Sembcorp Industries Investor Day 2023

November 6, 2023

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Wong Kim Yin



















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Strategic Vision and Targets

Wong Kim Yin

Group President & CEO





Sembcorp Industries at a Glance



Operating across **10 countries**, **focused on Asia**



More than 5,000 employees



Listed on Singapore Exchange Mainboard (SGX)



Temasek Holdings **49.5%** Public **50.5%**



Renewables

- Wind
- Solar (ground-mounted, floating, rooftop, concentrated solar)
- Energy storage systems



- Importer of piped natural gas & liquefied natural gas
- Utility-scale power generation and cogeneration
- Steam generation
- Distributed energy generation

Integrated Urban Solutions

Urban

- Integrated townships
- · Industrial & business parks

Water

- Industrial water treatment & supply
- Desalination & water reclamation

Waste and Waste-to-resource

- Waste management
- Recycling and waste-to-resource





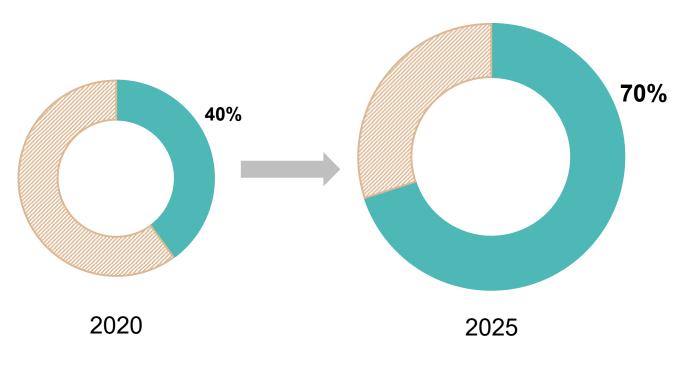


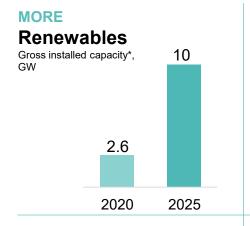


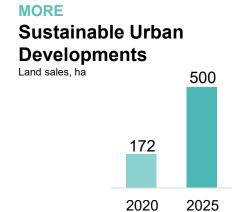
Investor Day 2021 Targets

MORE Sustainable

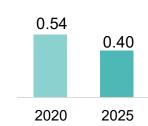
% Share of Net Profit from Sustainable Solutions¹











We are committed to:

Reducing absolute GHG emissions² to 2.7 million tCO₂e by 2030, a 90% reduction from 2020 levels and delivering net-zero emissions by 2050

^{*} Renewables capacity includes wind, solar and energy storage. Energy storage capacity is presented in MWh (megawatt hour)







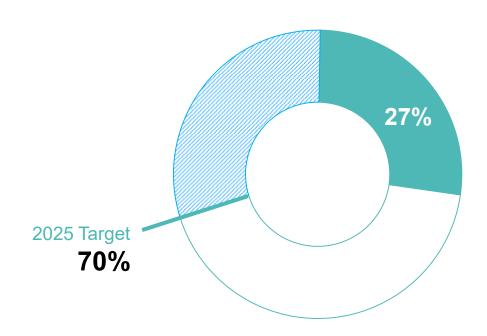
¹ Based on net profit before corporate costs, deferred payment note income and exceptional items

² Emissions intensity and absolute emission target cover Scope 1 (direct emissions) from energy generation, and Scope 2 (indirect emissions) from energy consumption

Transforming our Portfolio from Brown to Green

MORE Sustainable

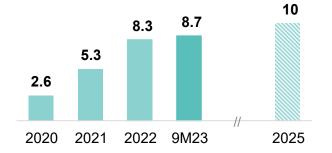
% Share of Net Profit¹ from Sustainable Solutions



MORE

Renewables

Gross installed capacity², GW



MORE

Sustainable Urban Developments

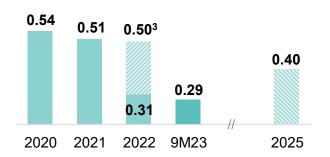
Land sales, ha



LOWER

Emissions Intensity

tCO₂e/MWh



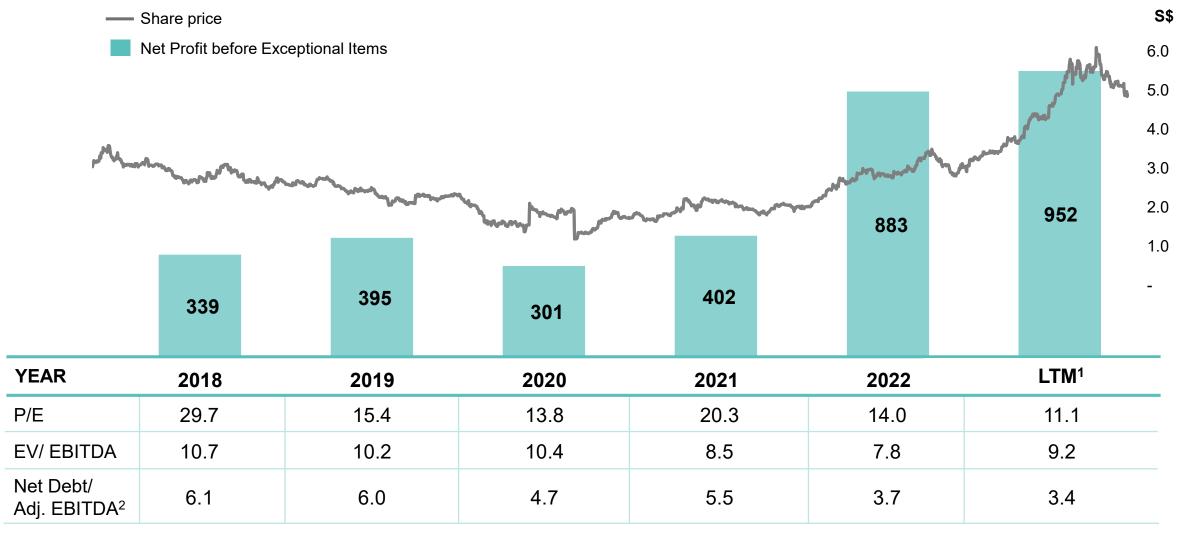


¹ Based on net profit before corporate costs, deferred payment note income and exceptional items

² 2021 and 2022 figures include acquisitions announced during the financial year and pending completion. Energy storage capacity is presented in MWh

³ Includes emissions from SEIL. The sale of SEIL was completed on January 19, 2023. 2022 pro forma GHG emissions intensity (Scope 1 and 2) excluding SEIL is 0.31 tCO2e/MWh. With effect from January 2023, Sembcorp's proportion of SEIL's emissions will be accounted for under Scope 3

Value Creation with Execution of Strategy



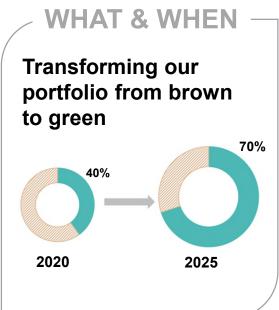
¹ Last 12 months (Jul 1, 2022 - Jun 30, 2023)



 $^{^{2}}$ Adjusted EBITDA = reported EBITDA + share of results of associates and JVs, net of tax Source: CapitalIQ

Investor Day 2021: Sustainability is Our Business





Delivering Sustainable Solutions Focus on Renewables & Integrated Urban Solutions

Leverage Capabilities • Partnerships • Platforms

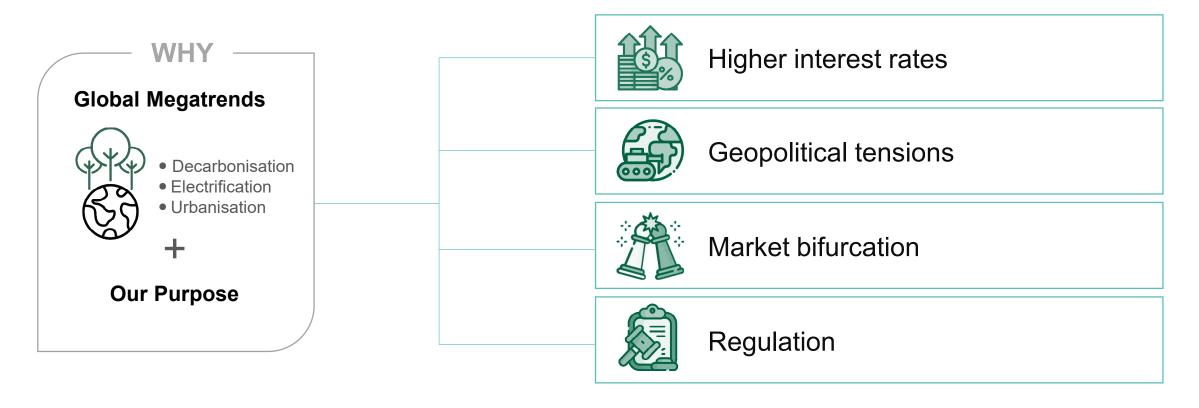
Southeast Asia, China and India

Leverage track record, presence and brand name



"Why"

Significant Developments





Why: Industry Challenges and Macro Trends Presents Opportunities

Significant Developments



Higher interest rates



Geopolitical tensions



Market bifurcation



Regulation

Implications

- Capital availability
- Cost vs. returns
- Sanctions
- Energy prices and recession risks
- Supply chain decoupling
- Level playing field
- Margin compression
- Reduced opportunities

Opportunities

- Favours players with discipline and access
- Mitigated through capital management
- Access to quality projects
- No domestic disadvantage
- Group level cost synergies
- Mitigated with contracted portfolio



Why: Market Opportunities Remains Strong

Sembcorp is present in fast-growing renewables markets

WHY

Strong Growth in Key Focused Markets

>1,300GW

Of addressable market opportunities

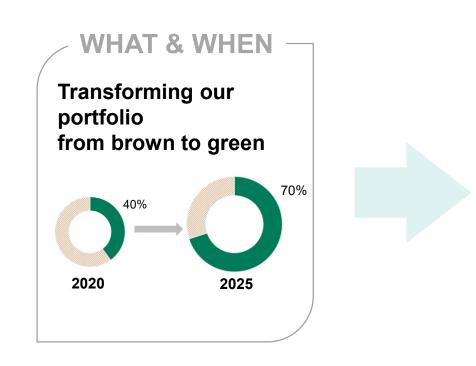
17% 5-year CAGR (2023 to 2028)

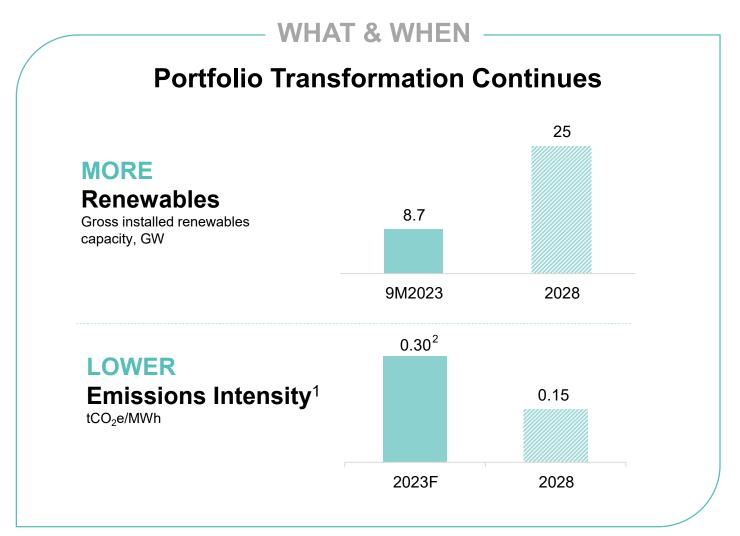
China, India and Southeast Asia





"What and When"





¹ Emissions intensity target covers Scope 1 (direct emissions) from energy generation, and Scope 2 (indirect emissions) from energy consumption

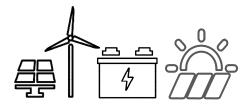
sembcorp

² Based on forecasted emissions data

What: Accelerate Renewables Growth

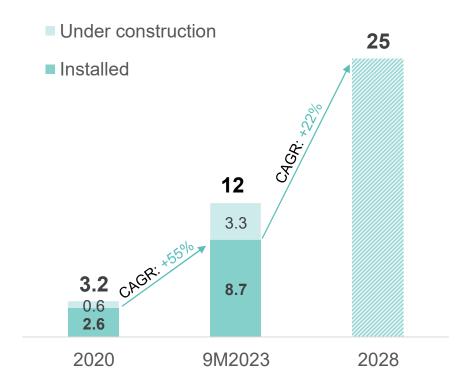
2028 Target: Gross Installed Capacity 25gw

- Triple gross installed renewables capacity from 8.7GW
- Strengthen capabilities in wind, solar and ESS
- Deepen presence in key growth markets



Gross Renewables Capacity

(GW)



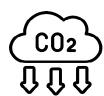


What: Climate Action Commitment

2028 Target: Emissions Intensity¹

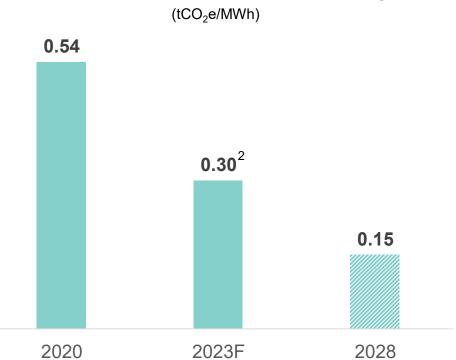
 $0.15 \text{ tCO}_2\text{e/MWh}$

- Halve emissions intensity from current levels by 2028
- Committed to reduce absolute GHG emissions to 2.7 million tCO₂e¹ by 2030, and deliver netzero emissions by 2050





Reduce Emissions Intensity



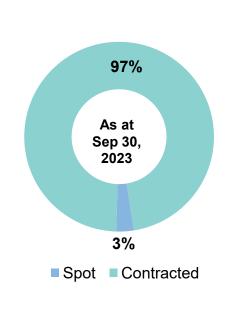


¹ Emissions intensity target covers Scope 1 (direct emissions) from energy generation, and Scope 2 (indirect emissions) from energy consumption

² Based on forecasted emissions data

What: Gas Portfolio Provides Earnings Visibility

Gas is critical for energy security and has a vital role to play as part of the global energy transition



- Leading gas player in Singapore with expertise across the energy value chain
- Cash flow certainty with significantly contracted gasfired generation portfolio
- Segment to continue to contribute meaningfully towards 2028



Strong cash flow position from gas portfolio to fund green growth

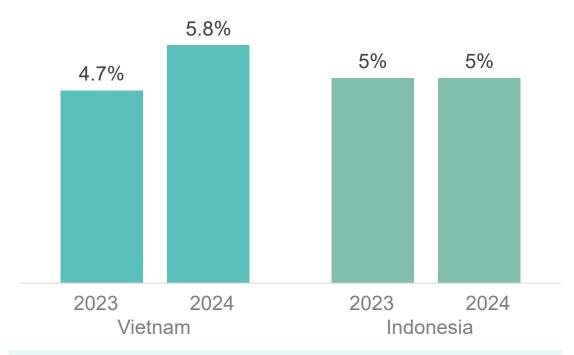


Active asset management to meet carbon commitments



What: Addressing Challenges and Opportunities in Urban

Stable GDP Growth



Economies supported by young and dynamic workforce

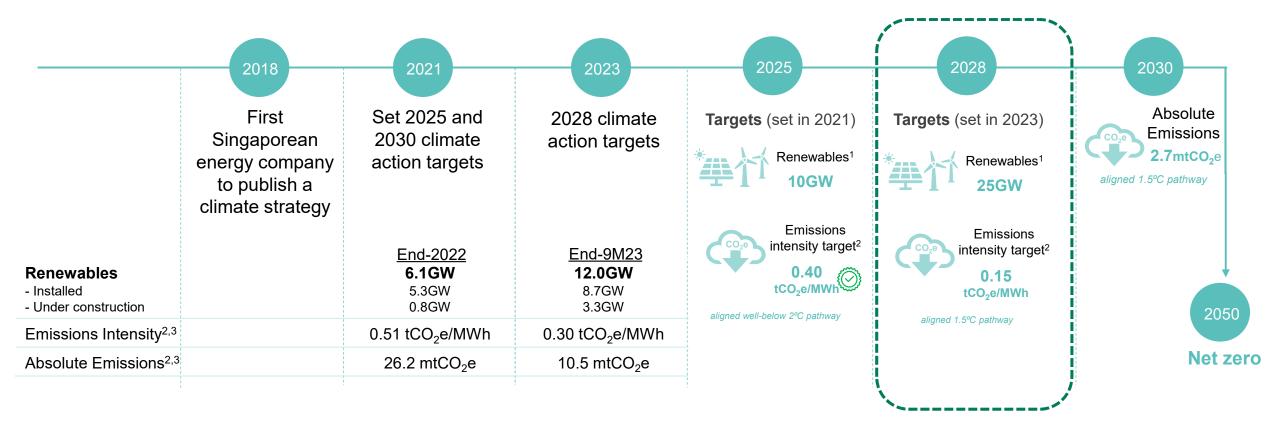
- Performance of segment has not met expectations
- Market potential remains with continued demand in Vietnam and Indonesia
- Continue to build up land bank with 10 new MOUs in Vietnam
- New CEO to be appointed; strategy under review



Source: International Monetary Fund (IMF)



Sembcorp's Climate Roadmap and Journey



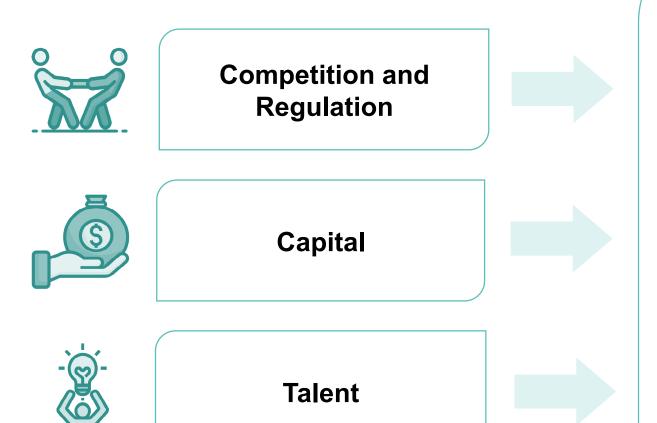


¹ Gross installed renewable energy capacity

² Emissions intensity and absolute emission target covers Scope 1 (direct emissions) from energy generation, and Scope 2 (indirect emissions) from energy consumption

³ Based on forecasted emissions data

How: Leveraging Strengths





Focus on Execution



Differentiated market strategies



Active capital management



Best-in-class capabilities



Where: Established Asian Renewables Player Across Key Segments

One of the highest wind portfolios under in-house asset management in India



Leading solar player in Singapore





One of Asia's largest battery operators







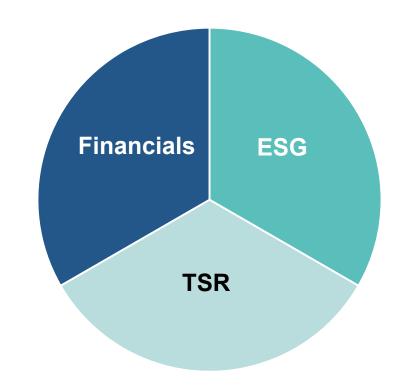
Management Incentives Aligned with Strategic Targets

Accountability

ESG targets incorporated in Balanced Scorecard and communicated in our Sustainability Report



Management Long-term Incentives



Financials

- Annual profitability
- 2025 targets
- 2028 targets

Environmental, Social, Governance (ESG)

- Decarbonisation targets
- Employee upskilling
- · Health & safety
- Governance

Total Shareholder Return (TSR)

Performance Share Plan linked to:

- · Absolute total shareholder return
- Relative total shareholder return



Driving Energy Transition

WHY

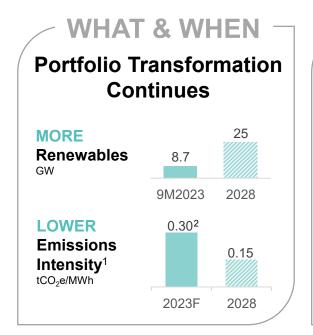
Robust Momentum for Decarbonisation and Electrification

>1,300GW

Of addressable market opportunities

17% 5-year CAGR (2023 to 2028)

China, India and Southeast Asia



Focus on Execution Differentiated market strategies Active capital management Best-in-class capabilities



² Based on forecasted emissions data





¹ GHG emissions intensity include direct emissions (Scope 1) from our activities and indirect emissions (Scope 2) from our energy consumption

Capital Management

Eugene Cheng

Group CFO





2021-2023 Financial Accomplishments

Strong Financial Performance



(2020-2022)

- Net profit¹ growth of ~146%
 - ⇒ Renewables: 204%

 - ⇒ Gas and Related Services²: 154%
- Increase in annual operational free cash flow from S\$0.7bn in 2020 to average of S\$1.5bn (2021-2022)

Optimised Capital Structure



- Successfully raised
 >S\$4bn of sustainable financing at attractive terms
- Increased proportion of fixed rate debt to ~70%, reducing exposure in high interest rate environment
- Strong financial ratios

Share Outperformance



- Share price³ +146% since May 2021, outperforming Straits Times Index by 145%
- Total shareholder return³ of 161%
- Increased institutional shareholder base
- Addition into MSCI Singapore Index



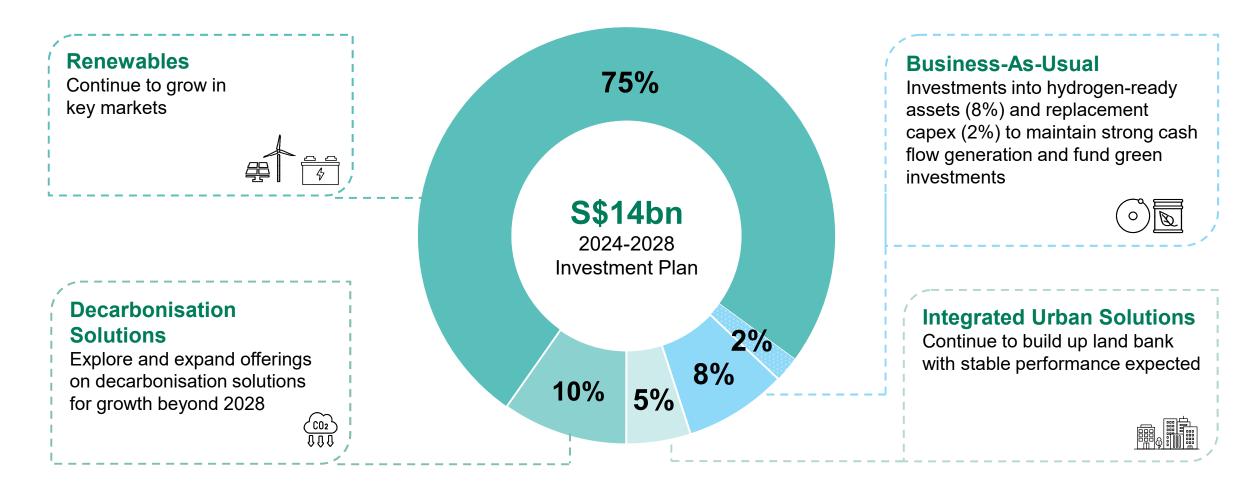
¹ Net profit from continuing operations, before exceptional items

² Previously Conventional Energy segment

³ Source: Bloomberg, From May 3, 2021 to September 29, 2023 (last trading day of September 2023)

2024-2028: An Ambitious & Focused Capital Allocation Plan

Continuing our brown to green transition





Well-Positioned to Drive Further Growth

Strong Growth Opportunities

Outpacing industry growth in fastest expanding renewables markets

Established Presence

Leading renewables player diversified across markets and technologies

Sharp Execution Focus

Proficient team with demonstrated capabilities to enhance portfolio and capitalise on opportunities

Harness Abilities

Strategic investment across energy value chain to drive transition beyond 2028



Strong **cash flow** generation

Diversified sources of **funding**

Capital recycling and managing for value

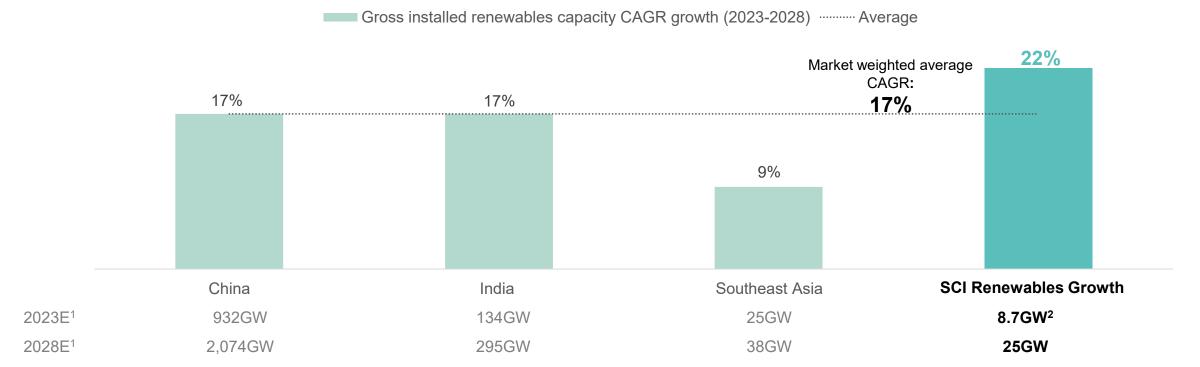
Self-sustaining in-country growth

Strong financial metrics



Expanding Renewables Presence in Fastest Growing Markets

- >1,300GW of new build capacity¹ expected between 2023-2028 in key markets
- Sembcorp expects to achieve 22% CAGR growth in gross installed renewables capacity, above market average CAGR of 17% between 2023-2028
- A unique leading renewables player across key Asian markets

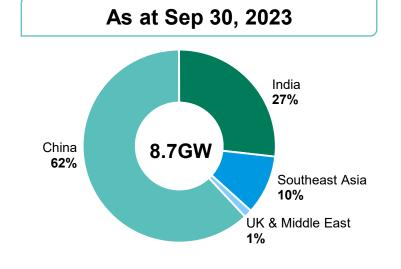


¹ Source: GlobalData (October 2023). Includes solar, onshore wind and energy storage. Southeast Asia includes Singapore, Vietnam and Indonesia ² As at Sep 30, 2023

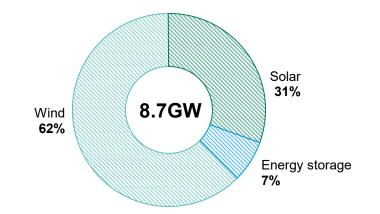


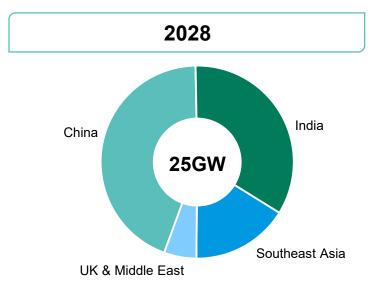
Achieve Broader Diversification Across Key Markets and Technologies

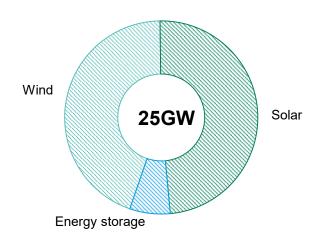
Gross Installed
Capacity
(by Country)



Gross Installed
Capacity
(by Technology)



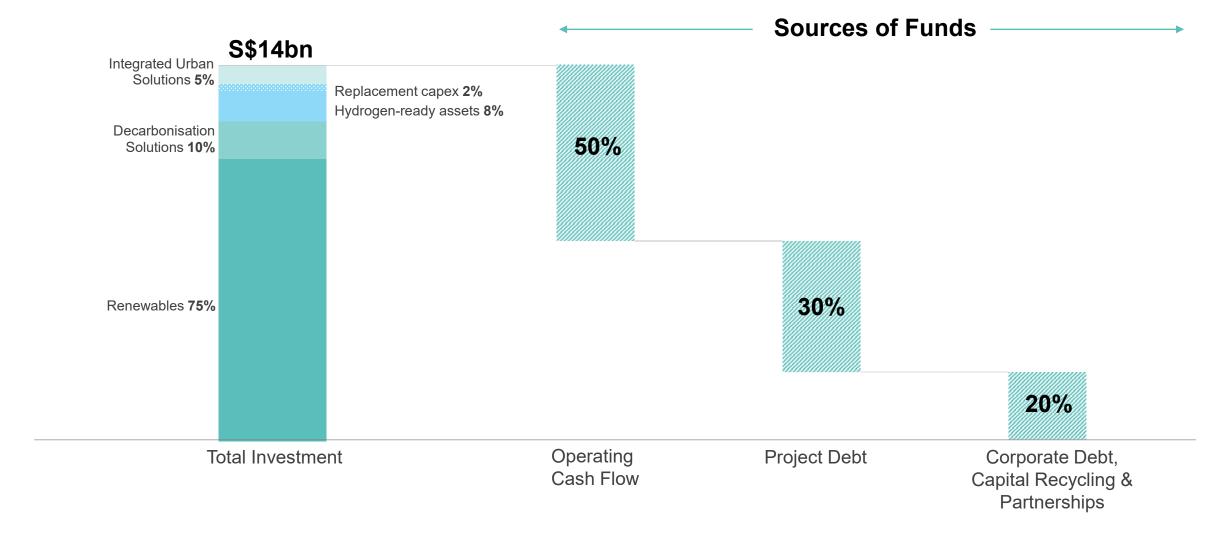






Note: Southeast Asia includes Singapore, Vietnam and Indonesia 2028 breakdown is for indicative purposes and may evolve depending on market conditions

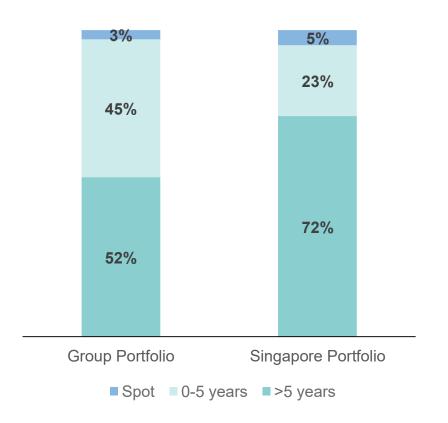
Strong Access to Diversified Funding Sources



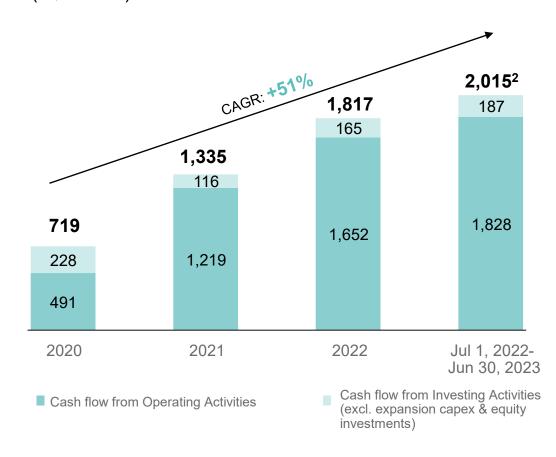


Long-term Contracted Position Underpins Strong Operating Cash Flow

High Contracted Position of Gas Portfolio¹



Strong Operational Free Cash Flow (S\$ million)





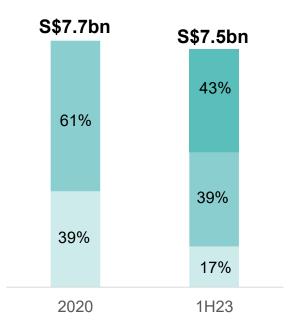
¹ Based on generation capacity of gas-fired power plants

² Unaudited

Ability to Access Green Sources of Funding

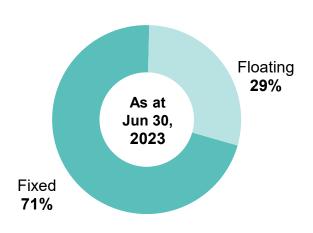
- Successfully launched Sustainability-linked Financing Framework in 2021
- Secured over S\$4 billion of green and sustainability-linked financing since 2021

Total Debt



- Green and Sustainability-linked Borrowings
- Corporate Debt
- Project Finance

Proactive Interest Rate Management



Hedged against interest rate volatility

Strong balance sheet with ability to access multiple sources of financing

- Over S\$2bn of undrawn committed facilities
- Continue to tap green and sustainability-linked financing



Systematic Capital Recycling

Develop self-sustaining model and create value uplift in the renewables segment

Strong in-house O&M operating expertise



Demonstrated strong capabilities and track record in project execution



Well-positioned in renewables growth markets with strong project pipeline



Critical scale of well-performing assets with long-term contracts

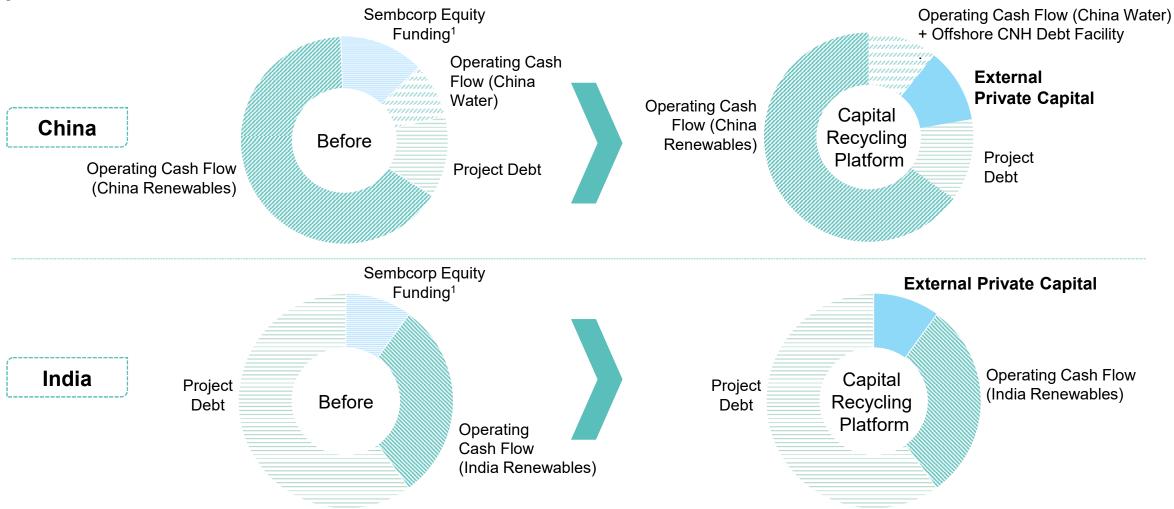


Achieved **scale** in renewables portfolio with **8.7GW** operational and **3.3GW** secured and under construction



Establish In-country Capital Recycling Platforms

Target self-funding and demonstrate quality of renewables platforms with introduction of capital partners

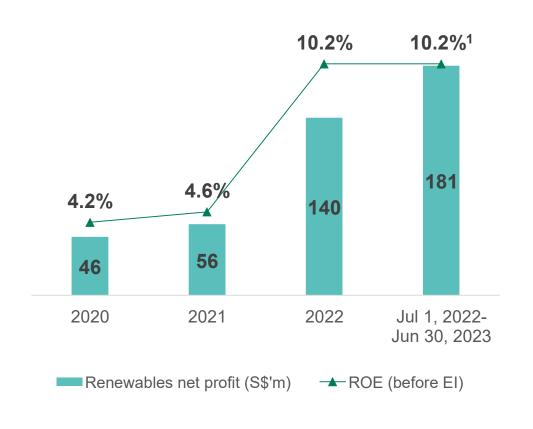


¹ Sembcorp equity funding via Group's corporate debt and/or operating cash flows



Ability to Drive Renewables Returns through Capabilities & Partnerships

Increasing Renewables Net Profit and Returns



Enhancing Returns of Portfolio





- 1.7GW organic growth
- Optimise financing terms through SOE partnership
- Preferential access to greenfield projects

India - SECI (Rajasthan Tranche-III) (100%-owned)



- Active and strategic management of equipment and technology
- Optimise financing cost





Well-Positioned in Initiatives to Further Decarbonisation and Transition Beyond 2028

Low-carbon **Electricity**



- Development of new 600MW hydrogen-ready power plant in Singapore
- Pursue regional power imports
- Explore opportunities in direct-fired ammonia power and CCS

Low-carbon Feedstock



- Strategic positioning in countries with abundant renewables to deliver low-cost green
 H₂ and ammonia
- Drive low-carbon feedstock demand in Singapore as demand off-taker and aggregator
- Scale and set up regional hub-and-spoke distribution networks

Offsetting Emissions GoNetZer

 Grow digital carbon management platform providing Renewable Energy Certificates (RECs) and carbon credits as well as smart energy asset management system

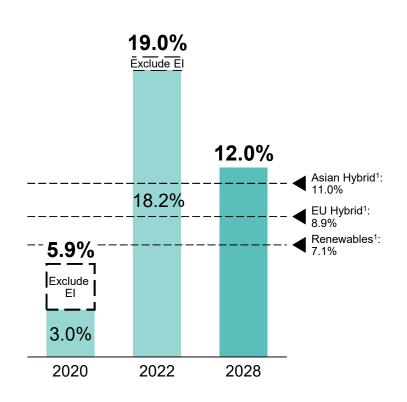


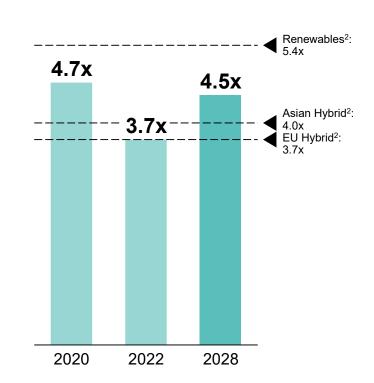
Sembcorp's 2028 Strategic Metrics

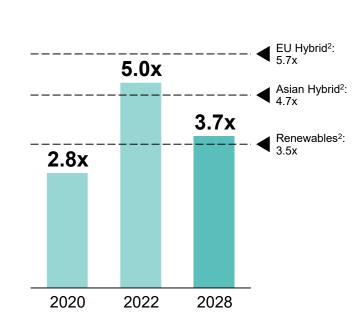
ROE (%)

Net Debt / Adj. EBITDA

Adj. EBITDA / Interest







sembcorp

Source: Internal Analysis, Capital IQ

¹ Median of peers' LTM ROE (continuing operations before NCI and exceptional item) as at Sep 30, 2023

² Median of peers' LTM Net Debt / Adjusted EBITDA and Adjusted EBITDA / Interest Expense as at Sep 30, 2023. Adjusted EBITDA = reported EBITDA + share of result from associates and JVs Note: The above aspirations are management's strategic plans for the next five years based on potential investments, divestments, expiry of contracts / concessions as well as the efforts to secure new projects and contracts. There is no assurance that any of such actions may materialise, nor as to the terms and mode of such actions

Ensuring Sustainable Returns to Drive Energy Transition



Gas and Related Services¹



Renewables

Net Profit² 6-year CAGR (2022-2028)

-2%

+25%

Expected Investment (2024-2028)

S\$1 billion

S\$11 billion

2028 Estimated ROE

15%

10%



Integrated Urban • **Solutions**

- Stable performance expected
- Continue to build up land bank



Decarbonisation **Solutions**

- Capitalise on existing expertise to drive energy transition beyond 2028
- Positive earnings by 2027 / 2028 with accelerating growth beyond 2028

Note: The above aspirations are management's strategic plans for the next five years based on potential investments, divestments, expiry of contracts / concessions as well as the efforts to secure new projects and contracts. There is no assurance that any of such actions may materialise, nor as to the terms and mode of such action



¹ Previously Conventional Energy segment

² Net profit from continuing operations, before exceptional items

Leading Asian Renewables Player with Unique Value Proposition

Scale

Ambitious target to grow renewables capacity to 25GW by 2028

Established **presence in key** renewables **markets**



Strong financial metrics, disciplined investment framework

Deploy **\$\$14 billion** into **accretive investments** to create long-term value

Contracted

>95% gas generation capacity contracted

High level of **cash flow certainty** and **visibility** to fund renewables growth



Strong capabilities and corporate governance

Demonstrated **development** and **execution capabilities** with strong commitment to ESG performance

ndustry-Leading Lead the industry in energy transition

Offer customers unrivalled solutions across the energy value chain to enable decarbonisation



to lead and drive energy transition beyond 2028



Growth Markets

Renewables Capabilities & Strategic Positioning





Overview & China

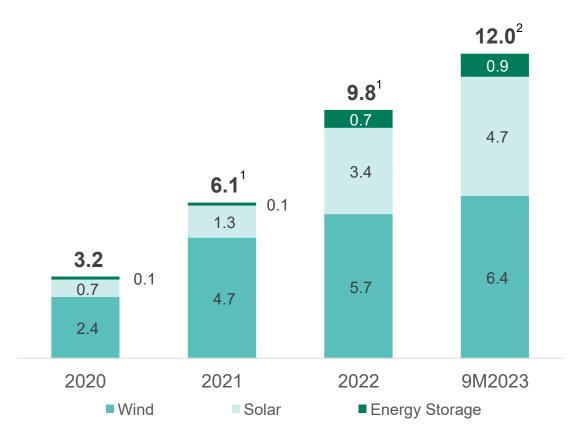
Alex Tan CEO, China





Leveraging Competitive Advantages to Grow Our Pipeline

Sembcorp Gross Renewables Capacity (GW)



¹ Figures include acquisitions announced during the financial year and pending completion

Organic Growth

✓ Strong greenfield development expertise

Partnerships

✓ Win-win partnerships to build scale

Platforms

 Grow capacity through brownfield acquisitions and drive returns uplift

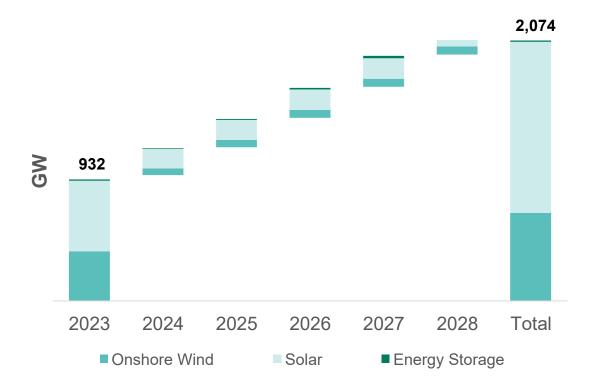
Disciplined investment framework across growth avenues



² Figure includes 3.3GW of capacity secured and under construction (as at Sep 30, 2023). Note: Energy storage capacity is presented in MWh

China: Largest & Fastest Growing Renewables Market





Capitalising on industry growth

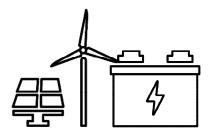
- Renewables capacity expected to increase
 by >1,000GW between 2023-2028
- China to exceed 2030 target of 1,200GW of wind and solar capacity

Strong supporting ecosystem

- China's 2030 carbon peaking and 2060 carbon neutrality policy to drive renewables deployment
- All-time low interest rate supports investments



Expanding Our Geographical Presence Across China



Total Renewables Capacity¹
6.9GW

Wind 4.3GW Solar 2.4GW Battery 200MWh

79 projects 15 provincial regions

Critical Success Factors

- ✓ Deep understanding of local market
- ✓ Strong track record in establishing and nurturing relationships
- ✓ Ability to leverage partners' networks
- Demonstrate speed and flexibility
- ✓ Focus on asset quality and project returns



¹ Total gross capacity includes 1.5GW of renewables secured and under construction (as at Sep 30, 2023)

Established Strategic Partnerships

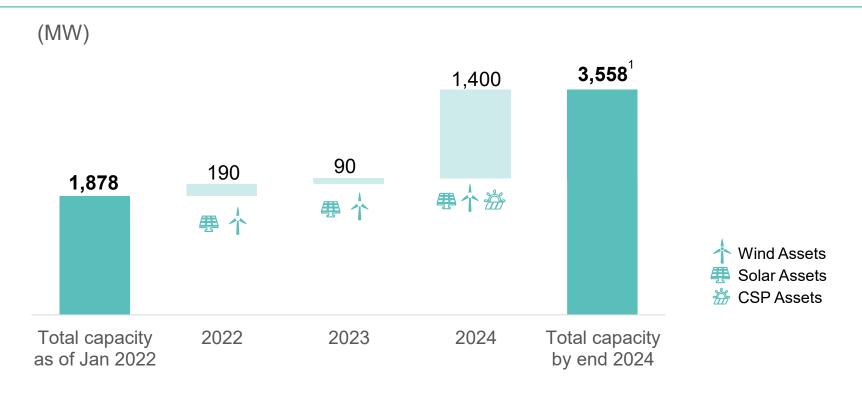
Entity	Guohua	State Development Investment Corporation (SDIC) New Energy	Hunan Xingling New Energy	Beijing Energy Sembcorp	
Year	2012	2021	2022	2022	
Sembcorp's Stake	49%	35.1%	45.3%	49%	
Partner	Guohua Energy Investment Co	SDIC Power	Wuling Power	Beijing Energy International Investment	
About the partner	Wholly-owned by CHN Energy, a state-owned enterprise with a target to grow renewables by 17GW per annum	Listed on the Shanghai Stock Exchange with a target to grow renewables by 3GW per annum	Affiliated company of State Power Investment Corporation with a target to grow renewables by 12GW per annum	Wholly-owned subsidiary of HK-listed Beijing Energy International Holding with a target to grow renewables by 4GW per annum	
Total Portfolio (as at Sep 30, 2023)	725MW Located in Inner Mongolia and Hebei	3,568MW Located across seven provincial regions in China, including Gansu, Guangxi, Ningxia, Qinghai, Tianjin, Xinjiang, Yunnan	1,092MW Located in Hunan and Guizhou (Southwestern China)	795MW Located in South Hebei (Northern China)	



Driving Growth and Enhancing Returns

Partnership with SDIC Power exemplifies our ability to nurture high-quality partnerships

- Total portfolio increased to 3.6GW, from 1.9GW when acquired in 2021
- Access to quality projects with high standards of development and operations capability

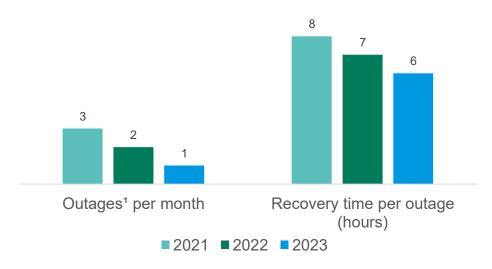




Asset Management Driving Cost Optimisation

Case Study 1: Reduction in Unscheduled Outages and Recovery Time

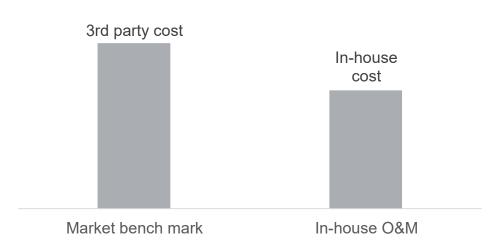
Installed Capacity in Hebei Wind Assets (150MW)



- Reduced unscheduled outages and improved reliability
- ~20% savings in 2022 and expect another ~15% savings in 2023 compared with 2021 in the power generation loss due to unscheduled outages in 2021

Case Study 2: Reduction in O&M Costs

Installed Capacity in Hebei Wind Assets (150MW)



Estimated annualised O&M cost savings of ~30% by in-house O&M team in Gucheng



Executing a "China for China" Strategy

Strategic Priorities



Strategically expand majority-owned platform

- Focus on premium-quality assets with stringent and rigorous asset selection process
- Continue to build capabilities in asset management and operations to facilitate further growth and enhance performance



Strengthen existing partnerships

- Capture growth opportunities with partners
- Leverage partners' networks and best practices



Develop new partnerships

Accelerate growth and diversify geographical footprint



Explore related business opportunities

Renewables projects integrating with green hydrogen/ ammonia production



Recycle capital

Tap domestic capital in China for further growth



India

A. Nithyanand

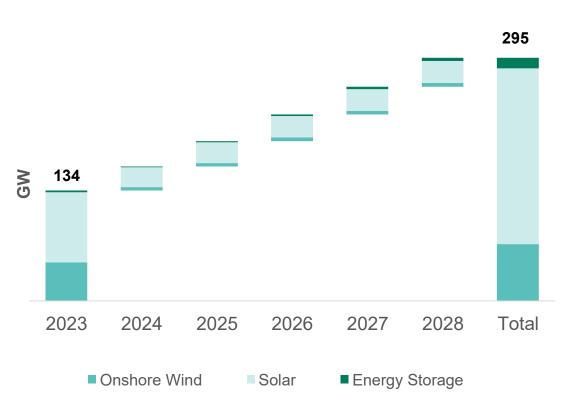
CEO, Sembcorp Green Infra (India)





India Renewables: Multi-decade Growth Opportunities





Capitalising on industry growth

- Second largest renewables growth market in Asia, target installed capacity of 360GW by 2030
- Renewables energy capacity¹ expected to increase by 160GW between 2023-2028

Supportive, rules-based regulatory environment

- Higher mandate for Renewable Purchase Obligation (RPO) to spur investments
- Green Open Access promotes usage of renewable power
- Production Linked Incentive scheme to promote solar manufacturing activities





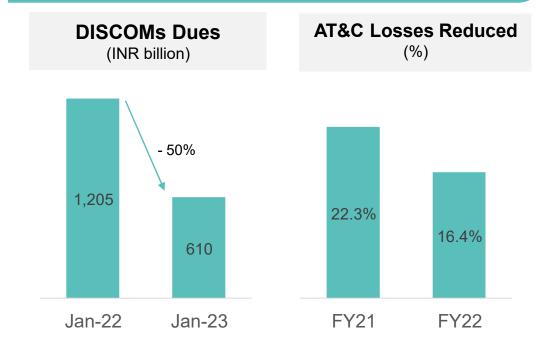
Improving Financial Health of Distribution Companies

Financial health of most state Distribution Companies (DISCOMs) has been improving, coupled with lower Aggregate Technical and Commercial (AT&C) losses

Material rerating of the sector

- The Late Payment Surcharge (LPS) scheme was introduced in June 2022
- Provides framework for time-bound clearance of current dues, which has been effective in reducing DISCOM payment issues:
 - As of June 2023, total outstanding dues of DISCOMs have dropped by ~50% compared to June 2022
- AT&C losses have reduced, with scope for further improvement
- These have led to a material rerating of the sector

Significant drop in legacy dues and AT&C Losses







Established Developer with Strong O&M Capabilities



Total Renewables Capacity¹
3.2GW

Wind 2.0GW Solar 1.2GW

75 projects 13 states

Critical Success Factors

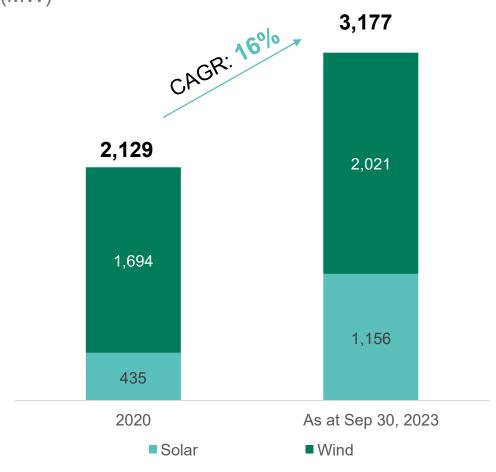
- ✓ Deep local market understanding
- ✓ Strong development capabilities with ability to participate across all renewables segments
- ✓ Proven operational capabilities with WindOS and SolarOS digital capabilities
- ✓ Demonstrated asset integration ability
- ✓ Focus on asset quality and project returns



¹ Total gross capacity includes 0.8GW of renewables secured and under construction (as at Sep 30, 2023)

Proficiency in the Renewables Value Chain

Gross Renewables Capacity¹



Growing Scale

- √ ~50% increase in capacity since 2020
- ✓ Acquired renewables portfolio of Vector Green
- ✓ Leverage utility-scale capabilities to grow commercial & industrial segment

Mitigating Resource Risk

✓ Balanced portfolio of wind and solar assets

Optimising Efficiency

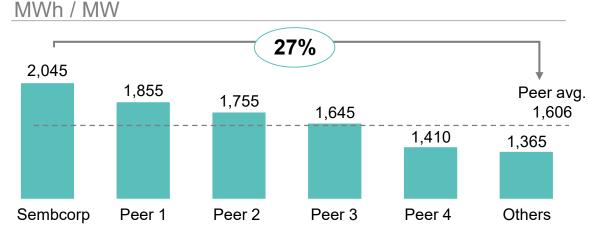
- ✓ Integration of asset data into self-O&M platform, achieving cost optimisation and higher generation
- ✓ Applying state-of-art analytical capabilities from wind fleet to growing solar fleet



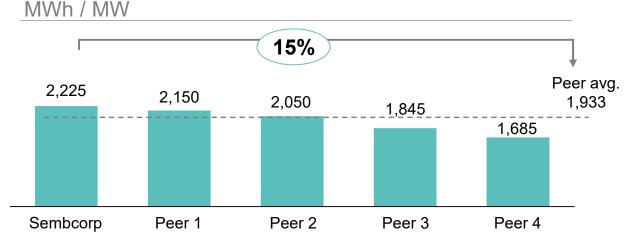
¹ Includes capacity secured and under construction

Superior Asset Productivity in Comparison to Peers

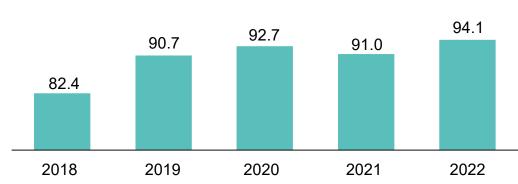
Rojmal area, Gujarat: 27% higher than peer average



Sadla area, Gujarat : 15% higher than peer average,

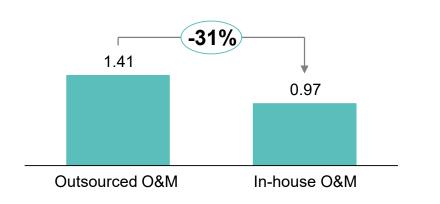


Availability (%)



Lower operating costs

INR mn / MW / year







Strong In-house Operational Expertise

Crane-less Technology





- First IPP in India to use crane-less technology to deerect 60+ m long WTG blades (SECI III)
- Eliminates any challenges in transportation



Reduction in cost through in-house repairs



80% faster

Reduction in execution cycle time



First
IPP in India

Crane-less technologies

Gearbox Refurbishment





- Developed process for refurbishment of gearboxes
- Reduction of lead time for restoration
- Overcame OEM dependency and monopolistic pricing
- Strategy to have spare gearboxes in stock to address gearboxes failures



70% lower cost

Reduction in cost through in-house repairs



Reduction in execution cycle time



Zero dependence

Overcame OEM dependency and monopolistic pricing

Repowering - Vector Green¹





- Enhancing generation using existing infrastructure with minimal modification to existing plant
- Repowering with modules reused
- Extract value from assets by increasing capacity utilisation factor within PPA limits



Increase in annual generation



Increase in portfolio IRR by 20bps



Repowering with modules reused







Digital Asset Management to Drive Superior Performance



 Analytics highlights the performance issue at subsystem level. Facilitates hierarchical underperformance identification of string, combiner box and inverter





 Facilitates analysis of inverter efficiency and helps in identification and rectification of less efficient inverter





 Helps in comparing and identifying low performing inverters/ string combiner boxes; and measurement/ calibration issues of pyranometers





 Enables predictive maintenance of vital components of inverter based on technostatical analysis





Leverage Capabilities and Organisational Excellence

Strategic Priorities



Grow renewables portfolio

- Greenfield bids
- Portfolio acquisitions
- Commercial and industrial customers



Maximise asset productivity

- Deliver projects within timeframe and budget
- Maximise generation and cost savings



Explore related business opportunities

- Pursue relevant growth opportunities
 - Hybrid power systems
 - Green hydrogen
- Harness capabilities to drive strategic expansion into other markets



Recycle capital

Achieve value uplift, re-deploy capital to fund further growth



Singapore Energy

Earnings Stability and Roadmap to Decarbonisation

Koh Chiap Khiong

CEO, Singapore & Southeast Asia





Singapore: Core Market with a Diversified Portfolio

Gas Portfolio



1,219MW¹

Reliable fleet of CCGTs



Largest importer of piped natural gas and liquefied natural gas, with established long-term gas supply

Renewables Portfolio



473MW

Roof-top, floating and ground-mount solar assets



289MWh

Energy storage systems– 1st in Singapore

Sembcorp's Differentiators

- ✓ More than 25 years of experience and expertise in energy value chain
- Integrated gas-to-energy player providing gas, power and multi-utilities to customers
- ✓ Largest solar and battery developer & operator in Singapore



¹ Excludes 600MW hydrogen-ready power plant in Singapore announced in May 2023. Project expected to be operational by 2026

Well Placed to Meet Demand with Gas and Solar Portfolio

Natural Gas

- Contracted gas position
- Efficient and reliable fleet of CCGTs





COMPETITIVELY PRICED POWER

Solar

- Proficient in full suite of solar solutions
- Fully integrated from project development to O&M





GREEN ENERGY SOLUTIONS

Sembcorp's Energy Solutions

DEMAND

3.4% - 6.5% 2023-2028 CAGR

1.4GW to 3.1GW Demand increase

Advanced Manufacturing



Transport

Digital Economy



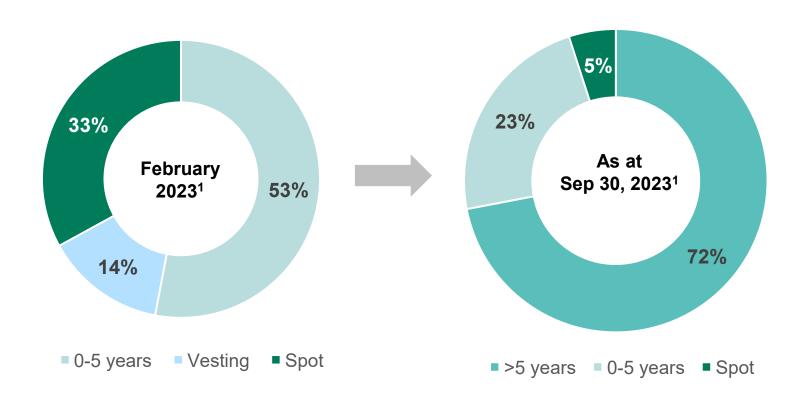
Food





Ability to Secure Long-term Contracts; Insulating Sembcorp's Portfolio from Market Volatility

Long-term PPA transforms merchant-centric portfolio into stable, recurring income portfolio



Key Outcomes

- First in the market to secure multiple long-term power purchase agreements (PPAs) with customers
- Gas portfolio contracted for a weighted average of 12 years
- Insulated against regulatory interventions
- Stable recurring income



Only Player with Full Suite of Competitive and Green Energy Solutions



Solar Energy

Ground Mount, Floating, Rooftop

- Capital-free, payper-use model
- Not subject to carbon taxes



Battery Energy Storage Systems

Jurong Island ESS

Provides grid resiliency



Regional Power Imports

ASEAN Power Grid

- Access to large scale renewable energy
- Key lever to green portfolio



Gas and Related Services

Natural Gas, Cogen Plants

- Resilience against market price fluctuations
- Competitive pricing





Low-carbon Alternatives

Hydrogen, Ammonia, CCUS

- Low-carbon fuel for CCGTs
- Complement CCGT technology



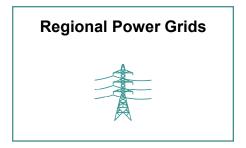
Local Solar Environmental Attributes

GoNetZero[™]

- Interim solution to green portfolio
- Supports long-term planning



Developing Options for Renewables Import



Established partnerships in multiple ASEAN locations







With full suite of renewable energy options









Wind Hydro

Solar Battery

Collaborating with ASEAN partners

- Conditional approval to import 1.2GW of low-carbon electricity from Vietnam to Singapore – largest import licence approved
- Exclusive discussions to import 1GW of low-carbon electricity from Sarawak
- Explore trading of renewable energy from Southeast Asia



Greening Gas-Fired Assets with Low-carbon Technologies

Low-carbon Alternatives





Ammonia-fuelled power generation

- JDSA with GE Vernova and IHI to explore retrofitting of existing plants with ammonia-firing capabilities
- Shortlisted by EMA to submit a proposal for low- or zerocarbon ammonia solution for power generation and bunkering on Jurong Island



Hydrogen production and import

- JDSA with PT PLN (Persero) to explore feasibility of green hydrogen production in Indonesia
- MOU with Gentari to explore development of hydrogen production facilities and transportation of hydrogen from Malaysia to Singapore



Hydrogen ready power plants

 600MW hydrogen ready power plant using J Class machines to be fully operational by 2026

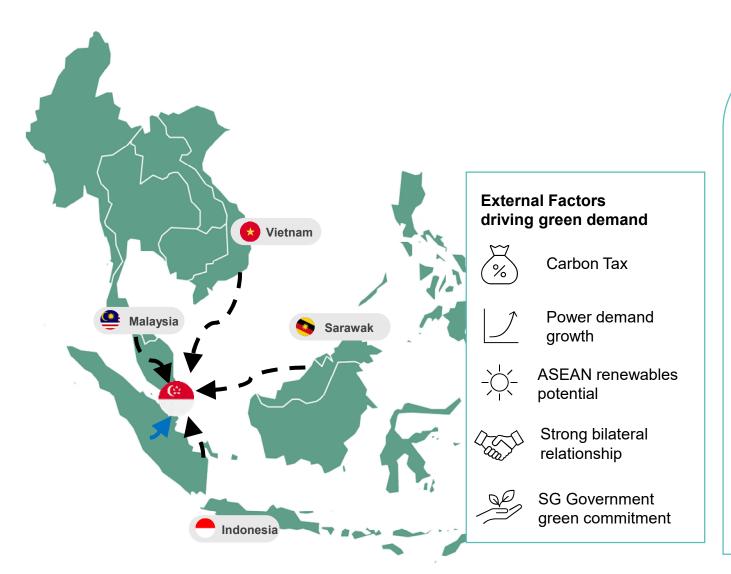


Carbon capture and storage

 Joint study with Medco Storegga to explore carbon capture and storage in the South Natuna Sea



Singapore Serves as a Perfect Demand Aggregator for Energy Carriers



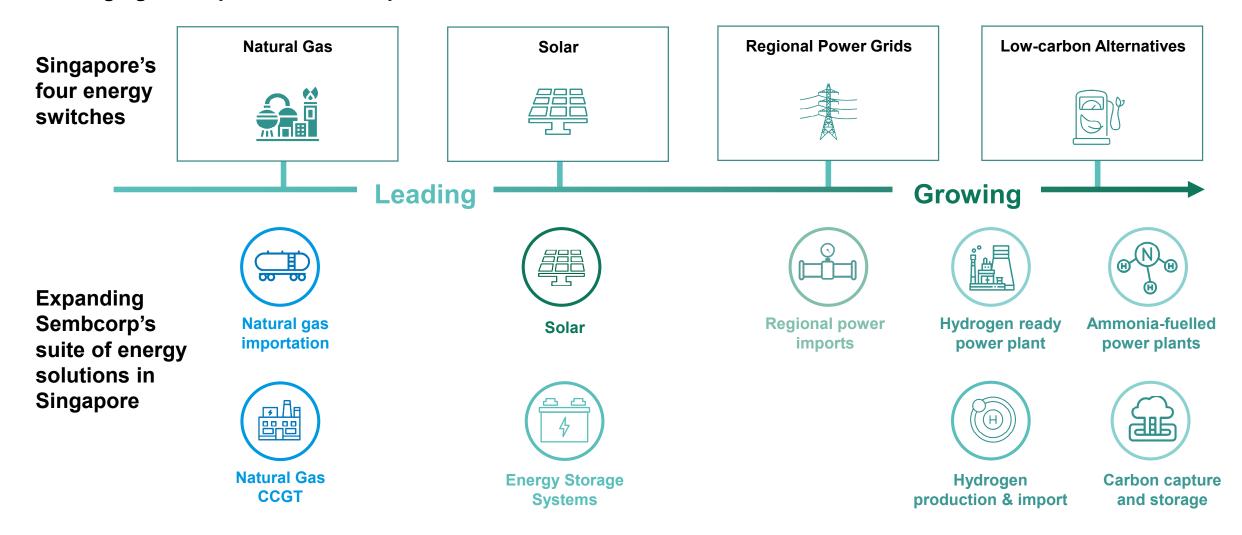
Sembcorp's Differentiators

- Strong customer base with existing Natural Gas, Power and Solar solutions
- Contracted with strategic customers who have the appetite for greener power
- Strong relations with ASEAN neighbours through our urban business
- Existing foothold on Jurong Island for entry / exit access of green electrons and energy carriers



Sembcorp's Strategy Aligned with Singapore's 4 Switches

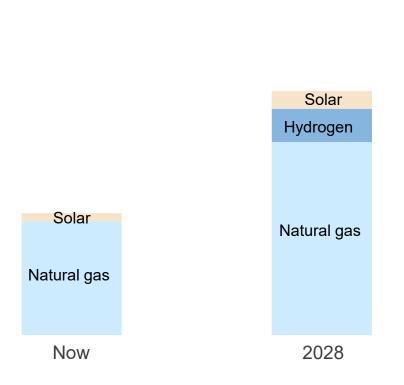
Leveraging our expertise to develop low-carbon alternatives





Growing Existing Portfolio will Fund Transition to Green

Unique Proposition in Singapore Market





- Gas remains as dominant source of power generation for Singapore
- SCI is the only player who has a unique proposition due to our leading position in natural gas and solar
- This contracted portfolio will provide stable recurring cashflow to fund green energy initiatives



Leading the Market in Transition to Sustainable Energy

Strategic Priorities



Maintain competitiveness of gas portfolio

- Deliver efficient and reliable energy through the transition
- Diversify gas portfolio and maintain market leading position



Develop options for renewables import

- Work towards FID for projects under negotiations
- Pursue further projects



Invest in low-carbon alternatives

- Invest in technology to reduce emissions intensity of assets e.g. hydrogen-ready CCGT, ammoniafuelled power plants as well as carbon capture and storage beyond 2030
- Play pivotal role in ASEAN clean energy grid



Decarbonisation Pathfinders

Low-carbon Feedstock | GoNetZeroTM





Low-carbon Feedstock

Vipul Tuli

Chairman, South Asia CEO, Hydrogen Business & Middle East

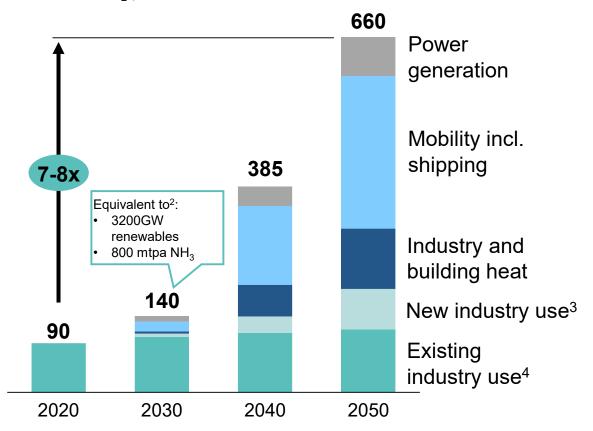




Hydrogen a Key Enabler for Energy Transition

Hydrogen Demand by Segment

million tonnes H₂ p.a.¹



Source: Hydrogen Council; McKinsey Hydrogen Insights; BNEF 2023 Hydrogen Levelized Cost Update

- 1. Includes demand for grey, blue and green hydrogen 2. Assuming 23GW per 1MT of green hydrogen
- 3. E.g. DRI-steel, and BTX (Butene, Toluene, Xylene polymers) 4. E.g. refining, ammonia and methanol production
- 5. IEA net zero scenario with 340 EJ final energy demand in 2050. HHV assumed. Excluding power

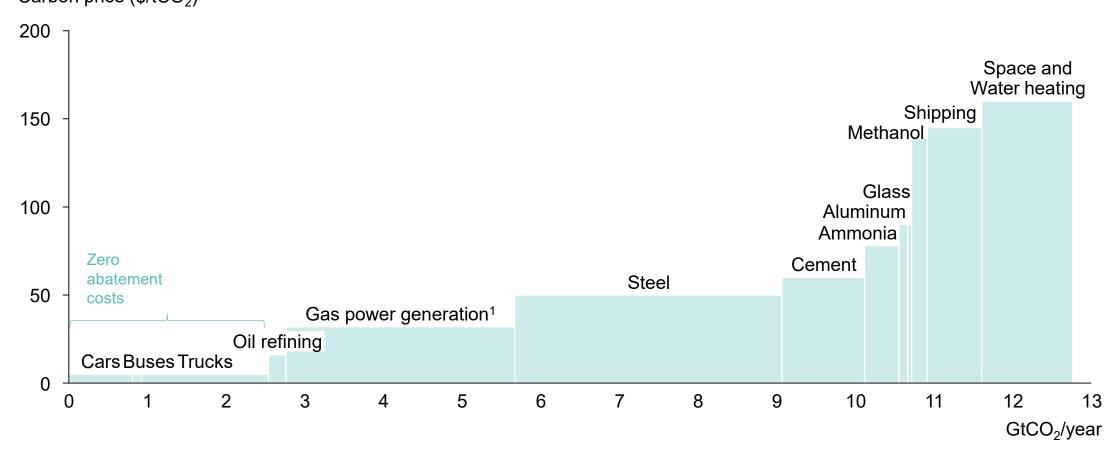
Rapid demand projected for hydrogen

- 660 million tonnes (MT) of hydrogen (H₂) required per annum in 2050 for net zero
- 22% of global energy demand⁵
 by 2050
- Strategic pathway for Singapore to diversify future energy mix and decarbonise power sector



Hydrogen Projected to Become Viable with US\$50/tCO₂ Carbon Price

Marginal abatement cost curve from using \$1/kg hydrogen for emission reduction, by sector in 2050 Carbon price (\$/tCO₂)



Source: BloombergNEF Hydrogen Economy Outlook (March 30, 2020)

Gas at US\$7/mmbtu, including Henry Hub and LNG users



Sembcorp Has a Credible 'Right to Play'

Renew	Renewables		Carrier	Infrastructure		End-use	
★	4	+ ₁□₁- :::		-	5		
Wind Solar	BESS	Alkaline / PEM	$\mathrm{NH_3}$ / LOHC / $\mathrm{CH_4}$ / $\mathrm{LH_2}$	Shipping	Power	Industries	Mobility



12GW¹ of wind, solar and BESS capacity

Ability to deliver high productivity renewable energy at low LCOE





Presence in the right markets

India, China, Middle East – good renewables resource, supportive government policies, export-oriented infrastructure





Ability to drive green H₂ demand in Singapore

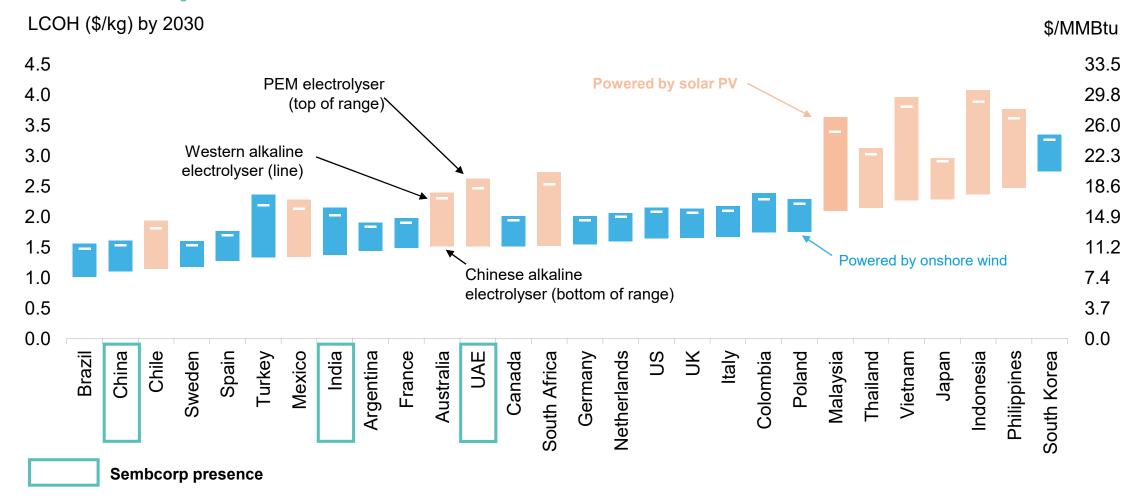
Capability and systems to handle hydrocarbons

Well-positioned to act as a demand off-taker and aggregator as the largest importer of natural gas



¹ Gross renewables capacity as at Sep 30, 2023, including 3.3GW of projected secured and under construction. Energy storage capacity is presented in MWh

Sembcorp Present in Countries with Low LCOH

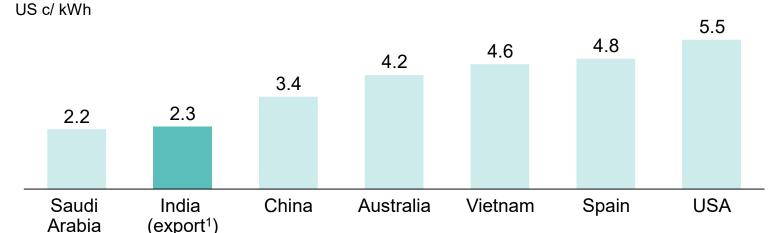


Source: BNEF Levelised Cost of Hydrogen report
Values at the bottom show cheapest hydrogen using a Chinese alkaline electrolyser;
Values at the top show cheapest values using a proton exchange membrane electrolyser; and
White lines show cheapest values using a Western alkaline electrolyser
Electricity source is either solar or wind, whichever is cheaper

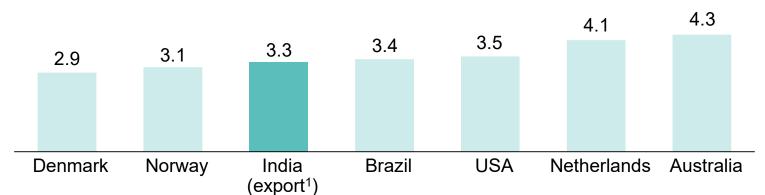


Ability to Deliver Globally Competitive LCOE – India Example

Average Solar Tariff (Utility-scale; 2021)



Average On-shore Wind Tariff (Utility-scale; 2020)



- Free access to national grid enables combining low cost solar and wind from different regions
- India well positioned to deliver competitive LCOE with 60-70% electrolyser utilisation

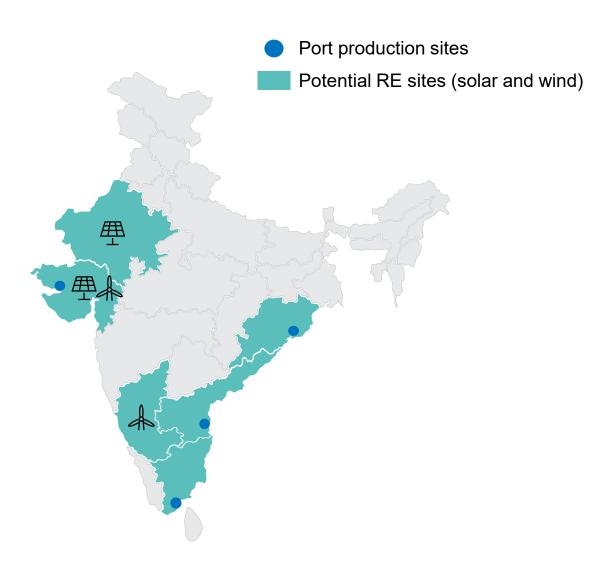


US c/kWh



¹ Local tariffs adjusted for export-oriented offtake and financing

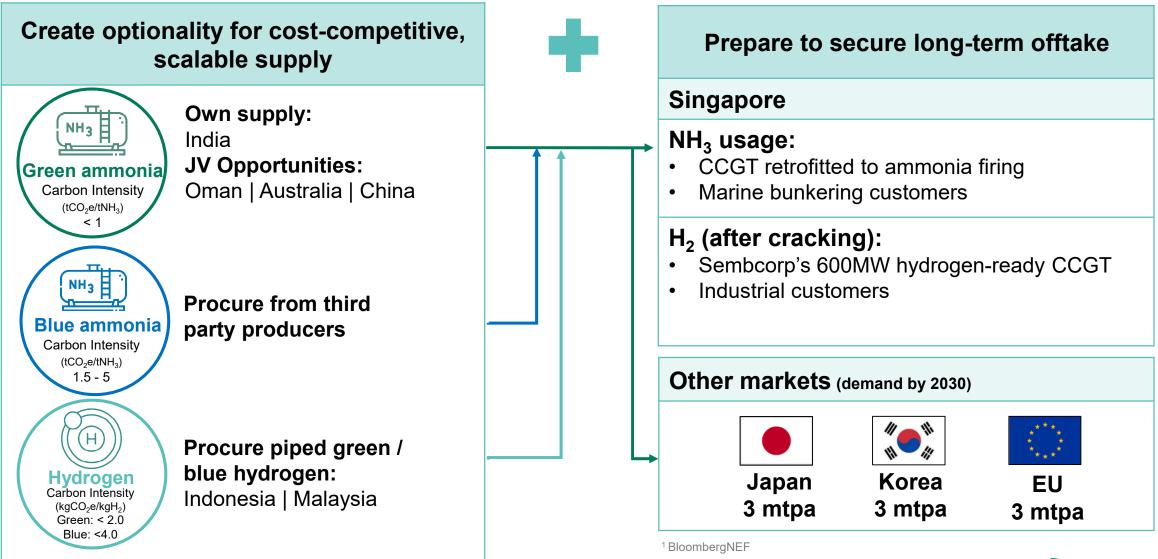
Positioning Sembcorp for Green Ammonia Production



- Pre-FEED completed
- One port site secured, with three under discussion
- Renewable power to be produced in Rajasthan / Gujarat (solar) and Karnataka / Gujarat (wind). Site pipeline available
- Renewable power to be injected into National Grid and withdrawn at chosen port production sites



Positioning Sembcorp for Growth in Green Hydrogen





Low-carbon Feedstock - Roadmap for Growth

Market Opportunities

- Strong policy support
- Push to decarbonise hard-to-abate industries
- Cost viability improving with declining equipment and production costs



Sembcorp's Competitive Advantage

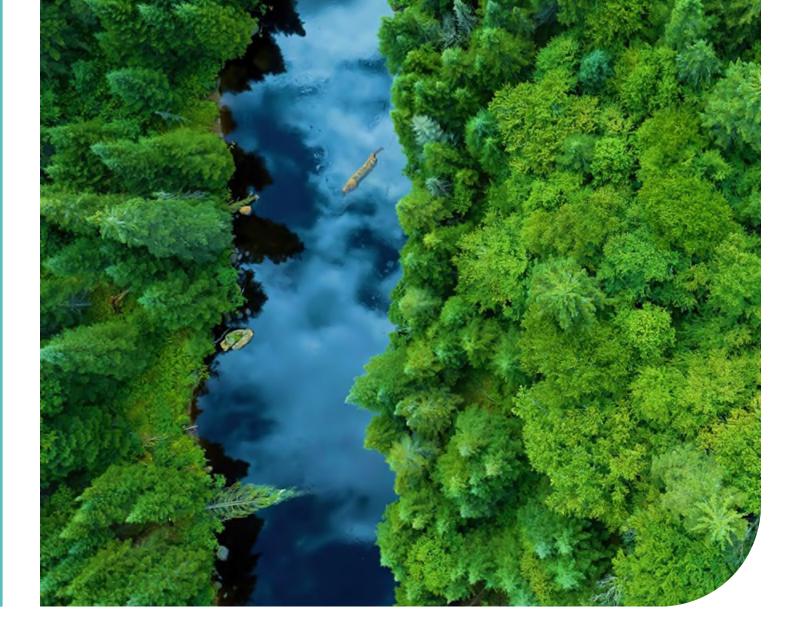
- Strong renewables capabilities to offer scalable and cost-competitive supply
- Capabilities and systems to safely handle hydrocarbons
- Well-positioned to act as a demand offtaker and aggregator



GoNetZeroTM

Soon Sze Meng

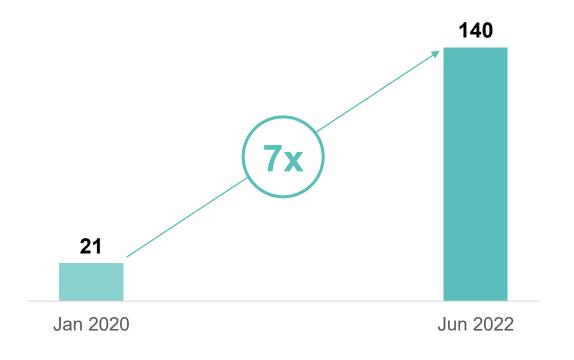
CEO, GoNetZeroTM



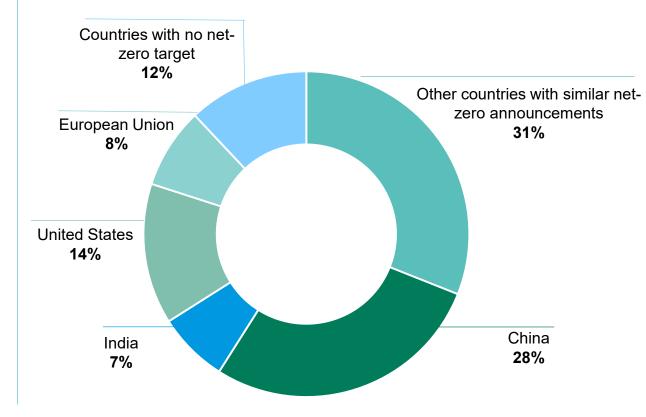


Global Net Zero Commitments Have Accelerated in Last 2-3 Years

> 140 countries globally have made net-zero commitments



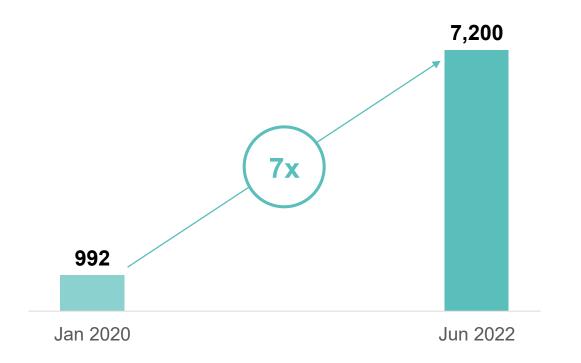
88% of global emissions are covered by net-zero commitments



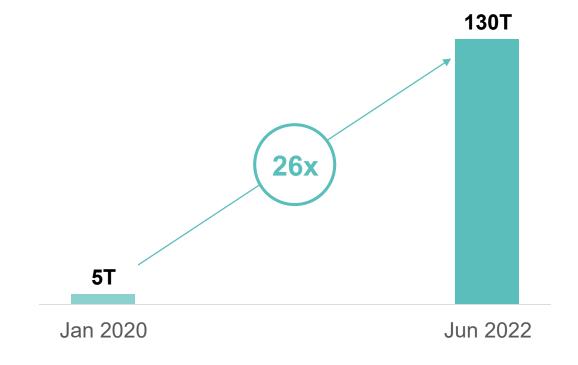


Companies are Dedicating Meaningful Resources towards Net Zero

>7,200 companies globally have made netzero commitments...



... with >US\$130T finance committed to netzero through GFANZ





Sembcorp's Renewable Assets Generate Environmental Attributes that Companies can Use to Meet Committed Net Zero Targets

Renewable Energy Certificates (RECs)



Sembcorp Tengeh Floating Solar Farm

One of the world's largest inland floating solar farms



Sembcorp Tuas Solar Farm

SG's first solar farm with integrated rainwater harvesting system



Sembcorp biomass plant

First large-scale wood-fired biomass plant in the UK

Standards / Scheme Certification









1MWh of energy produced by renewable sources

- Conveys the use of renewable electricity purchased or acquired by the company
- Sembcorp RECs from Singapore solar farms and UK biomass plant

Carbon Credits



Sembcorp India Wind Farms

Leading wind energy player with one of the largest self O&M









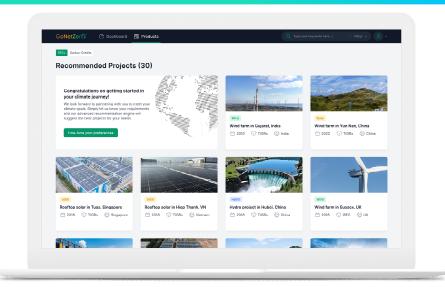
1 tonne of CO₂ reduced or avoided

- Used to offset a company's emission by compensating with carbon avoidance / education / removal elsewhere
- Sembcorp Carbon Credits from India wind farms



GoNetZero[™] Provides a Single Point of Access to Renewable Energy Certificates (RECs) and Carbon Credits

NetZero Platform



Carbon management platform

Users can **create**, **buy**, **sell and retire** Renewable Energy Certificates (RECs) and other Carbon Credits (CCs)



Environmental Attributes (EAs)

Trusted, third-party verified and traceable RE100-recognised RECs and carbon offsets.



Convenient digital portfolio management tool

Efficient management and reporting of targets and portfolio



Powered by blockchain technology, APIenabled

Secure, transparent, digitally-enabled



Sembcorp Group Digital Has also Developed Proprietary Smart Energy Asset Management Software for our Renewable Assets

NetZero OS





Wind Analytics & Monitoring

YAW Evaluation

Solar Analytics & Monitoring

On-premise Edge Computing

Energy Forecasting

Weather Forecasting

Energy & Irradiance Forecasting

Solar On-site Survey

Blade Condition Monitoring Wind Gross Margin at Risk

Solar Potential Calculation

Plane of Array Irradiance Modelling

Wake Analysis

On-premise Edge Computing

Cleaning Optimisation

Tilt & Azimuth Angle Optimisation



GoNetZero[™] Aims to Provide a Range of End-to-end Solutions to **Address our Customers Net Zero Requirements**

GoNetZer Connect

Measure and report

Leverage tools to track and communicate your climate journey with confidence

Renewable Energy **Certificates (RECs)**

> Support the transition to renewables and demonstrate your climate commitment

Carbon credits

Compensate for unavoidable emissions



Marketplace

Trade carbon credits and RFCs and match projects with business needs



NetZero Platform

Find digital solutions to manage environmental attributes

№ NetZeroOS

Get renewable energy software to track, manage and optimise your energy assets

24/7 hourly matching

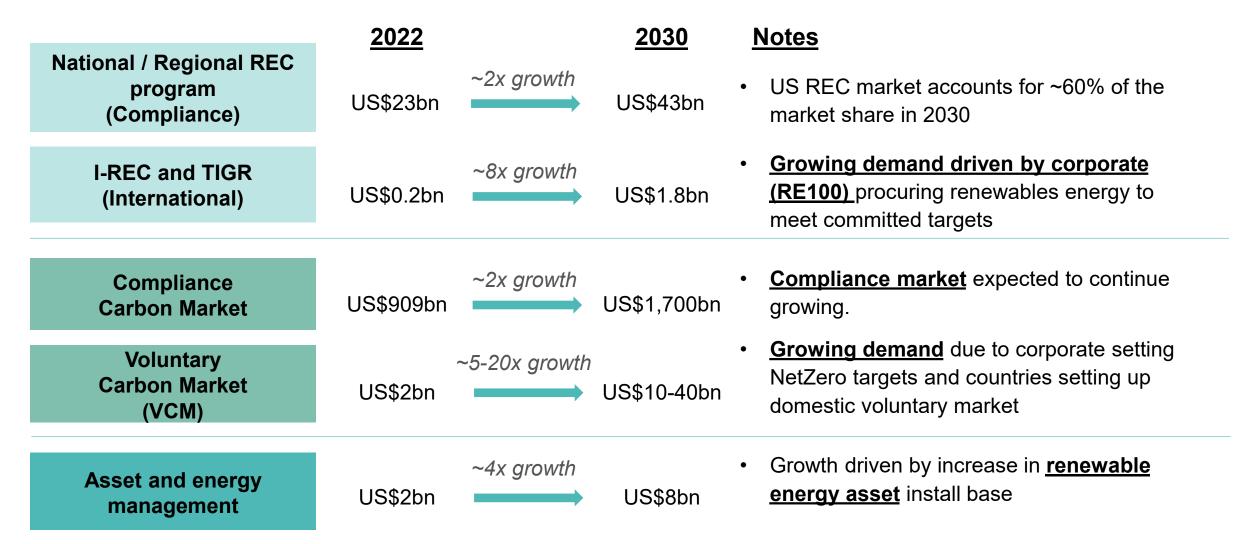
Get near real-time data to match renewable energy generation and consumption

Sell with us

Access a global network of buyers of environmental attributes on our platform



Addressable Markets are Expected to Grow Meaningfully by 2030



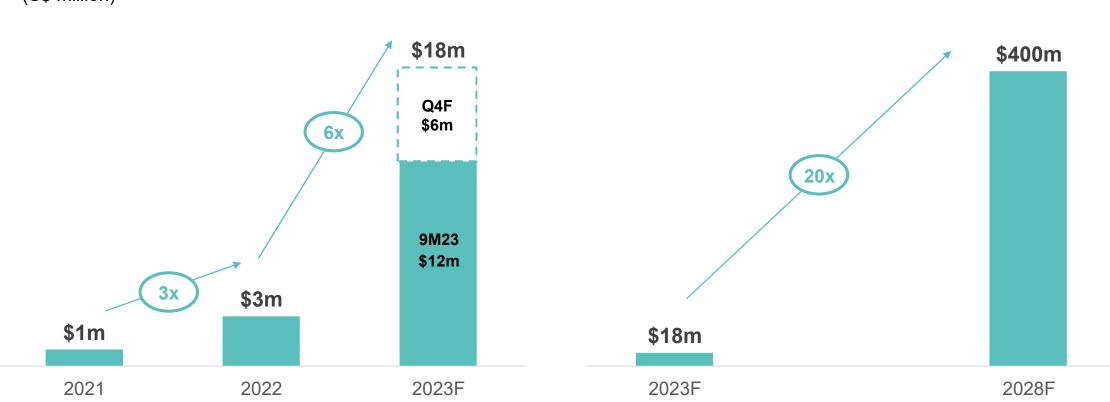


GoNetZero[™] is on Track to Achieve >6x Revenue Growth in 2023; Revenue Aspiration of \$400m by 2028 (~20x Growth Potential)



5-Year 2028F Revenue Aspiration

(S\$ million)



Note: The above targets are communicated for indicative purposes and might evolve depending on market conditions



Closing Remarks

Wong Kim Yin

Group President & CEO





Driving Energy Transition

WHY

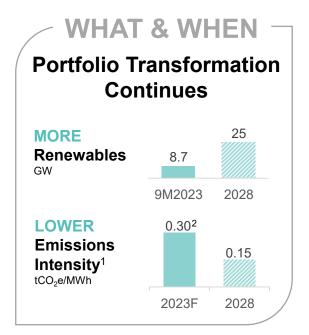
Robust Momentum for Decarbonisation and Electrification

>1,300GW

Of addressable market opportunities

17% 5-year CAGR (2023 to 2028)

China, India and Southeast Asia







© Sembcorp Industries Investor Day 2023





¹ GHG emissions intensity include direct emissions (Scope 1) from our activities and indirect emissions (Scope 2) from our energy consumption

² Based on forecasted emissions data

Appendix



Speakers' Profiles



Wong Kim Yin. Group President & CEO

Mr Wong has close to 30 years of leadership experience in the energy sector and in investment management. He has been instrumental in leading Sembcorp's transformation of its portfolio from brown to green.

Mr Wong was the group chief executive officer of Singapore Power (SP Group) from 2012 to 2020. Prior to SP Group, he led investments and project development in his roles at Temasek International and The AES Corporation.

Mr Wong serves on the boards of the Health Promotion Board, the National Research Foundation, the Inland Revenue Authority of Singapore and DSO National Laboratories. He is also a board member of China Venture Capital Fund Corporation and the Vice Chairman, Asia of the World Energy Council.



Eugene Cheng, Group Chief Financial Officer

Mr Cheng oversees the Group's finance, treasury, tax, portfolio and investment management, sustainability, investor relations and corporate communications functions.

He brings extensive experience in financial and strategic leadership across the aviation, offshore oil and gas, marine engineering and logistics industries. Prior to joining Sembcorp, Mr Cheng was chief corporate officer of SATS where he oversaw key business functions such as business development, strategic investments, mergers and acquisitions (M&A), as well as corporate strategy. Mr Cheng also served as group chief corporate officer of IMC Industrial Group. He was an investment banker with JP Morgan and Citigroup, specialising in M&A advisory, corporate financing and capital raising.



Alex Tan, CEO, China

Mr Tan is responsible for the operations, strategic direction and business growth of the company's energy and sustainable solutions offerings in China.

He has over 20 years of experience in the chemical, logistics and financial sectors. He spent 17 years at Air Products, an industrial gases company, taking on various management roles in Singapore and China before becoming President of its Southeast Asia operations. Mr Tan also held various corporate development and finance roles at IMC Industrial Group and TD Securities.



A. Nithyanand, CEO, Sembcorp Green Infra (India)

Mr Nithyanand oversees Sembcorp's renewable energy operations and strategic growth in India.

Mr Nithyanand has 28 years of experience in leadership roles across the infrastructure, real estate, healthcare, and utilities sectors. Before joining Sembcorp, he was CEO, Asia of Roadis Transportation, a global investment and operating infrastructure company. Prior to that, he was the Chief Commercial & Business Development Officer (Airports) at the GMR Group where he was responsible for revenue and growth of its airport business. Over the span of his career, he has led business development and sales, strategic acquisitions and divestments as well as managed key stakeholder relationships.

Speakers' Profiles



Koh Chiap Khiong, CEO, Singapore & Southeast Asia

Mr Koh oversees Sembcorp's operations comprising large-scale energy, water and battery storage assets on Jurong Island (Singapore) and a portfolio of energy assets across Southeast Asia. He is also responsible for driving the strategic direction and business growth of the energy businesses across the region.

Mr Koh has deep knowledge of the energy and water sectors with extensive experience in managing infrastructure-related businesses, supported by a strong financial background. Prior to his current appointment, he was the group chief financial officer of Sembcorp from 2010 to 2018, and was instrumental in shaping and expanding the company's growth and investments overseas.



Vipul Tuli, Chairman, South Asia and CEO, Hydrogen Business & Middle East

Mr Tuli oversees Sembcorp's investments, and key stakeholder relationships in India and Bangladesh. He is concurrently the CEO of Sembcorp's global Hydrogen Business and the group's operations in the Middle East.

Mr Tuli has over 30 years of experience in the energy sector. Prior to Sembcorp, he was a senior partner with McKinsey & Company where he helped to build and lead its Asian energy practice. He has also advised government institutions on issues of energy policy, organisation, industry structure, and regulation.



Soon Sze Meng, CEO, GoNetZero™

Mr Soon is responsible for the operations, strategic direction and growth of the company's carbon management business, GoNetZero™.

He brings with him over 20 years of experience in senior executive roles and board experiences in consulting, e-commerce, payments and technology across China, Southeast Asia and the United States. In one of his previous roles, he was President, Southeast Asia of JD.com, a listed e-commerce company. He also serves as a member of the Board of Trustee of Singapore Institute of Technology.

Glossary

2023F	2023 forecast
API	Application Programming Interface
AT&C losses	Aggregate Technical and Commercial losses
BESS	battery energy storage system
bn	billion
CAGR	compound annual growth rate
CCGT	combined cycle gas turbine
CH ₄	methane
CSP	concentrated solar power
DISCOMS	state-owned distribution companies
DJSA	joint development study agreement
EBITDA	earnings before interest, taxes, depreciation, and amortisation
EJ	exajoule, 1 billion GJ
GFANZ	Glasgow Financial Alliance for Net Zero
GHG	greenhouse gas
GW	gigawatt
ha	hectare
H ₂	hydrogen
HHV	higher heating value
IPP	independent power producer
kgCO ₂ e/kgH ₂	kilograms of carbon dioxide equivalent per kilogram of hydrogen
tCO ₂ e/tNH ₃	tonnes of carbon dioxide equivalent per tonne of ammonia
LCOE	levelised cost of electricity

LCOH	levelised cost of hydrogen
LH ₂	liquid hydrogen
LNG	liquefied natural gas
LOHC	liquid organic hydrogen carriers
LTM	last twelve months
m	million
mmbtu	one million British thermal unit
MT	million tonnes
mtCO2e	million tonnes of carbon dioxide equivalent
mtpa	million tonnes per annum
MWh	megawatt hour
NH ₃	ammonia
O&M	operations and maintenance
OEM	original equipment manufacturer
PEM	proton exchange membrane
PPA	power purchase agreement
O&M	operation and maintenance
FEED	Front-end Engineering and Design
REC	renewable energy certificate
ROE	return on equity
SECI	Solar Energy Corporation of India
SOE	state-owned enterprise
tCO2e/MWh	tonnes of carbon dioxide equivalent per megawatt hour
TSR	total shareholder return
VCM	voluntary carbon market
WTG	wind turbine generator



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