

Ref: NL230054-00-MD-LE01-1
09 July 2024

EJE Architecture
412 King Street
NEWCASTLE NSW 2300

Dear Whom it May Concern,

Re: Newcastle Basketball Stadium – Newcastle Basketball Stadium - SSD65595459

Northrop as the mechanical and sustainability consultant on the project provide the following information regarding the project emissions, transition plans, and sustainable infrastructure initiatives:

Estimated Scope 1 and 2 Emissions up to 2050:

Estimated energy consumption and GHG emissions data are not yet available for the project.

In the next stage of design, detailed predictive energy modelling will be undertaken to inform the design and estimate the quantity of emissions (both direct and indirect) to be offset using solar photovoltaic systems.

Following this assessment, clear targets and strategies will be established to reduce these emissions in alignment with our commitment to achieving net-zero greenhouse gas emissions.

Confirmation of Adequate Infrastructure for Fossil-Fuel Independence by 2035:

All building systems within the project are designed to operate without fossil fuels from the moment of occupation, demonstrating the project's commitment to sustainability and minimising environmental impact. It is anticipated that any fossil fuels used for emergency power, if needed, will account for less than 1% of the total buildings energy consumption and be offset for the first ten years of operation or until a net zero fuel option (such as back up battery systems) is readily available. The design is currently an all-electric building on day one allowing renewable energy purchases should enable carbon neutral operations be desired.

Onsite Renewables and Sustainable Infrastructure:

The project has also considered opportunities for onsite renewables, passive design, and other sustainable infrastructure to improve energy performance and reduce emissions. As part of our sustainability efforts, the project will implement the following initiatives:

- **Onsite Renewable Energy:** solar panels to generate clean, renewable electricity will be allowed on the roof of the project. This will contribute to reducing utility grid supplied electricity consumption and decreasing the projects operational carbon footprint.

- **Passive Design:** the building is designed with passive design principles and material selection in mind to ensure thermal comfort is achieved without relying solely on mechanical means. Passive design strategies such as performance glazing, shading and use of insulation will reduce demand on the mechanical air conditioning systems leading to lower energy consumption and greenhouse gas emissions. The selection of a pale roof will also help to reduce the impact of the urban heat island effect.
- **Infrastructure Improvements:** the project aims to implement infrastructure improvements, such as energy-efficient equipment, natural ventilation with ceiling fans to promote airflow, LED lighting systems and heat pump hot water, to enhance energy performance and reduce overall energy consumption. These measures can be seen within the schematic design documents for the project.

These improvements contribute to the projects' efforts to achieve net zero emissions and create a more sustainable built environment.

Conclusion:

The project design does not include the use of fossil fuels within the proposed building systems as such it is aligned with the Sustainable Buildings SEPP goal of ensuring developments are aligned to the NSW Government Policy for Net Zero Emissions.

Kind Regards,



Ian Van Eerden

Principal | Senior Sustainability Consultant
GSAP | NABERS AP | BEng (Renewable Energy)

On behalf of Northrop Consulting Engineers Pty Ltd