



3-5-0

“Environment” Overview

Background to the theme

Environmental issues are becoming an important aspect of the social responsibilities a company is required to meet, and various measures are in place nowadays for the meeting of such responsibilities. The Kyoto Protocol was ratified in February 2005 as part of this move, to control the emission of greenhouse gases. Under the terms of the Kyoto Protocol, Japan is committed to a 6% reduction in its greenhouse gas emissions. In order to meet this numerical target, many companies have begun taking countermeasures that will reduce the production of greenhouse gases, and mobile network operators and the manufacturers who produce handsets for them are also taking action to reduce electricity use and lighten the burden they place on the environment.

In line with the rise in popularity of mobile phones, there is an acknowledged need for stronger measures to ensure the prevention of global warming and the efficient use of the earth's resources. Approximately 400 million mobile phones are manufactured each year worldwide, and if these phones are eventually consigned to waste, they will represent a serious environmental problem. At the Sixth Conference of the Parties to the U.N. Framework Convention on Climate Change (COP6) meeting in Geneva, Switzerland in December 2002, 10 global mobile phone manufacturers and the secretariat of the Basel Convention reached an agreement on a recycling and reuse system for mobile phones at the end of their life cycles, known as the MPPI (Mobile Phone Partnership Initiative).

In Japan, mobile network operators and manufacturers have begun work on an autonomous recycling system known as the Mobile Recycling Network, which was established in 2000, and making efforts to encourage the recycling of mobile phone and PHS handsets.

The electromagnetic waves emitted from mobile phones and base stations are all around us on a day-to-day basis, and there have been concerns raised regarding negative effects on health of these industry-generated waves. Since not much time has passed so far since the popularization of mobile phones, there is still lit-

tle clear scientific proof attached to the idea that long-term exposure to the waves emitted by mobile phones and mobile phone base stations may be detrimental to health, and there is a need for ongoing research and studies. There is also, however, the possibility that the results of localized experiments, and information that suggests concerns regarding detrimental effects on health, could cause unnecessary panic regarding health issues.

Attributes of the theme, and specific topics

The Mobile Recycle Network, which recycles mobile phones and PHS handsets, achieved a maximum recycling proportion of 29% in fiscal 2001 (proportion of mobile phone and PHS handsets). Since then, however, the proportion of phones recycled has been dropping, caused partially by the increased level of technology utilized in phones and the fact that with 3G phones, the insertion of a SIM card allows people to use a mobile phone they purchased previously.

The development of fuel cells for mobile phones and the sale of handsets manufactured from eco-friendly materials, as well as energy savings being made at relay stations, are examples of the measures being taken by mobile network operators and related manufacturers. The society as a whole appears positive about taking proactive steps to preserve the environment.

Future predictions

It is anticipated that the proportion of mobile phone and PHS handsets which are recycled will continue to fall, with second-hand mobile phones being used, as well as traded on auction sites. For this reason, it is anticipated that manufacturers will increase the eco-friendliness of handsets themselves through the use of materials with a low environmental impact, and the elimination of components that have a significant negative impact on the environment. The development of rechargeable batteries with higher density and higher capacity, and commercialization of fuel cell, are expected to contribute to a reduction in environmental impact.

3-5-1 Recycling of Mobile Phones

42% of mobile phone users throw handsets away without knowing that it is possible to bring them back to a retailer for recycling. Many people also keep their old mobile phones when they buy a new one. Along with advertising the Mobile Recycle Network, it appears that other measures to promote the recycling of handsets are needed, such as offering guarantee for transferring mobile phone book and mobile e-mail address between handsets, and a simple method of deleting stored information.

Key Words

■ Recycling ■ Secondary use ■ Second-hand ■ Auctions ■ Leaking of private information ■ Copyright

3-5-2 Environmental Efforts

The Telecommunications Carriers Association established a Plan for Autonomous Environmental Action in 1999, to promote proactive engagement with the environment by mobile network operators in reducing energy use in base station equipment, using natural energies and reducing paper use, and developing handset materials with a low environmental impact. The awareness of such efforts made by mobile network operators among the respondents of our survey, however, is still low compared to that for other industries, such as the automobile and consumer electronics markets.

Key Words

■ Sustainable ■ Environmental report ■ Energy savings ■ Eco-friendly handsets ■ Reduced paper use ■ Materials with low environmental impact

3-5-3 Advanced Battery Development

As mobile phones become more technologically advanced, they require more power, and consumers list “longer battery life” as one of their top requirements for handsets. Users also wish to have power supplies that utilize natural energy, to reduce the burden on the environment. In response to this, improved capacity lithium batteries, and fuel cells with high energy density, as well as non-contact type battery rechargers that can be used in other equipment as well as mobile phones, are currently under development.

Key Words

■ Battery capacity ■ Longer-life batteries ■ Natural energy ■ Fuel cells

3-5-4 Electromagnetic Effects on Public Health

At present, there is still little clear scientific proof attached to the idea that long-term exposure to the waves emitted by mobile phones and mobile phone base stations may be detrimental to health, but there have been reports of electromagnetic waves causing skin sensitivity, and research is being carried out in many organizations both in Japan and overseas into the effects of mobile phones on health. More than 70% of people are not aware of these activities, however, and it is thought that there is a need for further information to be communicated on the impact of electromagnetic waves on health.

Key Words

■ Electromagnetic waves ■ World Health Organization ■ International EMF (electromagnetic fields) Project ■ SAR