

The case for a net zero emissions economy

By [Brett Chrystal](#)

2 Oct 2019

Following the Paris Agreement on Climate Change in 2015, a number of European countries have made commitments to move to a net zero emissions economy. This is in response to climate science showing that in order to halt climate change, carbon emissions have to stop - reducing them is not sufficient.



Brett Chrystal, associate director and head of sustainability at Bentel Associates International

In September 2018 the World Green Building Council (WGBC) launched a global initiative called “Advancing Net Zero” to promote and accelerate the development of net zero carbon buildings to 100% by 2050 for all new and existing buildings.

In line with the South African National Climate Change Response Policy and National Development Plan (Frankson, 2018) South Africa implemented a carbon tax from 1 June 2019 which effectively penalises businesses and individuals that exceed their carbon budget with higher tax rates.

As a result, businesses are having to re-evaluate any carbon intensive practices which form part of their business practice, and hopefully provide alternative energy consumption methods which don't negatively impact their bottom line.

Goal-specific areas of the built environment

To assist businesses to assess, quantify and certify their goal of reducing energy consumption, the Green Building Council of South Africa (GBCSA) provided goal-specific areas of the built environment to target, these being:

- A net zero carbon building - “A building that is highly energy-efficient, and the remaining energy use is from renewable energy, preferably on-site but also off-site where absolutely necessary...”
- A net zero water building - “A building that is designed, constructed and operated to greatly reduce total water consumption, and then use harvested, recycled and reused water...”
- A net zero waste building - “A building that reduces, reuses, and recovers its waste streams to convert them to valuable resources with zero solid waste sent to landfills over the course of the year...”
- A net zero ecology building - “A building that does not reduce the ecological value of the site during development for Greenfield sites...”

Tried and tested passive technologies such as prevailing breezes, direct and indirect insolation, solar heating, use of natural bodies of water, embodied low temperatures of the earth, shading and the use of built thermal mass would typically be incorporated into the building designs to reduce their net impact on the environment.

Due to the greater upfront cost of incorporating net zero technologies into buildings, these technologies need to be assessed and integrated into building designs from the outset rather than incurring extra-over costs to retro-fit these later.

Reap the benefits

Over the long term though, businesses and individuals would reap the benefits of embracing a net zero stance, such as:

- tax incentives or tax breaks for businesses and individuals who actively reduce the energy load on local municipalities,
- superior comfort levels due to more efficient insulation,

- reduced requirement for mechanical heating and cooling,
- greater wellbeing of staff due to cleaner internal work environments,
- reduced utility bills for water and electricity consumption,
- protection against the rising cost of energy production by corporate entities,
- protection against scarcity of water supply,
- higher resale value of properties incorporating passive energy technologies,
- benefits of a low maintenance construction methodology,
- international kudos for green initiatives such as being listed on the Green Property Index.

The above benefits are largely practical and commercial by nature, but there is also the satisfaction of knowing that by achieving net zero status you are reducing your personal environmental impact as a business or individual and contributing to reducing global emissions, which benefits everyone in the long run.

ABOUT THE AUTHOR

Brett Chrystal is one of the founder members of the Parkhurst Go Green Initiative pioneering green technology implementation within his neighbourhood, and he 'walks the talk' by boasting a 95% off the-grid green building solution for his own home. He is also associate director and head of sustainability at Bentel Associates International.

For more, visit: <https://www.bizcommunity.com>