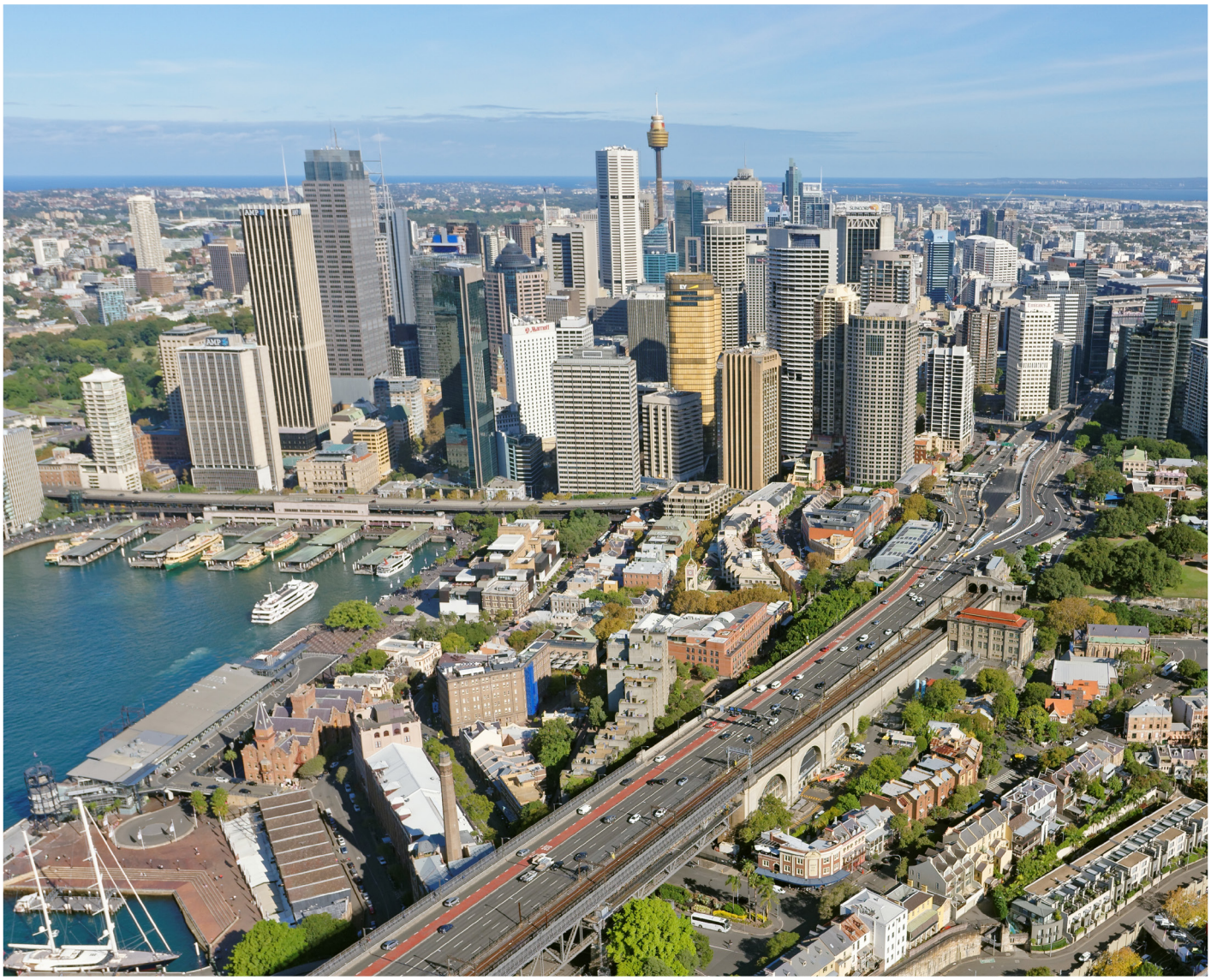
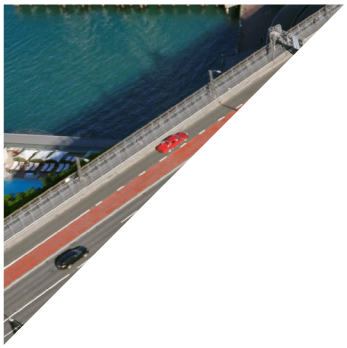
Sydney

A data-driven approach to the low-carbon transition





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Sydney
Australia

Population

210,931

Sydney has established itself as an exemplar of the low-carbon transition, putting energy efficiency at the heart of its approach to sustainability. That has meant refining a data-driven approach to emissions, says Chris Derksema, Sustainability Director at the City of Sydney.

Here Derksema, talks about how the city has progressed and why disclosure is vital.

The City of Sydney's sustainability aims are among the most ambitious in the world. It has set an interim target to reduce its carbon emissions by 70% by 2030 — and to become net-zero by 2050.

It's a bold plan. But Derksema is confident the city can make it. He says, **"by 2030 we expect to see many leading organisations and institutions within our city already achieving that net-zero outcome".**

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The City of Sydney's vision is a city of **"super-efficient buildings running on renewable energy."** It's that combination that will prove vital to achieving its goals.

What's already being done? City of Sydney's Energy Efficiency Master Plan is a city-wide program to cut energy consumption. Some existing buildings are now performing close to the levels of new builds, Derksema explains.

But he warns against complacency. As technology leaps forward, so more opportunities to reduce energy consumption present themselves. **"You can't as a city government think that one pass through has fixed the problem."**

Information is key

For cities starting out on their sustainability mission, the advice is clear: **"Set a science-based target, gather data to help prioritise, learn as quickly and as much as possible from other cities, and accelerate implementation".**

That's been vital to the City of Sydney's efficiency drive. **"To influence other government agencies that may control relevant legislation or funding, we've focused on using information as our power base"** he says.

Emission targets

70%

reduction by 2030 with 2006 baseline.

Net zero by 2050

And reporting to CDP has pushed the city to hone its data gathering techniques. It's **"a vital part of the city's overall strategy"**.

For example, city officials use a pioneering internal management system, allowing them to easily map their emissions inventory from across various utility service providers into one centralised place. This allows them to immediately see their data, identify which action will have the most impact on their emissions, and make the right decisions based on this.

With the knowledge built from their CDP disclosure, the City of Sydney has been able to use data to make better decisions and focus resources where they have the best chance of success.

"Disclosure helps not only to drive action internally within the city organisation, but also to build trust with external stakeholders," Derksema says.

And it's not stopping there. The City of Sydney aims to share best practice with other cities, and so is sharing the management system the city has built to support its own transition with other cities in a bid to share best practice across the globe.

The business case for efficiency

The City of Sydney is using data to get to grips on the nitty-gritty of building standards and retrofits. And it's already seeing the economic benefits.

The city's property sector is globally recognised for improving its environmental impact. **"That has also allowed money to flow into our city to invest in property that would not have otherwise come into Sydney".**

The city's green buildings have higher than average occupancy rates, which in turn drive up their rental values. **"It's an aspect of why going green can contribute to a prosperous city".**

At a former industrial site to the south of Sydney's city centre, the City of Sydney and developers are hard at work on Green Square, a new residential precinct that draws on the city's expertise in sustainable town planning.

Best practice examples

- Producing climate strategies with citizen consultation
- Using data to identify best energy efficiency opportunities
- Working with developers to raise green building standards
- Investing in green infrastructure
- Retrofitting municipal buildings

The project involved driving some hard bargains. For instance, the city government pushed the developers to accept higher sustainability standards in exchange for an increase in floorspace.

“It hasn't been easy. However the city sees the need to use all the instruments available to them” to embed sustainable goals into new building projects right from the get-go.

Green ambitions

Energy efficiency is crucial to increasing the city’s resilience to climate change. The electric grid is particularly vulnerable to a surge in demand – as people switch on their air conditioning to cope with rising summer temperatures.

Planting street trees, in addition to the Green Roofs and Walls Policy, are part of the solution. Beyond adding a spot of natural beauty to the urban vista, green infrastructure can help **“reduce the local temperature and therefore the air conditioning load”**.

It’s a win for public health campaigns too, he says. **“There are many studies that show the link between better mental wellbeing, exercise and being close to greenery and nature”.**

Integrating renewables

The rise of renewable power has been a global success story. But at a city-level, there are still barriers to the widespread adoption of clean technology.

In a high-density city like Sydney, Derksema says, **“while roof space for solar PV may not be sufficient to meet 100% of the building's needs, it's still a vital action towards Net Zero by 2050”.**

But that hasn’t stopped the city government from adopting big plans to clean up its electricity supply.

Locally generated solar does have a role to play – particularly in easing pressure on the grid during the day. For the city, it sees **“a good match between solar output and peak energy demand”**.

The city is developing a voluntary scheme to aggregate demand for renewable power generated outside the city limits. **“That is really the next frontier”**.

Disclosure and democracy

Public reporting has helped put Sydney on a path towards a more sustainable future. But it goes deeper than simply optimising the city’s sustainability policies. It strengthens **“the social licence to operate”**.

The city has seen that disclosure through CDP helps build public trust. It shows how public funds have been invested and how the city government is progressing towards standardized sustainability goals.

Key data reported to CDP in 2017

Economic opportunities:

12 **economic opportunities from climate action:**

- More efficient operations
- Development of clean businesses
- Increased energy security
- Increased infrastructure investment

Adaptation actions:

12 **actions taken to manage and adapt to climate risks and hazards, including:**

- Greenspace creation
- Flood mapping
- Evacuation systems

City-wide emissions reduction actions:

25 **greenhouse gas emissions reduction opportunities identified, including:**

- On-site renewable power generation
- Energy efficiency
- Infrastructure for non-motorized transport

CDP is a global environmental non-profit that helps investors, companies, cities, states and regions assess their environmental impact and take urgent action to build a truly sustainable economy. CDP works with over 500 cities on measuring and disclosing environmental data each year to manage emissions, build resilience, protect themselves from climate impacts and create better places for people to live and work. These cities are disclosing over 8,000 urban sustainability actions, demonstrating their commitment to building a sustainable economy and tackling climate change.

CDP
3-71 Queen Victoria Street
London EC4V 4AY
United Kingdom

Tel: +44 (0)20 3818 3900

www.cdp.net
cities@cdp.net
@CDP