

Carbon-Free Island Jeju by 2030 (CFI 2030) - Jeju Special Self-Governing Province

Carbon-Free Island Initiative to Achieve Energy Independence and Carbon Neutrality



Jeju Island is a clean ecotourism destination that holds the famous triple crown of UNESCO natural sciences: a Biosphere Reserve (2002), a World Natural Heritage site (2007), and a Global Geopark (2010). To live up to its reputation for a clean environment, efficient energy management and an expanded utilization of renewable energy are essential. A massive power blackout across the island in 2006 caused Jeju to confront the limitations of its existing land-dependent power supply system, and led it to set the goal of achieving energy self-reliance. This gave birth to the CFI 2030 initiative in 2012, to promote energy self-reliance and carbon neutrality in line with Jeju's optimal position for hosting low-carbon green industries, including its exceptional wind resources (annual wind speed of 6m/s and above).

The “CFI 2030” initiative aims to transform Jeju into a carbon-free island by 2030, as the first carbon-free project in the world to target an area with a population greater than 500,000. The project is focused on meeting the entire island's electricity demand through renewable energy, and replacing all internal combustion engines there with eco-friendly electric vehicles. It has also set goals of upgrading energy demand management to realize lower final energy intensity (high efficiency and low consumption), and creating new jobs by leading the new energy convergence industry.

Carbon-Free Island Jeju by 2030 (CFI 2030)

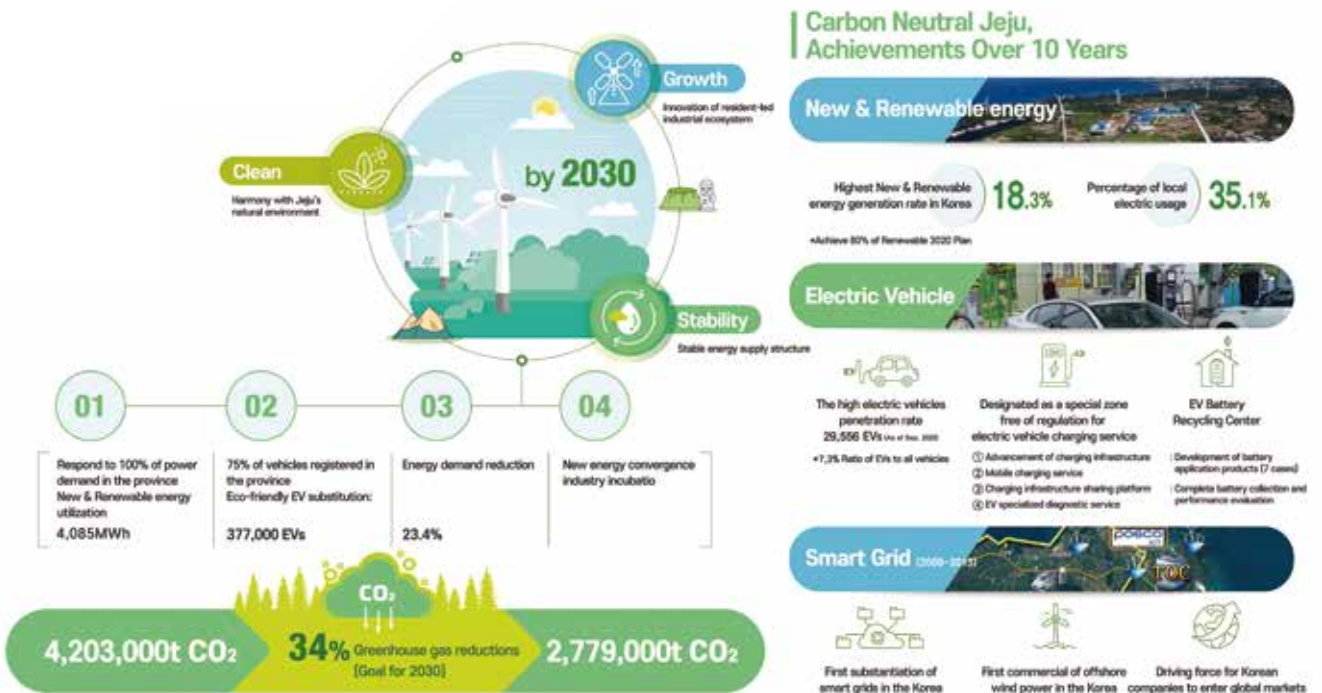


Core Slogan and Vision

Vision	Carbon-Free Island
Core Values	<ul style="list-style-type: none"> · Cleanliness – Establish clean energy system harmonious with Jeju and its natural environment · Stability – Build stable energy supply system · Growth – Create indigenous ecosystem for energy industries
Policy Objectives	<ul style="list-style-type: none"> · Fully meet Jeju Island power demand through renewable energy (4,085MWh) · Convert IC engine vehicles into environment-friendly electric vehicles (377,000 vehicles) · Realize reduced final energy intensity (high efficiency and low consumption) through enhanced energy demand management · Lead new energy convergence industry (to create 74,000 direct and indirect jobs)

Progress

Carbon Free Island 2030



Progress

May 2012	●	Announced “Carbon-Free Island Jeju by 2030” plan
February 2013	●	Released detailed implementation roadmap to “Carbon-Free Island Jeju by 2030”
April 2016	●	Established basic plan for completing “Carbon-Free Island Jeju” vision
March 2017	●	Established detailed action plan for completing “Carbon-Free Island 2030” vision
June 2019	●	Announced revised “Carbon-Free Island Jeju by 2030” plan
May 2022	●	Announced ‘CFI 10th Anniversary – Milestones & the Road Ahead’

Major Programs **Selecting Three Key Indicators for Each of Four Policy Objectives**

		2017	2022	2030
Introduction of Renewable Energy Facilities	Installed Capacity (MW)	605	1,821	4,085
	Capacity (GWh)	1,488	3,720	9,268
	Capacity to Electrical Demand (%)	30	59	106
Electric Vehicle Supply	No. of EVs (unit: Vehicles)	9,206	92,726	377,217
	EV Share (%)	2.5	23	75
	No. of Chargers (unit: Chargers)	8,284	34,603	75,513
Final Energy Intensity	Final Energy Consumption (1,000 TOE)	1,510	1,621	1,581
	Electricity Demand (GWh)	5,014	62,900	8,723
	Energy Intensity (TOE/KRW 1 million)	0.096	0.085	0.071
Leading New Energy Convergence Industry	Production Inducement (KRW 100 million)	-	8,688	10,341
	Employment Inducement (Person)	-	7,369	8,951
	Profitable Business Models for Citizens (unit: Models)	8	18	21

Developing and Promoting Policy Instruments for Each of Five Policy Tasks

- Realizing a clean and stable energy system based on renewable energy
 - Expand renewable energy supply, and increase its capacity limits and flexibility
- Converting to a clean transportation system by expansion in numbers of electric vehicles and chargers
 - Heighten incentives, build infrastructure, and restrict operation and introduction of internal combustion engines
- Realizing a High-efficiency, Low-consumption Society by Upgrading Energy Demand Management
 - Introduce energy-efficient equipment and smart energy systems, and operate energy management programs for buildings
- Securing Innovative Growth Engines in New Energy Industries, in Connection with 4th Industrial Revolution
 - Nurture downstream industries, and lay foundations for win-win growth in convergence industries
- Creating Energy Governance with Citizens' Participation
 - Create citizen-participating energy governance, and extend and lay foundations for business models to promote citizens' participation

Key Outcomes

Electric Vehicle Powerhouse in Korea

Exceeded 20,000 in cumulative number of registered EVs, for first time anywhere in Korea (as of July 2020)
Boasts largest number of EVs in operation in the country at 27,000 — 6.4% of all vehicles on Jeju (as of June 2022)
Greenhouse gas reduction of 60,833 tons/year due to EV conversion (as of 2021)

* Greenhouse gas reductions: 77.5 tons/year (2011) ⇒ 60,833 tons/year (2021)

Expansions in Upstream/Downstream Industries of Electric Vehicles

Completed EV Battery Industrialization Center (September 2019), while Being Selected as Regulation-Free Special Zone for EV charging service (December 2019)

Highest Proportion of Renewable Energy Power Generation (18.2%) in Korea (as of 2020)

Greenhouse gas emission decline of 449,383 tons/year owing to renewable energy supply (as of 2021)

* Greenhouse gas reductions: 88,920 tons/year (2011) ⇒ 449,383 tons/year (2021)

Achievements in International Cooperation

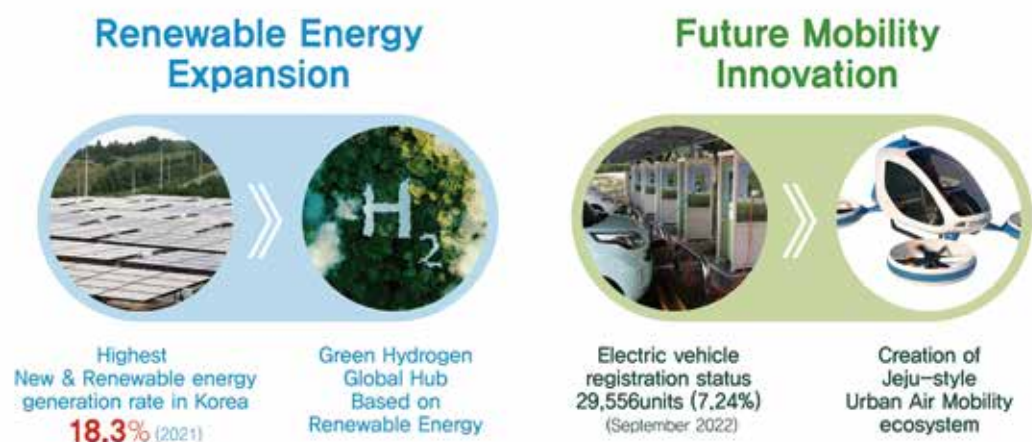
Won “Best Partnership in the Energy Sector Award” of P4G* State-of-the-Art Partnership Awards at COP26 (Glasgow) (November 2021)

*P4G (Partnering for Green Growth and the Global Goals 2030): A multilateral consultative body in which 12 governments, as well as private sector institutes, businesses and civil society, participate as partners with the goal of solidarity for promoting green growth and the Global Goals 2030.

Promoted Jeju CFI 2030 Policies through activities in international organizations and consultative bodies

- Publicized CFI model at United Cities and Local Governments Asia-Pacific (UCLG ASPAC) Congress, as president city (2014 to 2018)

Jeju Special Self-Governing Province, Jeju Energy Corporation, Nampower (Namibian national electric power company), etc. searching for methods of international cooperation in energy (since 2020)



Future Plans

- Efforts for sustaining carbon neutrality to invigorate uses of new energy and EVs
- Extension of initiative to all areas of Jeju Island
- Successful implementation of carbon-neutral initiatives through gaining empathy of citizens
- Promoting the Green Hydrogen Global Hub Project

Jeju and the Republic of Korea will lead the way to global achievements.



Green Hydrogen Global Hub, Jeju

Process description



Vision

