

## CO<sub>2</sub> MANAGEMENT

**AVOID & REDUCE + REMOVE & REUSE** 

**9th Annual Dry Bulk & Commodities Conference** Thursday, November 16, 2023



**MAKE A DIFFERENCE.** 



### **WHO WE ARE**

### **OUR VISION**

To turn CO<sub>2</sub> into a valuable resource and create a sustainable net-zero system through direct air capture and geologic sequestration

## DELIVERING THE SOLUTIONS WE NEED TO GET FROM NOW TO NET-ZERO

- Building our first direct air capture (DAC) facility – STRATOS
- Designed to capture up to 500kt CO<sub>2</sub>/year
- Expected operations mid-2025











# SETTING STAGE WHY DECARBONIZE?

### **COMPLIANCE PRESSURE**

 MEPC80 was a watershed moment; even more ambitious targets potentially coming

### **CUSTOMER PRESSURE**

 Cargo owners starting to take deep dives on their Scope 3

#### **CAPITAL ACCESS**

 Capital reallocation towards more sustainable investments











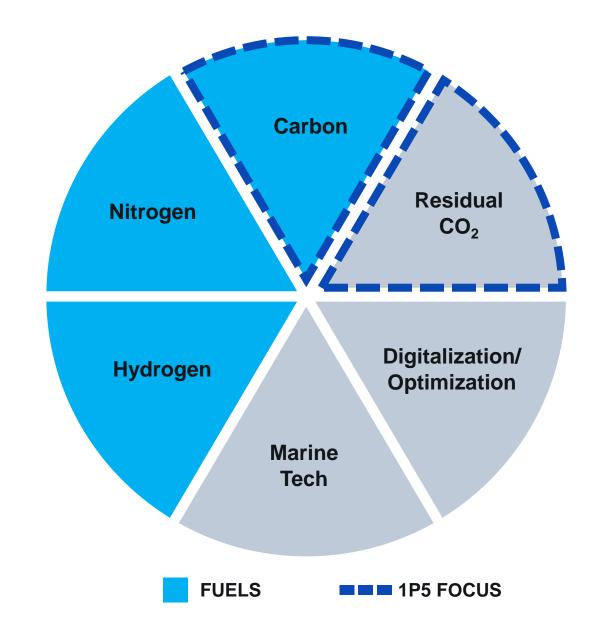
## PILLARS OF MARITIME **DECARBONIZATION**

### **CARBON AS A FUEL**

- Industrial CO<sub>2</sub> and biogenic CO<sub>2</sub>
- Atmospheric CO<sub>2</sub> from DAC (and a few other removal technologies)

### **RESIDUAL CARBON**

- Onboard carbon capture
- Higher-end nature-based solutions
- High-quality CDRs from DAC and other engineered solutions





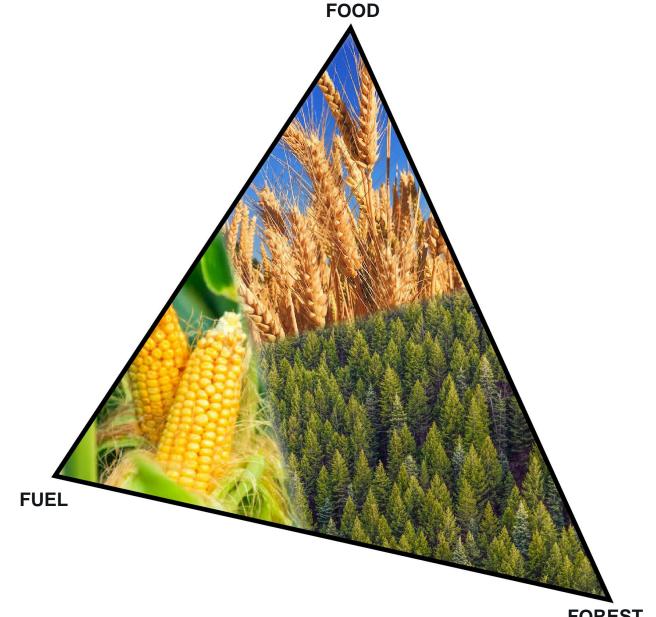






## CO<sub>2</sub> FOR FUELS BIOGENIC CO<sub>2</sub>

- Population Growth → Make more food
- Increased mobility and consumption → More travel and fuel requirement
- Climate change → CO<sub>2</sub> removal using **NBRs**





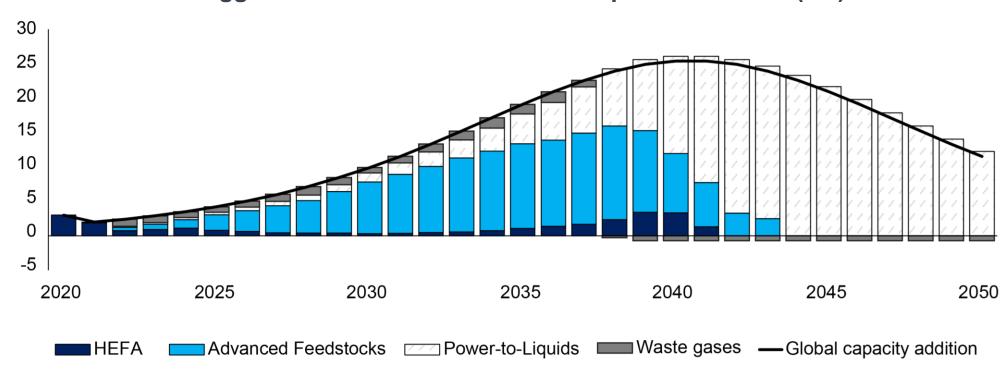






## CO<sub>2</sub> FOR FUELS AVIATION EXPERIENCE

Annual capacity addition by feedstock,
Aggressive Sustainable Fuel development scenario (MT)



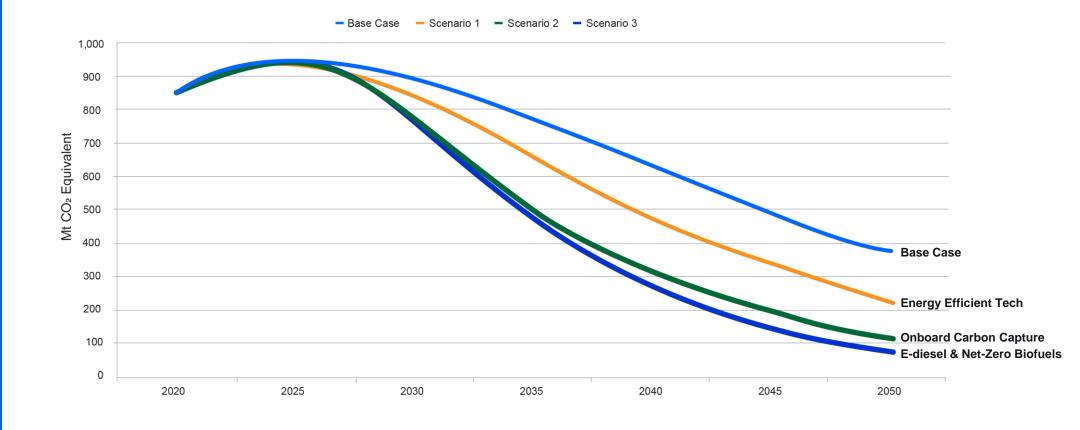








# PETROLEUM-BASED FUELS ARE HERE TO STAY FOR A WHILE

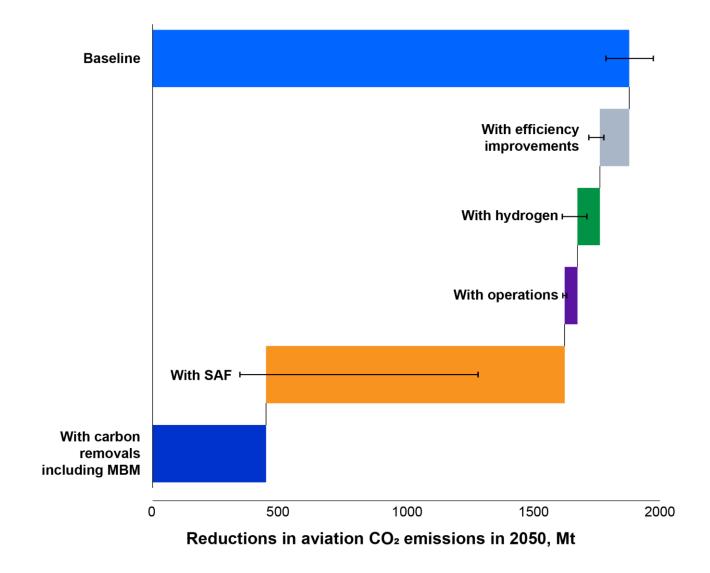






# RESIDUAL CO<sub>2</sub> AVIATION EXPERIENCE

- Reduction in aviation CO<sub>2</sub> emissions in 2050 achieved through the different levers of action
- Solid bar indicates the central case
- Black lines indicate maximum and minimum reductions based on the scenarios modeled











## TAKING HOLD IN THE INDUSTRY



Importance of net zero



Decarbonization targets

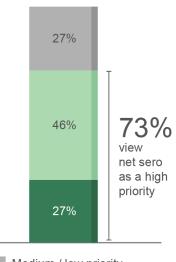


Sustainability teams



Decarbonization roadmap

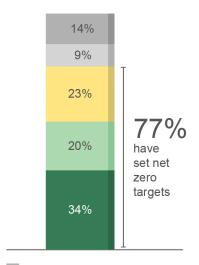




Medium / low priority

High priority

Critical / essential to strategy



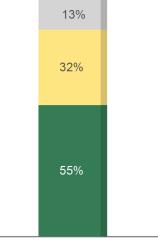
Do not have plans to set targets

Setting targets within the year

Have intermediate targets

Have net zero targets

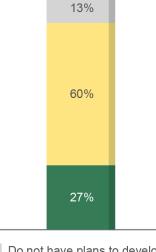
Have net zero and intermediate targets



Do not have sustainability teams

Do not have sustainability teams but have individuals focused on specific initiatives

Have dedicated sustainability teams



Do not have plans to develop roadmap

Developing roadmap now

Have roadmap in place

<sup>1</sup> N=128

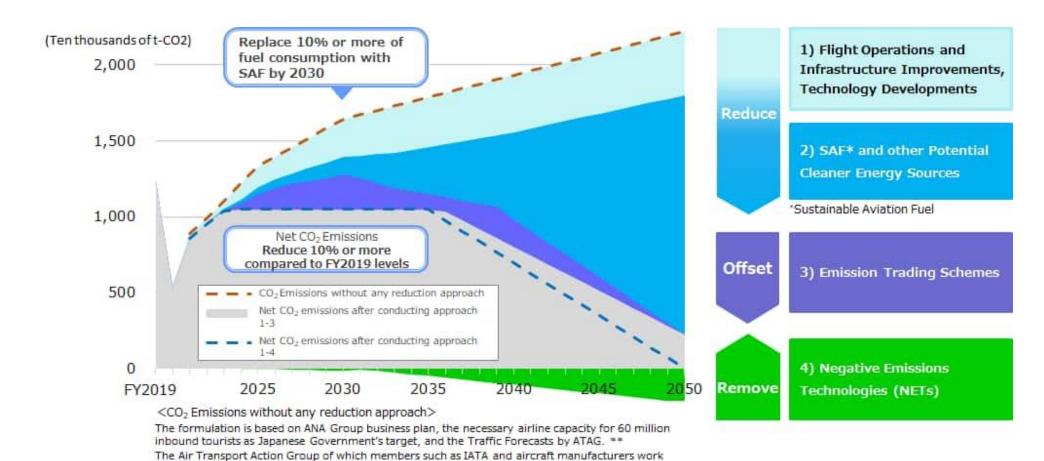








# A WELL-DEVELOPED DECARBONIZATION STRATEGY ALL NIPPON AIR (ANA)







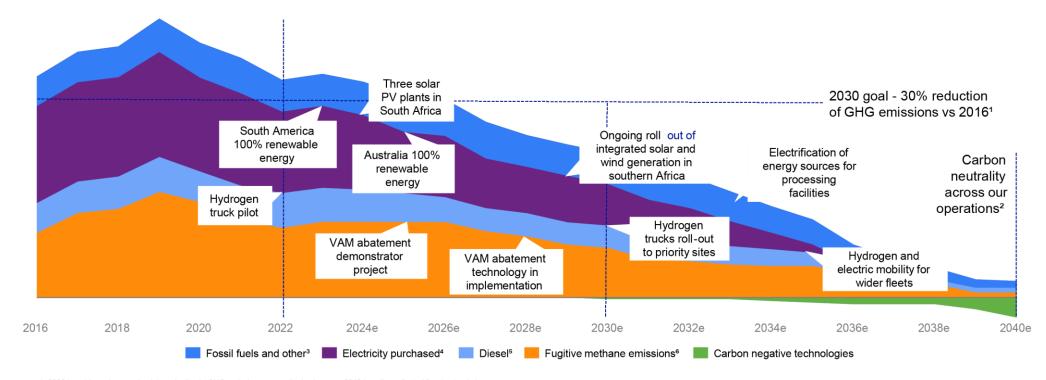


together on sustainability issues.



### A WELL-DEVELOPED DECARBONIZATION STRATEGY **ANGLO AMERICAN**

#### Scopes 1 & 2 - GHG emissions



 <sup>2030</sup> target based on an absolute reduction in GHG emissions across the business vs 2016 baseline adjusted for structural changes.
 2. Targets and guidance as announced on 7 May 2020.
 3. CO<sub>2</sub> from fossil fuel consumption (excluding diesel) used in processing, and other activities.
 4. CO<sub>2</sub> emissions from electricity consumption (all Scope 2).
 5. CO<sub>2</sub> sub-set from fossil fuel consumption.



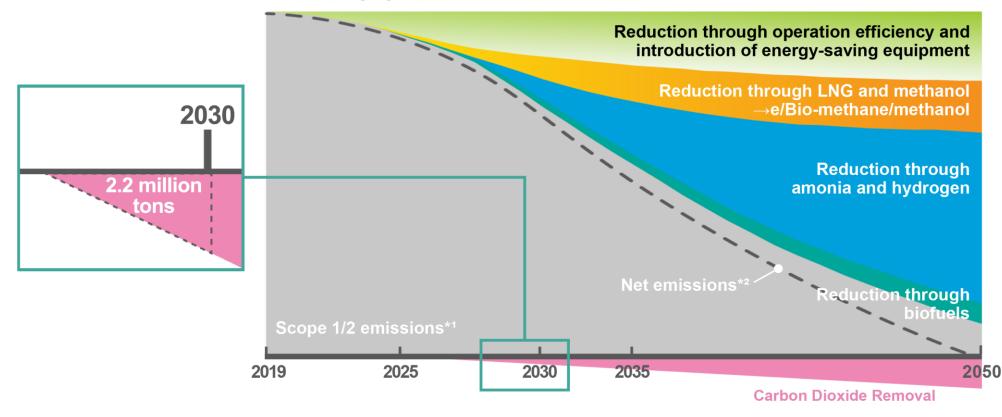
Source: AngloAmerican, H1 2023 results, July 27, 2023

<sup>6.</sup> Fugitive emissions from steelmaking coal mining



# A WELL-DEVELOPED DECARBONIZATION STRATEGY MITSUI O.S.K. LINES (MOL)

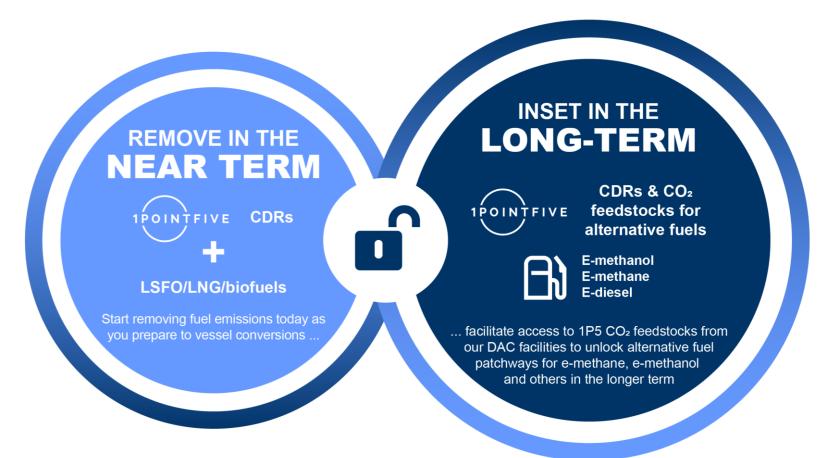
**Vertical axis: GHG emissions** 







# WHAT DAC OFFERS TO MARITIME A POWERFUL TOOL TO ADDRESS RESIDUAL EMISSIONS... AND NOT ONLY THAT











## **GET IN TOUCH**

## LET'S START A CONVERSATION ABOUT YOUR CLIMATE GOALS

Curbing global temperature rise to 1.5°C by 2050 will take commitment, partnership and tonnes of carbon removal. That's why 1PointFive is working closely with leading organizations. Are you next?

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# THANK YOU



