Advisory Note

A Service to A.G. Coombs Group Clients

A.G.Coombs NET ZERO

Net Zero 101 for Facility Management

The concept of "net-zero" is pivotal to any discussion regarding sustainability in the built environment. Despite its widespread use, there remains confusion about what exactly it means, what actions are required to get there, and what the practical implications are for building owners and facility managers. This Advisory Note provides clarity around the concept of net-zero emissions as it relates to corporate net-zero targets in the property sector.

Why is "Net-Zero" a Key Aspiration?

The 2015 Paris Agreement saw 196 countries, including Australia, commit to limit global warming to well below 2°C, and ideally to 1.5°C, compared to pre-industrial levels. Following this, the Intergovernmental Panel on Climate Change (IPCC) released their Special Report on the impacts of global warming of 1.5°C ("SR1.5") in 2018. This report highlighted that the global economy needed to achieve net-zero carbon dioxide (CO_2) emissions by around 2050 to have the best chance of meeting this 1.5°C target.

It was at this point that the setting of net-zero targets gained strong momentum across organisations and governments around the world.

What are the Key Drivers to set a Net-Zero Target?

As organisations develop and refine their Environmental, Social and Governance (ESG) frameworks to guide their actions through this decade, they are increasingly seeking to align the environmental impact of their operations with the global 1.5°C-aligned strategy to target net-zero emissions.

Beyond action on climate change, there are also material benefits to be gained by the target-setting organisation itself. These could include operational cost savings through energy efficiency activities; reducing supply-chain risk; unlocking competitive advantages; improved stakeholder relations and customer loyalty; and increased employee engagement.

It is now commonplace to see some form of net-zero emissions target included within any robust ESG strategy.

What Exactly Does Net-Zero Mean?

The term net-zero is used in reference to greenhouse gas (GHG) emissions, i.e. "net-zero emissions" or "net-zero GHG emissions".

In practice, "emissions" here typically applies to the 7 GHG categories covered under the Kyoto Protocol, which include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O) and hydrofluorocarbons (HFCs). If the term net-zero carbon or net-zero CO_2 emissions is used, this generally refers to accounting for CO_2 emissions only.

Net-zero GHG emissions in a global sense will occur when the global economy reaches a balancing point between the amount of GHG emissions human activity is putting into the atmosphere ("anthropogenic GHG emissions") and the amount that human activity is removing from the atmosphere.

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What are Scope 1, 2 and 3 Emissions?

GHG emissions are released to the atmosphere through a range of processes. These may include stationary combustion emissions from fossil fuel usage in boilers or generators; mobile combustion emissions from internal combustion engine vehicles; fugitive emissions from equipment leaks (e.g. refrigerant leaking from air-conditioning equipment); or process emissions from physical or chemical processing.

To assist in GHG emissions accounting across organisations, emissions from any of the sources described above are classified into 3 “Scopes”:

Scope 1 Emissions

Occur from sources owned or controlled by the reporting organisation. Therefore, any stationary combustion emissions from company-owned natural-gas boilers, mobile combustion emissions from company-owned vehicles or fugitive refrigerant emissions from company-owned chillers would be classified as Scope 1 emissions for that company. Scope 1 emissions are relatively easy to quantify, and can be directly influenced by the reporting organisation. Any robust net-zero strategy must include Scope 1 emissions within their target boundary (an explanation of target boundaries is provided in the following section).

Scope 2 Emissions

Are those associated with the generation of energy, typically electricity, which is purchased by the organisation for their own use.

These emissions physically occurred at the facility where the electricity was originally generated (such as a coal-powered power station), but form part of the Scope 2 emissions for the reporting organisation.

Like Scope 1 emissions, Scope 2 emissions are also relatively easy to quantify and directly influence, and therefore are virtually always included within a net-zero target boundary.

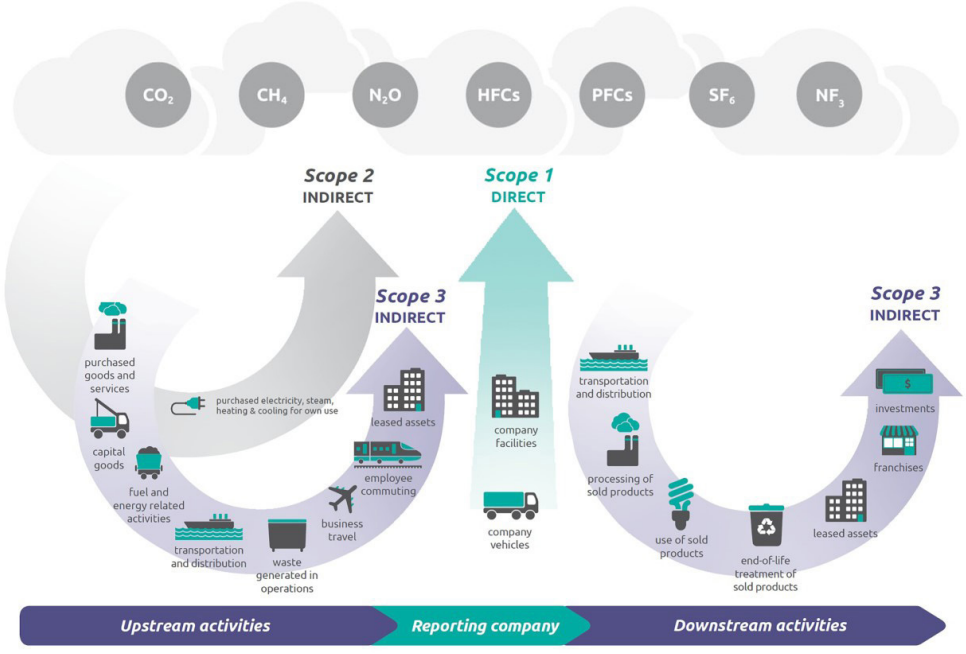
Scope 3 Emissions

Are all emissions not included in Scope 1 or 2 that occur in the value chain of the reporting company, where “value chain” refers to all upstream and downstream activities associated with the operations of the reporting company. Scope 3 emissions typically account for the largest share of a company’s overall GHG emissions; however, they are also generally the most difficult to accurately quantify, or to directly influence solely by the reporting organisation.

As a result, it is relatively common in the current market to see Scope 3 emissions excluded from a company’s stated net-zero target boundary; however, scrutiny over such omissions is likely to increase as we approach 2030.

The full Scope 1, 2 and 3 GHG emissions account for an organisation is defined as their GHG Emissions Inventory according to the GHG Protocol Standard, although in public discourse it is often referred to as the organisation’s “carbon footprint”.

More information on GHG Protocol Standards can be found at https://ghgprotocol.org/standards



How Do Net-Zero Targets Differ?

The Science Based Targets initiative (SBTi - https://sciencebasedtargets.org/) provides a helpful framework for understanding the key elements within an organisation's stated net-zero target:

1. The Target Boundary details the range of emission sources, the specific emission types (i.e. all GHGs or just CO_2), and the scope of emissions that are captured within the target. Importantly, a stated target boundary is usually a smaller subset of an organisation's full Scope 1, 2 & 3 GHG Emissions Inventory; as stated earlier , it is common to see Scope 3 emissions excluded from a stated net-zero target.

2. The Mitigation Strategy outlines specific actions the organisation is planning to implement in order to reach net-zero. Typically, a suite of mitigation actions or "tactics" are employed.

3. The Timeframe is essentially a target year by which the organisation is expected to reach a state of net-zero emissions. Interim target dates are also commonly set. These timeframes should be sector-specific, and account for the capacity of some sectors to reach net-zero emissions earlier than 2050.

How Does an Organisation Become Certified Net-Zero?

At the time of writing, there is no uniformly accepted standard or framework for certification of net-zero status, either in Australia or internationally; however, there are certain frameworks that are broadly adopted.

Whilst adhering to such a framework or gaining certification for net-zero target setting is not currently subject to Australian legislation, doing so provides a strong signal to the market that your organisation has a robust strategy in place that has been independently reviewed by a reputable third-party certifier, and may therefore be less susceptible to being perceived as a form of "greenwashing".

One of the most relevant net-zero frameworks applicable to organisations operating within the Australian property sector is Climate Active. More information can be found at: https://www.climateactive.org.au/

Internationally there are a number of relevant net-zero frameworks:

Science Based Target Initiative SBTi - https://sciencebasedtargets.org/

United Nations Race to Zero Campaign - https://unfccc.int/climate-action/race-to-zero-campaign

Global Reporting Initiative (GRI) Standards - https://www.globalreporting.org/

What are the Implications for your Organisation and Facilities?

Typical actions to align with net-zero emissions operations are best described by addressing each emissions scope.

Addressing Scope 1 Emissions

+ Building Electrification. Long-term reliance on fossil-fuelled technology, such as natural gas-fired heating hot water units ("boilers") or cogeneration / trigeneration systems, is not compatible with a net-zero emissions target. Conversion of such systems to equivalent 100% electric-sourced technologies not only aligns with the global transition away from fossil-fuel reliance, but also aligns with the direction the Australian building performance rating tools, NABERS and Green Star, are taking.

+ Transition to Electric Vehicles. Organisations that operate a large vehicle fleet may find that mobile combustion emissions constitute a significant percentage of their overall GHG Emissions Inventory. Planning for a future transition to Electric Vehicles (EVs) is therefore a key component of a long-term net-zero strategy, which requires addressing all of the technical challenges associated with the transition (e.g. charging infrastructure).

Addressing Scope 2 Emissions

+ Energy Efficiency. As a fundamental emissions abatement principle central to any robust net-zero strategy, energy efficiency provides benefits beyond reducing an organisation's emissions and operational costs; when compounded across the economy, it contributes to reducing demand on the nation's electricity grid, which in turn creates more favourable conditions to support renewables investment.

+ Purchasing GreenPower. The GreenPower program is a government accreditation scheme for purchase of offsite renewable energy, which is available directly from most energy retailers. All GreenPower generated comes from 100% renewable sources. An additional benefit is that it is an accredited emissions reduction activity within the NABERS framework, resulting in a relatively straightforward pathway to reduce or eliminate Scope 2 emissions through the NABERS / Climate Active Carbon Neutral Certification pathway.

Addressing Scope 3 Emissions

The GHG Protocol Scope 3 standard defines 15 categories of Scope 3 emissions, further sub-categorised as "upstream" or "downstream" emissions, depending on where they occur in an organisation's value chain. Scope 3 emissions vary greatly based on market sector and geographic location and as such, the activities required to address them are similarly varied. A foundational step in this process is accurately accounting for, and reporting on, the full range of Scope 3 emissions that an organisation is responsible for under their target boundary.

Examples of Scope 3 emissions relevant to buildings or organisations within the property sector are:

+ Tenant Energy Consumption
+ Waste Generation
+ Business Travel
+ Employee Commuting
+ Purchased Goods and Services
+ Water supply and wastewater treatment

For more information about Building Tuning, contact:

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