

Case Studies

Corporate Campuses



Solar Power Continues to Bloom at Toyota West Virginia



The new “garden” near the main entrance of Toyota West Virginia supercharges the idea of “flower power.”

Five recently installed SmartFlower solar arrays help power the facility's employee services buildings, which are home to popular destinations like the uniform store, footwear store, credit union, clinic and pharmacy. The flowers also help power three EV charging stations.

“This is just one more way Toyota West Virginia is embracing alternative energy and reducing our ecological footprint here in the Mountain State,” said David Rosier, Toyota West Virginia president. “Our environmental team is always working to make our plant more efficient and guiding our efforts to create a more sustainable future.”

Much like a sunflower, SmartFlowers bloom at sunrise and follow the sun's path throughout the day, allowing them to effectively capture the sun's rays. Because they maintain a 90-degree angle to the sun, the power they produce is optimized over that of traditional solar panels. At sunset, the flowers fold back up and await sunrise the following morning. The petals are self-cleaning, lined with tiny brushes that remove dirt and debris when they open and close.

While the flowers are beautiful and highly visible, Toyota West Virginia also has the largest solar array in the state. Located just behind the plant, this array can generate 2.6 megawatts of power. That is enough to power over 400 homes. The solar generation also reduces the Buffalo plant's CO₂ emissions by an estimated 4 million pounds per year.



These initiatives are some of the many projects aimed at helping Toyota West Virginia meet the Toyota Environmental Challenge 2050. Toyota West Virginia was also recently named the winner of the Wildlife Habitat Council's prestigious Ibis Award. This award recognizes a Wildlife Habitat Council certified program that has "demonstrated resiliency of spirit and advancement of conservation despite unforeseen or unique challenges."

The group specifically cited the plant's nature trail, which features forest and wetland habitats, a pollinator garden, an outdoor classroom, bird houses, bat houses and a nesting platform to support avian species in the area.

The nature trail and the outdoor classroom can be utilized by outside groups. They are just another way Toyota West Virginia gives back. Toyota has invested over \$10 million in the community, supporting a wide range of philanthropic initiatives.

For information about the Smartflowers at Toyota West Virginia, please contact [George Gannon](#).

Read the original press release [here](#).

Nestlé Supports Renewable Energy Initiatives: Antigua Guatemala Becomes Home to the Innovative "SMARTFLOWERS"

Nestlé's Antigua Guatemala facility becomes home to a unique solar power source that uses a sculptural design and smart solution to produce clean, sustainable energy.

The three newly installed solar panels provide 2.5 kilowatt hours of energy each, covering 40% of the total consumption needs of the new and soon to be inaugurated Nestlé Cultural Center, located in the vicinity of the company's factory.



The Nestlé factory, located in Antigua Guatemala, is known for its high standards and clean, sustainable operation. Today, the factory's facilities are equipped with new and innovative integrated solar technology that will power the new Nestlé Cultural Center.

These panels are known as Smartflowers because they work automatically and have a peculiar shape of petals that make them look like a giant flower. Using biomimicry, they open in the morning, face the sunlight during the day and at night the petals fold back. Even during the course of the year - as the seasons change - they modify their axis to maintain alignment. By following the path of the sun, they achieve 95.6% efficiency, higher than conventional panels that have an efficiency of 90%.

"We are very proud to have installed Smartflowers at our facilities in Antigua Guatemala, as this is undoubtedly an efficient, automatic and innovative solution. Solar energy has been reinvented and today we are pioneers in Guatemala in implementing this technology, as this



type of panels are Nestlé's first in Central America," said Oscar Sulecio, manager of the Nestlé Antigua Guatemala factory.

Environmental sustainability is a fundamental pillar in the Creation of Shared Value with which Nestlé develops its business. "Through initiatives like this, Nestlé fulfills its commitment to protect the planet's natural resources and, in this opportunity, with a double objective, since these panels will be part of the Nestlé Cultural Center, soon to be inaugurated. They will power 40% of the site's energy source and, at the same time, will be an attraction for visitors thanks to their eye-catching design," added Patricio Astolfi, General Manager of Nestlé Guatemala.

These avant-garde solar panels inspired by sunflowers, unlike other options, are self-sufficient and self-cleaning: between each petal there is a brush with fine bristles that, when opened and closed, performs the brushing process. Each Smartflower has a structure of 12 petals and when fully open they reach a radius of 16 feet.

Since 2019, the Nestlé factory in Antigua Guatemala acquires 100% of its electricity from renewable sources. It also has a system of 64 solar panels that generate enough energy to heat the water needed in its manufacturing processes.

Solar energy is currently a cost-effective and accessible alternative, so maintaining and increasing the use of this resource is part of the company's vision of sustainability. Each Smartflower can produce up to 4,000 kilowatt hours per year, with a consumption of around 90% of what is produced, achieving 80% efficiency after 25 years of life.

Nestlé aims to achieve net zero emissions by 2050. "As a company, we have to work with different sources to meet our ambitious goals for the planet. We have chosen to help pave the way to a sustainable future and we will continue to work towards this," concluded Astolfi.

The Smartflowers solar panels are not only an energy and renewable resource, but also a suitable alternative to share the message of social responsibility that the company has in each community where it operates, ensuring that natural resources are used in the best way and always thinking of future generations.

With this new initiative, Nestlé reaffirms the company's commitment to care for the environment as a fundamental and unavoidable premise to operate, promoting a healthier lifestyle for people and their families and contributing to the development of prosperous and self-sufficient communities through the responsible use of the planet's resources.

Read the original press release in Spanish [here](#).

Fujikin Brings Smartflower Technology to Tsukuba Advanced Research Center

The first Smartflowers in Japan stand tall at Fujikin's Tsukuba Advanced Research Center in Tsukuba, Japan, as part of its goal to develop the most environmentally-friendly factory in the city and to highlight its goal of advancing technology. Four of the five Smartflowers can be found at the entrance of the research center, while the fifth is located by the back gate. The Smartflowers were procured and installed in partnership with Kurita Marketing & Management Corporation and Blue Wave Capital Partners (BWCP) in Q3 of 2021.



Founded in 1930, Fujikin has always equated progress with the advancement and evolution of technology. Its corporate policy states that it aims to “[continuously take on extreme challenges to surpass the farthest bounds of technology](#)”. The company boasts numerous commendations and awards, as well as a diverse variety of projects ranging from ultra-precision flow (fluid) control equipment and systems to even space exploration.

Fujikin has developed and championed numerous technologies and projects to create a more environmentally-friendly world, with the Smartflowers at the Tsukuba Advanced Research Center playing their part in its [sustainable initiatives](#). The company manufactures valves and other industrial products that produce less cleaning waste, operates an environmentally-



friendly sturgeon aquaculture facility, and continues to invest considerably into the production, transportation, and storage of hydrogen to support Japan's push for fuel cell electric vehicles.

"It was our great honor to introduce the Smartflower to Japan and to Fujikin. Visitors at the Tsukuba Advanced Research Center have found the new Smartflowers very fascinating and have praised the solar systems for their beautiful design and shape. As the centerpiece of the research center, the Smartflowers have become symbols of Fujikin, representing the company's mission to promote renewable energy," said a representative of Kurita Marketing & Management Corporation.

Jim Gordon, CEO of SmartFlower Solar, remarked, "We are honored that Fujikin installed the first Smartflowers in Japan to showcase their commitment to sustainability and a better energy future. Their leadership will inspire others to follow their path."

Gomunoinaki Invests in Sustainable Development with Innovative Smartflower Solar Solution

A leading-edge solution to provide clean energy for the community and to bring sustainability to their larger society.

NAGOYA, JAPAN. (July 21, 2022) – Gomunoinaki, a Japanese global trading company with R&D functions that specializes in supplying rubber/plastic goods to automotive, housing, home appliances, office infrastructure, and medical industries, installed a Smartflower at their headquarters in Nagoya, Japan in March 2022. The Smartflower, an aesthetically beautiful yet efficient and innovative solar product, was chosen by Gomunoinaki to act as a symbol of their support for the [United Nations' Sustainable Development Goals](#), and with the hopes that more companies across Japan will see the need to adopt sustainable energy solutions.

As a respected company with over a century of history and experience, Gomunoinaki believes in being an innovator and holds its community and environment in high regard. Part of its corporate motto reads, [“By respecting innovation and change, we face the challenges of tomorrow”](#). The investment Gomunoinaki has made in its first Smartflower displays its willingness to tackle the myriad of environmental and sustainable challenges that our society face and is a bold contribution to the [United Nations' 2030 Agenda for Sustainable Development](#).

“We are very happy to have the Smartflower installed at our site,” said Kimiyasu Kimura, Senior Director of Gomunoinaki Co., Ltd., adding, “This charming and appealing Smartflower will act as a symbol of our commitment toward energy conservation and incorporation of reusable energy source to reach carbon neutrality by 2025.”

“It is our great pleasure to serve Gomunoinaki with SmartFlower Solar, a very iconic symbol for SDGs. I am quite confident that the Smartflower at Gomunoinaki will tell surrounding communities the great value of zero-carbon society as well as self-sustainable renewable energy,” said Kaoru Usami, Representing Director of BWCP.





Manufactured and produced by Boston-based company SmartFlower Solar, the Smartflower is a cutting-edge solar product that employs a multitude of intelligent features to combine efficiency and beauty into one sustainable product. The core brilliance of the Smartflower is in its dual-axis tracking system. At sunrise, Smartflower opens its panels to the optimal 90° angle to the sun and follows the sun's path across the sky, producing up to 40% more energy than stationary solar panels. SmartFlower Solar has installed thousands of Smartflowers worldwide, with notable clients like Adidas, Nike, Siemens, Carlsberg, and Vodafone.

“We are honored to add Gomunolnaki to our global roster of blue-chip corporations. Their decision to install the Smartflower in front of their corporate headquarters is one of their visible commitments to sustainability and will also inspire and educate their customers, suppliers, and employees to incorporate sustainability initiatives in their operations and daily lives,” said Jim Gordon, CEO of SmartFlower Solar.

About Gomunolnaki

Gomunolnaki made its debut in 1919 as Inaki-Shoten, a distributor of industrial rubber products, in Japan and have strived through for over a century supplying automotive and other industries with rubber/plastic products. Being traditional and respecting long built relationship with customers, suppliers and the community, while maintaining flexibility and meeting the fast-changing society's needs, the company has grown into a global trading company with R&D functions and now has 18 subsidiaries in 10 countries around the world. Learn more at <https://www.inaki.co.jp/>.

About SmartFlower Solar

SmartFlower Solar is based in Boston, Massachusetts, and manufactures and markets the revolutionary and patented Smartflower solar energy system. Its product platform consists of the Smartflower, Smartflower +Plus – which has an integrated battery storage component – and the Smartflower EV which is a solar powered electric vehicle charger. The company sells its products globally to a wide range of residential, commercial, and institutional energy users searching for iconic design and optimal solar and energy storage solutions. Learn more at www.smartflower.com.

About Blue Wave Capital Partners

Blue Wave Capital Partners (“BWCP”), representing Smartflower Solar in Japan, has been in the power and energy industry over the past decades. BWCP has a wide variety of network relationships with many industry leaders in Japan as well as in the US, being involved in project development, construction management, operation and maintenance as well as project finance arrangement for many different kinds of a power generating facility. BWCP's mission is to contribute to a sustainable growth society with zero-carbon and environmentally friendly best available technology.

Enerjisa Üretim Brings Smartflower to the Sabancı Holding Headquarters in Turkey

Enerjisa Üretim is the leading electricity generation and trade company in Turkey. They generate energy from a variety of sources at 21 different power plants across the country and firmly believe that clean energy is the best way to invest in the future. With their sustainability goals and renewable energy portfolio in mind, it's no surprise that Enerjisa Üretim and E.ON (a European electric utility company) chose to represent the importance of sustainable energy and innovation with their new Smartflower.



The Smartflower was installed in the garden of Sabancı Holding Headquarters in Istanbul, Turkey in February 2021. All energy generated will go to powering the Head Office Building, and the flower will serve as a visual reminder of the importance of climate change and sustainable energy for all who see it.

İhsan Erbil Bayçöl, the CEO of Enerjisa Üretim had this to say about the new Smartflower: "With our investment in 21 power plants, 56% of which use domestic and renewable resources, we continue to generate an uninterrupted supply of energy for our customers and community. Our mission at Enerjisa Üretim is to generate energy for a better future by respecting life, which is why 'Sustainable Energy Generation and

Trade' is our top priority when it comes to business strategy. It is the very core of our operations.

Many of the environmental and social responsibility projects we work on and have worked on will also contribute to the United Nations' Sustainable Development Goals. We aim to develop and manage these projects with our sustainability approach and principles in mind. We will continue to work on projects that promote the widespread use of smart and high-tech products such as the Smartflower, which generates eco-friendly and sustainable energy for our customers.”



Flower Power Comes to Marietta With Cobb EMC's New Solar Flower Garden

A new and innovative Solar Flower Garden was unveiled on the Cobb EMC Corporate Campus in Marietta, Georgia back in June 2020. The garden contains three Smartflowers and is part of Cobb EMC's ongoing campus microgrid and sustainability project, Project Solarbe.

Peter Heintzelman, the CEO of Cobb EMC, was the catalyst who brought Smartflower to the member-owned electric co-op's attention. He had heard about the Smartflower last year and asked his team to do more research into the award-winning product. Months later, Cobb EMC has now installed three Smartflowers in their Solar Flower Garden, owns a mobile fourth Smartflower that can easily be transported to local events, and is also a distributor for Smartflower.



“Our Smartflowers are always a conversation piece,” said Michael Codichini, the Public Relations Director of Cobb EMC, citing its sleek design and its prime location along Highway 41 in Marietta as the main reasons. Visitors are encouraged to stop by the garden to see the Smartflowers in action, all while learning about sustainable energy and Cobb EMC's renewable energy efforts. “To look at a time-lapse video is impressive, but to actually go out there and stand next to a 17 feet tall solar flower... it is visually substantial. When our visitors see it, they are blown away by the technology... their imagination is peaked,” said Christine Mullinax, the Commercial Industrial Account Manager at Cobb EMC.

The Smartflowers are even getting attention through social media, with many online users sending the co-op messages like “What an impressive solar design”, “The garden looks amazing”, and “These are a great testament to Cobb EMC's commitment to sustainability!”



The Solar Flower Garden is open not just to Cobb EMC members, but to the larger community as well. The garden is open to the public from dawn to dusk, and tours of the garden are available for members, schools, and the community to learn about the co-op's sustainability efforts. Larger groups are also encouraged to plan corporate functions or lunch-and-learns in the garden. "The Smartflowers not only educate our community about solar energy, but also allows for our team to observe and research how this innovative technology works for future projects," said Tim Jarrell, the VP of Power Supply & Planning at Cobb EMC.



When it comes to building a sustainable future, Cobb EMC already has a plan. The three Smartflowers in the garden work together with the rooftop solar found on most of Cobb EMC's campus buildings to feed their battery storage project and microgrid, all with the goal of reducing their campus carbon footprint. "The Smartflowers are one part of the blueprint to achieve a better and more sustainable future," said Michael. Future goals on this blueprint include additional utility-based solar, creating a campus microgrid, as well as creating a residential battery program.

"When we look at our Smartflowers, we feel it represents ingenuity and sustainability coming together to better our community and planet," said Tim. When asked about how the Smartflowers are bringing the co-op and their community together, Christine had this to say: "We hold an immense pride in our Smartflowers... we traditionally put all our energy into reliable electricity and keeping rates low, but now we can also use this investment into new solar technology to make our community stronger."

Smartflower Spends its Fourth Year with Enel Chile



Enel Chile, Chile

The Smartflower at Enel Chile was installed back in 2015 and is still blooming brightly. During the 4 years it has been installed, the Smartflower has been lauded as an architectural icon that acts as a visual representation of Enel Chile's sustainable initiatives, and as a first step towards their larger sustainability journey.

Enel Chile first heard about the Smartflower from Solarix, Smartflower's dealer in Chile, and decided to install the innovative new solar system after some research due to its efficient dual-axis tracking system, energy savings, and its aesthetic appeal. "The Smartflower has a beautiful structure and generates a powerful visual impact that produces a completely green atmosphere within the company," said Sebastián García Gallardo, the Engineering Leader at Enel X, "and since the Smartflower is installed in our garden, no roof was needed."

Photo taking is the most common response people have after seeing the Smartflower at Enel Chile. Many guests and clients always end up asking questions about the solar system's functions, solar generation, and benefits, with some clients even wanting to install a Smartflower in their own buildings! Parking for electric vehicles is also available nearby, further emphasizing Enel Chile's dedication to creating a green environment. "The Smartflower is a symbol of our sustainability initiatives... it declares



the new vision of the company and shows that we are one hundred percent committed to environmental and technological progress,” said Sebastián.

The Smartflower also played an active role in Enel Chile’s 2017 Christmas plans, illuminating the country’s first 100% renewable energy-powered Christmas tree. The Smartflower charged a system of batteries throughout the day, which was then used to power the 72,000 LED lights that adorned the Christmas tree. Over 700 people attended the event, including Enel employees, members of the neighborhood boards, as well as government officials like Andrés Rebolledo, the Minister of Energy, Felipe Alessandri, the Mayor of Santiago, and Marco Ricci, the ambassador of Italy.

When asked about Enel Chile’s plans for the future, Sebastián had this to say: “Our dream is to become a Smart City, with smart buildings, smart public infrastructure, smart houses, and smart neighborhoods. The Smartflower is one of our first steps towards fulfilling this journey... This is only just the beginning.”

The Palm Beach Pickle Company Makes Green Pickles Truly 'Green' with Smartflower



Jon Drettmann, owner of the Palm Beach Pickle Factory and his Smartflower

Jon Drettmann's life changed three years ago when he won a bid for a Smartflower at the Leonardo DiCaprio Foundation Gala Auction. Today, he's using his Smartflower to power his company in Florida, the Palm Beach Pickle Company, and make green pickles that are truly 'green'.

"In this day and age, it'd be almost silly not to go solar," said Jon, when asked about his decision to integrate the Smartflower into his sustainability initiatives. The Palm Beach Pickle Company was created with the goal of making the best pickles in the world and being environmentally conscious. The factory that Jon owns has LED lights, uses



recycled materials where possible, and a Smartflower that helps power operations while producing significant cost savings. “The Smartflower is located on a second floor flat roof and is the flagship of the whole factory... the stars aligned for me [at the Leonardo DiCaprio Foundation Gala Auction] and it fit nicely into the puzzle, like everything else in this project,” said Jon.

Clean solar energy isn't the only thing Jon gets from his Smartflower, though. The Palm Beach Pickle Company resides in an artisanal industrial zone, near glass art factories and schools. Many of the people who pass by end up asking about the Smartflower, and Jon is happy to engage them in conversation. “The beauty is that we're in a small town in Florida... word gets around. It gives me more to talk about than just pickles,” said Jon.

“Everything here is grown locally,” said Jon, “We're fortunate to be able to put our own food on our tables.” Green pickles both grown under the Florida sun *and* powered by solar energy truly puts a new meaning to the words 'locally grown'. It's great to see a small local business such as the Palm Beach Pickle Company thrive, especially after such a fateful encounter with the Smartflower. Here's hoping that the stars keep aligning for Jon Drettmann and the Palm Beach Pickle Company!

Merlin ERD Perth Headquarters – Merlin ERD



Merlin founder and Executive Chairman Iain Hutchison harnesses "flower power" to drive the Perth headquarters at Merlin House, Australia

"The latest testament to our commitment to sustainable energy."

"All of us have a part to play in the move towards sustainable energy, and we are pleased to play our part reducing our carbon footprint here in Perth. With no CO₂ output, [the Smartflower] plays a large part in power generation for Merlin and helps us improve our green credentials... It's great to be able to focus on -and invest in- technological advances in sustainable energy which have value both in monetary terms to the investor and in environmental terms to the country. The Merlin Smartflower is the latest testament to our commitment to sustainable energy generation and environmental engagement."

– Iain Hutchinson, Founder and Executive Chairman of Merlin ERD

Enel Chile



The Smartflower at Enel Chile, Chile

“An architectural icon.”

“We are happy with our Smartflower. It works really well and our visitors find it attractive. We have a lot of electric vehicles parked around the Smartflower, so it looks like a green efficient zone. I think Smartflower is a good option for companies, not just for energy production, but for the aesthetic impact and external benefits it brings. Our flower was installed around 4 years ago and is still an architectural icon for us.”

– Sebastián García Gallardo, Engineering Leader at Enel X

The Renaissance Collective – Mohawk Group & Groundswell



The Renaissance Collaborative, Chicago, USA

“A beautiful way to demonstrate a sustainable energy future.”

“Deploying solar and storage installation at schools and community centers is a beautiful way to demonstrate how a sustainable energy future connects with educational and economic empowerment for everyone.”

– Michelle Moore, CEO of Groundswell