



WorldGBC Asia Pacific Network - Net Zero Readiness Framework

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World Green Building Council

World Green Building Council



Total decarbonisation of the built environment

A built environment that delivers healthy, equitable and resilient buildings, communities and cities.

A built environment that supports the regeneration of resources and natural systems, providing socio-economic benefit through a thriving circular economy



ADVANCING NET ZERO

A global campaign to accelerate uptake of
Net Zero Carbon Buildings to 100% by 2050

Asia Pacific

- *Takes up 60% of the world's population*
- *More than 2 billion living in urban areas*
- *16 of the world's 28 mega cities*
- *Population is expected to reach 3.3 billion by 2050*





Connect

Whole Life Carbon Vision

2050

New buildings, infrastructure and renovations will have **net zero embodied carbon**, and all buildings, including existing buildings, must be **net zero operational carbon**

Net Zero Operational Carbon

Definition

A net zero carbon building is highly energy efficient with all remaining energy from onsite and/or offsite renewable sources

Guiding Principles

1. Measure and disclose carbon
2. Reduce energy demand
3. Generate balance from renewables
4. Improve verification and rigour

Net Zero Carbon Buildings Commitment

All buildings within direct control to operate at net zero carbon by 2030



2030

New buildings, infrastructure and renovations will have at least **40% less embodied carbon** with significant **upfront carbon** reduction, and all new buildings must be **net zero operational carbon**

Net Zero Embodied Carbon

Definition

A net zero embodied carbon building (new or renovated) or infrastructure asset is highly resource efficient with **upfront carbon** minimised to the greatest extent possible and all remaining **embodied carbon** reduced or, as a last resort, offset in order to achieve net zero across the lifecycle

Guiding Principles

1. Prevent
2. Reduce and optimise
3. Plan for the future
4. Offset

WORLDGBC NET ZERO CARBON BUILDINGS COMMITMENT

Advancing Net Zero Whole Life Carbon Emissions

Reduce (and compensate)
all **operational carbon emissions**
by **2030**

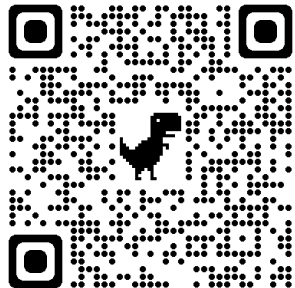


Reduce (and compensate)
embodied carbon emissions
by **2030**



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BUILDING
TO COP26



<https://www.worldgbc.org/thecommitment>

The Commitment

The Net Zero Carbon Buildings Commitment (the Commitment) recognises leadership action by businesses, organisations, cities and subnational governments in tackling operational and embodied carbon emissions from the building and construction sector.

This requires deep collaboration across the entire value chain, and radical transformation in the way buildings are designed, built, occupied and deconstructed. It requires new business models that promote circularity, re-use of buildings and materials, whole life cycle thinking, high performance operations, and ultimately a shift away from fossil fuels.

The Commitment considers the whole lifecycle impact of buildings and builds on WorldGBC's Whole Life Carbon Vision and best practice principles for implementation.

The Commitment requires that by 2030:

- Existing buildings reduce their energy consumption and eliminate emissions from energy and refrigerants removing fossil fuel use as fast as practicable (where applicable). Where necessary, compensate for residual emissions.
- New developments and major renovations are built to be highly efficient, powered by renewables, with a maximum reduction in embodied carbon and compensation of all residual upfront emissions.

A reduction first, outcomes based approach to decarbonisation.

The Commitment promotes a reduction first, outcomes based approach – allowing the flexibility for signatories to develop a bespoke action plan for their specific portfolio profile based on best practice principles towards reducing both consumption and emissions, with annual reporting of verified progress towards decarbonisation goals.

Through gathering data to inform low carbon choices, relevant benchmarks and targets can be set, best practice methods incorporated, associated costs reduced, and greater uptake enabled – accelerating market transformation and leading to significant sector emissions reductions.

WorldGBC advocates for halving emissions of the building and construction sector by 2030 and the total decarbonisation of the sector by 2050. As we transition, we also recognise the value of offsets as a means to compensate for and neutralise the impacts of the sector, and to facilitate positive social and environmental impact in pursuit of overall net zero emissions.

In recognition of the link to improving energy productivity in buildings, the Commitment is recognised as a pathway to membership of EP100 for eligible businesses. Signatories must opt-in and there is a fee associated with membership.

ASIA PACIFIC NET ZERO READINESS

Background

Net Zero Readiness Framework

Net Zero Commitment

Commit, Disclose, Action, Verification, Advocate.





Collaborate

ASIA PACIFIC NET ZERO READINESS

Framework Structure

5 Categories
26 Goals
75 Indicators



ASIA PACIFIC NET ZERO READINESS

Framework Structure

5 Categories - 26 Goals - 75 Indicators

Government Leadership

Readiness Goal 1.1: Existence of a developed national emissions target and a defined role of the building sector in delivering that target.

Readiness Goal 1.2: Development and public communication of a national decarbonisation roadmap for the built environment.

Readiness Goal 1.3: Delivery of the national emissions roadmap through implementation of mandatory regulations and/or performance requirements in support of achieving net zero.

Readiness Goal 1.4: Development and public communication of the national grid decarbonisation plan. Action taken as soon as possible and progressively improve towards providing readily available clean energy options for the built environment.

Readiness Goal 1.5: Development and implementation of policies that promote availability and access to a local carbon market.

Technical Solutions /Approaches

Readiness Goal 2.1: Achieve public and private sector consensus on a clear and agreed definition of net zero

Readiness Goal 2.2: Garner public commitments by industry leaders towards net zero

Readiness Goal 2.3: Create an energy performance improvement strategy

Readiness Goal 2.4: Create an embodied carbon performance improvement strategy

Readiness Goal 2.5: Implement policies and expand infrastructure works that allow integration of renewable energy to facilitate net zero ready buildings

Readiness Goal 2.6: Implement policies and processes that allow the establishment of an embodied carbon benchmark. Thereafter, through continuous data collection, conduct periodic updates of the benchmark

Readiness Goal 2.7: Develop and implement a recognised net zero certification scheme

Readiness Goal 2.8: Develop and implement a green product certification scheme

Finance

Readiness Goal 3.1: Expand and promote investment instruments supporting the net zero movement

Readiness Goal 3.2: Develop and/or adopt existing guidelines for project budgeting and planning for net zero implementation

Readiness Goal 3.3: Promote translation of net zero performance to ESG reporting requirements and/or contribution to performance ratings

Readiness Goal 3.4: Develop and/or adopt guidelines for measuring net zero project performance for accurate and precise verification

Data

Readiness Goal 4.1: Define parameters that can qualify net zero project performance. Develop net zero target setting tools based on performance parameters

Readiness Goal 4.2: Implement data infrastructures and processes that allow the benchmarking of different types of net zero buildings

Readiness Goal 4.3: Adopt digital solution developments such as AI, 5G, big data analytics to provide actionable data to achieve net zero

Readiness Goal 4.4: Encourage data transparency through voluntary disclosure to promote accountability and trust

Mindset

Readiness Goal 5.1: Garner public declaration of net zero commitments to secure corporate action

Readiness Goal 5.2: Form a net zero leadership team with community stakeholders to drive towards net zero

Readiness Goal 5.3: Develop and implement programs that incentivises and promote realising net zero

Readiness Goal 5.4: Provide training and development and/or conduct awareness campaigns that educate the urgent need for, and ways to move towards, net zero

Readiness Goal 5.5: Through campaigns / programs across any platform, strengthen positive perceptions of net zero initiatives



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Readiness Goal 5.4: Provide training and development and/or conduct awareness campaigns that educate the urgent need for, and ways to move towards, net zero

Readiness Goal 5.5: Through campaigns / programs across any platform, strengthen positive perceptions of net zero initiatives

Indicator 1.1.1: Existence of a climate action plan containing national circumstances, national greenhouse gas inventory information and policy & measures covering possible mitigation and adaptation options. (In alignment with UNFCCC parties' requirement to submit National Communication, NC, and Biennial Update Report, BUR)

Indicator 1.1.2: Elaboration of climate action plan with mitigation contribution and adaptation actions and long-term low greenhouse gas emission development strategies (LT-LEDS) (In alignment with UNFCCC parties' requirement to submit Nationally Determined Contributions)

Indicator 1.1.3: Communicate gaps and needs to achieve carbon emissions reduction, preferably to stay within a 1.5 degrees trajectory. Provide timeline for realisation of mitigation and adaptation strategies within the climate action plan.



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ASIA PACIFIC REGIONAL NETWORK



WORLD GREEN BUILDING COUNCIL



Conceptualise

ASIA PACIFIC NET ZERO READINESS

Framework launch:

Interactive web page.

Showcase sample projects and studies from industry leaders.

Preliminary readiness evaluation.

A structure to facilitate discussions.

Potential certification/business case opportunity for local GBCs.



Asia Pacific Net Zero Readiness Framework

Home > Asia Pacific net zero readiness framework



WorldGBC APN net zero readiness framework presents a holistic approach in advancing net zero.



ASIA PACIFIC REGIONAL NETWORK

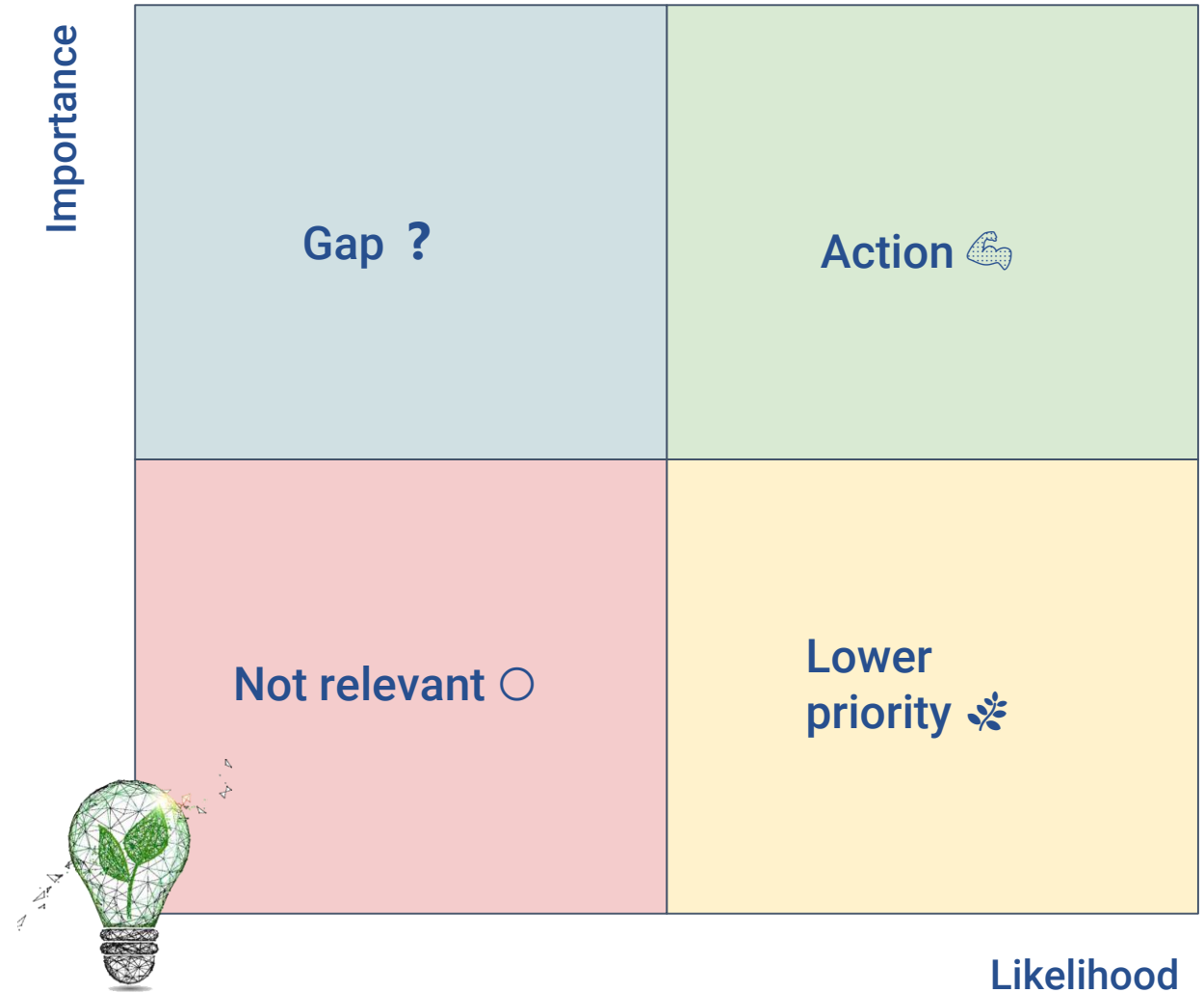


ASIA PACIFIC NET ZERO READINESS

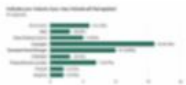
Survey and Workshop:

Rate against Importance and Likelihood

All survey results fall under "Action"



Singapore + Hong Kong



Challenges

Grid of teal sticky notes detailing challenges for Singapore and Hong Kong.

Government Leadership

Grid of blue sticky notes detailing government leadership for Singapore and Hong Kong.

Technical Solutions/Approaches

Grid of yellow-green sticky notes detailing technical solutions for Singapore and Hong Kong.

Finance

Grid of yellow sticky notes detailing financial aspects for Singapore and Hong Kong.

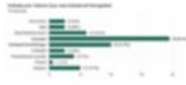
Data

Grid of orange sticky notes detailing data-related aspects for Singapore and Hong Kong.

Mindset

Grid of pink sticky notes detailing mindset for Singapore and Hong Kong.

India



Challenges

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Government Leadership

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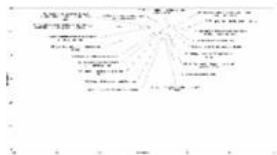
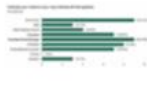
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Mindset

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The Philippines



Challenges

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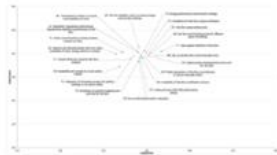
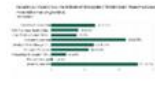
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Indonesia



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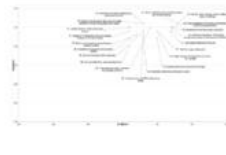
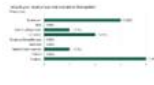
Government Leadership

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Technical Solutions/Approaches

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Malaysia



Challenges

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Technical Solutions/Approaches

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Finance

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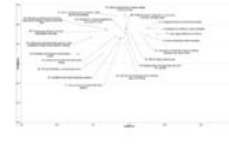
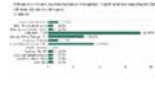
Data

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Vietnam



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Singapore + Hong Kong

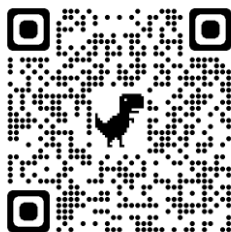
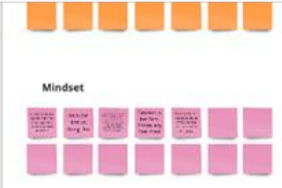
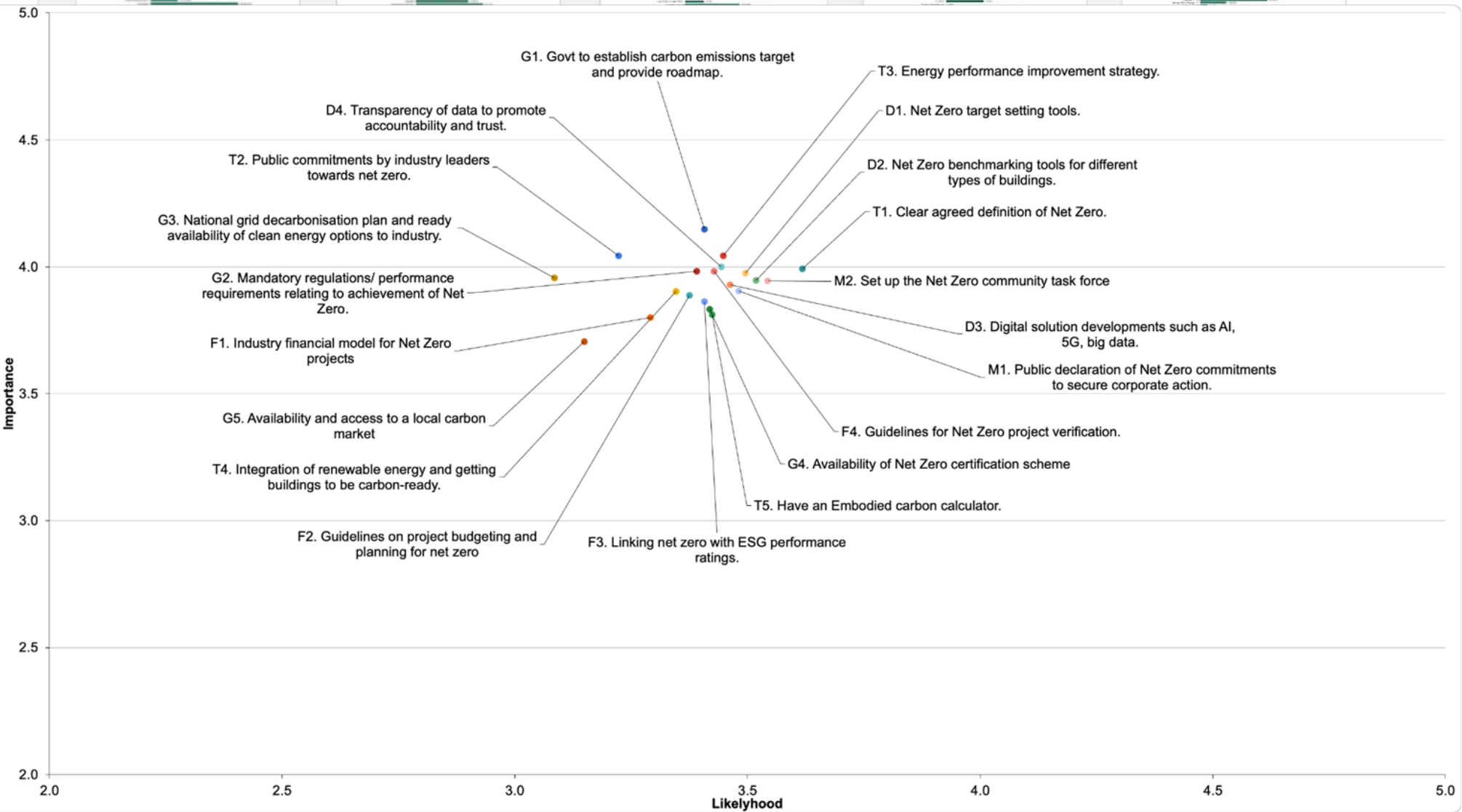
India

The Philippines

Indonesia

Malaysia

Vietnam



ASIA PACIFIC NET ZERO READINESS

Most important and most likely:

SG+HK	India	The Philippines	Indonesia	Malaysia	Vietnam
G - Establish Carbon Emission target and provide roadmap	D - Net Zero benchmarking tools for different types of buildings	T - Energy performance improvement strategy	D - Net Zero benchmarking tools for different types of buildings	D - Net Zero benchmarking tools for different types of buildings	T - Energy Performance improvement strategy
T - Clear agreed definition of Net Zero	T - Clear agreed definition of Net Zero	T - Clear agreed definition of Net Zero	T - Clear agreed definition of Net Zero.	G - Establish Carbon Emission target and provide roadmap	T - Clear agreed definition of Net Zero.
D - Net Zero target setting tools	F - Guidelines for Net Zero project verification	M - Public declaration of Net Zero commitments to secure corporate action.	D - Net Zero target setting tools	M - Public declaration of Net Zero commitments to secure corporate action.	F - Guidelines for Net Zero project verification
		T - Integration of renewable energy and getting buildings to be carbon-ready	M - Set up the Net Zero community task force	F - Guidelines for Net Zero project verification	

ASIA PACIFIC NET ZERO READINESS

Most important and less likely:

SG+HK	India	The Philippines	Indonesia	Malaysia	Vietnam
D - Transparency of data to promote accountability and trust	G - Government to establish carbon emission target and provide roadmap.	G - Govt to establish carbon emissions target and provide roadmap	G - Govt to establish carbon emissions target and provide roadmap	F - Guidelines on project budgeting and planning for net zero	D - Transparency of data to promote accountability and trust
G - Mandatory regulations/performance requirements relating to achievement of Net Zero.	G - Mandatory regulations/performance requirements relating to achievement of Net Zero.	G - Mandatory regulations / performance requirements relating to achievement of Net Zero.	T - Public commitments by industry leaders towards net zero.	F - Industry financial model for Net Zero projects	G - Mandatory regulations / performance requirements relating to achievement of Net Zero.
G - National grid decarbonisation plan and ready availability of clean energy options to industry.	G - National grid decarbonisation plan and ready availability of clean energy options to industry.	G - National grid decarbonisation plan and ready availability of clean energy options to industry	G - National grid decarbonisation plan and ready availability of clean energy options to industry	G - National grid decarbonisation plan and ready availability of clean energy options to industry	G - National grid decarbonisation plan and ready availability of clean energy options to industry
	F - Industry financial model for Net Zero projects.				



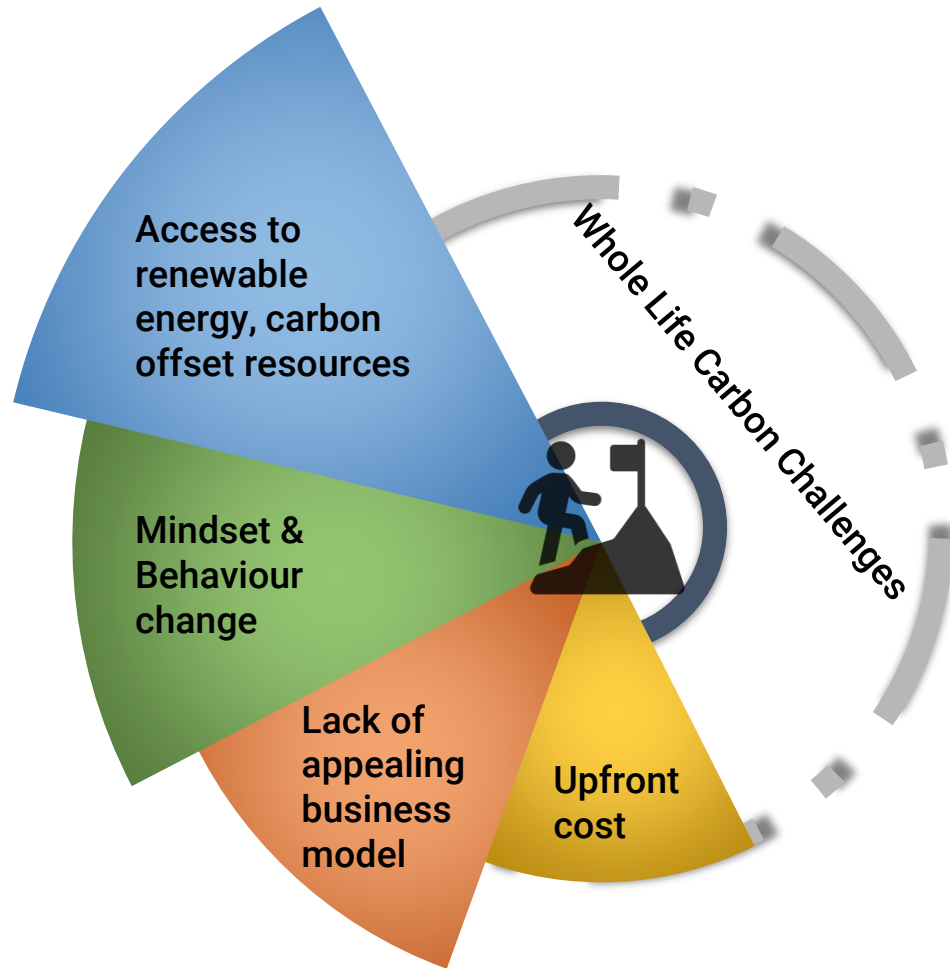
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ASIA PACIFIC NET CHALLENGES & TOP ACTIONS LIST



Top To Do list



- Net Zero benchmarking and target setting tools
- National carbon emission target and roadmap
- Clear definition of Net Zero

APN Net Zero Readiness Framework

WorldGBC APN 2024:

- 1) APN Knowledge Hub*
- 2) Net Zero Readiness Framework
Case Study*

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