Sustainable Business, Sustainable Planet— A Japanese Insurance Perspective

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Climate change is a major issue of unprecedented proportions that will have far-reaching impacts on society and the economy, as the phenomenon will trigger an increase in flooding, drought and other natural disasters. For the insurance industry, climate change poses a great risk to management because an increase in natural disasters will lead to an increase in insurance payments. Taking their advantage as insurers, insurance companies should contribute toward the realisation of a low-carbon society and a climate-resilient society through their core business by means of mitigation and adaptation strategies. To achieve this goal, “education” is paramount, as it is the foundation of all our endeavours. For a business to grow in a sustainable manner, it is vital that the society itself develops in a sustainable manner. All organisations and individuals must embody the spirit of sustainable development in their own activities.

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Introduction

In 2007, the Intergovernmental Panel on Climate Change (IPCC) released its fourth assessment report, leaving no room for doubt that the climate system is warming up. Like other regions of the world, Japan has seen a rise in average temperatures. This phenomenon has been particularly prominent since the late 1980s, with higher average temperatures recorded year after year.

The forecast is that the temperature will keep on rising in the future. In Figure 1, we see the results of a simulation study that show the difference in average temperatures between today and 100 years from now. By that time, the average temperature in Japan will probably rise by 2–3°C. In some areas in northern Japan, it is said that the average temperature will rise by as much as about 4°C.

As global warming proceeds, a warmer climate will probably have an impact on water, the ecological system, food supplies, the sea level in coastal zones, public health and other aspects of human life. We often hear about talks of a “2-degree barrier”. When the average temperature rises above 2°C, experts say it will have profound and far-reaching consequences on our way of life.

Higher temperatures, for instance, will increase water vapour in the atmosphere and lead to more rain. In 100 years from now, the level of rainfall will probably be higher than today in most of Japan. In western Japan, the amount of rainfall has been projected to increase by as much as 20 per cent. Figure 2 shows the results of a simulation study of the number of heavy-rain days in Japan in summer from 1900 to

Figure 1. Simulation of average temperature in Japan (2081–2100). Difference between average temperature of 2081–2100 and that of 1981–2000. *Source:* Japan Metrological Agency.

Figure 2. The number of heavy-rain days in Japan's summer season. Heavy-rain day is defined as a 24-hour period with rainfall exceeding 100 millimetre. *Source:* Tokyo University.

2100. Together with an increase in the volume of rainfall comes an increase in the number of heavy-rain days. There is concern that increasing rainfall will trigger more flooding, mudslide and other natural disasters that can be unleashed by heavy rain. Experts believe that flooding of a scale that occurs once in a century will come more often 100 years from now, maybe at a pace of once every 25–40 years in some places.

While experts say there will be more extreme weather and consequently more natural disasters in the future, we are actually witnessing a higher incidence of natural disasters today that is probably the result of climate change.

Figure 3. Ten typhoons hit Japan in 2004. *Source:* Japan Meteorological Agency.

For instance, it is said that an average of 2.6 typhoons used to land in Japan annually. In 2004, Japan saw a record of ten typhoons making landfall and the Japanese insurance industry paid more than 700 billion ¥ (about 7 billion US\$) in insurance claims that year. That was an all-time-high figure. As a result, some companies were forced to draw down on their catastrophe reserves, which Japanese non-life insurance companies are required to keep in order to discharge massive amounts of claims in times of massive natural disasters (Figure 3).

Table 1 is a list of ten largest sums of insurance payments for damage caused by typhoons and flooding in Japan. The three typhoons that hit Japan in 2004 were on the list. Like elsewhere, natural disasters that have occurred in Japan after 1990 account for the largest sums of insurance payments, a trend that had been rising in recent years.

There is, of course, a variety of reasons why natural disaster-related insurance payments have been rising across the world: urbanisation without adequate city planning or proper land use, a poor social infrastructure, over-concentration of the

Table 1 Top ten claims for typhoons and other weather-related disasters in Japan

	<i>Name of disaster (year)</i>	<i>Claims paid (million US\$)</i>
1	Typhoon No.19 (1991)	5,679
2	Typhoon No.18 (2004)	3,874
3	Typhoon No.18 (1999)	3,147
4	Typhoon No.07 (1998)	1,600
5	Typhoon No.23 (2004)	1,380
6	Typhoon No.13 (2006)	1,320
7	Typhoon No.16 (2004)	1,210
8	Downpour (2000)	1,030
9	Typhoon No.13 (1993)	977
10	Hailstorm (2000)	700

Insurance payments for fire and miscellaneous, automobile, marine (total payments by 20 member companies of General Insurance Association of Japan), US\$1 = ¥100.

Source: The General Insurance Association of Japan.

population, to cite a few possible causes. Still, climate change has probably exacerbated the severity of disasters and the scale of damage. As far as insurance companies are concerned, the issue of climate change is no longer a matter of the future; Climate change was a reality to us years ago.

Dual approaches to climate change

So far, we have focused mainly on the consequences of climate change on the insurance industry. Climate change poses a big management risk to our industry and has become an extremely important issue for the sustainable growth of our business. Insurance companies are, therefore, required to tap their strength as insurers and set up business models to address climate change issues.

Basically, there are two approaches to cope with climate change: mitigation, which aims at curbing the emission of greenhouse gases, and adaptation, which seeks to soften the impact of climate change. Given the unique character of insurance business, insurance companies are well positioned to make well-balanced contributions through both approaches. In other words, through their power as insurers, insurance companies can make big contributions toward realising a low-carbon society and a society that is resilient to the impact of climate change, through crisis management in natural disasters, city planning and other preventive measures.

Mitigation approach

With respect to mitigation, insurance companies should first of all set up long-term targets to soften the environmental burden in their business activities and act aggressively to achieve these goals.

Several companies in Japan commit to being “carbon neutral”. Those companies reduce CO₂ emissions with energy saving investments in offices, such as improving the

efficiency of the air-conditioning system and converting office lightings with energy-saving inverter models. And those companies offset CO₂ emissions with the purchase of green electricity, afforestation that absorbs CO₂ emissions and the retirement of emission credits. In addition, many Japanese insurance companies introduced the ISO14001 environmental management system for softening the environmental burden in their business activities.

Apart from these in-house energy-saving efforts, a more important role for insurance companies is to take advantage of the special character of the business and serve as a “catalyst” in the move toward a low-carbon society. In other words, we should encourage corporate clients and individual consumers to take mitigation measures, and we can achieve this by offering the right insurance and financial products, consultation and other services. This is a most important task for insurance companies.

Insurance companies in Japan offer a variety of products and services to corporate clients and individual consumers that will hopefully lead us to a low-carbon society.

As for corporate clients, we sell weather derivatives such as wind and solar to operators to promote the use of renewable energies. For example, to lower the risk of wind-power operation, these derivatives pay a pre-determined amount of compensation to policy-holders in case the average wind speed is weaker than initial projections. This should help wind-power operators develop their business in a stable environment. In addition, we have acquired the ISO14001 environmental management standards. We have used this know-how to provide consulting services to corporate clients through one of our group member companies, helping them set up their own environmental management systems. To support the efforts of business corporations to create a low-carbon environment, subsidiaries of Japanese insurance companies provide energy-saving consulting services to corporate clients to help them reduce the emission of greenhouse gases from their business operations.

As for individual consumers, we offer climate derivatives for solar power generation to customers. These products aim at reducing the risk of lower-than-expected power output due to a decrease in the hours of sunshine by paying compensation for reduced power output caused by extreme weather conditions. Such guarantees should give individual consumers a greater incentive to use renewable energies through solar and other renewable-energy power systems.

Through one of Sompo Japan group members, Sompo Japan offers favourable interest rates under our “eco-renovation” lending programme to encourage homeowners to install solar panels and carry out low-carbon housing renovation projects. One feature of this lending scheme is that part of the loan received by the customer—the difference between the ordinary interest and the preferred interest charged by Sompo Japan—is donated to non-profit organisations (NPOs) involved in greening activities. In addition, many Japanese insurance companies offer insurance policies with special terms to encourage the use of recycled parts in car repairs, as well as insurance policies that compensate the cost difference for the purchase of eco-friendly materials when insurance payments for fire and other disasters are made.

Through their role as financial institutions, insurance companies can also promote mitigation efforts by redirecting the flow of money in a society.

Figure 4. Market size of SRI in Japan. (Million US\$) US\$1=¥100. *Source:* SIF-JAPAN (2007).

One such tool is “Sustainable and Responsible Investment”, or SRI, which invests in companies that have a track record of tackling environmental and social issues. The size of the SRI market has been expanding across the world. In Japan, the market is still relatively small as SRI is traded primarily by individual investors. At about 745 billion ¥ (about 7.45 billion US\$), the market size in Japan is a far cry from 250 trillion ¥ (about 2.5 trillion US\$) in the United States and 340 trillion ¥ (about 3.4 trillion US\$) in Europe. While still small, the Japanese SRI market has been expanding rapidly in recent years, as shown in Figure 4.

At Sompo Japan, we started selling as early as 1999 an ecology-centred investment trust fund focusing on corporations that are proactive on environmental issues. One feature of this “eco fund” is that the fund is integrally operated within the Sompo Japan group, from the evaluation of environmental management work at the target companies to stock transactions. Also, from 2005, Sompo Japan has been selling an SRI fund that takes into account the aggregate corporate social responsibilities of target companies.

As shown in Figure 5, the returns and the net asset balance of Sompo Japan eco funds outperform Tokyo Stock Price Index, TOPIX, that we use as the benchmark to measure the performance of our eco funds. The working theory behind eco funds is that the stocks of companies proactive on environmental issues tend to rise in the long run, and this hypothesis has been validated in the Japanese market as well.

By investing in eco funds, individual investors can support companies in their efforts to address environmental issues. The availability of eco funds, on the other hand, enables companies to publicise their environmental agenda and gives them an advantage to secure outside funding. Since SRI produces a virtuous cycle, it will probably play a big role in our efforts to realise a low-carbon society.

As we mentioned earlier, the market size of SRI is still small in Japan. To expand this market, Japanese institutional investors such as pension funds should take a more aggressive approach to SRI funds.

The constant value, calculated as the value obtained when reinvesting all dividends at the constant value of the settlement date, is compared to TOPIX.

Figure 5. Performance of the Sompo Japan Green Open (as compared to TOPIX).

The constant value and the benchmark TOPIX (not including dividends) is indexed as 10,000 on the date of inception.

Adaptation approach

With respect to adaptation, insurance companies must also use their strength as insurers and help realise a climate-resilient society.

To start with, insurance companies must ensure that they are financially sound to meet all claim obligations, because in recent years natural disasters tend to become large in scale and occur in greater frequency. They should arrange reinsurance, build up their reverse funds and bolster their ability to issue guarantees through the aggressive use of financial instruments such as derivatives and securitisation.

To make insurance payments swiftly in the wake of a massive natural disaster, insurance companies must have a structure that can conduct extensive claim assessment and make insurance payments accordingly.

There is, however, a matter of greater importance apart from putting in place a sound infrastructure to pay claims after a disaster strikes. We are referring here to the idea of insurance companies promoting preparedness activities to prevent and minimise damage in advance. As typhoons, flooding and other natural disasters are likely to increase as a result of climate change, we companies provide consultation services through a group member company to corporate clients in support of their efforts to assess disaster-associated risks and draw up contingency plans. For now, the public does not seem to be particularly interested in such activities, but we are sure the social significance of preparedness and the need to prepare for natural disasters will be more appreciated in the future and the demand for such consultation work will grow.

There are other important adaptation tools for insurance companies. One example is to set up risk finance schemes such as micro-insurance. The impact of climate change is particularly severe in developing countries and other vulnerable regions. In Asia, some countries are likely to face more heavy rain and flooding, while drought may become more severe in some regions. To adapt to such environmental changes, it is naturally important to construct a solid infrastructure and put in place other

preventive policies. That said, it is also important to develop financial schemes to help victims of natural disasters. At Sompo Japan, we have a project in northeastern Thailand where we have conducted a joint study together with the Japan Bank for International Cooperation and other experts to develop a climate index insurance product to cope with the risks of drought. In that region of Thailand, water resources are scarce and, as farmers rely primarily on rainwater, the weather is a major factor in the size of the harvest. The climate index insurance is intended to compensate farmers if the amount of rainfall is not enough for farming operations. We believe that such risk-finance schemes can help support people in developing countries that are vulnerable to climate change.

Integration through education and learning

We have so far focused on climate change issues facing insurance companies and gave a brief account of the mitigation and adaptation strategies, using Japan's experiences to illustrate our efforts. Now, we would like to talk about the importance of education, which is the foundation of all our work.

Even though management bears the operational responsibility for climate change issues, employees must carry out those operations. Not only management, but everyone—organisations and individuals alike—must embody the spirit of sustainable development in their activities.

The United Nations adopted the “Decade of Education for Sustainable Development” resolution in 2002. The “Education for Sustainable Development” programme is intended to educate people who can think and act for the sake of sustainable development. In this sense, the “Education for Sustainable Development” programme should not be left aside for educators at primary and secondary schools. The entire society should be involved in such educational efforts, not only business corporations but also, it goes without saying, the insurance industry.

There is a saying in Japan that instead of just planting trees on your own, educate people who plant trees. Taking this “educate people who plant trees” maxim as our motto, Sompo Japan has worked in partnership with an NGO since 1993 to run public environmental seminars for local residents every year. When we started this programme, there was practically no tradition in Japan of holding seminars on environmental issues for the general public. Our environmental seminars were well attended by an extensive mix of people, including company employees, students and housewives. So far, the aggregate number of attendants has exceeded 14,500.

In addition, Sompo Japan operates an internship programme known as “CSO learning scholarship”. The programme, which was launched in 2000, offers scholarships to undergraduate and graduate college students for an eight-month course in the activities of environmental NGOs, known in Japan as civil society organisations, or CSOs. To college students, the scholarship provides an opportunity to work with highly specialised NGOs and learn how to plan and manage environmental events. By conducting environmental education for children, they also have an opportunity to learn first-hand how to act in order to resolve real social issues. To NGOs, which tend to be short in manpower and money, this scholarship programme helps them employ

people for free. Students on this scholarship receive an hourly stipend of 800 ¥ (about 8 US\$) for their NGO work. Sampo Japan employees donate money each month from their salary to an “Earth Club Social Contribution Fund”, which finances part of the scholarship.

In environmental education, which we provide for all Sampo Japan employees, our emphasis is on environmental literacy so that our employees can put into practice the knowledge they learn about the environment. This educational method helps us enhance the “bottom-up” approach to issues among all employees. At the same time, we organise product development seminars for employees primarily involved in product development. In general, we develop human resources so that we can discharge our environmental obligations and our corporate social responsibility through our core business as a financial institution.

Conclusion

Climate change is a major issue of unprecedented proportions that will have far-reaching impact on the society and economy, as this phenomenon will trigger more flooding and drought, a shortage of water resources, degraded bio-diversity, less food output, increasing risks of infectious diseases, and other challenges to human life. From the viewpoint of the insurance industry, climate change poses a great risk to management because an increase in natural disasters will lead to an increase in insurance payments.

Consequently, the insurance industry has acted proactively to cope with climate change.

The General Assembly of The Geneva Association adopted the Kyoto Statement in May 2009¹ as the message from the insurance industry on climate change issues for The United Nations Climate Change Conference (COP15) in Copenhagen in December 2009. The Kyoto Statement declares that the insurance industry will discharge its role as insurers and play an important part in the global efforts to deal with climate change issues. Specifically, the insurance industry has vowed to promote the research of climate change risks, develop innovative insurance products, promote the investment of low-carbon energy projects, and, acting in concert with policy-makers, address climate change issues through adaptation and mitigation measures.

The General Insurance Association of Japan² takes environmental concerns as a pillar of its agenda, putting into effect a series of measures to address environmental issues. Specifically, the association has developed an “Eco-Safe Driving” programme with the view to improve driving safety and reduce energy consumption and the emission of greenhouse gases. This programme was made available to insurance companies, which use it to reduce the number of accident claims, probably leading to lower car insurance costs. Japanese insurance companies have also waged an annual Automobile Parts Recycling Campaign to promote the use of recycled parts in auto repairs.

¹ The Geneva Association (2009a).

² The General Insurance Association of Japan.

The General Insurance Association of Japan has acquired ISO14001 environmental management certification since 2001. It has also pledged to help reduce CO₂ through carbon-offsetting, tree-planting and other green activities, promote environmental education and other environmental efforts, and disseminate information within the insurance industry.

While the Japanese insurance industry as a whole is engaged in climate change issues, we intend to further accelerate our own efforts.

With regard to mitigation, at first, we should reduce overall CO₂ emissions drastically. And as “catalyst” to accelerate the move toward a low-carbon society, we will develop insurance and financial products and services for use by corporate and individual clients in support of their efforts to tackle climate change issues.

With regard to adaptation, we will make use of the expertise we have acquired in risk management and strengthen activities to help realise a climate-resilient society.

Lastly, we would like to emphasise once again that for a business to grow in a sustainable manner, it is vital that the society itself develops in a sustainable manner. As sustainable development of the society is now threatened by climate change, I think we should regard the phenomenon as an opportunity, not a threat, and act aggressively as we nurture the people’s mind.

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