



## South Korea drops nuke, cools off on coal

Will the government be able to take on the resistance from companies that will be badly hurt?

When the new South Korean President Moon Jae-in stepped onto the stage during the closing of the country's oldest nuclear power plant, he announced that no new nuclear plants will be built, making good on a campaign promise to take the nation down the path of a "nuclear-free future". However, there is a concern that this new energy policy, which also involves huge slashes in coal power production, could leave the economy limping.

The plan to drastically reduce nuclear and coal power in the energy mix over the coming years will likely receive ample public and industry support with the right incentives. The biggest concerns,

**Some experts are fearing that halting new coal-fired and nuclear power plant construction may threaten energy supply and push up electricity prices.**



according to analysts, will be if the government can effectively handle the resistance from firms with stakes in the plants that will be nixed, and if it can quickly grow renewables from its current small base.

### The President's pledges

President Moon won the recent elections on a platform that pledged to lower South Korea's dependence on nuclear and coal power, which he said posed risks to the safety and health of citizens. Support for nuclear plants, which provide around a third of the country's energy, has waned in the past few years following the Fukushima disaster in Japan in 2011 and a corruption scandal in 2013 involving faked certificates on reactor parts. There has also been growing opposition towards coal plants due to rising air pollution levels.

It was amidst this dissatisfaction that Moon offered a pleasant vision of a future South Korea: one that is more liveable and safer as the nation strengthens its natural gas sector and develops its renewable power sources. The new president can likely count on strong public support for his new energy policy, but there is skepticism among insiders on whether he can pull off the full pivot as promised due to foreseen corporate resistance and

economic disruption.

"Some experts are fearing that halting new coal-fired and nuclear power plant construction may threaten energy supply and push up electricity prices," said Enerdata. South Korea unveiled in June an energy policy that would, by 2030, cut coal-fired generation to nearly half or 21.8% of the energy mix from its current 40% and reduce nuclear to 21.6% from 30%. In contrast, the share of renewables, including hydropower, would rise fourfold to 20% from 5%. Enerdata said the plan to move away from coal and nuclear will be a U-turn for South Korea, but notes that the government could levy environmental taxes on both to facilitate the shift towards natural gas and renewable energy.

### Legal implications?

The plan to phase out coal plants may not only induce economic sluggishness but also lead to a legal tiff. South Korean private-sector companies have already sunk more than \$1b into building new coal plants and could file lawsuits in response should the government try to freeze the pipeline, said **Michael Cooper** from S&P Global Platts, citing an industry source.

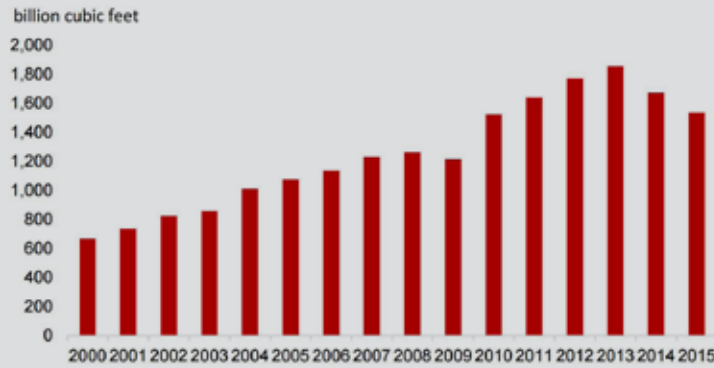
"Designed to meet rising demand for electricity from South Korea's expanding

Energy generation by source South Korea



Source: EIA

South Korea's natural gas consumption, 2000-2015



Source: US Energy Information Administration, International Energy Agency

economy, including its industrial giants such as Samsung and LG, the coal-fired plants are being sponsored by state-owned utilities and some private companies,” he added. According to S&P Global’s PIRA Energy Group, South Korea was targeting to build a total of 20.17GW of coal-fired electricity generators over the years starting 2017 to 2022.

The nation’s seventh electricity supply plan published in 2015 had specified that coal-fired power generation would grow from an installed capacity of 25.1GW in 2015 to 37GW in 2020, and then to 43.2GW by 2025. This would have merited a corresponding increased consumption of imported thermal coal to 120 million mt/year by 2020, from 80 million mt/year currently.

“But obviously, those numbers are in doubt, with the new president’s desire to limit coal-fired power generation for reasons related to curbing the problem of air pollution in South Korea,” said Cooper. “Coal consumption underlies the country’s transformation into an industrial heavyweight. The president may face some difficult dilemmas if he moves ahead with curbing South Korea’s future use of thermal coal, as the fuel is closely linked to the country’s economic prosperity,” he added.

### Not a maverick move

Cooper, citing insider sources familiar with the thermal coal market in South Korea, said it is unlikely that President Moon will be able to completely halt the expansion of coal-fired power generation in the country. Instead, he said that a more likely scenario seen by insiders would be that the government will only look at the new coal plants but not cancel them, in consideration of how the latter action will hurt the country’s economic competitiveness.

Analysts note that President Moon’s energy policy is not a maverick move but follows a trend sweeping across Asia:

a declining fascination with coal and a blossoming affair with renewables, the latter nurtured by advances in technology, from energy storage systems (ESS) to smart grids.

“Moon’s policies, whilst newsworthy, are in no way revolutionary,” said **Yulanda Chung**, energy finance consultant at the Institute of Energy Economics and Financial Analysis (IEEFA). “In fact, they are entirely consistent with the technology-driven energy market transformation that is taking place globally and in Asia in particular.”

IEEFA forecasts Japanese thermal electricity generation falling 2 to 3% annually over the next decade, whilst China’s coal consumption had already peaked in 2013. Taiwan, for its part, recently committed to focus investments in renewable energy and energy efficiency, targeting 20% renewables as part of its energy mix by 2025. India has also reiterated its commitment to a target of zero thermal coal imports by 2020.

“Governments all across Asia are seeking to rejigger their energy economies toward domestic renewable energy for the simple reason that it is increasingly cheaper than burning coal. The sooner policymakers and companies face up to the reality of an export coal market in structural decline, the more they will gain from a transition to renewable energy that is gathering pace,” said IEEFA.

### Korea’s Renewables Shift

As part of its new energy policy, the South Korean government revealed it will be investing KRW 42t (US\$36.6b) to develop renewable energy industries and build an array of new renewable power stations. There has also been a pickup in new renewable projects, including a recent 97MW offshore wind farm at Saemangeum costing an estimated US\$365m that will supply power to 62,000 households.

South Korea may be determined to significantly increase its share of



Michael Cooper



Yulanda Cheung



Helena Tillborg

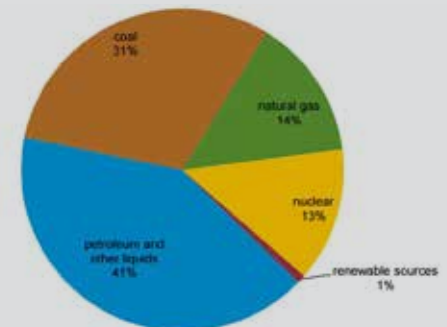
renewable power to increase energy security and reduce climate impact, but it faces several major challenges, including coming from a very low level starting point, said **Helena Tillborg**, analyst, head of office of science & innovation at the Swedish Agency for Growth Policy Analysis. “Besides technology and grid related aspects, there is the fact that South Korea is densely populated with limited areas to install wind power plants and solar power facilities. Furthermore, energy infrastructure development is also subject to protests from the affected inhabitants,” she said.

### Incentives for solar

Last year, the South Korean government unveiled incentives to encourage solar power plant operators to set up bulk energy storage systems (ESS) facilities, granting compliant solar power plant operators with additional points on assessment of their renewable energy certificates (RECs). With these incentives in place and higher renewables investment, the Ministry of Trade, Industry and Energy estimates the additional demand for ESS will reach a combined KRW440b (US\$391.6m) over the next three years until 2020.

This will be in strong support to the country’s big switch to renewables. Strengthening support for ESS, which would then grant businesses relatively lower-priced electricity from renewables, is one of the ways the government can encourage businesses to support the new energy policy, said Tillborg. Poor households will likewise find it easier to embrace the transition by receiving energy vouchers. “The step towards market-oriented pricing is necessary to enable efficient energy use and energy security, but might be painful and jeopardise industrial competitiveness at a first glance,” she said. “The challenge for the government and its agencies is to overcome the first strong resistance and promote the opportunities smarter energy use can bring to the new and growing industry of Korea,” added Tillborg.

South Korea total primary energy consumption by fuel type 2015



Note: Petroleum and other liquids includes biofuels (ethanol and biodiesel)

Source: BP Statistical review of world energy 2016