

Treatment plan for health sector buildings

The majority of Health sector buildings including hospitals, specialist rooms and medical centres rely on fossil fuel gas for hot water, space heating, catering/cooking, laundry and other functional processes. This contributes to the major threat to community health posed by climate change, making reducing emissions core business for the health sector. In the process of enacting a practical decarbonisation pathway through improving building performance, reducing energy use, designing out emissions and switching to all-electric, there is an additional opportunity to integrate steps to achieve meaningful improvements to human health and wellbeing within healthcare workplaces.

Pathways to building performance improvements and decarbonisation

DIAGNOSIS

Gather data from an asset audit including:

- Energy use
- Water use
- Waste
- Carbon emissions

TREATMENT - PLANNING

Develop sustainability roadmap:

- Undertake education and engagement for facility management staff; service providers; and external stakeholder groups
- Scope sustainability actions in order of priority factoring in equipment life; energy savings gained from upgrade; opportunities to increase natural light and naturally-ventilated spaces
- Engage public in curation of artistic elements
- Develop waste management strategy to reduce one-use products and waste-to-landfill

IMPLEMENTATION

- Explore options for energy, water and waste efficiency improvements such as lighting upgrades through a detailed building audit
- For retrofit and refurbishments, design for low-embodied carbon through using materials more efficiently, the use of natural materials and low-carbon technologies and materials, biophilic approaches and using lifecycle impact analysis to inform decision-making
- Phase out all gas equipment, use plant room and plant reconfigurations as opportunity to add value through improving building fabric and passive performance
- Address air tightness issues and further improve building fabric
- Identify opportunities for adding shading such as solar PV canopies for car parks and trellises and pergolas on summer sun-exposed building areas
- Maximise opportunities for natural light/airflow and outlook on green spaces
- Incorporate smart control systems and user-friendly platforms for monitoring key indicators including energy, water waste and air quality

TREATMENT EVALUATION

- Implement ongoing monitoring and reporting
- Explore the value of ratings including GRESB, NABERS, WELL
- Annual audit of water, energy and waste data and the associated emissions to support the progress tracking towards net zero carbon and allow for a carbon neutral certification

CLEAN BILL OF HEALTH

- Purchase offsets for residual emissions
- Assess 'treatment' options by comparing CAPEX and long-term OPEX costs as many of these initiatives will save money in the long run

Pathway to improved staff, patient and community wellbeing

DIAGNOSIS

Undertake occupant/staff surveys to understand:

- Which spaces are uncomfortable or underutilised?
- How is the building affecting mental/emotional and physical health?
- How is the building supporting belonging?
- What types of wellbeing/nurturing features would they like to see?

TREATMENT - PLANNING

Develop ESG roadmap and strategy:

- Identify major concerns and issues around health and wellbeing
- Outline which policies, assessments, targets and monitoring mechanisms are needed for improvement

Work closely with First Nations groups to identify and implement culturally-appropriate policies and practices

Audit workplace conditions based on survey feedback:

- Do staff have sufficient breaks in spaces that support wellbeing?
- Are there adequate amenities/facilities for all genders?
- Is there a need for additional policies around diversity & inclusion, bullying & harassment or personal leave including domestic violence leave?

IMPLEMENTATION

- Ensure policies are in place that embed feedback from surveys and address social, cultural, day-to-day management of building and environmental impact management
- Collaborate with staff and stakeholder groups to address change management issues including concerns around disruption
- Explain benefits of each initiative – building knowledge around emissions impact reduction, sustainability and the relationship between buildings and wellbeing
- Identify priority areas for adding artworks for wellbeing and greening for cognitive benefits, air quality improvements and urban heat island mitigation
- Embed nourishment and sense of place in greening through incorporating both edibles and native plants
- Maximise opportunities for safe staff and patient access to natural light/airflow and green spaces

TREATMENT EVALUATION

- Staff and occupant survey to gauge experience of improvements
- Engage stakeholders through regular communication of progress monitoring and sustainability reporting

CLEAN BILL OF HEALTH

- Encourage and support sustainable lifestyle habits such as organic waste management, on-site recycling, active travel, public transport use, electric vehicles and share cars
- Recognise, celebrate and share staff and stakeholder sustainability achievements to encourage and support ongoing best practice and further engagement

Where to get help:

Cundall Building Performance Service (BPS) experts assist with measuring and benchmarking an asset using various tools. These include NABERS Energy, Water, Waste or Indoor Environment ratings, carbon emissions accounting, WELL Building Standard, Green Star Performance, LEED for Operations + Maintenance or fitwel benchmarks. We also develop sustainability pathways and provide multidisciplinary engineering design and project management for retrofits, upgrades and refurbishments.

Scan the QR code to download a copy of our Building Fitness Guide.



Contributors: Amin Azarmi, Cundall Associate, Building Services; Jay Dee Dearness, WELL AP and Cundall Senior Sustainability Consultant; Madlen Jannaschk, Cundall APAC ESG Lead and Principal Sustainability Consultant; Mathuran Marianayagam, Cundall Australia Building Performance Services Lead and Principal Sustainability Consultant.

CUNDALL