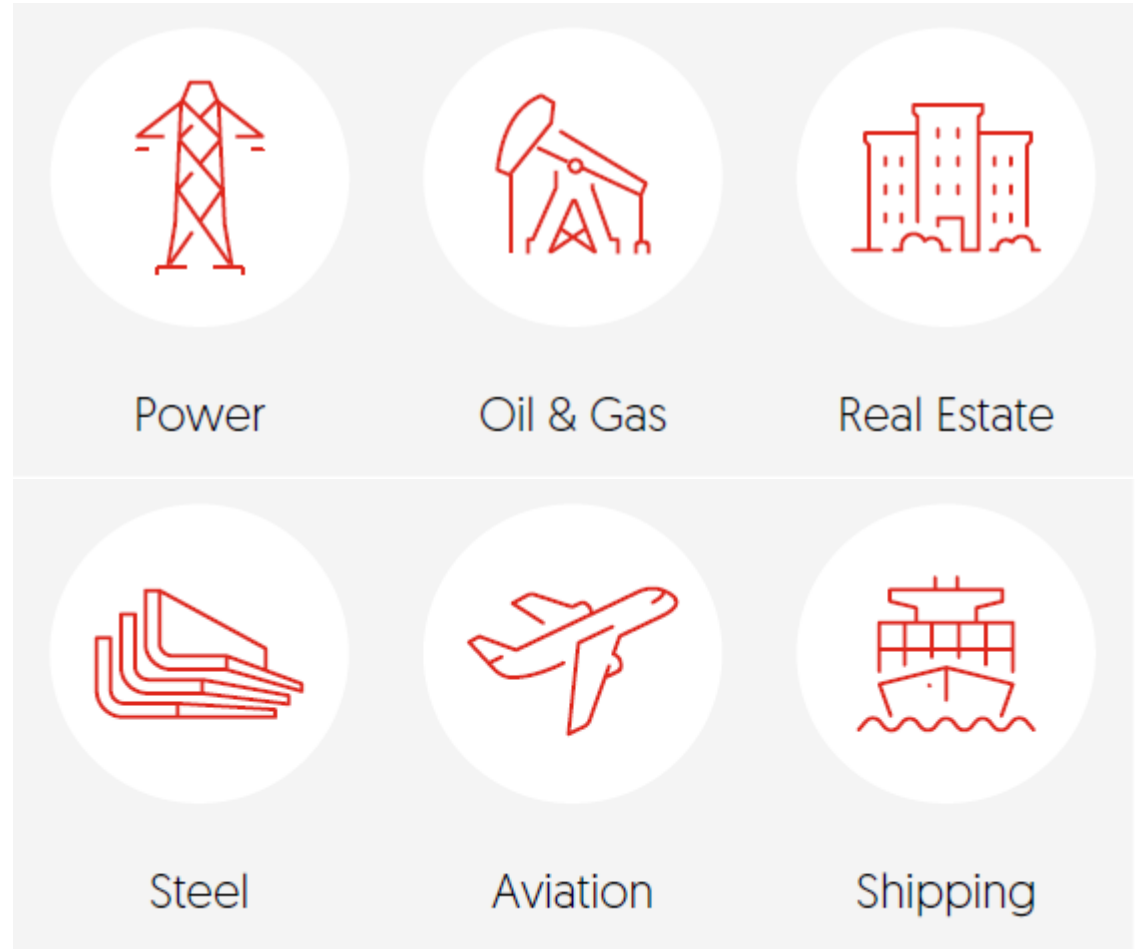
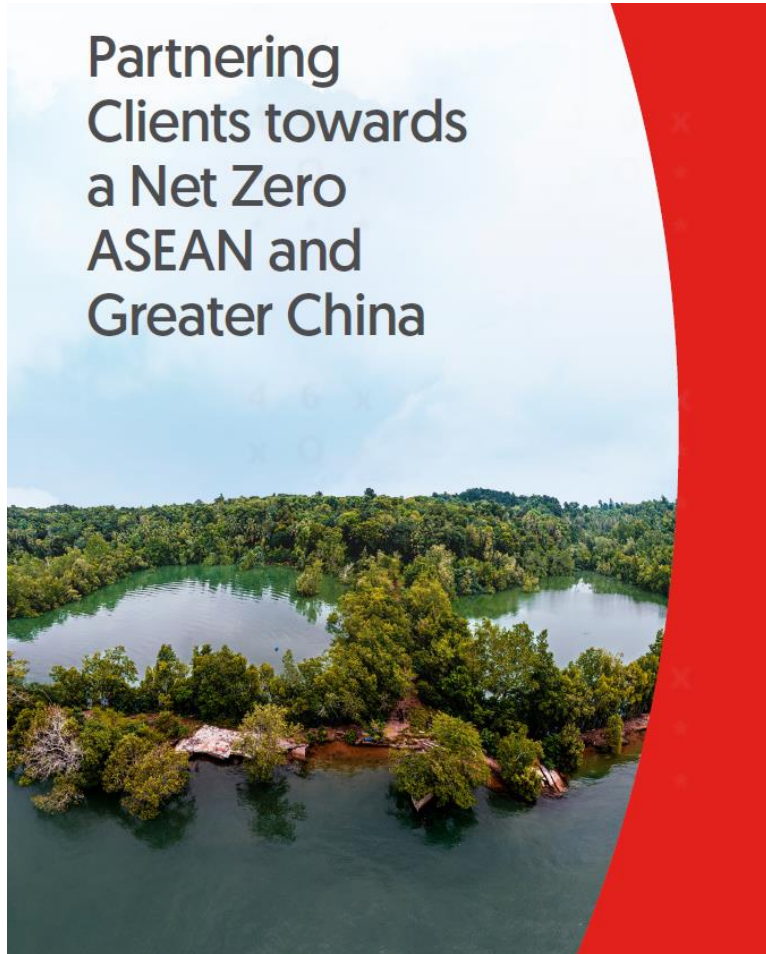


Financing Energy Efficiency

Ar. Benjamin Henry Towell



OCBC Net Zero Targets



We Scale Impact to facilitate all companies' transition

Making it Easy for SMEs

SME Sustainable Finance Framework



Focused on making it easy for access to green finance for SMEs as a solution adopter, or solution provider



>600 SMEs have benefitted from the SME sustainable finance framework in their Green Journey

SME Framework Categories

To improve sustainability literacy and facilitate action



Renewable Energy



Energy Efficiency



Built Environment



Clean Transportation



Climate Adaptation



Pollution Prevention and Control



Sustainable Water & Wastewater Management



Environmentally Sustainable Management of Living Natural Resources and Land Use



Circular Economy

Collaborating with Partners & Developing Tools

To improve sustainability literacy and facilitate action

GoNetZero



Global Compact Network Singapore

ecovadis



Envision digital



Developing an Ecosystem Approach

Banking on Our Enablers

To drive impact for all of our customers



Solar Developers



Energy Service Companies (EaaS/ ESCO / CaaS)



Electric Transport / Infrastructure



Technology Providers



Circular solution providers



Biofuels / Alternative fuels

OCBC Solar Financing Programme

A first of its kind for SMEs

- Finance commercial projects against Power Purchase Agreements ('PPA')
- ZERO capex contract for SME building owners with lower energy costs
- Help customers monetise their RECs through GoNetZero



Showcasing Success

Education and Outreach

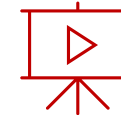
Sharing customer success stories, technical advice and best practices



Thought leadership & Articles



Customer centric sustainability webinars



Sharing customer stories



In-house Industry & Sector expertise

OCBC Emerging Enterprise Award

Recognising the future leading businesses and helping them scale

- Asia's leading business awards for SMEs and startups
- Annual awards held since 2008 jointly organised by the Business Times and OCBC
- Celebrate and recognize emerging SMEs with business innovation, resilience excellence and **sustainability**.



Energy Efficiency is a key needle mover in all industries



Manufacturing

=



Decarbonisation of manufacturing process



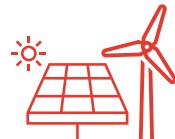
% Green Projects / products



ESG certification



Energy Efficiency



Renewables (Solar)



Food

=



Decarbonisation Outlets and processes



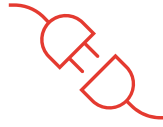
Electrification of Delivery Fleet



Responsible Procurement / sources



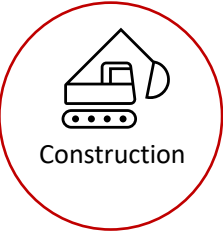
Waste Management



Energy Efficiency



Electrification of cooking / processes



Construction

=



Decarbonisation of Construction process



% Green Projects



Responsible Procurement / sources



Biofuel



Site Electrification



Energy Efficiency



Real Estate

=



Decarbonisation of Property



Green Building Certification



Responsible Procurement / sources



Energy Efficiency



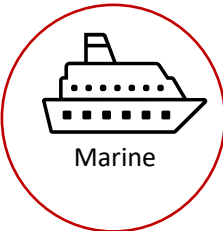
Renewables (Solar)



Electrification



Fugitive Emissions



Marine

=



Decarbonisation of fleet & shipyards



Biofuel



Vessel Electrification



Energy Efficiency



Future (H2)

Energy Efficiency is a key needle mover in all industries



Manufacturing

=



Decarbonisation of manufacturing process



% Green Projects / products



ESG certification



Energy Efficiency



Renewables (Solar)



Food

=



Decarbonisation Outlets and processes



Electrification of Delivery Fleet



Responsible Procurement / sources



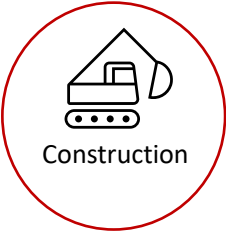
Waste Management



Energy Efficiency



Electrification of cooking / processes



Construction

=



Decarbonisation of Construction process



% Green Projects



Responsible Procurement / sources



Biofuel



Site Electrification



Energy Efficiency



Real Estate

=



Decarbonisation of Property



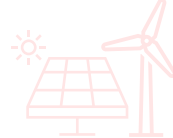
Green Building Certification



Responsible Procurement / sources



Energy Efficiency



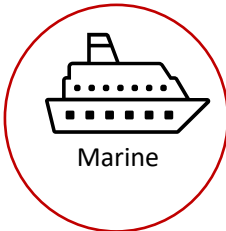
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Electrification



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Energy Efficiency



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Energy Efficiency is a key needle mover in all industries



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Food

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Decarbonisation Outlets and processes



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Real Estate

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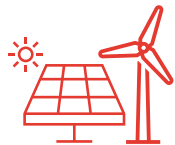
Green Building Certification



Responsible Procurement / sources



Energy Efficiency



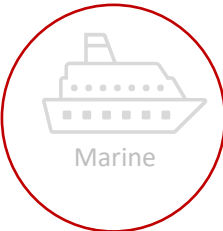
Renewables (Solar)



Electrification



Fugitive Emissions



Marine

=



Decarbonisation of fleet & shipyards



Biofuel



Vessel Electrification



Energy Efficiency



Future (H2)

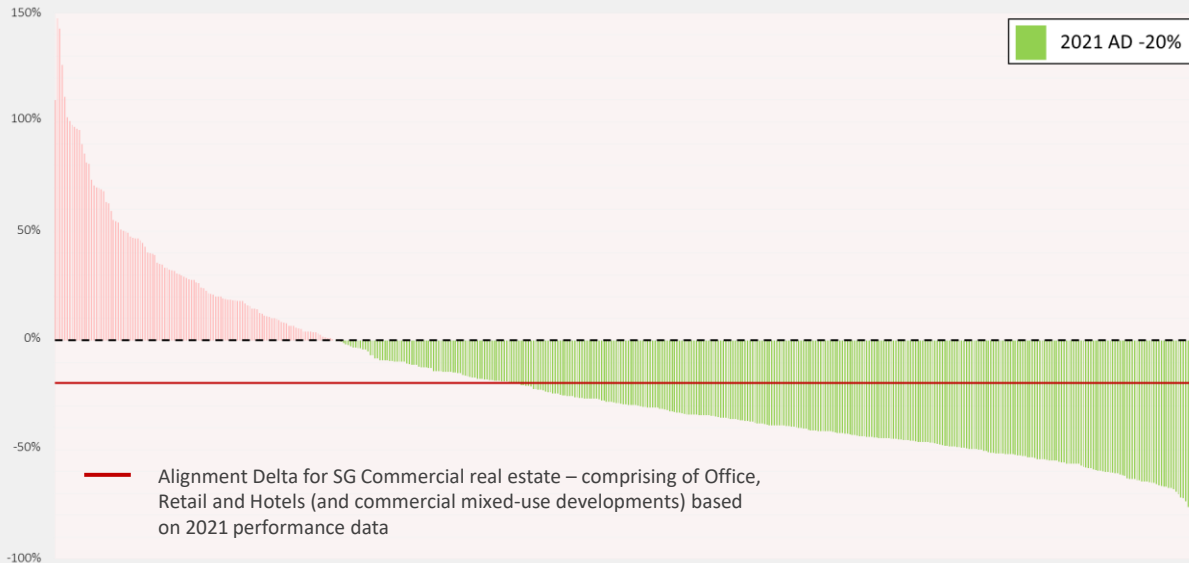
Overview of Singapore Commercial Property

We have assessed the performance of Singapore's commercial real estate, based on office, retail and hotels.

Today Singapore has a good starting point, our sector is 20% below the 1.5C reference pathway,

Singapore Commercial Real Estate

OCBC Analysis of Singapore's National building stock Performance [AD %]



SG requires rapid decarbonisation

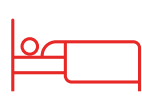
OCBC Analysis vs 1.5C Reference Pathway



Office



Retail



Hotel

National level analysis based on a bottom-up approach of 85% of SG's commercial stock for office, retail and hotel properties

2030 Emissions Reduction vs 2021



50%



65%



55%

Furthermore, there is great scope to improve the sector's performance through deep Energy Efficiency Actions to 2030

Office

74.2

kgCO₂/m²/yr

35.2

kgCO₂/m²/yr

Retail

147.1

kgCO₂/m²/yr

74.9

kgCO₂/m²/yr

Hotel

117.1

kgCO₂/m²/yr

69.2

kgCO₂/m²/yr

SG Portfolio decarbonisation opportunity

102.8

kgCO₂/m²/yr

BAU + Grid

83.9

kgCO₂/m²/yr

Active retrofit

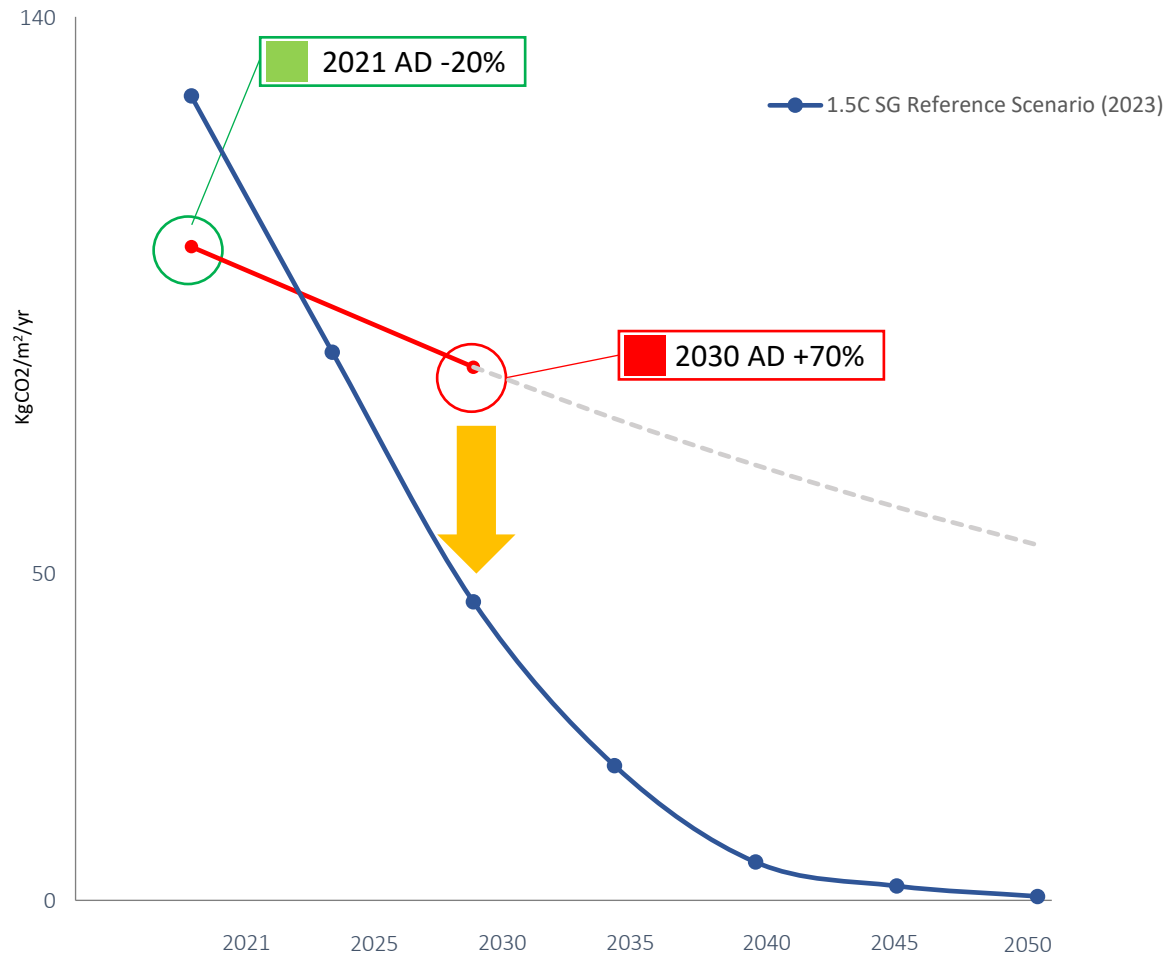
53.6

kgCO₂/m²/yr

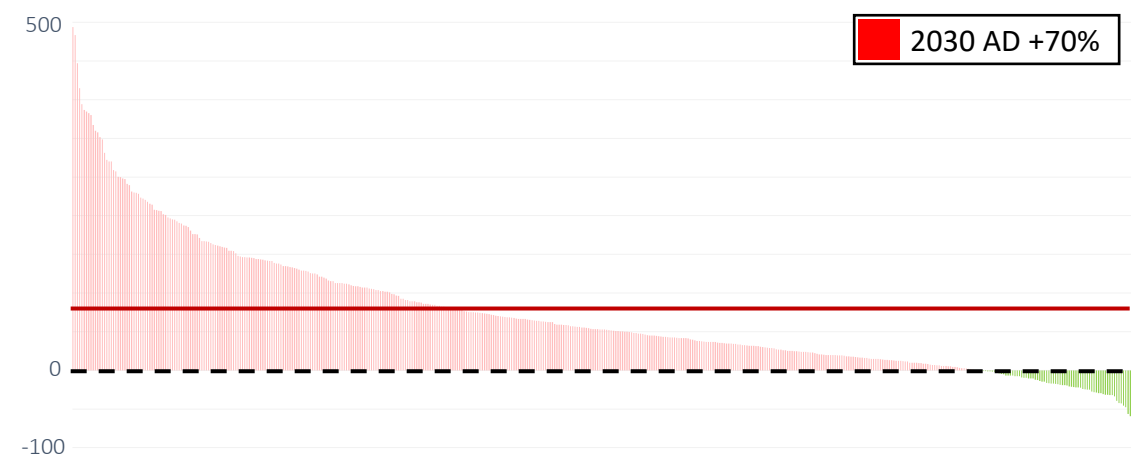
Projecting the sector to 2030 we see there are potential gaps

Based on the analysis of projecting forward historic trends, including increasing standards, and grid decarbonisation – SG will fall short of being 1.5C aligned without Energy Efficiency improvements

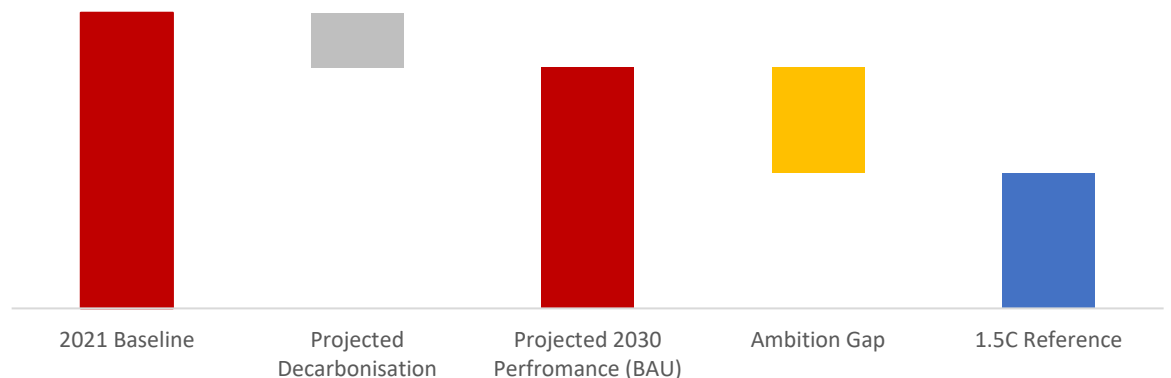
Singapore Commercial Real Estate Projected Performance



Alignment Delta in 2030



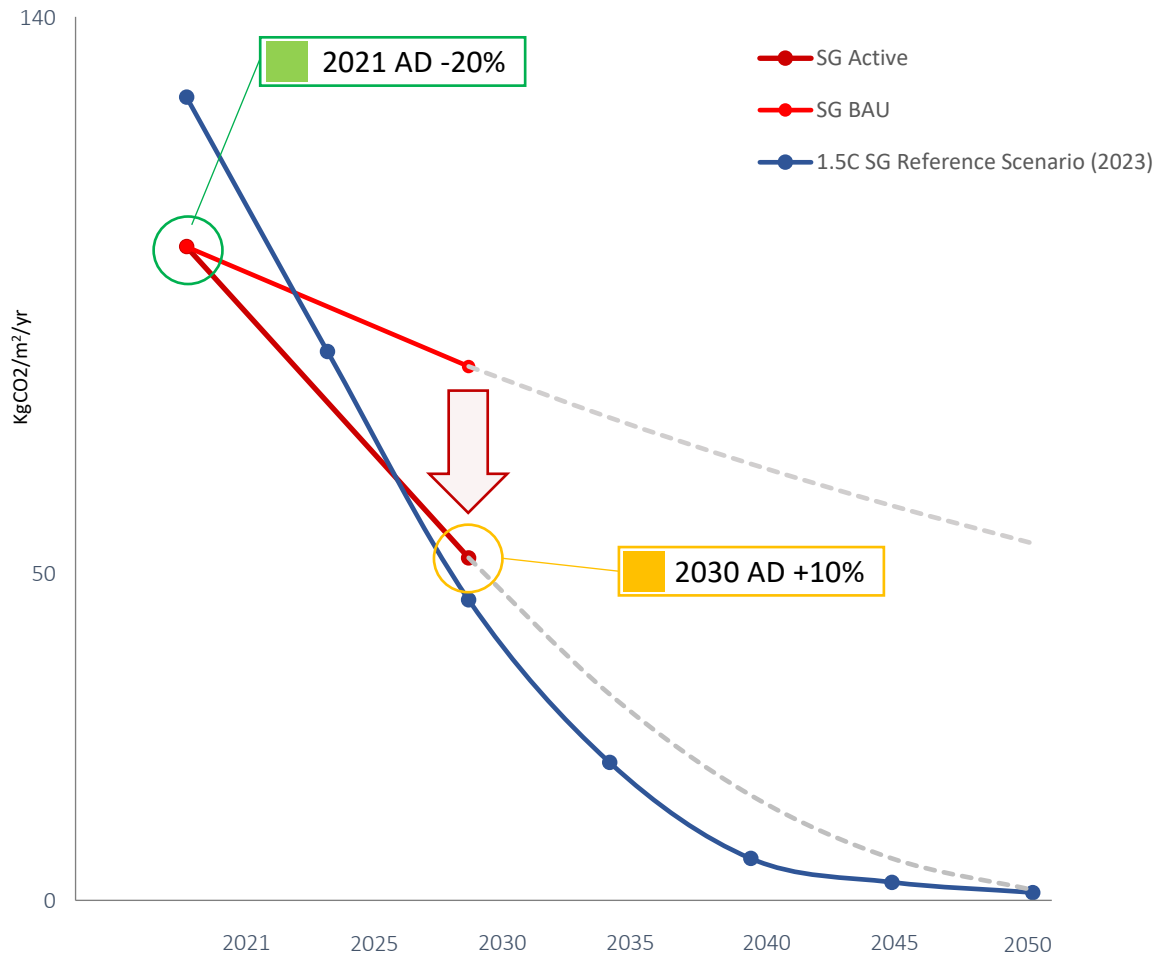
Ambition Gap 2030



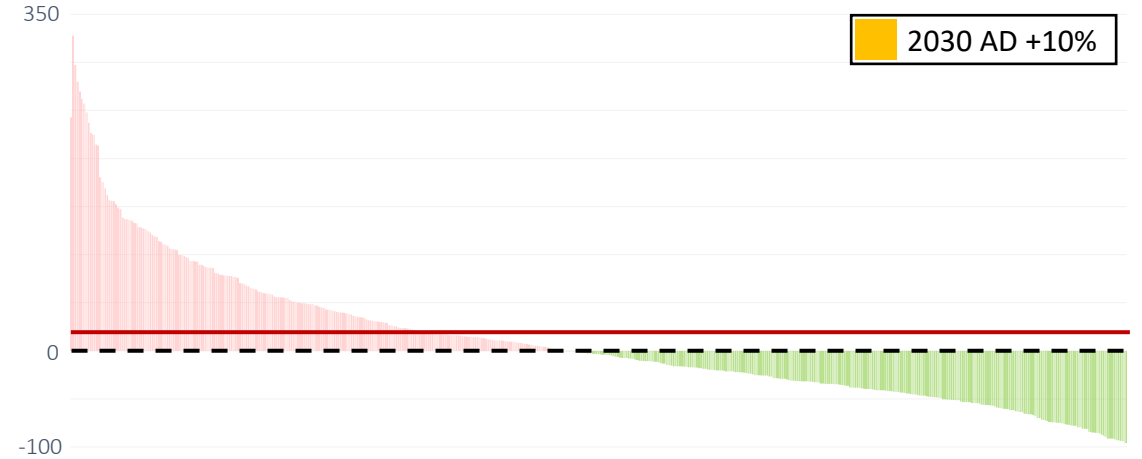
With Active (best in class) retrofit actions for ALL properties

It is possible for SG to bridge the gap to 2030 1.5C alignment, based on OCBC's detailed analysis.

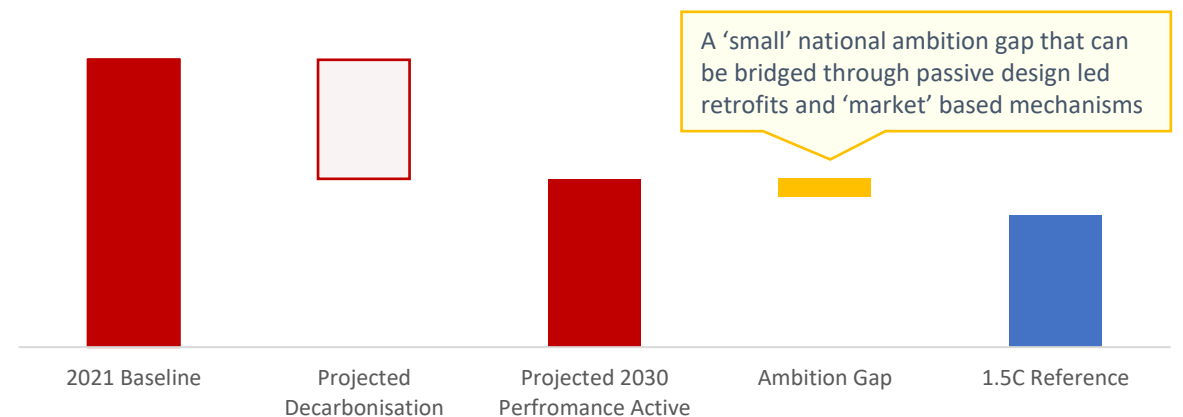
Singapore Commercial Real Estate 2030 with Active Retrofit Actions



Alignment Delta in 2030

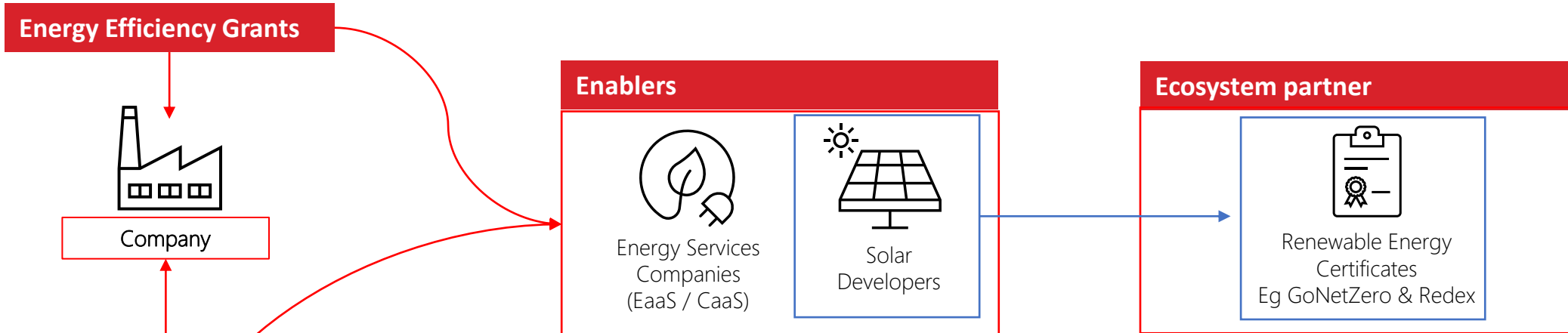


Ambition Gap 2030 with Active Retrofits



Allowing us to actively finance Energy Efficiency

Partnering with solution providers, enablers and public sector agencies.



1 OCBC Finance the Company directly for their energy efficiency works. Or provides sustainability linked facilities partnering companies to meet their efficiency objectives

Will link the company up with trusted partners / enablers for the works

2 Alternatively OCBC offer a Zero CapEx models for the Building owner through financing the enablers directly based on energy performance contracts or Power Purchase Agreements (PPAs)

Example OCBC's unique Solar Finance Programme - financing solar providers to offer PPAs through OCBC's unique finance mechanism with solar developers.

Example 2 financing EaaS solutions providers who offer end to end energy efficiency projects paid back through the share of the cost savings from energy savings.

3 Ecosystem partner for the solar programme which offers our solar developers or Building owners registration, aggregation and offtake of REC's through either a guaranteed fixed price OR risk share model with reserve price OR open market trades

Technology and Tool partners


Technology Providers
Eg Evercomm & Univers

Measurement, benchmarking calculation and optimisation platforms and tools to manage energy performance and carbon reporting. Includes ESNB, GCNS, BCA (SMEEA for strata title units)

Partnering our clients on their energy efficiency and decarbonisation journey through the use of an SLL

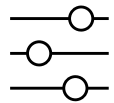


Its not just financing 'Green' but managing climate risks

Using climate scenarios to create a view of the impact on companies' long term viability

What

- Scenarios that project pace of regulation, rate of technology development and consumer preferences.
- *Projects Emissions intensities, Temperatures, Carbon prices...*



Orderly Transition (Net Zero 2050)

Early & decisive action from governments, companies and consumers. Limits warming to 1.5C



Disorderly Transition (Net Zero 2050)

Action delayed to 2030 using carbon budget leading to significant catch up and disruption to 2050. Limits Warming to 2C



Hot House World (BAU)

Governments fail to introduce policies to address climate change other than those already announced. Paris climate targets are not met. +3 to +4C

How

- From the scenario outputs projects the impact of the transition and to a lesser extent the physical risks to companies
- Assesses shift in:

Cost

Higher baseline emissions – higher costs (based on carbon price)

Revenue

Can the company pass on costs (in form of higher prices)?

Revenue decreases as high price reduces demand

Capital Expenditure

Higher baseline emissions = greater investment to reduce emissions inline with scenario

Asset Value

Impairment costs (e.g. real estate exposure to physical risks, coal power plants with transition risks)

It is critical banks bring this together

This will move capital to where it is needed, and make a real world difference

From climate stress tests of the banks balance sheet to net zero commitments for financed emissions, this moves beyond traditional banking and will form the strategy and frame the viability for companies and projects and their long-term relationships.

THANK YOU

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