

Hanwha Solutions

Rights Offering

2020.12.21

Disclaimer

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It contains forward-looking statements that are inherently subject to risks and uncertainties, unexpected changes in market conditions and subsequent adjustments in the company's strategies, which may cause actual results to differ materially from the projections made in this presentation.

The responsibility for any investment decision based upon the information contained in this presentation falls on the investor.

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01 Summary of Rights Offering	4
02 Background of Rights Offering	6
03 Solar Business Outlook and Plan	8
04 Hydrogen Business Outlook and Plan	15

Summary of Rights Offering

Pursuit of **sustainable growth** through investments in **solar/hydrogen** businesses with high growth potential expected from **structural energy shift**

Details of Rights Offering

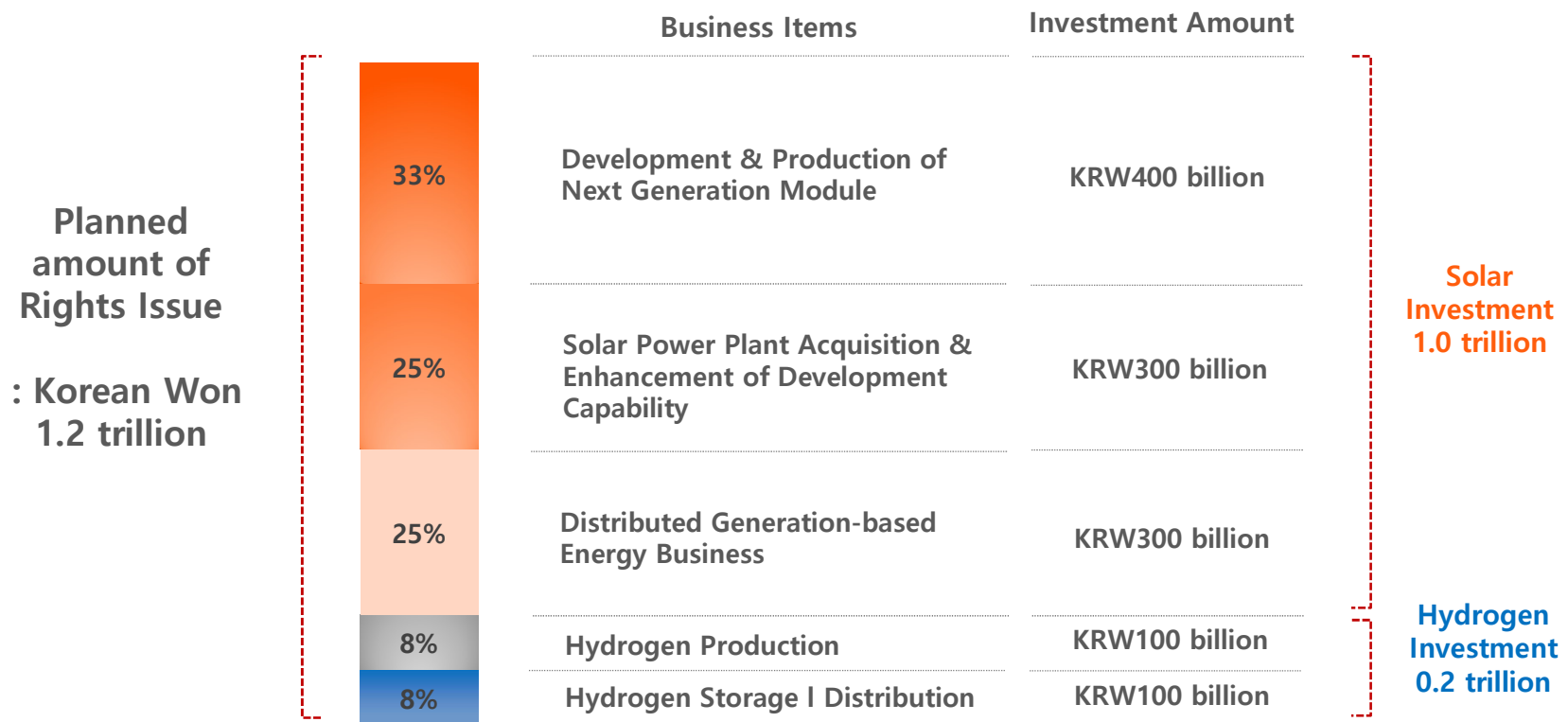
Items	Details
New Rights Issue	<ul style="list-style-type: none"> ▪ Type/Number: 31,414,000 common shares ▪ Face value per share: Korean Won 5,000 ▪ Number of total shares before the issue: 159,864,497 common shares, 1,123,737 preferred shares ▪ Expected issue price⁽¹⁾ : Korean Won 38,200 per common share (to be confirmed on Feb.19, 2021) ▪ New share allocation base date: Jan.19, 2021 ▪ New share allocation per 1 existing share: 0.1564942244 share ▪ Priority allocation to employee stock ownership: 20%
Future Schedule	<ul style="list-style-type: none"> ▪ Subscription dates: Feb.24~25, 2021(for existing shareholders/employee stock ownership) ▪ Payment date: Mar.5, 2021
Purpose of Issue	<ul style="list-style-type: none"> ▪ Funds for equipment/facility: Korean Won 600 billion ▪ Funds for operation: Korean Won 300 billion ▪ Funds for share acquisition: Korean Won 300 billion
Method of Issue	<ul style="list-style-type: none"> ▪ Priority allocation (20% of the issue) to employee stock ownership, then allocation to existing share holders, and unsubscribed shares to be offered to general public

4 (1) Basis of issue price: refer to "other investment consideration" section in the related public disclosure of Financial Supervisory Service

Summary of Rights Offering(Continued)

Investments in the early stage of exponential growth of **renewable energy** will lead to **sustainable** growth in **shareholder value**

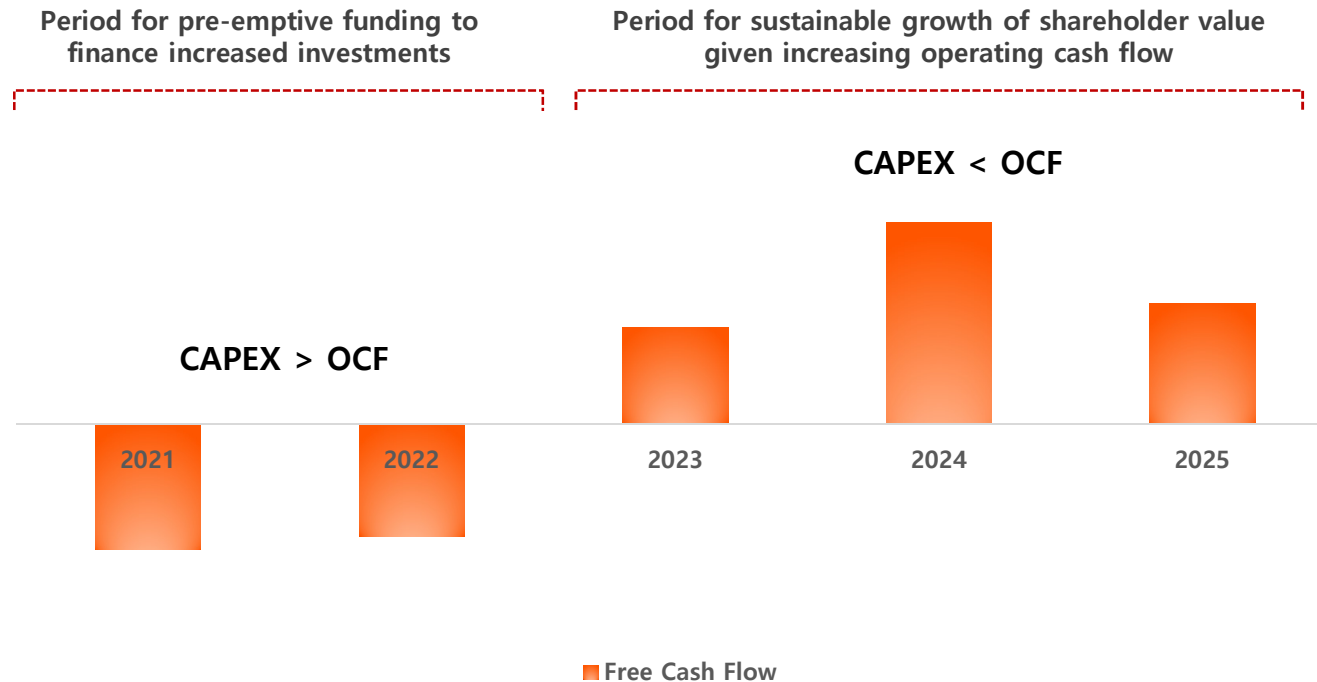
Investment Plan of the Proceeds from the Rights Issue



Background of Rights Offering

Free Cash Flow (2021 ~ 2025)

Pre-emptive funding to finance the increased investments in solar/hydrogen businesses
Sustainable growth of shareholder value given increasing operating cash flow from 2023 onwards

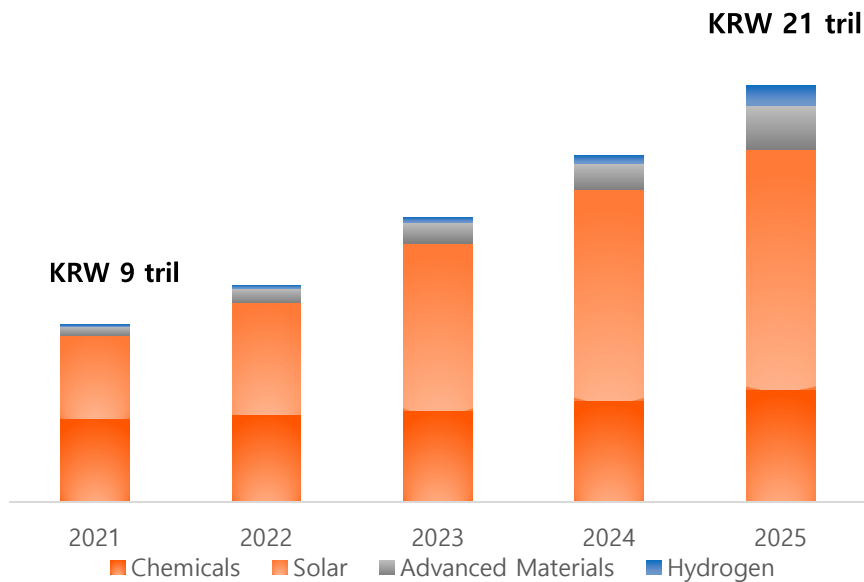


Background of Rights Offering(Continued)

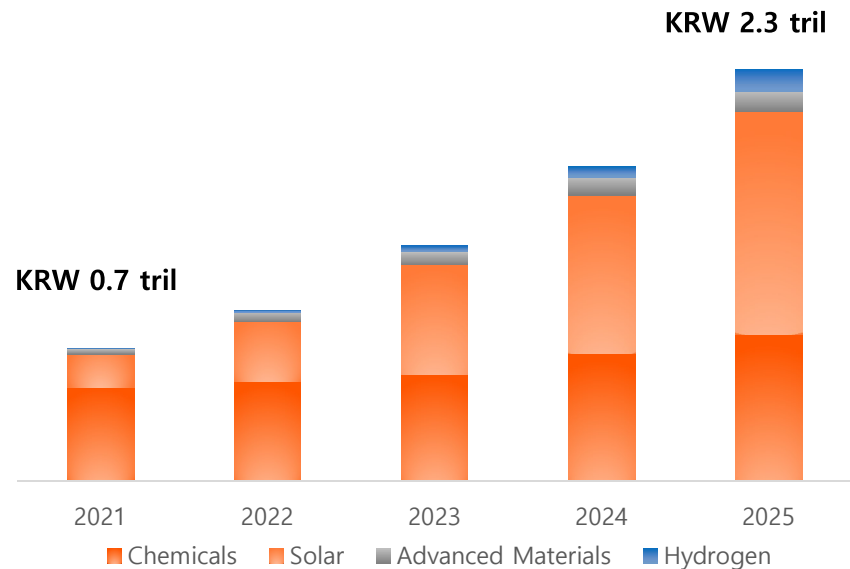
Revenue/Operating Profit by Business Segments (2021~2025)

Solar PV Profit Contribution to Rise in the Medium-Term, Hydrogen Profit to Grow Exponentially

Target for Revenue (2025)⁽¹⁾



Target for Operating Profit (2025)⁽²⁾



(1) (2) Estimated Revenue/Operating Profit based on Chemicals/Solar/Advanced Materials/Hydrogen businesses

Solar | Biggest Beneficiary of Structural Energy Shift

All Major Economies Turning to Low Carbon Society

[Mid-Term] Significant Transition to Renewable Energy in the Next 10 Years

[Long-Term] Carbon Neutral by 2050~2060



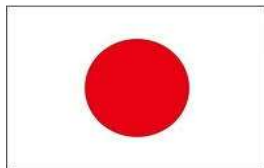
[United States]

- President-elect Joe Biden announced to re-join Paris Agreement right after his inauguration
- Clean energy revolution required to cope with climate change
- 100% clean energy based power generation by 2035, carbon net zero by 2050



[Europe Union]

- Carbon neutral economy by 2050 announced to be legally binding target
- EU summit in the year-end of 2020 to decide details of carbon reduction by 2030
- EU executive committee proposed 55% carbon emission reduction while EU parliament concluded 60% carbon emission reduction



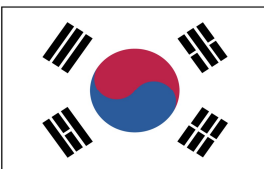
[Japan]

- Carbon neutral society by 2050, targeting zero green house gas emission
- Maximum adoption of renewable energy while fundamental shift from coal-fired power generation
- Promoting renewable energy R&D further, especially next generation solar PV cell



[China]

- Carbon neutral by 2060, carbon emission to peak out from 2030
- 70-80% of total energy to be sourced from non-fossil sources
- Adding 100GW capacities of solar PV/wind power generation in the next 10 years



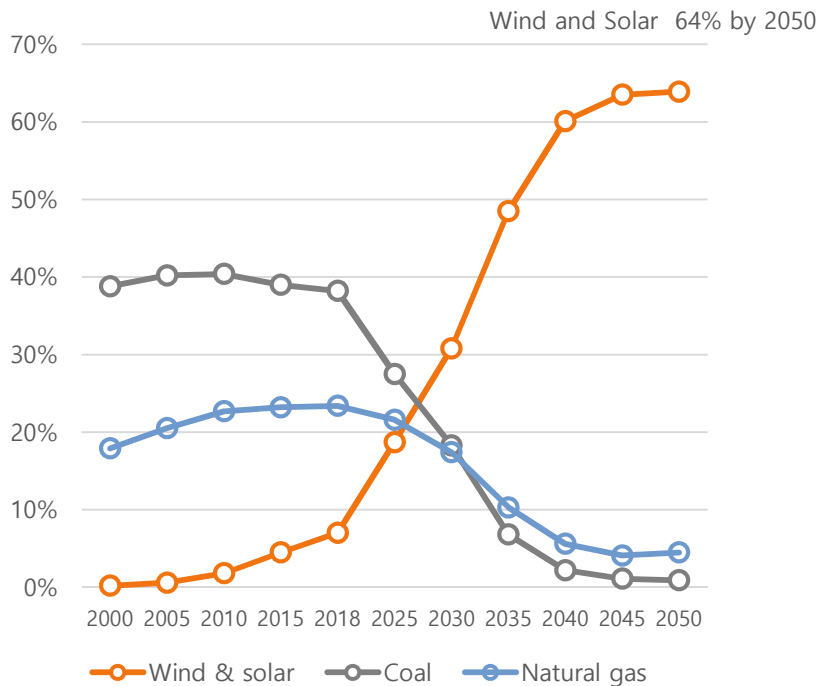
[Korea]

- Carbon neutral by 2050
- Investing 8 trillion Korean Won in green new deal
- Replacing coal-fired power generation by renewable energy, leading to the creation of new industries and jobs

Solar | Biggest Beneficiary of Structural Energy Shift(continued)

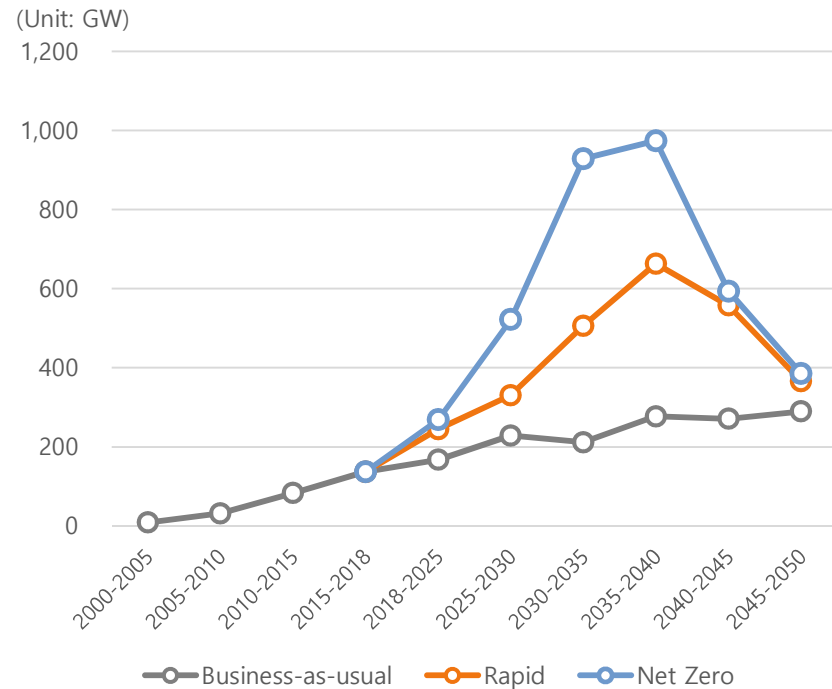
Solar PV/Wind to Surpass Coal-Fired Power Generation during 2025~2030 Renewable Energy to Account For Most of Power Generation Growth Going Foward

Generation Contribution by Sources (Net Zero Case)



*Source : BP Energy Outlook 2020

Solar PV/Wind Installed Capacities

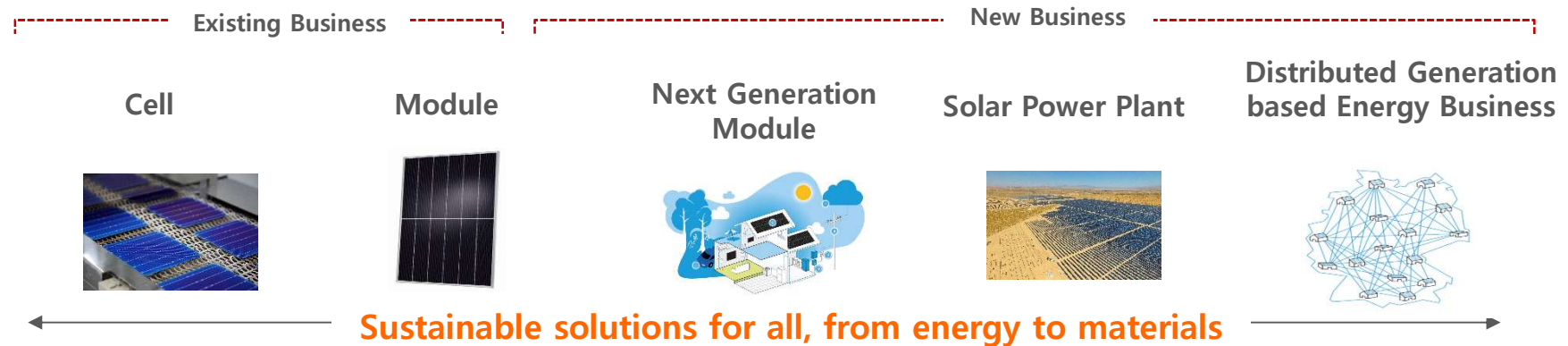


*Source : BP Energy Outlook 2020

Solar | Mid-to-Long Term Business Strategy

Evolution to Total Solar Energy Solution Provider

Next-generation module development, Solar power plant business, Distributed generation-based Energy Business



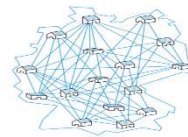
Next Generation Module

R&D for next generation technology
Providing integrated solar energy solution for residential customers



Solar Power Plant

Development of solar power plant project
Development focusing on high profitability projects in the U.S/Europe



Distributed Generation based Energy Business

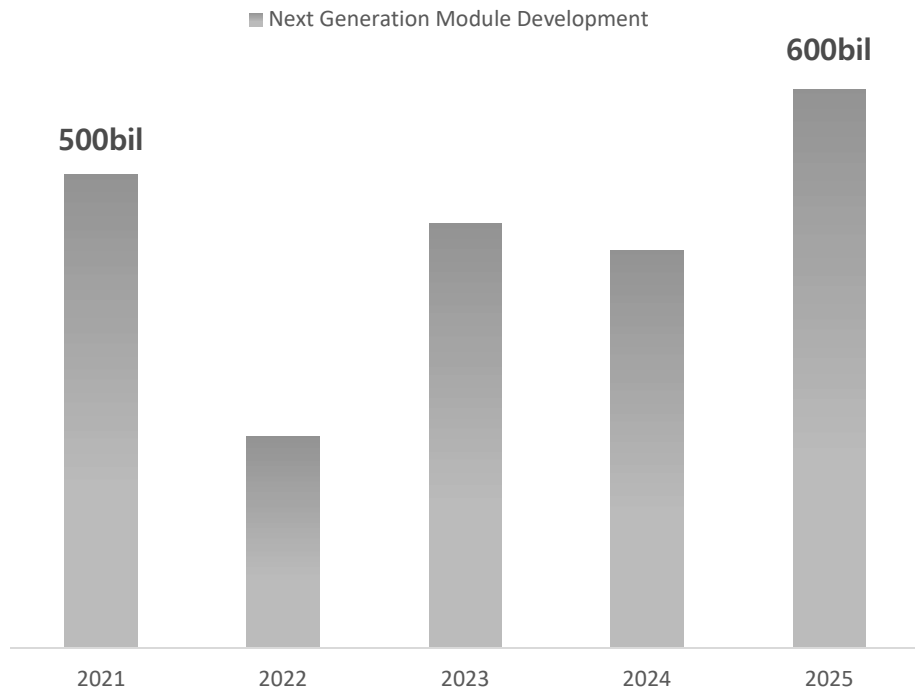
Long-term PPA and leasing for C&I customers
Virtual Power Plant Business

Solar | Mid-to-Long Term Business Strategy(continued)

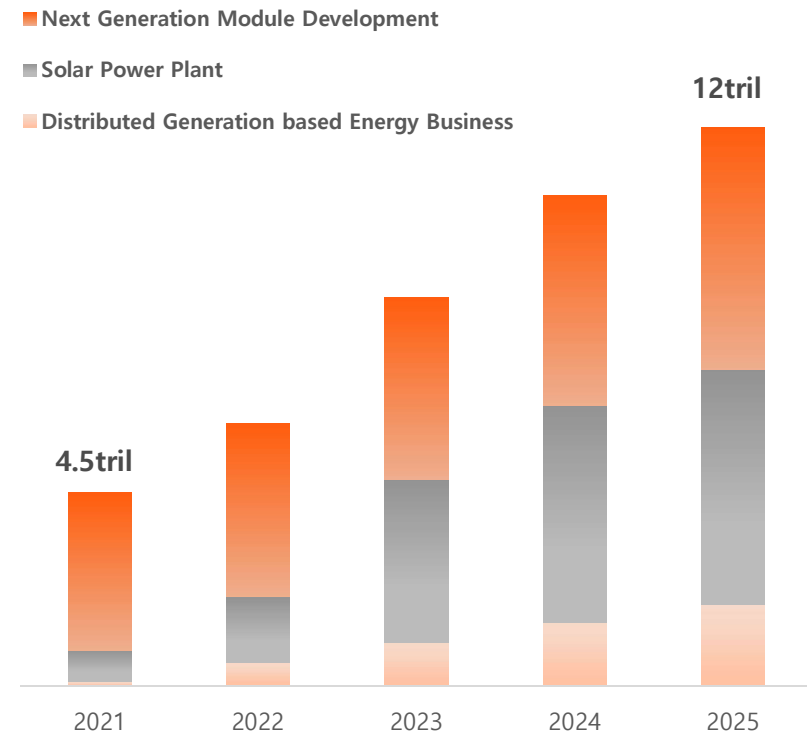
Evolution to Total Solar Energy Solution Provider

Next-generation module development, Solar power plant business, Distributed generation-based Energy Business

Solar PV Investments (2021~2025)⁽¹⁾



Solar PV Revenue (2021~2025)

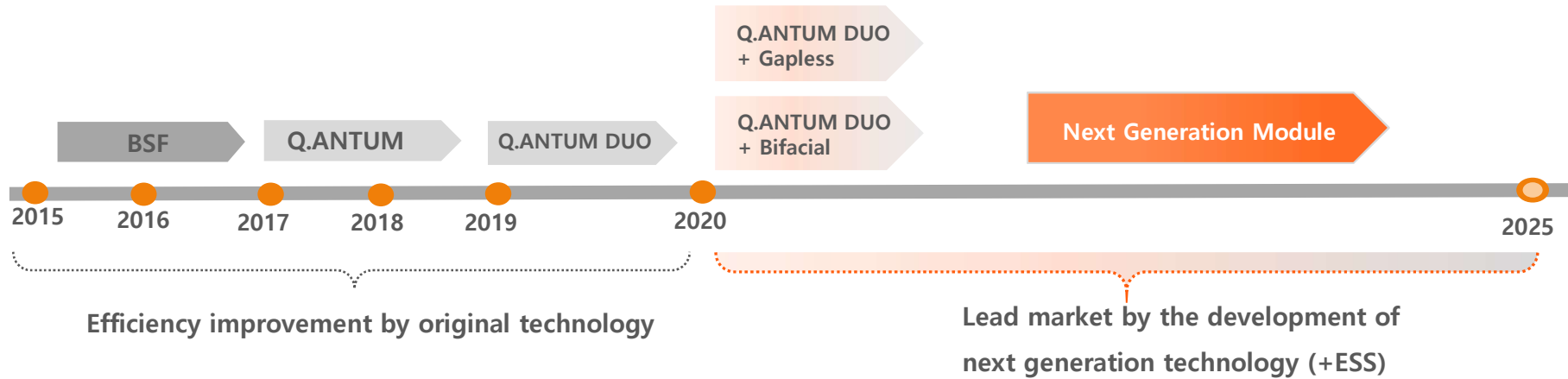


(1) Cash flow for Solar power plant & distributed generation-based Energy business is classified as working capital, therefore not included in CAPEX

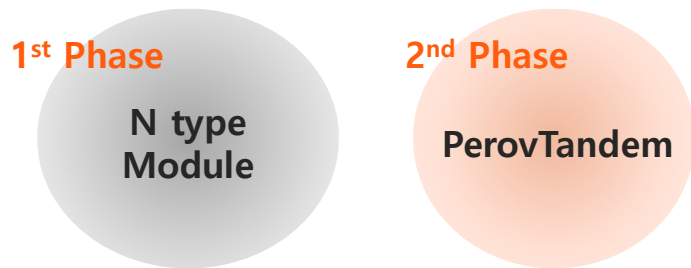
Solar | Next Generation Module

Adapting to Evolving Demand by Development of Next Generation Module (+ESS)

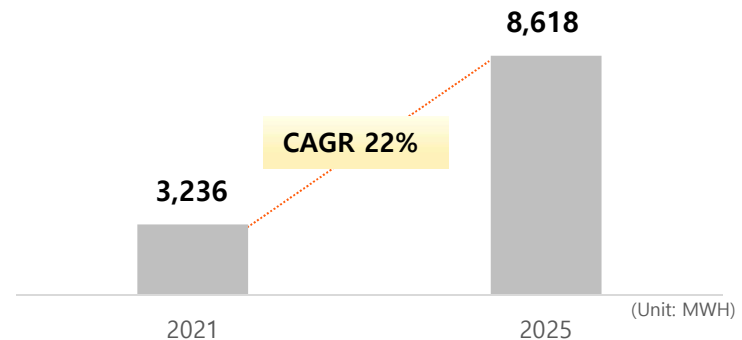
Providing All-in one Energy Solution Focusing on Residential Customers in the U.S/Europe



Next Generation Module Developments



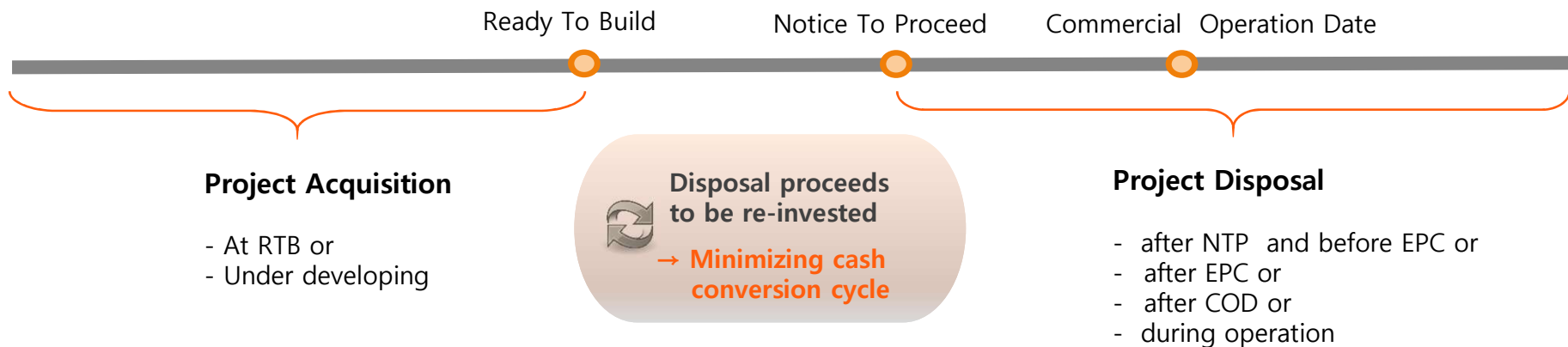
Solar PV+ESS Demand Outlook



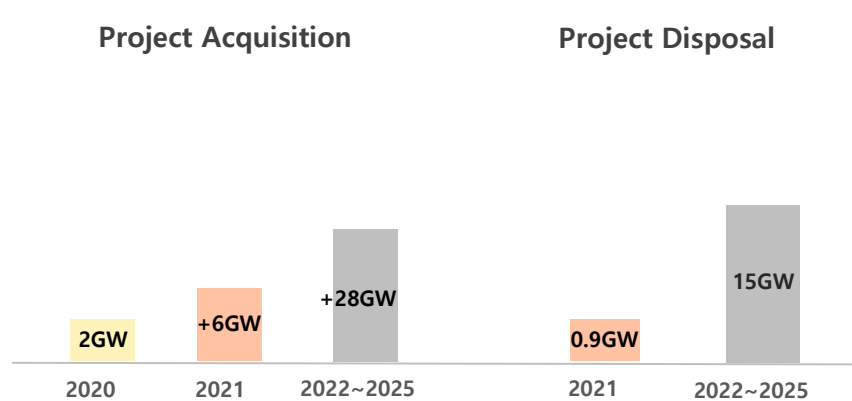
Solar | Power Plant Development

Development Focusing on High Profitability Projects in the U.S/Europe

Maximizing Return/Minimizing Cash Conversion Cycle by Strengthening Development/EPC Capabilities and Adopting Flexible Exit Plans



Project Pipeline



2020 Project Acquisition

- ✓ **US 331 MW**
 - 3 sites in US
 - Revenue to be reflected : ~2021
- ✓ **Spain 940 MW**
 - 23 sites in Spain
 - Revenue to be reflected: ~2023
- ✓ **Spain 200 MW**
 - Location : 4 sites in Spain
 - Revenue to be reflected: ~2021

2021 Project Disposal



Solar | Distribution Generation Based Retail Power Sales

Exploring Opportunities for Distributed Generation Based Commercial/Industrial Power Supply/Sales/Distribution

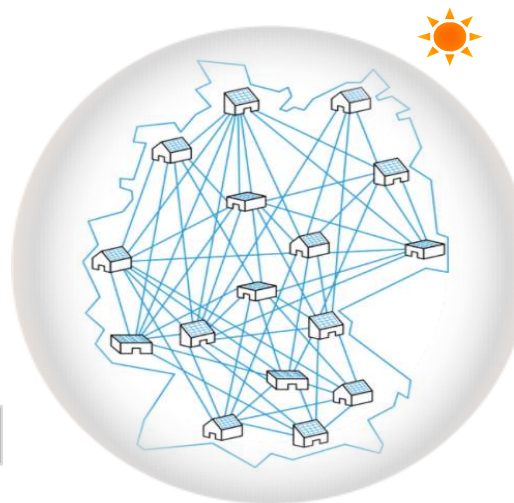
Long-term PPA, Solar Power Asset Lease, Data based Optimization

Power Contracting

- Long-term PPA for longer than 15 years
- Generating stable cash flow for long-term based on distribution generation based power sales

Solar System Leasing Solution

- Long-term PPA for longer than 15 years
- Generation of long-term fixed cash flow



Power Retail

- Retail power sales based on optimal power purchasing price leveraging consumption data of power customers
- Development of new platform using software including AI

Virtual Power Plant

- Participation of power demand resource and frequency adjustment markets based on the analysis/forecast of power market
- Optimized power market response based on database

Hydrogen | Last Mile Runner For Structural Energy Shift

All Major Economies Emphasize the Importance of Hydrogen as Last Mile Runner To Resolve Bottlenecks For the Transition to Low Carbon Society

Bottlenecks of Net Zero Carbon (Long-Distance Transportation | Industrial Fuel | Energy Storage)



[United States]

- Biden administration pledges to change 500 thousand school buses and 3 million federal government vehicles to electric/hydrogen fuel cell vehicles
- 1,000 hydrogen fueling stations to be built and 4,300 stations by 2030
- Hydrogen to account for 14% of total U.S. energy demand by 2050

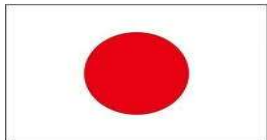
[Sources] "Road Map to a U.S. Hydrogen Economy", Fuel Cell & Hydrogen Energy Association



[Europe Union]

- 2020~2024 target: Min. 6GW electrolyzer installation, max. 1 mil. tones of green hydrogen production
- 2025~2030 target: Min. 40GW electrolyzer installation max. 10 million tones of green hydrogen production
- Hydrogen to account for 24% of total Europe energy demand

[Sources] "A hydrogen strategy for a climate-neutral Europe", European Commission



[Japan]

- Hydrogen consumption increase to 10 mil. Tones (10% of power generation) by 2030
- Prohibition of gasoline/diesel based new vehicle sales by mid-2030 and transition to electric vehicle/hydrogen fuel cell vehicle
- Policy funding support for fuel cell related investments

[Sources] Various Japanese media



[China]

- Creating hydrogen eco-system by supplying 1 mil. fuel cell vehicles and 1,000 fueling stations
- Vehicle purchase tax exemption (10%) for electric vehicle/fuel cell vehicle, subsidies extended by 2022
- Fuel cell vehicle increases to 50 thousand unit p.a. by 2025, 1.3 mil by 2035 and 5 mil by 2050

[Sources] Various Chinese government departments, China Hydro Energy Alliance



[Korea]

- Green hydrogen technology innovation/commercialization for its use of key fuel cell to achieve carbon neutral
- Developments of liquid hydrogen, hydrogen based turbine, and hydrogen distribution
- Targeting green hydrogen's contribution of 80% to total hydrogen by 2050

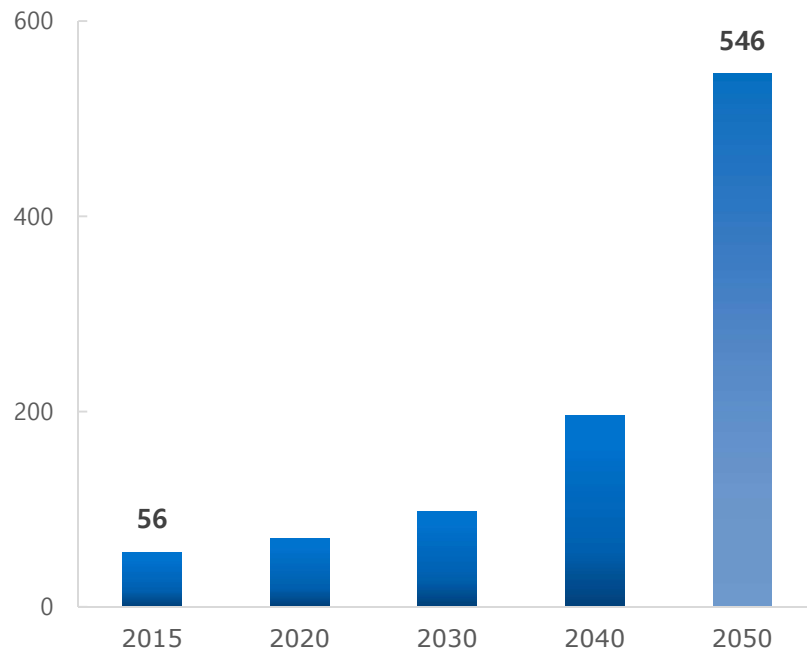
[Sources] "2050 Carbon Neutral Execution Plan" by various Korean government departments

Hydrogen | Last Mile Runner For Structural Energy Shift_(continued)

Hydrogen Demand to Increase by 40~50% during 2020~2030, Accelerating Further
Technology Development, Increase of Consumers and Means of Use to Create Synergies

Global Hydrogen Demand Outlook

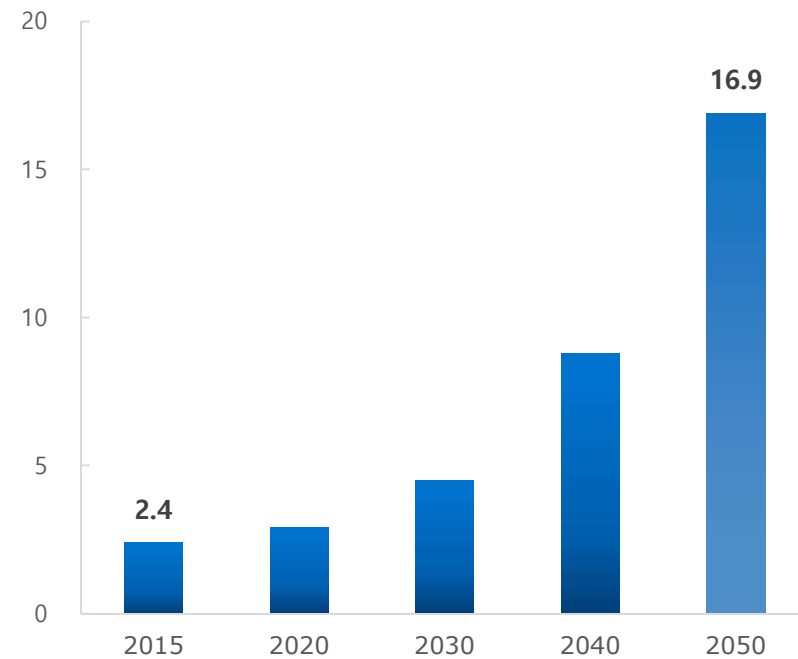
(Unit: Million Tones)



* Source: Hydrogen Council

Domestic Hydrogen Demand Outlook

(Unit: Million Tones)

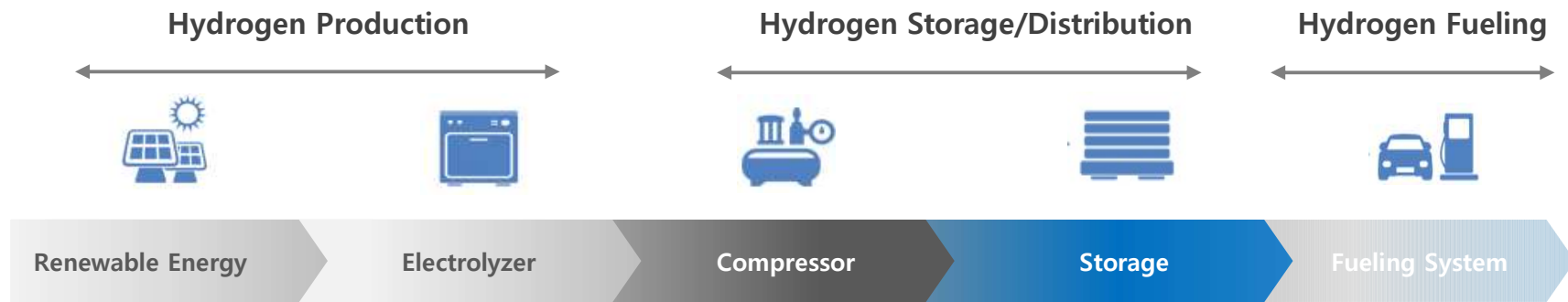


* Source: "Korean Hydrogen Industry Roadmap", Hydrogen Council

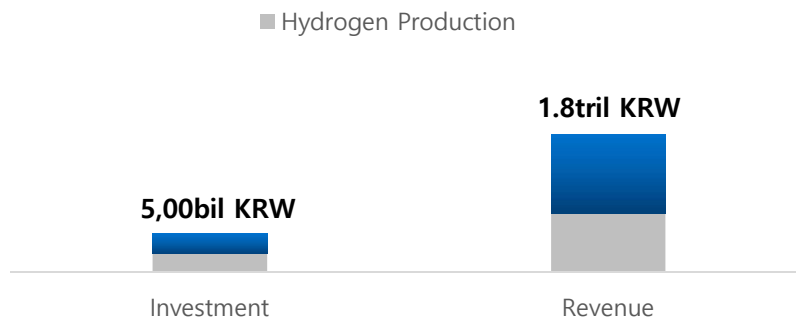
Hydrogen | Mid-to-Long Term Business Strategy

Significant Synergies From Integrated Business Through Green Hydrogen Value Chain

Development of Electrolyzer Technology, Hydrogen Storage/Distribution Business

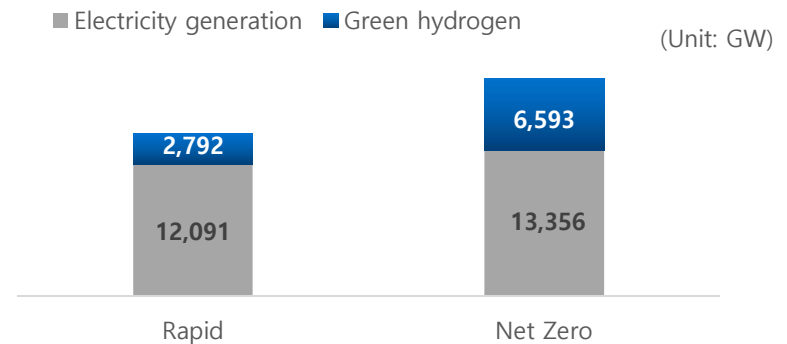


Investments/Revenue (during 2021~2025)



* Source: Company

Global Green Hydrogen Capacities by 2050

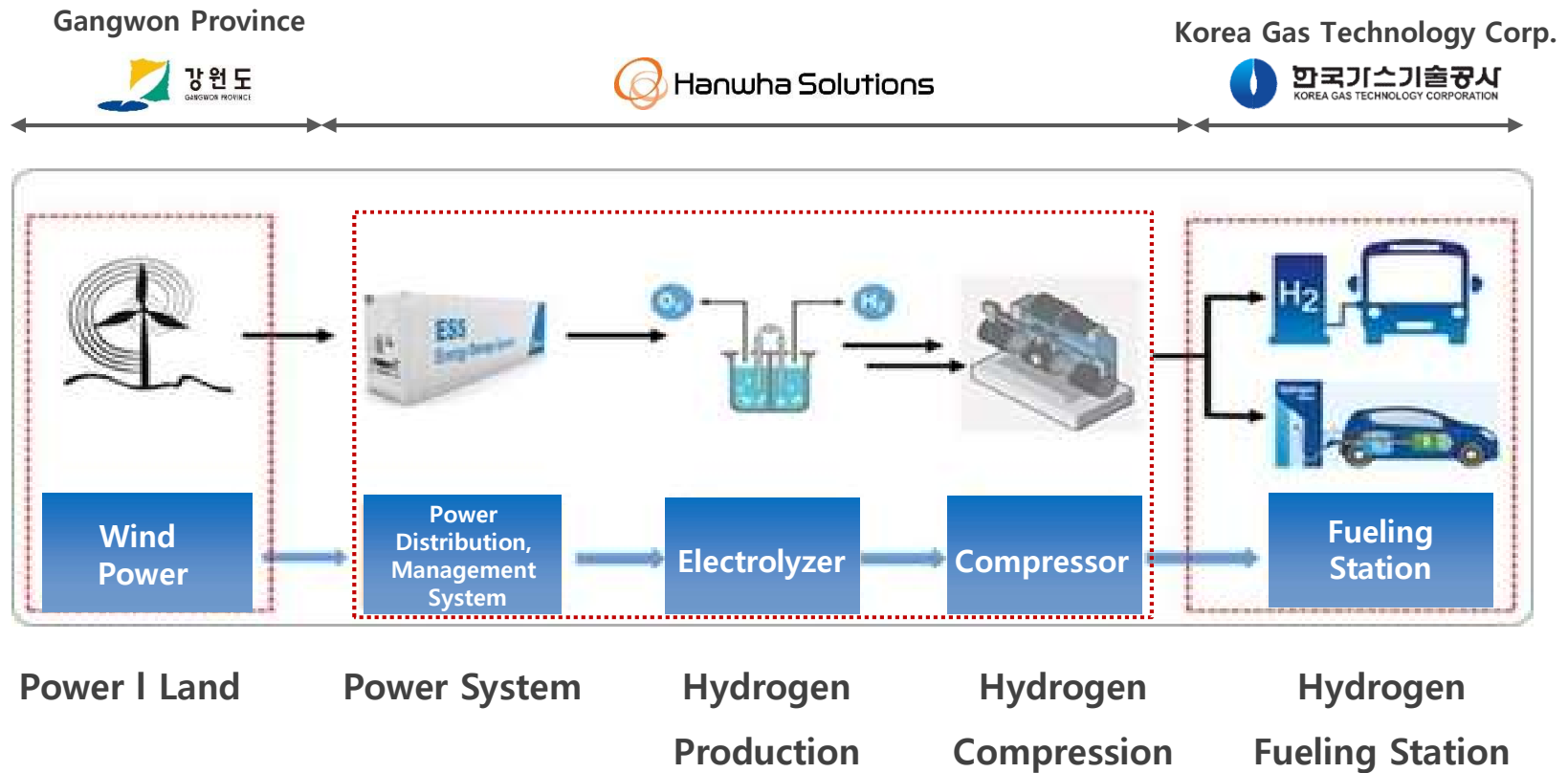


* Source: BP Energy Outlook 2020

Hydrogen | Project-in-progress

Korea's First Integrated Green Hydrogen Production Site in Progress

Green hydrogen project utilizing renewable energy (wind) (total investments of KRW 10 billion)
Building 2MW size electrolyzer to produce max. 290 tones of green hydrogen (PEM technology)



(End of Document)