

Green Tomorrow, **(***i***)** ith POSCO

Transition to a Holding Company & Business Strategies for 2030

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Holding Company Transition Background

Inevitable step to overcome the limit of steel business-based corporate structure, in order to expedite growth in group-level in the midst of shifting business environment

Change in Future Trend

GT, DT, BT^{*} Innovation

- Rising value of Environment, contact-less, wellness *Green Tech, Digital Tech, Bio Tech

Green Growth

 Expect growth from eco-friendly biz (ex. EV, Renewable Energy), while concerns for Greenflation weigh

🗹 Economy bloc

- Intensifying competition to secure the supply chain in advance nations

Need to upgrade competitiveness, and seek new growth opportunities

Growth Strategies and major tasks



Transition to green steelmaking process and pursue global growth

- Lead the market by moving ahead of lowcarbon technologies both home and abroad
- Strengthen eco-friendly steel portfolio
- Spearhead into future growth market

Expand growth from new growth business sector

- Build value chain of secondary battery materials biz and reach top-tier level
- Nurture hydrogen biz, closely tied to group biz portfolio, as steel biz
- Find and develop new biz opportunities

Pursue balanced growth in group level, through reviewing business competence, finding growth business and nurturing future businesses

Holding Company Transition Background

To change traditional steel business-oriented perception required revaluation on new growth businesses



| Complete commercialized production | | | | | |
|---|--------------------|---------|----------------|--|--|
| Proved the technology to be viable, under process of commercialization investment | | | | | |
| - Lithium : 43 (10.`23) → 220k tons (`30E) - High purity nickel : 20 (7.`23) →140k tons (`30E) | | | | | |
| Global L | Global Lithium Co. | | | | |
| | <u>Company</u> | Company | <u>Company</u> | | |
| | <u>G</u> | A | T | | |
| Capacity (LCE*,k tons) | 125 | 85 | 85 | | |
| Market Cap (trillion KRW) | 40 | 36 | 31 | | |
| * Lithium Carbonate Equivalent | | | | | |

| Establish | global | partnership | |
|-----------|--------|-------------|--|
| | | | |

Pursue partnership to produce and R&D on green hydrogen

| 000 | R&D on green nyan | ogen | | | | |
|---|---|---|--|--|--|--|
| - Partnership with companies both home and abroad as, Aus. ORIGIN Energy, FMG , Denmark Orsted, etc. | | | | | | |
| (k tons) | <u>21</u> <u>Capacity</u> | <u>'30</u> Target | <u>Market</u> <u>Capital</u> | | | |
| Company (US) | Р | 315 | 25 tril. KRW | | | |
| POSCO | 3.5 (Self-sufficient amount) | 500 | - | | | |
| | - Partn Aus. ((k tons) Company (US) POSCO | - Partnership with companies Aus. ORIGIN Energy, FMG , I (k tons) <u>Capacity</u> Company P - (US) <u>3.5</u> POSCO (Self-sufficient amount) | - Partnership with companies both hor Aus. ORIGIN Energy, FMG , Denmark (k tons) <u>Capacity</u> <u>130</u> (k tons) <u>Capacity</u> <u>1315</u> (US) <u>3.5</u> 500 (Self-sufficient amount) | | | |





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Transition Model

Spin-off steel business, 100% owned by the Holding Company, and remain unlisted for advanced governance structure led by the Holding Company



Establish Advanced Governance Structure

- Prevent conflict of interest within shareholders of both the Holding Company and subsidiaries, as keeping steel biz unlisted
 - \cdot Future spun-off growth businesses will remain unlisted, to align growth value with shareholder value
- Avoid financing through public offering of subsidiaries and execute financing led by the Holding Company, such as paid-in capital increase
- ✓ Fortify governance structure led by Board of Directors of the Holding Company, through recruiting experts by business and increasing the portion of outside directors
 - · Strengthen management transparency by implementing audit committee and outside directors in unlisted subsidiaries

Transition Model Mission

Growth Strategies

Holding Company Mission

Build Multi-core growth structure and manage ESG issues in group level by developing future growth business and securing group synergy





Develop future business portfolio

- **Establish growth strategy in** group level
- Find new business opportunity
- Pursue new business, through M&As

Restructure group business and create synergy

- Diagnose and evaluate group business
- Nurture growth business and set the direction for restructuring
- Discover opportunities for synergy within businesses



- in group level
- Establish strategies to acquire future new technologies
- Recruit and nurture R&D talents
- Establish R&D network to focus on all group businesses



Lead ESG management

- Set ESG strategy in group level
- **Oversight on Carbon Neutral Roadmap in group level**
- Communicate with ESG stakeholders

on Growth Strategies

es Schedule

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Growth Strategies

Steel industry faces a paradigm shift,

under impending carbon neutrality and intensifying economic blocs

Environment as the top priority

Steel

Intensifying global partnership for carbon neutrality, increasing demand for eco-friendly products from customers

- Trending to set carbon-neutral roadmap, levelling up 2030 NDC from countries as the US and EU, etc.
- More requests from major customers to use renewable energy and reduce carbon emission unit
- Investors request to announce global 1.5°C target
 - Without eco-friendly production system, the company's existence is at stake

Intensified Global Value Chain Bloc

Accelerated economic bloc, due to US-China trade war and stricter environmental regulations

• US-China trade war expands its impact from tariff to global value chain

VS

Economicbloc excluding China (USMCA)



- New Environment regulations, as CBAM
- EU : Expected to be implemented from 2026
- US : Propose CBAM related legislations
- Increasing need to form integrated supply chain within each bloc

Paradigm shift in global D&S

Higher demand for eco-friendly high-grade steel and pressure against capacity addition due to environmental regulations

• Global steel demand increase : ('20) 1.76 \rightarrow ('30) 2.19 bil tons

- Lower BF expansion due to carbon neutral regulations * Reducing overcapacity : ('15) $790 \rightarrow$ ('17) $660 \rightarrow$ ('20) 570 mil tons
- Renew product portfolio based on low-carbon products

Amidst such trend, steel product price likely to remain high

Steel industry should transform its low-growth & highly regulated business model

to a sustainable, eco-friendly business model

Build eco-friendly production system and enhance product portfolio accordingly





Expand profit base and preemptively secure markets, in areas with environmental competitiveness and strengthening low-carbon product sales portfolio (by 2030)

Growth Strategies

Steel

Increase corporate value by strengthening global leadership on preemptively setting the eco-friendly production system

Gradual transition to carbon-neutral production system, building eco-friendly infrastructure,

Net CAPEX to reduce carbon emissions (~ 2030) : 2 trillion KRW

\bigcirc 20% reduction of CO₂ emissions

Domestic biz



 Reducing 10% of CO₂ emission saves carbon cost by 500 billion KRW/year

OImprove domestic steel profitability



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- Lower HMR ratio (84% \rightarrow 77%), Reduce coal usage (716 \rightarrow 683 kg/t-p) *2017~2019 average \rightarrow 2030
- Pro Introduce 2 new Electric Arc Furnaces (in 2025 and 2027)
 *CO₂ Unit Cost : EAF 0.5 vs BF 2 ton/t-s
 - Continue hydrogen-based ironmaking R&D and build demo plant* (by 2028)
 * DP capacity of 1 million ton requires 100,000 tons of green hydrogen
 - Establish a base to expand scrap purchase and conduct stake investments in overseas suppliers (4 million tons)
- Material Invest in overseas HBI* production facilities to preemptively secure supply * HBI : Hot Briquetted Iron
 - Pursue JV investment for HBI production with miners in vicinity of mine in Australia (2 million tons)
 - Strengthen eco-friendly product portfolio including mobility, construction, and energy
 Build EV motor production capacity for 7 million units, develop specialized products for wind-power/solar/ hydrogen energy and expand marketing solutions
 e Autopos Greenable INNOVILT
 - Support eco-friendly transition in customers' perspective by expanding related high-end products and marketing solutions

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India

IND

US

Growth Strategies

Preoccupy demand from growth market with green and glocal production and increase eco-friendly investment

Form partnership with miners and energy companies in regions with environmental competitiveness



 Secure 23 million tons of crude steel capacity

Overseas biz



OImprove global steel profitability



| • Preoccupy production base in areas with strong eco-friendly infrastructure as RE, Hydrogen |
|--|
| (In line with the country's carbon neutral target and policy) |
| - Renewable Energy capacity : (2019) 138 $ ightarrow$ (2030) 523 GW, |
| Green hydrogen production cost (2010, PWC) : India 2.95U\$/kg (70% of Korea and Japan) |
| • Build Integrated mill to expand in the growing market * Steel demand: (2019) 100 → (2030) 180 million tons |
| |
| • Develop as the only integrated mill able to supply automotive steel in SEA market |

- SEA market imports 60% of total demand (2030 shortage(E): 49 million tons), Steel Consumption/capita(kg)*: IND 59, KR 1,039 *Source: WSA(2019)
- Achieve 10 million tons of capacity based on the operational competitiveness of PT-KP
- Secure the market that push towards low-carbon trend, with abundant low carbon resources - Recorded net export of scrap(12 million t, 2020) Auto-makers' increasing demand on low-carbon steel(USMCA)
- Create partnership in building integrated EAF, with companies that has market dominance in low-carbon materials and steel market

d Mission

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Growth Strategies Cathode/Anode

Expand domestic and overseas production capacity based on partnership with customers, reach top-tier level with leading technology



Mines

Salt Lakes

Tech

Sales

Ore-

based

Recycling

Become a global top 3 player by building capacity of 220 thousand tons by 2030

Growth Strategies Lithium·Nickel

Become a global lithium nickel producer based on secured resources and eco-friendly technology

- Ore Phase 1: 43k t, under construction(operation from Oct 2023)
- Brine Phase 1: 25k t approved (operation from 2024)

Lithium

• Brine Phase 2: 25k t in preparation (operation from 2025)



- Build stable supply chain through preemptive investment in lithium resources
 - Acquired the Argentine salt lake (Aug 2018) and stake investment in Pilbara, Australia (320kT/yr, Feb 2018)
 - Plan to expand capacity on Hombre Muerto Salt Lake and to acquire additional ore in US/AUS area
 - With eco-friendly lithium extraction technology, develop value-added lithium products - Stable production technology proven through pilot/DP operation since 2010 - Develop materials for solid-state battery, as Li2S, Li metal, etc.
 - Seure stable demand by enforcing partnerships with top 3 domestic battery-makers global automakers

Achieve 140k ton capacity in 2030 with two-track strategy, minerals(110k ton) and recycling(30k ton)

- Convert into products for SNNC battery (operation from 2023)
- Recycling phase 1 under construction (operation from Nov 2022)
- Refinery of RNO, Australia (in operation from 2024)

Ni



- Enter the market by converting nickel for STS to nickel for battery materials and expand capacity through JV with global nickel producers
- Invest in upstream(mines, smelting) in IND, AUS, etc., and downstream near high EV demand regions as Korea, Americas, EU, etc.
- Form a strategic partnership with companies with waste battery collection network

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Growth Strategies Hydrogen

Build production capacity of 7 million tons by 2050, Become a global top 10 hydrogen producer



resources and secure key technologies

Growth Strategies Hydrogen

Establish a global supply network of blue/green hydrogen in 7 strategic countries and acquire necessary key technologies

Establish global supply network focused in countries with renewable energy and low-cost natural gas

Review 19 projects on global production

Global Network

- Blue hydrogen : Saudi Arabia, UAE, Russia (cooperate with Oil Majors)
- Green hydrogen : Australia, Oman, India, Saudi Arabia, Chile (area with abundant solar and wind energy resources)



By-product Set supply facilities of max. 70k ton capacity in '26 (2023~)

Blue

Stake investment in projects with Middle East Oil Majors

- Secure offtake volume by equity investments in blue hydrogen projects in Saudi and UAE
- Green Review 15+ projects related to steel biz in regions with abundant renewable energy source

- JV in Australia BP, FMG PJT, etc. and develop GW-level green hydrogen projects in Oman - Gradually expand green hydrogen for Royhill HBI ('30 200k tons →'35 400k tons)

Tech. M&A and joint R&D with external research institution to secure key development technologies

- Ammonia Cracking : develop technology to extract hydrogen from ammonia (Apr. '21~) •Cooperate with KIST, aim to commercialize cracking technology by 2026
- **High temperature electrolysis** : develop technology related to nuclear power plant with KAERI (Apr. '21~)
- Hydrogen Turbine : Co-develop Ammonia co-firing turbine with Doosan (Oct. '21~)
- Technology Investment and M&A with leading companies, JV with global electrolysis companies

Mission

Growth Strategies

Schedule

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Growth Strategies

Accelerate transformation into green business and discover future growth opportunities

Energy Acceleration 1,370 1,370 1,370 1,370 1,370 1,370 1,370 1,370 3.7 3.5 Power generation

capacity (GW)

Sales

2021

2025

(trillion KRW)

Energy

Accelerate LNG growth, lead the market as a green energy supplier

2,830 LNG 8.3 8.6 Power Generation 3.9 2.3

2030

- Expand related business for the bridge work towards hydrogen economy
- LNG terminals and build ammonia terminal for hydrogen business
 Increase LNG terminal capacity : 8 terminals in Gwangyang Dangjin (4 terminals by '26, 4 more by '30)
 Build phase 1 of ammonia terminals :
 - Samcheok ('25, 40 thousands $k\ell$) \rightarrow Pohang ('28, 40 thousands $k\ell$) \rightarrow Gwangyang ('30, 40 thousands $k\ell$)
- Continuously grow through developments in Myanmar and expedition in SEA
 Complete phase 2/3 of Myanmar gasfield (~'24), start production of the Mahar gas field ('27)
 Develop assets in Indonesia and Malaysia (~'30) and start production
- Transfer to hydrogen power generation from LNG and expand to renewable energy
- Convert LNG power generation facility to hydrogen power plant
 - POSCO Energy : 30% hydrogen co-firing per 1-GW LNG power generation ('26)
- Expand renewable energy power generation
- Wind power (1.2GW) : Offshore wind power in Cheonnam (~'26), JV with companies abroad with advanced technologies (~'27)
- Solar power (0.6GW) : gradually expand capacity from the government-led PJTs and group projects

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Growth Strategies

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Growth Strategies

E&C/Infra·Agri-Bio

Transform business into eco-friendly business and discover future growth opportunities



Growth Strategies Future Biz

Discover future growth opportunities and strengthen group competitiveness through strategic investments and systematic development

Venture Investment

Utilized as the channel to discover new business opportunities and to foster global unicorns

With 4-trillion-KRW+ venture fund, plans to foster 15 <u>global unicorns</u> within 10 years

* Unlisted companies with 1+ trillion-KRW Enterprise value



Find new business opportunities through outstanding venture investments

Venture Investment Strategies

• Increase investment in items related to POSCO growth businesses, as secondary battery materials, hydrogen, etc.

- Focus areas : eco-friendly nickel smelting, hydrogen storage tech., separation membrane materials, etc.

- Develop seed businesses by investing in emerging businesses and technologies
 - Focus areas : graphene materials, new biologics \cdot vaccine, BioChar*, etc.

* Produced during pyrolysis process of biomass in the absence of oxygen, excellent ability to capture $\rm CO_2$

• Operate sensing channel abroad and secure deal-flow through cooperation with top venture capitals

Mission

Growth Strategies

Group EV Target

Build balanced business portfolio by accelerating growth from eco-friendly business and target to triple EV by 2030



E&C, Agri-Bio

etc.

Energy

Growth Strategies

Schedule



Schedule

| 10 Dec | BOD Meeting | Approve spin-off plan, resolve to convene EGM*, and set record date | |
|--------|-----------------|---|--|
| 27 Dec | EGM Record Date | Fix shareholders' list for EGM | |
| 18 Jan | Open e-Vote | 9:00AM ~ 5:00PM on 27 Jan | |
| 28 Jan | EGM | 9:00AM at POSCO Center | |
| 1 Mar | Spin-off Date | New entity inaugural assembly (2 March) | |

* Extraordinary General Meeting

* All mentioned schedule in KST (Korean Standard Time)