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Promoting the Spread of Energy Saving Technology

Why is it important?

Because Energy Efficient Air Conditioners are a Must for the World to Reach Carbon Neutrality

The use of air conditioners accounts for about $10\%^1$ of the world's total electricity demand. Demand for air conditioners is forecast to continue growing in line with the economic development of emerging countries, while energy demand for space cooling is expected to increase by an average of $4\%^2$ every year. As the world endeavors toward carbon neutrality, greenhouse gas emissions will only increase if no actions are taken.

On the other hand, air conditioning has become an indispensable form of infrastructure that supports not only comfort but also labor productivity and health. In Asia, Africa, and the Middle East, approximately 1.1 billion people are at risk of losing their lives due to extreme heat.³

In order to meet growing demand for space cooling without increasing greenhouse gas emissions, air conditioners must be energy efficient and the use of renewable energy must be encouraged. In particular, the spotlight is on the extent to which energy efficient air conditioners can be spread in emerging countries where demand is increasing.

According to World Energy Outlook 2023 by the International Energy Agency (IEA).
According to Space Cooling Tracking Report by the IEA.

³ According to Global Cooling Watch by the United Nations Environment Programme (UNEP). Forecast of Electricity Usage for Space Cooling



Note: Compiled by Daikin based on Global Cooling Watch 2023 by UNEP

Daikin's Approach

Creating Pathways for Spreading Energy Efficient Air Conditioners Worldwide

One of the key themes of Daikin's Fusion 25 Strategic Management Plan is to take on the challenge of carbon neutrality. In order to reduce electricity consumption from the use of air conditioners, we are spreading and expanding energy efficient products that make use of our core technologies such as heat pumps, inverters, and refrigerant control.

In Asia, Africa, and the Middle East, where air conditioners are becoming more widespread, there are concerns about electricity shortages due to economic development. Despite this, due to the inadequacy of energy efficiency standards for products, inexpensive air conditioners that consume large amounts of electricity are readily available.

Daikin has supported governments around the world in creating standards to promote energy conservation. Teaming up with various stakeholders, we provide support in terms of information provision and technical and human resource development by utilizing our expertise.

Emerging Countries and Regions Where Daikin Has Cooperated to Spread Energy Efficient Air Conditioners



Feature of Fiscal 2020: Environment—Creating Standards for a Decarbonized Society Alongside Stakeholders

https://www.daikin.com/-/media/Project/Daikin/daikin_com/csr/pdf/ feature2020/env-pdf.pdf

Feature

Daikin's Performance

Appealed the Immediate Effectivity of High-Efficient Inverter Air Conditioners to COP28 Participants

An inverter—one form of the energy saving technology for air conditioners—can reduce power consumption by more than 50%⁴ compared to non-inverter air conditioners by accurately controlling the rotation speed of the compressor according to operating conditions. Despite the fact that 100% of air conditioners sold in Japan and Europe are already equipped with inverters and are available immediately, the penetration rate of these models in Asia and Africa is still low. In order to reduce CO₂ emissions in emerging countries in the future, there is an urgent need to create an environment where consumers can choose to purchase energy efficient products. Policymakers in each country need to understand the importance and effects of this accessibility.

At the 28th session of the Conference of the Parties (COP28) to the United Nations Framework Convention on Climate Change (UNFCCC) held in 2023, "decarbonization of cooling" was mentioned as one of the main themes. The need for air conditioning as a component of social

COP28— International Conference for Discussing Climate Change Countermeasures

The largest international conference in the world discussing a framework for curbing global warming. In 2023, the meeting was held in Dubai, United Arab Emirates, from November 30 to December 13. National delegations, international organizations, NGOs, and companies from 197 countries and regions that are members of the UNFCCC took part. About 85,000 people, including more than 150 heads of state and government, attended.

COP28



The Daikin booth at the Japan Pavilion. Using the inverter display model, visitors were able to experience the difference between inverter and non-inverter air conditioners.

infrastructure and its energy saving performance is now on the agenda at the national level.

At the Japan Pavilion at COP28, Daikin exhibited a booth explaining how inverters can lower CO₂ emissions. As an immediate solution to improve energy efficiency and reduce power consumption, the booth widely appealed the effects of inverters to policymakers. The technology attracted the interest of visitors as it directly contributes to one of the international targets agreed upon at COP28, which is to "double the global average annual rate of energy efficiency improvements." A total of more than 1,000 people, including about 600 government officials representing some 50 countries, visited the Daikin booth. Visitor feedback included, "I didn't know that Daikin products were sold in so many countries" and "I learned that inverters are a technology with immediate effectivity that can be introduced immediately."

⁴ Calculated based on demonstration experiments conducted by Daikin.



Daikin's Senior Executive Officer took part in a Japanese government-sponsored seminar as a speaker.

Next Challenge

Strengthening Collaboration with Stakeholders through the Global Cooling Pledge

At COP28, 63 countries, including Japan, signed on to the Global Cooling Pledge. It calls on countries to reduce greenhouse gas emissions related to air conditioning (cooling), improve energy efficiency, and expand access to air conditioning for vulnerable populations. This is in line with Daikin's ongoing activities to promote energy saving products around the world, and we expressed our support on the day of the announcement.

The Global Cooling Pledge aims to increase the global average energy efficiency of air conditioners by 50% by 2030. In order to achieve this goal and contribute to the carbon neutrality of society, Daikin will continue to provide information and technical support in cooperation with governments and industry groups around the world.

Reassured by Daikin's Efforts to Roll Out Energy Efficiency Technology Around the World



Makoto Kato

Overseas Environmental Cooperation Centre (OECC)

The urgent issue of climate change requires that we reduce greenhouse gases through advanced energy efficiency technologies, and Japan in particular is expected to contribute in this field. At COP28, the promotion of energy efficiency in the field of air conditioning was discussed, and Daikin's energy saving technology development was introduced as an important initiative. Witnessing the enthusiastic attention of stakeholders in each country for Daikin's state-of-the-art technology and proactive stance on sustainability, I feel very reassured in communicating Japan's international contributions.