

# From a green jewel, a green economy

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Jeju Island lies in the Strait of Korea. Often described as the “Hawaii of Korea”, it is also a tropical jewel in the country’s strategy towards greening its economy. Korea believes that the basis for a green revolution is not just in the way its market, financing structures and legislation are set up, but information. Jeju Island, which is one of the country’s nine provinces, is its flagship, having been set out as a smart-grid test bed since 2009. Five Korean conglomerates, including Hyundai and SK Group, are outfitting the small island with smart homes, electric car charging stations—500 already in place—and renewable energy infrastructure like solar and biogas.

Korea’s green policies are not new. On 15 August 2008, at the 60th anniversary of the founding of the Republic of Korea, then-President Lee Myung-bak set a new pace in the greening programme by voluntarily targeting a 30% reduction in greenhouse gas (GHG) emissions in 2020 from a business-as-usual (BAU) baseline. He also allotted 2% of annual GDP to green growth initiatives and passed a US\$30.7 billion green stimulus package.

President Park Geun-hye is now adding to this green vision with a second five-year plan (2014-2018). For the UN Conference on Climate Change (COP21) in Paris in November-December 2015, Korea submitted a proposal to cut business-as-usual emissions by 37% by 2030, as its contribution to the Paris Agreement.

Like other countries, Korea is trying to balance competitiveness with its need to confront climate change. Nearly 90% of Korea's rise in greenhouse gases occurred in a single decade, 1990-2000. By 2013 Korea was the world's 14th largest economy, but its eighth largest carbon emitter. In fact, Korea's greenhouse gas emissions increased by 43% in absolute terms between the accession year of 1996 and 2011, while the OECD total declined over the same period. However, much of this reflects Korea's catch-up phase of rapid growth. Moreover, Korea's GDP grew by 94% over the same period, indicating that GHG emissions have been relatively decoupled from economic growth.

This is encouraging, since Korea's goal is to shrink its carbon footprint with an industrial, urban, and market-friendly green strategy focusing on infrastructure. In the process, Korea also aims to become a leading exporter of green technology. The Korea Environmental Industry and Technology Institute estimates that since 2010, 50 environmentally friendly small and medium-sized businesses have exported ₩1.5 trillion (US\$1.3 billion) worth of product.

Korea's efforts to green its energy mix have concentrated on support for renewable energy development and installation, building smart energy grids, and storage technologies. In early 2016, Korea became home to one of the world's largest energy storage system.

As a country where road transport is dominant, Korea is also doubling down on an enlightened car policy. The Ministry of Trade, Industry and Energy projects an annual increase in low- and zero-emission cars from 80,000 in 2016 to 920,000 in the next five years, cutting CO<sub>2</sub> emissions by 3.8 million tonnes.

It is developing an ambitious electric car infrastructure. The city of Gumi, for example, has 24km of roadway embedded with electric cables, which generate an electromagnetic field to keep vehicle batteries charged.

Transport planning is also moving in a more ecological direction. The cities of Daegu, Busan and Incheon now have expanded bus rapid transit lanes, and areas open only to bicycles and public transport. The capital, Seoul, has been successfully experimenting with congestion fees on the Namsan tunnels. The government has likewise tilted its budget toward public transport, increasing spending on railways by 29% and cutting spending on roads by the same percentage (2009-20).

In keeping with its business-oriented green policy, Korea has been very effective with financing green endeavours, and at setting up a legislative and market-based environment for carbon-reducing mechanisms. Since 2013, Korea has been the

headquarters for the Green Climate Fund, which is designed to be the long-term financing arm of the UNFCCC. Korea has pledged \$100 million to the fund.

In 2013, the Korea Export-Import (KEXIM) Bank became the first non-international financial institution in the world to issue a global green bond, valued at \$500 million; based on its success, it issued a second bond in 2016. Providing cheaper capital than conventional bank-based financing, climate bonds enable green projects to expand faster.

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Domestically, there has been extensive support of green technology firms, with the Industrial Bank of Korea reporting sharp double-digit increases in eco-tech investments and green R&D.

The government launched the region's first national Emissions Trading Scheme, cap-and-trade market in 2015. It includes some 525 of Korea's major polluters, which are responsible for two-thirds of the country's non-vehicular emissions. This follows the government's founding of the Greenhouse Gas Inventory and Research Centre of Korea (GIR, visit [www.gir.go.kr/](http://www.gir.go.kr/)) and of the firm-level emissions Target Management Scheme in 2010.

There are challenges in what is the OECD's most densely populated member country, however. Air pollution is a major health concern, and the country faces high water stress compared to its OECD peers. Rapid urbanisation is severely threatening Korea's rich biodiversity, and stakeholder engagement around large infrastructure projects with environmental impacts continues to be highly sensitive. For instance, although projects aimed at cleaning up polluted rivers, securing water resources and improving flood control have achieved much, tough ecological challenges remain, notably in relation to habitats for migratory birds, fish corridors and the like.

The third *OECD Environmental Performance Review of Korea*, to be released end-2016, will provide an assessment of the effectiveness and impact of Korea's green growth policies and initiatives, and map out the challenges. The review will highlight achievements, pinpoint challenges, and propose recommendations for Korea to continue improving its green performance.

Finding a sustainable balance between economic, environmental and social needs will be a priority for Korea's green economy as it expands in the years ahead. The green revolution and initiatives on Jeju Island with its smart, low-carbon lifestyle, will help point the way.

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