts to promote the spread of EVs in society and contribute to avoided $CO_2$ emissions through the manufacture of automotive batteries. As indicated, the amount of our tax credit under the IRA is proportional to the amount of avoided $CO_2$ emissions from our automotive batteries. We believe this is an example where our contribution to decarbonization through automotive batteries has been recognized by society in terms of monetary value.

*6 Reduction in the amount of electricity supplied over the lifetime of use by replacing centralized power sources with distributed power sources
*7 As of August 2022
*8 https://home.treasury.gov/news/featured-stories/the-inflation-reduction-acts-benefits-and-costs
*9 Section 45X

## Reducing $CO_2$ emissions during battery production

### Initiative policy

While contributing to avoided $CO_2$ emissions in society through the widespread use of our products and solutions, we are also working to reduce $CO_2$ emissions during battery production, including procurement of raw materials, production, and product distribution.

In our battery production process, we are working to reduce our environmental impact by both conserving energy and introducing renewable energy. Using environmental certificates and credits, we aim to achieve Net Zero Factories*1 at all sites by fiscal 2029.

Furthermore, to reduce $CO_2$ emissions across the entire supply chain, we are strengthening our reduction efforts in cooperation with our suppliers with the goal of cutting our carbon footprint (CFP) per unit battery capacity in half *2 by fiscal 2031 compared to fiscal 2022.

### Initiatives in the battery production process

With regard to initiatives for conserving energy, we are promoting the reduction of energy loss during battery production and innovations in production methods. In addition to the reduction efforts at each site, we aim to maximize the reduction effect by spreading successful examples of improvements across the Company.

With regard to initiatives for introducing renewable energy, we are focusing on introducing renewable energy that does not rely on environmental certificates. In Japan, in addition to conventional solar power and onshore wind power, we have introduced off-site corporate power purchase agreements*3 (PPAs) for geothermal energy. This has raised our in-house renewable energy self-sufficiency rate*4 for electricity usage in Japan to approximately 30%, resulting in a reduction of approximately 50,000 tons of $CO_2$ annually. In the future, we are considering expanding the system globally, taking into account the regional characteristics of each country.

Off-site PPA for onshore wind power

Off-site PPA for geothermal power

### Initiatives in the procurement of raw materials

Most of the $CO_2$ emissions associated with battery production are from resource extraction, raw material processing, and distribution processes prior to our manufacturing process. Based on this, we have made suppliers understand our CFP reduction policy through partner meetings and other means, and are collaborating with them to advance $CO_2$ reduction efforts.
Specifically, by improving production efficiency, introducing renewable energy, switching to low CFP materials, and engaging with upstream suppliers, we have achieved a 22% reduction in CFP*2 for fiscal 2025 compared to fiscal 2022.

Partners' Meeting 2024

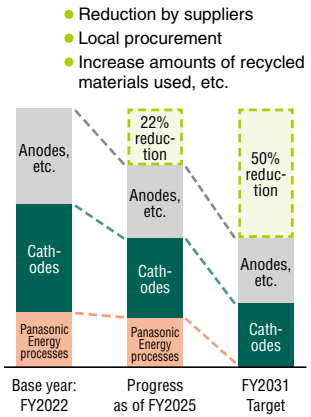
*1 Factories that have achieved net zero $CO_2$ emissions by conserving energy, introducing renewable energy, and using credits
*2 $CO_2$ emissions per unit capacity of Li-ion batteries for automotive use produced at the North American factories
*3 A model in which an electric power company installs power generation facilities in locations away from the demand point and supplies the generated electricity to users
*4 An indicator showing the proportion of renewable energy supplied from in-house power generation facilities. Does not include certificate-only procurement

As part of our efforts to reduce our CFP in raw materials, in fiscal 2025 we signed investment and seven-year offtake agreements with Nouveau Monde Graphite of Canada. The integrated production of anode materials from mining to production in Canada, which has a high ratio of electricity derived from renewable energy sources, will make it possible to significantly reduce $CO_2$ emissions.

We are also actively promoting the use of recycled materials produced from used Li-ion batteries, thereby contributing to further reductions in $CO_2$ emissions.

Aiming to further reduce our CFP in the future, Panasonic Energy is accelerating efforts to expand the introduction of renewable energy, improve the ratio of local raw materials procurement, and use more recycled materials.

**Progress and targets for CFP reduction*2**




### Initiatives in product distribution

We are also promoting initiatives to reduce $CO_2$ emissions in product distribution. In Japan, in addition to optimizing transportation methods and transportation routes, we have partnered with EcoTruck Co., Ltd on proof-of-concept trials to replace conventional diesel-fueled trucks with trucks fueled with biogas*5, which can be regarded as having zero $CO_2$ emissions during driving. We plan to roll out a partial deployment in fiscal 2026, and then, in the future, expand the rollout from product distribution to the procurement and distribution of raw materials.

Biogas truck

### Initiatives to utilize next-generation energy

We are promoting the use of hydrogen as a next-generation energy source that contributes to the reduction of $CO_2$ emissions in society. We have introduced pure hydrogen fuel cells at our Nishikinohama Factory in Japan and at Panasonic Energy Wuxi, China. The Nishikinohama Factory in particular is working to efficiently utilize renewable energy through optimal control of energy that is from the combination of photovoltaic power generation and storage batteries. At the Expo 2025 Osaka, Kansai, Japan, as part of an event under the theme "Change the Future! Hydrogen Week," we offered off-site visit tours*6 in partnership with Iwatani Corporation and Kawasaki Heavy Industries. Going forward, we will continue to contribute to decarbonization by utilizing next-generation energy.


Hydrogen tank painted with the same design as Evolta NEO batteries (NISHIKINOHAMA Factory)

*5 Purified methane derived from biomass
*6 Expo-related experiences and tours are accessible not only in Yumeshima, the site of the Expo, but also across Osaka Prefecture and other areas in the Kansai region