Energy that Connects

Hanwha Energy

Empowering Progress, Connecting the Future

Driving Progress with Energy.
Shaping the Future with Technology.

At Hanwha Energy, we believe that energy is more than just a simple supply source—it creates a connection. We bring together solar, LNG, hydrogen, combined heat and power, and smart factory solutions to create a seamless energy ecosystem. By linking diverse technologies and industries into one seamless flow, we're creating a future where people and industries thrive together whilst keeping sustainability at the center of every step we put forward.

Where Clean Energy and Innovation Converge

Energy Connects Industries, Daily Life—and People.

At Hanwha Energy, we harness clean energy and create innovative technology to drive sustainable growth worldwide. Our diversified energy portfolio and track record of consistent strong performance create new values for industries and everyday life. With decades of global operations and technical leadership, we build efficient, reliable systems that go above and beyond today's standards—setting the pace for what energy should be tomorrow.

A+/Stable
4 consecutive years of corporate bond credit rating excellence (Korea Ratings, Korea Investors Service, NICE Investors Service)

KRW 5.6 trillion
Annual revenue (2024 consolidated)

105,000
Retail power customers across the U.S., Australia, and Europe (as of November 2025)

1,012MW
1GW-scale LNG combined-cycle power plant construction in Tongyeong, Korea

17.8GW/48.1GWh
Global solar project pipeline (PV/ESS, as of December 2025)

225MW
Expansion into AI-powered data centers in Texas, USA

2TWh
Retail power sales across the U.S., Australia, and Europe (2022–2024 cumulative)

50MW
World's first and largest by-product hydrogen fuel cell power plant

Connecting the World

Where energy begins and the future takes shape,
Hanwha Energy connects industries, people, and the world—
shaping every flow of life through the power of sustainable growth.

Light —— That Powers Life

Clean Energy That Lights the Way Forward

Across the world, Hanwha Energy brings solar, power retail, and ESS together as one seamless flow. From sun to socket, we're shaping a cleaner future—one connection at a time.

SOLAR POWER GENERATION

Building a Brighter Tomorrow With Solar

Hanwha Energy is expanding its end-to-end downstream solar operations across global markets—from project development to operation. With tailored strategies for each region, we're accelerating renewable adoption and leading the way in building stable, future-ready power infrastructure.

Hanwha Energy leads large-scale solar projects in the U.S. through 174 Power Global, established in 2013. Active developments span California, Texas, Arizona, and New York. Recognized as North America's top solar developer by Wood Mackenzie in 2018, we're currently building out 10GW of next-generation power as of 1Q 2025. Our presence in Australia began in 2016 with an initial investment, followed by steady expansion across Victoria and New South Wales. Across Europe, we've built a 1.5GW pipeline since 2018, focused on Spain and Italy. Key milestones include the sale of a 50MW project in Seville, Spain, in 2020, and additional sales of 78MW and 393MW in 2022 and 2023, respectively. Japan marked our entry into Asia with a 24MW plant in Oita. Today, we hold a reputation for developing and operating solar plants totaling 300MW nationwide solidifying our position in the region.

Ho'ohana Solar Project, Hawaii, USA

Offaly County ESS Project, Offaly County, Ireland

ENERGY STORAGE SYSTEMS

Smart Energy Storage for a Balanced Grid

With deep expertise in energy storage systems (ESS) and energy management systems (EMS), Hanwha Energy delivers integrated solutions that enhance stability and efficiency in the power sector. By building high-efficiency ESS to balance supply and demand and improve power quality, we're enabling reliable and sustainable energy infrastructure worldwide.

In the U.S., we hold a 5.7GW ESS pipeline through 174 Power Global, advancing large-scale solar-plus-storage projects. In Australia, we're scaling battery innovation with the Richmond Valley project—275MW/2.2GWh of standalone high-capacity ESS that marks the start of our journey as a next-gen BESS developer. Across Europe, hybrid plants combining solar and ESS are expanding across Spain and Italy. Notably in Ireland, we've completed commercial operation of a 200MW standalone ESS project, delivering both grid frequency regulation and proven profitability. Ongoing developments include a 63MW/160MWh ESS and a 4,000MWs synchronous condenser project—laying the foundation for new business models and regional market expansion.

ENERGY RETAIL

Bringing Clean Energy Closer to Every Customer

Hanwha Energy is changing how people connect with power—delivering 100% renewable electricity directly from generation to homes, businesses, and industries. In open markets across the U.S., Europe, and Australia, we go beyond supply, combining solar, storage, and virtual power plants into smart, seamless energy services. Wherever we operate, our solutions are local, renewable, and built for a more sustainable way to live.

Oberon 1A Solar Power Plant (194MW), Texas, USA

In Texas, Chariot Energy launched in 2019 to bring 100% renewable electricity to homes across the state. By 2024, we expanded into commercial and industrial markets, adding multi-source power supply to our portfolio. That same year, we were named “Retail Electricity Provider of the Year,” affirming our market leadership. We’re also building synergies through new ventures such as data center power infrastructure and preparing to enter the PJM (Pennsylvania, New Jersey, Maryland) market by 2026. In Australia, Nectr made its debut in 2020, and by 2023, it moved beyond powering homes to support C&I operations. With the acquisition of a local solar installer, we now offer full-service rooftop solar and ESS solutions—creating smarter energy for homes and businesses across the country. In Europe, Imagina Energía launched in Madrid in 2020 with one clear promise: 100% renewable power. Since acquiring Quantum Energía Verde, we’ve grown into a trusted provider of behind-the-meter solar and storage—delivering clean, local energy built for the future.

Pathways to a Sustainable Future

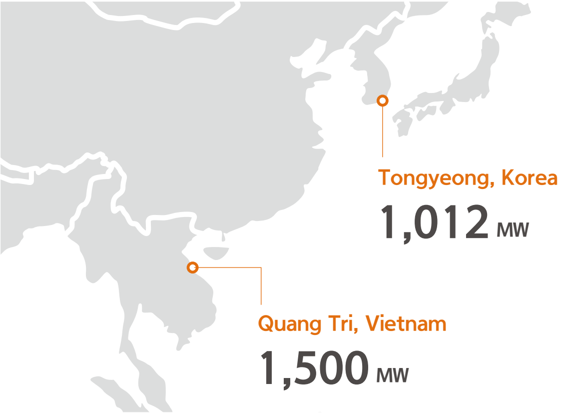
A Real Step Forward Towards Carbon Neutrality

Hanwha Energy drives energy transition with direct LNG imports, balancing stability and innovation. From hydrogen fuel cells to biomass, we're reducing carbon—and building the clean energy ecosystem of tomorrow.

LNG POWER

LNG Power, Rethought for a Cleaner Tomorrow

Powered by Hanwha Group's coverage and capabilities across the entire value chain—from U.S. liquefaction terminals to advanced gas turbine retrofits and carrier shipbuilding—we bring unmatched depth to LNG power. By blending high-efficiency combined-cycle technology with cogeneration expertise, we're helping to keep industrial zones and local grids generate their energy both cleanly and steadily. Every project, whether it be at home or abroad, moves us closer to a low-carbon, sustainable future.



Tongyeong Eco Power

LNG Combined Cycle Power Plant in Tongyeong

Together with HDC (Hyundai Development Company), we brought to life a 1,012MW LNG power plant in Tongyeong which is regarded as one of Korea's most advanced power plants. The plant went live in October 2024, delivering cleaner energy with significantly lower carbon and fine dust emissions. It's also the first plant in Korea to use its own LNG storage tank, securing a smarter, more stable fuel supply. With enough capacity to power nearly one million homes, the plant blends H-class gas turbine with high-efficiency design to strengthen and shape the future of Korea's energy. Furthermore, with a long-term supply partnership signed with TotalEnergies in 2022, it's not just built to perform—it's built to last.

Gas-to-Power (GTP) Project, Quang Tri Province, Vietnam

Gas-to-Power Business in Vietnam

Hanwha Energy is working alongside Korea Gas Corporation, Korea Southern Power, and Vietnam's T&T Group to deliver something no one's ever done before—a fully integrated Gas-to-Power project in Quang Tri Province. At its heart: a 1,500MW LNG power plant and a 200,000kℓ terminal, designed to turn clean fuel into stable, scalable energy for the region. From LNG sourcing to generation to grid, it's all connected—seamlessly. This isn't just a milestone for Vietnam; it's a role model for the art of possible. With commercial operations targeted for 2030, the project stands as a key pillar in the country's national energy plan—and a bold step forward in Hanwha Energy's vision to build progress and connections across Asia.

HYDROGEN FUEL CELL POWER

Daesan Hydrogen Fuel Cell Power Plant

The Future of Net Zero, Powered by Hydrogen

Hanwha Energy is unlocking the next frontier of clean energy through hydrogen fuel cell technology—generating electricity by harnessing the electrochemical reaction of hydrogen and oxygen. At the center of this vision is the Daesan Hydrogen Fuel Cell Power Plant, completed in June 2020. It's the world's first large-scale plant to use by-product hydrogen from petrochemical processes as its fuel source. At 50MW capacity, it generates around 400,000MWh of electricity annually—enough to power 170,000 homes. With zero greenhouse gas or air pollutant emissions, this iconic project is more than a clean energy milestone, it's a bold symbol of what hydrogen economy can become and it's already commenced to shape that future.

BIOMASS

Turning Waste Into Power, and Power Into Progress

At Hanwha Energy, the shift to clean energy goes beyond carbon—it's about circularity. In Korea's Gunsan National Industrial Complex 2, we're accelerating the transition by replacing a portion of cogeneration fuel with carbon-free biomass. By repurposing unused forest biomass—once considered waste—into renewable fuel, we're building a virtuous cycle of carbon reduction and resource reuse. This approach not only cuts emissions but also supports domestic forestry and regional industry. Step by step, we're phasing out coal and replacing it with biomass—creating a cleaner, more stable energy supply for industrial communities and moving towards a truly sustainable future.

Empowering Industry With Efficiency

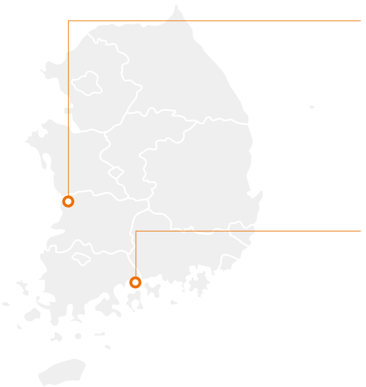
Energy That Drives Industrial Progress, Sustainably

In the heart of Korea's industrial zones, Hanwha Energy keeps things moving. Through combined heat and power operations in Yeosu and Gunsan, we deliver stable, efficient electricity and heat—strengthening Korea's industrial competitiveness and boosting regional energy performance.

INTEGRATED ENERGY

Efficiency That Powers Industry Forward

Hanwha Energy responds to complex industrial energy needs with integrated combined heat and power systems—delivering electricity and heat from a single, high-efficiency source. By capturing and reusing waste heat during power generation, we maximize energy use while cutting greenhouse gas and air pollutant emissions. Direct supply to nearby facilities minimizes transmission loss, improves operational efficiency, and supports cleaner, more reliable energy. It's how we help our industrial clients grow stronger—while building a future that runs smarter.



Gunsan, Korea

Heat **935** ton/hr

Electricity **222** MW

Yeosu, Korea

Heat **1,450** ton/hr

Electricity **250** MW

Yeosu National Industrial Complex

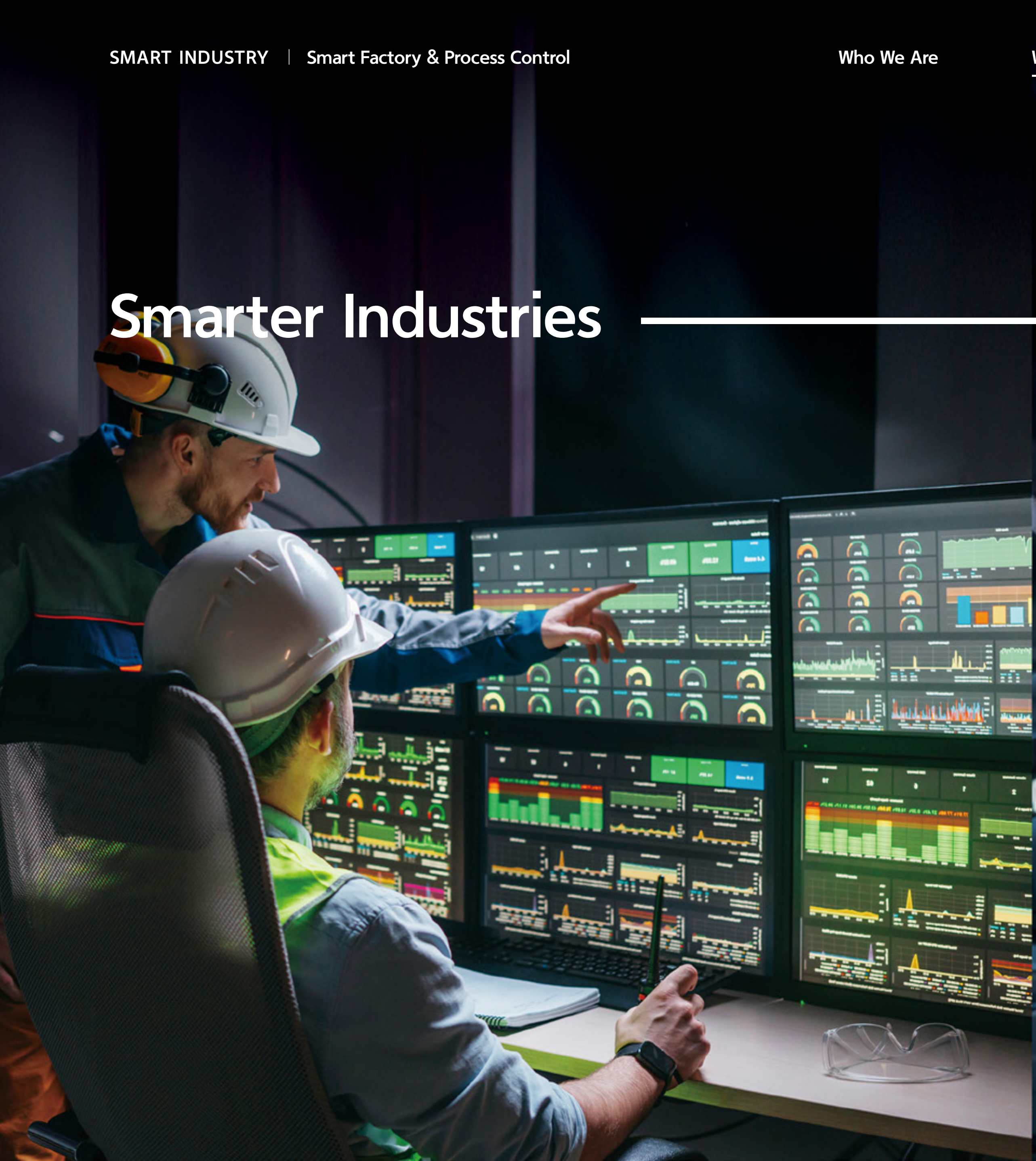
Yeosu National Industrial Complex

At the Yeosu National Industrial Complex, Hanwha Energy operates a high-efficiency combined heat and power system that supplies both electricity and process heat—raising productivity and energy efficiency across the site. As a decentralized power source, it meets local demand directly, reducing transmission losses and supporting greater grid stability. We're also replacing coal-fired systems with lower-carbon LNG, significantly cutting emissions. With expansion underway, we're strengthening our role as a combined heat and power provider—supporting industrial growth while advancing Korea's path to carbon neutrality.

Gunsan National Industrial Complex II

Gunsan National Industrial Complex II

At the Gunsan National Industrial Complex 2, Hanwha Energy powers the future of manufacturing with cogeneration—supplying heat and electricity through one streamlined system. But we're not stopping at stability. By replacing part of the fuel mix with carbon-free biomass, we're turning waste into renewable power and cutting emissions at the source. This shift supports not only a cleaner grid—but also local industries and ecosystems. What emerges is a sustainable energy model—where clean power, circular value, and community growth all move in sync.



Smarter Industries — Sustainable Growth

Boosting Industrial Performance With Smart Convergence

At Hanwha Energy, our Convergence Business Unit brings precision to performance—elevating industrial efficiency through intelligent control and engineering. From PLC and HMI–based automation to fully integrated energy systems, we enhance the productivity and stability of key industries like semiconductors, displays, and rechargeable batteries. Globally, our solutions extend from advanced O&M to smart plant optimization—unlocking new value at every stage. By blending clean energy with smart technology, we're not just improving how industry runs. We're building the energy ecosystem that helps it thrive.

SMART FACTORY

Shaping the Future of Manufacturing With Digital Intelligence

At Hanwha Energy, we merge digital innovation with industrial engineering to deliver seamless, end–to–end smart factory solutions—from precision control systems to advanced data analytics. Through unified utility management, 3D visualization for real–time monitoring, and smart yard automation, we elevate operational efficiency and reliability at every level. These smart systems don't just streamline processes—they empower industries to adapt, perform, and grow sustainably in a fast–changing world.

Integrated Facility Monitoring and Control Systems

In semiconductor and display manufacturing, the demand for flawless quality and yield makes integrated utility control systems like FMCS more essential than ever. Our system ensures round–the–clock monitoring of HVAC, UPW, WWT, and power systems—powered by predictive diagnostics and dual–network redundancy to maintain stable, contamination–free operations. More than just control, it's intelligence in action. By uniting system engineering with data–driven insight, we help manufacturers boost yield, enhance reliability, and future–proof their smart factory environments. It's one of our most advanced applications of smart convergence technology—built for performance, designed for what's next.

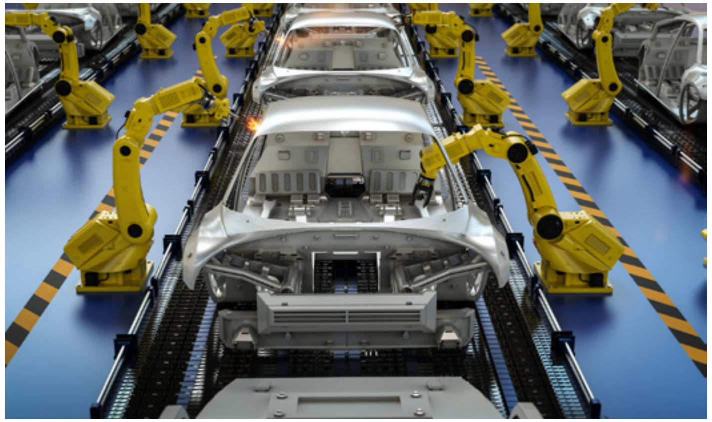
Smart Yard

Hanwha Energy's Smart Yard solution brings IoT, AI, and digital twin technologies together to revolutionize productivity and operational efficiency in shipbuilding and manufacturing. Real–time data sync enables automatic recognition of block locations and conditions, while drones, LiDAR, and vision technologies provide precise progress tracking. Add to that autonomous block transport, robotic welding and grinding, intelligent material handling via AS/RS (Automated Storage and Retrieval System), and a 5G–powered control infrastructure—and you get a yard that thinks, moves, and responds in real time. It's how we're driving the next level of digital transformation and automation—turning complex industrial spaces into intelligent, connected ecosystems.

FACTORY AUTOMATION

Intelligent Control for the Future of Manufacturing

At Hanwha Energy, we're pushing manufacturing and plant operations to the next level through the fusion of digital control and automation. By integrating precision control, automated systems, and smart monitoring, we elevate process efficiency and operational stability. Our solutions connect process control, logistics automation, electrical and instrumentation engineering, and smart cranes and transport systems—all working in sync to enhance accuracy, flexibility, and safety across the production line. This end-to-end smart manufacturing capability strengthens efficiency on the ground—laying the foundation for more sustainable, future-ready operations.



Smart Process & Engineering

Smarter control starts with smarter design. Hanwha Energy brings integrated automation and engineering to the core of automotive and plant operations—boosting precision, efficiency, and reliability where it matters most. In automotive manufacturing, we optimize every phase—from press and assembly to transport—with GM-certified process controls and AGV-driven logistics. Real-time monitoring ensures seamless flow and stable operations on the line. Across plant environments, our E&I engineering covers everything from panel design and cabling to commissioning. Paired with global-class control technologies, we deliver systems built not just to run—but to lead.

Smart Crane & Transport Systems

Hanwha Energy's smart crane technology applies precision control features—such as sway prevention, collision avoidance, and auto-centering—to reduce in-motion risks and extend equipment lifespan. Automatic alignment further improves safety and reliability during movement and loading. Our smart transport system uses modular rails—straight, curved, and branched—to flexibly adapt to layout needs. With individual shuttle control and real-time logistics tracking, it maximizes transport accuracy and line productivity. Together, these solutions integrate handling, machining, and logistics—accelerating the smart transformation of industrial operations.

GREEN ENERGY PLATFORM

An Integrated Green Platform for the Future of Energy

Hanwha Energy combines solar and ESS expertise with global O&M experience and intelligent control systems to deliver a fully integrated green energy platform—spanning power plant operation to end-to-end renewable energy solutions. Through real-time monitoring and predictive maintenance, we enhance performance and asset value. Our all-in-one system—powered by HEIS, SCADA, and TCS—boosts operational stability and economic efficiency. By connecting generation, operations, and energy trading, we're helping businesses achieve RE100 goals and lead the shift towards a more sustainable energy ecosystem.

Global O&M Services

At Hanwha Energy, our global O&M services are designed to keep renewable power plants performing at their peak—day and night. With Remote Operation Center in Texas, we monitor assets 24/7, diagnose issues in real time, and deliver predictive maintenance that protects long-term value. But we go beyond maintenance. From customized energy consulting to full-scale EPC and O&M, we offer integrated solutions that help Korean businesses get the most from their clean energy investments—efficiently, intelligently, and without compromise.

Global O&M Remote Operation Center in Georgetown, Texas, USA

System Solutions

Efficiency, stability, and performance—delivered through a fully integrated system. At Hanwha Energy, our global O&M expertise powers an all-in-one digital platform designed to manage every stage of renewable plant operations. HEIS* integrates data collection and analysis, work order tracking, reporting, and O&M support into one smart platform. SCADA ensures secure, real-time equipment control and monitoring. TCS** takes optimization even further with advanced backtracking, weather-based scheduling, and system redundancy for maximum output and profitability. With these systems working as one, we help operators reduce complexity, raise asset value, and unlock long-term operational excellence.

*HEIS (Hanwha Energy Integrated System): An all-in-one energy platform optimized for the solar value chain, integrating plant monitoring, control, data collection, and O&M.

**TCS (Tracker Control System): A cloud-based Tracker Control System that maximizes solar generation efficiency and drives higher returns.

Connecting to a Better Tomorrow

Just as today's energy fuels tomorrow's promise, Hanwha Energy moves beyond innovation—grounded in trust, guided by responsibility. We connect people and industries to a future where progress is sustainable, shared, and built to last.

Building Trust, Safety, and Shared Growth

At Hanwha Energy, our commitment to sustainable business is built on three core pillars: ethics and compliance, safety and environmental stewardship, and inclusive growth. Through transparent governance and responsible leadership, a safety-first culture that puts people and the planet at the center, and deep collaboration with partners, we're creating a future that benefits all stakeholders together.

Ethics & Compliance

A Culture of Fairness, Built on Trust

Every decision begins with integrity. Guided by a clear Code of Ethics and a strong Charter of Integrity, we foster a culture built on fairness, transparency, and voluntary compliance. By strengthening company-wide awareness, we put transparent and responsible decision-making into practice, now reinforced by ISO 37301 certification, we are aligning our compliance practices with global standards.

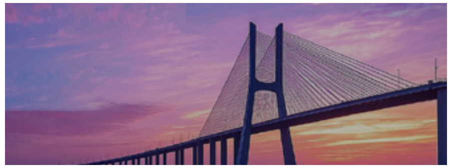
Our compliance program forms the backbone of a structured, proactive legal management system. This includes clear leadership through the CEO's compliance commitment, appointment of compliance officers, regular training, internal monitoring, and distribution of compliance manuals—ensuring adherence to eight core compliance elements and preventing legal risks before they arise. We further support compliance at the operational level through legal reviews, internal transaction screenings, and advisory services. Anonymous reporting channels and whistleblower protection policies reinforce our promise to transparency, fairness, and responsibility at every level of our business.

Safety, Environment & Health Management

Protecting People and the Planet, at Every Step

Safety, environment, and health are more than requirements—they are built into the way we work. Guided by our proprietary HEARs system (Hanwha Energy All Risk-management system), we take a proactive, organization-wide approach to risk prevention. Every employee and partner plays a role—helping us drive towards zero-incident operations and a more sustainable, secure future.

We uphold field-first safety with strict adherence to our 7 Absolute Safety Rules and empower employees with the right to stop work when risks arise. Emergency drills, health programs, risk assessments, and safety goal briefings all form part of our structured approach to prevention. Aligned with national safety policies, we reinforce our readiness and recognize outstanding contributors to safety and health—embedding a culture of protection, awareness, and shared responsibility across the organization.



Shared Growth

Creating Sustainable Value, Together

Sustainable growth means growing together. Hanwha Energy places win-win partnerships at the heart of its business—supporting fair trade and long-term collaboration through a wide range of partner-focused programs. From technical guidance and quality improvement to training and education, we strengthen real foundations for cooperation. Our goal: a healthier industrial ecosystem where innovation and sustainability thrive—together with our partners.

We build trust through transparent and rational procurement practices, and support partner competitiveness through ongoing consultations and capability-building. Our supplier selection and evaluation guidelines ensure fairness and equal opportunity, reinforcing a culture of mutual respect and cooperation. This is how we realize an energy partnership designed not just for progress—but for shared success.

Hanwha Energy: Connecting the World Through Energy

Across Asia, the Americas, and Europe, Hanwha Energy is driving power generation, energy solutions, and smart infrastructure where they matter most. By leveraging a global network and tailoring sustainable energy models to each region, we're helping build a cleaner, more efficient energy ecosystem—one that connects the world, one solution at a time.

A Journey of Energy Innovation

Through relentless innovation and bold ambition, Hanwha Energy has helped shape the foundation of Korea's energy industry—while expanding its reach across global markets. Guided by new technologies and a vision for sustainability, we continue to lead change, writing the next chapter in the story of energy—one built for a better tomorrow.

2007

Hanwha Energy

2007.12
Established Yeosu and Gunjang Cogeneration Plants

2010s

Nov 2012
Merged Yeosu and Gunjang Cogeneration Plants to launch Hanwha Energy

Sep 2014
Entered the solar energy business

Jan 2015
Began commercial operation of Kitsuki solar power plant (24MW) in Japan

Dec 2016
Signed 402MW PPA (Power Purchase Agreement) for solar project in Nevada, USA

Dec 2017
Entered Malaysian solar power market with 48MW project

Jun 2019
Completed 100MW solar power plant in Vietnam

Jul 2019
Completed 125MW solar power plant in Mexico

Launched Chariot Energy, a retail power brand in the U.S.

Sep 2019
Received retail electricity license from the Australian Energy Regulator (AER)

2020s

Feb 2020
Launched Nectr, a retail energy brand in Australia

Jun 2020
Completed the world's first large-scale byproduct hydrogen fuel cell power plant (Daesan Green Energy, 50MW)

Oct 2020
Launched Imagina Energía, a power retail brand in Spain

Nov 2020
Sold 50MW solar power plant in Seville, Spain

Completed 48MW LSS2 (Large Scale Solar 2) project in Malaysia

Jan 2021
Established a renewable energy joint venture in the U.S. with France's TotalEnergies

Oct 2021
Awarded Hai Lang 1.5GW LNG power project in Quang Tri Province, Vietnam, in partnership with Korea Southern Power and Korea Gas Corporation

May 2022
Completed 155MW LSS3 (Large Scale Solar 3) project in Malaysia

Jan 2023
Established 'Horizon,' an LNG trading subsidiary in Singapore

May 2023
Sold 1,661MW solar and ESS projects in Nevada and Arizona, USA

Jun 2023
Sold 120MWh Frequency Regulation ESS project in Ireland

Jun 2024
Established Buyeo Bio

Oct 2024
Began commercial operation of the 1GW LNG Combined-Cycle Power Plant in Tongyeong

Completed merger with Hanwha Convergence

2025

Feb 2025
Obtained project approval for the 490MW Yeosu Eco Energy combined heat and power business

Mar 2025
Signed a supply agreement with Ark Energy for a 2,200MWh BESS (Richmond Valley BESS) in Australia

Secured approval for a 500MW expansion of the 250MW Yeosu Cogeneration Plant

Dec 2025
Earned ISO 37301 certification for compliance management systems

Engineering the Future of Smart Solutions

In 2024, Hanwha Energy integrated its Convergence Business Unit—establishing digital–technology fusion as a new pillar of growth. Building on proven expertise in automation and smart factories, we're advancing industrial efficiency and sustainability—carrying forward our journey of innovation into the future of energy.

Convergence Business Unit

2000s

Sep 2001
Incorporated as SIT Co., Ltd.

Nov 2001
Developed utility integrated control system

Feb 2006
Founded corporate R&D center

Sep 2009
Established USA subsidiary in Austin, TX, USA (SIT Tech Co. Ltd.)

2010s

Aug 2012
Entered automotive and plant engineering businesses

Dec 2012
Established Xi'an subsidiary in China (SIT Industrial Automation System)

Nov 2015
Developed InterSysLink, a data relay solution

Jan 2016
Became an affiliate of Hanwha Group

Apr 2016
Awarded Korea-based Pyeongtaek Project from Company S

Jun 2017
Built ECHO Project smart factory system

Oct 2017
Secured project for Navy waterproof training simulator control system

Sep 2019
Developed WATT, an automated software testing solution

Nov 2019
Developed FIMS (Factory Infrastructure Monitoring Solution)

2020s

May 2022
Launched Green Energy Platform Business Unit (completed transfer of Hanwha Energy O&M business)

Jul 2022
Launched renewable energy forecasting and brokerage service

Oct 2022
Launched integrated energy control platform HEIS 2.0

Nov 2022
Renamed to Hanwha Convergence

Entered U.S. O&M business

Sep 2023
Established "Hanwha-Shinhan TWh" joint venture

May 2024
Opened Global O&M Remote Operation Center (ROC) in Georgetown, TX, USA

May 2024
Awarded project to replace aging cranes at Hanwha Ocean's Assembly Plant 1

Oct 2024
Merged with Hanwha Energy (Convergence Business Unit)

2025

Aug 2025
Established dedicated organization for smart yard digitalization, automation, and intelligence

Aug 2025
Awarded project at Hanwha Philly Shipyard (replacement of 660T Goliath crane system, replacement of 50T level luffing crane system)

Dec 2025
Awarded contract for 1,800T Goliath crane at Hanwha Ocean Dock 1

Hanwha Energy