KYOBO AXA Asset management

FORTRESS INVESTMENT GROUP

ARK

Information Memorandum & Teaser

Nonsan BE-CCUS (Carbon Resource Utilization) V3+ H_2 Integrated Project

FROM FOREST TO BE.CCUS & + HYDROGEN

Same site · Same raw materials · 3 times the sales

Arranged by **Kyobo AXA Investment Management** & **Fortress Investment**

May 2026

[Key Investment] An integrated infrastructure asset that stacks only the upside without compromising existing PF bond protection..

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Executive Summary SPC1 V3+

Total project cost
168.3 billion won

PF loans
140 billion won

Project IRR
33.2% 24.7%
+8.5%

EBITDA
76.5% 70%
+6.5%

DSCR (RF Y4)
3.58x 3.26 X
+0.32X

Worst Complex DSCR
1.94x

Integrated sales (SPC1+SPC2) **181** billion won | SPC1 20-year cumulative **FCFF 1,089.5** billion won

[Investment Highlights] PF-friendly assets composed of high EBITDA, high coverage, and multiple revenues.

Korea's 4 Major Structural Crises

01 Forest resource imbalance

Domestic Forest accumulation at 1 billion m^3

Deterioration of carbon sinks and increased wildfire risk due to FSC logging delays. Deepening ecosystem imbalance due to lack of sustainable fuel processing alternatives.

02 Renewable energy supply shortage

RE100 power under-measures < 9%

Realization of entry barriers to global supply chains for domestic export companies and manufacturers. An absolute shortage of 24/7 base load power capable of supplying power without grid instability.

03 reliance on overseas materials

Dependence on imports of harmful gray charcoal 96%

Entrenched dependence on imports of low-quality charcoal (wood charcoal) that causes fine dust and carcinogens. Urgent need for mass domestic production of high-quality, eco-friendly white carbon..

04 Limitations of Clean Energy Transition

Tier 1 clean H_2 Undecided

Despite the introduction of policies such as CHPS to achieve a hydrogen economy early, there is a lack of large-scale clean hydrogen production infrastructure that simultaneously secures commercial viability and technological feasibility.

[Investment Key Point] It is a scarce asset that simultaneously solves four major structural problems.

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V1 ➡V2 ➡V3 Solution Summary

FROM FOREST TO BE.CCUS & HYDROGEN

Same site · Same raw materials · 3 times the sales

Forest accumulation at 1 billion m^3	→	FSC Fuel (Carbon Resource Recovery) / White Carbon
RE100 Unfinished < 9%	→	24/7 RE100 Power / PPA Supply
Gray charcoal import 96%	→	White Carbon Localization Replacement/ +SDM/CER
Building a clean hydrogen economy is an urgent task.	→	Phase 2 / Tier 1 Hydrogen Pre-extraction +a

[Investment Highlight] An integrated BE-CCUS platform that converts policy and market demand into revenue.

Project Overview

Business location	Dongsan General Industrial Complex, Nonsan-si, Chungcheongnam-do
Power generation capacity	**10.2MW** (Gross) / **9.7MW** (Net)
COD (Commercial operation)	Phase 1 **2027.09** Phase 2 **2028.09**
Key Participants	• **ARK Holdings** (Project Organizer / Sponsor) • **Korea Forestry Cooperative Federation** (20-year long-term raw material supply)) • **Tier 1 construction company** (Project Guarantee EPC) • **KPS** (Responsible Operations O&M)

Main Products (5-Tier Revenue Structure)

electrical energy

KPX PPA and RE100 linked sales

White Carbon

High-quality eco-friendly charcoal
73 tons / day production

"CDR Credits" CER

"CCU-based emission reductions"
100,844 tCo2eq/y

Steam

Heat Recovery and Process Products Value-Added Revenue Sources
8 t/h

BG SYN gas

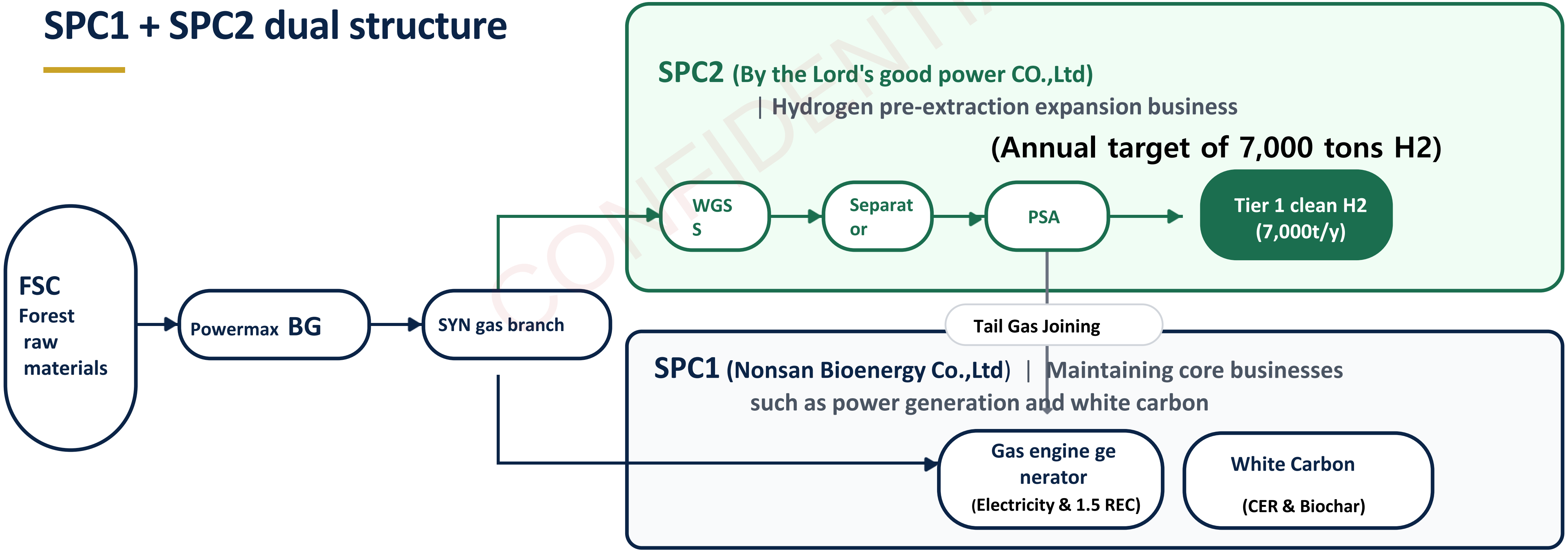
Phase 2/Hydrogen Integration with pre-extraction process
7,000t/y

reference "ARK/SPC1 Nonsan Bio Energy must sell its RE100 power through KPX via the 1.5 REC plus SMP mechanism."

100% of baseline methane emissions, securing verified carbon credits under the UN CDM AMS-III.K framework."

[Investment Highlights] Verified partners and a schedule-based, phased commercial operation plan.

SPC1 + SPC2 dual structure



🔒 **Cross Default Blocking**

Protection of existing PF creditors and incremental sales u nidirectional stacking

[Key Investment Point] Structure separation that protects existing PF bonds while stacking only additional cash flows.

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Technology & Capacity Upgrade Highlights

Key specifications and performance of the main device

- Powermax UFBG-4200 × 4 units + 1 unit (Phase 2)
- Application of B&W Volund proprietary technology
- Achieved 94.5% Cooling Gas Efficiency (CGE).
- Tar generation ≤ 5 mg/Nm³ (ultra-low tar)

Comparison items	V1 (based on the old IM)	V2 & V3 (New & Integrated Structure)
Main device type	India ANKER Downdraft Gasifier	Powermax B&W Gasifier Capacity Increased by 30%
Syngas quality	Tar control limits (≤ 50 mg/Nm³)	Ultra-low tar (≤ 5 mg/Nm³)
Gasification efficiency	Around 80% (estimated)	Achieved 94.5% of CGE
Scalability (Phase 2)	Limited to power generation and fixed carbon production processes	Perfect integration with hydrogen pre-extraction (SPC2)

Stable quality of clean SYN gas

Reducing the load on downstream processes (WGS and membranes) through stable high-purity gas generation and maximizing hydrogen production efficiency.

Improved yield and operational flexibility

Establishment of a robust system capable of increasing production yield relative to raw material input and responding to load fluctuations in the integrated process (power generation & hydrogen).

EBITDA·DSCR Direct improvement

Preemptively mitigate O&M risks through facility stabilization, and incremental sales directly translate into cash flow due to the absence of additional OPEX.

[Investment Key] Technological advancement leads to direct improvement in EBITDA and DSCR.

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5-Layer Revenue Structure (Revenue Portfolio)

V3 New Expansion (Stacking)

SPC2 SYN Gas & RE100 Sales Revenue	24.4 billion Won 19.5+4.9

V2 Existing main business (maintained)

White Carbon (Charcoal)	26.9 billion
KPX PPA (SMP+1.5REC)	14.6 billion
"CDR Credits" CER (CCFDs)	12.5 billion
Biochar & steam	3.8 billion

SPC1 Base
+ SYN Gas Sales

SPC1
Expansion sales

619
+195

81.4 billion won

Total project potential including (spc1+spc2)

Integrated total sales **181 billion**

When combining SPC1 core business maintenance (81.4 billion KRW) + SPC2 hydrogen pre-extraction expansion revenue

Direct relationship between capital efficiency and cash flow

95%+ of incremental sales directly linked to EBITDA

Additional OPEX & CAPEX ≈ 0. Risk-free revenue growth effect through process branching.

[Investment Key Point] This is a model that limits downside risk through contracts via revenue diversification and a high EBITDA structure.

V2 vs V3 Financial Comparison Table

Key Indicators	V2 (based on existing IM)	V3 (New Integration)	Structural increment (Δ)
Integrated Sales (Based on Guarantee)	61.9 billion	**81.4 billion**	↑ 19.5 billion
EBITDA margin	69.8%	**76.5%**	↑ 6.7%p
Project IRR (After tax))	24.7%	**33.2%**	↑ 8.5%p
Lowest DSCR (RF Y4)	2.64x	**3.58x**	↑ 0.94x
FCFF (20 Years of Cumulative)	776 billion	**1,089.5 billion won**	↑ 313.5 billion

Key Factors for Financial Re-rating

Structural re-rating of actual cash generation from the same site and raw materials

- ✓ Sales incremental structure minimizing CAPEX & OPEX increase
- ✓ A high-profit model where over 95% of additional revenue is converted into EBITDA
- ✓ Significant increase in debt security margin (DSCR) from the lender's perspective

[Investment Highlight] Structural re-rating of actual cash generation from the same site and raw materials.

PF Capital Structure Proposal

Total Project Cost 168.3 billion KRW | PF Loan 144.4 billion KRW | Equity 23.9 billion KRW

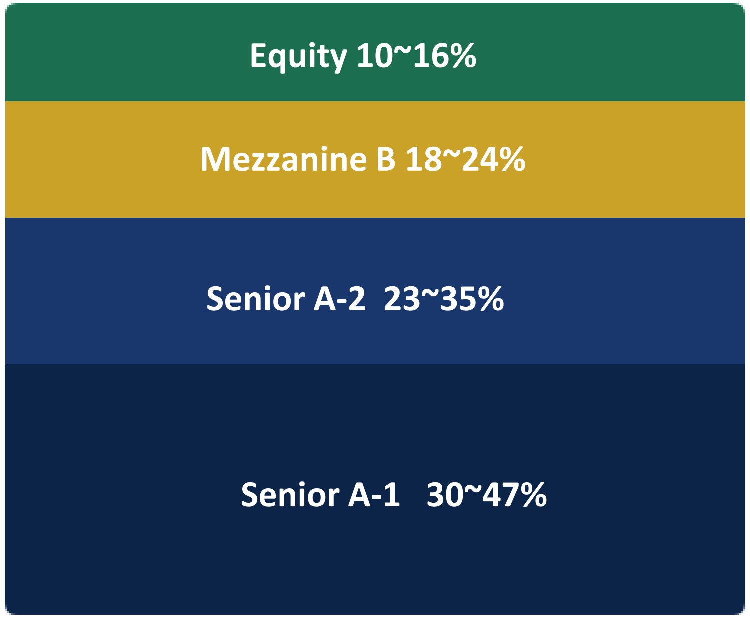
Senior A-1
30~47% (50 to 78.8 billion won- Base Rate)
1First-priority security interest and control of project core cash flows

Senior A-2
23~35% (38.6 to 50 billion KRW – Policy funds for carbon neutrality leade ality leadership, etc.)
Sharing of senior collateral packages and risk diversification

Mezzanine B (mezzanine/juniority)
18~24% (30 to 40 billion won)
Higher collateral lower priority, structural excess cash flow approach

Equity 자본금
10~16% Flexible (16.9 to 26.8 billion won)
Sponsor (Common Stock) and Strategic FI (Preferred Stock) Subordinated Capital

Total project c ost **168.3** billion w on



Year 4 Refinancing (RF)

Reduction in funding costs expected with a target interest r ate of 4.3% linked to policy financing.

Equity Capital Composition(10~16% 16.9 to 23.9 billion won)

ARK 6.9 billion (common stock) | Kyobo AXA PEF 10 billion KRW (RCPS) | Private Sch -ool Teachers' Pension Fund 4.0 billion KRW (RCPS) | Power Max 3.0 billion (CPS)

[Investment Key] Maximizing coverage and returns simultaneously with rational leverage and RF options.

Downside Protection Framework

① Business Defense

Multiple revenue sources · Long-term raw material supply contracts · SPC separation structure

② Defense against construction/operation

EPC Liability for Completion (LD Clause) · Operation and Maintenance Performan ce Guarantee

③ Financial Control Mechanism

DSRA (6 Months of Principal and Interest) · Cash Sweep · Dividend Restriction Restriction · Financial Covenant

④ Coverage Shield

Widely exceeds PF threshold even under Worst Complex scenario

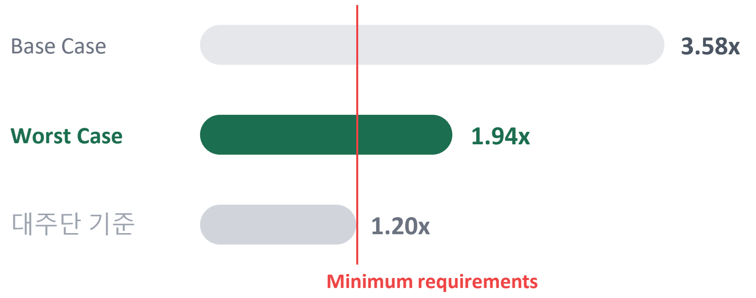
⑤ Structural defense mechanism

Robust collateral package and waterfall-based thorough account control

Stress test coverage defense

Worst Complex scenario DSCR

1.94x



When Price -20%, Utilization -15%, and Cost +10% are appli ed simultaneously

[Key Investment] Stability that significantly exceeds the PF standard (≥1.2x) through a multi-layered defense mechanism.

Policies and favorable market factors

RE100 and 24/7 Power Demand

Domestic RE100 under-coverage rate

< 9%

Market demand

Intensifying power shortages caused by continuous base-load renewable energy that complements the intermittency of existing solar and wind power

V3 beneficiary

Perfectly meeting corporate on-site PPA demand and securing premium rates based on 24/7 continuous operation capabilities

Content related to beauty forest resources

Accumulated domestic forest resources

10억 m³

Policy tasks

Urgency arises to process 1 billion cubic meters of neglected forest resources to prevent large-scale wildfires and achieve the National Greenhouse Gas Reduction (NDC).

V3 beneficiary

Securing policy incentives by aligning with key national tasks and hedging raw material risks through a 20-year long-term supply contract with the Forestry Cooperative

Localization of high value-added white carbon

Gray charcoal import share

96%

Market demand

Demand for eco-friendly carbon materials to replace existing imported gray charcoal is surging due to intense pressure from the steel and smelting industries to reduce carbon emissions.

V3 beneficiary

Complete replacement of imports and securing sales channels with guaranteed long-term unit prices through the production of high-quality, hazardous-substance-free white carbon (18,000 tons per year).

Securing the Clean Hydrogen Power (CHPS) Ecosystem

Policy fixed-price contract term

15년

Policy tasks

Introduction of the Clean Hydrogen Power Supply System (CHPS) mandating purchases by power companies and guaranteeing operator profits to leap forward to a Tier 1 hydrogen economy

V3

Inclusion in the CHPS scheme through the expansion of SPC2 hydrogen pre-extraction (7,000 tons per year) makes the generation of 15-year fixed long-term cash flow visible.

[Investment Key] Mitigating the cyclical sensitivity of infrastructure assets through a combination of policy alignment and actual demand.

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Roadmap · 7 Gates

1	2026.05	PF Term Sheet	Business structure ure finalized	Agreement on key terms
2	2026.Q4	Financial Close	PF 140 billion	Funding completed
3	2026.Q4~2027	EPC commencement	NTP-Commenceme nt of guaranteed co mpletion	Ordering and manufac turing of main equipm ent
4	2027.09	Phase 1 COD	Guaranteed sales of 61.9 billion won	V2 power generati on commercial ope ration
5	2028.09	Phase 2 COD	Consolidated sales of 181 billion won	Hydrogen pre-extracti on incorporation
6	2029.01~	Normal operation	EBITDA 마진 76.5%	Stabilization of r evenue and cov erage
7	2030~	RF / Exit	Target funding rat e of 4.3%	Optimization and Ca pital Recovery

[Key Investment] Phased value upside and inherent refinancing visibility.

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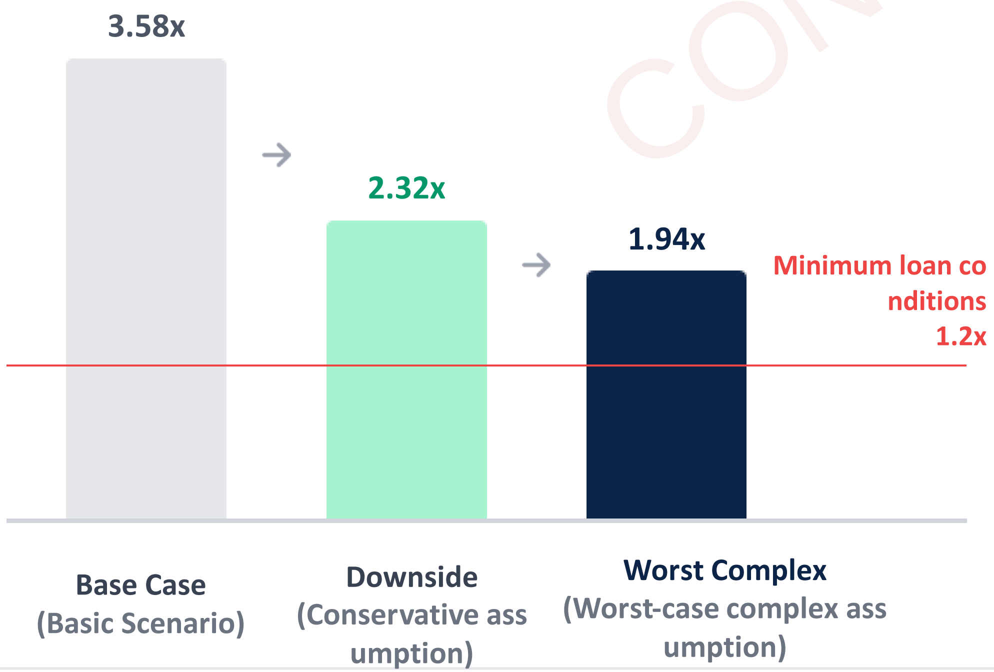
TRACK: | SENIOR LENDERS

Coverage trajectories by DSCR scenario



Collateral and control devices(Covenants)

Assets and rights collateral

Establishment of a pledge on all rights, including business site, facilities, material supply

Financial and behavioral restrictions

If the DSCR falls below 1.2x, dividends will be com pletely restricted and additional borrowing witho ut prior approval will be prohibited.

Strict account controls

Senior debt waterfall priority and mandatory DSRA (6-month) accumulation

Guarantee of the right to infor mation and healing

Obligation to report regular financial/operating r esults and the lender syndicate's Step-in right in t he event of default

Worst Complex Stress Matrix

Changes in unit selling price	Decline in plant operating rate	Increase in costs and operating expenses
- 20%	- 15%	+ 10%

Maintaining a DSCR of 1.94x even when three major risks occur simultaneously → Proving the stability of principal and interest repayment

Risk is completely eliminated by subscribing to Lloyd's Performance Guarantee reinsurance, the ultimate solution.

[Key Investment Point] Maintaining solid repayment capacity even under the worst-case combined stress scenario (simultaneous deterioration of prices, capacity utilization, and costs).

TRACK: Mid-to-lower-tier PEF·PEF | MEZZANINE & PEF INVESTORS

Equity Investor Return and Exit Scenarios

Estimated **Equity IRR** (A Base ~ V3 Integration Scenario)

149.6% ~ 150.4%

ARK Holdings

Initial investment

15.3 billion won

→

Investment Recovery Scenario When Applying

EBITDA Multiple

15배~ 24배

Exit Valuation Framework

Target EBITDA
Strong cash generation with a margin of over 76%
(directly linked to incremental 95%+)

×

Exit Multiple
12x ~ 15x
Similar infrastructure/renewable energy standards

=

Enterprise Value
Maximizing Net Equity Value through Remaining Debt Repayment After EV Calculation

Additional yield upward option(Optionality)

SPC2 H2 pre-extraction expansion
Additional premium reflected in enterprise value upon full-scale hydrogen production (7,000 tons/year)

Increase in the proportion of RE100 direct sales
Securing opportunities for further margin improvement due to rising 24/7 PPA unit prices

Linking policy incentives
Upside from long-term contracts for Clean Hydrogen Power Generation (CHPS) and rising carbon emission allowance prices

Refinancing reduces capital costs
Significantly increased equity dividend capacity upon achieving the 4th-year target rate (4.3%) RF.

[Investment Highlights] Expect project re-rating and high returns through structured upside and multiple exit paths.

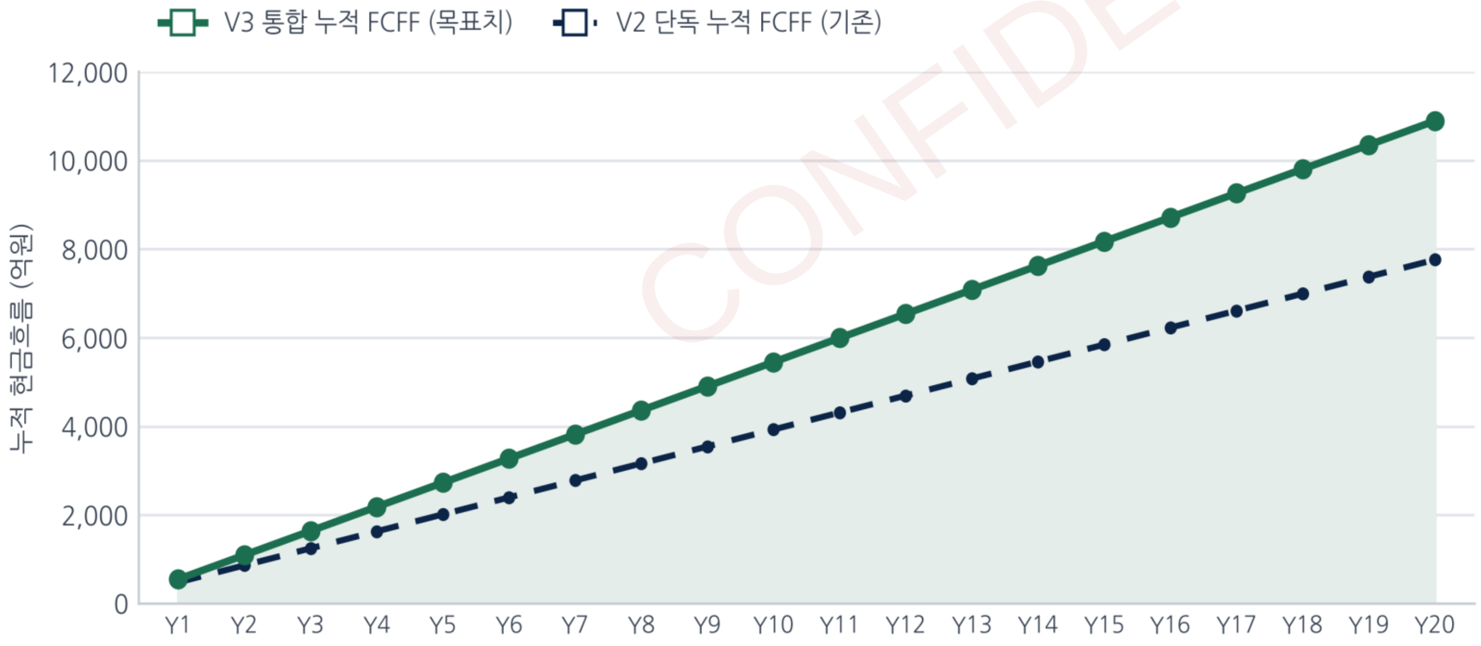
Common Risk Matrix

Securing stable cash flow through multi-layered defenses

Major Risk Items	Initial impact	Key Mitigation Mechanisms and Control Measures (Mitigants)	Residual risk
Fuel supply	Low	Korea Forestry Cooperative Federation 2020 LTA·FSC Certification, Performance Guarantee (Responsible Supply)	Low
Technology and Process	middle	Verification Technology (B&W Volund), EPC Guaranteed Completion (LD), 95% O&M Performance Guarantee	Low
Electricity price (SMP/ 1.5 REC)	middle	Expansion of PPA·24/7 RE100 direct sales, assuming a conservative unit price (230 won/kWh).	Low
Product Sales (White Carbon)	Low	EG/BHI/Seoul Energy Long-term offtake, unit price guarantee 1.5 million KRW/ton (Producer-seller centered marketplace)	Low
Carbon Policy (C DR-CER)	Low	Conservative reflection, CCfDs contract subject, interpreted as beccus climate tech option value	Low
Construction (E PC)	middle	Fixed-price completion guarantee, 10% contingency reserve, LID clause (100% efficiency guarantee, Lloyd's reinsura nce)	Low
Financial market (interes erest rate/liquidity)	middle	Interest rate hedging, RF 4th-year option, DSRA 6 months	Low
Sponsor · Regulation	Low	Sponsor Support, Securing Preliminary Licenses and Permits, Preliminary Legal and Tax Review	Low

Maximizing downside rigidity by preemptively absorbing risks through contracts, systems, and structures

20-Year Cash Flow Summary - FCFF



V3 Integrated Cumulative FCFF (20 Years)

1,089.5 billion won

Incremental free cash flow compared to V2

+313.5 billion won

(+40.4%)

Estimated annual EBITDA after normal operation

53.3 billion won ~ +a

Cash Waterfall Principle

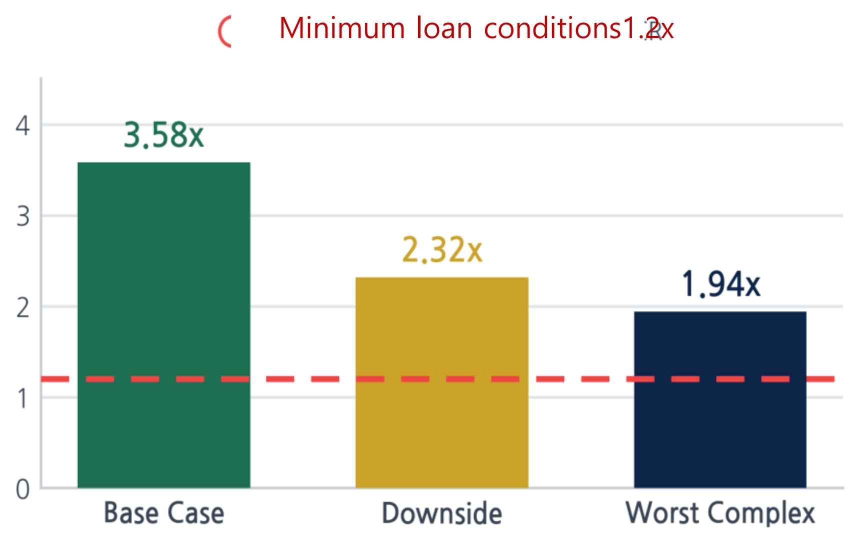
Operating Cash (EBITDA) › Taxes and Working Capital › Senior interest repayment › Senior principal repayment › DSRA (6M) earned › Dividends and subordinated redemption

[Investment Highlight] Simultaneously expand the absolute scale of cash flow and coverage stability within a single project through V3 extended stacking.

Scenario Analysis

Key Indicators	Base Case	Downside	Worst Complex
① Changes in major assumptions	(Basic baseline)	Price -10% Operating Rate -5 -5%, Cost +5%	Price -20%, Utilization – 15%, Cost +10% (Assuming simultaneous occurrence)
② Integrated Sales (Base)	81.4 billion won	Realization of stable sales	Limited sales decline defense
③ EBITDA margin	76.5%	Minimize margin erosion	Maintaining a surplus trend and repayment resources
④ Project IRR	33.2%	Defending target returns	16.4%
⑤ DSCR (RF Y4 standard)	3.58x	Exceeding the minimum standard (1.2x)	Exceeding the minimum standard (1.2x)
⑥ Equity IRR	149.6% ~	Defending profitability	Maintaining the stance of principal recovery
⑦ Lowest DSCR	3.58x	2.32x	1.94x

Lowest DSCR stress test by scenario



Widely exceeds the minimum standard (1.20x) for PF lenders, even under conservative assumptions

[Investment Highlight] Proven robust cash flow defense with no impairment of coverage even under conservative assumptions (Worst Complex).

Investment Thesis & Next Steps

Investment Thesis Summary

① Downside locking through contractual cash flow and technological advancement

We proactively control project risks and maximize cash flow protection by securing long-term contracts from multiple revenue sources and applying proven gasification technology (B&W Volund).

② Creditor protection through separation structure and V3 upward stacking

By legally and legally separating SPC1 (core business) and SPC2 (hydrogen), (hydrogen), we prevent cross-default at the source and accumulate only adate only additional value without infringing upon the rights of existing PF crxisting PF creditors.

③ Maximize profits with policy, market tailwinds, and s, and RF options

We simultaneously boost coverage (DSCR) and yield (IRR) by combining stronining strong external tailwinds, such as RE100 demand and carbon policies, policies, with a 4th-year refinancing structure (target rate 4.3%).

Action Plan & Next Steps

1. **Signing an NDA (Non-Disclosure Agreement)**
2. **Data Room (VDR) Open**
3. **Initiation of Investor Due Diligence**
   Technology / Legal / Insurance / Tax Due Diligence
4. **Financial Model (FM) Simulation Verification**
5. **Negotiation of Term Sheet Terms**
   Interest rates, maturity, repayment structure, and Covenants
6. **Credit Approval**
   Completion of internal approval procedures by agency
7. **Financial Close (Agreement Signed)**

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[Investment Highlights] Based on a thoroughly prepared due diligence package and Term Sheet, we support rapid IC approval and Financial Close.

For Further Discussion, Please Contact

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[[Investment Inquiry] Discussions regarding the Detailed Due Diligence Package (VDR) and Term Sheet can begin immediately upon receipt of this material. this material.