

Japan CCS Forum 2023

Mitsubishi Corporation CDR activities

November 2023

Mitsubishi Corporation

- Promote low/zero carbon initiatives across the energy sector by connecting seeds (solutions) with needs related to EX Resources, Materials and Products.
- Provide solutions as EX Services while working closely with industry, consumers and regions to address emission reduction needs.

EX

Take on the challenge of providing stable supplies of energy and resources while simultaneously supporting decarbonization efforts of society and business.

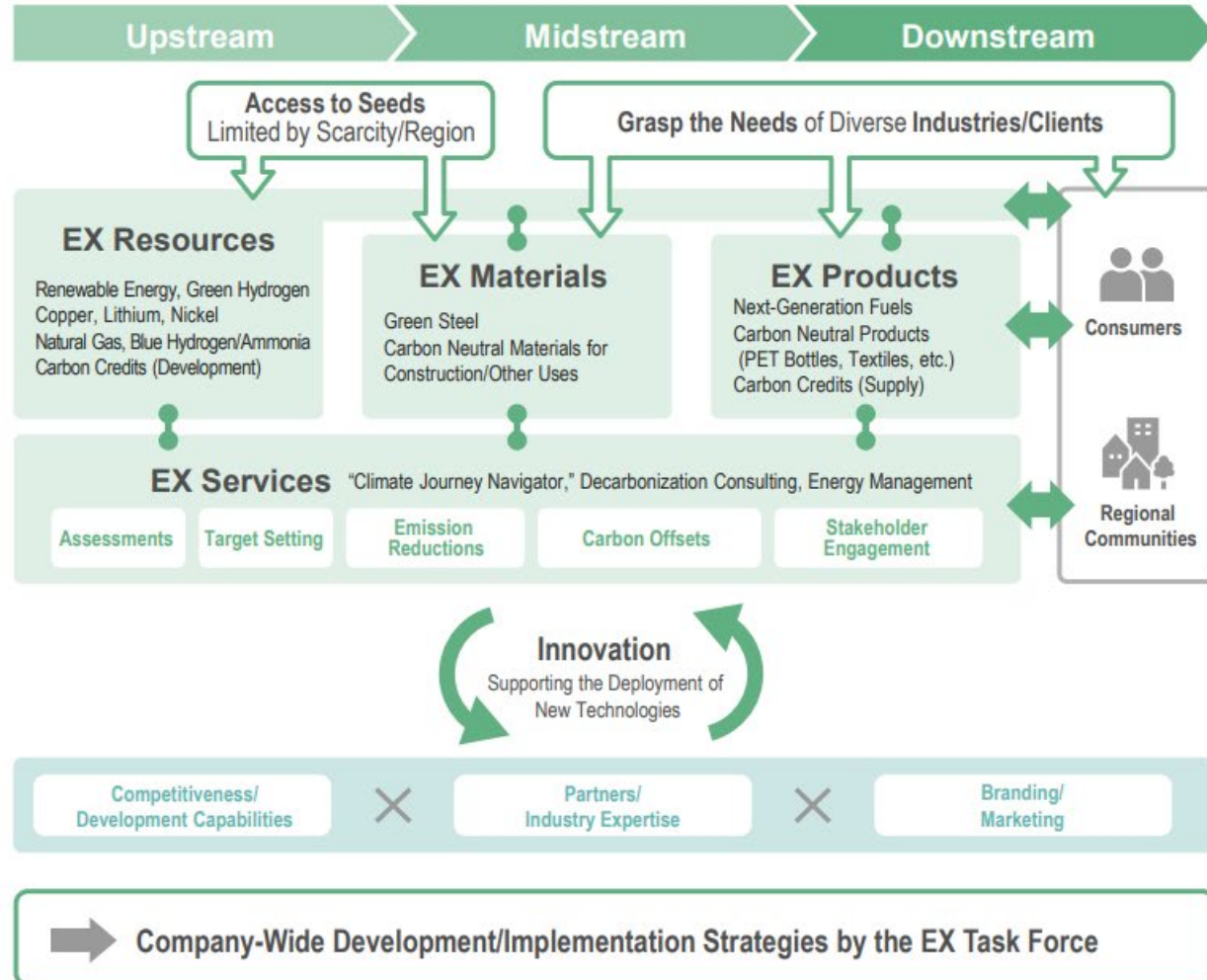
Efforts to enhance renewable energy businesses, mineral resources that underpin Electrification, and low/zero carbon energy.

Expand service-providing businesses by offering EX solutions in response to customer needs.

Leverage MC's far-reaching operations to appeal to consumers/regional communities by connecting seeds and needs.

Join with partners to support the transition to a carbon neutral society and improvements in industry competitiveness, while maintaining a holistic view of the EX value chain.

Aim to Become a Decarbonization Solution Provider

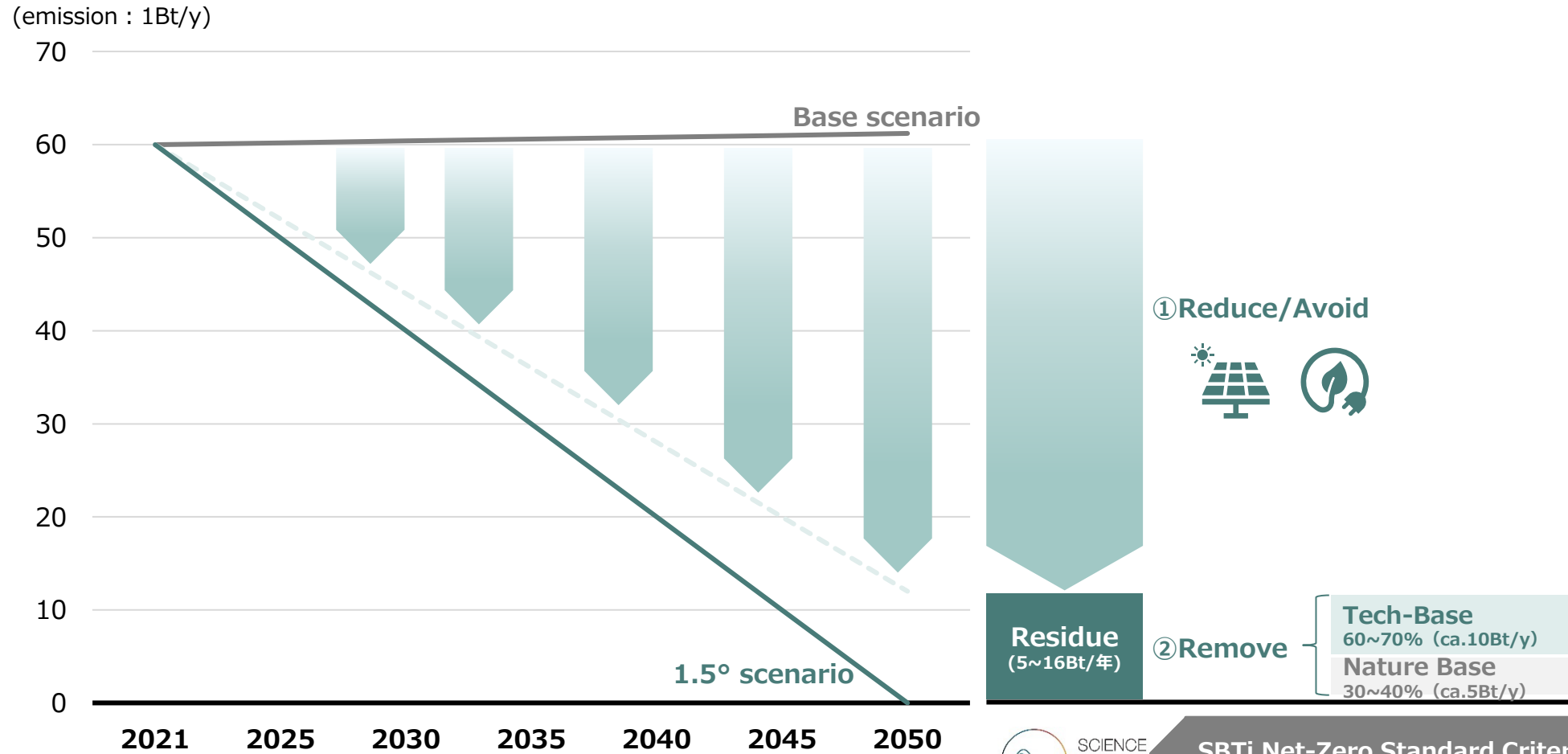


Necessity of Tech Carbon Dioxide Removal (CDR)

(1) reduce/avoid GHG emissions from all sources and (2) remove the remaining emissions To achieve 1.5°C.

5-16 Bt/y of emissions will remain in 2050, **Tech CDR will be responsible for 60-70% (approx. 10 Bt/y).**

SBTi requires all remaining emissions to be offset by long permanent CDR to achieving NZE.



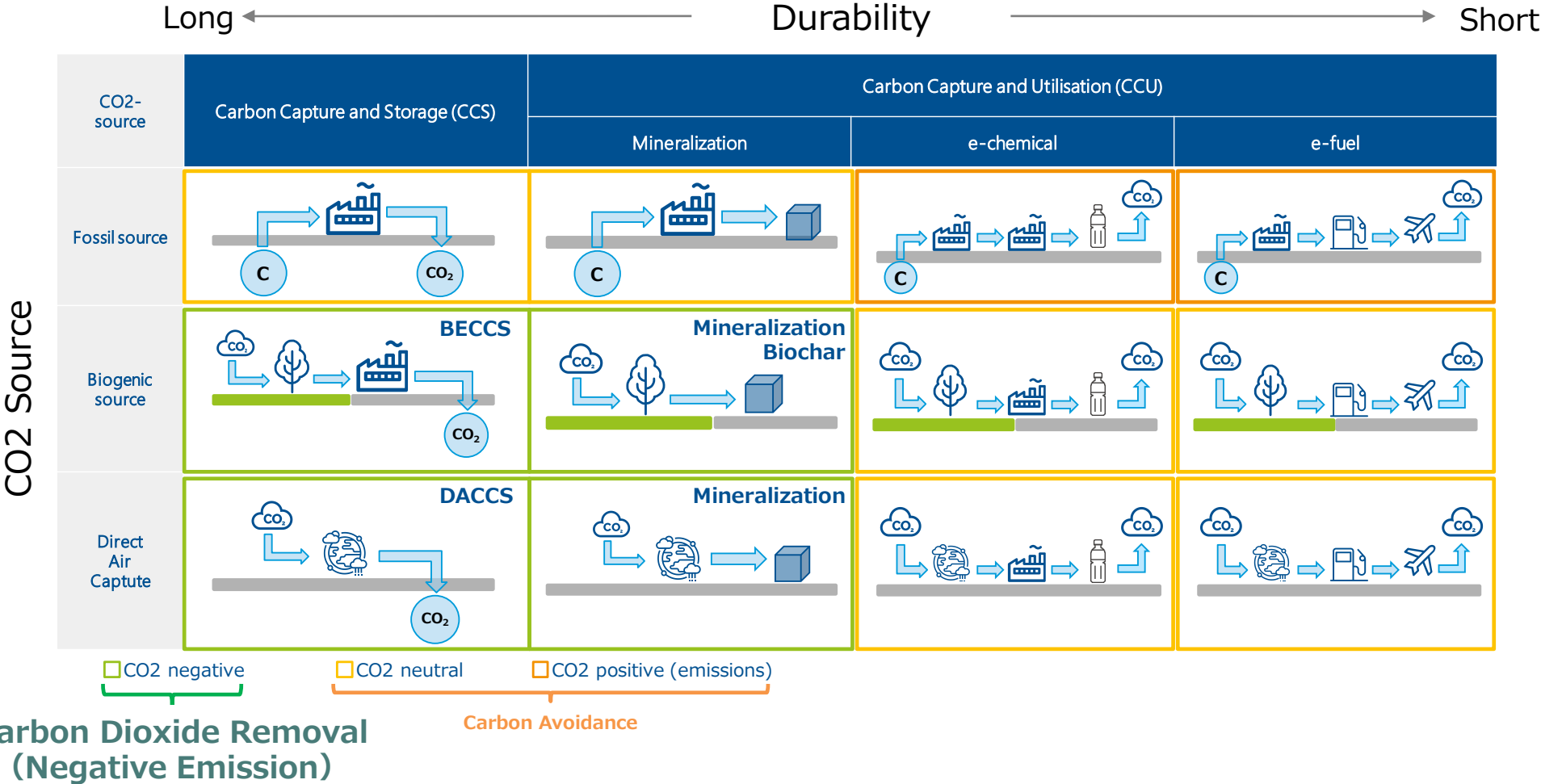
Reference : IPCC AR6 / WG3 / SFM (C.3 / 3.3 / 3.5)



SBTi Net-Zero Standard Criteria
Residual emission must be offset by only CDR

Definition of Tech Carbon Dioxide Removal

Carbon Dioxide Removal refer to the technology, practices and approaches that remove and durably store from the atmosphere.



Source : ClimateWorks Foundation

Vision to become one of the largest CDR project developer in the world by leveraging our knowledge/Network in multiple industries.

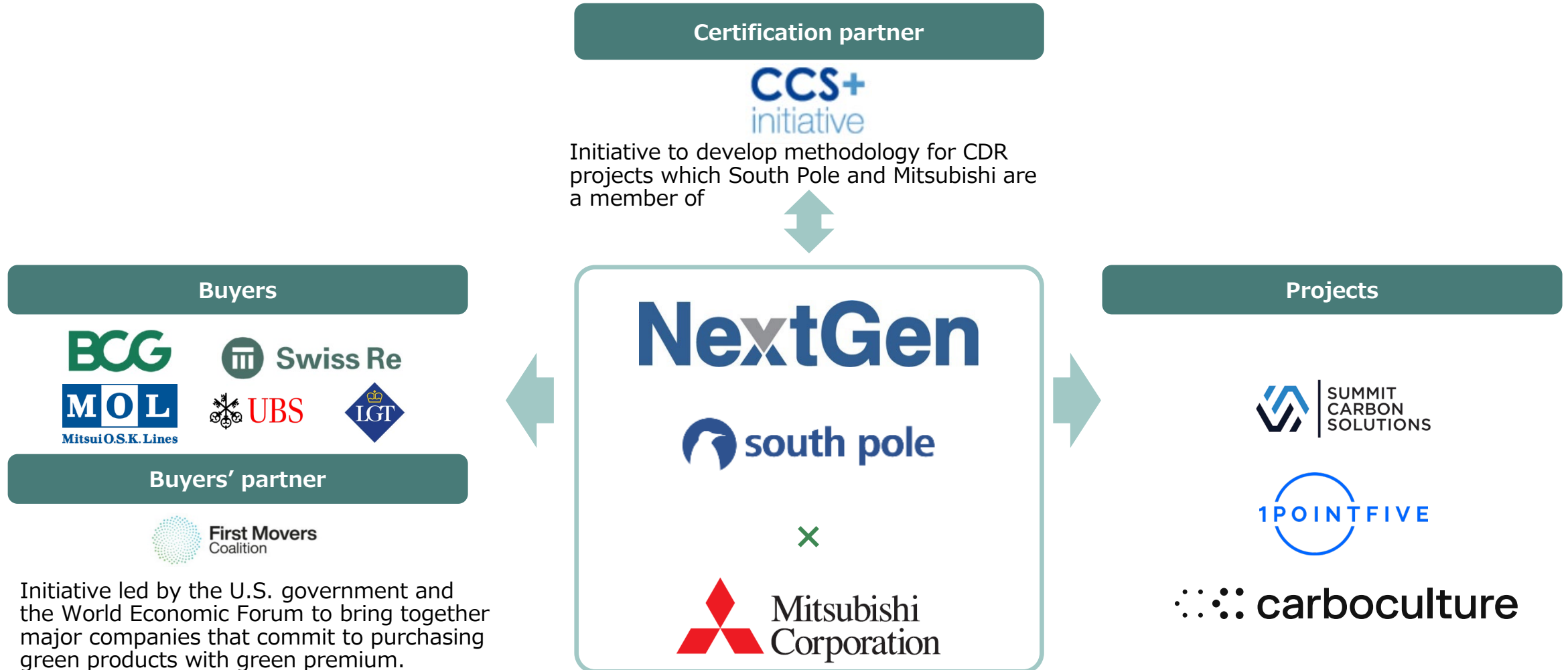
Category	Mitsubishi Corporation's Activities
Afforestation Reforestation	<ul style="list-style-type: none"> Investment in AI Carbon (Australian NBS Developer)
Biochar	<ul style="list-style-type: none"> Business Development
Mineralization	<ul style="list-style-type: none"> Investment and Business Development with multiple CCU technologies
Enhanced Weathering Ocean	<ul style="list-style-type: none"> Seeking new Investment and Business Development opportunities
BiCRS/BECCS	<ul style="list-style-type: none"> Investment and Business Development
DACCS	<ul style="list-style-type: none"> Participation in Breakthrough Energy Catalyst Investment and Business Development
Carbon Credit	<ul style="list-style-type: none"> NextGen CDR Facility Steering Committee member of CCS+ Initiative

Tech CDR



NextGen is a carbon credit offtake platform jointly established by Mitsubishi Corporation and South Pole to cultivate technology-based carbon dioxide removal (CDR) credit industry. NextGen conducts/supports carbon credit offtake and CDR methodology creation.

NextGen has secured five foundation buyers and acts as the third largest credit off taker in the world.

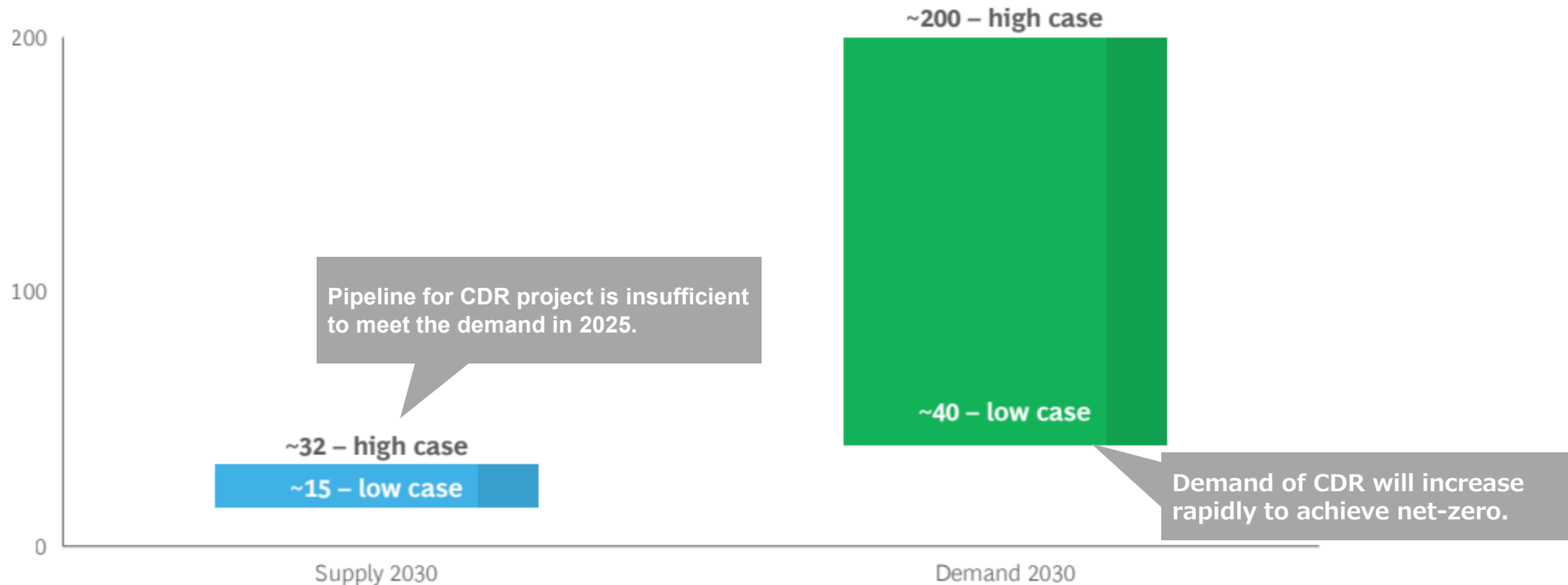


Supply and Demand Forecast of CDR

Supply of Tech CDR is limited due to high cost.

However, a significant supply shortfall is forecasted due to rapid demand growth and slow development of projects.

Supply and demand range (Mt CO₂ per annum) for 2030 market as of June 2023



Sources: CDR.fyi; BCG Survey and Analysis, 2023.

"Chicken-and-egg dilemma" between Supply and Demand, preventing Tech CDR industry to scale.



Reason why Tech CDR not scaling up



Tech CDR not scaling

Both ① Government-initiated incentives and ② Private-initiated incentives is necessary.

Public and Private incentives to scale Tech CDR

<p>①</p>	<p>Government (financial support)</p>	<ul style="list-style-type: none"> • Government-initiated incentive helps demand and supply to reduce cost, and to expand markets. <p><Ex : Renewable energy/FIT></p> <ul style="list-style-type: none"> • Government procurement of renewable energy at fix price 	<p><Experience carb of renewable-energy/FIT></p> <p>The graph plots UNIT PRICE on the y-axis against TIME on the x-axis. Three solid lines represent DNA sequencing, Solar panels, and Hard drives, all showing a downward trend. A dashed blue line represents Carbon removal, starting at a higher price but following a similar downward trajectory as the other technologies. A text box notes: 'Carbon removal has the potential to follow a similar trajectory with the help of early adopters'.</p>
<p>②</p>	<p>Private sector (Green premium)</p>	<ul style="list-style-type: none"> • Tech CDR procurement at a premium price (US\$100-2,000/CO2-t) to support the industry. 	<p><Credit buyers></p> <p>The logos for the credit buyers are displayed vertically: First Movers Coalition (a circular dot pattern), Microsoft (the four-color square logo), stripe (the blue lowercase logo), and shopify (the green shopping bag logo).</p>

Our approach