

KIZUNA

Autumn
2022

Linking Japan and the World



Investing in People
Solutions to Climate Change



JAPANGOV
THE GOVERNMENT OF JAPAN



KANAZAWA SHOKO
Calligraphy Artist

Born in Tokyo in 1985, she started learning calligraphy from her mother when she was five years old. One of the notable young calligraphers of today, her solo exhibitions have been held throughout the world, in cities such as New York, Singapore, and Prague. She was selected as one of the official poster artists for Tokyo 2020.

Welcome to KIZUNA, the official magazine of the Government of Japan.

This bold work of calligraphy is 絆 (*kizuna*) written in Japanese. *Kizuna* means the enduring bonds between people—close relationships forged through mutual trust and support.

Originally describing the rope used to tether domestic animals such as horses and dogs, the meaning of *kizuna* has evolved over the years. A passage in *The Tale of the Heike*, compiled in the 13th century, uses the term to refer to the bonds of love between a father and his children. More recently, *kizuna* has gone beyond bonds tying together family and close acquaintances; it is now used in a broader sense of human ties and connections. Of particular note is the *kizuna* born among people during natural calamities, which fosters feelings of solidarity and serves as the underlying strength to overcome hardships.

Similarly, the *kizuna* cultivated among the countries of the world has the power to deepen cooperation for a better future. By reporting on a wide variety of topics concerning Japan, we hope that this magazine will provide opportunities for Japan and the rest of the world to connect and build strong *kizuna*.

CONTENTS

INVESTING IN PEOPLE

- 04 Investing in People for a New Form of Capitalism
 - 06 Enabling the Next Generation to Lead in a VUCA World
 - 08 Combining STEAM Education with Playful Exploration
 - 10 Boosting Recurrent Education that Builds the Future
 - 12 Research Universities Seek to be Competitive and Collaborative
-

PORTRAITS OF JAPAN

- 16 Colors and Savors of Autumn Reflect Japan
-

SOLUTIONS TO CLIMATE CHANGE

- 18 Hydrogen Power Generation for a Zero-Carbon World
 - 20 Carbon-Negative Concrete: A Game Changer for a Sustainable Future
 - 22 Burning Garbage, but Reducing Greenhouse Gases
 - 24 Harmony Between Forests and Communities Echoes in Tanzania
-

POLICY & DIPLOMACY

- 26 Fostering a Sustainable Japan-Africa Partnership

KIZUNA

Autumn 2022

COVER

Top: Professor TAKEUCHI Hiroataka of Harvard Business School has been endeavoring to develop globally minded human resources.

Bottom Left: The hydrogen gas turbine developed by Mitsubishi Power. MH1

Bottom Right: The CO₂-absorbing concrete created by Kajima Corporation and three other companies.

INVESTING IN PEOPLE FOR A NEW FORM OF CAPITALISM

In June, a grand design and action plan was compiled to implement the new form of capitalism advocated by Prime Minister KISHIDA Fumio. “Two birds with one stone”—the plan, which seeks to both solve social problems and achieve economic growth, focuses on several investments, including investments in people.

While capitalism’s advance has brought about significant growth for the global economy, it has also created such problems as growing social disparities, climate change, and issues of economic security. That is why the Kishida administration considers a revision of capitalism an urgent matter and has advocated a new form of capitalism as a crucial, future-oriented policy for Japan.

Concrete policy measures were announced in June in the Grand Design and Action Plan for a New Form of Capitalism. Based on the concept of a virtuous cycle of growth and distribution and the development of a new post-pandemic society, the document lays

out the four pillars of priority investments. Aiming to solve social problems and achieve economic growth through new private-public cooperation, the four pillars will realize a new form of capitalism for the sustainable well-being of all citizens. Those pillars are: investment in and distribution to people; targeted investment in science, technology, and innovation; accelerating establishment of startups and promoting open innovation; and investment in GX (green transformation) and DX (digital transformation).

Topping that list is investment in and distribution to people. In order to exercise creativity in this modern age, in which we experience huge waves of



INVESTMENT IN AND DISTRIBUTION TO PEOPLE

- Promoting wage increases
- Facilitating labor mobility through skill increases
- Moving from savings to investment: formulation of the “Doubling Asset-based Incomes Plan”
- Supporting the efforts of all generations, including children, working adults, and the elderly
- Respect for diversity and flexibility of selection
- Formulating guidelines and strengthening disclosure to the stock market of non-financial information, such as human capital

transformation, people are becoming increasingly important. It is people who will solve the issues facing society, such as responding to climate change. Increasing value by investing in people is therefore becoming extremely important in the face of labor shortages for Japan.

According to OKINA Yuri, chairperson of the Japan Research Institute and a member of the Council of the New Form of Capitalism Realization that formulated the policy plan, this investment in people represents the vision for the future to which the new form of capitalism aspires. She said, “It is important to act in an integrated fashion. That means raising wages to match productivity; facilitating labor mobility through skill increases such as retraining; promotion of working multiple jobs and assistance for re-employment; and supporting the activities of all generations to enable them to thrive, as well as shifting personal financial assets from savings to investment. This will lead to prosperous lives and well-being for citizens and growth for the country. Such a virtuous cycle is the key point to creating a new form of capitalism.”

Okina has especially high hopes for creating a society in which young adults and women can thrive further. “Now is a time when the products and services that will succeed are those with high added value from the application of assets such as ideas, creativity, and data. At the same time, those are fields in which young adults—the leaders of tomorrow—can demonstrate their strengths. I expect positive results from initiatives that further encourage

startups and side businesses from this generation, known for giving considerable thought to addressing social problems.”

Okina also talks about the grand design’s vision, which perceives the problems facing society not as hurdles, but as sources of energy, thereby becoming new drivers of growth as they are solved. “The rapid spread of online meetings and remote work during the pandemic has enabled flexible working arrangements, and I’ve heard from many people that their work-life balance has improved. In other words, these individuals are demonstrating how to turn challenges into positive change.” In the future, the market and the state will work together in new forms of public and private cooperation that endeavor to solve social problems.

Prime Minister Kishida’s belief that valuing people will lead to growth is the foundation of the new form of capitalism. The aim of implementing the concept is not limited to Japan’s development. It also involves taking the lead in addressing issues affecting the global economy and the international community. Now that the grand design and action plan have been compiled, the world’s attention will be on Japan’s next steps. ●



OKINA Yuri is an economist, chairperson of the Japan Research Institute, and a member of the Council of the New Form of Capitalism Realization. She explains how her career advancement was achieved by changing jobs. She also points out that the pandemic has changed how people work and has provided a good opportunity for progress toward better working arrangements.

ENABLING THE NEXT GENERATION TO LEAD IN A VUCA WORLD

With the world in the midst of radical transition, Japan is boosting efforts to nurture future leaders to take to the world stage and supporting startup businesses for the new era. Professor TAKEUCHI Hirota of Harvard Business School has been actively endeavoring, in Japan and the U.S., to develop globally minded human resources. He explains the qualities needed for the coming times, and details Japan's possibilities.

“We are living in an era of VUCA,” says TAKEUCHI Hirota, management scholar and professor at Harvard Business School (HBS). VUCA (volatility, uncertainty, complexity, and ambiguity) is the perfect way to describe the world of recent years, with Russia invading Ukraine and COVID-19 developing into a global pandemic. These are times that require human resources capable of dealing with social issues across national borders and opening doors to new development. Digital technology enables us to maintain close ties with the rest of the world regardless of time or location, but “a multi-cultural mindset” is

still indispensable even if we no longer need to physically travel abroad, Takeuchi explains. “The important thing is to understand this ‘dynamic duality’ between analog and digital and be capable of adapting to both.”

Investment in human capital is at the heart of the Kishida administration’s growth strategy, and Japan is actively cultivating people who can act on the global stage in the new age. From early on, as a private-sector actor Takeuchi has been engaged in efforts toward those ends, creating a platform that will

produce large numbers of global leaders from Japan.

“Agility is important in a VUCA world,” Takeuchi maintains. Agility was part of the strength of renowned Japanese companies such as Sony and Honda—both established soon after World War II—as they became major players in the world. “Present-day startups are following in the footsteps of these firms that were founded after the war. Many young people today, possessing a strong sense of social responsibility, are seeking to become involved in startups. At HBS, roughly 70%

Professor TAKEUCHI Hirota graduated from International Christian University (ICU) in 1969 and went on to earn an MBA and PhD at the University of California, Berkeley. He became an assistant professor at Harvard Business School (HBS) and subsequently a professor at Hitotsubashi University in Japan in 1987. He accepted a position as professor at HBS in 2010 and has also chaired the Board of Trustees at ICU since 2019. His field of expertise encompasses competitive strategy, knowledge management, marketing, and international business. He has authored numerous books and articles that provide detailed analyses of Japanese businesses.





Left: HONDA Soichiro (center) established Honda Motor Co., Ltd. shortly after World War II ended. Takeuchi, along with management scholar NONAKA Ikujiro, described the new product development process of Japanese manufacturers like Honda as being analogous to that of a rugby scrum, based on the image of a rugby team working as a single unit to move the ball forward. “Scrum” became a major concept in agile development in Silicon Valley and has exerted great influence on software development. Takeuchi and Nonaka are referred to as the “Grandfathers of Scrum” in the U.S. BERNARD CAHIER/GETTY IMAGES

Right: Takeuchi points to MLB player OHTANI Shohei as a role model who possesses “dynamic duality.” He admires the way that Ohtani has not only achieved superb results as both pitcher and batter, but has also succeeded in smoothly assimilating the mindset and values of American culture while maintaining the traditional courtesy and morals of Japanese society. REUTERS/AFLO

of the graduates launch their own businesses or go to work for NPOs or relatively small companies. A small but growing tendency to do the same can be found among talented recruits in Japan.”

One region in Japan that has lured such people is Tohoku, which was devastated by the Great East Japan Earthquake in 2011 and is still rebuilding. “Young people are taking on leadership roles because they feel truly compelled to do something about the situation in which many have lost everything owing to the disaster.”

In 2012, Takeuchi launched a second-year field study program called the Japan Immersive Field Course (known until 2015 as the Japan Immersive Experience Program). During the first six years of the program, students carried out hands-on projects, such as clearing debris in Tohoku, while helping to find solutions for local business problems. In their first-year strategy course, HBS students are rigorously trained to adopt an “outside-in” approach that begins with an objective analysis of the industry and competition. In Tohoku, on the other hand, they encountered social entrepreneurs

who followed a diametrically opposed “inside-out” approach to strategy that put one’s mission and beliefs at the core. “What our students learned was an integration of the two approaches to strategy,” says Takeuchi.

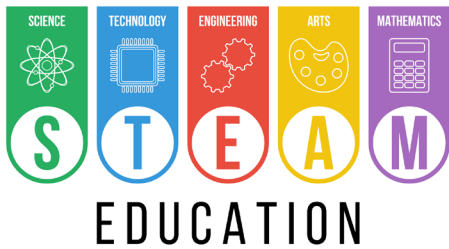
Takeuchi regards the goal of the program to be more than just “Knowing”—that is, going beyond the acquisition of knowledge. Also to be considered and learned are “Doing”—namely, practicing that knowledge through action—and “Being”—which is learning the values and convictions needed to become a business leader. Leadership in today’s world

requires that both organizations and individuals be socially responsible, and that demands a progression from “Knowing” and “Doing” to “Being.” “The ultimate goal in educating leaders who make a difference in the world is to enable them to reach the state of ‘Being.’ And ‘Being’ is attained through the act of ‘Doing,’” he concludes.

The Japanese government aims to increase the number of startups tenfold over the next five years. If that is achieved, the number of entrepreneurs who can grapple with social issues on the global stage may also multiply significantly. “Many talented young Japanese students who study abroad on scholarships are choosing to start their own businesses instead of finding employment with blue-chip companies. Amazing things are already happening,” Takeuchi observes. “Enabling Japan to compete again—that’s what we aspire to. I hope to see these students break the mold in these VUCA times.” ●

Japan Immersive Field Course (Japan IFC) was launched in Tohoku when the region was still devastated by the earthquake and tsunami, and Takeuchi (photo: second from right) joined student volunteers in clearing debris. “It was a moving experience for the students, who have a strong sense of social responsibility,” he says. Since 2016, Tokyo has been the locus for Japan IFC, which is presently focusing on the fusion of digital and analog. KENICHI NONOMURA





In 2018, while running her own company, NAKAJIMA Sachiko was awarded a Fulbright Scholarship to study at the New York University Tisch School of the Arts, where she majored in interactive telecommunications. There, she first learned to code, finding the cyclical process of thinking and materialization both interesting and immersive.

COMBINING STEAM EDUCATION WITH PLAYFUL EXPLORATION

Given the high degree of change in society through developments in areas such as AI and IoT, there is an increasing need for interdisciplinary education to resolve social issues via the comprehensive application of knowledge across the wide-ranging fields of science, technology, engineering, arts, and mathematics (STEAM). A gold medalist at the International Mathematical Olympiad—and a jazz pianist to boot—guides us through the essence of STEAM education.

How can we experience the beautiful tones of handbells without relying on sound? In order to share their performance

with hard-of-hearing children, students in a certain school's handbell club passionately started learning about programming to

translate their handbell music into visual animation. Children at a school for the deaf and hard of hearing also tried programming lights to express the high and low tones of the music with the help of a hearing-support device. Aided by



Left: Nakajima (back row, third from right) won a gold medal at the International Mathematical Olympiad in India in 1996 during her sophomore year in high school.

Right: Her fascination with jazz piano while at university led to her becoming a professional pianist after graduation. At a popular math seminar for adults, she strove to convey the mathematics behind the movement of sounds and chords through hearing and vision. KIOI STEAM LAB



The students of Tamagawa Academy's handbell club studied programming and created animated works to move in harmony with sounds, thereby enabling hard-of-hearing children to experience their performance. The photo on the left shows Nakajima (front, far left) and students of the handbell club checking their creations. MIRAI EARTH SCHOOL (steAm, Inc.)

computer science, the two groups' collaborative work made their wish to share the tonal pleasures of the handbell come true, letting them discover the joy of co-creation. From such initiatives, we witness the budding of innovation.

NAKAJIMA Sachiko, founder, CEO, and president of steAm, Inc., has been taking on the challenge of using science and technology to nurture creativity. The program introduced above is just one of over 40 Future Earth School projects led by the company under the Future Classroom program supported by the Ministry of Economy, Trade and Industry to demonstrate how students can learn to innovate.

STEAM is an approach to learning that utilizes knowledge from the five disciplines of science, technology, engineering, arts, and mathematics to solve problems and create new value. In this era of relentless change, there is a global demand to nurture such abilities, and the Kishida administration has put a concerted focus on promoting cross-curricular learning that transcends the boundaries

of arts and science to foster individuals who are able to support our collective future.

Nakajima participated in the International Mathematical Olympiad as a high school student, where she became the first female Japanese competitor to win a gold medal. She also harbored a fascination for jazz while studying mathematics at the University of Tokyo, and became a professional pianist after graduating.

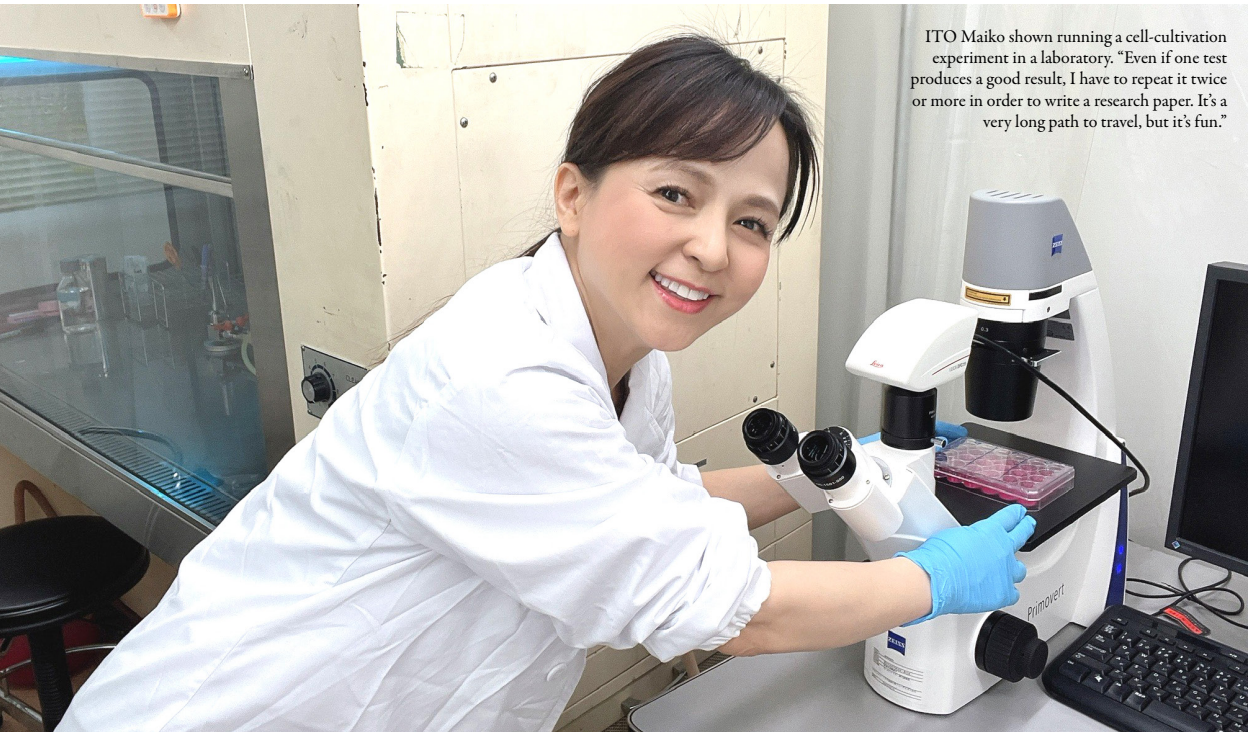
Nakajima uses the commonalities between mathematics and music that she found through her own background to explain the pleasure she derives from interdisciplinary studies and the multifaceted perspectives of living in such a volatile and uncertain era.

"To me, STEAM represents diversity. I find it interesting that there is never just one answer. It is important to remain inquisitive. Constantly questioning what one wants to do inspires creativity," Nakajima explains. "The Japanese people have proved adept at devotedly pursuing individual topics in depth. While cultivating expertise

in each field is important—and is something that Japan has long valued—I believe that fresh views of the world will open up if we make connections across the barriers erected between fields of study. One can enjoy pursuing one's inquisitiveness with STEAM. I consider it my job to foster inquiring minds. I support 'diverse creativity' by establishing that initial impetus and injecting engineering and mathematical expertise along the way to facilitate its realization."

Nakajima also works as a thematic project producer for Expo 2025 Osaka, Kansai, Japan, whose theme is "Designing Future Society for Our Lives." Efforts to revolutionize how we learn and play to create better global connections overlap with the world of STEAM education.

"Think like a scientist, create like an artist. That's STEAM. Persistent inquisitiveness becomes a way of living rather than simply a way of learning. I hope to see a future in which everyone, including myself, enjoys an even happier life." ●



ITO Maiko shown running a cell-cultivation experiment in a laboratory. “Even if one test produces a good result, I have to repeat it twice or more in order to write a research paper. It’s a very long path to travel, but it’s fun.”

BOOSTING RECURRENT EDUCATION THAT BUILDS THE FUTURE

To create new value in an era of unpredictability, it is essential to keep returning to school to update one’s skill set. A woman who—while continuing her career in entertainment—has been studying preventive medicine since entering university in her mid-40s, talks about the significance and joys of recurrent education.

“I keep hitting a wall at various points in my studies, but overcoming it is fun.”

So says ITO Maiko, an actress who has been in the entertainment world since debuting in her teens. Through her job, she came across the field of preventive medicine and it sparked her interest. To learn about the subject more deeply and give something back to society,

she entered the e-school at Waseda University’s Faculty of Human Sciences, a correspondence course with most of its lectures available online. However, Ito found that balancing her studies with her career and family was not an easy task. Her physical condition occasionally suffered as she burned the midnight oil, trying to complete her school reports

alongside her regular job. She also had the misfortune of having a seminar on preventive medicine canceled because the professor who had taught the subject retired.

And yet, Ito did not give up. Whenever she bumped against a wall, she returned to her original intent and asked herself, “Why did I want to start learning at university? I still haven’t acquired

the skills to give something back to society, have I?”

Having the longest healthy life expectancy of any country has motivated many Japanese people to study and continue to acquire and refine skills to lead their long lives more actively. The Council for the Creation of Future Education, established by Prime Minister KISHIDA Fumio last December, and in which Ito also participates, is proposing that Japan create an environment that encourages recurrent education and advocating the



Balancing academia and work is far from easy, but Ito has had support from those around her. She advocates changes to society that would make recurrent education easier to pursue.
Top: She was appointed “traffic safety ambassador” through her acting job. MAINICHI NEWSPAPERS
Bottom: Ito at the graduation ceremony for her master’s degree.

transformation of society.

Every time Ito overcomes a difficulty, a new world opens up for her. The seminar that she took on robotics to replace the canceled one on preventive medicine revealed a new path for her when she heard that robots could prevent the decline in motor function associated with aging. Using this knowledge, Ito developed a device that allows seniors to perform squats properly, thereby helping prevent musculoskeletal decline. That led her to pursue a master’s degree and then work with a company to develop a more advanced preventive-care robot called LocoPyon. The robot talks to seniors to boost their motivation and performs squats with them.

When Ito subsequently decided to pursue a doctorate, she enthusiastically approached her professors about switching the subject of her research to basic gerontology. She currently spends her days conducting cell-cultivation experiments to find foods that slow aging.

“To use our skills to solve social challenges, we need to go back to school. Recurrent education has also changed my values. Studying in a different field is stimulating, and I believe my positive approach will help me contribute to society.”

However, Ito points out that the way that higher education is designed may be an issue when it comes to increasing the number of adult learners. Regardless, she has high hopes. “I would expect the government to create a more encouraging environment,” she

added, “such as by lowering tuition, introducing more diverse fields of study, and engaging in more proactive efforts to add online classes.” In response to the Council for the Creation of Future Education’s suggestion, the Japanese government’s Basic Policy on Economic and Fiscal Management and Reform 2022 has included such activities as visualizing the results of adult education and supporting the development of programs addressing the needs of future growth areas.

As a practitioner of recurrent education, Ito hopes to give back to society by becoming a messenger and talking about her own experience. “When I entered university in my mid-40s, a future that I hadn’t imagined opened up to me. The more I learn, the more I equip myself with new tools. I want people to know the importance of developing new interests and taking on new challenges.” ●

Ito emphasizes the importance of recurrent education at the Council for the Creation of Future Education, to which she belongs. ASAHI SHIMBUN



RESEARCH UNIVERSITIES SEEK TO BE COMPETITIVE AND COLLABORATIVE

To take a social agenda and convert it into an engine for growth, science, technology, and innovation are indispensable. Japan plans to develop research universities capable of meeting the highest global standards by establishing the 10-trillion-yen scale University Endowment Fund, which will dramatically enhance the research power of those universities. In this article, ITOH Kohei, President of Keio University, one of Japan's top private schools, and HIRANO Miku, the promising young CEO of an AI startup, Cinnamon, Inc., discuss what it takes to be counted as a world-class research university.

Generating innovation through science and technology is one of the key pillars of the Kishida administration's growth strategy. As the race to attract outstanding human resources escalates among nations, the Japanese government has announced the creation of the 10-trillion-yen (approximately 70 billion dollars) scale University Endowment Fund to support the building of world-class research universities. Universities deemed capable of achieving research of the highest international standards will be designated as universities for research excellence and allocated a share of the fund's profits. That will dramatically strengthen the research power of those institutions by providing long-term and stable financial support. The fund will additionally boost support for universities that have strengths in specific fields, as well as support for regional universities that play a central role in their localities and doctoral students of high ability. It will also assist in creating hubs for research centers and startup businesses, with the overall goal of placing Japanese universities at the head of intellectual competition.

This article presents the ideas of ITOH Kohei, a specialist in quantum computers who currently serves as president of Keio University, a top-tier private institution, and HIRANO Miku, CEO and founder of Cinnamon,

ITOH KOHEI

President, Keio University
President of Keio University since May 2021. Awarded a B.E. in Instrumentation Engineering at the Faculty of Science and Technology, Keio University, in 1989 and an M.S. and a Ph.D. in Material Science & Engineering at the University of California, Berkeley, in 1992 and 1994, respectively. Field of specialization: quantum computers. American Physical Society fellow since 2021. Belongs to the Cabinet Office Council for Innovation in Quantum Technology.



Inc., a startup that delivers AI solutions. Hirano is also a selected member of the Forum of Young Global Leaders 2022, organized by the World Economic Forum (WEF). The two discuss the role of higher education and the prerequisites for a research university to lead the future.

* * *

What are your thoughts on the *raison d'être* of institutions of higher learning?

Hirano: I think that they are places where people are trained to create the future. I studied computer science and artificial intelligence (AI) all through college and graduate school, and that is how I came to believe that AI technology would change the world, and is also why I launched a startup as a first-year graduate student. I received help from venture capital awarded to university-based startups, so you could say that an institution of higher learning provided me not only with an academic

education, but also with financial resources.

Itoh: It has been 150 years since the publication of *Gakumon no Susume (An Encouragement of Learning)*, which was written by FUKUZAWA Yukichi, Keio's founder, with the first edition co-authored by OBATA Tokujiro, former president of the school. It is a book that stresses the importance of education for social development. The content of education has evolved since then to include strategies to deal with global warming, for example, but the role of the university has not changed at all. It is still a place to learn how to improve society for the next hundred or two hundred years.

Japanese universities are said to be less competitive in the global field than they once were. What are the reasons for that? The government has decided to establish a 10-trillion-yen scale University Endowment Fund to support world-class research universities. What are the merits of such a fund for universities?

Itoh: Japanese universities have not been innovative enough with regard to financial management and have not taken enough action to create the future. At the same time, it is clear that Japanese college tuition is generally lower than in other countries. In the United States, the annual tuition at famous private universities stands at about 60,000 dollars, more than 16 times costlier than that of national universities in Japan, which charge their students only 530,000 yen (approximately 3,670 dollars at 144 yen per dollar) per annum. At Keio University, which is private, the annual tuition for an undergraduate science major is about 1.7 million yen, equal to just 11,800 dollars. To attract the best students, we need to also attract the best teachers, but Japanese universities do not have sufficient funds for that. I have spoken with college presidents in Europe, where almost all universities are



HIRANO MIKU

CEO, Cinnamon, Inc.
Serial entrepreneur. Awarded an M.Sc. from the University of Tokyo. Founded Naked Technology, Inc., while a graduate student. Following the sale of the firm to mixi, Inc., founded Cinnamon, Inc. Selected World Economic Forum's member of the Forum of Young Global Leaders (YGL) 2022 class. Appointed as a member of the Council of New Form of Capitalism Realization, chaired by Prime Minister Kishida. A mother of three children.

nationally funded, and they tell me that they have never had to worry about finance. To be able to compete with such institutions, I think it is a good thing for the Japanese government to be injecting money into universities on a competitive basis, even if a condition is attached to the university fund that it must maintain a profit margin of at least 3%.

Hirano: I, personally, could not have launched a business as a graduate student without having been selected for a program spearheaded by the Ministry of Economy, Trade and Industry (METI) to encourage the development of human resources in the IT field. So, I have high expectations for governmental support of this kind, including this fund.

Itoh: My greatest hope is that universities chosen to benefit from the fund will explore new waters. If a new framework were established where exceptional faculty members could receive higher pay, for example, I think it might be a good practice worthy of emulation by other Japanese universities.

Recent years have seen an increase in university-launched startups. What is behind that trend?

Hirano: At the global level, IoT (the Internet of Things), robotics and storage batteries are fields expected to grow economically at a rate of 30% per year. Spearheading

cutting-edge fields such as those is exactly what startups are good at. I think the environment for Japanese startups will evolve into an open-innovation ecosystem slightly different from that of other countries. In Japan, major corporations play an immense role, backed by financial power and social trust. Cinnamon, the company I founded, was chosen to be part of a NEDO (New Energy and Industrial Technology Development Organization) program that supports university-based startups, and that has allowed me to develop my business in collaboration with big companies. While universities conduct the basic research, startups give the first boost to new technologies and also collaborate with major corporations implementing those technologies across society. This is the kind of collaboration we need to generate more innovation.

Itoh: I sense a change of atmosphere on campus concerning startups. Thanks to role-model business leaders like Ms. Hirano, students are not as averse to risk as they once were. Startup communities are being built, which act as safety nets for when things don't work out. Faculty attitudes are also changing, so if students express a desire to do something practical with the technology they have on hand, they may be encouraged by their supervisor to launch a startup instead of being told that a student's top priority is to write a research paper.

Although unrelated to startups, there has also been more collaboration such as that mentioned by Ms. Hirano. In my own field, which is quantum computers, researchers at our university have been reaching across disciplinary boundaries to improve computer systems as a whole. If that kind of collaboration is expanded to the international level, it will become a global effort.

Hirano: Back when I was a research student, it seemed to me that labs were very self-contained, with no

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opportunities whatsoever to share ideas with researchers in other fields or disciplines.

Itoh: The Cabinet Office currently assumes a central role in providing governmental subsidies for collaborative interdisciplinary projects. I think that people are learning to think more cooperatively by applying for such projects.

The government is also promoting the Vision for a Digital Garden City Nation, which aims to revitalize rural areas through digital technology, including the establishment of digital infrastructure. What are your thoughts on the role of universities in revitalizing the rural areas of the country?

Itoh: Keio University has already established the Institute for Advanced Biosciences in the city of Tsuruoka in Yamagata Prefecture in northern Japan. Global startups, such as a biotech firm called Spiber Inc., have been launched at the Institute, and it is local support that makes that possible. Above all, it is important for there to be support from the community and society. It is very encouraging when an entire city stands behind the university. We utilized our cutting-edge technology and collaborated with a local brewery to develop a new brand of sake, and we have participated in other efforts to boost regional development. When I visited Leiden University in the Netherlands, many local residents told me that the university has been the pride of the city since its founding four and a half centuries ago. I believe that it is very important for regional universities to work together with local residents to give more life to regions and to attract young people. In that respect, I believe that the 10-trillion-yen scale University Endowment Fund represents strong backing by the government.



What do you hope to see in Japanese research universities to make them globally competitive?

Hirano: Personally, it was only after the age of 30 that I began to think of myself as working for society as a whole. Today, I consider it my mission to create a better world for my children and grandchildren and for their children as well, and for generations living in a hundred and perhaps three hundred years into the future. If the universities that educate Japan's future leaders cultivate high aspirations in their students at an early stage, I am sure that we can create a wonderful world.

Itoh: There is no doubt that universities must be more aggressive in pursuing the means to build a better society. There is much talk about the downturn in Japan's competitive power, but if we consider the story of the tortoise and the hare, I think perhaps the tortoise may be a good role model for Japan. One sure step at a time will surely bring us to our goal. We—universities, the private sector, and the government in concert—will work, Japanese-style, to make a better world. ●



WHITE HERON CASTLE

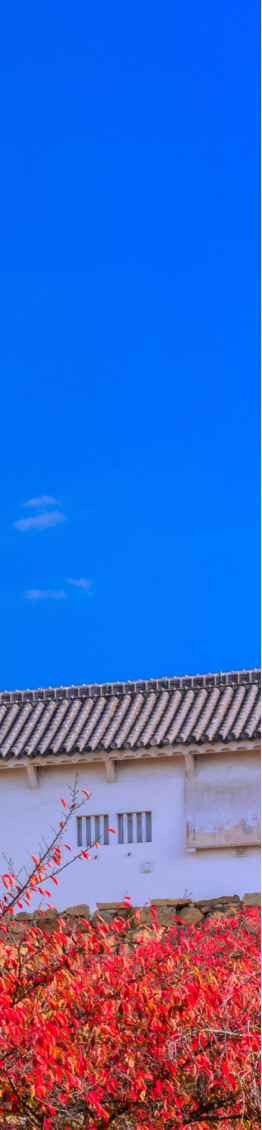
Himeji Castle (Himeji City, Hyogo Prefecture), owing to its graceful appearance, has been likened to an elegant white heron or egret stretching its wings, hence the nickname seen in the title. It is dominated by the five-story Main Donjon—originally completed in 1609—whose beauty remains undiminished even after more than four centuries. A masterpiece of Japanese wooden construction, it was registered in 1993 as a UNESCO World Heritage Site, one of the first places to be honored so in the country. In the clear blue autumnal skies, when the surrounding trees turn bright red, the white castle walls sparkle even brighter.

COLORS AND SAVORS

OF AUTUMN REFLECT JAPAN

The wealth of Japan's four seasons amply satisfies the five senses, especially in the fall. Leaves turning red or yellow and the tastes of nature's bounty are an excellent introduction to Japanese culture.





AFLO



BBQ OYSTERS

Tender, ample flesh and the wonderful smells of the seashore stimulate the appetite for grilled oysters. Hiroshima Prefecture, which boasts the highest production of oysters in Japan, begins harvesting the product in autumn. The calm waters of the Seto Inland Sea, enriched with nutrients carried by inflowing rivers, are perfect for imparting a rich flavor to the local oysters. For that reason, the fishermen there have long been active in protecting the forests on the mountains where the rivers originate. Blessed thus with bountiful mountains and seas, Hiroshima is scheduled to host the G7 Summit in May 2023.

MYSTERIOUS PONDS

Emerald green, cobalt blue, turquoise blue, emerald blue, and pastel blue... the wonderful hues that can be found in mysterious ponds lying deep in the forest. These are the Goshikinuma Ponds of Kitashiobara Village, Fukushima Prefecture. Dozens of ponds dot the foothills of Bandai Mountain, familiarly called "Treasure Mountain." Their distinctive colors derive from the volcanic substances particular to each of their waters, as well as the season, weather, time of day, and angle of view. Red leaves reflected on their surfaces generate a special color scheme unique to autumn.



HYDROGEN POWER GENERATION FOR A ZERO-CARBON WORLD

Given the urgent need to achieve decarbonization and ensure energy security, expectations have been raised for the use of hydrogen to generate power since it produces no residual CO₂ emissions. This article explores the future of hydrogen-fueled power generation led by Japan's hydrogen gas turbine technology.

In bringing about any shift toward decarbonization while ensuring energy security—fundamental to all social activities—it is critical to achieve carbon neutrality in the energy transformation sector, particularly in power generation, which is responsible for a large part of CO₂ emissions. Since hydrogen does not emit any CO₂ when used as fuel, it is expected to play a key role in the decarbonization of thermal power generation. The interim report on the Clean Energy Strategy, released in May 2022

by the Kishida administration, also calls for the establishment of a hydrogen supply chain, the expansion of its use, and the promotion of infrastructural development.

Thermal power generation today accounts for the largest proportion of the global electricity supply. Gas turbine combined cycle (GTCC) power generation—one of the various types of thermal power generation available—creates power by firing fuels to drive the shaft that rotates the generator. Mitsubishi Power, a power

solutions brand of Mitsubishi Heavy Industries, Ltd. (MHI)—which boasts the largest market share for power-generating gas turbines* worldwide—is promoting the development of a gas turbine that can be fueled by hydrogen to generate power.

MORIKAWA Tomoko, chief engineering manager of the Gas Turbine Engineering Department, Energy Transition & Power HQ, states, “Looking at GTCC power generation, we have already significantly reduced CO₂ emissions compared to conventional thermal power thanks to higher efficiency



Mitsubishi Power has an extensive track record of delivering M501 J/JAC series gas turbines overseas. Using hydrogen combustion technology, existing gas turbines can be modified to economically support hydrogen power generation. MHI

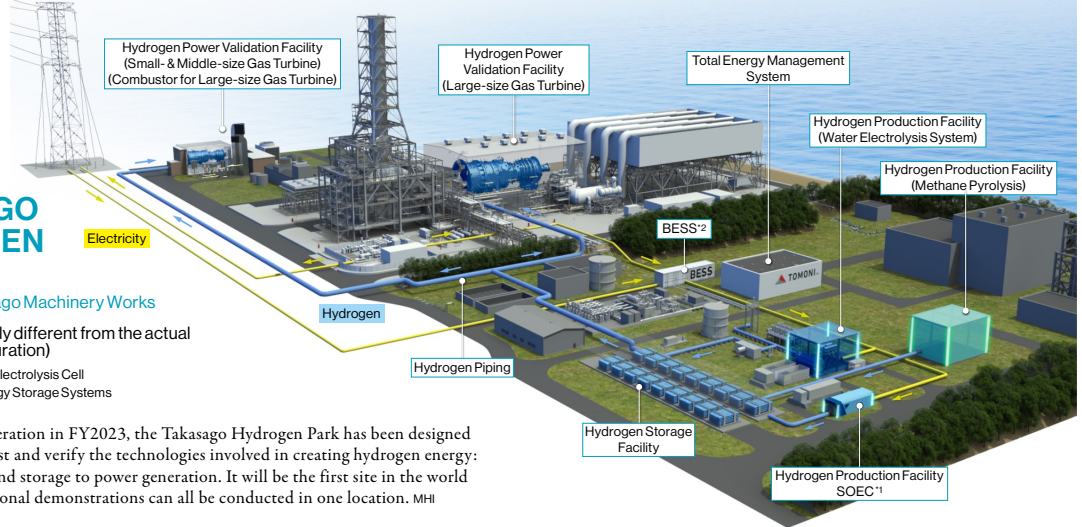
TAKASAGO HYDROGEN PARK

Located in Takasago Machinery Works

Image figure (Partly different from the actual layout and configuration)

*1 SOEC: Solid Oxide Electrolysis Cell

*2 BESS: Battery Energy Storage Systems



Slated to begin operation in FY2023, the Takasago Hydrogen Park has been designed to consecutively test and verify the technologies involved in creating hydrogen energy: from production and storage to power generation. It will be the first site in the world where such operational demonstrations can all be conducted in one location. MHI



MORIKAWA Tomoko designs gas turbines. Having majored in aerospace engineering, she became intrigued by the power of industrial gas turbines and their potential to contribute to society when she took part in a corporate visit at MHI, and thus decided to join the company. MHI

(by generating a larger output from less fuel). However, we will strive to reduce CO₂ emissions even further by mixing hydrogen—a carbon-free fuel—with natural gas, aiming to eventually eliminate all CO₂ emissions via a 100% transition to hydrogen.”

One of the advantages of hydrogen gas turbines is the relative ease and cost-effectiveness of converting existing gas-fired

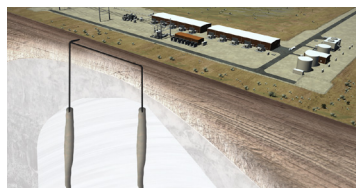
power plants to hydrogen-fueled ones. Part of Mitsubishi Power’s strength lies in its expertise in hydrogen technology stemming from the company’s development of rocket engines. Verification of the technology for 100%-hydrogen firing combustion for 40 MW class gas turbines is set to be achieved in FY2023, with the aim of commercialization by FY2025. Combustion tests of 400 MW class gas turbines co-firing—using a 50:50 mixture of hydrogen and natural gas—have also been successfully conducted. The goal is to commercialize 100%-hydrogen firing combustion by FY2030. If the full-scale operation of hydrogen gas turbines can boost demand for hydrogen significantly, and reduce hydrogen-producing costs, hydrogen power generation could become commonplace even sooner than anticipated.

Expectations are building all over the world for hydrogen power generation. In the United States, the Advanced Clean Energy Storage project in Utah,

using hydrogen sourced from renewable energy, will utilize Mitsubishi Power’s M501JAC gas turbine. Moreover, the U.S. Department of Energy is the guarantor for a 500-million-dollar loan for the project, with operation with 30%-hydrogen co-firing slated to begin in 2025.

Large quantities of cheap hydrogen are needed to promote hydrogen power generation, and to this end a hydrogen supply chain must be established. Mitsubishi Power plans to initiate operation of the Takasago Hydrogen Park at its Takasago Machinery Works in Hyogo Prefecture in FY2023. The park is set to be the first center in the world where the complete process—from hydrogen production and storage to power generation—can be tested and validated at in-house facilities.

Morikawa enthusiastically says, “Never before has the world striven toward the use of hydrogen on such a large scale. We are making steady progress toward a decarbonized society as we find ways to make hydrogen a more practical energy source. I am convinced that hydrogen energy will change the world.”



Mitsubishi Power’s hydrogen gas turbines have been adopted for an energy-storage project in Utah, U.S. that will store and use hydrogen sourced from renewable energy. The project is planning to convert to 100%-hydrogen fuel combustion by 2045. (Conceptual image of the project) MHI

*Source: 2022-Q2 gas turbine market share per OEM; research by McCoy

“Developing a new type of concrete takes time. We would like to keep on making products to protect people and enrich their lives by fully utilizing the accomplishments of our many years of research,” says ONO Kayoko, senior manager of the Technology Development Department of Kajima Corporation’s Civil Engineering Management Division.



CARBON-NEGATIVE CONCRETE

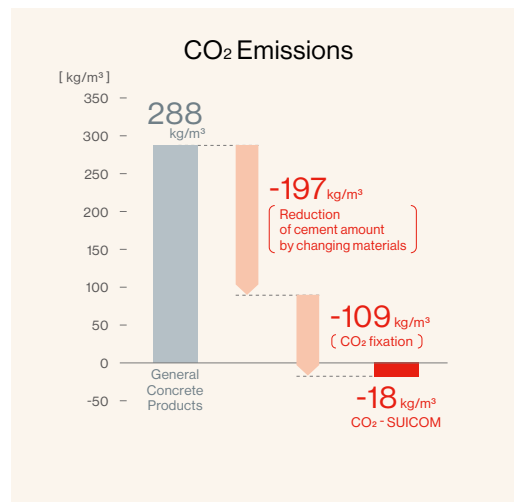
A GAME CHANGER FOR A SUSTAINABLE FUTURE

Carbon Recycling, which recasts the role of carbon dioxide as a resource to be put to good use, has been positioned by Japan as a key technology for realizing its goal of carbon neutrality. Pioneering this new role, a domestically produced type of concrete that absorbs carbon dioxide during the curing process has already been commercialized.

The more structures that are built with it, the more that carbon dioxide emissions can be reduced from the planet—this almost magical product, a concrete called CO₂-SUICOM, was created in 2008, with Kajima Corporation leading its joint development with three other companies. “The idea originated when we focused our attention on the 5,000-year-old concrete that was excavated from the Dadiwan Ruins in China, as part of our research on concrete durability,” says ONO Kayoko, senior manager of the Technology Development Department of Kajima Corporation’s Civil Engineering Management Division. The study led to the realization that carbonation, until then considered to be a cause of the corrosion of structural steel frames, was actually the key to concrete’s durability. With that serving as a hint, in 2006, Kajima developed EIEN (Earth, Infinity, ENvironment), a concrete with an estimated life span of 10,000 years. Then, the company adapted

EIEN technology to give rise to CO₂-SUICOM (CO₂-Storage and Utilization for Infrastructure by Concrete Materials; the name was also inspired by the Japanese word *suikomu*, which means “absorb”), thinking that it could also reduce CO₂ emissions since it absorbs CO₂ during carbonation.

Concrete is made by mixing cement—which hardens in reaction to contact with water—with





CO₂-SUICOM is resistant to harsh environments because its surface becomes denser due to curing by CO₂. It is also aesthetically pleasing since the carbonation process prevents efflorescence, or the appearance over time of white deposits on the surface.

aggregates such as sand and gravel. However, the cement production process emits large quantities of CO₂ as it involves heating limestone to very high temperatures. In order to reduce these emissions, CO₂-SUICOM uses γ -C₂S, a special material that solidifies when it comes into contact with CO₂. Not only does the material's use help to cut the amount of cement needed to about one-third the usual volume, but the concrete's net CO₂ emissions fall below zero through its absorption and fixation of CO₂. That process has made CO₂-SUICOM the world's first carbon-negative* concrete. While other types of CO₂-absorbing concrete are available, the product's strength lies in the amount of CO₂ it absorbs: the act of producing one cubic meter of the concrete in itself absorbs more carbon than one cedar tree can in a year. "Our expertise and many years of experience have enabled us to develop the optimum mixture of ingredients and timing for CO₂ absorption," says Ono.

Although the concrete became commercially available in 2011, it did not enjoy widespread usage at first due to its high cost and the special equipment needed in its production that prevents casting-in-place, among other reasons. However, along with the global trend toward decarbonization, demand for the product has heightened in recent years, including inquiries from abroad. The market size for CO₂-absorbing concrete is forecast to grow to between 15 and 40 trillion yen by 2030, which has led to a current acceleration in global competition to develop such a product.

The "Green Growth Strategy Through Achieving Carbon Neutrality in 2050"—the Japanese government's industrial policy for realizing carbon neutrality by 2050—has set several ambitious goals, such as lowering the price of CO₂-absorbing concrete to the same level as that of ordinary concrete by 2030, and, as part of the "Roadmap for Carbon Recycling

*a state in which reductions of CO₂ exceed emissions.

Technologies," the concrete's use will be promoted in such high-demand generic products as building beams, starting from around 2040. In January 2022, as one of its projects, a consortium including Kajima Corporation was adopted by a governmental organization as the implementing body for a project based on the 2-trillion-yen Green Innovation Fund to develop concrete that maximizes the level of CO₂ emissions reduction and CO₂ fixation, as well as to develop related quality-control technology. For its actual social implementation, issues such as cost and on-site placement will need to be tackled.

As emerging economies grow, the global demand for concrete and cement is projected to rise by as much as 23% in 2050 over fiscal 2014 levels. That projection will have a different meaning altogether, however, if carbon-negative concrete comes into widespread use. "Concrete is an indispensable foundation of our lives. That is precisely why we want to deliver products to the world that both respond to the social issues of the time and offer high quality," says Ono. "The first construction site that I visited when I joined the company was that of one of the largest concrete dams in Japan. I was deeply impressed by the scale of the civil engineering project and the technological skill of the experts involved, as well as by their attention to detail. I look forward to the day when such a dam is built with CO₂-SUICOM." ●

Top: In the field of architecture, the product is used in such places as the ceilings of apartment balconies (photo). Since its dense surface prevents water intrusion, concrete skeletal structures can be effectively protected, even in areas exposed to the elements. KAJIMA CORPORATION

Bottom: The CO₂-SUICOM products are currently made at precast concrete plants with special equipment. Among the concrete's main applications are paving blocks in parking lots (photo) and road demarcation blocks. KAJIMA CORPORATION





A conceptual illustration of how the waste-to-energy plant, currently under construction in Bac Ninh Province, Viet Nam, will look once it is completed. The region, with a population of about 1.4 million people, lies just east of the national capital of Hanoi, and has 16 industrial parks.

BURNING GARBAGE, BUT REDUCING GREENHOUSE GASES

Waste-to-energy power generation produces clean energy from garbage. But that is not its only contribution to decarbonization. One Japanese company with the technology to change garbage into a useful resource is now helping to drive an energy transition in Asia through its commitment and conviction.

In October 2021, Prime Minister KISHIDA Fumio spelled out Japan’s approach to comprehensively supporting the decarbonization transition of developing countries through the “ASEAN-Japan Climate Change Action Agenda 2.0.” The Joint Crediting Mechanism (JCM), established in 2013, is a mechanism for facilitating cooperation between Japan and developing countries toward reducing greenhouse gas emissions, in which the results of the reductions are assessed as contributions by both the partner country and Japan. The JCM backs Japanese companies in their efforts to offer advanced decarbonizing technologies, products, systems, services, and infrastructure to those partner countries.

One example of the JCM in action is the construction of a new major waste-to-energy power project in Viet Nam. Waste-to-energy involves the burning of garbage to produce the heat to spin

power turbines; it is thus a type of biomass power generation, and the resulting energy is classified as renewable. Japanese companies are known as global leaders in the field due to their technological prowess. One of those, JFE Engineering Corporation, has received financial support for JCM Model Projects to construct a waste-to-energy power plant in the Vietnamese province of Bac Ninh, working with a major local recycling enterprise. The plant, slated for completion in January 2024, will treat 500 tons of general and industrial waste per day from three of the eight districts in the province. The estimated 91,872 MWh of clean energy produced from the plant annually will be sold to a public corporation to supply electricity.

Waste-to-energy power contributes to the environment in other ways as well. In many Asian countries, much garbage—the total amount of which

is increasing rapidly due to economic development—ends up being buried in landfills, causing such problems as water pollution and foul odors. Of even greater concern is the fact that the landfills emit methane, a greenhouse gas that is 28 times as powerful as carbon dioxide (according to the IPCC’s Fifth Assessment Report). Waste-to-energy power generation enables the reduction of such methane gas emissions by reducing the amount of garbage going into landfills.

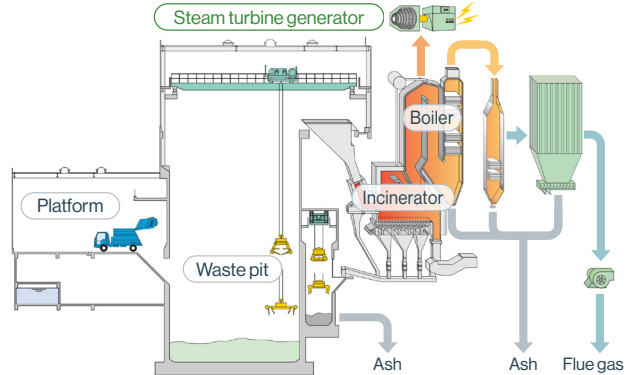
By generating power without the need for fossil fuels and through other means, the Vietnamese waste-to-energy project will achieve effective reductions in greenhouse gas emissions of around 600,000 tons (CO₂ equivalent) over a 15-year period, according to projections. JFE Engineering will be involved in operating the plant after its completion, helping to encourage local communities to dispose of their waste and to recycle properly. HASEBA Hiroyuki, who is in charge of the project at the company, explains, “Through the JCM, the governments of Japan and Viet Nam have both been involved in the project, creating a stronger relationship with local businesses and providing the impetus to really move the project forward.”

While garbage is difficult to eliminate completely, it can be used effectively. Furthermore, waste-to-energy power generation is highly reliable as it is unaffected by weather conditions, unlike solar and wind power. It can continue incinerating waste and supplying electricity to communities even during disasters, and there have been cases in which waste-to-energy plants have even served as evacuation facilities in



Viet Nam and other Asian countries have been unable to keep up with and dispose of the rapidly increasing amount of garbage that continues to be deposited into landfills. In addition to producing foul odors and soil contamination, landfills emit methane, causing a serious environmental problem. VINHDAVI/ISTOCK

WASTE-TO-ENERGY POWER GENERATION

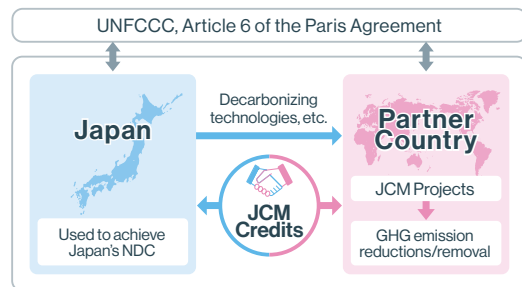


Previously, waste-to-energy power generation could only generate enough electricity for on-site consumption at incineration facilities, but technological developments such as major improvements in power generation efficiency have made it possible for most of the electricity generated in that way to be sold externally. JFE Engineering is working on further developments, including methods to utilize the carbon dioxide released by incinerators.



Members of the two companies in partnership, JFE Engineering Corporation and Thuan Thanh Environment JSC, the Vietnamese recycling enterprise. Fourth from left is HASEBA Hiroyuki, director of the Recycling Business Promotion Division of JFE Engineering’s Environmental Solutions Sector.

Japan. Haseba says, “Though people have a negative impression of garbage, once they realize that it can be converted into electricity and benefit the Earth, they will start to think more positively about waste and its disposal.” The technological development of waste-to-energy power generation is still in progress. Trash could be key to saving our planet. ●



While contributing to global countermeasures against climate change by spreading decarbonization technologies to developing countries, Japan is making progress toward achieving its Nationally Determined Contribution (NDC) to the reduction of greenhouse gases under the Paris Agreement. As of July 2022, 17 countries have become partners in the Joint Crediting Mechanism (JCM).



HARMONY BETWEEN FORESTS AND COMMUNITIES ECHOES IN TANZANIA

Protect those beautiful tones! Musical instrument maker Yamaha is working with local communities in Tanzania to conserve the wood used in its products. It is a challenge to preserve species, eliminate poverty, and fight climate change.

Have you ever heard the gorgeous and rich sounds of woodwind musical instruments such as clarinets and oboes? They are produced by African blackwood from the East African country of Tanzania. Thanks to its hardness and resonance, this kind of wood is incredibly valuable for manufacturing instruments. However, due to the hardness,

it is hardly ever used for other applications, and only limited parts of the tree can be used as a resource. In addition, it is said that forestry tends not to be seen as a priority industry in Tanzania. Those factors have resulted in forest management not advancing in the country, and the amount of wood resources has consequently decreased in recent years. Listed

as “near threatened” on the Red List of Threatened Species by the International Union for Conservation of Nature (IUCN), African blackwood may be difficult to obtain in the near future, some are afraid.

This is where Yamaha Corporation—one of the world’s largest general manufacturers of musical instruments—steps

A forest of African blackwood in Tanzania. The trees need about 70 to 100 years to grow to harvestable size. Yamaha has been explaining to local residents about the importance of imagining the world in a century’s time and acting accordingly.



in. The company began a forest survey in Tanzania with a local NGO, which confirmed that steady resource procurement could be carried out feasibly if the forests were properly managed. With the help of local villages, Yamaha has provided them with knowledge on proper forest management, while also using the timber more efficiently by revamping processing and distribution approaches. They have also established a system whereby they plant the necessary number of seedlings to obtain the equivalent amount of wood sourced by Yamaha to make the instruments. In the five years since 2017, they have planted around 12,000 African blackwood seedlings.

NAKAI Kazushi, who leads the project at Yamaha, says, “It is not enough to just protect



Top: NAKAI Kazushi (center) has been visiting villages in Tanzania frequently to help grow forests with local residents. He also leads Yamaha’s Tone Forest Project, which partners with timber-producing communities to manage sustainable forests.

Bottom: Villagers sow seeds and tend seedlings that are later planted in the forest. Cultivating, protecting, and utilizing forests now comprise an important industry in the villages.

forests.” He adds, “The forest is managed by the people who live there themselves. The most important thing is that when Yamaha, as an end-product manufacturer in the supply chain, makes instruments, it can improve the income of the raw material suppliers by purchasing their wood.” Through the project, 95% of the proceeds from the logging of trees and the sale of logs becomes the villages’ public revenue. The goal of the arrangement is to create a virtuous cycle of industrial progress and environmental conservation by developing local communities and encouraging them to manage forests on their own initiative. One can already see the results from new construction locally, such as a village office and a guesthouse.

The African blackwood may be a rare tree, but as Nakai explains, that is exactly why it is important to use it as a resource. He said, “Using it for instruments increases the wood’s value and creates an industry that supports the local people. As a result, the forests are protected. That is why Yamaha’s efforts to conserve the forests in Tanzania hold significance.” In Japan, non-national stakeholders, including those from the private sector such as Yamaha or other supporters, are collaborating and



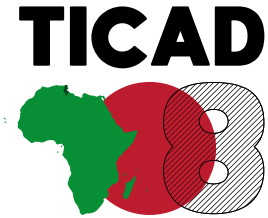
Top: African blackwood is dense enough to sink in water. The photo shows a hard, black cross-section of a cut log. Beyond musical instruments, the wood has few applications, which poses problems for its use as a resource.

Left: The clarinet (right) and the oboe (left) are typical instruments made from African blackwood. As one would expect from the wood’s name, the instruments’ bodies have a black hue.

taking the initiative to conserve nature and fight climate change. The Government of Japan places importance on cooperating with those diverse stakeholders to tackle such challenges. Also, endorsing the goal set at the 2021 COP26 World Leaders Summit to halt the reduction of the world’s forests by 2030, Prime Minister KISHIDA Fumio has announced that the government will contribute approximately 240 million US dollars in funds to help conserve the world’s forests.

Making a contribution to preserving the natural environment, while sustainably procuring raw materials and helping local communities develop, Yamaha keeps challenging itself as a leading global manufacturer of musical instruments to pass on beautiful tones to the future. ●

FOSTERING A SUSTAINABLE JAPAN-AFRICA PARTNERSHIP



In August of 2022, Tunisia hosted the Eighth Tokyo International Conference on African Development (TICAD 8), which boasts a history of around three decades. At the conference, Prime Minister KISHIDA Fumio announced that Japan is going to invest 30 billion U.S. dollars as the sum of the public and private financial contribution over the next three years. As Japan aspires to be “a partner growing together with Africa,” it supports the continent’s efforts to achieve sustainable development.

“Africa is a young and hopeful continent that can expect dynamic growth. Japan wants to be a partner that grows together with Africa.” Prime Minister KISHIDA Fumio made that powerful remark in a speech given on August 27 while participating online in the opening of TICAD 8 in Tunisia.

As a pioneering forum on the development of Africa, the conference was first held in Tokyo in 1993, and under Japan’s leadership, it has been co-hosted through the years by the United Nations, the United

Nations Development Program (UNDP), the World Bank, and the African Union Commission (AUC). Twenty heads of state and government were among the participants from 48 African countries this year.

At the conference, Prime Minister Kishida shared his hopes of realizing a resilient Africa that the continent itself aims to achieve, with a specific focus on “investment in people” and “quality of growth.” He announced that Japan will invest 30 billion dollars as the sum of its public and private financial



TICAD 8 closed with the adoption of the Tunis Declaration. At the closing ceremony, Prime Minister Kishida, who joined the conference online, reiterated Japan’s intent to boost the vitality of the African people and maintain peace and stability.



This is the second time Africa has hosted TICAD, the previous instance being the Kenya meeting in 2016. POOL/AP/AILO

contribution to Africa over the next three years.

“With the increasing international importance of Africa’s development, contact between business and development is becoming increasingly frequent,” said SASAKI Nobuhiko, chairman and CEO of Japan External Trade Organization (JETRO), which works to promote mutual trade and investment between Japan and the rest of the world. To expand the investments, which had declined due to the pandemic, JETRO opened a support desk last year, and is now assisting Japanese companies’ business expansion in Africa and matching Japanese firms with African ones. The Business Forum organized by JETRO at TICAD 8 had over 500 participants for two days, including politicians and businesspeople from both Africa and Japan.

Prime Minister Kishida stated in the forum that he would like to highlight the importance of support for startups, green investment, and investment in human resources. The Japanese business community is set to launch an investment fund for startups of over 10 billion yen. What is more, Japan will also establish the Green Growth Initiative with Africa, directing 4 billion dollars through public and private cooperation toward a structural transformation toward net zero, while developing 300,000 professionals through a three-year period of training in a wide range of fields, including industry, health, medicine, education, agriculture, judiciary, and administration.

Chairman Sasaki stated, “I can say with confidence that this TICAD was an opportunity to make a new start for African business. The Tunisian AI startup that spoke at the Business Forum’s panel discussion garnered major attention at the venue. African ministers also told me that they had fruitful exchanges of ideas with Japanese businesses.” More than 90 memoranda of understanding (MOUs) for cooperation and collaboration were signed this time.



Over 500 participants joined JETRO’s Business Forum, where they engaged in a lively exchange of opinions. JETRO Chairman and CEO SASAKI Nobuhiko spoke at the opening session.



“There are high hopes for Japanese companies that make a sincere effort to develop human resources and enable technology transfer,” Sasaki added.

With African countries facing economic hardship due to soaring food and energy prices stemming from Russia’s invasion of Ukraine, Sasaki said that “the very question is whether Japan can be a friend in difficult times.” With international developments exerting a grave impact on Africa, Japan plans to provide 300 million dollars to bolster food production through co-financing with the African Development Bank (AfDB). Japan will also provide co-financing of up to 5 billion dollars together with the AfDB to improve the lives of African people. In addition, it will contribute up to 1.08 billion dollars to the Global Fund to support countermeasures for infectious diseases. Furthermore, it will appoint an ambassador, namely, a Special Envoy for the Horn of Africa, to respond swiftly to the complex challenges facing the region.

Africa, which is expected to account for a quarter of the world’s population by 2050, is surely a treasure chest of possibilities. Based on the discussions at this year’s TICAD, Japan will strongly support development in Africa on the basis of African ownership. ●

KIZUNA

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Toward TICAD VIII: Raising Awareness of the Africa-Japan Link

Japanese singer MISIA, the honorary ambassador for the last Tokyo International Conference on African Development, talks about her aid work.



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