

Are South Korean companies investing in energy storage systems?

Less than a decade ago, South Korean companies held over half of the global energy storage system (ESS) market with the rushed promise of helping secure a more sustainable energy future. However, a string of ESS-related fires and a lack of infrastructure had dampened investments in this market.

What is Korea's energy sector?

Korea's energy sector is characterised by the dominance of fossil fuels, which in 2018 accounted for 85% of total primary energy supply (TPES), a strong dependence on energy imports at 84% of TPES, and the dominance of industrial energy use at 55% of total final consumption, the highest share among IEA countries.

What is Korea's hydrogen roadmap?

The Roadmap also identifies the National Core Technology Development Plan with respect to hydrogen production. Hydrogen is a strategic industry for Korea, and it has worked over the past two decades to ensure that it has access to the enabling technologies.

How much renewable capacity will Korea have in 2040?

Source : 2021 Energy Info. Korea, Korea Energy Economics Institute, ISSN 2233-4386 Source : 2021 Energy Info. Korea, Korea Energy Economics Institute, ISSN 2233-4386 IEA. All rights reserved target in 2040. renewable capacity from 15.8% in 2020 to 40.5% in 2034. However, limited to providing tertiary regulation that is scheduled on a weekly basis.

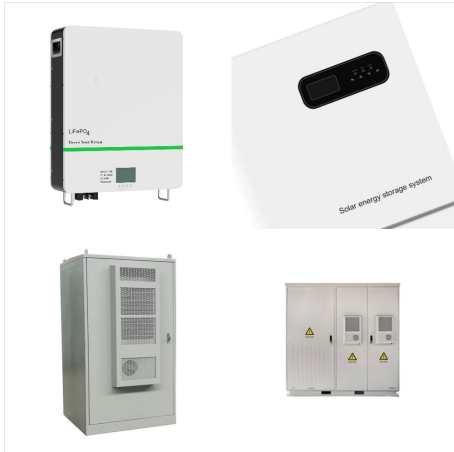
How long does it take to store energy in Korea?

Storage duration of approximately 4 hours. Source : 2021 Energy Info. Korea, Korea Energy Economics Institute, ISSN 2233-4386 o Total : ~ 4.8 GWh Source: c2018 Ernst & Young Advisory, Inc. All Rights Reserved.

How will South Korea transform its energy sector?

The country has unveiled an ambitious plan to transform its energy sectors, aiming to generate 70 per cent of its electricity from carbon-free sources by 2038. South Korea aims to have 30 nuclear plants by 2038 and to more than triple its solar and wind power output to 72 GW by 2030.

# ENERGY STORAGE ROADMAP SOUTH KOREA



McDermott's storage business, CB& I, and Korea Gas Corporation have signed an MoU to explore the development of large-scale liquid hydrogen storage to support Korea's Hydrogen Economy Roadmap. Last year, South Korea announced plans to achieve carbon neutrality by 2050 by replacing coal-fired power generation with renewable sources and ???



HYDROGEN: POWERING SOUTH KOREA's  
FUTURE Fig. 1: Roadmap for hydrogen economy  
by 2040  
1 household use (Megawatt) 2,100 50 7  
industrial use (Gigawatt) 15.0 1.5 0.3  
Fuelling stations (Units) 1,200 310 14  
use and storage RTS  
= International Energy Agency Reference  
Technology Scenario 2DS = 2-degree Celsius  
Target Power Transportation Industry

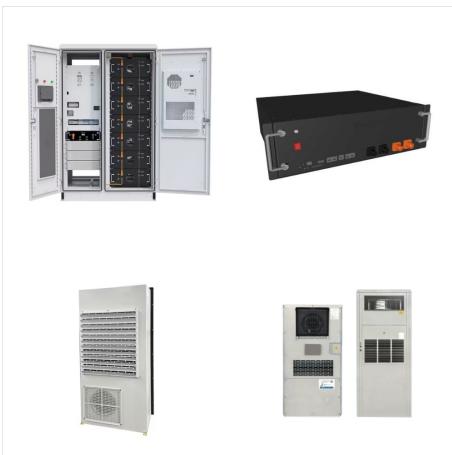


ENERGY ROADMAP Korea's Hydrogen Economy  
Roadmap is a plan to create a comprehensive  
hydrogen ecosystem in Korea by 2040. This Safe  
and economic transportation and storage of  
hydrogen ??? Relaxation of existing regulations  
relating to the storage of highly pressurised gases  
(e.g. raising the refuelling pressure from 35 MPa to

# ENERGY STORAGE ROADMAP SOUTH KOREA



South Korea's Ministry of Trade, Industry and Energy's (MOTIE) 10th Basic Energy Plan for Electricity Supply and Demand (released in January 2023) has projected electricity consumption to reach 597.4 TWh by 2036 from around 533 TWh in 2021.

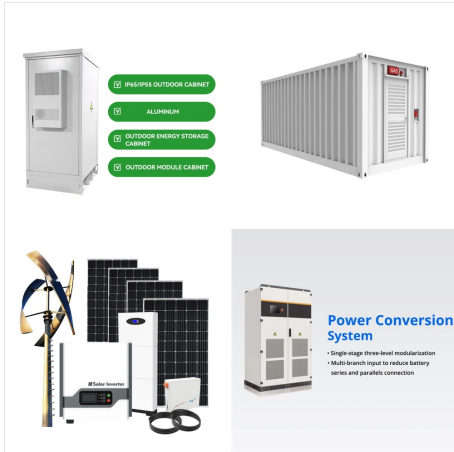


Launched in 2014, the Second Energy Master Plan is an overarching plan that covers all energy sectors and coordinates energy-related plans from a macro perspective. The Plan lays out six strategic targets to be addressed: Trends and prospects of domestic and overseas demand and supply of energy;



Korea Institute of Energy Research, Energy Storage Department. IEA ES-TCP ExCO 97 meeting, 06. 04. 2024. IEA ES-TCP ExCO 97 meeting, 06. 04. 2024. 2 Population : approximately 51.745 million in 2024 Country Specific Information. Population Growth Rate South Korea's population growth rate in 2024 is

# ENERGY STORAGE ROADMAP SOUTH KOREA



Here are some highlights from LG Energy Solutions recent roadmap presented at South Korea's "Battery Day 2021" LG Energy Solutions EV, revealed. Goal to be the top EV battery manufacturer by increasing sales to \$27 billion by 2024-260GWh production capacity by 2023 (world's highest battery production capacity) Introduce high-nickel NCMA batteries with ???



Energy Storage. South Korea is said to hold the largest share of battery energy storage capacity in the Asia-Pacific region, with more than 30 percent market share in 2022. It has been a leader since 2010 in energy storage installations, largely based on tariffs payable for commercial and industrial ESS. South Korea has outlined a roadmap



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South Korea is one of the world's largest emitters of green-house gases on a per capita basis. In 2018, South Korea's emissions of CO<sub>2</sub> reached 624 MT and 12.1 T per capita according to the International Energy Agency. In South Korea's Paris Climate Accord submission, it pledged to reduce emissions by 37% from its 2030 business as usual



South Korea is the centre of global secondary battery R&D and a leading manufacturing base, but it is metal-sulfur based batteries for energy storage and smart grid KRW 1.5 trillion 2023???2030 Public-private joint R&D innovation Roadmap (prop.) ???

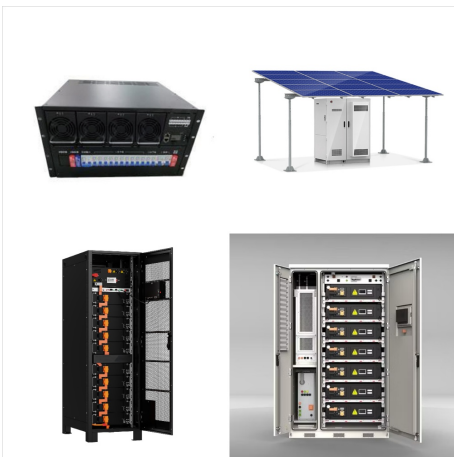


3 ? South Korea relies on imported fossil fuels for over 60% of its electricity generation, making it vulnerable to energy security risks and fuel price volatility. This study analyzes pathways for South Korea to achieve an economically optimal clean electricity generation mix by 2035, using capacity expansion and production cost modeling.

# ENERGY STORAGE ROADMAP SOUTH KOREA



Growth collaboration between Denmark and Korea in many years ahead. This report marks the first step in the establishment of new Korean-Danish Green Hydrogen Alliance that will raise awareness of the importance on cooperation in the production, storage, transportation and utilisation of hydrogen and other



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??? Installed capacity and storage volume of BESS in Korea by application, 2019 ??? Lithium ion Battery System Installed Capacity. Storage volume Capacity. BESS (Battery energy storage system ) in Korea ??? Total : ~ 1.6 GW ??? Total : ~ 4.8 GWh. Source : 2021 Energy Info. Korea, Korea Energy Economics Institute, ISSN 2233 -4386