# **Environmental Report** 2008



ORIX Group



Company Name **ORIX** Corporation

Location Mita NN Bldg. 4-1-23 Shiba, Minato-ku, Tokyo, Japan

Representatives Chairman and CEO: Yoshihiko Miyauchi

President and COO: Yukio Yanase

End of Fiscal Year March 31

Shareholders' Equity ¥1,267,917 million

18,702(15,369 in Japan; 3,333 overseas) **Employees** 

**Issued Shares** 92,193,067 Stock and Security **Exchange Listings** 

Tokyo Stock Exchange, First Section Osaka Securities Exchange, First Section

(Securities Code: 8591)

New York Stock Exchange (Trading Symbol: IX)

Main Business **Group Companies** 

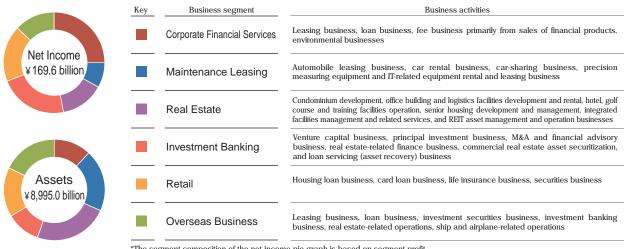
**Diversified Financial Services** Consolidated: 218 / Affiliated: 102

Network Japan: 1,181 locations

Overseas: 289 locations(25 countries and regions)

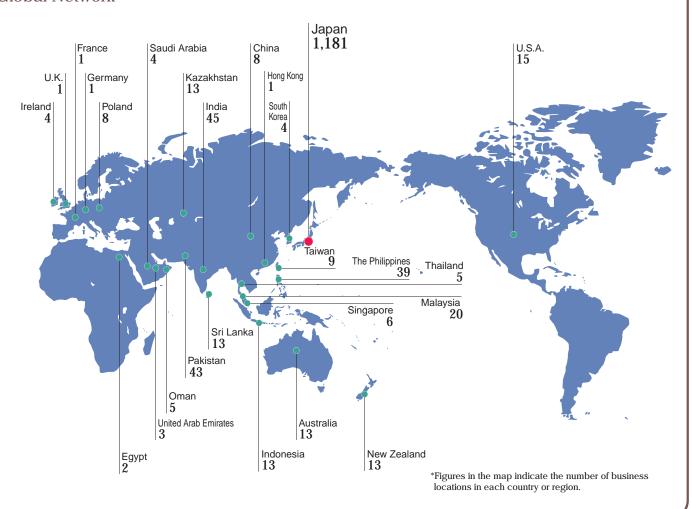
**URL** http://www.orix.co.jp

#### Segment Composition (As of March 31, 2008)



<sup>\*</sup>The segment composition of the net-income pie graph is based on segment profit.

#### Global Network



#### <Editorial Policy>

The "Environmental Report 2008" has been published to familiarize stakeholders with the ORIX Group's varied environmental services and activities.

The ORIX Group, which conducts a diverse array of businesses centered on the financial sector, has long contributed to the preservation of the natural environment through its businesses. The ORIX Group has formulated and launched its first group-wide environmental policy, ECORIX 2012, a set of environmental initiatives designed to assist in the development of a low carbon society.

To illustrate the ORIX Group's stance on environmental preservation, we invited as a guest for this report Mr. Takejiro Sueyoshi, special advisor for the UNEP Finance Initiative. The discussion between Mr. Sueyoshi and ORIX Group COO Yukio Yanase on critical global environmental issues and the Group's future direction has been included in this report as the lead article.

The ORIX Group helps clients to reduce their environmental impact through the services it offers, and aims to help bring about a low carbon society with an environmentally-sound material cycle by accelerating this support. For this reason, the bulk of this report is dedicated to introducing the Group's environmental support services. Opinions from business partners and comments from Group employees were also included to deepen readers' understanding of the Group's environmental activities.

Dr. Hidefumi Kurasaka, a professor in the Faculty of Law and Economics at Japan's Chiba University, along with Mr. Koichi Niwa, an analyst from Mizuho Securities Co., Ltd., provide independent reviews on page 42 of this report. In addition to heightening reporting transparency, we hope to reflect their views in the Group's future management.

Although this publication reports on environmental activities throughout the ORIX Group, pages 37 through 41 feature specific information on the environmental activities of the Group's environmental specialist, ORIX Eco Services Corporation.

#### OIntended readership:

This report has been published for the benefit of a broad range of stakeholders, particularly clients, shareholders and other investors, business partners, and Group employees

#### OScope:

The ORIX Group's environmental activities and services

#### OPeriod Covered by the Report:

Fiscal year 2008 (April 1, 2007 to March 31, 2008) The report also includes some information pertaining to the period beyond fiscal year 2008.

#### OPublication Date:

October 20, 2008

#### <Contents>

JRIX Group Outline ————————————————————————————————————	——2
Editorial Policy/Contents——————————————————————————————————	3
Top Interview	
Mr. Takejiro Sueyoshi and ORIX Group COO	
Yukio Yanase —	——4
The ORIX Group and the Environment	
The ORIX Group Commitment —	8
ORIX Group Carbon Disclosure for Achieving	
Low Carbon Operations —	<del></del> 10
Activities to Reduce Environmental Impact at	
Group Companies	—11
Realizing a Low Carbon Society	
Retracing the Steps of the Energy Business—	
Energy Management Service	
Low Carbon Business	—18
Promoting New Energy Sources	
Global Warming Mitigation in the Auto Business -	
Interview With ORIX Auto President Mitani	
Environmental Services in the Real Estate Business -	
IT and the Environment —	—28
Realizing a Society With an	
Environmentally-Sound Material Cycle	
Purchasing Unwanted Property —	<b>—30</b>
Area Recycling Systems	<b>—31</b>
Supporting Improved Group-wide Service Quality—	<b>—32</b>
Recycling Services Focused on Information Security	
Supporting Environmental Risk Countermeasures-	<b>—34</b>
and Environmental Management —	<del>35</del>
Proper, Sophisticated Waste Processing—	<b>—36</b>
Environmental Activities at ORIX Eco Services	
ORIX Eco Services Business Activities————	20
Environmental Management Systems —	
Environmental Activities	
Aiming to Raise Service Quality—	
Airling to Naise Service Quality	<b>—41</b>
ndependent Review———————————————————————————————————	<b>—42</b>
Publication of the ORIX Group's "Environmental	
Report 2008" ———————————————————————————————————	<b>—43</b>

#### Contact

Corporate Communications, Office of the President ORIX Corporation ORIX Eco Services Corporation 4-1-23, Shiba, Minato-ku, Tokyo, Japan http://www.orix.co.jp Phone: +81-3-5419-5102

**EMS Promotion Department** 3-22-8 Shiba, Minato-ku, Tokyo, Japan URL: http://www.orix.co.jp/eco/ Phone: +81-3-6436-6708

## The ORIX Group Is Promoting the Transition to a Low Carbon Society Through Its Business

ORIX invited Takejiro Sueyoshi, Special Advisor to the UNEP Finance Initiative, to visit the Company on July 2, 2008, prior to his attendance at the G8 Hokkaido Toyako Summit. During his visit Mr. Sueyoshi spoke with ORIX Group COO Yukio Yanase about awareness of global environmental issues, and the role for companies going forward.

## Tackling environmental issues with a shared global awareness

Yanase: I'd like to speak with you today about how environmental issues are perceived around the world and in Japan, and how businesses should approach these issues in the course of their development. I'd also like you to provide some hints as to what you think the ORIX Group can do.

Last year An Inconvenient Truth, the book and documentary film by former U.S. Vice President Al Gore attracted a great deal of attention, and won Mr. Gore the Nobel Peace Prize. I was extremely impressed by An Inconvenient Truth, but some people were critical of it. How do you view this work?

Sueyoshi: There are still people who are skeptical about An Inconvenient Truth. However, last year the Fourth Intergovernmental Panel on Climate Change (IPCC) Assessment Report concluded that warming is occurring on all continents. It also indicated that there is greater than 90% probability that this is due to human industrial activity. The Precautionary Principle of taking action to counter global warming even though the basis for that warming has not been scientifically established with 100% certainty, is already shared around the world. This is because of the potential for catastrophic damage if preventive measures are not taken before it's too late.

Yanase: So you're saying that global warming should be our first priority?

Sueyoshi: That's right. Everything must begin with a shared sense of urgency around the world regarding global warming. There can be no collaborative effort without that consensus.

Yanase: I feel that Japan has lagged behind the rest of the world in its response to global warming. After the Meiji Restoration Japan adopted the best aspects of European nations, and changed dramatically in a short period. I think that we should not focus solely on America; we also

The United Nations
Environment Programme
Finance Initiative

Takejiro Sueyoshi

need to learn much from Europe. What do you think?

Sueyoshi: I agree completely. Europe is well ahead in addressing environmental issues. Japan is strong in environmental technologies, and there is a strong perception of being close to a frontrunner in this area. That is why many people feel that Japan is ahead of the U.S., which withdrew from the Kyoto Protocol. The fact is, however, that the U.S. has already overtaken Japan.

Yanase: Japan possesses some of the world's most advanced energy conservation and environmental technologies, but awareness is at the lowest level. This seems to be an immense structural problem.

Sueyoshi: Japan is advanced in certain areas, but is unable to generate a larger movement to drive the country as a whole in the right direction. Opposition to the cap-and-trade system for regulating CO2 emissions had lingered heavily over industry in general, and there was little enthusiasm for actively embracing the idea. Things have finally begun to thaw recently as a result of the "Fukuda vision," and we are entering an era in which everything is being reconsidered on the basis of environmental issues. Therefore, I think that long-term plans that do not address global warming are no more than castles in the sky.

## Adopt a carbon standard and step up carbon productivity

Yanase: Fossil fuels have been formed by CO<sup>2</sup> buried underground for an unimaginably long time. We've been consuming a large amount of these fossil fuels in a short space of time, so that's bound to have an impact.

Sueyoshi: The Earth's atmospheric CO2 is absorbed by the oceans, soil and vegetation. The planet is estimated to possess an absorption capacity of around 3,100 million tons of carbon per year. The amount of CO2 generated by mankind, however, is approximately 8,200 million tons per year. That's roughly three times larger than the absorption capacity of the Earth. The CO2 that can't be absorbed is estimated to linger in the atmosphere for 1,000 to 5,000 years. That's what causes global warming.

Yanase: We're unable to sense immediately the damage caused by CO <sup>2</sup> emissions. That's what blunts our sense of urgency, correct?

Sueyoshi: Exactly. That's why I think we should adopt a carbon standard. Mankind should set limits for activity within a range that does not exceed the absorption capacity of the planet.

Currently, Japan alone emits 1,300 million tons of CO<sub>2</sub>. The Kyoto Protocol framework allows for emissions of 1,186 million tons by 2012, so Japan will have to enhance its "carbon productivity." If it fails to do so, it will lose competitiveness in the 21st century. In the future even financial institutions will have limits on CO<sub>2</sub> emissions, and only those companies able to maximize earnings within that scope will survive.

Yanase: "Carbon productivity" is an extremely straightforward concept. What concerns me, however, is whether we will be able to mitigate



global warming before we exceed the Earth's tolerance.

Sueyoshi: The surface area and thickness of the polar ice cap are shrinking year by year, and in September 2007 the ice shrank to its smallest area in the history of observation. The ice is melting faster than the world's scientists had predicted. At this rate, within a few years there may not be any ice left at all in the summer. The world's scientists are concerned that we've already exceeded the limit, and that this may be irreversible.

The IPCC report also states that if CO<sub>2</sub> emissions don't "peak out"-i.e., at least level off-by 2015 to 2020, the result could be extremely dangerous. Clearly, countries, companies and individuals all need to shift gears within the next five to ten years-there is no time to lose.

Yanase: The figures for 2050 are of course important, but you're saying that we must take action right away.

#### Corporations must also act on a global scale

Sueyoshi: The Stern Review on the Economics of Climate Change, published in October 2006, estimates that "if we don't act, damage could rise to 20% of worldwide GDP or more. In contrast, the costs of action-reducing greenhouse gas emissions to avoid the worst impacts of climate change-can be limited to around 1% of global GDP each year."

Yanase: The monetary amounts are certainly compelling. The report says that we can gain an economic benefit by responding quickly.

Sueyoshi: This report had an impact in part because it was commissioned by the British finance ministry. Britain has demonstrated a strong political determination to lead the international community in addressing global warming.

Yanase: The private sector makes a much larger contribution to GDP than government, and thus private companies have a considerable role to play. Since economics has become global, we must think about these issues on a global scale. What issues do you think Japanese corporations should address?

Sueyoshi: The world is currently facing many serious issues along with global warming, including poverty, water, disease, and human rights. The United Nations Global Compact held in July 2007 adopted the Geneva Declaration on corporate responsibility, which seeks to reverse the negative legacy of globalization. The issues faced by both the U.N. and the corporate world have never been more aligned. As part of the global economy, Japanese companies need to bear this in mind, consider it carefully, and take definitive

action in their core business operations.

General Electric, for example, has asserted that it is committed to four key issues: 1) Depletion of energy resources; 2) Meeting the needs of developing countries; 3) Ensuring that all people in the world have access to safe water; and 4) Countering global warming. The company says that what it does in response to these issues defines its position. Customers want environmentally friendly products. If GE makes them the company earns a profit, and shareholders are happy. Through such products, the company also gives back to society at large. For instance, if GE increases the fuel efficiency of its jet engines by 5%, this provides a substantial reduction in CO2 emissions. At the same time, it also reduces fuel costs for airlines-which accounts for 30% of their operating expenses-and ultimately benefiting their business operations. Yanase: GE's initiatives are specific and easy to understand. The ORIX Group is smaller than GE, but we also seek to support our customers' business operations by addressing environmental issues.

The ORIX Group's environment-related business currently focuses on three main areas. In the energy field, we provide financing and energy conservation services to power companies. To counter global warming we are moving into  $CO^2$  emissions trading, while in the recycling field we operate a waste processing facility. To give you an idea of the ORIX Group's potential, we could, for example, install solar panels on our more than \$1 trillion in real estate assets, as a means of countering global warming. In these and other ways, we have the ability to expand our environmental business by building on our established businesses.





## Advancing to a new world in step with changing values

Sueyoshi: There is one thing I'd like to see the ORIX Group do while it pursues its environmental business. That is for everyone involved to discuss and clarify the risks in the business.

As global warming progresses, natural disasters may become more common, and asset value could be lost. Regulations could be tightened, and companies that do not try to reduce CO2 emissions will see their reputations diminish. The best people will not want to work for a company that shows little consideration for the environment, and it will be difficult for such companies to secure personnel. Everyone needs to discuss how such risks could materialize.

These debates will foster a shared sense of crisis, and have a significant impact on thinking and action. The process will help eliminate risks and turn them into positives, generating business opportunities and ideas, and help the company approach customers. You'll be able to explain to your customers the risks they are facing due to inaction, and work with them to solve the problem. You can show them how the ORIX Group can help. This kind of new thinking is important.

Yanase: You're exactly right. It's important that we understand the true nature of the issues, and get involved with the specialist environment-related business divisions taking the lead.

Sueyoshi: Up to this point share prices have been influenced mainly by earnings and financial position, but the important factor going forward will be whether a company has a plan for adapting to a low carbon society, i.e. the degree to which it helps cut CO<sub>2</sub> emissions. Look at the actions being taken by shareholders today.

The automaker Ford Motor Company, in response to strong calls from shareholders, has announced that it will reduce the CO<sub>2</sub> emissions of new cars by 30% by 2020. Institutional investors such as pension funds in particular need to make long-term investments to protect the livelihoods of the people who depend on them, and so focus on the

transition to a low carbon society. The asset structures of companies that emit large amounts of CO<sup>2</sup> will steadily worsen, creating an asset profile that is predicted to be even worse than subprime loans. The president of Bank of America has even stated that when reviewing loan applications the bank treats all CO<sup>2</sup> emissions as borrowings. As CO<sup>2</sup> comes to be considered a negative asset, values will change dramatically.

One of the roles of finance has been to support society and the economy. Finance is now being called upon to play a more prominent, leading role. It's essential to have a strong commitment to responsible investment, i.e. a determination to change the way money flows, change society, and act to mitigate global warming. Government, business and consumers must take action to solve environmental issues. I believe that the role of finance is to take the lead in spearheading new business at the forefront of society.

Yanase: So you're saying that along with making profits, it's important for companies to contribute to the formation of a sustainable society. You gave an example from the U.S. a moment ago, but how does the rest of the world view the current state of affairs in Japan?

Sueyoshi: There is a greater emphasis in Japan on reducing CO2 emissions compared to five years ago, but I still think that the country is lagging behind. Financial firms and institutional investors in the U.S already consider climate change risk to be a form of investment risk, but there has yet to be serious debate on the issue in Japan. It would be in the ORIX Group's best interest to debate the nature of risk internally as soon as possible, and immediately begin to move toward a low carbon society.

Yanase: Even if we can't come up with a perfect solution, I think it's important for us to have a shared sense of urgency, and take action.

Sueyoshi: Environmental issues are also an opportunity for management. Managers are able to usher in drastic changes by making them part of the ordinary conduct of business. The same is true for the national government. The government needs to pursue policy

shifts such as introducing an environmental tax or changing the distribution of public funding by linking them with the message that everyone must work together to address global warming to avoid disaster.

Yanase: Your idea is for us to think beyond just the ORIX Group's business, to identify the issues and hammer out a clear plan for how the ORIX Group will change.

Sueyoshi: Companies need to consider remedies to cope with the very real phenomenon of global warming, not by conventional means of selling products that address the symptoms of global warming, but by transforming their organizations so as to pave the way for a society unlike any that has existed before. Those that don't will be unable to overcome the difficulties ahead.

#### New dimensions of global competition

Yanase: Since finance covers a wide area, the ORIX Group has unlimited options. The ORIX Group has posted significant growth over the past five years, and now ranks among Japan's top corporations in terms of earnings power. Going forward, I'd like to convey a clear message for the transition to a low carbon society, and catalyze our next stage of growth with initiatives to counter global warming.

Sueyoshi: More and more companies in Japan and elsewhere are stressing not just earnings but CO2 reductions in their investor presentations, and a change in thinking is taking place. It's essential for the ORIX Group to determine its stance, plant its flag ahead of the change, and marshal all employees to work as one to make an impact on society.

The term "earth-friendly" for example, gives everyone a good feeling, but it doesn't mean anything. Rather than repeat empty phrases companies should call on society to face the reality of changes that no one has ever experienced. This is that CO2 emissions are bad, and not emitting them is good. Companies need to urge the world to action with these values.

Yanase: I would like to act on your advice. I have a fairly clear picture of how this would work in such fields as real estate, but there are serious difficulties in finance.

Sueyoshi: One example is the chemical company BASF, which uses the term "carbon balance" to express the idea that although it generates 87 million tons of CO2 in the manufacturing process for its products, when consumers use those products it reduces CO2 by 250 million tons, ultimately benefiting society. I'd like to see the ORIX Group hold a debate not just in-house but across its widespread business operations, and send a positive message that the problems it is unable to resolve on its own will be worked out together with consumers and society.

Yanase: Germany has stated its intentions clearly, by abandoning nuclear power generation and in other ways. Companies need to clarify their positions as well.

Sueyoshi: Germany has set a target of cutting CO<sub>2</sub> emissions 40% by 2020, so if Japan continues to drag its feet and says it can't cut

emissions, there will be a considerable gap by 2020. This goes beyond the issue of  $CO^2$  emissions, however, as it will place Japan at a disadvantage in terms of its ability to endure an energy crisis. Reducing  $CO^2$  emissions is tied to issues of future security. Companies need to think about how they will rise above these new dimensions of global competition.

Yanase: The companies you've cited as examples are all global bluechip firms. You're saying that what they have in common is an exceptional ability to adapt to changes while addressing problems.

Sueyoshi: The other day, a Western fund manger told me that while addressing global warming was extremely important, what the fund really focused on was a company's ability to adapt to new values and business environments. The most highly rated companies are those that are able to see through to the heart of a problem and respond appropriately.

Yanase: That means we must remain committed to providing the highest levels of service and products, as we continually adapt to changing circumstances and put our resolve into action. We would like to help our customers achieve low carbon operations, and contribute to the realization of a low carbon society.

Sueyoshi: Water flows downhill as the saying goes, but I like to say that regulation "flows uphill"-from the bottom up. And regulation breeds innovation. The U.S. and Europe are already making preparations, and the world's money is being funneled into the environmental field. Japan needs to recognize that it is being left behind, and take action quickly. Yanase: You've given us a lot to think about. Thank you for your time today.



## The ORIX Group Commitment

### **ORIX Group Environmental Policy**

For the sake of our newest stakeholders, that means future generations, we aim to become a corporate group that encourages greater carbon efficiency by:

- · Contributing to the emergence of a low carbon society
- · Supporting customers achieve low carbon operations
- · Promoting initiatives to lower our own carbon emissions

Drafted September 25, 2008

ORIX Group COO 梁瀬行雄

#### [ECORIX 2012]

The ORIX Group is promoting ECORIX 2012, an environmental policy that will guide efforts through 2012 to build a low carbon society.

The name ECORIX, a combination of ecology (ECO) and ORIX, collectively signifies a range of environmental activities we will carry out by 2012, a year that coincides with the end of the first commitment period for achieving carbon reduction targets under the Kyoto Protocol. At the same time, we remain committed to promoting the services that ORIX has unveiled over the years for realizing a society with an environmentally-sound material cycle.

### **ECORIX 2012 Activity Framework**

- Establishment of a new post, Group CPO (Climate Protection Officer), filled by the president of ORIX Eco Services Corporation, responsible for identifying, addressing and monitoring environmental risks, centered on climate change, and for promoting environmental businesses.
- Establishment of the ECORIX Promotion Committee, comprising environmental managers selected from each business division and relevant administrative divisions, to build closer ties by advancing Group-wide activities and sharing information.
- Environmental managers will establish and support the spread of action policies and targets in their respective divisions. Environmental impact will also be gauged and calculated respectively for each division.
- ORIX Eco Services will serve as the coordinating office when conducting activities, and will be responsible for monitoring
  environmental impact and raising awareness among employees on a Group-wide basis, as well as production of the
  Environmental Report.



### **ECORIX 2012 Action Targets**

The ORIX Group is helping its customers to achieve low carbon operations by providing them with the same services used to lower the carbon footprint of its own business operations. In this way, we are contributing to realizing a low carbon society.



## Contributing to the emergence of a low carbon society

As members of society, each ORIX Group employee takes active part in every available opportunity to reduce environmental impact.

#### Aims for 2012

- ·Strive to develop new services for helping customers achieve low carbon operations
- ·Raise environmental awareness and knowledge among employees through environmental seminars and other training courses
- $\cdot$  Actively take part in activities that promote low carbon households and communities

### Helping customers achieve low carbon operations

We support efforts by customers to reduce their environmental impact and achieve low carbon operations through ORIX Group services and products.

#### Aims for 2012

- ·Whenever possible, provide customers with CO2 emissions data pertaining to services and products
- $\cdot \text{Provide}$  information on the effectiveness of services and product usage in reducing CO2 emissions
- (Please see pages 13 to 36 for information about ORIX Group services and products currently offered)

### Promoting initiatives to lower our own carbon footprint

We are taking steps to reduce carbon dioxide generated by ORIX Group activities in order to achieve low carbon operations.

#### Aims for 2012

- $\cdot Reduce \ CO_2$  emissions from ORIX Group operations and business activities by 10% compared to fiscal 2008
- ·Establish targets and promote activities tailored to each division (Promote activities in line with voluntary action plans in related industries where available)
- $\cdot Reduce$  paper usage by 30% compared to fiscal 2008

## **ORIX Group Carbon Disclosure** for Achieving Low Carbon Operations

The ORIX Group is dedicated to making its efforts to achieve low carbon operations as visible as possible. In the diverse business fields where the Group operates, we will assess CO2 emission levels and proactively disclose information on CO2 emitted by the ORIX Group as "carbon data."

Scope of businesses and operations where CO<sub>2</sub> emissions levels were measured and calculated in fiscal 2008

The wide-ranging business scope of the ORIX Group, encompassing everything from financial services to real estate businesses, automobile leasing and rentals, and the operation of waste disposal facilities, also includes services closely related to the environment.

In the process of working to achieve low carbon operations, the ORIX Group assesses and strives to reduce CO2 emissions from not only its operations, but also the products and services it offers. The amount of CO2 produced by services often varies according to the customer's operations, but we still work to assess these levels to the extent possible.

Recognizing from the start the inherent challenges in calculating CO2 levels across every facet of the Group's activities, we have opted to disclose data from fiscal 2009 covering the scope outlined below. Going forward, we intend to expand the scope of calculation and enhance its precision each year. Calculated results will help to prioritize activities in those fields that have the greatest impact and those where reduction efforts will be most effective.

## Operations 26,000

Main Scope of Calculation

- Electricity, etc. at major offices
- Business vehicles

Small offices Employee commutes and business trips Outsourced operations

## **Real Estate** 171,000

Main Scope of Calculation

- Office buildings
- Hotels
- Golf courses

Small properties (Condominiums) **Automobiles** 90,000

Main Scope of Calculation

- Car rentals (direct management)
- Car sharing

Car rentals

(franchised)

Lease vehicles

Equipment

Main Scope of Calculation

Management of rental assets

Use and disposal of lease/rental assets CFC-related

**Environment** 152,000

Main Scope of Calculation

Waste disposal facilities

(Services provided)

#### Corporate financing/ investment banking/ retail

- % Single-block rentals and other properties in operation beyond the scope of ORIX's energy management rights
- Retail shop-related
- Business investments
- Trust assets
- % CO₂ from investment and loan targets

Overseas

Ships/marine and aircraft IT

Scope of calculation for fiscal 2008

Gray items are presently outside the scope of calculation. Total 441,000 (Unit: t-CO<sub>2</sub>)

- · Business operations: Estimated electricity consumption by major ORIX Group business sites (62 sites) and emissions from operation of business vehicles (1,944 vehicles) used by Group employees
- Real estate: Emissions from properties (120 locations) such as office buildings (of a certain size or larger), golf courses, hotels and seminar facilities, sports stadiums, aquariums, and driving schools owned and operated in the Real Estate business (Excludes properties beyond the scope of ORIX's energy management rights)
- · Automobiles: Emissions from rental cars at directly managed stores and from car sharing usage
- · Equipment: Emissions from electricity consumption at ORIX Rentec Technology Centers (2 locations)
- · Environment: Emissions from waste disposal facilities (2 locations)
- In principle, CO2 emissions from energy use are calculated by multiplying energy consumption by the default values of emissions coefficients stipulated by the "Ministerial Ordinance on Calculation of Greenhouse Gas Emissions by Specified Emitters
- · CO2 emissions from non-energy use and emissions of other greenhouse gases are calculated by multiplying coefficients from the aforementioned ordinance by the equivalent

#### Head Office CO<sub>2</sub> Emissions

The Japan Leasing Association has formulated a voluntary action plan for the industry as part of efforts to achieve the targets stipulated in the Kyoto Protocol. The plan calls on association members to reduce electricity consumption at their respective head offices by an average of 3% compared to the baseline fiscal year (fiscal 2003) over the 5-year period from [NR4]fiscal 2008 to fiscal 2013 on per unit basis (electricity consumption per head office floor area). ORIX is also participating in this plan.

ORIX is presently utilizing certain sections of the Mita NN Building (located at 4-1-23 Shiba, Minato-ku, Tokyo) as its head office, and will thus assess and report CO2 emissions for each section in use.

	Fiscal 2007	Fiscal 2008
CO <sub>2</sub> emissions (aggregate amount)	559,457kg-CO <sub>2</sub>	614,756kg-CO <sub>2</sub>
CO2 emissions per unit (per m³)	61.8kg-CO <sub>2</sub>	56.7kg-CO <sub>2</sub>

Calculation method: Calculated by multiplying the volume of energy consumption by the default values of emissions coefficients stipulated by the "Ministerial Ordinance on Calculation of Greenhouse Gas Emissions by Specified Emitters'

## **Activities to Reduce Environmental Impact** at Group Companies

Although the Group-wide initiatives stipulated in the Environmental Policy are only now beginning in earnest, many ORIX Group companies already take steps to reduce their impact on the environment. The following is a brief introduction to initiatives by just some of those companies.

#### Initiatives by ORIX Rentec

ORIX Rentec is actively carrying out environmental initiatives with an emphasis on reducing waste volume, promoting resource recycling, and reducing energy consumption at the Tokyo Technology Center (Machida, Tokyo), its core technology and distribution site. The center obtained ISO 14001

certification in December

Separating waste into 25 different varieties has enabled most of it to be recycled and some of it to be sold as valuable resources.



Tokyo Technology Center

The same is true for ordinarily hard to treat polystyrene foam. The material is put into a reducer that gently defoams it and presses it into ingots for resale as a valuable, high-quality raw material. Furthermore, the company switched to the use of 100% recyclable cardboard for accessory boxes (used to store accessories to rental products). In addition, ORIX Rentec has in recent years begun to enlist the cooperation of some of its business partners from the standpoint of eliminating trash altogether by:

- ① Taking back cardboard packaging and shock-absorbing materials used when transporting products upon delivery.
- 2 Using reusable packing boxes that can store multiple desktop PCs, notebook PCs or similar items.

Along with reducing the amount of waste, initiatives like these are leading to greater operational efficiency by expediting registration and processing of products purchased for use as rental products.

Moreover, ORIX Rentec is striving to curb energy usage by monitoring air-conditioner usage online for approximately 90% of the air-conditioning units found at the Tokyo Technology Center. This centralized management system enables electricity to be conserved more efficiently by allowing usage schedules to be set on a daily, hourly or block basis. The company is also promoting greater energy efficiency by, for example, installing ice thermal storage units for its air conditioners, which utilize off-peak electricity available during nighttime hours.





Polystyrene foam reducer Ice thermal storage unit

#### Plans to Make the New Osaka Head Office an Environmentally Friendly Building

ORIX is constructing the New Osaka Head Office Building (scheduled for completion in January 2011) in Osaka's Nishi Ward. Once completed, the building will consolidate the ORIX Group's Osaka Head Office functions and spearhead the Group's efforts to reduce environmental impact in the Osaka area.

As an environmentally sound building, the New Osaka Head Office Building features a host of technologies aimed at reducing environmental impact, among them its construction from building materials made from recycled materials and walls that have both excellent thermal blocking and insulating properties. Features such as these were incorporated at the initial design phases of the building to reduce environmental impact, with the goal of attaining the highest environmental ranking ("S") under the "CASBEE\*1 -New Construction" environmental performance guidelines for buildings. On the facility operations side, ORIX has adopted BEMS\*2, and intends to take steps to curb energy consumption through the efficient operation and management of equipment and facilities onsite. Among other measures, steps here will include the use of lighting sensors in an effort to reduce electricity consumption by lighting.

\*Refer to \*1 on page 26

\*2 BEMS: Building and Energy Management System. This system is used to automate and centralize the overall monitoring and control of energy efficiency at office buildings and factories, as well as for district air conditioning and similar energy facilities. The capacity to assess energy usage conditions inside buildings and the operational status of facilities and equipment in a centralized manner, coupled with the ability to rapidly formulate and implement optimal operating plans based on power demand forecasts for any given time, as well as the meticulous monitoring and control the system provides, enables BEMS users to minimize a building's overall energy consumption without requiring additional staff.



New Osaka Head Office Building (Illustration)

#### Environmental Initiatives at ORIX Real Estate

Since spring 2008, ORIX Real Estate has embarked on an "Environment Project" in parallel with the formulation of the ORIX Group Environmental Policy.

ORIX Real Estate specializes in the sale and rental of residential properties, real estate development, and facility operations. The company's connection to the environment stems from the ownership and operation of buildings and from its development projects. The company's properties range from condominiums and office buildings, to hotels, seminar centers, traditional Japanese ryokan (inns), golf courses, and nursing care facilities. The nature of environmental impact, and type of ownership, management and operations, varies with each property.

Meanwhile, delays at office buildings and other parts of the commercial sector in meeting CO<sub>2</sub> reduction targets stipulated in the Japanese government's global warming countermeasures is

spurring calls for a more aggressive approach to building management. At the same time, as highlighted by recent amendments to Japan's Law Regarding the Rationalization of Energy Use and Law Concerning the Promotion of Measures to Cope With Global Warming, as well as passage of the Tokyo Metropolitan Ordinance on Environmental Preservation, the trend is a move toward tighter regulation in this area.

ORIX Real Estate launched its "Environment Project" to respond to these developments by curbing its own CO2 emissions and providing services that meet its customers' needs to lower emissions of their own. To this end, the "Real Estate Group," including affiliates, is working as one to promote environmental initiatives.

In fiscal 2009, ORIX Real Estate surveyed and assessed the environmental impact of each of its facilities, along with specifying the scope of activities and formulating objectives.

PFI and Aquarium

ORIX Real Estate
Business sites, assets under ownership and operation management businesses

Commercial and logistics facilities

Residential housing for senior citizens

Housing

Real estate investment



Scene from an Environment Project meeting

#### Acquisition of ISO 14001 Certification

The following four companies have obtained ISO 14001 environmental management system certification to serve as a vehicle for promoting environmental initiatives.

Obtained by ORIX Rentec in 2000
Obtained by ORIX Facilities in 2001
Obtained by ORIX Interior in 2003
Obtained by ORIX Eco Services in 2006

#### Reducing Paper Usage at Offices

In fiscal 2009, ORIX unveiled steps to reduce paper usage at its offices. As part of these measures, ORIX scaled back the actual number of printers and multifunction copiers, resulting in more effective use of available office space and reducing both electricity bills and the volume of printing supplies used.

ORIX's Human Resources and Corporate Administration Headquarters, which took the lead in implementing these measures, reduced the number of printers used by 40%, and cut the volume of paper and printing supplies used by approximately 50%.

#### ORIX Baseball Club's "Grounds Cleanup Project" at Skymark Stadium

The "Grounds Cleanup Project" at Skymark Stadium (Kobe, Hyogo Prefecture, Japan) got its start in April 2007, after the general manager of the stadium mentioned on his blog that an ORIX Buffaloes coach had pointed out to him how littered the stadium was after a game. The Project took its first steps forward when fans reading the blog took it upon themselves to start picking up trash at the stadium. From June of that year, the baseball club began showing its support by providing badges, fans and other novelties on hand to participants. The cleanup Project is now an ongoing activity at the stadium, with over 100 volunteers regularly taking part.



Stadium before start of cleanup activities





Fans taking part in stadium cleanup



Cleanup activities



## Realizing a Low Carbon Society

The ORIX Group provides customers with various solutions to help them curb CO<sub>2</sub> emissions and thereby pave the way for a low carbon society. In this section, we look at some of these solutions.

Retracing the Steps of the Energy Business

**Energy Management Service** 

Low Carbon Business

**Promoting New Energy Sources** 

Global Warming Mitigation in the Auto Business

Interview With ORIX Auto President Mitani

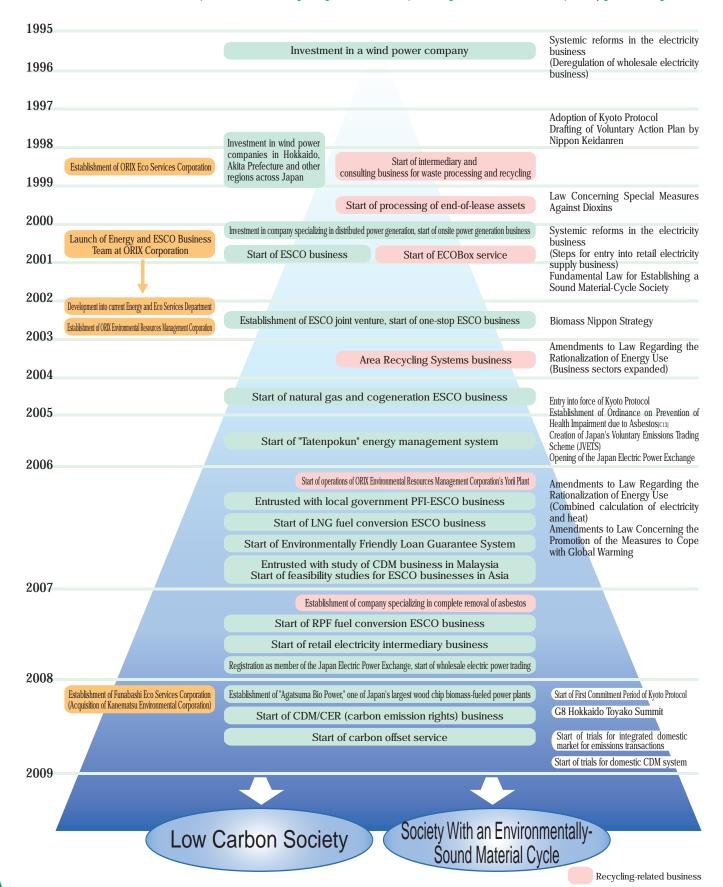
**Environmental Services in the Real Estate Business** 

IT and the Environment

## **Retracing the Steps of the Energy Business**

Stabilizing the atmospheric concentrations of greenhouse gases and stopping further increases going forward are crucial to realizing a low carbon society and preventing global warming. Since carbon dioxide (CO<sub>2</sub>), one of the most important greenhouse gases, is generated largely from the burning of oil, natural gas and other fossil fuels, reducing CO<sub>2</sub> means reducing our use of energy derived from fossil fuels.

Since entering the field of energy in the mid-1990s, the ORIX Group has recorded many successes in this area, as outlined below. Leveraging the insight gained from these activities, the ORIX Group is committed to offering a range of solutions to help in solving the tremendous difficulties posed by global warming.



## **Energy Management Services**

**ORIX** Corporation

ORIX Corporation is helping customers to reduce costs and CO<sub>2</sub> emissions by conducting energy conservation, clean-energy fuel conversion and a host of other ESCO businesses.

#### LNG Fuel Conversion ESCO Business

ORIX Corporation

In regions where gas pipeline infrastructure has yet to be developed, ORIX is planning and proposing ESCO businesses\*1 that help customers' factories switch fuels from heavy oil to LNG (liquefied natural gas), which has a lower environmental impact. Specifically, ORIX builds a special gas storage tank, known as an LNG satellite tank, at customers' factory sites. LNG is transported by tanker truck to the satellite tank as agreed upon with gas companies. The LNG stored in the tanks is then regasified using a vaporizer and sent directly to customers' boilers as fuel. ORIX, as the ESCO operator, assumes the sizeable financial burden of building the LNG satellite tank and retrofitting boilers, as well as responsibility for future maintenance and management, thereby enabling customers to make the switch to LNG with confidence.

\*¹ ESCO (Energy Service Company) businesses provide comprehensive services pertaining to energy efficiency for factories and buildings, thereby realizing energy conservation and reducing environmental impact. The resulting energy conservation benefits are guaranteed.

"We have substantially lowered our CO<sub>2</sub> emissions."

#### Yoshinori Wakitani

Manager, Engineering, Miyazaki Factory Sumitomo Rubber Industries, Ltd.

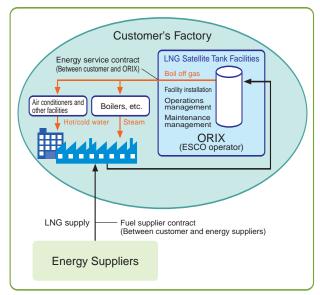
Sumitomo Rubber Industries, Ltd. aims to reduce its energy consumption in terms of crude-oil equivalent units by at least 20% by fiscal 2010 compared with fiscal 2000, and to lower CO2 emissions by at least 20% from the 1990 level. As an environmentally responsible global corporation, Sumitomo Rubber Industries is committed to aggressively pursuing these global warming countermeasures and energy conservation initiatives. ORIX has made a number of energy conservation and CO2 reduction proposals involving gas co-generation and LNG fuel conversion at our four factories in Japan, and has also been involved in actual implementation. That is why I can say that ORIX, as an ESCO operator, has proven a trustworthy partner. So far, the LNG fuel conversion ESCO businesses at our Shirakawa and Miyazaki factories have enabled us to sharply



LNG satellite tank installed at Sumitomo Rubber Industries' Shirakawa Factory

reduce CO<sub>2</sub> emissions by more than 17,000 tons and 7,500 tons, respectively, per year. We look forward to more proactive proposals like these from ORIX in the future.

#### Overview of the LNG Fuel Conversion ESCO Business



"We expect to reduce CO<sub>2</sub> emissions by 20%."

#### Takao Kimijima

Deputy Manage, Production Engineerin Mochida Pharmaceutical Plant Co., Ltd.



Conducting business in an environmentally conscious way has always been the fundamental stance of the Mochida Pharmaceutical Group, a comprehensive healthcare group dedicated to contributing to human health and wellbeing. Accordingly, we are taking aggressive steps to curb our  $CO_2$  emissions. This is particularly the case at our Head Office Plant, which accounts for roughly 60% of the Group's energy consumption, and is where we believe that introducing countermeasures is most urgent. To this end, we have partnered with ORIX on a LNG fuel conversion ESCO business that has not only been recognized as a "facility subsidy business" by Japan's Ministry of the Environment, but is also expected to reduce  $CO_2$  emissions at the plant by approximately 20%



The Head Office Plant of Mochida Pharmaceutical Plant Co., Ltd. is switching to LNG fuel.

compared with fiscal 2007. We anticipate making further progress on environmental preservation initiatives of this kind in the future.

#### RPF Fuel Conversion ESCO Business

For customers in energy-intensive industries, like paper manufacturing, ORIX is proposing ways to switch from the use of heavy oil for fuel to RPF\*2 and wood scrap. This switch first involves the construction of a large boiler compatible with RPF and other waste-derived fuels on the customers' factory site. ORIX then assists in the supply of RPF and other fuels through agreements with companies specializing in industrial waste processing. The price of heavy oil has risen to record levels due to the impact of sharply higher oil prices in recent years. The switch to waste-derived fuels therefore provides significant cost savings, and is highly rated as a more environmentally beneficial initiative.

\*2 RPF (Refuse Paper and Plastic Fuel) refers to high-grade solid fuel mainly made of wastepaper and waste plastic.

#### "We have reduced both fuel costs and CO2."

Hajime Tokuda (left) Engineering Division Masaki Shimizu (center) Plant Manager Sotoo Yamamura (right) Section Chief, Facilities Section



After accepting a proposal from ORIX, Kaga Paperboard Manufacturing Co., Ltd. has taken steps since last fiscal year to introduce a boiler, which should become operational from around July 2009, based on an ESCO business format. From this, we not only plan to save several hundred million ven in fuel costs each year, but to reduce CO2 emissions by roughly 15% annually. We have received proposals from ORIX on recycling the paper sludge generated by our manufacturing processes, and plan to further reduce our environmental impact. Our operations too have been hit hard by historically high crude oil prices, which is why hopes are high that introducing a dedicated RPF boiler will help stabilize our business performance. At the same time, we believe that it is our responsibility as an energy-intensive company to



contribute wherever possible to preventing global warming by reducing our CO2 emissions.

RPF boiler facility planned for deployment at Kaga Paperboard Munufacturing Co., Ltd.

#### Local Governments Embrace ESCO Businesses



#### Gas Co-generation ESCO Business

ORIX is planning and proposing gas co-generation\*3 systems to help customers sharply reduce their CO2 emissions. After analyzing customers' electricity and heat usage, ORIX determines optimal plans for customers from both a cost and environmental perspective. As an ESCO operator, ORIX also shoulders the large financial burden associated with the co-generation facility, as well as responsibility for future maintenance and management, thereby enabling customers to adopt such systems with confidence.

 ${}^{*3}\text{Gas}$  co-generation systems use gas to generate electricity and thermal heat. While electricity is generated, the thermal heat is effectively used to provide hot water, air conditioning and steam, as well as for other purposes. The use of clean natural gas yields outstanding environmental performance and also helps to

#### "We have cut CO2 emissions by roughly 20% across the entire plant."

#### Toshihiro Fujita

Advisor, Tokushima Head Office Otsuka Chemical Co., Ltd.



Business activities at Otsuka Chemical Co., Ltd. revolve around three concepts-"Health," "Environment," and "Comfortable Life." Of these, we recognize that "Environment" is an issue that must be addressed directly, not only for the sake of the company's own development, but also to ensure mankind's continued existence. For these reasons, we strive in every business field to conduct operations in ways that reduce their environmental impact. To this end, with the cooperation of ORIX and other companies, we embarked on a gas co-generation system project at our Tokushima Factory. This project is recognized by NEDO (New Energy and Industrial Technology Development Organization) as a "facility reinforcement business." The gas turbine component of the project has allowed us to reduce CO2 emissions sharply, with emissions down roughly 20% across the entire plant. Since we intend to continue taking actions beyond this



project to reduce our environmental impact, we look forward to hearing other effective proposals from ORIX in the future.

Gas turbine power generator at Otsuka Chemical's Tokushima Plant

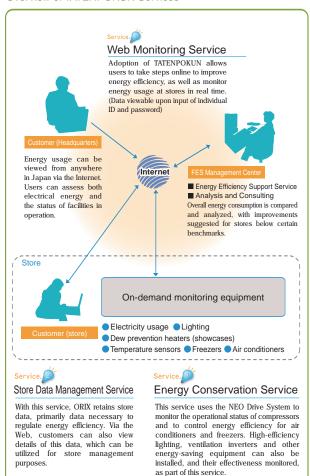
ORIX is an ESCO business provider for Osaka Pool (operations scheduled to commence in fiscal 2009). Local governments are also looking to ESCO businesses as a means of both conserving energy and reducing running costs.

#### TATENPOKUN Energy Management System

ORIX Corporation

ORIX provides energy management outsourcing services under contract from retailers with multiple stores, and offers the TATENPOKUN system as a means of promoting energy efficiency. The TATENPOKUN monitoring system, which tracks energy usage, is installed at each store and facility, and automated controls based on optimal facility operating programs are introduced, thereby guaranteeing reductions in energy costs. ORIX also offers a consulting business that analyzes monitoring data to suggest points for improvement. Responsibility for installation of this monitoring system, and its future maintenance and management, are all assumed by ORIX.

#### Overview of TATENPOKUN Services



## "We aim to reduce CO<sub>2</sub> by roughly 8%."

#### Kineo Suzuki

General Manager, Store Construction Store Development Headquarters EDION Corporation



For years, the EDION Group has actively promoted an ecofriendly style of management in order to coexist in harmony with the natural environment. For example, we've worked to make energy-efficient products the norm throughout the group, which led to an industry-leading 117 of our stores being identified as "Outlets that Excel at promoting Energy-Efficient Products" by The Energy Conservation Center, Japan. We were also first in the industry to start a "Green Electricity Point Exchange Service," allowing ordinary customers to casually take part in CO2 reduction activities. On the other hand, we had long been cautious about regulating energy efficiency around air conditioners and other equipment for the sake of our customers' comfort. However, ORIX proposed that we could improve energy efficiency by roughly 8% without disturbing climate control inside our stores. So on ORIX's recommendation, we decided to adopt



EDION subsidiaries have adopted the TATENPOKUN system at 12 stores. Pictured have is a store operated by EDION Co., Ltd.

the TATENPOKUN system at 12 stores operated by subsidiaries. Since other companies adopting the system have had results beyond their expectations, we too have high hopes that TATENPOKUN will prove a major success for

## "We introduced TATENPOKUN at 35 stores in the Hokuriku region."

Valor Co., Ltd.

"Doing our best to make Valor your choice every time," is the motto of the Valor Group. So as a socially responsible company, we pursue practical environmental activities. The activities we promote, though, are as wide as they are varied, ranging from our "My Bag, My Basket" campaign to reducing plastic shopping bag usage, recycling, saving energy at our stores and offices, making logistics more efficient, and even using wind power at certain stores. To boost energy efficiency, we introduced the TATENPOKUN system at 35 stores in Japan's Hokuriku region. Already,



The Valor Kuboshin store has adopted the TATENPOKUN system.

we have surpassed our CO<sub>2</sub> reduction target of 5%, and are looking forward to further consultation and new proposals from ORIX on additional improvements to our operations.

#### A Word From the Manager

Masaharu Miyazu

Manager Energy and Eco Services Department ORIX Corporation



Since the deregulation of Japan's electric power industry in 2000, ORIX has promoted ESCO businesses to meet customer needs for reducing energy costs. Customer needs cover a broad range of areas, and our services look to assist customers in areas such as cost reductions through the adoption of cogeneration equipment, through to support services for improving energy efficiency via energy management outsourcing services. Recently, amid tougher measures to address global warming and soaring crude oil prices, we have been rapidly unveiling initiatives to respond to needs in other areas as well, including the switch in fuel sources to clean energy alternatives, and upgrading to energy-efficient facilities guaranteeing a certain level of  $\rm CO_2$  reductions.

### **Low Carbon Business**

**ORIX** Corporation

ORIX Eco Services Corporation

In addition to reducing CO<sub>2</sub> emissions through energy conservation and energy conversion initiatives, and the introduction of new technologies, society as a whole can collectively reduce its CO<sub>2</sub> footprint by adopting market mechanisms such as emissions trading and carbon offsets. ORIX Corporation and ORIX Eco Services Corporation are working to help corporate customers implement low carbon management through participation in projects that will help to bring about a low carbon society.

## Developing CDM/CER Emission Credit-related Businesses

ORIX Corporation

With energy conservation regulations expected to be tightened now that the Kyoto Protocol's First Commitment Period has begun, Japanese companies that own plants overseas have a more compelling need to conserve energy. In December 2006, ORIX was commissioned by the New Energy and Industrial Technology Development Organization (NEDO), an independent administrative agency, to conduct a survey of clean development mechanism (CDM)\*1 projects related to a gas co-generation ESCO business for plants in Malaysia. ORIX has used this project as a foothold to launch a CDM/Certified Emission Reduction (CER) focused business overseas. Leveraging its expertise and networks, ORIX is providing CDM services such as feasibility studies on developing CDM projects based on energy conservation plans at overseas plants, and investing in these projects, as well as CDM filing and CER acquisition. Public debate on the possible introduction of a cap-and-trade emissions system in Japan will begin in earnest as more companies actively embrace carbon offsets and other related products. Eyeing these developments, ORIX also intends to provide a CER service in Japan going forward.

#### CDM Services

- Planning, proposal, and commercialization of, as well as investment and loans for energy conservation projects and efficiency building projects (energy conservation systems, co-generation systems, fuel conversion, renovations, etc.)
- Planning, proposal, and commercialization of, as well as investment and loans for, renewable energy projects (biomass, biogas, solar power, wind power, small-scale hydroelectric power, etc.)

#### ■ CER service

- · Sale of CERs to customers
- Development of ESCO business with CERs (Electricity, energy supply and energy conservation businesses)
- \*¹ Clean Development Mechanism (CDM) refers to an arrangement under the Kyoto Protocol allowing developed countries with fixed numerical greenhouse gas emissions reduction targets to initiate greenhouse gas reduction projects in a developing country with no such targets. The developed country can claim the reduction in emissions as credits that can be applied to meeting its own reduction targets.

A Word From the Manager

#### Tetsuya Hasegawa

Assistant Manager, Energy and Eco Services Department ORIX Corporation



All companies need to conserve energy and reduce energy costs. So far, ORIX has proposed CDM projects as energy solutions for customers. Going forward, we will offer these projects in new regions and begin CER sales in a bid to provide customers with even more high-value-added solutions.

#### Carbon Offsets

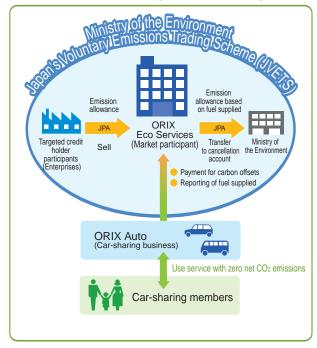
ORIX Eco Services Corporation

Companies measure and strive to reduce their  $CO_2$  emissions from various activities through energy conservation and other measures. Carbon offsets are used by companies to offset  $CO_2$  emissions that cannot be fully reduced through these measures with reductions achieved elsewhere by other enterprises, so as to achieve zero net  $CO_2$  emissions. The Japanese government is working to popularize carbon offsets because they give consumers a better choice of low carbon products and services by making  $CO_2$  emissions more "visible," and as a means of raising the public's environmental awareness.

ORIX Eco Services Corporation (OES) has been studying the feasibility of providing carbon offsets as a service. Following the release of "Guidelines for Carbon Offsetting in Japan," by the Japanese Ministry of the Environment in February 2008, OES began offering carbon offset services in line with these guidelines' main principles. The guidelines state that JPAs (emission allowances) for Japan's Voluntary Emissions Trading Scheme (JVETS; please refer to page 19 for details) run by the Ministry of the Environment, can be used as carbon offset credits. As a JVETS member, OES carried out Japan's first carbon offset project using JPAs, offsetting  $CO_2$  emissions from ORIX Auto's car-sharing business. As a carbon offset provider, OES established the framework, and procured and provided the emission credits.

Looking ahead, OES plans to provide carbon offset services utilizing many different types of emission credits in line with the characteristics of the product or service being offset and customer requests.

#### Carbon Offset Mechanism Using JPAs for Car-sharing Business



#### Japan's Voluntary Emissions Trading Scheme (JVETS)

ORIX Eco Services Corporation

OES has been chosen as a market participant in JVETS\*2, which has been run by the Ministry of the Environment since fiscal 2006, for the third consecutive round. In the second round, for which emission trading ended on August 31, 2008, OES conducted 15 projects, accounting for roughly 30% of all projects.

Japan has yet to introduce a mandatory cap-and-trade emissions system like the EU. However, the goal of the JVETS initiative is to effectively reduce  $CO_2$  emissions, and build up knowledge and experience in preparation for a future cap-and-trade emissions system. JVETS is leading the way in pricing  $CO_2$  emissions and actual trading is already under way.

Through participation in JVETS, OES has put in place the operational infrastructure that will be necessary when a full-fledged, cap-and-trade emissions system comes into force in Japan. Going forward, OES will not only trade through JVETS, but will also provide carbon offset services using JPAs, which are treated as credits by JVETS, with the aim of helping to bring emissions trading and carbon offsets into the mainstream.

\*2 JVETS (Japan's Voluntary Emissions Trading Scheme) is a framework for supporting enterprises that are trying to actively and voluntarily reduce their greenhouse gas emissions. Participants are issued subsidies for installing energy conservation and other equipment that reduce CO2 emissions in return for a pledge to reduce a certain level of emissions. The system allows these enterprises to use flexible means such as emissions trading to meet their pledged emissions reductions.

#### A Word From the Manager

## Hideyuki Ito Assistant Manager, EMS Promotion Department ORIX Eco Services Corporation



OES has so far conducted business centered on post-secondary sectors like waste processing and recycling. As the needs of customers and other stakeholders, as well as public goals rapidly shift from recycling resources to achieving a low carbon society, we have constantly explored new services that meet these expectations. In this process, OES has assembled a broad range of expertise by conducting actual emissions trading through JVETS and Japan's first carbon offset project using JPAs. Going forward, we intend to harness this experience to fully develop low carbon businesses, in a bid to help customers further reduce their environmental impact.

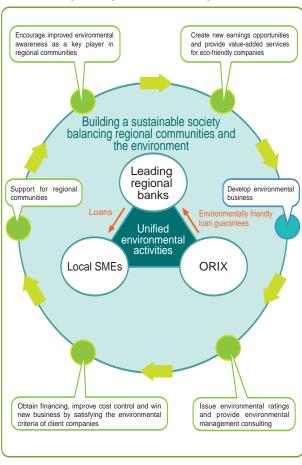
## Environmentally Friendly Loan Guarantee System

ORIX Corporation

ORIX is engaged in an environmentally friendly loan guarantee business where it raises loan guarantee limits and provides preferential treatment on guarantee commission rates depending on the environmental ratings of borrowers at partner financial institutions in this business.

This system provides further incentive for customers to take environmental actions by having financial institutions extend loans to them on preferential terms and conditions in accordance with a unique environmental rating determined by ORIX. In the end, the overriding aim is to broaden opportunities for environmentally conscious companies. The ratings are set on the basis of environmental actions that are relatively easy for small and medium-sized enterprises (SMEs) to take. For example, ORIX gauges an SME's level of environmental awareness by looking at whether it has formulated an environmental action plan based on recognition of its current environmental footprint. For SMEs seeking to raise their environmental rating, OES provides the support needed to obtain higher environmental ratings, as well as environmental management consulting and general waste management services. In this manner, ORIX has structured a comprehensive customer environmental support system that offers more than just loan guarantees to financial institutions.

#### Environmentally Friendly Loan Guarantee System



## **Developing New Energy Sources**

**ORIX** Corporation

ORIX has been helping to bring clean energy into the mainstream by actively providing investment and loans for wind power, biomass and other power generation businesses.

#### Wood Biomass Power Generation Business

ORIX Corporation

ORIX is an investment partner in Agatsuma Bio Power Co., Ltd., which will operate a 13,600 kW biomass power generation business using wood chip biomass as fuel. This business is expected to help mitigate global warming and address other issues facing society. Power plant construction is now under way in Higashi Agatsuma Town in Agatsuma County, Gunma Prefecture, with operations slated to begin in 2010.

This business will generate enough electricity to power roughly 23,000 households and will reduce approximately 47,000 tons\*1 of CO<sub>2</sub> per year compared with power generation from conventional fossil-fuel power plants.

In August 2008, Tokyo Gas Co., Ltd. joined this environmentally friendly power generation business as an investor, and the two companies are working together to advance the project.

 $^{*1}\rm Equivalent$  to the amount of CO2 absorbed annually by around 3.35 million cedar trees, which would cover an area as large as roughly 235 baseball stadiums the size of Tokyo Dome.

#### Agatsuma Bio Power (Artist's Impression)



A Word From the Manager Yasushi Kitera (right) President Agatsuma Bio Power Co., Ltd.

Kimihiko Sonoda (left)

Assistant Manager Energy and Eco Services Department ORIX Corporation



The wood biomass power generation business has immense potential for growth and at the same time for helping to mitigate global warming, capture synergies with the forestry industry, and improve Japan's energy self-sufficiency. We are determined to make this new energy source a resounding success.

#### Using Biomass Matter Effectively

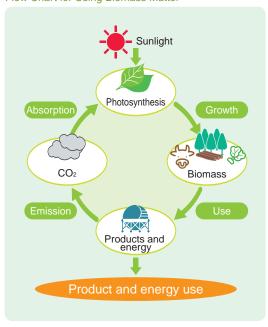
Biomass matter refers to renewable organic resources derived from plant or animal matter (but excluding fossil fuels). Biomass matter has been attracting attention in recent years as a "carbon neutral\*2" resource that does not cause any net increase in atmospheric CO<sub>2</sub> when used.

Specific examples of biomass matter include scrap wood and unused wooden materials, as well as food waste, crop residue and livestock manure. Biomass matter can be used as energy through direct combustion or gasification, or can be processed into compost, fertilizer or other useful products.

Japanese government agencies are also leading efforts to use biomass matter effectively based on the Biomass Nippon Strategy\*3. This strategy was formulated from the standpoint of preventing global warming, realizing a society with an environmentally-sound material cycle, strategically incubating industry, and revitalizing regional farming and fishing communities.

- \*2 "Carbon neutral" refers to the process of balancing the emission and absorption of CO<sub>2</sub> so as to achieve zero net emissions over the entire lifecycle of materials. For example, CO<sub>2</sub> emissions resulting from burning plant biomass are offset by CO<sub>2</sub> absorption by plant matter through photosynthesis during their growth. As a result, the burning of plant biomass has no net impact on atmospheric CO<sub>2</sub> levels.
- \*3 "Biomass Nippon Strategy is a comprehensive strategy for effectively using biomass matter (by obtaining energy or producing biodegradable materials, fertilizers and other products from animal and plant matter, microorganisms, and organic waste). The goal is to utilize 80% of all waste-derived biomass and at least 25% of currently unused biomass by 2010.

#### Flow Chart for Using Biomass Matter



## Global Warming Mitigation in the Auto Business

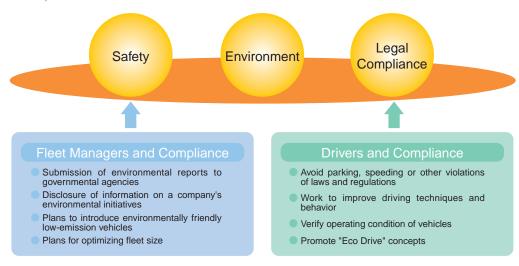
**ORIX** Auto Corporation

To manage vehicle operations in ways that will help realize a low carbon society, ORIX Auto Corporation is pioneering the systematization of environmental automotive data, and providing customers with the information they need in this area. The following is a brief introduction to the "eco-friendly vehicle management" pursued by ORIX Auto.

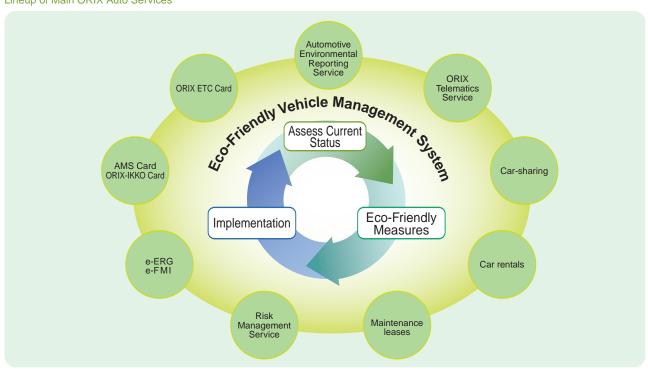
#### Linking Compliance and Environmental Awareness

Companies have been called upon in recent years to put greater emphasis on compliance. ORIX Auto has compiled a list of compliance issues from the perspectives of both fleet managers and drivers, offering customers proposals and providing information related to the environmental performance of automobiles. The company focuses not only on customers' apparent and immediate needs, but also offers support in terms of answering the emerging needs pertaining to stricter compliance demands for the near future. ORIX Auto believes that this course of action will ultimately help solve outstanding environmental issues.

#### Automobiles and Compliance

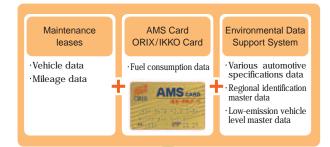


#### Lineup of Main ORIX Auto Services



## Compliance Solutions for Environmental Laws and Regulations

ORIX Auto's maintenance leases enable users to obtain both basic vehicle information and data on mileage driven. When paired with fuel consumption data, this information also allows users to measure actual fuel economy. Moreover, entering vehicle information and data on mileage driven, fuel usage and fuel economy into ORIX Auto's unique environmental data support system can help users to calculate NOx, PM and  $CO_2$  emissions, thereby assisting in the production of corporate environmental reports and reports required by Japan's Law Regarding the Rationalization of Energy Use and Automobile NOx/PM Reduction Law.



## Assess Actual Fuel Economy Assess NOx, PM and CO<sub>2</sub> Emissions

#### Compliance Solutions for Environmental Laws and Regulations

Environmental reports

Periodic reports for Law Regarding the Rationalization of Energy Use Performance reports for Local Ordinances Under the Automobile NOx/PM Reduction Law

## Support & Consulting An Office Devoted to Offering Consultation on Any Environmental Issue

In Japan, fleet operators that use more than a certain number of vehicles are required under environmental laws and regulations to take steps to reduce their fuel consumption and exhaust emissions. The Automobile NOx/PM Reduction Law, for example, requires fleet operators to submit vehicle usage management plans and performance reports, while the amended Law Regarding the Rationalization of Energy Use mandates the submission of medium- to long-term plans and periodic reports on vehicle fleets. Failure to comply with these laws can result in official warnings, the release of the names of violators to the public, compliance orders, fines and other penalties that could result in a loss of public trust for such fleet operators.

However, fleet operators must shoulder a large cost burden in terms of assets and personnel when preparing these reports. For instance, information systems for gathering and processing data must be constructed, and environmental data must be closely examined.

ORIX Auto believes it has a social responsibility to reduce customers' workload by helping them to properly comply with automotive environmental regulations. To this end, in addition to offering customers a variety of environmental data, for example through its automotive environmental information reporting service, ORIX Auto is also involved in environmental support and consulting with respect to its customers' vehicles.

#### Making "Eco Drive" Concepts a Reality

The periodic vehicle inspections included in maintenance leases make it possible to check whether oil changes are performed on schedule, and to routinely check tire pressure. The "ALIVE (Pro)" risk management service and safe driving courses, meanwhile, allow users to examine driving techniques and assess driving risks. Furthermore, the ORIX ETC Card allows users to avoid highway tollbooth congestion. All of these services help to promote "Eco Drive" concepts, and can be combined together to reduce energy consumption and educate drivers.



#### Promotion of "Eco Drive" concepts

#### Solutions for Eco-Friendly Driving

Reduce energy consumption

Education and awareness around driving techniques/behavior

#### A Word From the Manager

#### Yoshiaki Ehara

Manager, Sales Promotion Department, Lease Sales Headquarters ORIX Auto Corporation



In September 2001, ORIX Auto established an office devoted to offering consultations on environmental issues, ahead of the enforcement of the Tokyo Metropolitan Ordinance on Environmental Preservation. This office has since provided environmental vehicle support services for customers.

Since March 2008, to improve data precision and ensure data security, we have centralized all data preparation operations for customers necessary to comply with environmental laws and regulations.

Looking ahead, we will consistently work to improve our systems, paying close attention to trends in environmental policy, all the while incorporating requests for those services requested by our customers. In this way, we hope to deliver environmental solution services that have real value.

#### **ORIX Telematics Service**

ORIX Auto provides the ORIX Telematics Service, which helps fleet operators perform not only vehicle management, but also a range of other tasks including labor management.

Derived from the words "telecommunications" and "informatics," telematics refers to next-generation automotive information provision services.

The ORIX Telematics Service enables users of vehicles with special onboard equipment, equipped with communication and GPS functions, to obtain detailed vehicle operation data. In addition to mileage driven and vehicle position, information encompasses data on acceleration and deceleration, fuel consumption, fuel economy, and  $CO_2$  emissions. Fleet managers and drivers can access the data from office computer terminals. This data can also be useful in areas such as labor management, by automatically creating logs of driving activity, and in promoting "Eco Drive" concepts. Beyond its environmental applications, this data service has important implications for compliance management, the establishment of safe driving systems, and efforts to optimize

#### Car-sharing Business

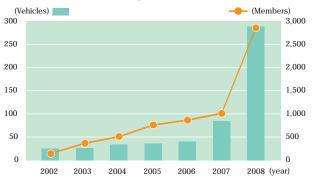
"Car-sharing" is a membership-based car rental system in which multiple individuals share the use of a single car. This system is optimal for relatively short-distance trips, such as those for shopping and for shuttling passengers to and from local destinations. The use of car-sharing is already common in 600 cities in 18 countries worldwide, and is attracting attention in Japan as a means of increasing car-usage efficiency and thereby helping to reduce CO<sub>2</sub> emissions and other forms of environmental impact.

ORIX Auto's car-sharing business is the largest operation of its kind in Japan, comprising roughly 2,800 members and a fleet of 279 vehicles (as of September 1, 2008). This business has also earned considerable recognition as an environmentally friendly service. In 2005, the service (then under the name CEV Sharing Corporation) was awarded the Head Judge's Special Prize (Recommendation Prize) in the Eco Services category of the 2nd Annual Eco Products Grand Prize. This accolade was followed by receipt of the Good Design Prize in 2008. Additionally, ORIX Auto has since adopted a carbon offset component (see page 18) to cancel out all  $\rm CO_2$  emissions related to its car-sharing vehicles, with the aim of further contributing to efforts to solve environmental issues.





#### No. of ORIX Auto Car-sharing Vehicles and Members



#### Services Utilizing Car Rentals and Car-sharing

ORIX Auto believes that it can help customers to reduce vehicle expenses and provide better convenience and other benefits by having them combine the use of car-sharing, which is optimal for short-term vehicle use, with car rentals, which are best suited to vehicle use of several days. The company is also bolstering collaboration between its car rental and car-sharing businesses in a bid to reduce wasteful car usage and promote more effective utilization of parking areas across society as a whole. At the same time, ORIX Auto is taking initiatives to lower the environmental impact of each business.

## Adoption of Hybrid and LEVs in the Car Rental Business

Since 2007, ORIX Auto has significantly increased the number of hybrids in its rental fleet to roughly 350 as of March 31, 2008. In fiscal 2009, this figure is expected to increase by 30% to 450. While promoting campaigns in regions like Hokkaido and Okinawa Prefecture, where mileage driven is relatively large, ORIX Auto is offering hybrid vehicles as a service to highly environmentally conscious customers, and as a means of dealing effectively with higher gasoline prices caused by soaring crude oil prices.





Honda Civic Hybrid

Toyota Prius

A Word From the Manager

### Mitsumasa Takayama

General Manager, Lease Sales Headquarters ORIX Auto Corporation



"Eco Drive" concepts are essential to efforts by companies to cut their CO<sub>2</sub> emissions as part of measures to fight global warming, and can also lead to safer driving. Our telematics service was developed to promote these goals.

Since a similar system was already in use in our carsharing business, we used it as a starting point, paring the system down to only the most essential functions to lower costs. We are currently receiving a good number of inquiries about the system; so many, in fact, that keeping up with deliveries is becoming a challenge. This suggests to me that the environmental awareness of companies has grown substantially.

## Interview With ORIX Auto President Mitani "Safeguarding the Environment Through New Methods of Automobile Use"

In this section, President Eiji Mitani of ORIX Auto Corporation talks about the corporate social responsibilities of an enterprise that manages Japan's largest vehicle fleet of approximately 600,000 vehicles. (Interviewer: Miki Mitsuoka, Executive Officer, ORIX Eco Services Corporation)



President, ORIX Auto Corporation

### Eiji Mitani

#### Fulfilling CSR by Answering Customer Needs

Mitsuoka: Automobiles are a crucial part of the infrastructure underpinning our economy and daily lives. Clearly, however, some aspects of automobiles are having an impact on global warming.

What role do you expect ORIX Auto, the owner of Japan's largest vehicle fleet, to fulfill going forward?

Mitani: Above all else, a customer-first mentality lies at the heart of our business activities. We believe that it is crucial to accurately gauge ever-shifting customer needs in step with the times and social conditions, so that we can carry out businesses catering to those needs from moment to moment. To do so, we strive to communicate with customers as much as possible, as we consider what kind of new services will satisfy current needs.

Mitsuoka: That means you must first see things from the customers' perspective, right?

Mitani: Correct. We begin by listening to customers and providing solutions they need, rather than starting out with lofty goals like "contribute to solving the energy problem," or "protect the environment." In the end, I believe that this approach will help ORIX Auto make a real difference in solving social issues.

#### Proposing Total Vehicle Data Management Services in Anticipation of Newly Emerging Customer Needs in the Near Future

Mitsuoka: What kinds of solutions are customers seeking? What services should ORIX Auto provide to answer their needs?

Mitani: I believe that our customers are seeking to not only address apparent issues like the need to reduce costs and raise operating efficiency, but are also becoming more strongly aware of the need to address deeper issues like compliance, the environment and safety. I believe that ORIX Auto can meet these demands by offering Total Vehicle Data Management services.

Mitsuoka: Could you please elaborate on those services?

Mitani: ORIX Auto offers many different services, such as maintenance leases, as well as AMS cards for paying fuel charges and ETC cards for paying expressway tolls. We use our "e-ERG" vehicle management system to compile and analyze mileage driven, fuel consumption, fuel economy and other information obtained from our services to provide environmental, safety and other information to customers.

Mitsuoka: Corporate regulations are becoming stricter year by year, as highlighted by the 2006 amendment of the Law Regarding the Rationalization of Energy Use. Has stricter regulation spawned new customer needs?

Mitani: Yes. One example is that local governments now require companies to submit environmental reports. In response, ORIX Auto launched a service that helps companies to prepare these reports. ORIX Auto also provides a full-line support service where we not only extract data in line with the formatting requirements of various local governments, but also complete final reports with professional administrative assistance. Furthermore, in response to growing compliance awareness among companies, we began a service in June 2008 called "ALIVE-eye," where we perform on behalf of corporate clients all their risk management duties associated with vehicle fleet operation and management.

As an auto specialist, we aim to provide high-caliber Total Vehicle Data Management services that would be difficult for customers to perform on their own. And by responding as quickly as possible to the changes of our times, we are determined to tackle the challenge of bringing more innovation to automobiles.

#### Proposing Smarter Methods of Using Automobiles Combining ORIX Auto's Three Business Formats

Mitsuoka: In recent months, the auto industry has witnessed dramatic changes in operating conditions due to rising crude oil prices, shifting consumer needs and other developments. What kinds of proposals has ORIX Auto made to customers in response to these changes?

Mitani: For some time, we have focused on the shift in consumer preferences from vehicle ownership to using third-party vehicles. Going forward, we believe that the value of vehicle ownership will continue to diminish for consumers.

ORIX Auto has three business formats: auto leases for long-term vehicle use, rental cars for vehicle use of several days or hours, and carsharing for short-term vehicle use. By combining these formats, we can provide consumers with more efficient methods of using automobiles that lead to a lower environmental impact and provide cost savings.

For corporate clients, we have introduced the ORIX Telematics Service for obtaining real-time driving data using special onboard devices equipped with communications and GPS functions. This information gives fleet operators a clear understanding of the status of vehicles in use and allows them to eliminate unnecessary vehicles. Moreover, the service is also playing a useful role in promoting "Eco Drive" concepts because it allows fleet operators to monitor and check a full range of parameters, from fuel economy to abrupt braking, sharp acceleration from rest, and driving speed.

The service was introduced on a trial basis at the ORIX Nagoya branch office. In combination with the use of rental cars and car-sharing, the trials have led to a reduction of roughly 30% in the branch office's vehicle fleet.

Mitsuoka: So would you say your encouragement of eco-friendly methods of driving and using vehicles in ways that reduce gasoline consumption is yielding environmental benefits, as well as cost savings? Mitani: That's right. We want to first introduce these initiatives within the ORIX Group, and then provide the expertise we gain to customers.

Another decisive advantage of ours is that we can approach auto sales companies as an end user because we are engaged in not just auto leasing but also car rentals. Leveraging this position, ORIX Auto has a role to play in conveying consumer needs to automakers, such as by encouraging more widespread adoption of eco-friendly initiatives.

#### Broadly Applying Vehicle Management Expertise

Mitsuoka: I understand that ORIX Auto is actively working to expand the used vehicle market, by taking advantage of vehicles at end of lease or rental in both the auto lease and car rental businesses.

Mitani: Our approach is to ensure that we promote the reuse of vehicles

that have resale value. Naturally, we sell used vehicles with market value only after conducting proper vehicle maintenance. In regard to automotive components, ORIX Auto sells reusable components, and entrusts disposal of non-reusable components to a specialist recycling contractor screened by the company to prevent anything from being disposed of illegally. In regard to the maintenance of lease vehicles, we are using more "rebuilt parts" (auto parts removed from end-of-life automobiles) procured from ISO 14001-certified companies.

Mitsuoka: Individual consumers could ultimately reduce their environmental impact more by having a company like ORIX Auto purchase and manage automobiles for them, rather than doing so on their own, and by taking advantage of proposals for smarter methods of using automobiles and other services discussed earlier. In a sense, then, the auto lease and car rental industry seems to provide a service that is intrinsically beneficial to the environment.

Mitani: Things are ultimately heading in that direction. ORIX Auto currently has approximately 600,000 vehicles under lease and extensive vehicle management expertise gained in the course of this business. Providing that expertise more broadly to the public will help to reduce the environmental impact and in the end yield cost savings for consumers. ORIX Auto is currently developing auto lease and car rental businesses in Australia and 22 other countries around the world. There too we would like to launch similar initiatives befitting each country's circumstances.

Mitsuoka: That would be a role that only a true auto professional could fulfill.

Mitani: For ordinary companies, automobiles are merely a means to an end, i.e., carrying out their core businesses. Their hands are full meeting social responsibilities through their core businesses, and they cannot afford to deal with all the environmental aspects of their vehicle fleets. If so, ORIX Auto should step in to provide services that cater to these varied needs and have a positive impact on the environment and the world's energy problem.

I see this undertaking as one of our crucial roles. I also believe it is what society and customers most expect from us.



Right: Eiji Mitani (President, ORIX Auto Corporation) Left: Miki Mitsuoka (Executive Officer, EMS Promotion Department, ORIX Eco Services Corporation)

## **Environmental Services in the Real Estate Business**

ORIX Real Estate Corporation

ORIX Facilities Corporation

ORIX Real Estate Corporation (ORE) and ORIX Facilities Corporation are both working to reduce the environmental impact of the office buildings, condominiums, hotels and other properties they own or operate.

In the real estate business, buildings have an impact on the environment at every stage of their lifecycle, from design to construction, use, renovation and demolition. CO2 emissions from the use of offices and other commercial facilities account for approximately 20% of Japan's total CO2 emissions, giving rise to strong calls for reducing these emissions. With the real estate business having a significant bearing on the natural environment, real estate companies shoulder a tremendous responsibility to safeguard the environment. ORE offers many different services designed to reduce the environmental impact of buildings and pave the way for a low carbon society.

Minato Mirai ODK Building — an Environmentally Friendly, Multi-purpose Structure

ORIX Real Estate Corporation

ORE is involved in the Minato Mirai ODK Building development project, a large, multi-purpose building with retail space on the lower floors and office space above in the southern zone of District 33 (approximately 10,000m²) in central Minato Mirai, Yokohama.

ORE has spared no effort in considering the environment when designing this building. The goal is to obtain an S rank (the highest possible ranking) in the CASBEE\* system for evaluating the environmental performance of buildings that is recommended by Japan's Ministry of Land, Infrastructure and Transport. The Minato Mirai ODK Building incorporates the latest eco-friendly technologies. Global warming countermeasures include the adoption of various types of lighting control equipment, such as natural illumination guidance systems and Low-E glass with outstanding insulation and thermal blocking characteristics. Countermeasures against the "urban heat island" effect, such as perimeter and rooftop greenery, as well as district air conditioning systems, have also been put in place. ORE has also taken other innovative steps to ensure a long useful building life, while giving due consideration to maintaining scenic surroundings.

\*I CASBEE (Comprehensive Assessment System for Building Environmental Efficiency) is a system for evaluating the environmental performance of buildings developed in 2001 with the support of Japan's Ministry of Land, Infrastructure and Transport. As of April 2007, filing of CASBEE notices had been made mandatory for buildings of a certain size or larger by roughly 10 building authorities nationwide.

Assessment methods for CASBEE are broadly categorized under Q (Quality in terms of environmental quality and performance) and LR (Load Reduction with respect to environmental impact). Assessments range across more than 50 different categories with 5 possible rankings, from S (highest possible) to A, B+, B- and C. For current developments under way at ORIX Real Estate, the RECO-City Grande condominium complex in Adachi Ward, Tokyo, and The Tower Osaka in Fukushima Ward, Osaka, have both received "A" rankings.



Minato Mirai ODK Building (Artist's impression)

Reducing Environmental Impact Through the Facility Management Business

ORIX Facilities Corporation

ORIX Facilities strives to help reduce its customers' environmental impact through its core facility management business.

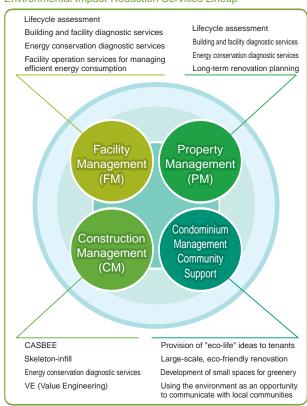
Energy-saving measures for buildings, steps to extend the useful lives of facilities and equipment, and the adoption of eco-materials\*2 go a long way to reducing environmental impact.

The facility management business' main environmental priority is to steadily achieve energy savings at the operational and building maintenance stages. This involves systematically installing energy-saving facilities when buildings are constructed or renovated, while carrying out proper building operation and management, as well as maintenance and preservation. Another major social role of the facility management business is to try to extend and ensure continued building use for a target of around 100 years, roughly double the conventional useful life of a building of around 50 to 60 years.

Energy conservation measures reduce environmental impact and help to reduce facility running costs, namely operation and maintenance overheads for buildings and facilities, over several decades. These measures enable ORIX Facilities to reconcile the trade-off between environmental and economic performance, and help bring about a sustainable society.

\*2 "Eco-materials," a combination of "eco" and "material," refer to materials that consume very little energy and have a low environmental impact throughout their lifecycle, from production to use and disposal.

#### ORIX Facilities Core Business and Environmental Impact-Reduction Services Lineup



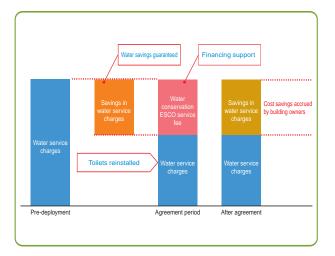
#### Provision of Eco-solutions Through Partnerships

ORIX Facilities Corporation

ORIX Facilities proposes a range of services that reduce environmental impact in partnership with companies boasting outstanding environmental technologies.

## Water Conservation ESCO Service Toilet Reinstallation with INAX Corporation

ORIX Facilities provides a water conservation ESCO service whereby comprehensive services (water conservation diagnostic services, renovation work, benefits confirmation, financing intermediation and more) are offered to customers installing water conservation equipment when reinstalling toilets. The resulting water savings are guaranteed. During the service agreement period, the initial investment is partially offset by the savings in water service charges. After the agreement ends, all the savings in water service charges accrue to the customer (building owner). By improving building environmental performance (water consumption reduction and cost savings), economic viability, and comfort, this service benefits both building owners and users alike.



#### Material Refining System

Building Renovation in Partnership with Itoki Corporation

ORIX Facilities' Material Refining System service raises the value of buildings by applying a special cleansing treatment to building walls in order to restore their original appearance in a short space of time. Exterior building walls and other surfaces are restored using an advanced cleansing technique, rather than by re-painting or physically repairing them. Therefore, this method can be expected to further reduce environmental impact and offer far better cost performance than conventional renovation methods. And since cleaning agents are made from designated food additives, they can be washed away with water, requiring no special treatment as industrial waste.



After renovation

#### E-CORE™ Indoor LED Lighting

Light Fixture Renovation in Partnership with Toshiba Lighting & Technology Corporation

E-CORE is an indoor LED downlight that provides brightness and energy savings in a highly efficient manner, helping to both prevent global warming and deliver economic performance. E-CORE is as bright as an incandescent light, yet consumes only around one-seventh the electricity and lasts 20 times

longer. The difference in initial cost between E-CORE and comparable incandescent light fixtures can be quickly recouped by savings in running costs (the sum of electricity charges and lamp costs), making E-CORE a winner on both the environmental and economic fronts.



#### Project to Save the Coral Reefs of Okinawa



ORE launched a project to save the coral reefs of Okinawa in 2008, which has been designated as the International Year of the Reef. Coral reefs support a diverse array of marine life and safeguard the world's precious oceans. However, they have been shrinking significantly in recent years due to coral bleaching on a global scale. This has also become a serious issue in Okinawa Prefecture. Against this backdrop, ORE has been planting coral off the shores of Nakijin Village, Okinawa, with the aim of nursing local coral reefs back to health. In July 2008, ORE transplanted 400 coral seedlings and plans to plant roughly 1,500 seedlings per year going forward. From July to August 2008, ORE conducted the Earth Friendly ECOLOGY SUMMER campaign, where the company planted one coral seedling for every five groups of visitors to ORE showrooms. After coral planting ends, ORE plans to continue its coral reef preservation and restoration activities in partnership with Aqua Culture Okinawa Ltd., a member of the Okinawa Electric Power Company Group. ORIX Real Estate Corporation

Planned activities include surveys to monitor and confirm the growth of coral reefs. Through this project, ORE aims to help preserve the Earth's natural environment by protecting marine ecosystems and the organisms they support.

http://orix-sumai.jp/oriented/sango



Coral planting

### IT and the Environment

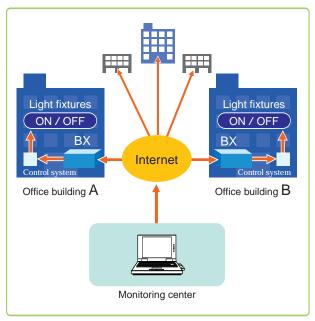
Internet Research Institute, Inc.

Internet Research Institute, Inc. (IRI), which joined the ORIX Group in November 2007, is developing businesses using sophisticated information technology (IT). In this section, we highlight some technologies that are helping to reduce environmental impact.

#### BX:Energy Conservation Through IT

Uhitea Inc

BX (Building eXchange) was jointly developed by Ubiteq, Inc. and Panasonic Electric Works Co., Ltd. as a system that directly links light fixtures and other office building equipment to the Internet. Linking every light fixture in an office to the Internet allows room lights to be turned on or off from remote locations using a PC, mobile phone or other device. It also allows users to monitor electricity consumption and other energy-related information. In March 2006, BX was adopted by the Keio Fujisawa Innovation Village, and is currently under trial as an Internet-based lighting control system. BX has also been adopted by the Green UT Project, an industry-governmentacademia collaboration launched in June 2008. This project is using IT to collect and quantify data on electricity consumed by air conditioning and room lighting in order to examine the potential energy conservation benefits. BX is playing a crucial role in the project.



Monitoring electricity consumption using BX



BX system

## eFuel Economy: Monitoring Fuel Economy with Mobile Phones

IRI Commerce and Technology, Inc.

IRI Commerce and Technology, Inc. provides the mobile-phone Internet site eFuel Economy, where users can share fuel economy data with 400,000 other subscribers by entering data on driving mileage and gasoline intake into their mobile phones. eFuel Economy is playing a key role in promoting "Eco Drive" concepts by allowing its nationwide subscriber base to compare data on fuel economy and CO2 emissions, and by providing a service menu that allows subscribers to automatically keep track of when engine oil and other auto supplies must be replaced. In these and other ways, the company aims to make fuel conservation and other eco-friendly initiatives more fun and enjoyable.

Access by QR code

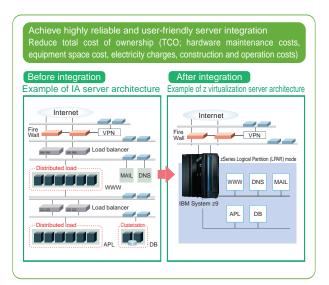
Direct access at http://e-nenpi.com/ (all carriers)

Mobile-phone eFuel Economy site

#### Collective Hosting Service

BroadBand Tower, Inc.

Data centers typically consume copious amounts of electricity, which presents a major management issue. BroadBand Tower, Inc. has developed a collective hosting service that uses IBM mainframe virtualization technology to operate a virtual network of Linux servers so as to enable logical partitioning. Utilizing virtualization technology in this way reduces the number of servers normally needed at data centers, significantly lowering electricity consumption.





## Realizing a Society with an Environmentally-Sound Material Cycle

The "3Rs" refer to Reduce (i.e., reduce waste emissions), Reuse, and Recycle. The ORIX Group provides customers with a host of solutions focused on promoting the reuse and recycling of resources, in order to reduce environmental impact. The overriding aim is to help realize a society with an environmentally-sound material cycle. This section highlights some of these solutions.

**Purchasing Unwanted Property** 

**Area Recycling Systems** 

Supporting Improved Group-wide Service Quality

Recycling Services Focused on Information Security

Supporting Environmental Risk Countermeasures and Environmental Management

Proper, Sophisticated Waste Processing

## **Purchasing Unwanted Property**

**ORIX Eco Services Corporation** 

Utilizing expertise in the leasing business and a nationwide network for proper waste processing, ORIX Eco Services Corporation (OES) provides one-stop services for a time-consuming part of waste processing-the sale and recycling into scrap of machinery from factories closing down-while striving to enhance convenience for clients.

#### Complete Factory **Equipment Purchasing Service**

OES offers a "Complete Factory Equipment Purchasing Service," leveraging expertise in moveable assets gained by ORIX in the leasing business and a nationwide network for proper waste processing. This service involves purchasing all equipment inside a factory to be closed for resale (reuse), recycling into basic materials, or processing as industrial waste. This comprehensive service has benefited customers from a wide range of industries, including leading electrical machinery manufacturers, beverage producers, and homebuilders.

OES' strength lies in its ability to discern valuable assets, and thereby increase the amount of property that can be reused or recycled. To the extent possible, the company strives to limit the amount of waste for disposal, and extensively monitors both recycling and waste processing operations. Cost-side benefits, moreover, are also emerging from discerning and selling valuable assets that might once have been treated as waste.



#### Takashi Misu

Manager, Sales Department II ORIX Eco Services Corporation



In the Sales Department II where I work, news of factory closures or transfers is the basis of our marketing activities. The wide variety of equipment usually found in factories typically requires customers to negotiate disposal terms both with pre-owned equipment resellers and waste processors. OES, however, has earned a strong reputation for handling everything, from timeconsuming clerical work to logistical arrangements, which allows customers to rationalize the factory closure process.

Prompt and speedy service, meanwhile, is the norm for OES, which recognizes that the need for service arrangements is usually most acute as factory closure deadlines approach.

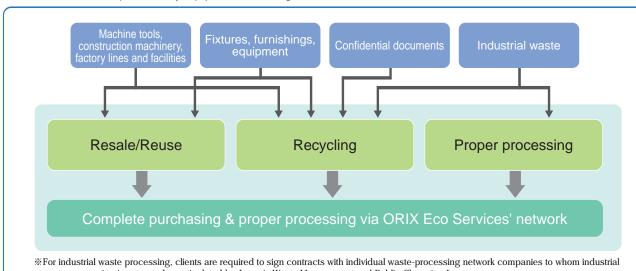


Factory interior



Equipment being removed from a factory

ORIX Eco Services Complete Factory Equipment Purchasing Service



waste processing is entrusted, as stipulated by Japan's Waste Management and Public Cleansing Law.

## **Area Recycling Systems**

**ORIX Eco Services Corporation** 

When collecting unwanted leased assets from customers with operations across Japan, OES encourages the resale or material recycling of such assets by assuming management of the entire process-from the dispatch of vehicles for retrieval to checks of those entrusted with processing and the production of processing reports.

#### Area Recycling Systems

ORIX Eco Services Corporation

At ORIX, lease contracts for approximately 400,000 leased assets expire each year. OES oversees the collection, warehousing and storage, resale or final disposal of these end-of-lease assets.

Area Recycling Systems refer to a service whereby OES, leveraging a nationwide network for processing end-of-lease assets, efficiently collects and recycles machinery and products with high material value (material resources), such as vending machines and kitchen equipment, from across Japan.



1) Industrial waste being transported to an intermediate industrial waste processing facility



2) Waste being loaded into a crusher



3) Full view of an intermediate industrial waste processing facility



4) Metal resources after crushing and sorting

## "OES helps to make our work more efficient."

#### Shoichi Emura Operating Officer Daiwa Industries Ltd.



As a comprehensive manufacturer of heating and cooling equipment, Daiwa Industries sees the environment as a key issue. As such, we take steps to create products while remaining mindful of the problem of global warming and protection of the ozone layer, and to properly collect fluorocarbons. In particular, our upright commercial refrigerator units were the first in the industry to be insulated using non-fluorocarbon materials. Along with this kind of care for the environment, our products have levels of energy efficiency that are among the highest in the industry.

OES' Area Recycling Systems for various types of kitchen equipment deal quickly with our sometimes irregular work processes and rigorously ensure proper processing by a network of outstanding professionals, enabling us



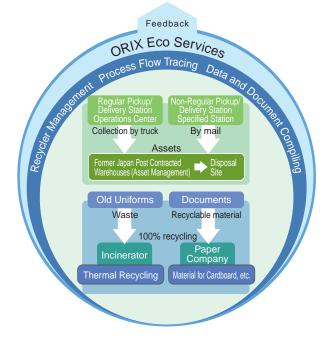
Daiwa Industries' Saiki Plant

to entrust this work to OES with confidence. At the same time, these systems make related clerical work more efficient, too. Needless to say, we are extremely satisfied with this service.

#### Project Example

100% recycling nationwide of unwanted items from post offices. The privatization of Japan Post led to the complete recycling of some 900 tons of unwanted uniforms and about 6,000 tons of documents generated by the roughly 24,000 post offices located across Japan. In addition to enabling 100% recycling of this waste, OES' fully integrated system through to final processing was highly rated for meeting the challenge of preventing information leaks through round-the-clock surveillance by security professionals.

#### Former Japan Post



#### A Word From the Manager

#### Masanori Inoue

Assistant Manager Sales Department I ORIX Eco Services Corporation



The improper export of certain types of machinery to third countries has become an international problem. To avoid this problem altogether in our Area Recycling Systems, we entrust this work only to our network companies, all of whom meet business standards stipulated by OES. We do this in order to provide safe and streamlined collection and processing routes to our customers. I feel that the opportunity to work together with customers to tackle environmental problems is what makes my work worthwhile.

## **Supporting Improved Group-wide Service Quality**

**ORIX Eco Services Corporation** 

Encouraging the reuse and recycling of end-of-lease assets is an important issue in the leasing business, one of ORIX's core operations. The management of these end-of-lease assets is entrusted to ORIX Eco Services Corporation (OES), which strives to collect assets from customers efficiently, and promote the resale or recycling of used products, or ensure that such products are processed in an appropriate manner.

End-of-Lease Asset Collection and Logistics System Covering All of Japan

ORIX Eco Services Corporation

OES has devised a regionally focused, proprietary logistics system network for arranging the collection of end-of-lease assets from across Japan.

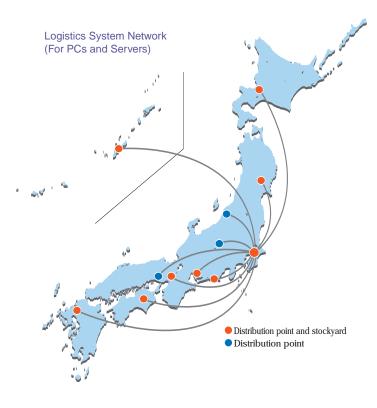
Following unpacking, inspection, removal of adhesive labels and sorting at stockyards nationwide, the collected assets are then sold to pre-owned equipment resellers. Products with no resale value are entrusted to industrial waste processors for recycling or proper processing.

Collection of PCs and Measures to Counter Data Leaks

ORIX Eco Services Corporation

Collected PCs and servers are sent to the Yachiyo Stockyard in Chiba Prefecture, Japan. Data deletion from these computers is conducted on the stockyard premises.

Although as part of their lease contracts, customers are asked to delete any data on PC hard disks before returning them, this step is taken by ORIX as a precaution and as part of a systemic emphasis on information security.





Exterior of the Yachiyo Stockyard



Data deletion work is performed within a security system devised around a controlled room access management system, which requires pre-registered ID cards, as well as interior and exterior surveillance cameras.





Collected assets are unpacked, inspected, cleared of adhesive labels and sorted





PCs are sent in special locked boxes to the Yachiyo Stockyard.





Surveillance cameras constantly monitor all entryways, exits and work

## Data Deletion Combining the NSA Method, Magnetic Deletion and Physical Destruction

The highly reliable U.S. National Security Agency (NSA) method is used for data deletion, whereby data is deleted by completely overwriting it three times. PCs processed in this way are then sold to pre-owned equipment resellers. Hard disks are removed from PCs that cannot be sold, or those in which data cannot be overwritten due to malfunctions or other problems, and are physically destroyed and sent for material recycling.

#### **Data Deletion Process**



PCs collected from across the country are stored in locker carts.



Data is deleted by overwriting three times.



PCs with no prospects for resale, or those for which data deletion cannot be performed, have their hard disks removed and magnetically wiped.



PCs for which data deletion is completed are stored on merchandise shelves, with resalable items sold to resellers



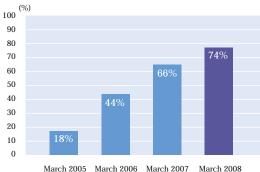
Hard disks are removed from PCs that cannot be resold, and are physically destroyed along with the hard disks that have been magnetically wiped.

#### Reuse and Recycling of End-of-Lease Assets

About 80% of ORIX's lease contracts are renewed. This ongoing use of leased assets by customers can be said to reduce resource consumption by eliminating the need to replace assets. When the remaining lease contracts end, customers return the leased assets to ORIX. Of these, assets that can be reused are sold to partner pre-owned equipment resellers. Assets that are not reusable, of course, are properly processed. Industrial waste intermediaries with sophisticated recycling technology are chosen and entrusted with the task of processing these assets as waste. As a result, ORIX's reuse and recycling rate for returned lease assets is around 92%.

Occasionally leased assets are subject to trade-in, instances in which sales companies remove or replace previous assets with new models. While the relevant sales company is responsible for waste disposal in such cases, ORIX, as the original asset owner, believe it has a responsibility to trace these assets until the end to confirm that they are properly processed. With this in mind, ORIX established a set of in-house tracing standards to verify that end-oflease assets, including those not collected or treated as waste by ORIX, are properly resold or processed. When customers opt to handle waste processing, ORIX receives copies of the manifest invoices (waste management bills) from the customer to verify that processing has taken place. In the case of trade-ins, ORIX receives a copy of the processing contract signed between the sales company and the waste processing professional as part of steps to confirm the processing flow for these products. Since 2005, these activities have enabled the compliance rate with ORIX's tracing standards to improve from 18% to 74% in just 3 years.

#### Compliance Rate With Tracing Standards



March 2005 March 2006 March 2007 March 200

A Word From the Manager

#### Yasuyo Mochizuki

Manager Sales Planning Department ORIX Eco Services Corporation



One characteristic of ORIX's customers is that many enter into small-lot contracts for various types of office equipment. To deal with the end-of-lease products returned by customers, the OES contacts customers directly regarding the date of pickup, and does its best to perform this work in a speedy and courteous manner. Since we speak directly with customers in our department, the atmosphere there is always a lively one.

## Recycling Services Focused on Information Security

**ORIX Eco Services Corporation** 

ORIX Eco Services Corporation (OES) offers services for the recycling of PCs and documents as viable resources that prevent any leakage of the important confidential data and personal information these may contain. We also properly process any unwanted items generated when customers relocate offices.

**ECOBox** 

ORIX Eco Services Corporation

ECOBox is a service in which unwanted documents (from offices, etc.) containing important information are collected in special cardboard boxes. The sealed boxes are dissolved unopened along with the documents inside, creating a recycled resource. In response to rising awareness of risk

management with respect to the handling of information, OES began offering two new services in addition to ECOBox-ECOBox Special Delivery, unveiled in October 2007, and ECOBox Guarded Transport & Delivery, launched in July 2008.



● ECOBox Special Delivery (Limited Service for Tokyo's 23 Wards) With this service, the collection of ECOBox containers is carried out by a specially trained, two-person team using a specialized vehicle. As one team member visits the customer's office, the other remains with the vehicle so that it is never left unattended. In principle, the collected ECOBox containers are transported the same day to a paper manufacturing company, where they are immediately dissolved. This work is performed at buildings equipped only with specialized facilities for dealing with confidential documents, which are completely shuttered (even at entryways and exits) to the outside. Accordingly, knowledge of this work process is limited to only a few select individuals. Ultimately, the dissolved ECOBox containers are converted into 100% recycled paper resources.

● ECOBox Guarded Transport & Delivery (Limited Service for Tokyo's 23 Wards) This service is a variation of ECOBox Special Delivery service that provides more enhanced security around ECOBox collection and transport. Here, the collection, loading and transport of ECOBox containers to the paper manufacturing company is entrusted to Sohgo Security Services Co., Ltd. These tasks are performed by a select two-person team that includes security guards that have either top- or second-level credentials in guarding

the transport of valuable goods. An armored vehicle, of the same kind used to transport cash and other valuables, is made available for exclusive use by the specific customer requesting the service. This service is ideal for those customers who view information as a valuable asset on a par with that of cash.



ECOBox Guarded Transport & Delivery

Office Relocation Support Service

ORIX Eco Services Corporation

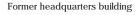
Office and facility relocation creates a lot of unwanted or unusable office equipment, office furniture, paper and other items. To ensure that this waste is processed in line with Japan's Waste Management and Public Cleansing Law, customers relocating need to choose a specific processing professional for this task. With this service, OES provides support for the resale of reusable items and the proper processing of those earmarked for disposal. The company also serves as an operational hub coordinating relocation work, transportation, resale and waste disposal, and the various other arrangements involved in moving.

#### Project Example

Headquarters relocation for Daiwa Securities Group Inc.

In December 2007, Daiwa Securities Group relocated its headquarters to the GranTokyo North Tower. Over the four months from April to July 2008, OES provided support primarily for the reuse and recycling of unwanted fixtures, supplies, documents and other items from the former headquarters. Daiwa Securities Group has long been proactive in addressing environmental issues, and placed the same emphasis on maintaining an environmentally friendly approach to the headquarters relocation project.







New headquarters building

#### Three Types of ECOBox Based on Security Level



## **Environmental Risk Measures and Environmental Management Support**

**ORIX** Corporation

ORIX Eco Services Corporation

Waste may contain hazardous substances that require special attention when processing. ORIX Corporation and OES are offering new technologies and proposing proper processing techniques for the removal and appropriate processing of these substances. Beyond compliance with laws and regulations, we provide support for the development of management structures for the proper processing of waste.

#### New Asbestos Removal Methods

ORIX Corporation

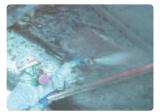
Asbestos was once widely used as a fire-resistant material in buildings due to its easy fabrication, low cost, and outstanding insulating properties. In recent years, however, the inhalation of airborne asbestos particles, which can lie dormant in the body for 20 to 40 years, is known to impair human health by causing diseases ranging from malignant mesothelial tumors and pulmonary asbestosis to lung cancer. ORIX has turned attention to devising new methods for the safe, complete and swift removal of asbestos. This removal business based on new removal techniques is being conducted through Orient Grace Engineering Corporation, a joint venture established by ORIX and Totetsu Kogyo Co., Ltd.

#### 1 PET sheets for protective seals at worksites



Sturdy, durable PET sheets (same material used in PET bottles) are used to seal off worksites where removal work takes place, to prevent asbestos exposure and maintain safety.

#### 2 Gel-based liquid to moisten asbestos



Prior to manual removal work using various techniques, a gel-based liquid (called Eco-Moisture) is sprayed to moisten the asbestos, which prevents particles from becoming airborne. Eco-Moisture is a non-toxic liquid made from food additives. It is also highly penetrating, thus preventing virtually any airborne asbestos.

#### 3 Dry ice blasts to remove residue





Dry ice pellets

Dry ice blast

Pressurized air from a compressor is used to apply tiny granular dry ice pellets after manual removal work in order to completely remove any remaining asbestos. This method not only enables asbestos removal from hard-to-reach crevices and out-of-reach spots, but allows removal work to be completed two to five times faster than with conventional methods.





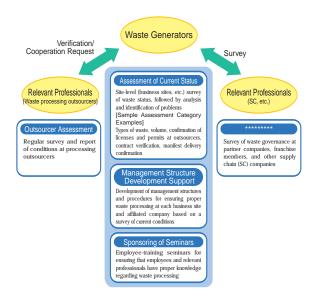
Before removal After removal

## Support for Development of Waste Governance Structures

ORIX Eco Services Corporation

The development and continuation of "waste governance" structures for the processing of waste is indispensable to achieving strict compliance with the waste processing provisions of Japan's Waste Management and Public Cleansing Law. "Waste governance" here refers to initiatives for recognizing waste processing as a management issue, and ensuring legal compliance and assisting in the development of a society with an environmentally-sound material cycle through the formation of relevant internal structures and alliances with external partners. Assessing possible outsourcers for waste processing and processing status is far from easy, however, due to the often complex and opaque nature of waste processing laws, regulations and rules. Here, OES offers services to support the development of its customers' waste governance structures, including surveys of current site conditions, fact-finding surveys of outsourcers, and the sponsoring of seminars for employees.

#### Waste Governance Support Services



 Example of Support for Customers Regarding Compliance With Laws and Regulations

Website listing local government points of contact for reporting delivery of manifests

Beginning in fiscal 2009, Japan has mandated that companies report all industrial waste management bills (manifest invoices) delivered for the previous fiscal year to the governors of each respective prefecture and other relevant authorities by no later than June 30 each year. Since the protocol for these reports varies by local government, OES has created a list of important reporting links that companies can view at its website.

http://www.orix.co.jp/eco/service/contents/manifesto.htm

## **Proper, Sophisticated Waste Processing**

ORIX Environmental Resources Management Corporation

Funabashi Eco Services Corporation

ORIX Environmental Resources Management Corporation and Funabashi Eco Services Corporation help to protect the environment in the Tokyo metropolitan area by operating facilities that properly process waste emitted by customers.

Operating Proper, Sophisticated Waste Processing Facilities

ORIX Environmenta Resources Manage

Utilizing the latest thermal decomposition and gasification methods, ORIX Environmental Resources Management's Yorii Plant (Yorii-cho, Saitama Prefecture) processes 450 tons of waste daily, one of the largest processing volumes among private-sector facilities in Japan. And because the facility is capable of accepting not only industrial waste from factories and offices but also ordinary (i.e., household) waste from municipalities, towns and villages, the plant also provides waste processing services for many local governments.

The facility's defining feature is that it processes the waste it receives at roughly 2,000 , enabling almost all of it to be recycled. Through various processes, the waste is converted and recycled into slag, metal, metallic hydroxides, mixed salts, and synthesis gas. Synthesis gas, in particular, is useful as a fuel for power generation, helping to generate highly efficient power at the power plant located onsite. ORIX Environmental Resources Management has voluntarily set dioxin limits for the site at one-tenth the legal limit. In this way, the facility was designed with the surrounding environment in mind. Meanwhile, an Environmental Committee, which includes members from outside the company, has been formed to reinforce onsite environmental management activities.

ORIX Environmental Resources Management believes that eliminating the wasteful use of natural resources and energy wherever possible, and promoting reuse and recycling, are fundamental to the creation of a society with an environmentally-sound material cycle, and the prevention of global warming. By receiving waste from customers at sophisticated waste processing facilities, the company hopes its efforts will help to curb CO2 emissions associated with the waste its clients generate. At the

same time, ORIX Environmental Resources Management has sought reduce to the environmental impact from the operation of its main facility, which has been certified by Japan's Ministry of the Environment as a waste processing facility that is helping to combat global warming.



Yorii Waste Processing Plant

[A Word from the Manager] General Manager, Planning Department ORIX Environmental Resources Management Corporation

Kentaro Arimoto



"The Yorii Plant has been running smoothly since beginning full-scale operations in June 2006, and is now in its third year of operation. We have a system for recycling all the waste material we accept, one that has been highly rated especially by environmentally minded companies. Along with ordinary waste, we have been receiving an increasing number of requests for processing materials that have been difficult to recycle so far. Looking ahead, we plan to develop new facilities in partnership with various operators in the field, and are pursuing such projects as providing waste management support for local governments."

Operating an Intermediate Processing Facility for Construction Waste

Funabashi Eco Services (Funabashi-shi, Chiba) is a general waste processing firm providing integrated services ranging from waste collection and transport to intermediate processing, mainly specializing in construction waste generated at building sites all over the Kanto region. The company joined the ORIX Group on March 28, 2008 following the transfer of all its issued shares from Kanematsu Corporation.

Waste from construction sites is varied and difficult to recycle in existing forms without pre-processing. Following pulverization, sorting, compression and other processes, the company processes this waste by: 1) transferring recyclable scrap metal, wood and paper to recycling companies; 2) incinerating non-recyclable, combustible material using an on-site incinerator; and 3) disposing of non-recyclable, non-combustible material at either inert or managed landfill sites, depending on the content.

The incineration facility has a processing capacity of 150 tons (2 lines of 75 tons each) daily. The facility employs a rotary-kiln incinerator (an inclined, cylindrical rotating furnace). This means the facility can accept many different types of combustible industrial waste, including non-construction

Funabashi Eco Services implements a range of environmental measures. For example, a temperature of at least 850 is maintained inside the furnace to inhibit the generation of dioxins. And various hazardous gas removal devices

are used to remove soot and dust, nitrogen oxides, hydrogen chloride, sulfur oxides and other hazardous substances from emissions. Funabashi Eco Services is also stepping up collaboration within the ORIX Group by working closely with ORIX Environmental Resources Management to strengthen each other's environmental and risk management capabilities.



Funabashi Eco Services' Incineration Furnac

[A Word from the Manager] General Manager, General Affairs Department Funabashi Eco Services Corporation Masami Sakai



"Funabashi Eco Services has been in business for 14 years since the start of operations at this facility, specializing in thoroughly recycling construction waste. Having joined the ORIX Group, we are harnessing our wealth of accumulated know-how and experience to further enhance our recycling efficiency and establish an environmental management structure that makes us a more trusted operator. We are meeting the needs of customers (mainly general construction companies) by maximizing our recycling rate at a reasonable price, and ensuring thorough compliance."



## Environmental Activities at ORIX Eco Services

As the ORIX Group's environmental specialist, ORIX Eco Services(OES) Corporation constantly works to maintain and enhance its strong environmental expertise in order to raise the ORIX Group's overall quality and help customers reduce their environmental impact.

ORIX Eco Services Business Activities

**Environmental Management Systems** 

**Environmental Activities** 

Aiming to Raise Service Quality

### **ORIX Eco Services Business Activities**

As the environmental specialist of the ORIX Group,

ORIX Eco Services (OES) provides services that reduce environmental impact.

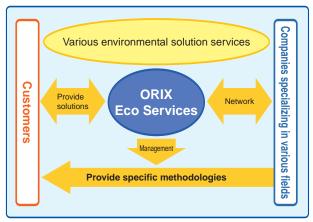
OES is thus helping to realize a sustainable, low carbon society with an environmentally-sound material cycle.

## Offering one-stop environmental solutions through a network of specialist companies in environmental fields

Proper waste disposal, the 3Rs, zero emissions, chemical substances, soil contamination and global warming countermeasures are just some of a host of environmental issues that companies are being called upon to address. These issues encompass a broad range of fields and are changing on a daily basis. Recognizing these trends promptly, OES strives to provide companies with optimal solution methodologies for achieving environmentally friendly corporate management.

In the course of solving customer issues, OES draws on a network of specialists in various environmental fields to provide distinct, one-stop solutions. Through these services, OES is helping customers to reduce their environmental impact while contributing to the coexistence of a sustainable natural environment and economy.

#### **OES Business Model**



#### **Outline of ORIX Eco Services**

(As of October 2008)

Name ORIX Eco Services Corporation

Established April 1, 1998

Head Office 3-22-8 Shiba, Minato-ku, Tokyo Japan

Representative Shinichi Obara, President

Number of Employees 119

#### Principal Businesses

- 1. Intermediation services in waste processing, etc., and consulting
- 2. Trading of recyclable resources (including raw and other materials, components and used goods)
- 3. Environmental management support services and consulting
- 4. Trading of greenhouse gas emission credits

#### Scale of Operations

- Management of approximately 2,000 customers nationwide and disposal and processing of waste from more than 5,000 locations
- ECOBox service in use by approximately 12,000 customers with roughly 20,000 member ID codes

## From waste management to comprehensive environmental management services

Today, OES' primary services are intermediation and integrated management of recycling and waste processing, consulting services, disposal of confidential documents, recyclable resource trading, and other support services vital to the formation of a society with an environmentally-sound material cycle.

Additionally, global warming mitigation has become an increasingly important management theme for many companies in recent years. Mindful of this, OES has reinforced its environmental management support services mainly for reducing greenhouse gas emissions and strengthening risk management. Specifically, OES is taking steps to address customer needs arising from the shift to a low carbon society. For instance, OES conducts environmental impact studies covering CO2, and helps to enhance the visibility of environmental activities. The company also provides support for raising employee environmental awareness and offers carbon offset services.

#### **Environmental Solution Services**

## Support services for formation of a society with an environmentally-sound material cycle

#### Area recycling system

Construction of systems for recycling and waste processing system for unwanted goods, selection of specialist contractors, administrative support

#### Purchasing Unwanted Property

One-stop services for optimal purchasing, and proper processing based on distinctive expertise and a nationwide network

#### Recyclable materials trading

Trading of metal resources (raw and other materials, components, equipment, etc.) on the global market

#### Information security

PC data purging and blotting out of important documents based on security level

Environmental management support services Waste governance development support, consulting

#### Low carbon businesses

#### Greenhouse gas emission credit trading

Trading under Japan's Voluntary Emissions Trading Scheme (JVETS); procurement, sale and transfer of other credits

#### Carbon offset

Carbon offset consulting

#### Advisories and surveys

Calculation of greenhouse gas levels, etc.

## Supporting ORIX Group actions to reduce environmental impact

As the ORIX Group's environmental specialist, OES supports environmental initiatives by both the ORIX Group and individual Group companies. The ORIX Group is active in a range of business domains. What these fields share, however, are common links to the environment that each generates. Viewing these linkages as vital customer and social needs, we strive to tie each directly to the creation of new added value.

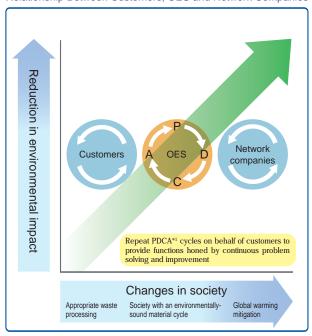
## **Environmental Management Systems**

OES aims to lead the way in environmental management in conjunction with customers and network companies by enhancing its own environmental management practices. In doing so, we aim to contribute to the establishment of a society with an environmentally-sound material cycle.

#### **Environmental Management System Features**

OES' Environmental Management Systems(EMS) cover not only the environmental impact of its own activities in terms of paper, electricity and waste, but also include the environmental impact of the entire spectrum of OES' services, extending to customers and network companies. (For details, please refer to page 41.) This is because we believe that the environmental impact of our services must be emphasized, because they have a direct bearing on reducing the environmental impact of our customers. Accordingly, we strive to verify as much as possible how our services are impacting our customers. Furthermore, our services are provided in collaboration with network companies. Accordingly, our goal is to continue providing high-value services together with network companies so that we continue to meet the expectations of customers.

#### Relationship Between Customers, OES and Network Companies



\*1 PDCA stands for Plan, Do, Check and Act and refers to a cycle of continuous improvement that is reflected in subsequent plans.

#### ISO 14001 Certification

On September 15, 2006, OES acquired ISO 14001 certification at its Head Office after establishing EMS based on this certification. Guided by our Environmental Policy, we are continuously maintaining and utilizing our EMS by repeating PDCA cycles.

#### Operational Structure

OES has appointed an Environmental Management Officer to oversee the establishment and maintenance of Environmental Management Systems, and has also established an Environmental Committee as a deliberation and decision-making body and a Promotion Committee to promote specific proposals and activities of various divisions. OES has also established the EMS\*2 Promotion Department as a unit dedicated to promoting environmental management systems inside and outside the Company and managing an ISO Promotion Office. Through these measures, OES has put in place a structure to more actively implement environmental management.

\*2 EMS stands for Environmental Management System.

#### Internal Environmental Audits

OES has established an Internal Environmental Audit Team led by a Chief Internal Environmental Auditor appointed by the President. Internal environmental audits are implemented once a year based on an Implementation Plan. An internal audit conducted in June 2008 highlighted a total of 12 matter for improvement, based on which OES improved the quantification of targets, and made them easier to visualize.

#### **Environmental Policy of OES**

OES provides support services centered on waste processing and recycling proposals that achieve concrete reductions in environmental impact for the ORIX Group and its customers.

OES establishes and regularly reviews environmental goals and targets in order to prevent its own business activities from causing environmental pollution and to provide more sophisticated environmental services and functions to customers. It also helps companies in its network ("network companies") enhance the quality of their services. OES aims to continuously improve its environmental management systems and environmental performance through the measures outlined below:

- We will propose processing methods that reduce the environmental impact of waste generated by customers.
- 2. We will strive to gain customer acceptance and ensure satisfaction by accurately monitoring data on the amount of waste we process.
- We will strive to maintain and enhance the quality of service of our network companies so that customers can be confident about using our services.
- We will provide information about environmental laws and regulations, etc., to customers, group companies and network companies.
- 5. We will develop and provide comprehensive services that contribute to measures taken by customers in their business activities to mitigate global warming.
- We will fulfill our compliance obligations with respect to environmental laws, regulations, and ordinances, etc., and comply with other requirements we have agreed upon.
- This Environmental Policy shall be communicated to directors and employees of OES, who shall carry out business activities in accordance with this policy.
- 8. This Environmental Policy shall be announced publicly via our website and through other means.

Formulated March 9, 2006 Revised October 1, 2007

President Shinichi Obara

## **Environmental Activities**

Based on its Environmental Policy, OES strives to enhance the quality of its services that reduce environmental impact through various measures.

#### Fiscal 2008 Activities

OES' main environmental activities in fiscal 2008, the year ended March 31, 2008, are listed in the table below. Five action categories have been established based on OES' Environmental Policy. Because services are included in the scope of environmental management at OES, these categories mainly concern improving the quality of services.

#### **Action Categories and Activities**

Action Category	Main Points	Fiscal 2008 Activities	Achievement Status
Establish and improve benchmarks for reducing the environmental impact of waste processing	OES will work to benchmark the benefits of recycling and processing proposals that achieve larger reductions in environmental impact and enhance transport efficiency so that it can provide better services in these respects.	OES worked to gain a precise understanding of all waste processing steps to establish a basis for calculating fundamental benchmarks such as the recycling rate, and databased 15% of this information.	
Gain a precise understanding of data on the amount of waste	OES believes that characterizing waste amounts by weight is fundamental to waste management. Accordingly, the Company will work to verify all data on the amount of waste in terms of weight.	OES worked to raise the precision of data, and took steps to standardize the reporting unit for waste amounts and develop an information system. The system's deployment fell behind schedule and was postponed to May 2008.	
Improve quality of service at network companies	OES will work together with network companies to improve the quality of service of each company responsible for actually providing services.	OES worked to evaluate conditions at partner companies through regular reports from these companies and on-site visits after determining proprietary quality standards.	
Provide environmental information to customers, network companies, the ORIX Group and employees	By communicating information about environmental laws and regulations, and social trends to everyone involved in OES' services, OES aims to ensure that everyone maintains compliance and implements effective environmental responses.	OES disseminated information on a regular basis by preparing information materials for customers, network companies and employees.	
Consider and launch new businesses addressing global warming	There is a growing necessity for customers to take steps to mitigate global warming in the course of their business activities. Mindful of this recent social trend, OES aims to develop and provide comprehensive services that contribute to customers' global warming mitigation measures.	OES was chosen as a market participant for the third consecutive round in Japan's Voluntary Emissions Trading Scheme (JVETS) run by the Ministry of the Environment and began concrete preparations ahead of the start of emissions trading.	

#### Monetary Value of Services

OES regards the monetary value of its services as a benchmark of environmental performance because its services have a direct bearing on reducing the environmental impact of its customers.

	Fiscal 2006	Fiscal 2007	Fiscal 2008
Monetary value of services*	134	166	206

\* Base year of 100 for fiscal 2005.

#### Use of Energy and Other Resources per Employee

	Fiscal 2006	Fiscal 2007	Fiscal 2008
Electricity*1 (kWh)	1,516	1,538	1,525
Water*1 (m3)	7	7	7
Paper*2 (sheets)	10,750	9,503	9,546
Waste amount*1(kg)	139	120	113
Amount of discarded confidential documents (kg)	16	40	26
CO2 equivalent emissions*3 (kg-CO2)	841	853	846

- \*1 Electricity, water and waste amounts were calculated by multiplying the total electricity, water and waste amounts for the building where OES is located by the ratio of floor space occupied by the Company, and shown above on a per-employee basis.
- \*2 The use of paper represents the number of sheets after conversion into A4 format.
- \*3 CO2 equivalent emissions were calculated by multiplying electricity use by the default emissions coefficient (0.555 kg-CO2/kWh) stipulated by the "Ministerial Order Concerning the Calculation of Greenhouse Gas Emissions Associated With the Business Activities of Specified Emitters." (ORIX has changed its calculation method for CO2 equivalent emissions. Figures shown in the "Environmental Report 2007" were calculated using a conversion factor for Tokyo Electric Power Company.)

#### Compliance With Environmental Laws and Regulations

OES must comply with various environmental laws and regulations, including, when limited to OES' business operations, the Waste Management and Public Cleansing Law and the Fluorocarbons Recovery and Destruction Law. In fiscal 2008, OES committed no violations of environmental laws and regulations and received no external complaints related to these laws and regulations.

## **Aiming to Raise Service Quality**

Improving the quality of service at network companies that provide services is a crucial priority for gaining customer acceptance, ensuring satisfaction and winning their confidence. With the cooperation of network companies, OES regularly checks conditions at these companies from many angles, through on-site surveys and proprietary evaluations. The goal is to maintain and enhance our overall quality of service.

#### Relationships With Network Companies

OES provides services to customers through cooperation with companies specializing in various environmental fields. For this reason, cooperation with these companies is essential to proposing "processing methods that reduce the environmental impact of waste generated by customers" as set forth in our Environmental Policy and to gaining customer acceptance, ensuring satisfaction and winning their confidence. Companies willing to cooperate on enhancing services provided by OES in such areas as waste processing, logistics and trading of used goods, are positioned as network companies.

Of these companies, OES considers as partner companies those firms that embrace its corporate philosophy and that are committed to actively contributing to the enhancement of service quality for customers through an ongoing business relationship. These partner companies are included in the scope of the Company's environmental management systems.

Category		No. of companies	
Network companies	Partner companies	102	709
	Others	607	709

#### Implementing Regular Surveys

In addition to requesting partner companies to provide information about compliance, the status of management and facilities, and other matters regularly, OES' specialized divisions conduct on-site surveys. These surveys cover a broad range of main areas, from compliance structures with respect of the Waste Management and Public Cleansing Law and other environment-related laws and regulations to administrative management systems for contracts, manifests and other documents, the operational status of vehicles and waste processing facilities, the status of waste processing, disclosure policies and the status of management. The findings of surveys are fed back to partner companies and guidance is offered as necessary. In addition, as a fee-based service, OES prepares and provides survey reports for customers who request OES to conduct regular surveys of outsourcing companies.

Regarding network companies other than partner companies, OES checks all basic information necessary for outsourcing operations such as waste processing permits and licenses.







On-site survey reports

#### Partner Company Legal Compliance and Accident/ Incident Response

OES verifies the status of legal compliance and any administrative actions taken against network companies based on reports from them, on-site surveys, government information and other sources. Efforts are especially focused on verifying and requesting that improvements be made through surveys and in the course of daily communications, in order to prevent issues of this nature from arising at partner companies. Notwithstanding these efforts, incidents may still occur. In such an event, we promptly arrange alternative means of service delivery so that there is no interruption in services to customers.

In fiscal 2008, no partner companies were subject to administrative actions. However, fiscal 2008 saw 9 accidents and emergencies involving fire, earthquake damage and other contingencies. In each case, OES promptly contacted the affected customers and responded so as to prevent any disruption of services. When the 2007 Niigata Chuetsu Offshore Earthquake struck in July that year, OES responded by contacting network companies with operating bases close to the epicenter to confirm the safety of employees and the damage to facilities.

#### Complaints

In fiscal 2008, OES received 54 complaints from customers and other stakeholders. OES continuously requested improvements through the provision of feedback to network companies and other means. As a result, the number of complaints was reduced by half compared with the previous fiscal year.

#### Provision of Environmental Information

OES strives to disseminate and discuss environmental information with stakeholders inside and outside the company using a range of environmental communication methods. In fiscal 2008, OES carried out a customer satisfaction survey, and distributed information about amendments to relevant laws, government initiatives and other topics through publications like the "ORIX Eco Services Eco Letter" for customers and the "ORIX Eco Services Newsletter" for partner companies.







The "ORIX Eco Services Eco Letter" is published for customers.

## **Independent Review**

The following are independent reviews of the quality and content of the information presented in this report.



Professor, Faculty of Law and Economics Chiba University

#### Hidefumi Kurasaka

Three specific approaches to creating a sustainable economy and society have emerged in the 21st century. One is to create a "low carbon society" with the aim of emitting the least carbon dioxide possible. Another is to build an "environmentally sound material-cycle society" that strives to recycle and reuse resources. The third is to bring about a "society in harmony with nature" that can sustain nature's abundant biodiversity. Given the ORIX Group's business activities, the "Environmental Report 2008" focuses primarily on the first two approaches-creating a low carbon society and a society with an environmentally sound material-cycle-and on specific actions taken by the Group to help achieve these goals.

This report conveys a real sense of ORIX's tremendous potential as a corporate group providing a broad range of services. Shifting from a "mass production-mass disposal" society to a low carbon society with an environmentally sound material-cycle demands that corporate activities gradually shift in format-from the sale of goods to the provision of services that do not transfer the ownership of products. I

believe that the ORIX Group is leading the way in this area based on its active role in developing the ESCO, car-sharing, leasing and other related businesses.

Since this is ORIX's first group-wide environmental report, as one might expect, I found a number of areas that need improvement. The first point is that the report lacks a clear overall outline of the entire ORIX Group. I felt that adding a page that gives an overview of the companies within the Group and their businesses would have made the report easier to understand. And while I applaud ORIX's efforts at carbon disclosure in the desire to bring about a low carbon society, as a group that also hopes to contribute to a society with an environmentally sound material-cycle, ORIX will need to disclose more data on the amount of waste it generates, how much it recycles, and in other areas. Furthermore, since ORIX Environmental Resources Management Corporation and Funabashi Eco Services Corporation likely face far greater environmental risks than other Group companies due to their waste processing operations, I felt that more detail was needed on the specific environmental management mechanisms they employ, as well as their implementation.

The ORIX Group Environmental Policy, formulated for the first time in fiscal 2009, is set for full-scale implementation in fiscal 2010. The scope of this year's report, however, was limited largely to activities by ORIX Eco Services Corporation, rather than to what items will be addressed under this policy or how progress against targets will be evaluated. I hope that future reports will gauge progress against targets for group-wide activities and will show how initiatives driven by the Environmental Policy are meeting with steady success.



Analyst, Equity Research Dept.
Mizuho Securities Co., Ltd.

Koichi Niwa

With the full-scale launch of ECORIX 2012, and its specific environmental initiatives for helping to bring about a low carbon society, the ORIX Group is now positioned to pursue a more concrete set of environmental initiatives than before.

The ORIX Group is a comprehensive financial services enterprise that has moved aggressively into peripheral areas revolving around finance. In my opinion, ORIX is particularly noteworthy in terms of its outstanding problem-solving skills. Now that the ORIX Group has chosen to proactively confront the difficult challenge of creating definitive solutions for achieving a low carbon society, I think we can hold high hopes for it to deliver real progress given its past history of success. Moreover, with the COO and frontline managers alike championing the message of achieving a "low carbon society," this is increasing public confidence in the Group's commitment to achieving this goal.

The question of whether a potential investment target can actually attain sustainable growth is crucial to medium- and long-term investors. For this reason, a company's approach to CSR, as a proxy for whether it can achieve sustainable growth, is becoming

more important to investment decisions than ever before. Achieving such growth, of course, is difficult unless companies repeatedly reinvest in their future in the course of meeting their obligations to society. In Europe and the United States, investment driven by this socially based approach, called SRI, or Socially Responsible Investment, has become common. This investment method involves augmenting financial analysis with consideration of how well a company rates in areas like environmental responses and social activities when deciding to invest in a company's stock. In the United States, SRI had grown to ¥306 trillion in 2007, and to ¥144 trillion in Europe in 2005, with growth centered on the United Kingdom. In contrast, SRI in Japan was around ¥670 billion as of June 2008. Admittedly, this level is relatively low compared with Europe and the United States. However, the fact that SRI in Japan has doubled in the past two years (according to research by Social Investment Forum Japan, an NPO) is a sign of growing acceptance of the SRI approach in Japan. SRI is a good fit with long-term fund management approaches like pension funds, and I believe there is room for SRI to become much more widespread in Japan, too, as this approach gains ground.

The ORIX Group embodies two distinct faces-that of a finance company and that of a non-financial operating company-a feature that makes it unique among the world's corporations. The Group is also engaged in definitive social and environmental measures, especially in its auto, real estate and recycling business domains. In my opinion, this report concisely details the ORIX Group's approach to CSR, particularly its approach to and specific initiatives for addressing environmental problems. As such, ORIX has produced a publication that investors should find very readable.

## Publication of the ORIX Group's "Environmental Report 2008"

President, ORIX Eco Services Corporation Group CPO, ORIX Corporation Deputy Head, Tokyo Sales Headquarters, ORIX Corporation

#### Shinichi Obara

2008 was a significant year in terms of progress made by global initiatives to protect the Earth. It saw the beginning of the Kyoto Protocol's First Commitment Period, which calls for Japan and other industrialized nations to start working in earnest to reduce greenhouse gas emissions. And the environment and climate change topped the agenda for the G8 Hokkaido Toyako Summit held in July.

The ORIX Group has been engaged in environmental businesses for many years, led by ORIX Eco Services Corporation, the Energy and Eco Services Department (ORIX Corporation) and ORIX Environmental Resources Management Corporation. In recent times, however, the need to shift to a low carbon society has been rapidly transforming Japan's industrial structure. In response, the ORIX Group has formulated an Environmental Policy to promote environmental activities by the Group as a whole. Additionally, the ORIX Group has launched a set of environmental initiatives called ECORIX 2012 that runs through 2012, the final year of the Kyoto Protocol's First Commitment Period. This environmental report is designed to let stakeholders know about the ORIX Group's environmental approach and activities, our environmental services and products, and a host of other topics.

I would like to extend my deepest thanks to two individuals for providing insightful, independent reviews of this report: Dr. Hidefumi Kurasaka, a professor in the Faculty of Law and Economics at Japan's Chiba University, who is a leading environmental economics and policy expert, and Mr. Koichi Niwa, a Mizuho Securities Co., Ltd. analyst who covers ORIX Corporation. In a number of areas, they both highly rated the ORIX Group's potential for significantly contributing to building a low carbon society through diverse business activities. In each area, we will forge still stronger links between ORIX Group members through ECORIX 2012 activities. The reviewers also highlighted the need for stronger disclosure in certain data categories. From 2009 onward, we will improve the precision of calculations for CO2 emissions from business activities as we strive to reduce these emissions. Furthermore, every ORIX Group officer and employee will be highly conscious of preserving the Earth's natural environment in the course of daily activities.

Environmental activities by the ORIX Group have just begun. Nonetheless, we welcome any feedback regarding our environmental approach and activities outlined in this report. Your feedback will be put to good use in developing future services and will be vital to our continuing efforts to help build a low carbon society.

#### Contacts for the ORIX Group's Environmental Services

Domestic ORIX Corporation business locations	http://www.orix.co.jp/grp/cnt/eigyo.html	
Energy and Eco Services Department (ORIX Corporation)	Pages 15, 16, 17, 18, 19, 20 and 35	Phone: +81-3-5419-5592
ORIX Eco Services Corporation	Pages 19, 30, 31, 32, 33, 34 and 35	Phone: +81-3-6436-6700 (Switchboard)
ORIX Auto Corporation	Pages 21, 22 and 23	Phone: +81-3-6436-6000 (Switchboard)
ORIX Real Estate Corporation	Pages 26 and 27	Phone: +81-3-3435-3411 (Office of the President)
ORIX Facilities Corporation	Pages 26 and 27	Phone: +81-75-841-7550 (Switchboard)
Internet Research Institute, Inc. (IRI Group)	Page 28	Phone: +81-3-5908-0711 (Switchboard)
ORIX Environmental Resources Management Corporation	Page 36	Phone: +81-3-6434-6851 (Switchboard)
Funabashi Eco Services Corporation	Page 36	Phone: +81-47-432-6711 (Switchboard)

#### **Editorial Postscript**

Thank you for reading the "Environmental Report 2008." We sought to make the report, the ORIX Group's first publication about group-wide environmental activities, easy to read and to provide numerous examples of customers using the ORIX Group's services. We want to take this opportunity to offer our sincerest gratitude to customers for their cooperation.

Both improvement in ORIX Group employees' environmental knowledge and awareness and further stakeholder cooperation will be crucial to implementing ECORIX 2012. Most importantly, we hope that this report will inspire individual Group employees to take environmental actions as a matter of course not only at work, but also in their daily lives.

We recognize that many places in this report may have benefited from a different stylistic layout or changes in text, and we are committed to improving the page design and enhancing the content of future reports. We invite you to send us your candid opinions, thoughts or concerns so that we may produce a better report in the future.



