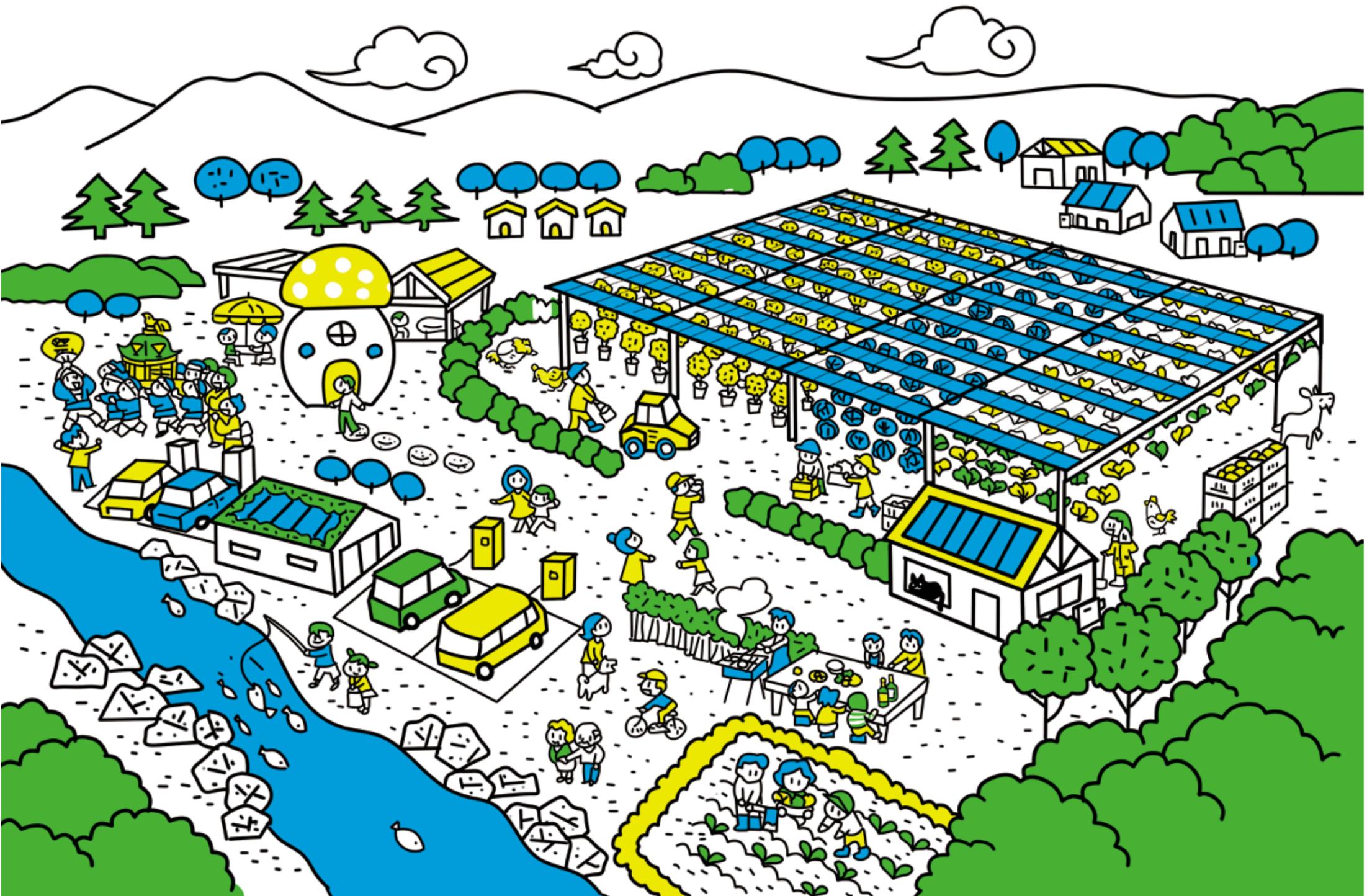


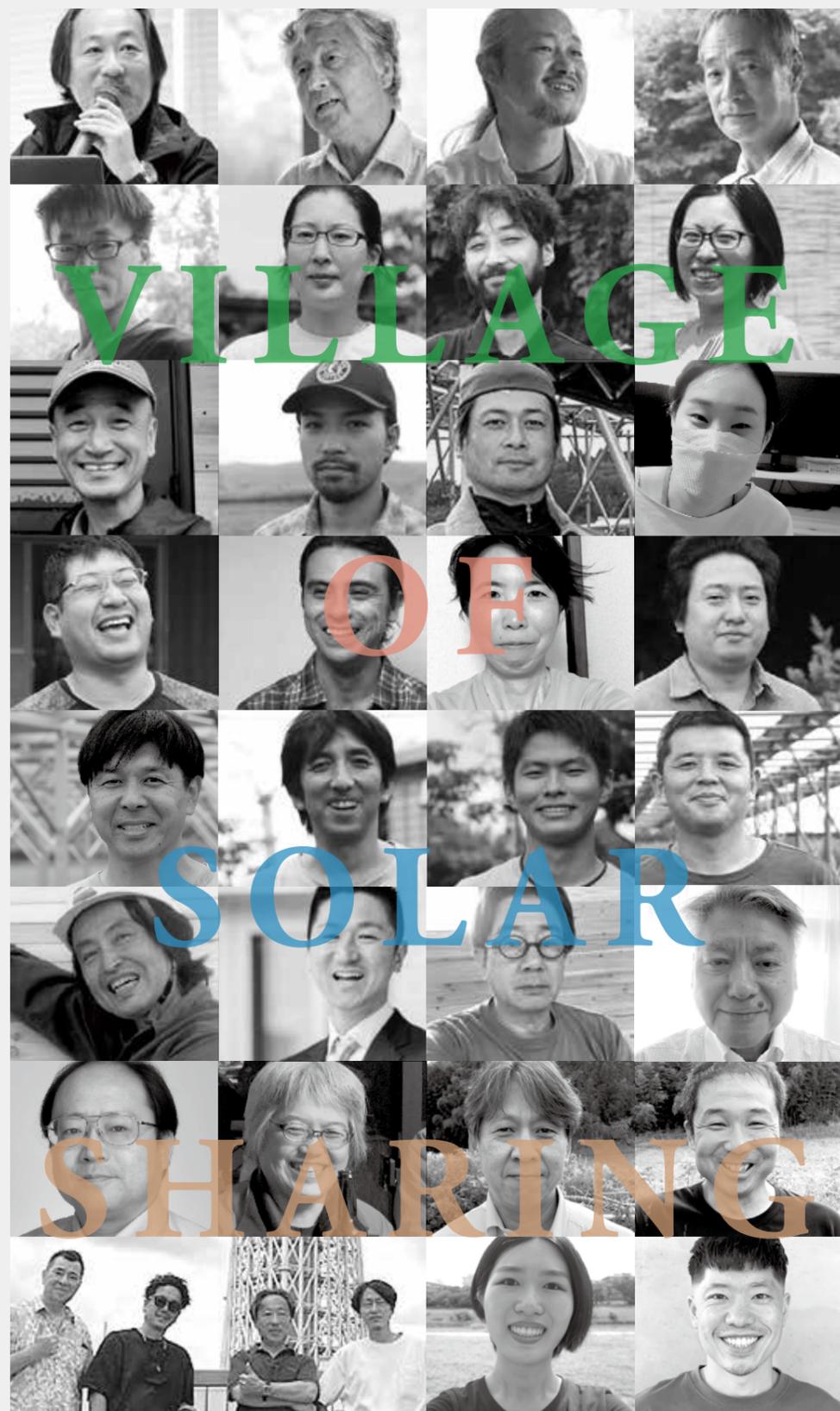
Produced by Citizens Energy Chiba Co. Ltd.

2022 Autumn

co-produced by TERRA

2022 Autumn





Introduction

There are infinite ways to enjoy the new era  
if you change your perspective!

For two reasons, **A.** and **B.**, mankind is being forced to change the  
【OS (operating system)】 of "civilization" and "way of life".

**A.**

**"The End of Fossil Fuel Civilization"**

The fact is that the current global ecosystem will not be sustainable if the civilization continues to emit carbon (+ methane). Since the industrial revolution, the capitalist economy that has continued to expand without the parameter of the global ecosystem has reached its limits.

**B.**

**"Information Revolution"**

All information is updated very fast. Information that was correct one second ago may be called wrong one second later. The amount of confusing information is increasing, the processing speed of each individual cannot keep up, and many people do not know how to live.



"The End of Fossil Fuel Civilization" **A.** × "Information Revolution" **B.** = **Hope (X)**  
Considering **A.** and **B.** separately, the size and speed of change are too large.  
Many people cannot imagine the future.

However, we defiantly say, "We will create the future we want..." and prepare ourselves.

**A.** It is a chance to change because the limit is reached,

**B.** It can also be seen as a chance to change because there is a methodology that goes beyond the amount of information an individual can process.

The world seen from space, the world seen through a microscope,

Touching/feeling nature, touching/feeling your core...

"Now," we may be living in the most critical and interesting era of changing worldviews.

It feels like we already have all the tools for change.

We would like to spin the world view of renewable energy today.



**We create the future we want.**





2014.9

## Birth of MIN-ENE

### 1 is not zero

This is a fact that we believe looking back on our history since our founding.

It is also the result of continuing to move forward  
while turning various encounters into strength.

A small company that started with a capital of 900,000 yen has come this far.

#### Build one anyway... Everything started from an impulse that was close to obsession

In the autumn of 2013, environmental NPOs in Chiba began searching for partners to build "Chiba Prefecture's first citizen power plant". Our small company started on July 2 the next year. The office started from a room of 4.5 tatami mats in the housing complex where I lived. Co-representative Mr. Tsubaki personally loaned funds to the company, procured materials, received professional guidance, and through trial and error with his own hands, completed the first facility (35 kW) in September. After eight years, the scale of power generation is now 2.7MW/80 times (scheduled to be 6 MW/170 times in February 2023), and the capital of the entire group has exceeded 400 million yen, more than 400 times. Everything is a gift from each encounter with various people, but what I think back is the fact that "1 is not zero".

Thoughts like "Is it possible to run a business?" or "Will it work?", etc. are secondary, then "I will make one anyway..." With an impulse that was almost obsessive, Chiba Prefecture's first citizen power plant was born as a solar sharing system. We were fortunate to explore low-impact renewable energy at the initial stage, and I feel that this has led to our current growth. After the first plant was completed, it was funded by the community through a panel owner system, and I would like to take this opportunity to once again express my gratitude to everyone who cooperated with this small, small company whose future might not be known. (Representative Higashi)



#### BACKGROUND

// In response to the nuclear accident in 2011, citizens started to feel that they should do something about it. In February 2013, Citizen's power plant funded by the general public was completed in Tokyo. We immediately went on a tour, and were greatly inspired by this project that came to fruition through enthusiasm and strong desires, and determined ourselves to create a plant of our own. //



## Three Little Birds LLC

### Creating a sustainable farming system

The key to our business continuity is how we can manage farming with a low environmental impact under the solar panels. Thanks to a rare encounter with a young farmer who runs an organic farm in his hometown of Sosa, Chiba Pref, we launched a farming team (joint company) who share the same thoughts. Unlike now, at that time there was still only one in-house power plant. With our passion for the environment as our banner, aiming for true solar sharing, we have taken another step forward.

#### To become an indispensable presence in the region.

#### And the challenge continues...

Mr. Shingo Sato, the representative employee of Three Little Birds LLC (hereafter TLB), was born and raised in Sosa. As the heir to a farming family that has been around since his grandfather's generation, he grew vegetables in the fields in addition to 100% organic rice farming. The turning point was the Great East Japan Earthquake.

"Because I had been taking for granted the benefits of electricity generated by nuclear power plants, and I was wondering if there was anything I could do. This is when I was contacted to farm under the solar sharing power plant. Nuclear power generation is far from sustainable and cannot be controlled by the current level of civilization. I wondered how to create something to

replace it...I had such a vague feeling about it. So I was talking to him, I thought it was time."

In 2022, TLB, which has been promoting solar sharing with the highest priority on agriculture together with Min-Ene, will enter its seventh term. We are now in the second year of no-till cultivation of soybeans, and we are continuing various trials such as the development of automatic driving and agricultural machinery.

"We are steadily giving back to the local community, and this is true in terms of the number of facilities and the amount of power generated too. I feel like our endeavor has been accepted and seen indispensable by the community. After all, there is a solar sharing facility right in front of me. I think it's wonderful that we can continue to take on new challenges because of this."

Mr. Sato smiled with a tanned face.

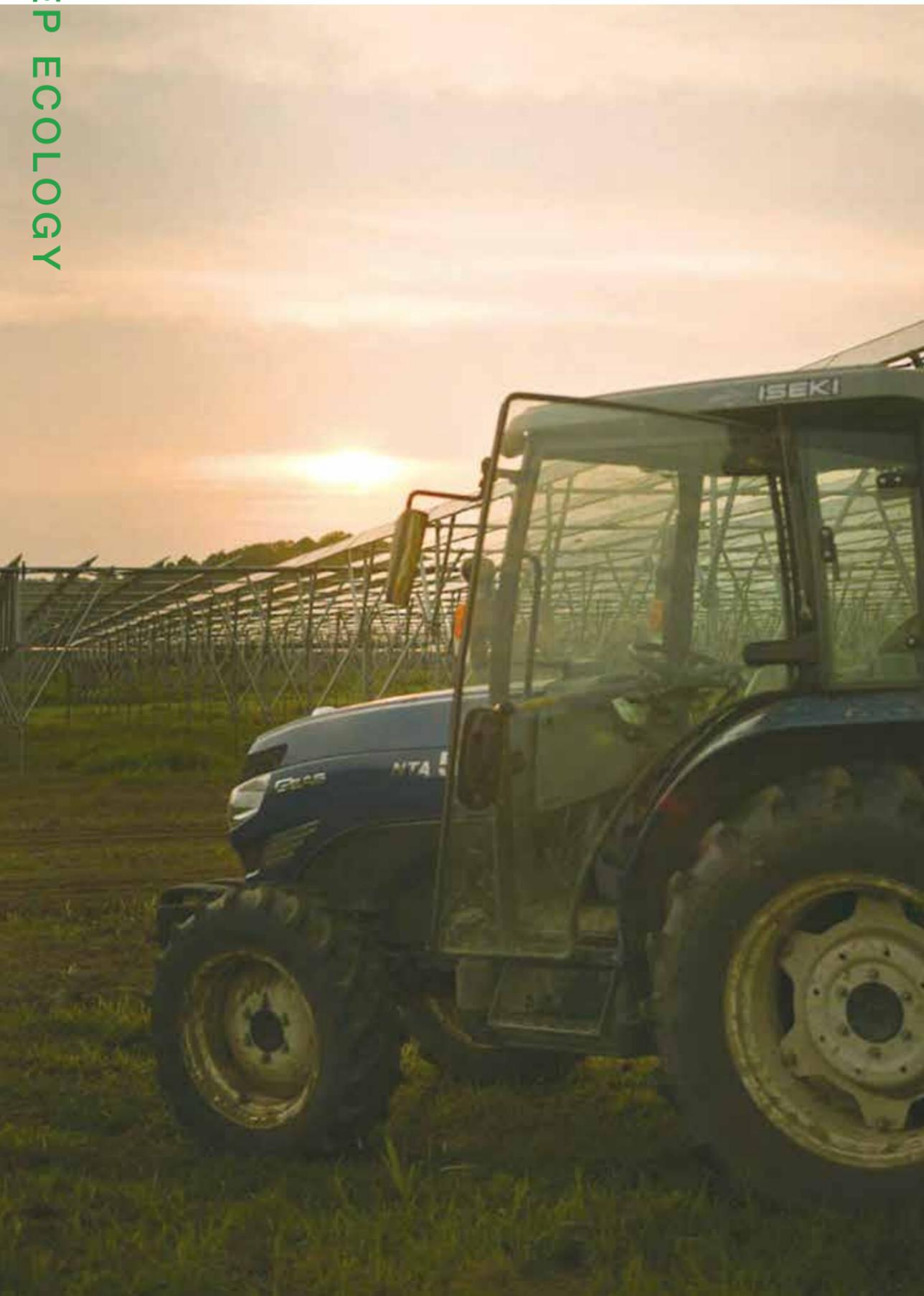
#### BACKGROUND

// TLB is currently farming under most of our power plants. We are also promoting crop-to-product development by developing original brand sweets, beverages, miso, and other products. We are also collaborating with Ibaraki University to develop no-till farming methods and agricultural machinery for that purpose, and continue to accumulate know-how.

//



After the no-till field work with friends. Mr. Sato is fifth from the right, and Prof. Komatsuzaki from Ibaraki University is next to him on the left.



## DEEP ECOLOGY

### All environmental problems are connected

The most important thing is to think about the environment. Solar sharing deepens ecological thinking. It is a great tool that connects people with the earth, rural areas with cities, and today with the future. To the further horizon of solar sharing - we will continue our journey.

#### "Environment" is our criterion

The significance of solar sharing is not only to be able to balance agriculture and power generation business and contribute to the local community. Shifting from fossil fuels to sunlight will reduce CO<sup>2</sup> associated with power generation, and at the same time, CO<sup>2</sup> will be reduced through photosynthesis by agricultural crops.

Farming under the panel is devoted to organic farming. This is because it is not only kind to people, but it also enables symbiosis with microorganisms and protects and nurtures ecosystems. Together with Professor Shoichi Komatsuzaki of Ibaraki University and Professor Nobuhiro Kaneko of Fukushima University, we are also working on "no-till farming." It literally means "farming without tillage" and goes further than conservation agriculture. Some people worry that the soil will harden if it is not plowed, but plowing and removing weeds reduces soil organisms such as soil micro-

organisms and earthworms, and the soil actually hardens. By combining no-tillage, partial-tillage, and reduced-tillage depending on the cultivated plants, the roots, microorganisms, and soil organisms work to soften the soil. By preserving the biodiversity of the soil, the function of the soil is enhanced and it becomes possible to grow high-quality agricultural products. It is soil management that makes use of the mechanisms of nature, and is directly linked to reducing environmental impact. Moreover, since it saves the labor of plowing, it also contributes to the reduction of farming costs. We are also trying to apply the idea of solar sharing, which involves sharing the blessings of the sun, to urban greening. Through a project named "TOKYO OASIS", solar sharing, which had been installed mainly in agricultural areas, is developed in urban areas. We are trying to solve problems in urban areas and create new added value, as well as CO<sub>2</sub> reduction. Organically connecting people, things, and events in rural and urban areas and sharing awareness of the environment—solar sharing is full of great potential.

#### BACKGROUND

// The core of Citizen Energy Chiba's business activities is "environmental issues". Through solar sharing, we are dealing with the problems of agriculture (food) and energy in the region, Japan and the world, but they are all closely connected. We will continue to work on more essential ecology, not superficial and individual. //

## REPORT

## Report / Visiting Prof. Nobuhiro Kaneko's experimental farm

In June 2022, we visited an experiment field at Fukushima University by Prof.

Nobuhiro Kaneko, Japan's leading expert in soil ecology.

"No-till farming" researched by Prof. Kaneko is an agricultural method that cultivates crops without disturbing the balance of microorganisms and fungi in the soil. As it has low environmental impact and is effective at fixing carbon dioxide by making use of the soil's innate potential to the max, it can be said that it is absolutely necessary for "farming in the future".



## Profile

Nobuhiro Kaneko\_Researches the interaction of soil microorganisms and plants that drives material circulation. In 2007, he published "Introduction to Soil Ecology" (single author) and "Soil Ecology" (edited) in 2018. He is also working with researchers from around the world in the Global Soil Biodiversity Initiative. He is advocating that the "no-till, grass-growing cultivation" practiced in Japan as an ideal method for conserving soil biodiversity and enhancing soil functions. Through actual experimental farms, he is not only studying the function of soil but also improving farming methods.



Faculty of Food  
and Agriculture,  
Fukushima University



personal website

### No-till farming that uses herbicides also exists

At the experimental farm near the main gate of Fukushima University, which we visited this time, four types of cultivation methods, including not only tillage and no-tillage but also the influence of herbicides, are compared, using sensors to monitor soil conditions and crop growth, etc. Even in the same no-till cultivation, the use of herbicides greatly changes the field environment, and it seems that there are adverse effects such as the topsoil being easily washed away by rain. Until now, I had only thought that "no-till" is the most advanced ecological farming method in the world. I was very surprised to hear that there are many products that use such herbicides.

### Cover crops that prevents drying and balances the soil

In no-till cultivation, in order to prevent the topsoil from drying out and maintain the balance of various microorganisms and fungi in the soil, in addition to the crops to be grown, multiple plants with different characteristics called "cover crops" are grown to keep close to the natural environment.

"In the United States and Europe, they use various mixed cover crops. In the United States, it is common to use radish. The trend in the world is such that we should use as many taxonomic groups as possible, for example, not only plants of the Poaceae family, but also the cruciferous family or buckwheat of the knotweed family. In other words, the world is becoming closer to a natural grassland where

earthworms that fertilize the soil can live. But that would take too much time, so we need to sow seeds for cover crops and create that environment." (Prof. Kaneko)

### Compost made from rice bran and rice husks Ideal for amateurs with low failure rate

In the experimental field, rice bran, rice husks, and soil from the field are mixed and used as compost.

"There are quite a lot of rice farmers who throw it away, but since it is produced every year, it would be better for agriculture and the environment to compost it and recycle it. It is also an ideal material for making compost for an amateur (of farming) like me. Because there is no failure. Bran is the skin and germ of brown rice that comes out

when rice is polished. And because it is a fine powder, it is easy for microorganisms to use it. As for rice husk, it is often converted to charcoal, but I think it's better to compost. The reason why rice plants are getting weaker in paddy fields is because there isn't enough silicates. And that is because we throw away rice husk. Don't you think it's strange to throw away the silicate-containing rice husk and apply silicic acid fertilizer?" (Prof. Kaneko)

The professor's lectures ranged from microscopic topics such as soil microorganisms, and soil that can be seen with the naked eye, to macroscopic topics such as overseas farming methods and the latest developments. Time flew by as we listened to his dynamic knowledge and insights.



## BACKGROUND

// Ordinary renewable energy is useful in reducing CO<sup>2</sup> emissions, but once released into the air, it cannot return CO<sup>2</sup> and methane to the soil. Solar sharing, combined with the photosynthesis of plants and the activities of microorganisms in the soil, can contribute to the suppression of greenhouse gases in a multifaceted manner. //

## Sosa Mega Solar Sharing

### Encounter with Mr. Yoshihara from Jonan Shinkin Bank

For us, and for Japan's solar sharing, it was definitely an epoch-making project.

Land area 32,000 m<sup>2</sup>, installed capacity DC 1,200 kW.

Number of panels: 10,419. The introduction cost is about 300 million yen.

Abandoned farmland, which had been a source of trouble for the region, has been revived through solar sharing.

#### The encounter essential for realizing the big project

It is no exaggeration to say that the Sosa Mega Solar Sharing No. 1 Power Plant was picked up by the media as soon as it was completed, and made Citizen Energy Chiba famous. I can't talk about it without mentioning my encounter with Mr. Yoshihara, who was then chairman of Jonan Shinkin Bank. This is because most of the introduction costs were covered by loans from Jonan Shinkin Bank.

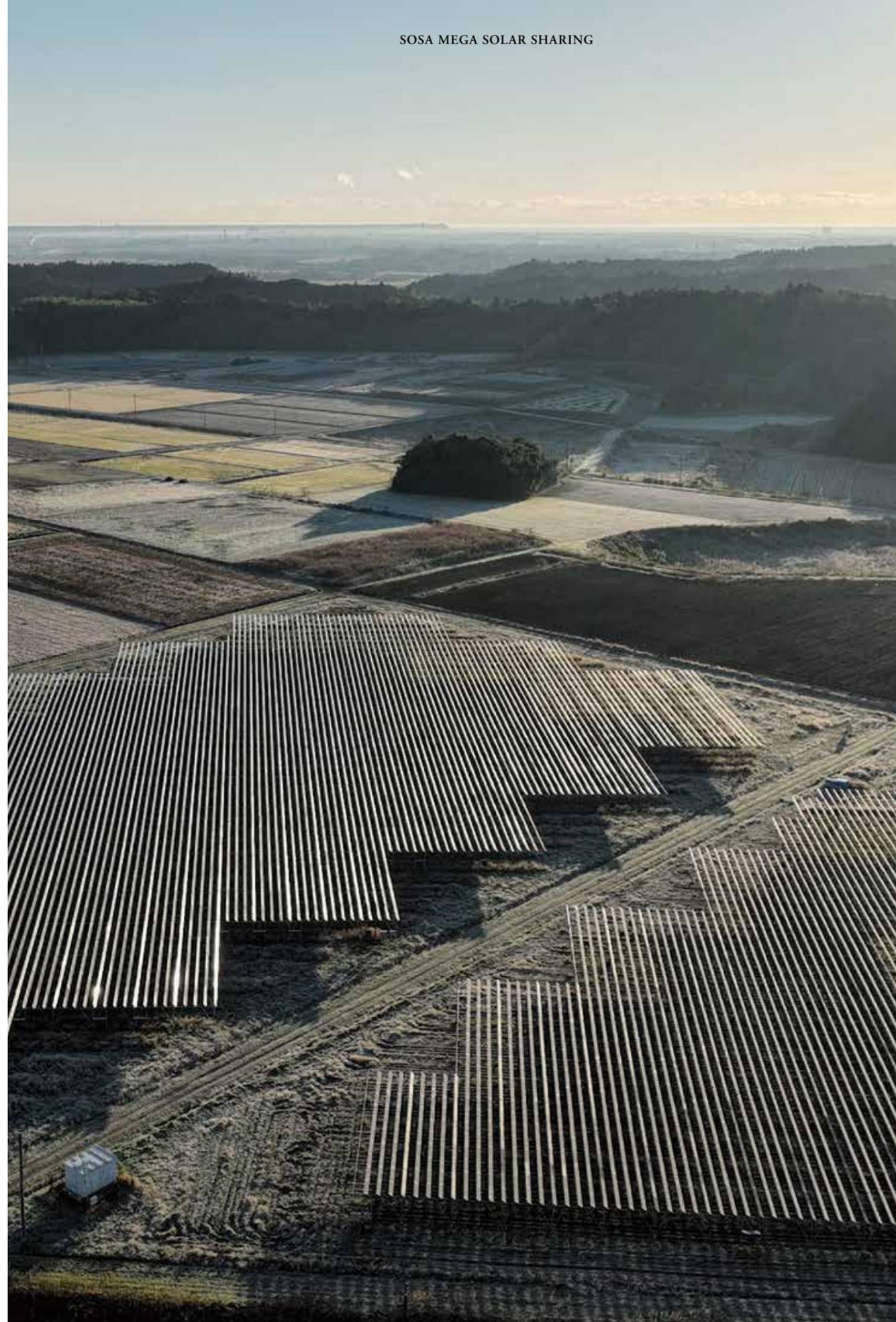
Solar sharing was still not well known, and at that time there were almost no financial institutions willing to finance the unprecedented big project. It was only possible because of Mr. Yoshihara, who had a sense of crisis

about the state of domestic energy and agriculture. Currently, there are more than 3,000 solar sharing projects all over Japan, and the number of solar sharing projects that have spread so far (although it is still not enough) is thanks to Dr. Akira Nagashima, who invented solar sharing. And we believe that Mr. Yoshihara's presence is also significant.



#### BACKGROUND

// We established a wholly owned subsidiary, Sosa Solar Sharing LLC, to promote the project. We donate 2 million yen a year from the power generation income to the local council as an environmental conservation fund and return it to the community, while we pay 2 million yen as a commission fee to grow Organic JAS certified crops. From fiscal 2022, we contribute an additional 5 million yen to the promotion of regional agriculture. //



## Harvest festival

A place for interaction where many smiles are born

At the harvest festival, which is held as a symbol of the community development we aim for, tradition and innovation are harmoniously integrated with rich food, festival music, and Mikoshi shrines. We project the "village of the future" there.

Above all, what is indispensable is the bright smiles of men and women of all ages who have come from home and from far away.



### Aiming for regional revitalization through fusion of renewable energy and organic farming

The purpose of solar sharing is not only the financial benefits of power generation, but also the development of the region through self-sufficiency in energy and food. Food and agriculture, regeneration of land, and all other environmental problems are to be tackled through the development of local and global communities through solar sharing.

In the Iizuka/Kaihata area of Sosa, where our base is located, regional revitalization is progressing through the fusion of renewable energy and organic farming, centered on solar sharing. There are two major mechanisms for supporting agriculture and local communities, which we call the "Sosa system."

One is a farming consignment fee (approximately 5 million yen/year) to the agricultural production corporation that cultivates the field under the facility from the income from selling electricity from the solar sharing facility throughout the region. The other is a regional fund (approximately 4.5 million yen/year) to the Howa Village Building Council. We were able to clean up the long-standing problem of a field that was littered with garbage due to illegal dumping by using this local fund. We hope to develop the fields that have been regenerated in this way into places to promote exchange between the city and the country as part of the Field Park Project. The 2022 Harvest Festival will be held at this Hatake no Koen (Field Park).

### The festival is a place for people to interact in harmony with the environment - the foundation of the "village of the future"

The village of the future, where people can live happily in harmony with the environment, is based on the connection between local climate and the people, and the harvest festival aims to create an opportunity for such people to interact.

People from various fields such as renewable energy, food, agriculture, the environment, media, and finance regularly visit the solar sharing fields in the Kaihata district and cooperate in various ways. The reality is that there are not many opportunities for everyone to meet.

In today's world where many issues are piling up, we hope that you will share a space with us, feel the beginnings of a new era, and lead to further spontaneous and sustainable development both inside and outside the region.



The harvest festival, which has been postponed for the past few years due to social conditions, will be revived in 2022 (\*as of the end of August 2022). All the staff are working hard to prepare a place full of happy, delicious, and fun smiles.

### BACKGROUND

// A literal festival held as a place where many "smiles" are born, which is also a symbol of the agriculture and regional revitalization that we are aiming for. Using the site of Sosa Mega Solar Sharing Plant, various "friends" from inside and outside the area gather to create a hand-made but rich interaction space. //



## Howa Village Building Council

### Supporting new village development with solar sharing revenue

The Howa Village Building Council was established to use the contributions from solar sharing power generation facilities to help solve local issues. Representative Masaru Kosaka and Executive Director Shigeo Tsubaki talk about what they have done so far and what they plan to achieve in the future.

#### What is the Howa Village Building Council?

Tsubaki: The area in the northern part of Sosa, where solar sharing has become commonplace, was once called Toyowa Village. The Howa Village Building Council was established in 2017 to return profits from solar sharing to the local community, solve regional and social issues, and realize the creation of a prosperous and harmonious new village. The council works for and consists of groups and individuals in the local community, including wards (resident organizations) in the Howa area, public organizations such as environmental conservation associations, elementary schools, PTAs, nursery school parents' associations, local agricultural committee members, and social welfare council members. Contributions from the solar sharing power generation facilities installed in this area are collected to form the "Howa Village Building Fund", and everyone discusses and decides how to use the money. We have been working on various activities such as maintaining illegal dumping sites and donating computer monitors to elementary schools. We also hold various events for residents to participate in, such as firefly watching events and planting tulips in the fields facing the road. During the long-term power outage caused by the typhoon in the fall of 2019, smartphones and other devices were charged free of charge using the solar sharing power generation facility owned by Citizen Energy Chiba. The

association has concluded an agreement with Sosa City on the "Agreement on Power Supply by Solar Sharing Power Generation Equipment in Times of Disaster".

During the 2019 typhoon, electricity was supplied from one location, but thanks to the cooperation of power generation companies that have installed equipment in this area, it is now possible to supply electricity from almost all solar sharing facilities. Under the control of the Howa Village Building Council, in addition to charging smartphones and computers, it is possible to supply electricity to all electrical appliances with AC100V and power consumption up to 1500W. If you bring a rice cooker to the site, you can cook rice and take it home. We are also focusing on efforts to eliminate abandoned farmland. In 2021, we also called on people in the city to mowing the abandoned fields. Although it was our first attempt in cooperation with the Environmental Conservation Society, many city residents and migrants also participated and worked hard together with the locals.

#### Are you working on supporting migrants too?

Tsubaki: This council was born as a platform for the Howa Village Development Fund, but at the same time, I want to encourage exchanges with city dwellers and people who have moved to this area, so that we can work together to create a new village. For that reason, we have created a mechanism to support moving in as a council, such as

paying a lump sum to new residents and rewarding those who rented houses to migrants. We also plan to disseminate information on farming and employment. In terms of deepening our relationship with migrants, I think it was good that Mr. Masaru Kosaka of the SOSA Project was appointed as the new representative of the Howa Village Building Council. This is because the SOSA Project is an environmental NPO that provides farming experiences to people in the city, has been interacting with the local community for a long time, and is already providing support for migrants.

#### As a representative of the council What do you think?

Kosaka: It's been three years since I became the representative, and I've learned a lot from the activities of the council. It gives me great pleasure personally to be able to commit to efforts for local self-sufficiency based on renewable energy. I have always believed that we must create a society that is self-sufficient in food, energy, and welfare. There are various ways of describing it like local production for local consumption and regional decentralized society, and I believe this organization can contribute to those areas.

#### What initiatives left an impression on you?

Kosaka: One of the initiatives we started in 2021 was the "Summer Vacation Children's Class." This is an attempt to reduce the burden on families by providing places where children can be safely left in the care during the summer vacation. Howa Elementary School has long had a system

called "after school children's classroom" where children can be looked after by the school until their fathers and mothers have finished their work and come home. However, when the school is closed during the summer vacation, it is also closed, so there were voices saying, "I want you to hold a 'Children's Class' during the summer vacation."

Under such circumstances, this summer vacation children's class was realized by the power of volunteers, including mothers who started the movement to "start up with their own hands". The Howa Village Building Council provided financial support, and the daily operations were carried out by 3 instructors and 15 volunteer staff. 16 local high school students also volunteered. The children seemed to thoroughly enjoy the experiences that they cannot usually have at school, such as building a solar car that runs on sunlight, experiencing indigo dyeing, playing the piano and musical instruments, and experiencing Japanese drums.

We hope that the Howa Village Building Council will not simply be an organization that distributes money and goods, but will be an entity that supports independent attempts by the local community. The summer vacation children's class was a very valuable initiative for us in the sense that it started with the voices of local mothers, and the council supported it.



Executive director  
Mr. Shigeo Tsubaki



Representative  
Masaru Kosaka

#### BACKGROUND

“ By returning the profits of the power generation business to the region, it will be useful not only for the abandoned farmland but also for the revitalization of the region itself. Together with the people of the local community, it was established as a base for solving a wide range of issues, such as environmental conservation, creating an influx of people, and supporting education. ”

## Opening of a free charging station

“Electric cookout” that showed its true value during typhoon blackouts

In the autumn of 2019, a powerful typhoon raged, causing extensive damage mainly in Chiba Prefecture.

What troubled many people was that there was no prospect of recovery from long-term large-scale power outages.

Under these circumstances, attention was once again drawn to the presence of solar power generation as an emergency power supply.



### Photovoltaic power generation for emergency power supply

Households with solar panels installed on their roofs have been able to use electricity even when there is a local blackout due to the standalone operation function of the power conditioners. According to a survey conducted by the Japan Photovoltaic Energy Association regarding Typhoon No. 15, about 80% of residential solar power generation users answered that they were able to effectively use their power generation equipment during power outages (\*). Even commercial solar power plants that normally sell all of their electricity can use the generated electricity on the spot if they are equipped with a power conditioner with a standalone function. Unlike residential use, there are many power conditioners onsite, so in case of emergency, it can be used as a "charging station" to supply electricity to many local residents.

### Supporting disaster victims with an “electric cookout”

Citizen Energy Chiba Co., Ltd., which is working on solar sharing (agricultural solar power generation) in Sosa City, Chiba Prefecture, was one of the first to put this into practice when Typhoon No. 15 caused a power outage. After receiving information that the power outage was likely to last longer, we set up a charging station in front of our company's "No. 1 Power Plant" the day after the power outage. Electricity was taken directly from five power conditioners



installed at the power plant, allowing anyone to charge mobile phones, smartphones, laptops, etc., free of charge.

The free charging station was open for 6 days until the power outage was restored. A total of about 150 people from the neighborhood visited and were saved from the danger of becoming charging refugees. Users commented, "There was a charging station at Sosa City Hall, but there was always a line, so it was nice to be able to charge here right away." I was able to relax by gossiping with each other."

Some said, "I didn't know you could charge here. I want to tell my friends about it," and in fact, quite a few people came here after asking their acquaintances. Perhaps this charging station should have been called an "electric cookout". Mr. Shigeo Tsubaki, co-representative of Citizen Energy Chiba, said, "Our facility was able to avoid major damage and continued to generate power, so we wanted to help the community." "Solar power plants can also serve as disaster prevention bases. From the time the company was established, we had the desire to open it up to the community in the event of a power outage. We were able to help the community this time, but we also discovered some challenges."

### Aiming for coexistence with the local community

The challenge Mr. Tsubaki mentions is to make all of our power generation facilities have standalone functions. In conventional commercial photovoltaic power generation, which assumes the sale of all power, power conditioners with standalone operation functions are not necessarily common, unlike residential power generation systems, which basically sells surplus power. Therefore, even if you

want to supply electricity directly to the area during a power outage, it is often mechanically impossible. Citizen Energy Chiba aims to strengthen self-sustaining standalone functions at all power plants it operates.

In addition, Mr. Tsubaki says, "It is an urgent task to create a system for disasters, including human resources." It is important to maintain close cooperation with the local community during normal times, and to create a system that allows us to work together as one in the event of an emergency. In March 2018, Citizen Energy Chiba launched the "Village Building Council" funded by electricity sales revenue, and is working with local residents to solve regional issues. Based on this experience, we plan to further expand in the future. We also signed an emergency power supply agreement with the city.

Due in part to the effects of global warming, typhoons and storms have become more severe, and large-scale blackouts associated with them are no longer uncommon. The significance of the existence of solar power plants as emergency power sources and disaster prevention bases is only increasing. However, in order to demonstrate its true value, coexistence with the local community is essential. There should be a lot to learn from Citizens' Energy Chiba.

\*\*SOLAR JOURNAL\* web version published in November 2019  
Interview and text: Masanori Hiromachi  
(corrected and re-edited according to the current situation)



(Left) A solar power plant with a free charging station  
(Right) A free charging station where people smile

### BACKGROUND

“ I believe that this is one of the most important roles in the community. With all power outages and even lifelines in danger, the relief and healing effects of getting energy are great. We will continue this activity in cooperation with the Howa Village Building Council. ”



## Yard completed

### Construction department office function moved to the yard

An original container house is installed in the material storage area that we call the "yard", and it is used as an office for the construction department that installs the solar sharing equipment that we are working on. In addition, the yard and container house is also used for holding events such as off-grid workshops.

#### Aiming for effective use of space and operational efficiency

A space called "Yard", which is located about 5 minutes on foot from the head office, literally began to be used as a place to store materials for constructing solar sharing facilities. It has been used for various purposes, such as a cold storage (4t cold storage container) for TLB (Three Little Birds), which is in charge of solar sharing farming, and storage of agricultural machinery such as tractors.

On the other hand, the head office, which uses an ordinary private house as an office, has been used efficiently using various ideas, but as the company has grown, the number of staff has increased, and the number of visitors has also increased, needed further refinement.

Therefore, the function of the construction department, which is responsible for facility construction and often travels to the site via the yard, was moved to the yard.

Two 40-foot (12m long x 2.5m wide x 2.6m high) marine containers were connected and installed as a building with office functions. Solar panels of AC 20 kW are also installed on the roof using the right to sell with FIT (feed-in tariff) that we had for 27 yen/kWh.

The purpose of using containers for the building was to investigate the cost of using containers as an incubation facility for newcomers. The production was self-built under the guidance of experts, but the production of the container house itself was shared as a workshop with many general participants, and we were able to gain valuable experience. In addition, we have also held the "Off-Grid Electricity Workshop" twice so far.

As for the yard, we still have plenty of space, so we would like to continue to explore more effective ways to use it.

### 《Workshops was also held》

The container house in the yard, which was produced as a base for the construction department, was self-built.

The production process was also shared with the general public as a workshop. In addition, off-grid workshops are also held by making good use of the extra space in the yard.

This is to learn about a system that can be self-sufficient in the event of a disaster by reusing panels that cannot be used for solar sharing due to deterioration over time and other reasons.

The yard contributes to the creation of a place where men and women of all ages can gather and enjoy learning.



Members of the Construction Department work closely with people from the affiliated companies to carry out facility construction work.



### BACKGROUND

// Currently, we are using an ordinary private house as an office, and on the premises, in addition to the main house that is the office, there is a "room (meeting space)" for visitors, and a "TERRA hut" (for meetings and accommodation space for visitors). However, due to an increase in the number of staff and a lack of parking space for visitors, we began to self-build a container house in the "yard (material storage area)" space and make effective use of it. //

## Sosa Ohisama Field

### A new step toward resolving regional issues

Future village building project centered on Citizens Energy Chiba Sosa Ohisama (Sunny) Fields has joined the "solar sharing village".

We asked co-representative Shigeo Tsubaki (co-representative director of Citizens Energy Chiba) and Takema Yamauchi (Citizen Energy Chiba Managing Director) about the background of the establishment of the new company, the content of the business, and the thoughts on solar sharing.

#### What was the impetus for establishing Sosa Ohisama Fields?

Tsubaki: As Citizens Energy Chiba, we have been working to spread and expand solar sharing, mainly in our hometown of Sosa City. Currently, we operate 17 solar sharing facilities, but in many cases we rent land. However, the land owners are old and often face the problem of land inheritance.

Considering the stability of the business, it would be more rational to own the farmland and conduct solar sharing on that land. Over the past few years, we have received many inquiries from land owners, such as "Would you like to buy the land because there is no successor?"

However, under the current legal system, Citizens Ener-

gy Chiba, which has a high proportion of income from electricity sales, cannot own farmland as an agricultural corporation. Therefore, I thought of launching a corporation qualified to own farmland within the group. That is the Sosa Ohisama Fields.

Another major motivation for the establishment of Sosa Ohisama Fields was a request from the local community to do something about the surplus land in the Land Improvement District. In this area, a large-scale land improvement project was previously carried out by the government, but at that time there was 6 chobo (about 6 ha) of surplus land, which was a negative asset for the area. I was asked if I could take it over and use it. Most of the surplus land is abandoned farmland, and in terms of profitability, farming alone is not viable. Sosa Ohisama Fields is also a company that was created to receive this surplus land.

#### What are your thoughts on the new company?

Tsubaki: I think that the decline of agriculture is equivalent to the decline of the region. Protecting agriculture leads to supporting the local community as a result. Agriculture cannot exist without the land. You can't run away from the land, so you have to take responsibility for the land you stand on, and have no choice about it.



代表取締役 山内 猛馬

Even if you bring in large companies and temporarily support the local economy, if something happens, they will run away immediately. What remains after that is the decline of the region. We have seen many such examples. We have been developing solar sharing mainly on abandoned farmland, but there is a strong desire to protect the region by regenerating farmland and create a sustainable local community. Sosa Ohisama Fields is a new step in steadily advancing this. Japan has similar problems. By creating a successful example here, I would like to disseminate it nationwide and spread it.

Yamauchi: I came to Sosa when Citizens Energy Chiba was established, and I share Tsubaki's desire to revitalize the region with solar sharing at its core. There is a growing movement to increase renewable energy toward carbon neutrality, but solar power plants that are created by clearing forests that absorb CO2 are meaningless. On the other hand, with solar sharing, you can not only conserve the environment, but also create CO2-free electricity while increasing greenery. However, solar sharing cannot start without people farming under the panels. Solar power is only possible with agriculture.

Therefore, at Sosa Ohisama Fields, we would like to train people who will farm on the land we have acquired for solar sharing. I hope that more and more

people who want to start farming will come and join us. Those who want to become independent in the future are also welcome. I would be happy if I could create a cycle where people would gather here in Sosa, agriculture would become richer, and the region would be revitalized.

#### Please tell us more specifically about your business.

Tsubaki: First of all, during this fiscal year (FY2021), Sosa Ohisama Fields will purchase all of the six surplus lands from the land improvement project that I mentioned at the beginning. Based on that, we will combine forces inside and outside the group to create a 2.7 MW solar sharing power generation facility. This is a large-scale facility that is twice the size of the existing



代表取締役 椿 茂雄

Sosa Mega Solar Sharing No. 1 Power Plant. Citizens Energy Chiba will take the lead in the power generation business here, and Sosa Ohisama Fields will take the lead in farming, growing soybeans and wheat under its facilities. Our policy is to promote new agriculture that utilizes solar sharing while borrowing the power of farmers in this area and people who have moved to the area.

### What is your mid- to long-term vision?

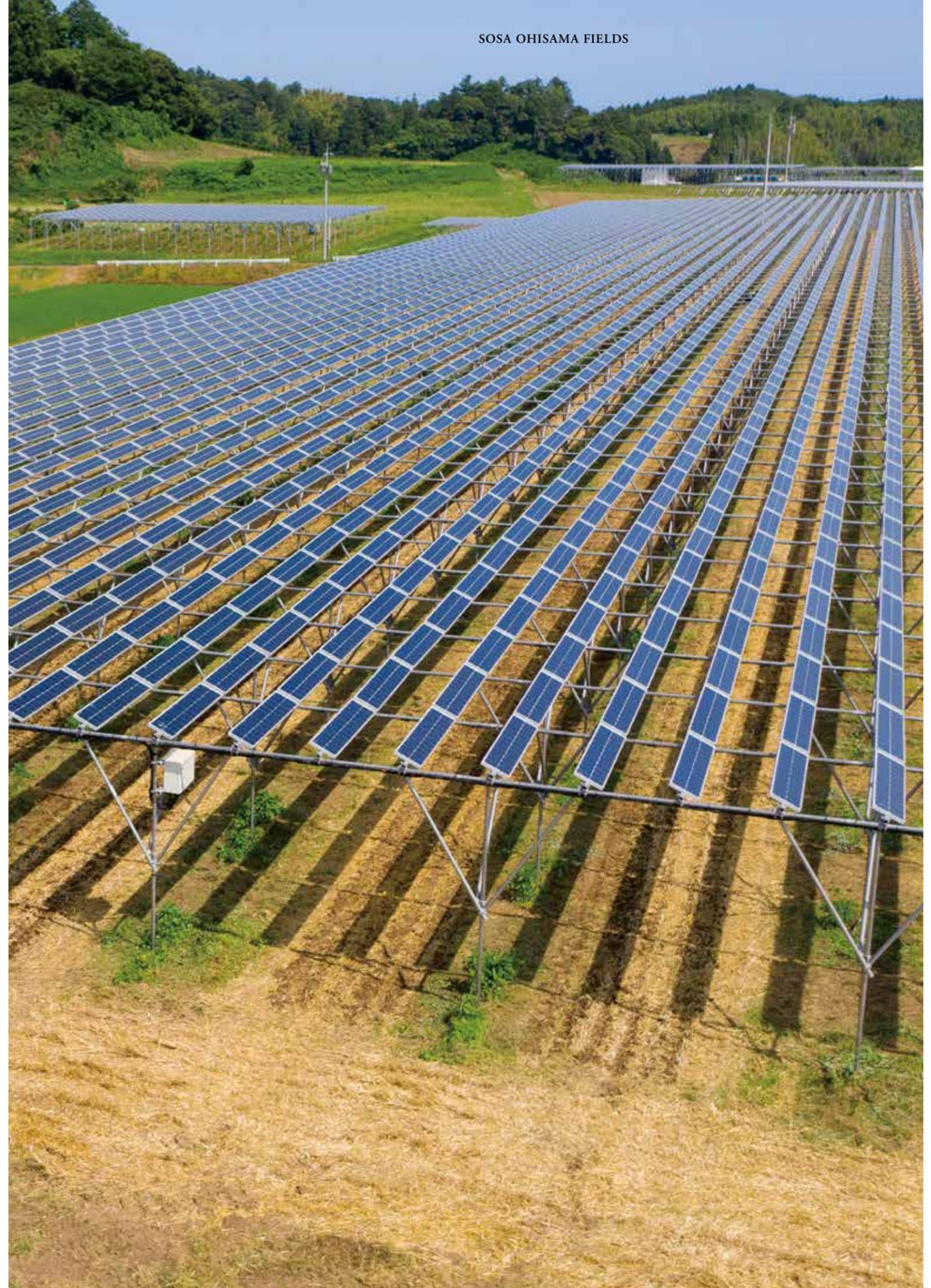
Tsubaki: In addition to the surplus land that we are undertaking this time, there are scattered uncultivated farmlands and abandoned farmlands in this area. I would like to create a system to actively buy such land and return it to the field. And, as Mr. Yamauchi said earlier, I would like to become a company that can nurture and support people who want to start farming there.

Yamauchi: In order for farmers to take root, it is important to create an environment in which they can live long into the future. In the future, we don't have to limit ourselves to agriculture, so we would like to increase the number of people in this area and promote initiatives that can contribute to the revitalization of the area. Above all, it is our goal and our greatest wish to develop the region while making the local people happy.

Tsubaki: When thinking about the future of Japan, solar sharing must be steadily expanded. Today, however, there is a growing movement among businesses that only care about short-term profits to turn their attention to agricultural land and build power generation facilities that neglect agriculture. That's why, as a pioneer, we have to show a truly sound way of solar sharing. I would like Sosa Ohisama Fields to grow as such a company.

### BACKGROUND

// As the population ages, there are many lands in rural areas across Japan that are being abandoned because there is no one to take over. Sosa City, Chiba Prefecture, where we are based, is no exception. By establishing a "corporation qualified to own farmland," we are using this land to further expand solar sharing and promote the regeneration of farmland. //





RE

## Farm stay at a traditional folk house

Stay at a traditional folk house that is over 300 years old and regain something you forgot.

At the workshop, encounter “you” that you didn’t know.

“Re” leads visitors to Re Life/Re Work/Re Society.

Representative Director Masaru Kosaka talks about the real intention.

A simple 300-year-old building on the edge of a village surrounded by vast rice fields. It's good to imagine life at an ancient farm village.

### About Nohaku (farm stay) at a traditional folk house

The inn where you will stay is a building that was originally a farmer's house and is over 300 years old. It took about 3 years to fix it almost by DIY. The old folk house is located in the idyllic rural scenery of Tako, which is adjacent to Sosa. It is possible for a large number of people to stay as it is a house that is rented by a caretaker. So far, a total of about 500 guests have stayed. We consider ourselves to be an "inconvenient inn". This is because we would like to contribute to the "awareness" of a sustainable future.

For example, after using kitchen utensils, please wash them and return them to their original place. There is no detergent in the kitchen. It can be thoroughly washed off with just water or hot water with the attached cloth. Wipe off oil stains with newspaper or discarded paper. Detergents are bad for your health and the environment. If you mainly cook vegetable dishes, there is almost no oil stains, so you should be able to remove it with just a cloth. This place is filled with sky,

sunshine, countryside, space, time, and relationships that have disappeared in the city. We hope that not only people who prefer the countryside, but also business people who are stuck in the city will come to visit us, and that the experience here will be an opportunity to meet a new you.

### Relations with local people

This place is not only a lodging facility, but also a place for interaction with local people. I want it to be a third place for everyone, where people from the city come to stay and people from the local area feel free to stop by. In addition, I would like to play a role as a local evacuation site in the event of a disaster.

### About the workshop

We were commissioned by the government to conduct a sweet potato digging workshop for parents and children. But we invited participants not only to dig sweet potatoes, but also to prepare the fields and plant seed-

lings.

With the cooperation of local people, we were able to provide an opportunity to become familiar with farm work.

We also held a workshop to receive used solar panels from Citizens Energy Chiba and install them in the homes of local residents and migrants. In 2021, we took a participation fee of about 3000 yen and held it twice, but about 60 people gathered despite the covid pandemic.

We also held workshops such as yard work in the garden of an traditional folk house. I would like to introduce some of the impressions of the participants who arrived after a few days. "Even if I can't do it well, I felt it was important to try. I thought I could do it myself." "I joined in order to find a clue to move on to the next step in my life. However, I was able to experience more than I had imagined, and I am very satisfied." "My impregnable wall inside me began to crumble. It was a great time. It was amazing!"

### Origin of the company name and thoughts put into it

"Re" is a prefix that comes from Latin. At the beginning of a word, it adds the connotation of "again" or "newly". 3R = Reduce, Reuse, and Recycle are common words. Our company name is also from this "Re".

The system of chasing the illusion of economic growth is still believed for a long time, even if it has stalled,

RE

Kominka Nohaku Re  
<https://kominka-re.biz/>



and the problems are only deepening one after another, without knowing the answer to the future. Because the illusion of economic growth is the source of the problem. There is no need for economic growth in the next era, and the population decline that has already begun is inevitable. Is it despair? No, it is hope. If you and I move our hands, feet, and head, we will identify the task (Recognize), go over it (Review), become allies again (Rejoin), spring back (Recover), change things up (Remake), come to life again (Reborn) and will be able to pull in a small revolution (Renovation) and go beyond globalization to localization.

Re Co., Ltd. wants to join the journey with you, transforming food and agriculture into "Re Food", electricity and heat into "Re Energy", enjoyment into "Re Culture", and regions into "Re Community". Let us lead life, play, work, and the world beyond to Re Life / Re Work / Re Society, toward a hopeful future.



An open room unique to a traditional folk house where many people can stay together. A pleasant breeze blows through in the summer, and a wood-burning stove warms the body and soul in the winter.

### BACKGROUND

// Welcoming people from the city to the (rural) region and having them experience the countryside, fully feeling its charm. With the cooperation of many volunteers, we renovated an old Japanese-style house that was built more than 300 years ago. The biggest selling point is that you may notice "something" that you have forgotten. The mission of "Re" is to create a place for interaction that connects farm villages and cities. //



TERRA is established

Prove that the world will change

From solar sharing system development to agriculture, food, and media businesses.  
We are now moving into more diverse fields in search of sympathy with more people.

What we want is a sustainable world filled with smiles.

At TERRA, we would like to work together with you to steadily bring about such a future.

About Nohaku (farm stay) at a traditional folk house

If there is a future for mankind, it will be a society that is in harmony with the environment and filled with the smiles of all the people who live there. Such a future should be achieved only through the accumulated actions of people who are alive today.

Now that environmental issues have reached the bor-

derline, the consciousness of individuals and companies is changing dramatically day by day. TERRA is a company that organizes the "reality" that will continue from the present to the future with many people who have gained such awareness.

We will continue to create a "reality" full of smiles by creating "gears" = technologies, services and ideas for realizing an ideal life in harmony with the global environment.



COMPANY PROFILE

company name  
TERRA Co., Ltd.

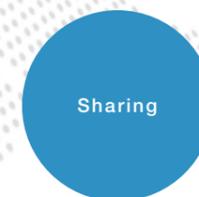
Established  
May 13, 2021

CEO  
Mitsuhiro Higashi (Representative Director, Citizens Energy Chiba Co., Ltd.)

location  
1062 Iizuka, Sosa City, Chiba Prefecture 289-2106

website  
https://terra-sence.jp/

〈TERRA's Fields〉



Next-generation solar sharing

We have developed a unique single-row cell system that integrates a solar panel and a mounting frame. Not only is it highly rigid and highly efficient, but it also achieves a revolutionary low cost of less than 100,000 yen per kW, making a completely new next-generation solar sharing a reality.



Terra's Kitchen

A completely new supply chain based on the premise of "reducing the burden on the environment" based on renewable energy through solar sharing and regenerative organic agriculture. The ultimate assorted package for sustainable food delivery.



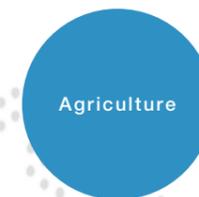
Tokyo Oasis

At the same time as greening the rooftops of urban buildings, we will create a new sustainable communication space above the city by installing solar sharing.



Ethical & Fair Trade

A fashion brand for people who think and act with consideration for people, the global environment, society, and the region, and a place = cafe as a real media where you can experience connections.



Regenerative agriculture

Various methods, including no-till farming, sequester more carbon from the atmosphere than before, create healthy soil, and combine it with organic farming to not only contribute to the global environment, but also make food safer.



Media/Publishing

We produce content for paper media, including books, and internet media, creating a wider and more diverse network.

BACKGROUND

“ TERRA, a Min-Ene group company, was founded to further advance the vectors of agriculture and regional revitalization, and improve the global environment centered on solar sharing that we have cultivated so far. It was established with the desire of the representative Higashi to break through the way of thinking and common sense that create the current situation (the now) and take a step towards the future. ”



## THE Earth and Sun Power Station ~SOIL&amp;SUN~

## Organic farming x energy x ethical education

## "THE Earth and Sun Power Station ~Soil &amp; Sun~"

This is an unprecedented initiative aiming to realize "next-generation solar sharing" by utilizing the characteristics of each of the four participating companies of solar sharing. In addition to agriculture and renewable energy, we will promote the organic development of a relationship of learning together by making it an educational field that connects people.



## A place that nurtures mutual learning relationships

Borderless Japan Co., Ltd., Ethical Association, Three Little Birds LLC, and Citizen Energy Chiba Co., Ltd. (which is in charge of construction and power generation), collaborate together in ~Soil & Sun~. The power plant has a generating capacity of 63.36 kW, an installation area of 1,183 square meters, and a farmland area of 6,295 square meters. By conducting circular organic farming in areas where there were many abandoned farmlands, we are giving back to the earth and the region. Three Little Birds conducts organic farming under solar panels, and "Hachidori Power" operated by Borderless Japan and

Citizen Energy Chiba are in charge of the power generation business. And the Ethical Association will use this entire project as a place for education, and together we will increase the number of people who practice an ethical lifestyle.

About two years have passed since its establishment, and workshops on weeding and harvesting work are held from time to time, and synergistic effects with the "Ethical Concierge Course" sponsored by the Ethical Association have begun to be seen, and have been well received by the participants. In the future, we will continue to provide field tours, facility tours, support for agricultural work, and provision of knowhow nationwide, while working to enhance interaction with the local community and further enhance it as a "place of learning."

## 〈Comment on opening〉

Borderless Japan Co., Ltd.

Representative Director  
Kazunari Taguchi

General Incorporated Association Ethical Association

Representative Director  
Rika Sueyoshi

"The mission of Hachidori Power is to increase the amount of power generated by renewable energy. Solar sharing, which coexists with organic farming, is very important for Hachidori Power, which pursues renewable energy power generation with a low environmental impact. It's an important project."

"The mission of the Ethical Association is to develop people who think about the essence of ethics, take action, and bring about change, and together with such people, realize a sustainable world where ethical living is a measure of happiness. In this initiative, the three companies that run businesses that solve social issues will use their respective expertise to coexist with nature under the soil and the sun, and become practitioners to create a "measure of happiness." I am convinced that it will be a step to pass on this value to future generations."

Three Little Birds LLC

Representative Employee  
Shingo Sato

Citizens Energy Chiba Co., Ltd.

Representative Director  
Mitsuhiro Higashi

"How can we connect rural areas and cities?" and "How can we harmonize ecosystems and human civilization?" This is the mission of MinEne. Electricity is also a medium, and I'm going to do my best to cooperate with my fun and earnest friends."

"Solar sharing fields produce food and electricity. I believe that the microorganisms and creatures in the soil of the fields, and the people who can cooperate, and the life energy that gathers there can be enriched."



Weeding by the Ethical Association (Director Satoshi Mori/photographed in August 2022)

## BACKGROUND

"Next-generation solar sharing" is a system that generates renewable energy on farmland that conducts organic farming, connects people involved, and nurtures relationships. The visions of the four companies in different fields overlap in many ways, which is why this project was realized.



## Interview

## A real learning space

We visited the grass cutting experience held at "THE Earth and Sun Power Station ~Soil & Sun~" and interviewed Mr. Mori, director of the Ethical Association.

### Creating encounters and a sense of unity through work, and drawing a new vision

The Ethical Association was established in November 2015 when UN's Sustainable Development Goals (SDGs) were adopted, and this year marks its seventh year. Developing business mainly in education, we hold "Ethical Concierge Course" every year. In the past, Mr. Higashi, the representative of Min-Ene, came to us as a lecturer. This project (THE Earth and Sun Power Station ~Soil & Sun~) was realized through the gathering of professionals from four different categories. There is meaning in that, and as a new community, through one shared work, we create encounters and a sense of unity, and draw a new vision... We are working while feeling that kind of possibility.

Through the experience of mowing and harvesting like this, I would like to provide opportunities to people who live far away from farms and nature, and people

who are too busy to touch the soil. Visiting Sosa, I learned how electricity, which is our lifeline, was made in this way. There are things here that you can't experience in Tokyo, so unlike online seminars, it's appealing that you can experience and feel them here.

In the future, we will make this power station an open campus, and we will make efforts to have people come and stay overnight as a training camp to learn about the place called Sosa and interact with local people. And I would like to make it a model and spread it further.



Ethical Association Director  
Satoshi Mori

## Collaboration

## Aiming to realize a sustainable and environmentally friendly society

## Patagonia International Inc. Japan Branch

Patagonia is a global outdoor clothing company (headquartered in the United States). The company is also known for its active commitment to environmental issues, aiming to use 100% renewable energy for the amount of electricity it uses in its offices and stores by 2020, and to achieve carbon neutrality across its entire business by 2025.

From April 9, 2019, Patagonia International Inc. Japan branch switched to renewable energy for the electricity used at Patagonia Shibuya Store (Tokyo), the largest directly managed store in Japan. The electricity generated by Sosa City's solar sharing, which Patagonia participates in and is operated by Citizen Energy Chiba, is all

delivered to the Shibuya store using blockchain technology, covering much of the annual electricity consumption. Citizen Energy Chiba and Patagonia International Inc. Japan Branch will continue to work together to expand the use of renewable energy.



## Sazaby League Co., Ltd. (Ron Herman)

Sazaby League Co., Ltd. is a group company that plans and sells bags, accessories, household goods, clothing, etc., and operates restaurants. Among them, a collaboration with the fashion brand "RON HERMAN", which is seriously working on sustainability, will start in the fall of 2021. Ron Herman plans to optimize supply and demand in order to reduce surplus inventory, which is the biggest issue in the apparel industry, aiming for a proper consumption rate of 80%, and plans to abolish sales at stores by 2023. In order to realize one of the sustainability visions announced in May of the same year, "Zero CO2 emissions from the Ron Herman business by 2030," the solar sharing facility "Ron Herman Sosa

Store" was newly established in Sosa City, Chiba Prefecture. The electricity generated is supplied to Ron Herman stores for use, and organic farming is carried out under the panels. All solar panels use recycled panels.



## TERRA-KOYA

A "School House" in a traditional Itakura-zukuri style

"TERRA-KOYA" (TERRA Hut) is not just an office,  
but a guest house (accommodation facility) for trainees and visitors.  
Or it is used literally as a "place of learning" aiming for a sustainable society.

A proud base where the local master carpenter's commitment is incorporated everywhere

TERRA-KOYA, which is the base of the group company TERRA, is an eco-friendly energy-saving office that uses traditional Japanese itakura-zukuri style with plenty of cedar wood. Double-glazed windows with heat-insulating frames with high insulating effects are used, and wool heat-insulating materials are used to ensure high airtightness, making it relatively cool in the summer and warm in the winter, making it a comfortable space. There is also a loft inside, so you can enjoy a little "hide-away feeling" during your stay.

In the future, we aim to install solar panels on the roof and make it an off-grid house.

"You can see the moon from the wooden deck, and the sake tastes really good." (Representative Higashi)



Old folk house renovation is underway as a new guest house!

The renovation of an old folk house in the Yonemochi district of Sosa City, Chiba Prefecture, which is close to Min-Ene's office, is progressing. Due to the increasing number of visitors from far away and the demand for accommodation facilities, we plan to use it as one of the new guest houses.



## Special contribution

Solar sharing and Sustainable zone

We received a contribution about the keyword "sustainable zone" that is currently attracting attention from the director of the Institute for Sustainable Energy Policies (NPO)

Mr. Hironao Matsubara, who is also an advisor to Min-Ene.

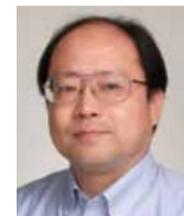
ISEP is a third-party organization that acts for the realization of sustainable energy policies.

Efforts from Chiba prefecture spread to the whole country and to the world

Abnormal weather such as droughts and floods occur frequently in many countries around the world, and renewable energy such as solar power is growing rapidly worldwide as a countermeasure against the climate crisis. In order to aim for carbon neutrality (decarbonization), initiatives for 100% renewable energy are becoming a global trend, and more countries and cities are setting targets for 100% renewable energy. There are more than 70 large companies in Japan participating in the RE100 international initiative, and more than 100 small and medium-sized enterprises and local governments participating in RE Action. More than 700 local governments nationwide have declared their zero-carbon cities with the aim of achieving decarbonization by 2050. Along with Chiba Prefecture, 21 local governments within the prefecture have announced their plans, and Sosa City has also announced them. Based on the regional decarbonization roadmap, local governments nationwide have started decarbonization projects by 2030, and Sosa City is also considering solutions to various regional issues.

There is a sustainable zone as an indicator for evaluating the decarbonization and sustainability of municipalities. We have been estimating regional energy self-sufficiency rates and food self-sufficiency rates for municipalities and prefectures, and have published the results as joint research with Chiba University's Kurasaka Laboratory for more

than 10 years. According to an estimate in 2020, even within Chiba Prefecture, Chonan Town became the first sustainable zone with both an energy self-sufficiency rate and a food self-sufficiency rate exceeding 100%. In Sosa City, the regional energy self-sufficiency rate is still around 27%, but the food self-sufficiency rate has reached 198%. Solar sharing (farming-type solar power generation), an advanced initiative from Chiba Prefecture, is the ideal combination of natural energy and agriculture to realize this sustainable zone. From around 2013, overcoming various hurdles that were the pain of birth, I've seen initiatives that were started in Ichihara City, Isumi City, and other cities early in Chiba Prefecture. In this trend, Sosa has become the center as "hometown of solar sharing". Now, centered on solar sharing, the initiative is about to spread to farmlands and cities across the country, and to the world.



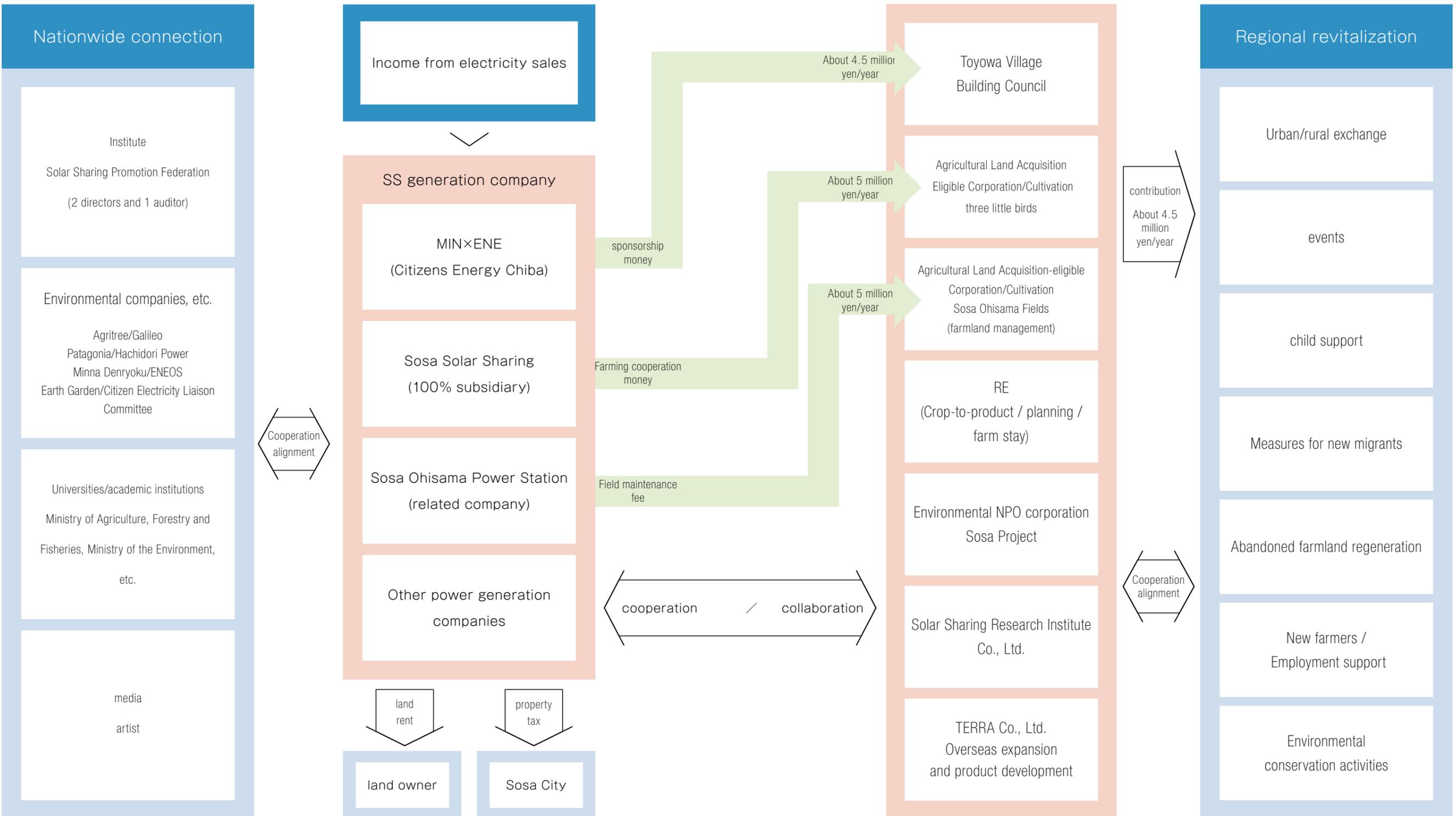
## Profile

Hironao Matsubara

Director and chief researcher of the Institute for Sustainable Energy Policies, a specified non-profit corporation. Doctor of engineering. Member of the Board of Directors of the Japan Solar Energy Society, Representative of the Yachiyo Natural Energy Citizens Council, Representative of Network Chiba for Expanding Renewable Energy, Advisor of Citizens' Energy Chiba Co., Ltd., Chiba Prefectural Global Warming Prevention Activity Promoter, Environmental Planner ERO. Born in Chiba prefecture.

The Sosa system

Collaboration under the theme of sharing & organic



By open sourcing the Sosa system, which we have created so far in Sosa City, Chiba Prefecture, and disseminating it to various places, we hope to accelerate the flow of solar sharing = environmentally-friendly renewable energy that is considerate of the community, agriculture and ecosystems.

Next generation system

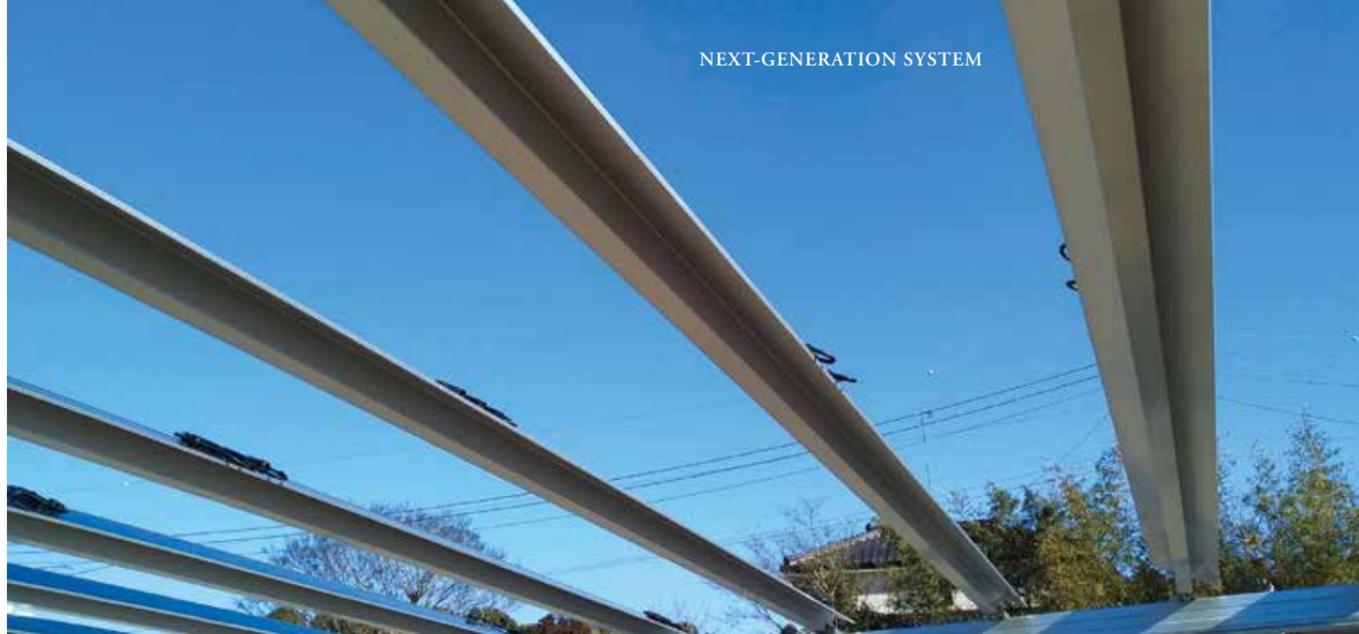
Integrated system with single-row cells

Development is progressing steadily of the next-generation solar sharing system using single-row cell solar panels that we are working on, and an advanced version that uses a double-sided cell is also available. The prototype has arrived and preparations are underway for the demonstration facility.

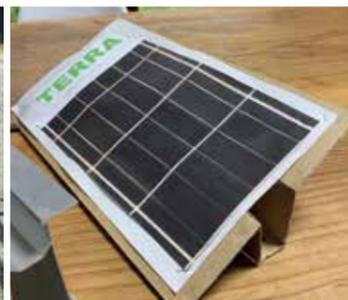
The evolution of solar sharing is speeding up

We have worked on the original system to reduce the total installation cost of solar sharing, which currently costs about 130,000 yen (\*as of June 2021/excluding tax) per 1 kW of DC (when less than 50 kW of AC), to make the system less than 100,000 yen. By integrating the panel and the support material of the mounting frame and creating an original configuration using single-row solar cells, we are able to significantly reduce not only the materials and weight, but also the construction and transportation costs. In order to make the facility safe and sustainable, it is necessary to have sufficient strength as well as cost. A

prototype that could be called as version zero has been completed, and preparations for further demonstration tests are progressing steadily. In addition, a prototype of a version that further increases power generation efficiency by adopting a "double-sided cell" in the same row has arrived, and this is also being adjusted for installation in the demonstration facility. Regarding cells (solar cells), the new technology "perovskite solar cells", which has been featured in the news in the recent media, is finally approaching the practical stage, and we are also working on a further evolved version using this. The evolution of solar sharing will continue to accelerate as the world's demand increases. We will take the lead in expanding and popularizing solar sharing.



Temporary installation of the prototype that arrived. The ease of installation was almost as intended, and with this reality, development has made great strides, and we are one step closer to completion.



We installed a prototype on an existing frame. The new system, which started development from a hand-made cardboard mockup (right photo), has now become a reality, and the development of further new versions is progressing steadily.

Compared to the conventional double-row cell (left in the photo), you can see that it is quite slim.

BACKGROUND

// We aim to disseminate solar sharing not only in Japan but also to the world, not just as a variation of solar power generation, but as a tool for regenerating the natural environment, agriculture, and local communities. To reduce the introduction cost, which is a major hurdle, we have been working on the development of our own system, and we are beginning to see steady results. //

## Sosa Ohisama Power Plant

A big project that has been longed for since the founding

Regenerate abandoned farmland into green farmland and solve regional issues.

Since the establishment of Citizen Energy Chiba in 2014, we have built a total of 2.7 MW of facilities over the past eight years towards that dream.

A big project as large as this that took about half a year to create has started.

The new company "Sosa Ohisama (Sunny) Power Plant".

### It's time to settle regional "negative legacies"

In the Kaihata area of Iizuka, Sosa City, Chiba Prefecture, where we are based, 800,000 square meters of vast farmland was carved out of the mountains more than 40 years ago. Locally this underutilized land was a major issue for the region. This is because while there is no source of income from it, management costs are incurred every year. Ever since our founding, we have aimed to solve this problem, which could be called a "negative legacy." And finally the time has come.

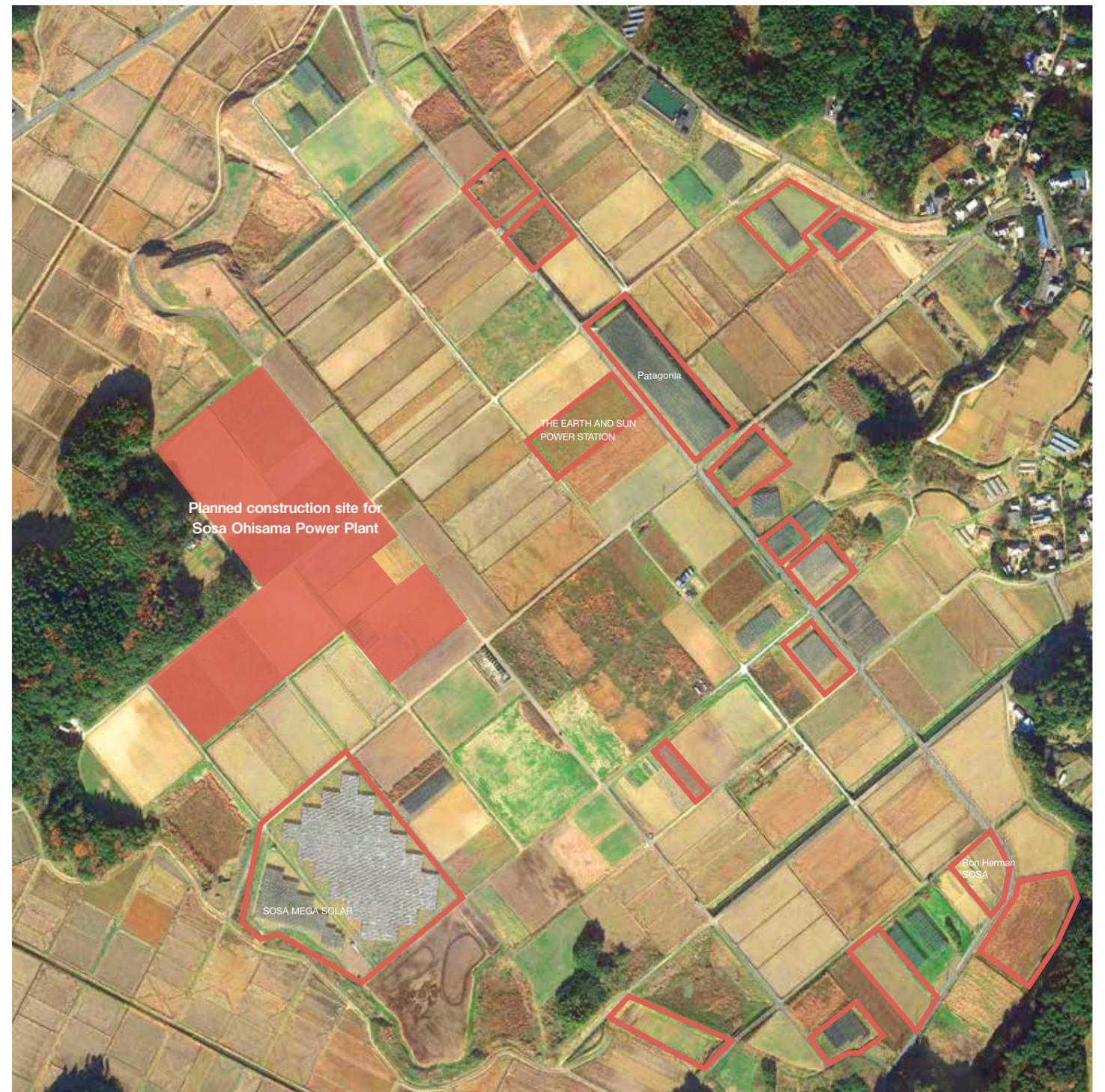
A project to construct a mega-solar sharing facility with a panel capacity of 2.7MW and an output of 1.92MW on the surplus land mentioned above has already started construction. Power generation is scheduled to start in early February 2023. Citizen Energy Chiba and Sosa Ohisama Fields invested in the establishment of a new Sosa Ohisama Power Plant

Limited Liability Company. The surplus land will be purchased by Sosa Ohisama Fields, produced by Agritree Co., Ltd., and constructed by Citizen Energy Chiba and Building Giken Co. The solar panel to be used is a bifacial light receiving cell type, and power is generated by light from above as well as from below. According to the results of the facility under demonstration experiment, the annual power generation amount increases by more than 20% compared to normal panels. There are about 2,100 screw piles that form the base of the frame. Once completed, we would like to use this facility as a base to support local agriculture with further farming commissions and regional funds, and in the future, we would like to contribute to the building of a foundation for rural management, such as the construction of tractor storage sheds and grain centers. With the understanding and cooperation of local residents, we will promote this project in cooperation with the local council and our environmental division.

### BACKGROUND

// The first mission of the new company "Sosa Ohisama Power Plant LLC" established in April 2022 is to install a 2.7 MW DC output mega solar sharing facility on about 60,000 m2 of surplus farmland in the open field area of Iizuka, Sosa City. The long-awaited project that has been envisioned for nine years since the establishment of Citizen Energy Chiba is finally coming to fruition! //

〈Sosa Ohisama Power Plant construction site〉



This is a bird's-eye view of the Kaihata area in Sosa City, Chiba Prefecture, which is known as the "hometown of solar sharing," where we have constructed various solar sharing facilities and is the base for our activities. The area circled in red is related equipment, and the area painted out is the planned construction site. It can be seen how big this project is.



Solar Sharing Companies

Construction/agency network that supports the introduction of SS

"Solar Sharing Companies" started!

With three companies, Galileo Co., Ltd. (Nagano), Agritree Co., Ltd. (Fukuoka), Citizen Energy Chiba (Chiba), we have completed the installation, design, and construction system for solar sharing that makes full use of IT.

We are also creating a system for collaborating with construction companies all over the country, with a view to developing in remote areas.

Constructing a construction and agency network throughout Japan

Solar sharing has issues such as the complexity of various procedures for introduction, non-standardization of design due to crops and topography, and restrictions during construction. Solar Sharing Companies (SSC) was launched to address these issues by utilizing IT to improve productivity and material procurement capabilities, and to further promote the spread of solar sharing. The three companies that operate solar sharing based in Nagano, Fukuoka, and Chiba will work together to seamlessly implement installation, design, and construction by leveraging their respective strengths and experiences. We operate our unique installation support system, NEXT ON, which improves operational efficiency and enables dramatic cost reductions.

Supporting the introduction of solar sharing that prioritizes agriculture

Galileo is in charge of the simulator for new customers to consider solar sharing and the support system for various procedures. Agritree oversees the systemization of everything from quotations to design and materials procurement. Citizen Energy Chiba is in charge of systematization from construction to maintenance.

In the future, we would like to contribute to the sound growth of the industry by creating a network of construction and sales outlets throughout the country and by generalizing construction and operation schemes.

"Solar Sharing Farmers" will also start in 2022!

Solar Sharing Farmers (SSF) has also been completed to support farming under solar panels. It enables centralized management of farming conditions based on abundant cultivation data. We reduce the burden on farmers with a variety of farming support services that utilize IT.

(Solar Sharing Companies)



Introduction support system "NEXT ON" provided by SSC

In just a few steps, you can calculate how many solar panels can be installed on the farm.



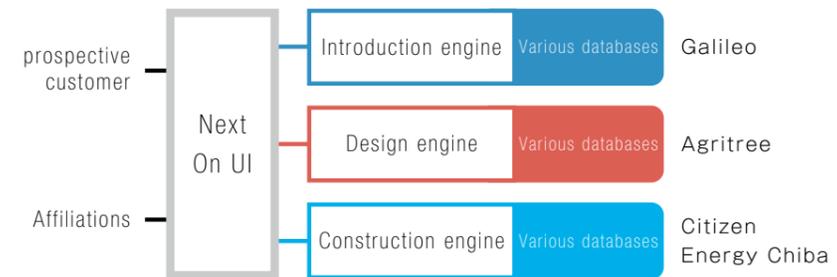
Revenue forecast for your farmland



Frame type	Aluminum/solar tracking
Solar module	89.32kW

An example of the NEXT ON app screen

(Roles of the three companies in "NEXT ON")



This system was promoted under the Ministry of Economy, Trade and Industry's "FY2020 Manufacturing, Commerce, and Service Advanced Collaboration Promotion Subsidy" and was highly evaluated as an excellent example. Case studies are introduced at web briefings and on our website.

BACKGROUND

// We want to lower the hurdles when starting solar sharing as much as possible. For that reason, we created a system based on the idea that there should be a platform that provides information on introduction know-how, such as application processes, and efficient design and construction. In order to start solar sharing efficiently and at low cost, we are also working on building a nationwide agency network. //



Solar Sharing for Farmers

Platform for next-generation farmers

Solar Sharing for Farmers (hereinafter "SSF") is a website aimed at popularizing "Solar Sharing" in the aim to solve Japan's agricultural and energy problems.

We will disseminate information on solar sharing to farmers, power generation companies, and companies working on the SDGs.

All-round support for farmers to introduce solar sharing

We are working to popularize solar sharing from the perspective that it is "one of the new forms of agriculture." We receive questions such as "Will crop grow alright...?" "What are the processes and equipment...?" "Is the business viable...?" and many other.

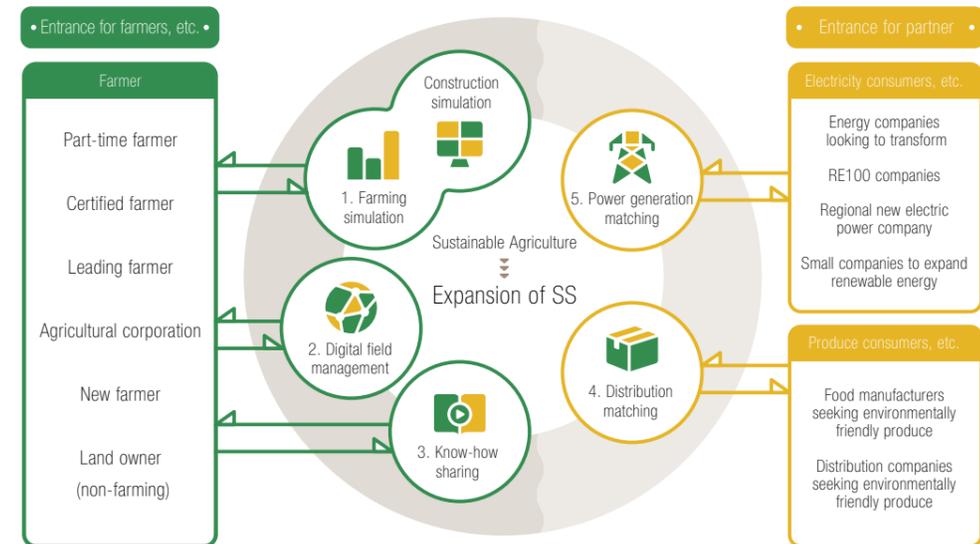
We would like to solve those questions by networking so-

lar sharing farmers all over the country!!

At the same time, we have a network of distribution companies who want to support decarbonize farmers through sales, and conscientious power generation companies who are looking for farmers who they can partner with. SSF is a platform that allows everyone to work together to solve problems that cannot be solved individually by integrating them.

BACKGROUND

// With a focus on providing various information to farmers who are considering the introduction of solar sharing, it is a system that realizes matching where we cooperate with power generation companies, distributors, and even SSC (Solar Sharing Companies) to work with contractors in the construction of power plants. //



<SSF's five services>

SSF provides five services that can be used when considering the construction and operation of solar sharing.

1 Farming simulation

The true value of farmland can be seen in numbers

This is a service that allows you to forecast profits when installing solar sharing using registered field data. By entering the field area, cultivated crops, harvest amount, etc., you can see whether the field is suitable for solar sharing.

2 Digital field management

Get the situation of remote farmland in real time

This is a service that makes it possible to monitor the state of fields from a remote location by attaching various weather sensors to fields where solar sharing is installed.

3 Know-how sharing

Let's start with knowing

It is a service that allows you to receive real information from farmers about crop cultivation under shaded conditions. In addition, we will work on sharing know-how on the ground and coordinate visits to fields with solar sharing that is already in operation.

4 Distribution matching

Increase the added value of grown crops

This is a matching service for those who plan to install solar sharing in order to establish a brand that can contribute to a decarbonized society with crops grown under solar panels.

We support the sale of agricultural products at higher prices by creating social value in the form of environmentally friendly fields that generate renewable energy.

5 Power generation matching

Solar sharing with partners

This is a service for matching farmers who provide farmland for installing solar sharing with electricity generation companies.

We will efficiently connect fields with good conditions and generation companies with high environmental awareness to accelerate the installation of solar sharing.



Farmers of the future will generate electricity while growing crops. SSF supports the introduction and operation of solar sharing with reports of original services and actual examples.

<https://solar-sharing.farm/>



## Environment Division

A new business department has been launched to create encounters and collaborations!

In March 2022, we established a new Environment Division. CSR activities, lecture activities, event planning, cooperation with ministries, academic organizations, and other civic groups, etc. are not directly linked to profits, but this section focuses on the "significance of establishing the company" and makes it a reality.

### The power of individuals + new encounters changes the world

In the background of ever-changing times, we must constantly update information and approach methods related to the environment. The purpose of the newly established Environment Division is to collaborate and develop our efforts with everyone in various fields.

Each person's power may be small, but when two or three people meet in a new encounter, a big power is born. The global environment is in danger, and carbon dioxide

reduction is an urgent matter. I hope that through the activities of the Environmental Division, as many people as possible will become aware of this, learn about the importance of the environment, and understand the importance of speedily reducing carbon dioxide emissions.

I myself installed a solar power generation system on the roof of my house in 1998, so I have a long relationship with solar power generation. At the time, I was ignorant and worried. In 2003, a civic activity group was established with the directors of photovoltaic power plants, and I became a member. This was the impetus

for starting civic activities. Through exhibition booths at environmental events and holding seminars and forums in Chiba Prefecture, we have mainly carried out activities to popularize and enlighten residential solar power generation. In 2013, I met two co-representative directors of our company during my activities. I have been working at a company for over 43 years and have reached retirement age (including 5 years of extended employment). Compared to when I was a salaried worker, I am much busier but it's more rewarding now. Solar sharing has the least impact on the environment,

and can greatly contribute to the reduction of carbon dioxide by combining the electricity (renewable energy) it produces with organic farming.

I am convinced that it is one of the indispensable methods for a decarbonized society, and I think that it is a technology that I would like to spread not only in Japan but also in the world.

People meet, work together, and the circle expands... At the Environment Division, we would like to provide a "place" as the first step to create such developments. (Tomomitsu Miyashita, General Manager, Environment Division)

### BACKGROUND

// In addition to handling visitors to the solar sharing facilities and accepting interns, the Environment Division will be involved in the construction of the Solar Sharing Learning Center and the establishment of the Solar Sharing Academy, which will be the base for classes on solar sharing facilities, farming, and lectures for governments, students, and the general public. //



## Special interview

### From "Agricultural Producer" to "Rural Manager"

**I have sealed my long experience in the distribution of organic agricultural products and the crop-to-product development, and have devoted ourselves to regional revitalization through the fusion of solar sharing and organic agriculture.**

**As a producer of rural management, we aim to connect many people, companies and organizations who resonate with the philosophy, and create all kinds of value that agriculture and farm villages have.**

Having been involved in the distribution of organic produce for over 20 years, I was fascinated by the lifestyle of a farmer. It was because I was moved by the sight of the farmers I met all over the country, facing nature with their whole body and polishing their inner self. In my mid-twenties, I spent years pondering whether to become a farmer or stay in Tokyo to continue distribution. However, at that time, the supply of organic agricultural products exceeded the demand, so I thought that expanding the share of organic vegetables in urban areas would be a form of agriculture, so I chose the distribution route. Many stores selling organic produce were selling it because it was "healthy". I used to sell it because it was good for the environment. Since then, I have been interested in renewable energy. On the day of the Great East Japan Earthquake in 2011, when the renewable energy feed-in tariff system decided by the Cabinet was about to begin, I finally decided to tackle energy. Aiming to build a public power station, I learned about solar sharing by participating in various courses.

#### The work of the "farmer of the future"

For more than 10 years since then, we have been working on regional revitalization through the fusion of solar sharing and organic farming. Over the next 10 years, I would like to work on environmental regional revitalization projects that utilize renewable energy both in Japan and abroad, both in rural areas and in cities. After that, I decided to become a

farmer as my last job in life.

It's been 30 years since I was pondering about becoming a farmer. Having accumulated various experiences and gained a bird's-eye view of the domestic and international situation, I believe that agriculture in the future should not be viewed as an "agricultural product producer" as in the past, but as a "rural manager."

Renewable energy in farming villages, encounters with various people, the natural environment, healing power and life of the land are all regarded as "fruits", that is, "harvests", and I would like to propose to define the work of producing them as "Farmer of the future".

More than politicians and business people, I sincerely hope that new farmers will become reliable people who will steer the future of farming villages in real life, and that it will be a dream job for children. Together with everyone, I want to actually create an image of farmers for the future. Breaking away from the curse of such notions as yield or sale per kilogram, and creating the value that the entire land produces itself is a very precious job that will create the future.



"Chijo" magazine

August 2022 issue (published by Ie no Hikari Association)



Citizen Energy Chiba Co., Ltd.  
Representative Director/Environmental Producer/  
TERRA Higashi Mitsuhiro

#### BACKGROUND

// This interview was published in the August 2022 issue of the monthly magazine Chijo (Ground), which "connects agriculture and food, people and regions, and imagines the future together." It is a straightforward representation of the past and future of Representative Higashi. //

Produced by 

## Tokyo Oasis

You can be as kind to the earth as the number of buildings

Utilizing our uniquely developed solar sharing system that uses a single-row cell and is integrated with the frame, we will green the rooftops of buildings in urban areas while ensuring a decarbonized power supply.

The project "Tokyo Oasis" will also create a new sustainable communication space above the city.

### Proposing new perspectives on building rooftops

#### Aiming to establish a Japanese brand

In order to introduce renewable energy through on-site PPA (power purchase agreement) in urban areas, a completely different approach or idea is required. We are promoting a project called "Tokyo Oasis" as a more concrete solution, and by establishing it as a Japanese brand, we aim to build a platform that will also hybridize it with the various ecological systems of commercial buildings. We also believe that it will lead to the formation of trends in the introduction of renewable energy in urban areas by

major companies in various industries and the introduction of renewable energy in industry, government, and academia. By utilizing the solar sharing technology and know-how that we have cultivated over the past 10 years, we will prove that the "upper space" of a cooler outdoor unit or a green space (rooftop garden, etc.), which has been difficult to utilize in the past, is suitable for power self-sufficiency in urban areas. And we aim to create new value by combining the power generation facility itself with a gardening space on the rooftop of buildings, so it can also be used as a "place for relaxation", a new way to realize a decarbonized society.



Tokyo Oasis has a "pergola type" that aims for a synergistic effect with the rooftop greening of buildings, and a "louver type" that utilizes the space above and on the side of the air conditioner outdoor units. We are also planning to develop other variations such as greening of dry (desert) areas.

### BACKGROUND

// As the government calls for the realization of a decarbonized society, securing sustainable power sources has become a major issue for companies. In urban areas, mainly off-site PPAs were leading the way due to location. However, due to the limited availability of suitable land, in the future, in addition to "energy saving" and "greening," synergistic effects from multiple solutions such as "carbon sequestration" through "introduction of new forms of on-site PPA renewable energy" will be required. //



Produced by **TERRA**

## Tokyo Oasis / Under development

### Towards the installation of "Tokyo Oasis Unit Zero"

The "Tokyo Oasis" project is making steady progress at this very moment. We started with the design and production of a prototype of the base technology of the single-row cell integrated mounting system, and at the same time, we set two candidate sites for "Unit Zero" in Tokyo and completed field surveys and negotiations. In addition, we are steadily improving the new mounting frame for installation on the roof of a building.



#### Ideas take shape, and evolution speeds up

It all started with the idea of a next-generation solar sharing system = single-row cell integrated mounting system, which was proposed and cultivated by Mr. Higashi, and was handcrafted as a "cardboard mockup". Aiming to improve the global environment and revitalize the region, the reality is that the existing system is too costly to introduce in order to spread more solar sharing throughout the world. In recent years, an urgent social issue is rapidly emerging that decarbonization must be promoted in urban areas as well as in rural areas.

The "Tokyo Oasis" project has sped up its evolution at this exquisite timing of hard and soft demand.

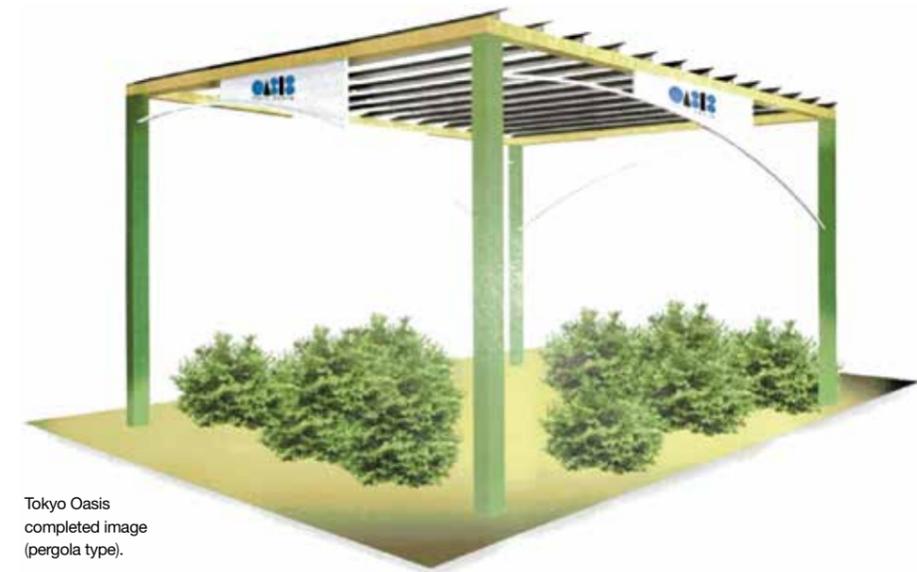
#### Groundbreaking new system that realizes the core part of solar sharing

The biggest point of "Nagashima solar sharing", the origin of the solar sharing method that we have been so par-

ticular about, is to use "thin panels" to reduce the shading area and share the sunlight sufficiently under the panels. However, until now, many large panels with high shading rate have been produced in various parts of Japan. Representative Higashi's idea is to make the core part of Nagashima-style solar sharing a reality. In other words, we had to take another look at the thin solar panels themselves, which we have been using up until now and use cells (solar cells) arranged in two rows. The idea of a solar panel with cells arranged in a single row and a design that integrates it with the mounting system to reduce weight and improve installation efficiency, resulting in a significant reduction in installation costs, is unprecedented and has been patented.

#### Regenerating urban areas from the roof of the buildings What we can see from the field surveys

"Tokyo Oasis" is a project that meets the needs of the times. We will secure a decarbonized power supply in parallel with urban building rooftop greening, by tak-



Tokyo Oasis completed image (pergola type).



(Left page) A system with an integrated frame that uses a single-row cell (mockup). With the completion of the prototype, the project began to make significant progress.

(Left) After the prototype arrived, it was immediately installed on the existing frame, and various issues such as workability were identified. We also re-examined the scale of the demonstration facility.

(Bottom) Field surveys were conducted on two locations in Tokyo as candidate sites for the installation of demonstration equipment. In the midst of this, the idea of making the system itself into a basic unit that can be used flexibly in any installation location was born, and prototype production is underway.

ing full advantage of the solar sharing know-how that we have cultivated so far. In addition, we focus on the space above and on the sides of the outdoor units of air conditioners, which are often seen on the rooftops of buildings, and plan variations such as a louver type that utilizes this and a type that can contribute to the greening of arid regions.

As prototype production of a new system using single-row cells progressed, we also selected installation sites for demonstration facility and conducted field surveys at two locations in Tokyo (Shibuya and Sumida Ward). What we came to see from this was that the system itself

could be made into a "base unit" of a certain size that could be used in various installation locations, and by combining these units, a highly flexible operation is possible. In terms of financing, we also learned that we can aim to reduce the burden of initial investment by utilizing subsidies from the national and local governments.

"Tokyo Oasis" has evolved repeatedly in less than a year, and before we knew it, we can feel the definite results as an "unprecedented reality." As of the end of August 2022, the project continues to evolve day by day, with the base unit being prototyped and the demonstration equipment "Unit Zero" moving towards installation.





"Perovskite solar cells" have been featured in the media in recent years and are attracting attention as next-generation solar cells. Some manufacturers have already reached the level of practical use and commercialization. We are also proceeding with the development of new systems that utilize this.

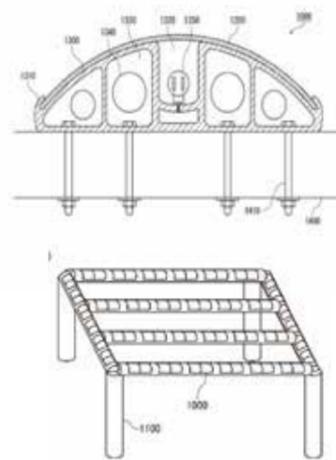
**Further system development that incorporates new technology**

The power generation efficiency of perovskite solar cells, which had been an issue, has now reached a sufficiently practical level. It has also been announced that Sekisui Chemical Co., Ltd. will install film-type perovskite solar cells at JR West's Umekita (Osaka) underground station, which is scheduled to open in 2025. We adopted this perovskite solar cell in a single-row cell-mounted integrated system developed independently by our group company TERRA, and proposed a model with an even more advanced shape, which we are steadily advancing development toward demonstration tests.

In addition to being able to provide excellent wind and earthquake resistance due to its significant weight reduction and its shape characteristics, we plan to incorporate optional functions such as a watering system. In addition, this new system will be a great power in the "Tokyo Oa-

sis" project for urban areas. We are confident that this new system will be an epoch-making system that will open up new horizons for solar sharing.

In order to spread solar sharing all over Japan and around the world, we will continue to provide the world with these new technologies, giving form to our unique ideas.



**BACKGROUND**

// There have been panels using silicon cells (solar cells) that are flexible and can be used on curved surfaces, but their applications have been limited. Perovskite solar cells are attracting attention because they are film-type and can be used with a higher degree of freedom. Japanese companies in particular are leading the way in technological development and we also plan to collaborate with various related companies in the future. //



Due to the spread of the new coronavirus, the activities of the Solar Sharing Promotion Federation have been stagnant for a while, but in June 2022, it will be restarted with a new board of directors consisting of three co-representative directors. Min-Ene has two directors (one advisor) with them.

**Entering a new phase with a new system**

The main activities of the SS Promotion Federation are the spread of solar sharing, policy proposals, and the construction of an information communication network. In addition to promoting the creation of content that benefits paid members, future activities include participation in international conferences, utilization of SNS, support for the construction of solar sharing in productive land districts, information gathering after the Ministry of Agriculture, Forestry and Fisheries expert meeting, policy proposals (short-term, mid-term, long-term), and planning of visits and inspection tours.

Solar sharing has seen an increase in the number of cases of its introduction in Japan, and the clarification that governments and administrations promote it, including the Ministry of Agriculture, Forestry and Fisheries, and changes in the surrounding environment, such as the expansion of introduction in other countries, are a great push. Due to the global trend of RE100, and the fact that there are few flat lands and limited space on

buildings where solar power generation can be installed, it can be said that solar sharing has entered a new phase. In addition to Japan, it has begun to spread in East Asia such as China and South Korea, and in Europe such as Germany, and international conferences are now being held. In June 2020, the 1st Solar Sharing International Conference was held. Under these circumstances, the Fraunhofer Society in Germany has requested cooperation from Germany, China, and Japan to conduct international joint research in the international standardization of field monitoring systems, the exchange of knowledge, and the construction of an information provision platform.

In the future, while promoting such international cooperation, the Promotion Federation will support activities to cultivate the domestic market, which has entered the second stage of popularization due to lowering of the price of the bifacial photovoltaic cells and design updates.

The most important role of the SS Promotion Federation is to nurture this epoch-making business into a field where a wide variety of players can play an active role and which is trusted.

**BACKGROUND**

// Akira Nagashima, the inventor of solar sharing, has a demonstration experiment farm in Ichihara City, Chiba Prefecture, which is the birthplace of solar sharing. Many people gathered here to study, and before long solar sharing was built one after another in Chiba Prefecture. With this background, a group of enthusiastic friends gathered around Mr. Nagashima in the spirit of "let's spread solar sharing more!" and in April 2018, the General Incorporated Association Solar Sharing Promotion Federation was established. //



## Solar Sharing Research Institute

### To further expand Solar Sharing

While operating SSF (Solar Sharing for Farmers) and SSC as the core, Solar Sharing Research Institute is a company that further expands solar sharing by conducting research on various themes such as solar sharing equipment and agriculture under panels, and collecting and sharing knowledge from all over the country.

#### Consolidate and widely share the knowledge necessary for the introduction and continuation of solar sharing

SSF is a farmer's point of view platform where you can start solar sharing with peace of mind and obtain the knowledge and information you need online after installation. In the first place, the purpose of this is to lower the hurdles that stand in the way of expanding solar sharing throughout Japan or the world. A new company, Solar Sharing Research Institute (SS Research Institute), was established for this purpose.

While operating the SSF as the core for the time being, it takes on multi-faceted initiatives related to solar sharing, such as conducting various research and demonstration

tests related to equipment development, consolidating and sharing more farming results (data), and collaborating with other organizations.

Through SSF management, we will also produce stories on introduction cases, interviews, report articles, etc. of solar sharing, and we plan to hold events such as original webinars in the future. More specific and practical services is provided, such as farming and construction simulation, know-how sharing, matching with distributors and power generation companies, and digital farm management services for starting and continuing solar sharing with peace of mind. We will support next-generation farmers aiming for sustainable agriculture by providing such information.

#### COMPANY PROFILE

##### company name

Solar Sharing Research Institute Co., Ltd.

##### Established

July 2020

##### representative

Ryoichi Gohara, Mitsuhiro Higashi, Koji Nishi

##### location

16-16 Yotsuya Sanei-cho, Shinjuku-ku, Tokyo 160-0008

##### website

<https://solar-sharing.farm/>

##### Business content

Spreading solar sharing through operation of DX system for farmers, various research, consulting, etc.



#### BACKGROUND

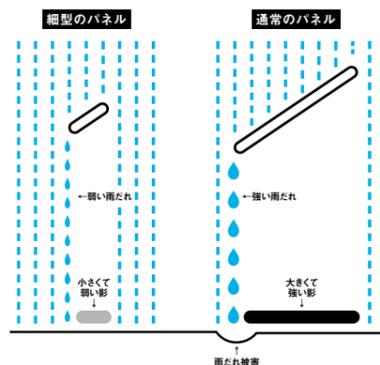
// It is a new company launched in July 2022 by Citizen Energy Chiba Co., Ltd., Galileo Co., Ltd., and Agritree Co., Ltd., which participated in the launch of the platform "SSF (Solar Sharing for Farmers)" for next-generation farmers. Each invested 10 million yen each, starting with a capital of 30 million yen with the three representatives (Higashi/Gohara/Nishi).

//



Mr. Nagashima's experimental farm. It is no exaggeration to say that this is the "birthplace" for all solar sharing.

<Thin panels are less affected by raindrops>



## Nagashima solar sharing

Agriculture is top priority – all for the children of the future

We are committed to "thin panels/shading rate of 35% or less" advocated by Mr. Akira Nagashima, the inventor of the solar sharing method. These conditions are positioned as the basis for designing facilities (power plants), because we believe that this is the core of solar sharing, which is to "share" the blessings of the sun.

### The origin of all is here

When constructing a solar sharing facility, we decided to use thin double-row cells (within 35 cm) instead of 6-row panels that are the standard and commonly used in open-air solar power plants.

By using thin panels, it is possible to suppress the formation of large shadows on the farmland, and it is possible to evenly illuminate the field under the panel. Also, even if it rains, strong raindrops will not occur unlike the 6-row cells. In the case of a 6-row cell that receives rain over a large area, the raindrops are collected and inevitably become stronger, and as a result, the soil of the field that receives the raindrops is scooped out, which adversely affects the crops.

On the other hand, thin panels with two rows of cells receive less rainfall on each panel, so the intensity of

raindrops can be suppressed. Furthermore, since the influence of the wind is reduced, it is possible to construct a highly safe solar sharing system.

We have also started developing a new system using "single-row cells", and as of August 2022, we have reached the stage where practical use is imminent. We believe that this will become the standard for solar sharing in Japan and the world in the future. However, this innovative system is also an extension of this Nagashima-style solar sharing.



Mr. Akira Nagashima, the inventor of solar sharing

### BACKGROUND

Since March 2013, when the Ministry of Agriculture, Forestry and Fisheries (MAFF) officially approved solar sharing (farming-type solar power generation), various facilities have been established all over Japan, and there are currently about 3,000 of them. However, there are quite a few cases of "solar sharing" in name only. We continue to stick to the true meaning of "solar sharing" based on the original "Nagashima style".



Scenery of Oda-gake, where bamboo cut from Satoyama is put together and rice is hung upside down to expose it to the sun and wind. After the rice is harvested, "My TANBO (Rice Paddy)" still retains the atmosphere of a farming village that is being lost due to mechanization.

## Sosa Project

Promoting exchanges between urban and rural areas and supporting "way of life"

**There is an NPO that attracts people from the city to "Solar Sharing Village" in Sosa, Chiba Prefecture. This is the "SOSA Project" that develops various workshops centered on agricultural experience. We interviewed Mr. Masaru Kosaka, founder and director.**

### A new experience facing nature with "My TANBO"

— What is the SOSA Project?

It is an environmental NPO that engages in rice farming, maintenance of satoyama (= an environment where people have co-existed with nature over time), rural life skills, migration mediation, etc. The initiative at the center of this is "My TANBO (Rice Paddy)", which meets the needs of people living in the city for self-sufficiency. Using sets of 0.5 ridges (about 50 square meters) rice fields, we have them experience rice planting, mowing, harvesting, etc. while having fun. In 2021, about 100 groups of people visited this area and experienced rice and soybean farming. If you have any questions or problems, SOSA Project members will support you with the help of local people. We hope that you will feel new possibilities for yourself through dia-

logue with nature through farm work.

— What is your relationship with solar sharing?

We also develop many programs to increase the self-sufficiency of each individual, such as making miso and soy sauce, plant dyeing, making clothes, chopping firewood, self-building small houses, and restoring old folk houses. Electricity self-sufficiency with natural energy is also one of the important themes, and we occasionally hold workshops related to solar sharing.

We also introduce jobs for people who want to move to Sosa, and solar sharing is very helpful because it creates a variety of jobs. There is a wide variety of work, from one-time to long-term, such as setting up power generation equipment, mowing grass, and office work. Thanks to solar sharing, more than 50 people have migrated through the SOSA Project so far.

— Please tell us about future developments.

Many of the participants who have increased their self-sufficiency and confidence through the activities of the SOSA Project have now moved to various parts of Japan and are trying various things. We hope to continue to be a place where individuals can discover wisdom for living that leads to self-sufficiency, self-confidence, and independence. Until now, we have approached individuals, but from now on, we would like to work with companies to develop programs that can revitalize people who are depressed at companies. I would like the experience of interacting with nature, such as farm work, to be useful for employees to deal with depression and self-reliance.

After the experience here, some people will take important roles in the company, and some people will quit the company. Some people will start a new business, and some will

go to rural areas and pursue a free way of life. In any case, I would like companies to focus on supporting the independence of their employees rather than restructuring. In order to increase the number of such companies, the SOSA Project will build a new scheme that will allow companies to feel the benefits. However, we do not intend to make the SOSA Project bigger. If the needs decrease, you can scale it down, and if your role is over, you can disband. It would be great if the initiative here becomes a seed and the flowers bloom all over the country.



Director of SOSA Project  
Masaru Kosaka

## BACKGROUND

// Various people come to the "Solar Sharing Village" from nearby towns and distant towns, and eventually settle down to live here. With solar sharing at the core, we are working to revitalize the area. Such people are indispensable in the "future village" we imagine. We are working on various projects in cooperation with Mr. Kosaka and other members of the SOSA Project. //

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## 〈Access to our company〉

Our office: 1037-1 Iizuka, Sosa City, Chiba Prefecture



電車

Nearest station  
Yokaichiba Station  
(JR Sobu Main Line)



Our office  
From the same station  
About 11 minutes by taxi



車

Daiei Interchange (Higashi Kanto Expressway) ..... about 40 minutes  
Get off at Narita International Airport ..... about 30 minutes  
Get off at Tomisato Interchange ..... about 35 minutes  
Get off at Yokoshibahikari Interchange (Choshi Connecting Road) ..... about 25 minutes

## 〈Company Profile〉

■ Company name	Citizen Energy Chiba Co., Ltd.
■ Established	July 2, 2014
■ Representative Director	Representative Director Mitsuhiro Higashi Co-Representative Director Shigeo Tsubaki
■ Capital	10 million yen (900,000 yen capital at the time of establishment) / 15 employees Scheduled to increase capital to 24 million yen in October 2022
■ Location	1037-1 Iizuka, Sosa City, Chiba Prefecture 289-2106 TEL.0479-85-6760/FAX.0479-85-6765
■ CSR activities	◇Solar Sharing Harvest Festival Executive Committee Secretariat ◇Participation in the operation of the Howa Village Building Council ◇Earth Day Chiba Executive Committee Management Support
■ Business content	1. In-house power generation business 2. EPC business (equipment design, construction, management, maintenance, consulting) 3. Development/sales business (development, sales, and leasing of various dedicated parts, equipment, and systems) 4. Soft contents business (event & seminar planning, lecturer dispatch, intern acceptance, etc.)



<https://www.energy-chiba.com/>

