



# Decarbonization is a 'must do' now



Global climate change due to the global warming, we are running out of time...

We need to decarbonize immediately with a meaningful scale.

# Why Petrochemicals?

## Enormous

Petrochemical Industry  
Generates **3GT** GHG emissions  
(**5.8%** of Global emissions)

## Supermajors

Petrochemical Industry is  
**highly concentrated** in several  
'Supermajors'



# How Petrochemicals decarbonize?



(1.7GT CO<sub>2</sub>)  
-50% by 2030



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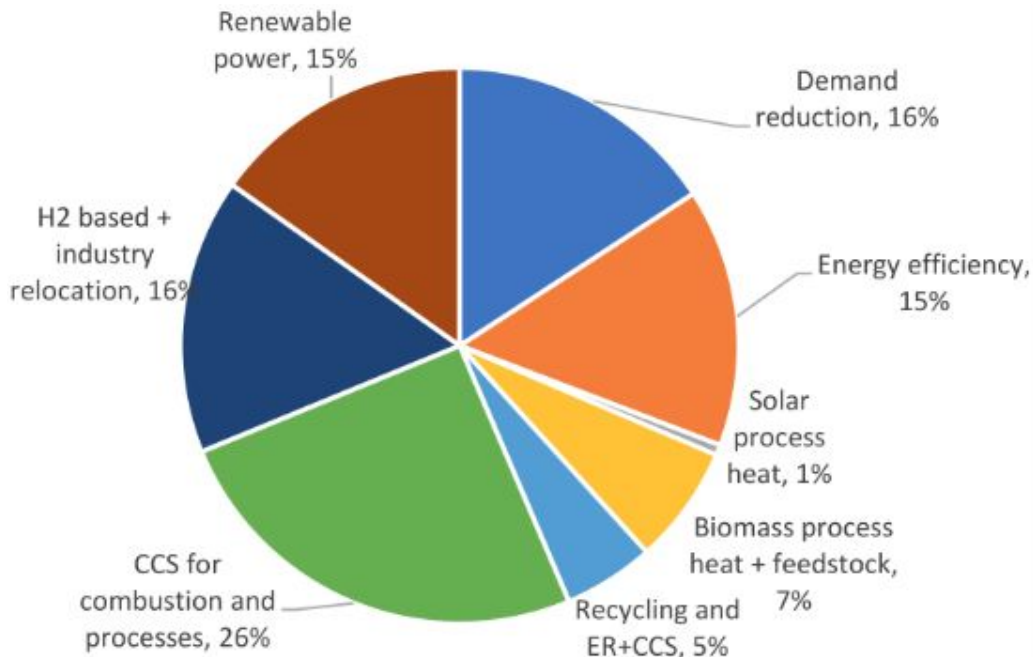


-35% by 2030

Renewable  
Energy

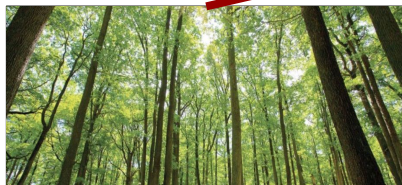
Green H<sub>2</sub>  
as Fuel

CCS  
Carbon  
Capture &  
Storage





# The pain point is... cost



Carbon Credit  
Cost  
**US\$90+**  
Per Ton eCO<sub>2</sub>



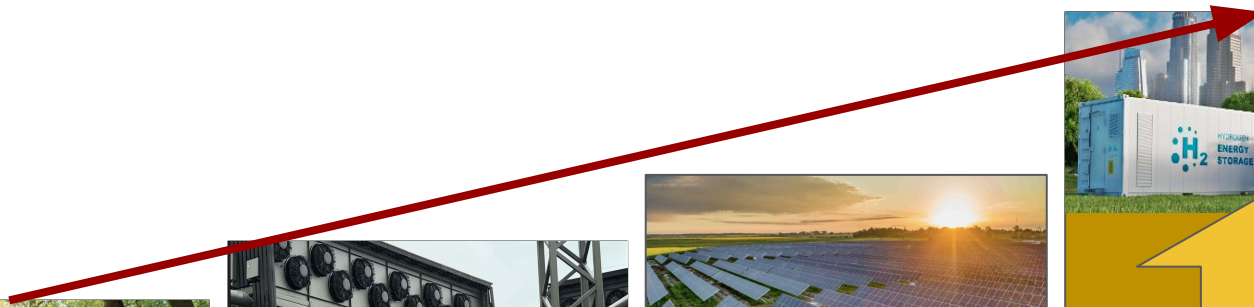
CCS/CCUS  
Cost  
**US\$120+**  
Per Ton eCO<sub>2</sub>



Renewable Energy  
Cost  
**US\$134+**  
Per Ton eCO<sub>2</sub>



Green Hydrogen  
Cost  
**US\$3K+**  
Per Ton eCO<sub>2</sub>



# Use Case in Taiwan



The largest petrochemical company in Taiwan - CPC  
The ethylene factory produces 800K ton/yr, and emits 1M+ ton CO<sub>2</sub>/yr

Using 3 years' operational data to train AI model, combining domain knowledge and academic theory



AI model can forecast the Production Output & Energy Consumption with Materials Input to 98% accuracy



AI model can provide the suggestion of key parameters for best efficiency of production

# Use Case in Taiwan



**40,000** tons CO<sub>2</sub>/yr

Decarbonization

+

**US\$5M**/yr

Cost Saving

# Competitive Strength

Cost  
**US\$10**  
Per Ton eCO<sub>2</sub>

Carbon Credit  
Cost  
**US\$90+**  
Per Ton eCO<sub>2</sub>

CCS/CCUS  
Cost  
**US\$120+**  
Per Ton eCO<sub>2</sub>

Renewable  
Energy  
Cost  
**US\$134+**  
Per Ton eCO<sub>2</sub>

Green Hydrogen  
Cost  
**US\$3K+**  
Per Ton eCO<sub>2</sub>





# Unique Strengths of Our AI Solution

## AI Tools



We select the BEST FIT AI models for specific purpose, and mix of 3 AI models to come out the best outcome.

## Domain Knowledge



We had learned from field operators and domain experts more than one year and integrated with our solution.

## Academic Theory



We also include the academic theory of thermal dynamics with our AI models to come out the best outcome.

