

The energy to build sustainable buildings

Cathy Zoi is one of those people whose personality leaves you feeling energised.

Which is probably just as well, because energy is her business.

A former chief-of-staff and Deputy Director of the White House *Office on Environmental Policy*, she was the inaugural CEO of the NSW State Government's Sustainable Energy Development Authority (SEDA) in 1996.

Ms Zoi is currently engaged around Australia in a multitude of business development activities in the energy and environment sectors.

At the Commonwealth Public Works Committee's invitation, she recently addressed a national conference of public works committees.

Her message was simple:

- Expenditure on energy in commercial buildings across the economy is \$4 billion.
- Those buildings create around 30% of national greenhouse gas emissions.
- You can take action to reduce those ongoing costs and reduce greenhouse emissions at the same time. Returns of up to 30% on investment, at no risk, are quite possible.

Ms Zoi sees the nation's public works committees as playing a vital leadership role in the area of energy efficiency and sustainability.

She identifies four barriers which governments can help overcome:

(1) Energy isn't sexy

Despite the \$4 billion cost, energy use represents only about 2% of total costs for business. When looking for savings then, firms tend to look elsewhere, such as at their wages bill.

This is not only over-looking obvious 'easy' savings from improving heating, ventilation and air-conditioning (HVAC) practices, says Cathy Zoi, but some sustainability measures, such as wise use of lighting, are also proven to increase worker productivity. A 1% increase in productivity can offset a company's entire energy bill.

These benefits need to be taken up in the public sector, and the outcomes 'spruiked' to business as 'no brainers'.



Cathy Zoi

(2) 'First cost' disease

Commercial and government purchasing focus tends to be on minimising up-front or 'first' cost, not on achieving lowest life-cycle cost.

The least-cost HVAC system or motor or chiller is likely to use far more energy, and therefore have far higher operating costs, over its life-time.

The challenge for governments is find ways to encourage purchasers to minimise total life-cycle or system costs, which may involve making higher up-front capital outlays.

(3) Non-aligned incentives

Builders and developers aren't the ones who end up paying the energy bill. There is often, then, no direct reward or incentive for building energy-efficient premises.

These incentives need to be 'aligned', either by prescriptive measures (e.g. legislation, building codes) or by use of financial incentives. Governments can take both approaches.

In pre-existing buildings, use can be made of independent experts such as Energy Performance Contractors, who will finance an

energy upgrade for a building, and be paid on a reward/incentive basis out of the savings; they take all the risk.

(4) Externalities

Markets don't work perfectly. There are costs of over-use of energy which fall on society (air pollution, greenhouse effect) not on building users. Public policy intervention is needed to reflect these true costs.

Public works committees have a critical leadership role in overcoming these barriers, by translating concepts into practical activity on projects.

The next challenge is for governments to "take ideas from showcase to mainstream", by pushing the bureaucracy, shaping the rules, using the experts, and talking at every opportunity about sustainability.

The full text of Cathy Zoi's presentation to the Committee can be read at:

www.aph.gov.au/house/committee/pwc

Information on household sustainable energy programs can be found at:

www.greenhouse.gov.au

www.seda.nsw.gov.au