Legislative Council Environment and Planning Committee

Inquiry: Inquiry into Climate Resilience

Hearing Date: 20 November 2024

Question[s] taken on notice

Directed to: Council Alliance for a Sustainable Built Environment

Received Date: 17 December 2024

1. **Gaelle BROAD, page 61**

Question Asked:
Are there any particular examples that you can put forward as satisfying those elements?
Natasha PALICH: The location of the flooding and the bushfire and the sea level rise is location specific. I would say that the Nightingale is an example of a climate-resilient urban building.
Gaelle BROAD: Is that in Richmond?
Natasha PALICH: The Nightingale projects are across Victoria.
Gaelle BROAD: There is one in Ballarat, I think, isn't there?
Natasha PALICH: There is one emerging possibly. But it is in Brunswick. I could certainly provide you with a list.
Gaelle BROAD: Yes, that would be helpful.

Response:

In our submission we referenced the *Climate Change Resilience in the Built Environment: Principles for Adapting to a Changing Climate* report by the World Green Building Council. The following is a detailed extract from that report that details attributes of a resilient building.

> *"Design to protect, collect and efficiently utilise natural resources, such as rainwater collection apparatus (eg. water wells and tanks, accurately sized to provide enough storage space in drought periods), grey-water reuse systems, low-flow amenities and water-saving devices, building green and blue roofs, or installing rain gardens to manage rainwater runoff with adaptive and native vegetation. "*

> *"Implement passive design and retrofit techniques - to mitigate extreme heat - northerly orientations, building or adding semi-permanent shading devices, deciduous tree shading, shutters, light colour roofs, overhangs and utilising thermal mass, and avoid large volumes of glazing (on south or north-facing aspects and facades depending on the global north or south regions), or to mitigate extreme cold - capture residual heat*

with thermoelectric generators and heat exchangers, install passive systems including rooflights and reflective surfaces to increase solar gain, or increase air tightness or wall cladding and glazing insulation and quality to reduce heat loss. "

"Design for durability, disassembly and maintenance, such as planning for climate appropriate structures and urban layouts to prevent damage, considering techniques in which the building can withstand floods, fire, storms, heat waves, and other climate change events. "

"Guide environmentally-conscious user behaviour, such as prevention of litter overflow to avoid clogging of storm water systems, placing low retaining walls made from stones or logs to avoid erosion and topsoil, utilise vegetation as windbreaks to avoid topsoil erosion, or install fans instead of air conditioning systems for low-energy cooling. "

"Designing for resilience means accounting for both current and future climate conditions. This involves analysing extreme weather patterns, sea-level rise projections, and temperature fluctuations specific to the building's location. Designing for climate resilience involves various strategies, such as utilising durable and low-carbon materials, incorporating passive cooling techniques, and integrating nature-based solutions like rainwater harvesting..." https://worldgbc.org/article/climate-resilient-buildings-are-the-way-forward/

I mentioned Nightingale projects in my presentation.

Nightingale projects are based on their Sustainable Buildings Policy, which includes resilience design strategies. There are a number of completed Nightingale projects in Victoria in Brunswick, Ballarat, Preston and Fairfield.

The following projects are provided as examples that demonstrate one or more climate resilient attributes.

Introduction

CASBE has been supporting Victorian councils seeking sustainability outcomes through the planning process for more than a decade. This work is captured in the local Environmentally Sustainable Development (ESD) policies held by 27 CASBE member councils. Over the last four years, a number of CASBE member councils have been pursuing higher sustainability standards for buildings, which culminated in 24 councils submitting a planning scheme amendment to the State Government in July 2022. As you are aware, the State Government is still considering this authorisation request. We are of the view that these standards deliver

Industry Partnership Program

CASBE recently launched an Industry Partnership Program which aims to showcase leading industry examples and also to test the standards that were included in this planning scheme amendment. The following projects are projects that we have identified as exemplar sustainability projects. While we are yet to assess them against the Elevated ESD Targets standards, we expect to undertake this in early 2025.

65-81 Dover St, Cremorne - A carbon neutral commercial building

Yarra City Council case study - https://www.yarracity.vic.gov.au/planning-and-building/planning-permits/zero-carbon-developments/65-81-dover-st-cremorne

The Rochester, 178-182 Johnston St, Fitzroy - A zero carbon apartment building

Yarra City Council case study - https://www.yarracity.vic.gov.au/planning-and-building/planning-permits/zero-carbon-developments/rochester-178-182-johnston-st-fitzroy

Ford St, Clifton Hill – Zero carbon townhouses

Yarra City Council case study - https://www.yarracity.vic.gov.au/planning-and-building/planning-permits/zero-carbon-developments/ford-st-clifton-hill

34-40 Cubitt St, Cremorne - A zero carbon commercial building

Yarra City Council case study - https://www.yarracity.vic.gov.au/planning-and-building/planning-permits/zero-carbon-developments/34-40-cubitt-st-cremorne

116 Rokeby St, Collingwood - An all-electric, carbon neutral building with a focus on wellbeing. A commitment to achieve Climate Active carbon neutral certification for the base building operation by offsetting remaining emissions from refrigerants for a minimum of 10 years. Targeting a 5.5 star NABERS Energy rating in operation and is committed to implementing a best practice metering strategy and commissioning process.

Yarra City Council case study - https://www.yarracity.vic.gov.au/planning-and-building/planning-permits/zero-carbon-developments/116-rokeby-st-collingwood

82 Westgarth St, Fitzroy - A carbon neutral residential building

Yarra City Council case study - https://www.yarracity.vic.gov.au/planning-and-building/planning-permits/zero-carbon-developments/82-westgarth-st-fitzroy

Sienna 28, Arden Homes, Alamora, Tarneit - Master Builders housing (Best Sustainable Home) Award winner

https://ardenhomes.com.au/blog/arden-homes-wins-2024-hia-australian-greensmart-award-for-sienna-28/

Seadragon House, North South Homes Pty Ltd, Cape Patterson - Master Builders housing (Best Sustainable Home) Award winner

https://www.northsouthhomes.com/projects/project-five-5hs3s-fstmx

https://sustainablehouseday.com/listing/seadragon-house/

Vigor Homes, Yarra Valley - Master Builders housing (Best Sustainable Home) Award winner

https://www.vigorhomes.com.au/yarra-valley/

Northcote Aquatic and Recreation Centre, Northcote - One of Australia's first 6-star Greenstar aquatic facility; Master Builders construction (Best Sustainable Project) Award winner

https://premiersdesignawards.vic.gov.au/entries/2024/architectural-design/northcote-aquatic-and-recreation-centre

Decjuba Head Office, Cremorne - 5-star Greenstar hybrid structure; Master Builders construction (Best Sustainable Project) Award winner

https://www.figurehead.com.au/

https://jcba.com.au/projects/decjuba-head-office

Sanders Place - Master Builders construction (Best Sustainable Project) Award winners

https://neverstop.com.au/sanders-place.php

Knox Regional Netball Centre, 9 Dempster Street, Ferntree Gully - 4 Star Green Star

https://new.gbca.org.au/case-studies/building/knox-regional-netball-centre/

Narrandjeri Stadium, John Cain Memorial Park, Thornbury – 5 star Green star

https://www.brandarchitects.com.au/projects/narrandjeri-stadium/