

Offshore wind takes centre stage in South Korea

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28/08/2019

In June 2019, South Korea’s Ministry of Trade, Industry and Energy approved the draft Energy Basic Plan, announced back in April. As expected, to satisfy growing power demand the fourth largest economy in Asia followed [the likes of Thailand](#) in turning its gaze towards natural gas and renewable energy.

Under previous plans South Korea was targeting 20% of power generation from renewables by 2030, an increase from the current level of 8-9%, while also promoting gas and decreasing the roles of nuclear and coal.

Now, the fourth largest coal importer in the world is aiming to reach 30-35% renewables by 2040, while committing to even deeper cuts to coal and nuclear dependence. Restrictions include prohibiting license renewal for nuclear plants, phasing out coal-fired sooner and cancelling construction of plants for both.

Gas will also be pivotal in reducing coal dependence, with the government planning on cutting the tax for gas import by 75%, while raising the same for coal by 28%.

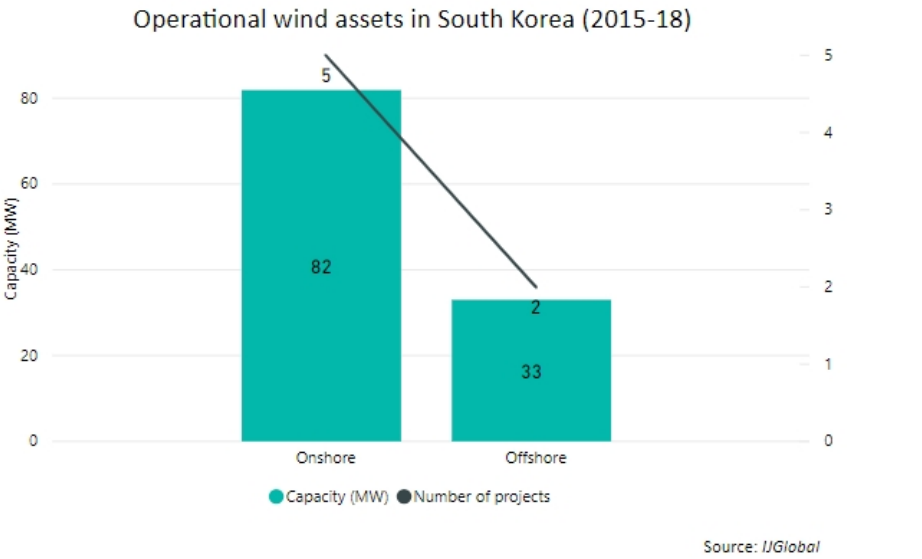
South Korea’s Ministry of Trade, Industry and Energy aims to install almost 130GW of renewable energy by 2040, compared to current capacity of around 11.3GW. An additional 155GW-235GW of wind and solar could be added on rooftops and low-quality agricultural land. This could potentially raise renewable capacity in South Korea closer to 400GW.

However low solar radiation and limited space for development present challenges in South Korea. Only seven wind projects, totaling 115MW have come online over the past several years.

Project name	Capacity (MW)	Project sub-sector	Owner(s)	Operational date
Gowon Onshore Wind Farm	18	Onshore wind	Eurus Energy (50%), DaeMyoung GEC (50%)	31/08/2016
Yaksoo Onshore Wind Farm	19.8	Onshore wind	GS Group (100%)	31/10/2016
Cheonbuk Onshore Wind Farm	7.05	Onshore wind	GS Group (100%)	31/03/2017
Gangdong Onshore Wind Farm	7.05	Onshore wind	GS Group (100%)	31/03/2017
Tamra Offshore Wind Farm	30	Offshore wind	Doosan Group (50%), Korea South-East Power Company (50%)	30/11/2017
Jeju Onshore Wind Farm	30	Onshore wind	Korea South-East Power Company (100%)	01/12/2017
Gunsan Port Offshore Wind Farm	3	Offshore wind	KEPCO (100%)	31/12/2017

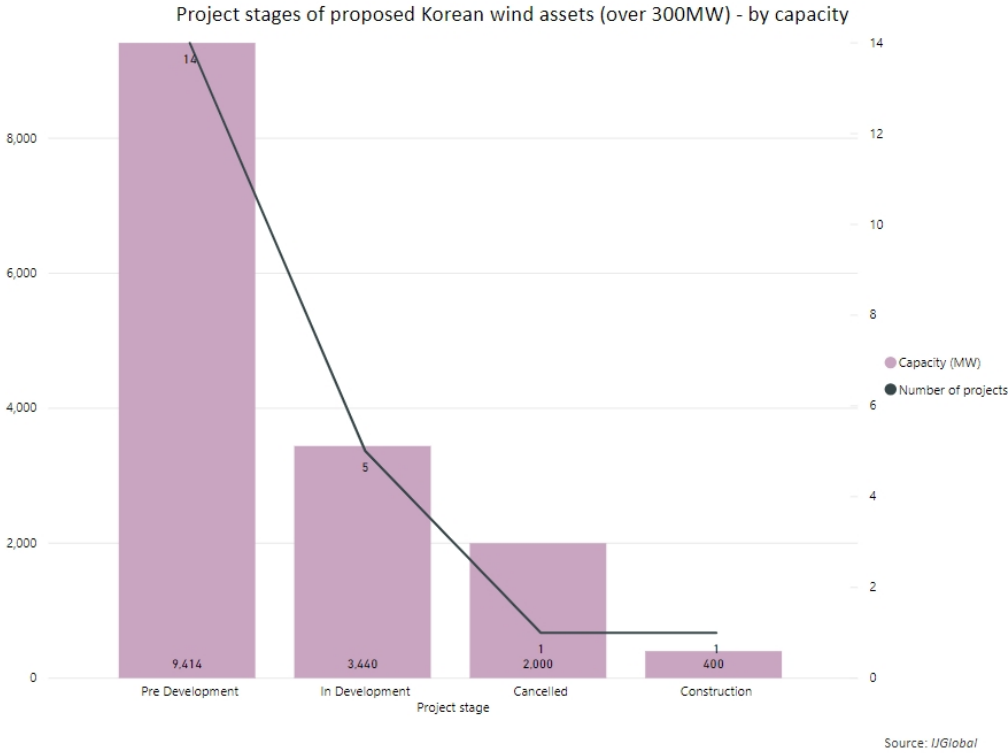
Given insufficient available land for onshore development, it is no wonder attention has moved offshore.

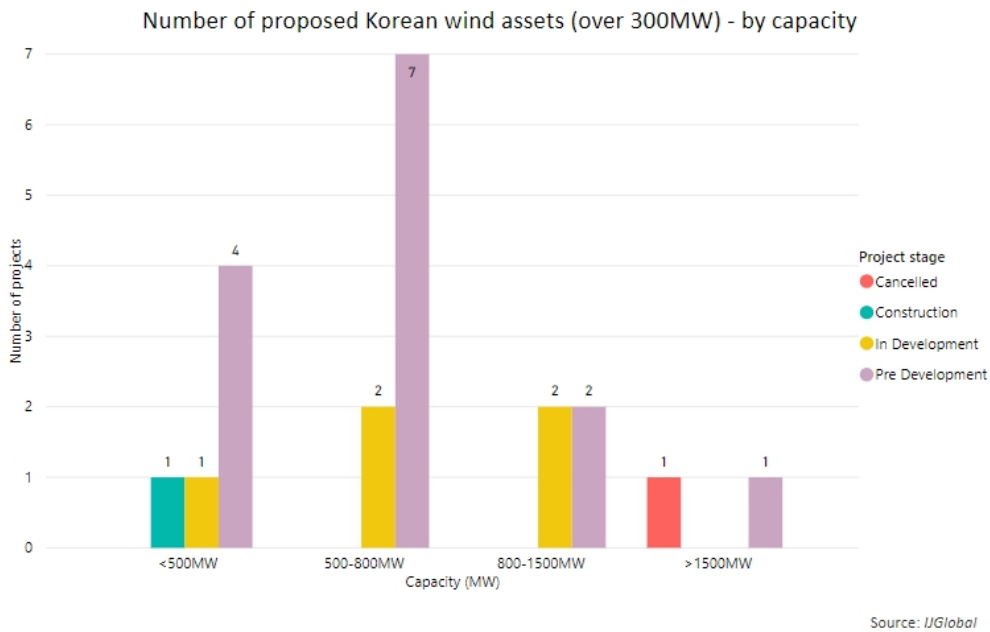
There are now more than 15GW of offshore wind power projects in the development pipeline, though only a couple of small-scale projects have reached operations to date.



In 2018 Seoul-based turbine manufacturer [Doosan Group commissioned the 8MW “WinDS8000”](#) model, designed for offshore wind farms, which opens up the possibility for larger-scale projects in the coming years.

Previously, [Doosan worked on the Tamra wind project](#), and it [has been developing two more offshore plants](#) in the Yellow Sea, including the 1GW Gunsan project.





IJGlobal records 10 large-scale offshore wind farm in the development pipeline.

Project name	Project stage	Capacity (MW)	Project sub-sector	Owner(s)
Southwest Offshore Wind Farm Phase 1-3	Pre-development	2,500	Offshore wind	KEPCO (100%)
Jeju Floating Offshore Wind Farm	Cancelled	2,000	Offshore wind	POSCO (25%), Halla Engineering & Construction Corporation (25%), Hyundai Heavy Industries (25%), Jeju Energy Corporation (25%)
Gunsan Offshore Wind Farm	Pre-development	1,000	Offshore wind	Kunsan National University (25%), KEPCO (25%), Doosan Engineering & Construction (25%), South Korea Government (25%)
Ulsan Offshore Wind Farm Phase II	In development	1,000	Offshore wind	Green Investment Group (50%), Energy Infra Asset Management (50%)
South Korea Floating Offshore Wind Farm	In development	1,000	Offshore wind	Macquarie (50%), Gyeongbuk Floating Offshore Wind Power (50%)
Anmado Offshore Wind Farm	Pre-development	800	Offshore wind	Jeonnam Development (100%)
East Coast Wind Belt - EWP Offshore Wind Farm	Pre-development	600	Offshore wind	Korea East-West Power Company (100%)
Incheon Offshore Wind Farm	Pre-development	600	Offshore wind	City of Incheon (100%)
Wando Offshore Wind Farm	In development	600	Offshore wind	South Korea Government (50%), Korea South-East Power Company (50%)
Maritime Offshore Wind Farm	In development	540	Offshore wind	SkyWind (100%)

As IJGlobal’s data shows, public-owned companies like [Kepco](#) and Posco, as well as city governments of Gunsan and Incheon are among projects’ shareholders. There are also private domestic investors among the project developers, such as Halla Engineering, Hyundai Heavy Industries, Jeonnam Development, etc.


International sponsors hold critical stakes in the country’s offshore wind project pipeline too.

A massive [1GW floating offshore wind project](#) is now underway, sponsored by Australia’s Macquarie in partnership with

a local company. [Macquarie is also developing both phases of the 1.4GW Ulsan](#) wind plant with Energy Infra Asset Management. Meanwhile, Norwegian multinational Equinor has teamed up with Korean oil major KNOC for the [200MW Donghae 1](#) project.

The large proposed projects in the pipeline, the financial clout coming from both state-owned and foreign investors and South Korea potential for higher capacity home-grown technology in the offshore wind sector are setting a promising stage for the country's ambitious new renewable energy target.

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