

# Investor Relations Material For DSME Acquisition Deal

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Hanwha Aerospace × Hanwha Systems × Hanwha Impact



2022. 9. 26

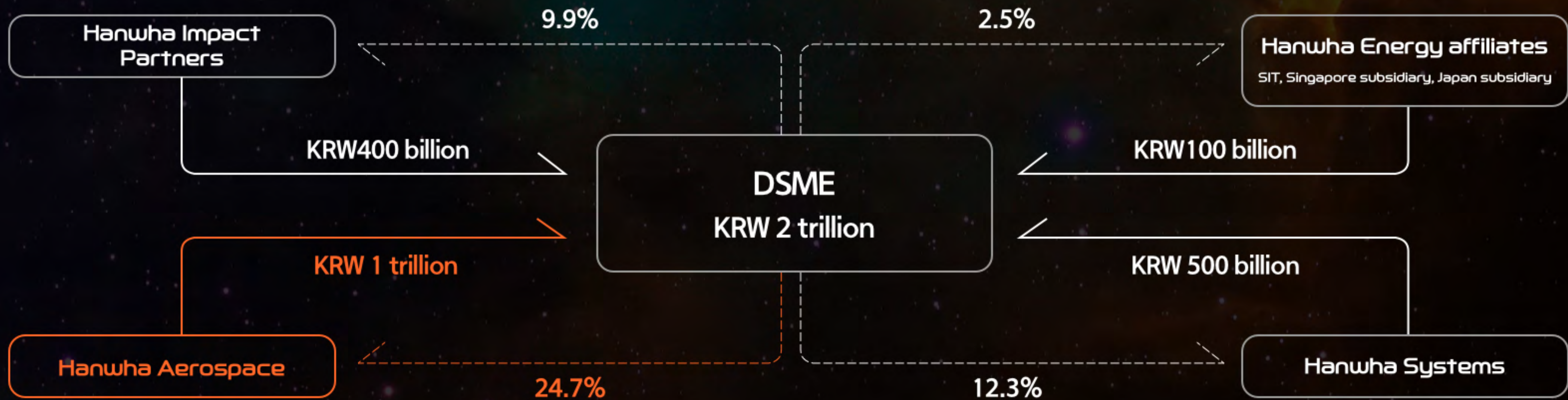
## DISCLAIMER

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This presentation, prepared in accordance with K-IFRS, provides preliminary results prior to the completion of an external audit for the convenience of investors only. 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. We do not undertake any duty to update any forward-looking statement.

Stakes and amount	49.3% common shares of DSME, about 2 trillion Korean Won	Acquirers	Hanwha Aerospace (1 trillion), Hanwha Systems (0.5 trillion) 4 other Hanwha Group entities (0.5 trillion)
Purchase price	KRW19,150 (applying 10% discount to price designated by Korean law)		
Expected deal time table	<p>Sep.26, 2022: Investment agreement signed</p> <p>Oct.~Nov.2022: Due diligence, competing bidding (stalking horse)</p> <p>Nov.2022: Acquisition contract signed</p> <p>End Dec.2022: Application of approval for M&amp;A</p> <p>End Mar.2023: Approval of M&amp;A and deal closing</p>	Method of acquisition	Third-party allotment offering by DSME to Hanwha Group entities



Due to regional conflicts and climate change, **national security** and **energy security** have become even more pressing needs.

### Regional Conflicts



Russian forces moving into Ukraine territory

Reuters

### Climate Change



Severe draught dried up the basin of Rhine River in Germany

Ina Fassbender/AFP/Getty Images

### National Security



K-Defense struck a business "jackpot" by winning 20 trillion export contract with Poland.

Seoul Economic Daily

### Energy Security



US President Biden signing on IRA (Inflation Reduction Act)

The Independent

## As geopolitical instability grows, the demand for national security industry has continuously been on the rise.

### Ground defense demand forecast

Geopolitical instabilities due to Ukraine–Russian War and intensifying competition between the US and China over global hegemony have led to the increasing demand for national security industry, particularly in the European countries which decided to strengthen their defense power, and NATO member countries of which defense spending was pushed up to 2% of GDP, as well as in other countries who ranked high in the current defense expenditure.

### The U.S. 1st place

Year 2022 defense spending  
**\$ 778 Bn**

Taking part in the US Army's next generation OMFV (Optionally Manned Fighting Vehicle) Program.

Business size: ₩ 54 trillion of the total program budget  
To replace around 3,500 sets of M2 Bradley Armored Vehicles.

(US) OshKosh–(ROK) Hanwha Consortium is participating

### The U.K. 5th place

Year 2022 defense spending  
**\$ 59 Bn**

Advancing to the U.K.'s next generation self-propelled howitzer market.

Business size: The total program budget is set at more than ₩1 trillion won.

### Australia 12st place

Year 2022 defense spending  
**\$ 28 Bn**

Working on K9 Self Propelled Howitzer Program.

Size: The total program budget is above ₩1 trillion.

Pursuing the contract award for Redback Armored Vehicle Program.

Business size: The total program budget will be above ₩10 trillion.

### Middle East

Saudi Arabia **\$ 58 Bn**      the UAE **\$ 25 Bn**

Working on tactical surface-to-surface, air defense guided missile programs.

Pursuing the contract awards for self-propelled howitzer (SPH), armored vehicle programs.

## Poland

### Strategic export target country

Poland increased the country's defense budget from 2.2%, to 3% and to 5% against its GDP.

Strategic items: SPH, armored vehicle and guided missiles

To make Poland as the strategic base for production and R&D and further expand the market.

In August 2022, the contracts worth ₩3.2 trillion for K-9 and SPH were signed.

Synergies with Hanwha Aerospace

By acquiring DSME, Hanwha Aerospace can expand the scope of its Global Total Defense Solutions to cover all the domains including the **ocean and the space**.

1 | (Common) To strengthen and expand its positions in maritime defense market.

- To secure maritime defense market as a party of Total Defense Player Strategy.
- Hanwha Aerospace's business strategy scope will be enlarged from the current space/defense to space/maritime/defense.
- DSME's shipbuilding and maritime R&D capabilities will be combined with Hanwha Aerospace's defense business and MRO capabilities.
- By reorganizing and integrating defense R&D centers, we will be able to enhance new product development capabilities while securing the future growth engines.
- To strengthen our local business positions and increase revenues with more powerful engagement efforts for the government clients(DAPA, etc.)
- To create synergies among DSME's naval vessel programs, Hanwha Aerospace's naval vessel engines and Hanhwa Corporation's guided weapons.



**Space System**  
Satellites, satellite communications



**C4ISR System**  
Surveillance and reconnaissance, command and control

2 | (Export) To transform Hanwha Aerospace into a global defense product provider by expanding into overseas maritime defense market.

- To integrate both companies' global networks(in Mideast, Asia and Europe.)
- To secure main platform system portfolios for naval vessels such as combat ships and submarines.
- To provide secure follow-on supports including localization and integrated MRO, etc.



**Land System**  
Ground system, air defense



**PGM System**  
Guided missiles, precision guided systems



**Naval System**  
Naval combat systems and mounted devices (sensors/weapons) + Maritime systems (ship platforms, plants, etc.)

3 | (Commercial) To combine defense R&D elements into commercial maritime vessels for eco-friendly, smart vessels, etc.

- To expand market by utilizing electrical propulsion systems and econ-friendly ESS technologies to commercial maritime vessels.

Synergies with Hanwha Systems

By acquiring DSME, Hanwha Systems is to expand its Global Total Defense Solutions portfolios to cover all the domains including the ocean and the space.

1 (Common) To expand business areas.

- Thru collaboration between Korea's only naval CMS(Combat Management Systems) company and Korea's No.1 shipbuilder, HSC can further expand its defense business areas.
- To enlarge and advance into new business areas including naval vessel IT systems, sensor/weapon systems, unmanned naval systems and manned-unmanned teaming systems, etc.
- As there will be more requirements for smart ships and smart production facilities, HSC's ICT Business can grow together.

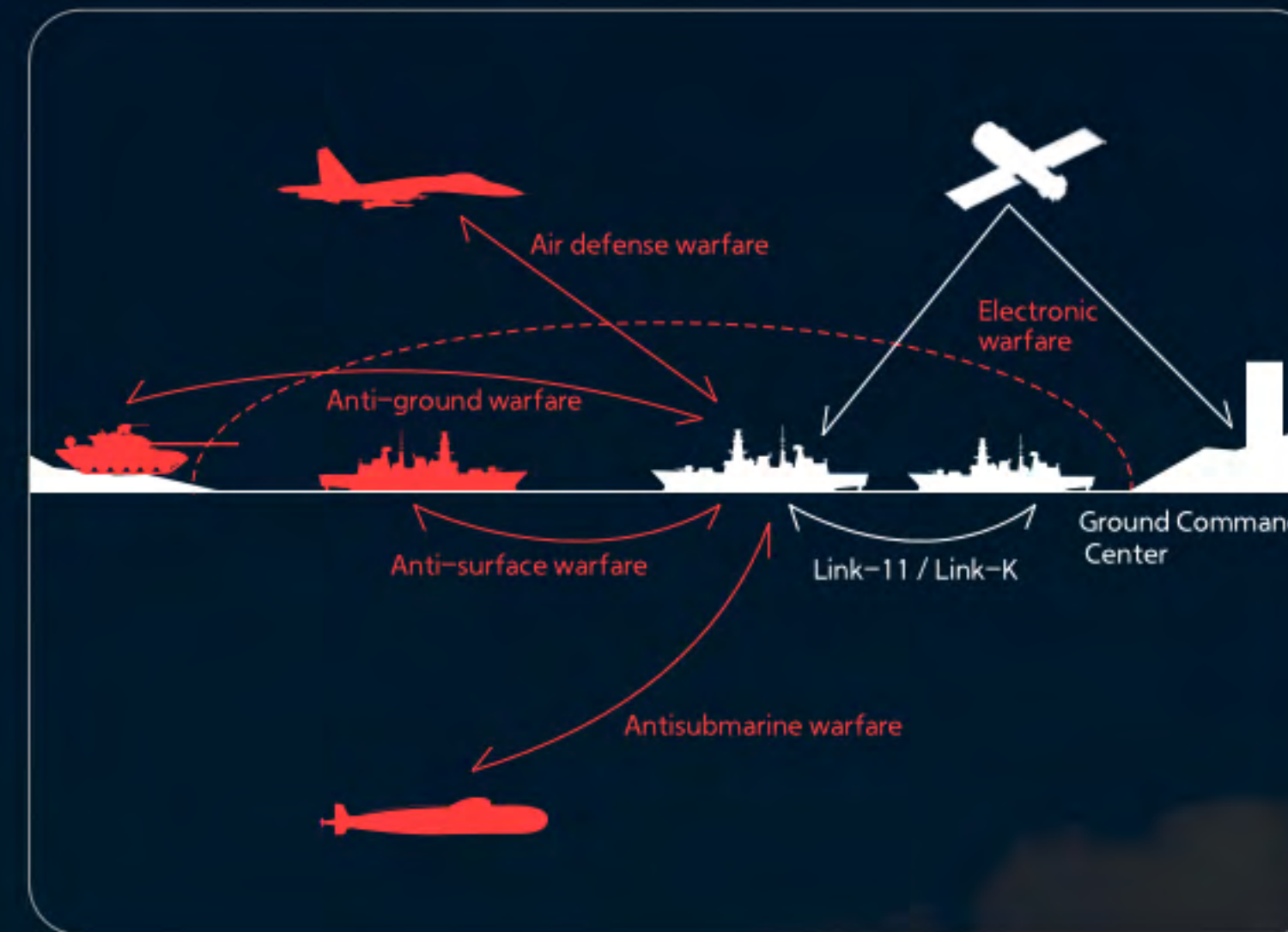
2 (Overseas) To expand the export markets(countries) and secure competitive products for export.

- To secure the bases for export and expand the list of strategic export base countries.
- To secure globally competitive products thru naval vessels' standardized/modular designs and vertical integration of naval vessel weapons systems.

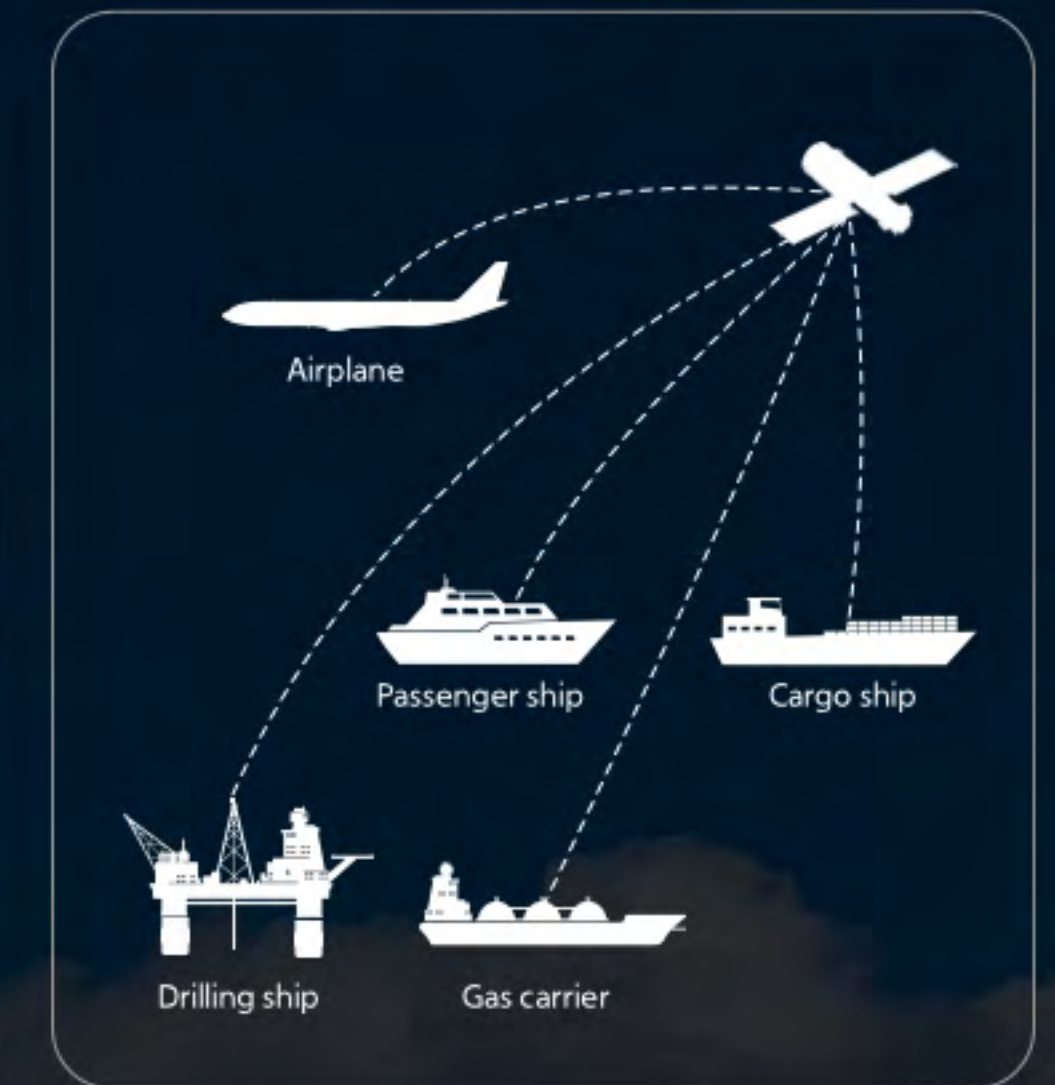
3 (Commercial) To expand LEO satellite communication market and develop autonomous navigation commercial vessels.

- To expand the maritime market for Communication-On-The-Move by utilizing LEO satellite and LEO satellite communication antenna.
- To usher in the era of next generation unmanned autonomous vessels by applying maritime unmanned systems technologies.

Naval Combat Systems



LEO satellite communication



## Synergies with Hanwha Systems

By acquiring DSME, Hanwha Systems is to expand its Global Total Defense Solutions portfolios to cover all the domains including the **ocean and the space**.

### Naval vessel program demand forecast

The future naval vessel export market is expected to grow from \$20B in 2022 to \$28B in 2031, of which the ten-year cumulative figure is as much as \$273B.

The export market volume is forecasted at around \$100B for 10 years on accumulative basis.

### Export network expansion

In particular, the demand for DSME's 3,000-ton diesel submarine is likely to grow as the operation sea areas are being enlarged. Its performances have been well-proven in Korea(Jang Bo-Go Class III) while other global key players are yet to have that product, rendering the submarine competitive for the export market. Demands have been identified from India, Australia and Canada.

If Hanwha Group's defense export networks can be tapped into, the export opportunities for the product will grow further to be sold at around 20 countries worldwide.



Jang Bo-Go Class-III



Export network



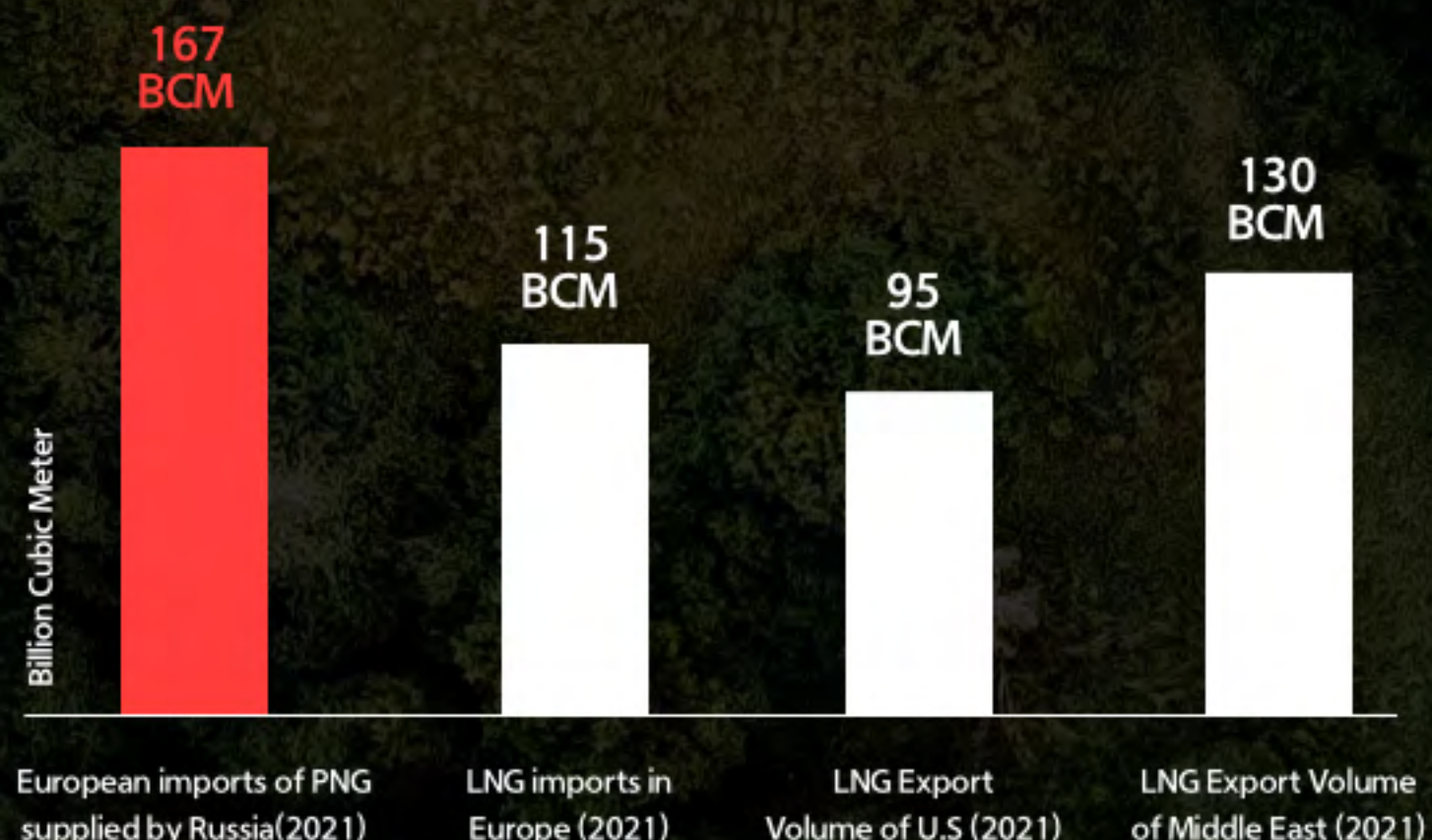
# Europe, **The Game Changer**, turning to LNG imports instead of PNG supplied by Russia, resulting in exponential growth in LNG demand (+LNG shipping demand)

Long-term LNG contracts more-than doubled over the recent one year



Source: Shell

PNG supplied by Russia exceeds LNG exports by U.S and Middle East, respectively



Source: BP Statistical Review of World Energy 2022

# Completing Hanwha Group's green energy value chain by acquisition of DSME

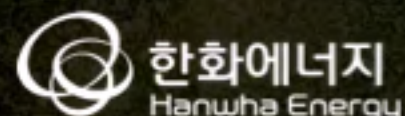
LNG production—shipping—power generation

## LNG Value Chain of Hanwha Group

### LNG production

#### Hanwha Energy

Purchase of LNG from France's Total Energies  
(600K tones/year, 15 years)



#### NextDecade

Developing Rio Grande LNG Project in Texas, U.S.  
(processing 27 million tons/year,  
invested by Hanwha Impact)



#### DSME

FLNG (Floating LNG)



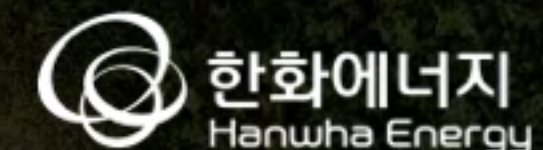
### LNG shipping



#### DSME

Shipping (LNG tanker), FSRU (Floating Storage and Regasification Unit),  
Floating LNG fuel supply

### LNG power generation

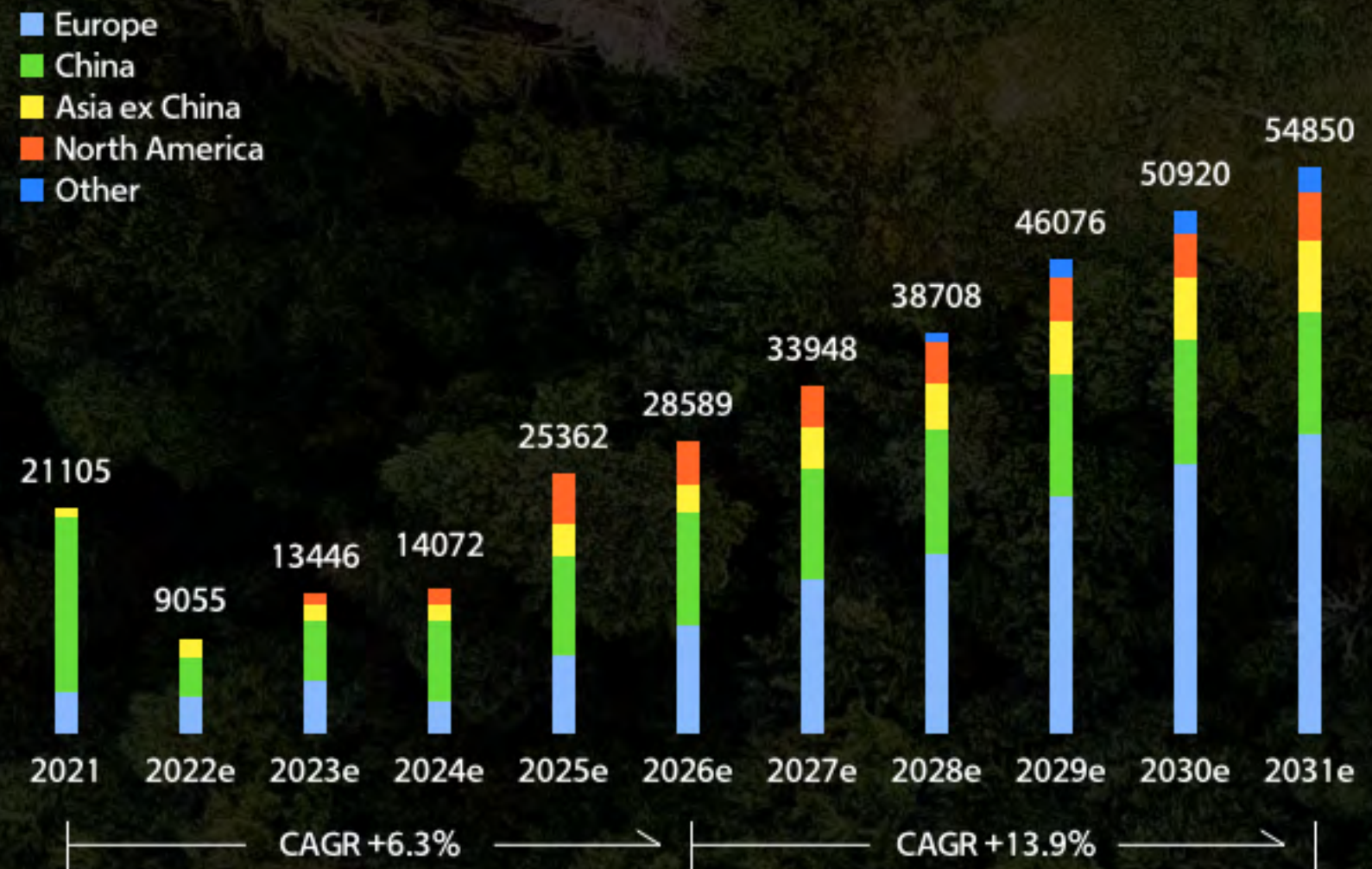


#### Hanwha Energy

Developing LNG power plant (1,012MW) and storage tank  
(Tongyoung Ecopower) with J/V partner

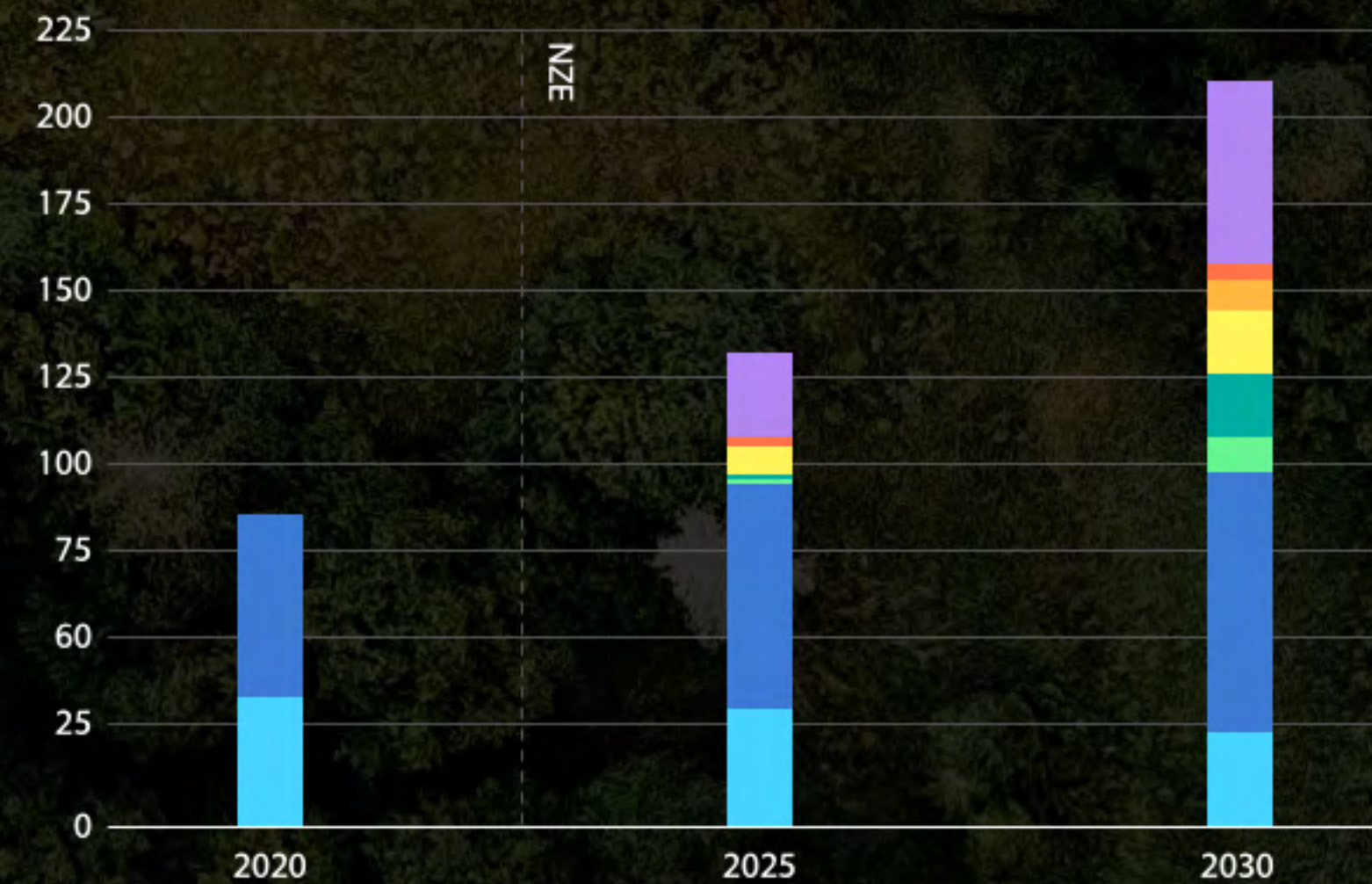
# Energy security accelerates energy transition to LNG and renewable energy

Global offshore wind installation to increase by more than 2.5x over the next decade



Source: Global Wind Energy Council

Global hydrogen demand to increase more than double over the next decade



Source: IEA

# Completing Hanwha Group's green energy value chain by acquisition of DSME

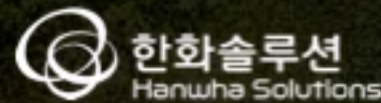
Green hydrogen/ammonia production—shipping—power generation/storage

## Green H2/Ammonia Value Chain of Hanwha Group

### Green hydrogen/ammonia production

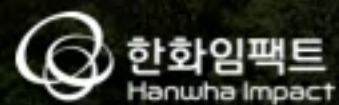
#### Hanwha Solutions

Production of green hydrogen based on solar/wind power



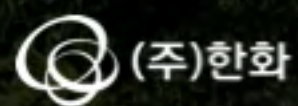
#### Hanwha Impact

Engineering/equipment based on ammonia decomposition technology, J/V with Korea Zinc and SK Gas for green hydrogen/ammonia production based on solar/wind power in Australia



#### Hanwha Corp. (Global business division)

Production of nitric acid based on ammonia, J/V with Wonik Materials for green hydrogen/ammonia production



### Hydrogen/ammonia shipping



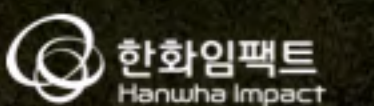
#### DSME

Shipping of hydrogen/ammonia (hydrogen/ammonia tanker, hydrogen/ammonia fueled vessel)

### Hydrogen/ammonia based power generation/storage

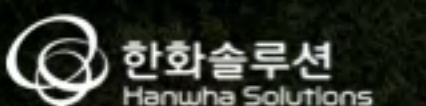
#### Hanwha Impact

Hydrogen to gas turbine technology (H2GT, technology by Thomassen Energy in Netherlands and PSM in U.S, the subsidiaries of Hanwha Impact)



#### Hanwha Solutions (Chemical business division)

Production of hydrogen storage tank



# Completing Hanwha Group's green energy value chain by acquisition of DSME

Offshore wind plant—power generation—green hydrogen/ammonia

## Offshore Wind Value Chain of Hanwha Group

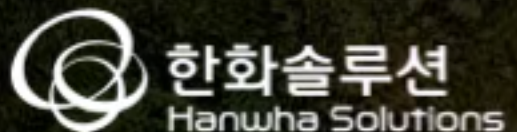
### Offshore wind plant



**DSME**

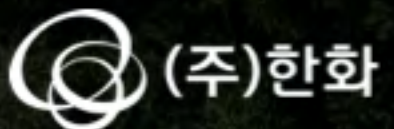
Offshore wind plant (hull), WTIV (Wind Turbine Installation Vessel)

### Offshore wind power generation



**Hanwha Solutions**

Expanding highly profitable offshore wind power generation projects in U.S and Europe



**Hanwha Corp. (Construction business division)**

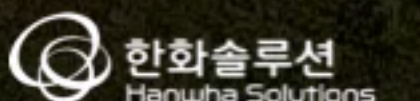
Developing domestic onshore/offshore wind power generation projects

### Green hydrogen/ammonia

Storage/fueling of green hydrogen/ammonia based on offshore wind power

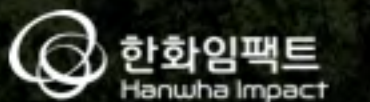
**Hanwha Solutions**

Production of green hydrogen utilizing water electrolysis technology



**Hanwha Impact**

Engineering/equipment based on ammonia decomposition technology



**Hanwha Corp. (Global business division):**

Production of nitric acid based on ammonia

