

Energy Sources Old and New

Energy supplies, and a dependence on imported crude oil, are major concerns to resource-poor Japan. In this wide-ranging interview, Gaishi Hiraiwa, chairman of Tokyo Electric Power Co., the world's largest power utility, discusses management philosophy, international cooperation, the role of nuclear power in meeting Japan's energy requirements and, as an extensive traveler at home and abroad, how he perceives society today. Now that industrial deregulation is accelerating in many countries, he sees the need to diversify activities as one of the biggest challenges facing electric power producers.

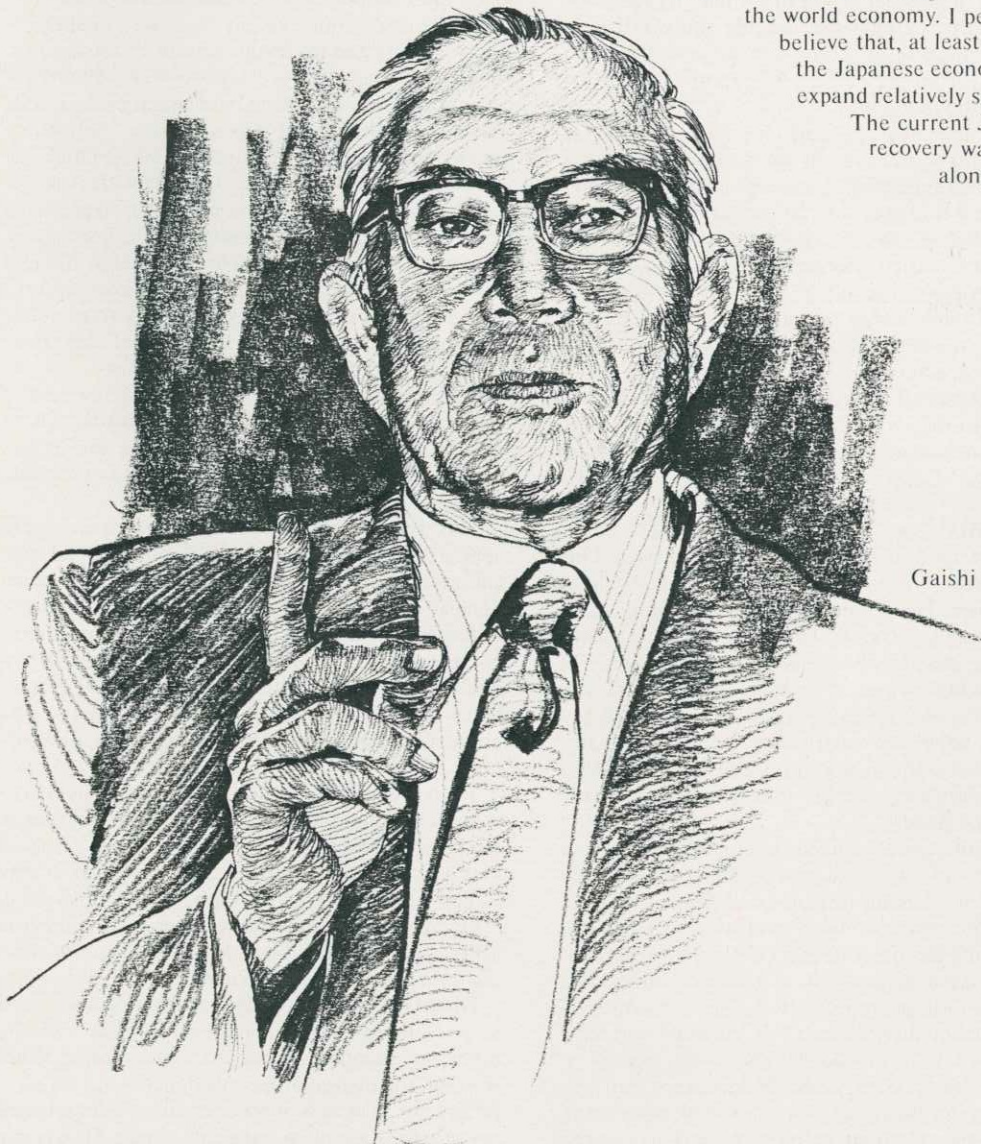
Question: *We would like to hear your assessment of the prospects for the Japanese economy in relation to recent trends in the demand for electric power. What is your forecast of electric power demand over the medium and long term?*

HIRAIWA: Demand for electric power in Japan stagnated for a few years following the second oil crisis. Since 1983, however, power demand has been growing at a steady annual pace of 5-6% due mainly to the business recovery and abnormally hot summers and cold winters. This recovery in demand is common to all the principal advanced countries.

Great interest is focused on whether the present business uptrend will be sustained, and on the future course of America's so-called "twin deficits" which have a major impact on the world economy. I personally believe that, at least in 1985, the Japanese economy will expand relatively smoothly.

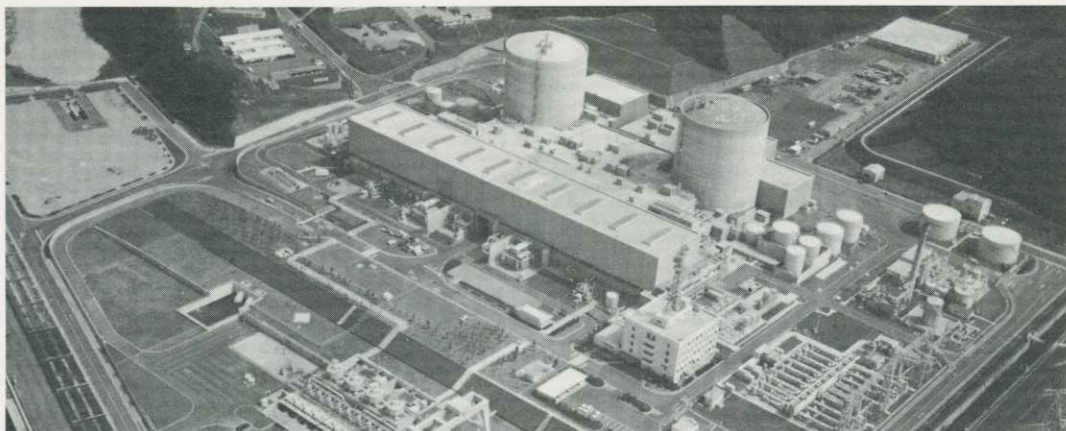
The current Japanese recovery was pulled along at first

**Interview with
Gaishi Hiraiwa,
chairman of Tokyo
Electric Power
Company
by Isao Kamata**



Gaishi Hiraiwa

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"Nuclear power generation is of particular importance to Japan's future."

by increased exports to the U.S. and other countries. Subsequently, private plant and equipment investments picked up, and I think that personal consumption, too, will rise gradually. If there should be any causes for anxiety, they will not appear until 1986 or thereafter. In this context, I would pay close attention to whether or not the American economy succeeds in making a soft landing and whether or not the Japanese economy can achieve a smooth transition from growth led by exports to that led by domestic demand.

As for the medium- and long-term outlook for power demand in Japan, if we assume that Japan's annual economic growth over the next 10 years will be in the 4% range, we can expect an increase of around 3% in electric power demand. Because growth of electricity demand exceeds that of other energy demand, including oil, the ratio of electric power in total energy consumption is expected to increase steadily. This shift in Japan's energy demand structure towards greater electric power consumption reflects rising standards of living and changes in the industrial structure.

Q: *Would you please explain the basic management philosophy of Tokyo Electric Power Co., the world's largest power company?*

HIRAIWA: Our company meets about 30% of the country's total demand for electric power. Our service area is in and around the Tokyo metropolitan area, where Japan's political and economic functions are concentrated. Therefore, our most basic corporate mission is to ensure a stable supply of good quality power at a stable price. Moreover, because the electric power industry is at once a key industry supplying energy and a local industry closely tied to the local community, we believe that our company's mission lies in responding positively to regional needs.

In recent years, the needs of our customers have been diversifying at a great pace. We must be prepared to respond flexibly to changes while improving our service in both level and substance and anticipating customer needs. For this, we must constantly take a severe look at own operations and endeavor to improve ourselves. Our company promotes total quality control (TQC) in order to reform the awareness of our 40,000 employees and to incorporate their vitality and creativeness into our management. We are striving to conduct sincere and efficient management in order to respond to the expectations of our customers.

Q: *The Japanese electric power industry has become very positive in recent years about international cooperation. Would you please explain the industry's basic thinking on international cooperation and its future direction?*

HIRAIWA: We are now having a temporary respite from the world energy problem. This is due largely to the energy conservation measures pushed by every country and to changing industrial structures. The efforts made by the electric power industries of all countries to switch from crude oil to nuclear, coal, LNG, and other energy sources have contributed greatly to easing the supply-demand situation for crude oil. In particular, accelerated nuclear power development, I believe, has played an appreciable role in restraining the consumption of fossil fuels.

In order to develop technology related to efficient new ways of using atomic energy and coal within a limited period of time, it is necessary to mobilize enormous capital and large numbers of competent research engineers. On the other hand, all the world's nations face fiscal difficulties because of the prevailing moderate economic growth. These circumstances have given rise to a willingness among many countries to cooperate with one another in overcoming these constraints.

This is a current of the times. Japan's recent approach has been to play an international role commensurate with its status as one of the principal nuclear power generating countries and a major importer of crude oil, coal and LNG. Because Japan possesses almost no domestic energy resources, nuclear power generation is of particular importance to her future. I think Japan will participate energetically in international technology development in this field.

Then there is international cooperation in energy trade, including oil and coal. Given the realities of the recent slowdown in worldwide energy demand, it is very difficult to arrive at a long-term energy trade framework which is both stable and flexible.

Q: *Your mention of the importance of nuclear power generation to Japan leads to the question of what constitutes Japan's most fundamental energy problem.*

HIRAIWA: Although Japan is the world's second largest energy-consuming country, it has virtually no energy resources other than hydropower. What is more, the degree of Japan's dependence on oil is far greater than that of other countries. Its reliance on Middle East oil is especially high. This is the determining factor in Japan's energy problem. In

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other words, the fundamental problem for Japan, which accounts for one-tenth of the world economy, is how to overcome its vulnerability to fluctuations in the international oil situation.

In order to deal with this problem, Japan's energy policy, broadly speaking, has the following three pillars:

First, above all else, is the securing of a stable supply of oil. This requires Japan to make continuous efforts to maintain and strengthen cooperative relations with the oil-producing countries and to develop oil resources of her own.

The second policy pillar is the vigorous development of oil-alternative energies such as nuclear power, coal, and LNG. I believe that the development of nuclear power generation, which could be called a quasi-domestic resource, is especially vital for resource-poor Japan. Of course, from a long-range perspective, we also must make steady efforts in R&D related to new energies such as fuel cells, photovoltaic power and wind power.

Thirdly, Japan must naturally persevere with its efforts to conserve energy. We need to realize that energy conservation is in itself a form of new energy development.

Q: *As far as nuclear power plants are concerned, Japan's operating record ranks among the best in the world. What is the situation regarding the construction of nuclear fuel cycle facilities?*

HIRAIWA: Back when nuclear power generation started in Japan, its performance was not up to expectations because of initial troubles. However, thorough-going improvements implemented jointly by the power companies and machinery manufacturers have boosted the capacity factor in recent years to more than 70%. This is close to 100% operation if we make allowances for regulated annual shutdown periods for inspection. In my judgment, Japan has completely mastered light water reactor technology. When the new light water reactor design now being pushed by Japan's electric power industry and manufacturers enters service, we shall have a reactor further advanced in every respect, including safety, economy, and operating efficiency, than any other in the world.

Japan has no domestic uranium resources, and the completion of a nuclear fuel cycle for making effective use of depleted uranium and of the plutonium extracted when spent fuel is reprocessed is central to its nuclear power development policy. Arrangements have been made to construct an uranium enrichment plant, a spent fuel reprocessing plant and storage facilities for low-level radioactive waste at a site on the Shimokita Peninsula in Aomori Prefecture. Thus we can say that nuclear power development in Japan has taken another big step forward.

Q: *Yet it has also been said that the gap in generation costs between nuclear power and other power sources is shrinking. Will this have an effect on Japan's nuclear power policy?*

HIRAIWA: Compared with other means of power generation, in nuclear power the initial investment in equipment is very heavy and generation costs drop as depreciation proceeds. In the case of oil and coal power generation, it is generally said that generation costs rise over the long term. I am confident there is no threat to nuclear power's cost advantage.

Nonetheless, bringing down the cost of nuclear

power generation is an important problem. Japan's electric power companies, with the cooperation of manufacturers, are working in many ways to cut costs. The fruits of these efforts are just now beginning to be seen.

Taking into account both generation costs and energy security problems, I believe the importance to Japan of developing nuclear power will not change.

Q: *What kind of problems will Japan's electric power industry face in the future?*

HIRAIWA: Japan must free itself from its excessive dependence on oil. Our national energy policy calls for the power industry to undertake about 80% of the development work on alternative energies to replace oil. This means that the success or failure of the industry in developing alternative electric power sources will greatly affect Japan's ability to reduce its dependence on oil for its total energy needs. It is the task of the power industry to respond to these expectations by constructing non-oil power generation facilities, centering on nuclear power generation.

Another future problem is the expected diversification of the needs and perceptions of electricity users as Japan's economic society becomes increasingly oriented toward information and high technology. The electric power industry's approach toward customer service has tended in the past to be uniform and standardized. Now it will have to respond flexibly to new currents in society. How to change smoothly our way of thinking, organizations and systems in order to make more flexible responses will be a new problem for the industry.

Similarly, there is now a rising tide of deregulation in Japan as in other countries. With deregulation rapidly eroding the boundaries between different industries, I think a big problem for companies will be to determine what kind of activities they can pursue on their own initiative for the good of society as a whole. For instance, in the case of the electric power industry, it might be the kind of role to be played after the liberalization of the communications industry.

Q: *Mr. Hiraïwa, as one of the leaders of Japan's business world, you are engaging in a host of activities both at home and abroad. Would you mind sharing with us the underlying credo which sustains you in these activities?*

HIRAIWA: As you say, my work has recently required me to go overseas quite frequently. This, I believe, indicates the internationalization of Japan's economy and electric power industry.

Trends and changes in society are how so rapid and complex that we are apt to lose ourselves in immediate, short-term problems. In particular, basic solutions to international problems tend to be put off because they are so complex and difficult to resolve. This, however, will not do if we are to hand down to our children a society and world which we can confidently say provides a worthwhile and comfortable life. I believe that the important thing is to resolve problems one by one from a long-range point of view without losing sight of the basics. When we consider that Japan's survival and happiness depends on international peace and prosperity, we must not turn away from these basic problems, but must grapple with them with perseverance over the long term. I believe that this is the best way to enhance international society's trust in Japan. ●

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