

TOURISM AUSTRALIA *Sustainability* STORYTELLERS



EMMA BOMBONATO

Manager, Environmental Sustainability | Sydney Opera House



When architect, Jørn Utzon designed the Sydney Opera House, he drew inspiration from nature to create one of the world's most-recognised and best-loved buildings. Fifty years ago, he embedded sustainability principles including an innovative seawater cooling system, and planned for a 250-year lifespan. Before him the Gadigal people gathered on, and managed the land sustainably for thousands of years.

“We see ourselves as custodians of this World Heritage building, the site it sits on and our beautiful backyard, Sydney Harbour. It belongs to the community

and our responsibility is to honour Utzon's and the Gadigal people's legacy - environmentally, socially and culturally,” explains Emma Bombonato, who has driven the SOH's sustainability program since 2017.

“For me, personally, it's a privilege to have this stage - literally! - and the global reach to amplify our sustainability message and lead by example.”

The Opera House established its first Environmental Sustainability Plan in 2010, focused on electricity, its largest source of carbon emissions.

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A Power Purchase Agreement now matches 85 per cent of SOH's energy needs with wind and solar projects in NSW.

“There have been significant step changes from one iteration of our Environmental Action Plan to the

next as our understanding and performance improves.”

“In 2018, we mapped our third Plan to the UN Sustainable Development Goals. That year, we also achieved a 5 Star Green Star Performance rating from the Green Building Council Australia, and Carbon Neutral certification under Climate Active – five years ahead of schedule.”

“All our House lighting is now LED; we've upgraded the chiller units that were part of the original seawater heating and cooling system; and installed a Building Management Control System (BMCS) that uses smart technology to optimise the building's energy performance.”

The BMCS monitors determinant comfort factors, pulls in weather data, and adjusts heating, cooling and airflow accordingly.

“When a hot day's forecast, the BMCS alert triggers adjustments to cooling set points and timers and provides an instruction to close the external doors. Heating, Ventilation and Cooling (HVAC) accounts for 60 per cent of the building's electricity use. Through efficiency upgrades, we've reduced consumption by over 20 per cent.”

In keeping with Utzon's longevity approach, Emma's role is to help ensure asset upgrades are of the highest quality and efficiency, and use the best available technology.

“We've invested millions in efficiency measures – but the cost of not doing anything is higher: by thinking long term and investing in quality now, we reap savings benefits over the life cycle of the asset.”

“We're now implementing our fourth Environmental Action Plan. We're aiming for a 6 Star Green Star rating within the next year - which will cement our position as a global leader in sustainable building design and performance, and will provide a foundation for our climate positive pathway in time for our 50th anniversary in 2023.”

“At this point, we've done a lot to reduce our emissions profile and there are fewer opportunities to find further big, chunky reductions. We're exploring opportunities to switch to fuel sources like natural gas; to install solar off-site; and to transition to an all-electric vehicle fleet.”

“Now we're focusing on compliance with an international standard for Sustainable Event Management, and on incorporating cultural, social and environmental sustainability messaging in creative ways to support, inform and engage the community.”

“We're always looking ahead, asking what can we do to raise the bar in what we do and who we are. We find ourselves making legacy decisions in the spirit of Utzon and the Gadigal people: we're acting for a sustainable future.” 🌱

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