

A worker wearing a blue hard hat and a high-visibility safety vest is shown in profile, looking down at a tablet device. The scene is set at night, with a blurred background of industrial lights and structures, including a tall chimney with red lights at the top. The overall atmosphere is professional and focused on technology in an industrial setting.

Panasonic

ENERGY AND UTILITIES

Providing end-to-end solutions
for renewable energy



Smarter energy initiatives for a better return on investment.

Your clean energy partner

For decades we've worked to become one of the most trusted partners for businesses, municipalities and utilities seeking smarter energy initiatives. Working side-by-side, we're able to forge alliances that achieve customer goals, increase value and move us all closer to a more sustainable world.

True integrated thinking

Energy generation, management, delivery, storage and consumption is a complex and ever-changing enterprise. To meet our partners' wide-ranging needs, we've developed solutions for every stage of the process, which all function together seamlessly. This improves reliability, streamlines procurement and helps lower total cost of ownership.

Here are some of the solutions that our municipal, industrial, commercial, utility, construction and land development partners are currently taking advantage of:

- Panasonic heterojunction (HIT) solar panels that deliver 25.6% efficiency – among the world's highest
- Breakthrough energy storage solutions for utilities that help stabilize fluctuations in energy demand and generation
- Energy operations and management services that resolve day-to-day concerns
- High-efficiency lighting and controls, advanced HVAC and cogeneration technologies
- Extensive planning, design and financing expertise for all project sizes and requirements

Gulf Power, Sonoma Raceway, University of Colorado, the City of Denver, Macerich and many other others are reducing costs and environmental impact by partnering with Panasonic.

Eco's first requirement: sound economics

For many businesses, the reality is that clean energy choices must improve the bottom line. So we work tirelessly to develop and optimize the performance of cost-efficient solutions, created through our in-house R&D resources. And as experts in sophisticated green energy financing models, we can tailor a financing package that best meets your needs, including programs that require no capital outlay.

Finding the best solution

Because every business is unique, our experts identify technologies that will create the most profound and visible energy transformation for you. We focus on:

- Supply-side projects that generate renewable energy on or near your facility, including solar panels, small wind turbines or combined heat and power
- Demand-side projects that reduce your energy usage, including lighting, boilers and smart temperature management



Getting started with solar

We know it can seem daunting, which is why the first step should be consulting with our specialists. They'll work with your leadership and management to identify the three central needs of your project – timeline, placement and purpose. Whether your goal is reducing energy emissions, achieving LEED certification, lowering costs or enhancing brand appeal, our step-by-step guidance can help chart your course there.

Once we've designed and installed your solution, our operations and management support will keep it up and running. We make it easy with flexible service levels and cost structures.

Ultra-efficient panel technology

More light in and better use of it means fewer panels to install and greater cost savings. With its ultra-thin, amorphous silicon layers, our HIT technology absorbs more sun. An ingenious bifacial design captures light from both sides of the panel while a unique interior structure reflects less light out. And with advanced solar tracking systems, panel angle can be optimized throughout the day.

Solar Planning,
Development,
Implementation and
Maintenance

Energy Storage Solutions

Smart Energy
Management

Smart City Solutions

Green Tower
Technologies

Combined Heat and
Power (CHP)

Advanced HVAC

Energy-efficient Lighting
and Lighting Controls

Innovations for utilities and telecommunications



Multi-stakeholder microgrids

In Colorado, CityNOW – our North American smart city initiative – is pointing the way forward with an innovative public-private partnership. Encompassing many assets, uses and stakeholders, our solar+storage microgrid is enabling utility Xcel Energy to test emerging technologies for broader deployment, while helping Denver and its international airport to pursue aggressive sustainability goals.

Optimizing battery storage

Battery storage is quickly gaining a foothold as energy systems evolve to accommodate the two-way flow of renewable power. At Panasonic, we're helping utilities unlock multiple value streams from lithium-ion energy storage. For example, our solutions can take maximum advantage of surplus solar power generation, reduce peak demand on the year's hottest days, keep prices in check through energy arbitrage, provide backup power to facilities, and more.

Greener cell towers

As energy demands rise, we're helping telecom providers maintain cellular and Wi-Fi reliability. To keep critical infrastructure up and running, our comprehensive solution combines powerful lithium-ion energy storage with intelligent remote management and solar power generation. This energy-as-a-service program has no capital expenditure requirement to get started. And we're proud to report it saves money over the long haul, helping reduce power OPEX by up to 50%.

Turning waste into energy

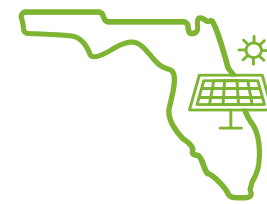
Panasonic Combined Heat and Power (CHP) units help our industrial and utility partners get more from every energy dollar by capturing waste heat. This "free" energy is used to create steam, and hot or chilled water for facility heating, industrial uses and refrigeration. Our projects include upgrades to boilers, chillers and condensers, taking maximum advantage of CHP's thermal benefits.

Partnerships powering the future

- One of Florida's largest solar projects is powering up, thanks to the end-to-end solution provided by Coronal Energy, powered by Panasonic, a leading developer of large-scale solar PV solutions in North America. We're installing 1.5 million solar panels, enabling Gulf Power to generate 120 MW of electricity – enough to power 18,000 homes.
- Canada's first smart power microgrid, at the British Columbia Institute of Technology, features a 250kW solar parking canopy built with Panasonic modules, a 500kW energy storage and management system with Panasonic lithium-ion batteries, and fast-charging EV stations.
- Our 11-site solar PV project for Macerich, a large shopping mall operator, spans multiple states, each with its own regulations. Our comprehensive solution included regulatory filings, financing, implementation and long-term maintenance, and is expected to reduce energy usage by up to 30% at the installed properties.



Panasonic: Energy and utilities innovations that really add up



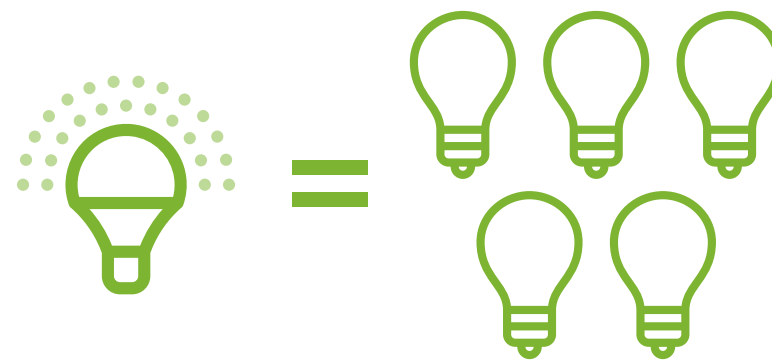
3.5 MILLION TONS

Projected CO₂ emissions reduction over 25 years from the 120 MW Gulf Power solar project by Coronal Energy, powered by Panasonic



25 YEARS

Minimum life expectancy of Panasonic solar panels

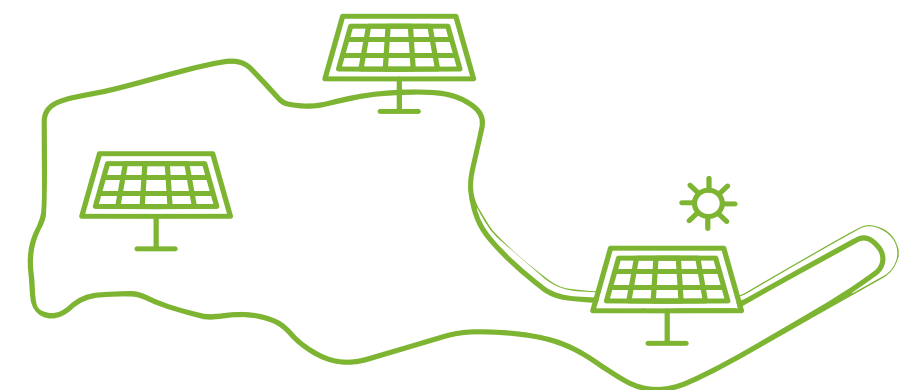


5X MORE EFFICIENCY

Panasonic LEDs use one-fifth the energy of incandescent bulbs

1,652 SOLAR PANEL ARRAYS

These arrays offset up to 41% of the electrical load at Sonoma Raceway



Technologies that move us toward a better life and world

At Panasonic, we anticipate the future, innovate continuously and integrate disruptive technologies into breakthrough solutions for our customers. Our goal? Create technologies that move us toward a better life and a better world. We provide integrated solutions in these four areas:

Sustainable Energy that advances eco technologies and transforms industries

Immersive Experiences that turn live events into unforgettable, personalized experiences

A Connected World that meets today's information, connectivity and transportation needs

Integrated Supply Chain solutions that bring intelligence and insight to how products are made, shipped and sold



Learn how Panasonic can help
move your business forward
sustainably.

na.panasonic.com/ca