



e² design season three — Melbourne Reborn

Episode Summary

In the mid-1970s, Melbourne, Australia, was a dying city. People commuted in to work during the day, but downtown was largely abandoned after 5 p.m. In the early 1980s, Rob Adams, the Director of Design and Urban Environment in Melbourne, led a movement to revitalize the city with a goal of making it more livable, but what he discovered along the way was that livability and sustainability are actually the same agenda. Thanks to the vision and leadership of the City Council, the city has become more livable, more vibrant and more sustainable in the past 20 years.

With a belief that livability begins with the public space of a city, Rob focused first on the streets of Melbourne. In the late 1970s, some of the city center's housing areas were demolished and freeways became more present downtown. Many people moved to the suburbs, and the street life moved out with them. When the commercial real estate market crashed in the 1980s, the Council used it as an opportunity to bring residential units back to the city center through the Postcode 3000 Program. With initiatives to convert commercial real estate to small-scale residential units, the city went from having 750 residential units to having close to 10,000 in the span of 6 or 7 years. Restaurants, cafes and bars soon followed, and with the conversion of alleys to walkways and highways to pedestrian streets, the street life of Melbourne was reborn.

At this point, the Council realized that livability would be at risk without sustainable progress, so in 2002 they published 'Zero Net Emissions by 2020 – A roadmap to a climate neutral city.' This was an aggressive initiative with a goal of zero net carbon emissions in the city of Melbourne by the year 2020. Because the energy consumption of commercial buildings was one of the largest contributors to carbon emissions, cutting that consumption by 50% could eliminate almost half of the emissions in the city. The Council decided to make their own office building a model of the type of design they were encouraging others to adopt. With the help of architect Mick Pearce and engineer Che Wall, the Council House 2 (CH2) opened in August 2006 with a six star green star certification from the Green Building Council of Australia. From the simplicity of opening the windows at night to reduce cooling costs to the complexity of a water filtration system used to purify sewer water, the building incorporates new technologies that can be readily applied to other commercial buildings.

While CH2 can be used as a model for new buildings, 90% of the buildings that will be used in the next 10 to 15 years are already built. The renovation of these buildings must be the Council's next focus if they are to meet their goal of zero emissions by 2020.



Many lessons can be learned from the successful renovation of 500 Collins, an office building in Melbourne, which was retrofitted to be more sustainable while occupied. Perhaps the most telling discovery from that project has been the increased productivity and happiness of the staff inside the building. It seems that whether it's a city or just one building, sustainability and livability are inextricably linked.

To find out more about the City of Melbourne, visit www.melbourne.vic.gov.au

To find out more about the Green Building Council of Australia, visit www.gbca.org.au/

To find out more about Council House 2 (CH2), visit www.melbourne.vic.gov.au/info.cfm?top=171&pg=1933

To find out more about the Zero Net Emissions by 2020 Strategy, visit www.melbourne.vic.gov.au/info.cfm?top=218&pa=1612&pg=1618



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PRE-VIEWING QUESTIONS

1. In what ways has the culture of your city changed in your lifetime? How about in the last 100 years?
 2. Have areas of your town become more popular or less popular in recent years? If so, why do you think these changes have occurred?
 3. What are some potential disadvantages if the downtown area (business district) of a city is empty at night?
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POST-VIEWING QUESTIONS

1. In what ways can the local or national government encourage new construction using sustainable design?
2. In what ways does the CH2 serve as a model for sustainable design in commercial buildings? Use specific examples from the episode to support your answer.
3. Describe some of the changes that occurred in the city of Melbourne between the 1980s and 2008.
4. What are some challenges facing the Council in reaching their goal of zero net emissions by 2020 in Melbourne?
5. What are some of the effects of carbon emissions into the atmosphere? Why has the Council in Melbourne set a goal to reduce those emissions?
6. Describe some positive and negative aspects of the street art in Melbourne.



NATIONAL STANDARDS FROM MCREL STANDARD

Career Education - Agricultural Education

Standard 1.5 - Knows art forms that reflect cultural elements of the local community (e.g., folk art, utilitarian objects, community environment (landscape and architecture), works of local professional artists and craftsmen).

Engineering Education

Standard 9.4: Understands the steps involved in designing construction projects (e.g., planning, generating layouts, developing drawings with measurements and details of construction considering constraints, selecting materials).

Standard 14.4: Understands how societal interests, economics, ergonomics, and environmental considerations influence a solution.

Standard 17.6: Understands tradeoffs among characteristics such as safety, function, cost, ease of operation, quality of post-purchase support, and environmental impact when selecting systems for specific purposes.

Technology

Standard 4.5 - Knows that since there is no such thing as a perfect design, trade-offs of one criterion for another must occur to find an optimized solution.

Standard 4.6 - Knows that a design involves different design factors (e.g., ergonomics, maintenance and repair, environmental concerns) and design principles (e.g., flexibility, proportion, function).

Standard 6.7 - Knows that construction design is influenced by factors such as building laws and codes, style, convenience, cost, climate, and function.

Standard 6.8 - Knows different requirements for structural design (e.g., strength, maintenance, appearance) and that these structures require maintenance.