

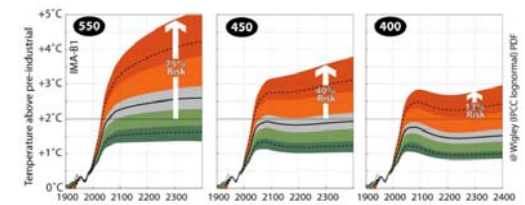
ENVIRONMENTAL  
DEFENDERS  
OFFICE  
280510

how building and construction  
standards should change, taking  
into account climate change.  
draw on current examples from  
the industry and  
propose ideas →

doom  
&  
gloom

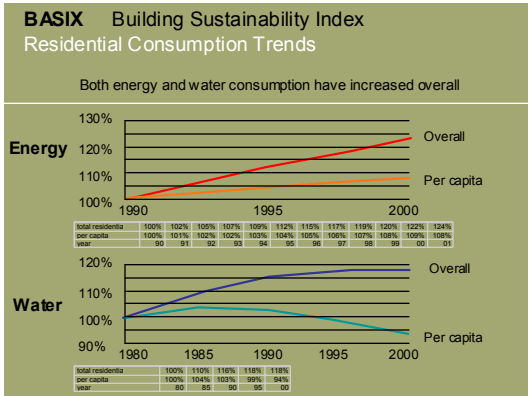


The risk of exceeding two degrees C.

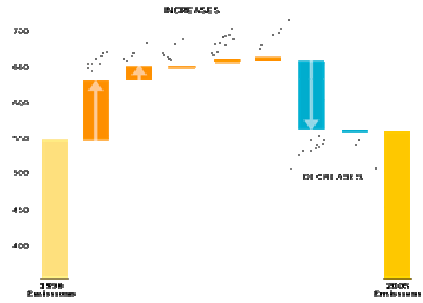


BIODIVERSITY  
 LOSS  
  
 CLIMATE  
 CHANGE  
  
 RESOURCE  
 CONSUMPTION  
  
 =  
 GUILT

green  
  
 desire



**Emission Trends**



FEAR  
 LOVE  
 SEX  
 STATUS  
 PLEASURE

GUILT

green  
 desire

FEAR  
 LOVE  
 SEX  
 STATUS  
 PLEASURE

GUILT

PERSONAL

CHANGE

PERSONAL → SOCIAL

POLITICAL

LAW  
 CHANGE

PERSONAL

FEAR  
 LOVE  
 SEX  
 STATUS  
 PLEASURE  
 GUILT

---

SOCIAL

LAW

SO  
BETTER  
BE  
SURE  
THE  
**LAW**  
IS  
**GOOD**

TRANSPARENT  
  
EFFECTIVE  
EFFICIENT  
EQUITABLE  
  
**LAW**

**LAW**  
THAT  
PROMOTES THE INEFFECTIVE  
AND PREVENTS THE GOOD  
IS WORSE THAN  
**NO LAW**



TRANSPARENT

EFFECTIVE  
EFFICIENT  
EQUITABLE

**BASIX**

TRANSPARENT

Everything is compared to average  
That means everyone has an equal CO<sub>2</sub> and water budget

EFFECTIVE  
EFFICIENT  
EQUITABLE

**BASIX**



### What is BASIX?

- **BASIX: Building Sustainability Index**
- SEPP Building Sustainability (BASIX) 2004
- **NSW planning policy that mandates minimum sustainability targets for all new homes and renovations<sup>1</sup>.**

Up to 40%

pass

Up to 40%

1 only \$50,000

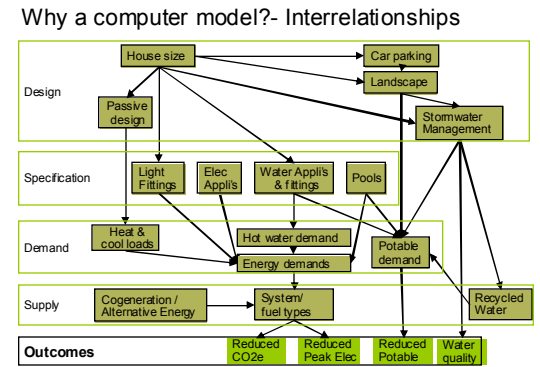
**BASIX**

TRANSPARENT

No more UN speeches in DCP's  
Consistent approach across the State  
On-line delivery

EFFECTIVE  
EFFICIENT  
EQUITABLE

**BASIX**



## DESIGN TOOL

Kogarah  
Town  
Square:



## A way forward

1. Inconsistency
2. Complexity



- Simple web based interface
- Powerful
- Responsive
- Quantifiable & measurable



TRANSPARENT

Only when we know:

- What we want
- What we can effect
- What we can measure
- We can measure the effect

EFFECTIVE  
EFFICIENT  
EQUITABLE

**BASIX**

TRANSPARENT

Only when we know:

- What we want
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EFFECTIVE  
EFFICIENT  
EQUITABLE

Cuts red tape

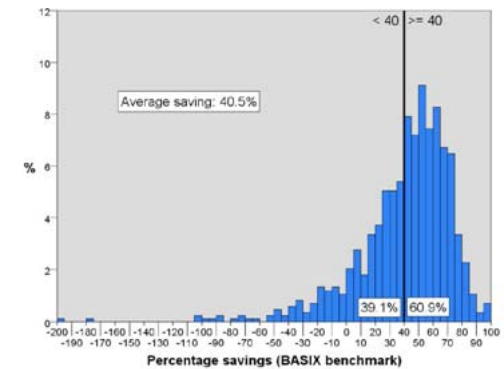
Equal budget per person

**BASIX**

## Reducing demand



Current and future residential recycled water schemes in Western Sydney





Greywater is diverted from a shower using a licensed diversion device (1) and distributed directly to citrus and water-loving plants through a slotted pipe (2) under 100mm of mulch. In this unusual installation, a small portion of the flow is diverted through a series of six gravel filterbeds (3) which remove nutrients and pollutants. After five days in the filterbeds, the water enters two water-feature fish ponds (4) with gravel filters to further polish the water.



### AUSTRALIAN VIEW

**23** states and territories have introduced legislation to encourage or require green building.

**80** per cent of new residential buildings in Australia are now required to be green buildings.

**94** per cent of new commercial buildings in Australia are now required to be green buildings.

**10** per cent of new residential buildings in Australia are now required to be green buildings.

**441,000** new residential buildings were built in Australia in 2014.

**2** per cent of new residential buildings were built in Australia in 2014.

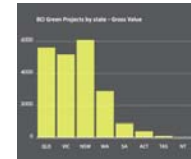
**94** per cent of new residential buildings were built in Australia in 2014.

The main beneficiaries of the construction sector are new sustainable products, construction materials, services, and software. The sector also leads the way in energy efficiency, water efficiency and green buildings.

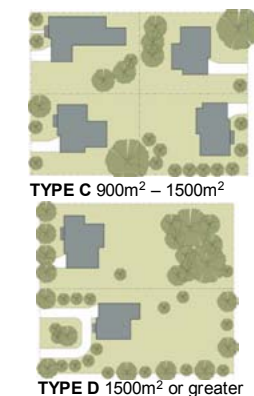
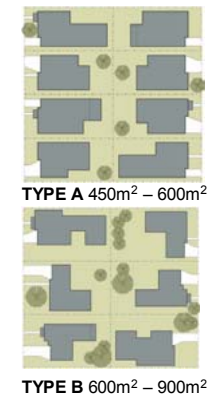
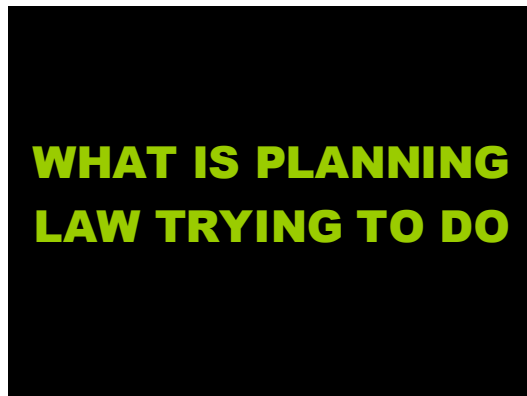
**961,000** new commercial buildings were built in Australia in 2014.

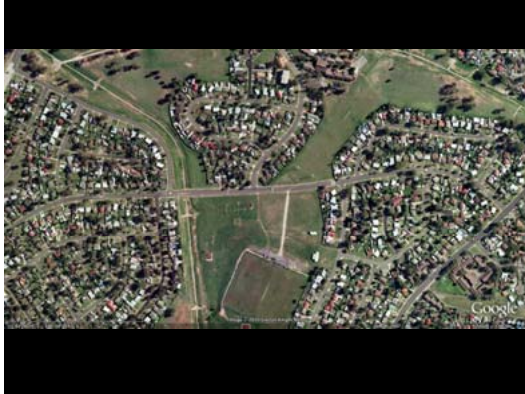
**164 billion** in new commercial buildings were built in Australia in 2014.

**664 million** in new commercial buildings were built in Australia in 2014.



If ALL were carbon neutral  
12% reduction for  
NEW buildings



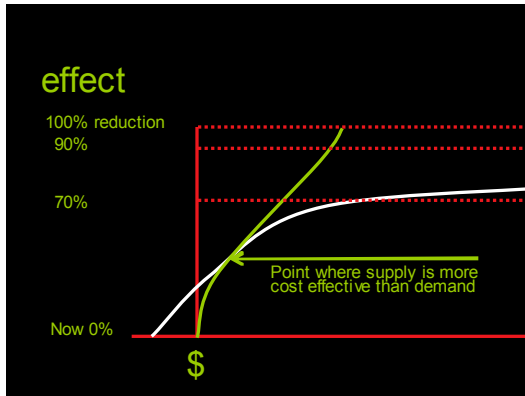


***“You know it will be the  
car of tomorrow...  
because it looks just like  
the car of today”***

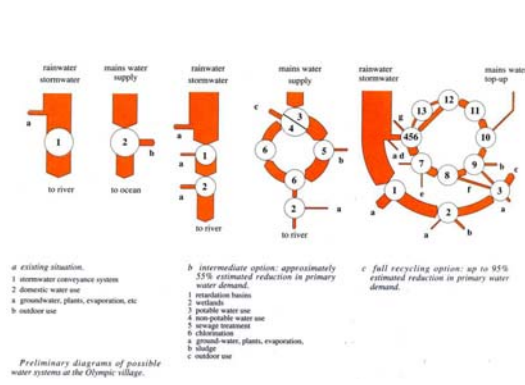
***Top Gear 26 May 2010***

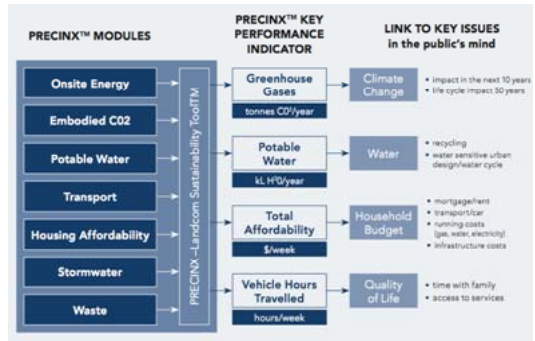
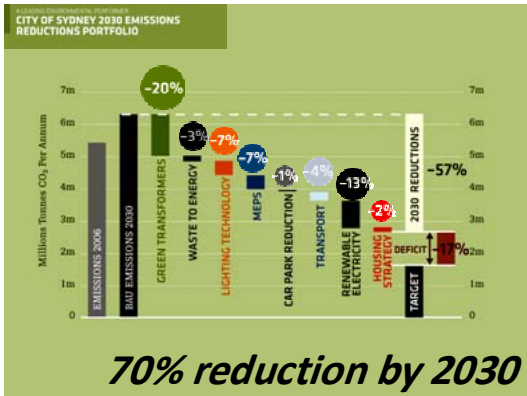




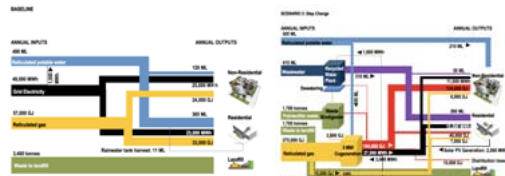


# DWELLING OR NEIGHBOURHOOD

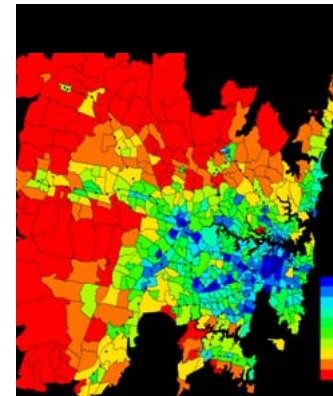
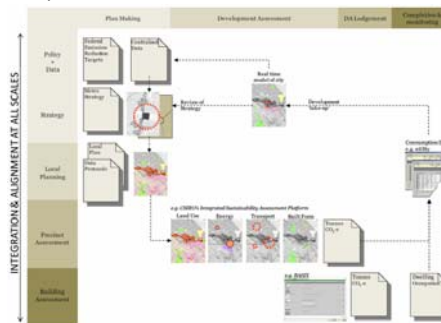




**Mapping the possible**

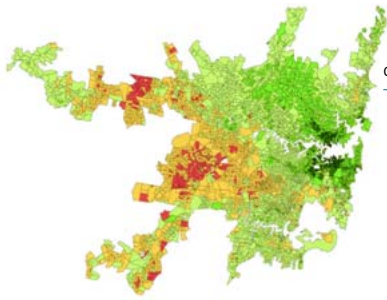


Potential Alignment of Planning Framework for achieving emission reduction objectives



Transport: petrol consumption (GJ)

GJ per household (min/median/max)  
16 - 60 - 180



OIL VULNERABILITY



**MEASURABLE  
VERIFIABLE  
REPORTABLE**

**ACCC Statement**

**ACCC Statement**

T  
y  
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W  
m  
g  
y  
m

The overall impression generated by such claims may be that more is being done than the actual outcomes reflect.

If challenged, your organisation may be required to establish that there was a reasonable basis for making this claim.

**A structured implementation strategy including interim goals and periodic reassessment may help substantiate this claim.**



## The road to hell... is paved with good intentions

### Off-setting carbon with rooftop gardens

Alisa Lewis

Replacing traditional roofs with gardens could help fight climate change, by acting as a carbon sink and cooling cities, says a new study.

"Widespread use of [rooftop gardens] would definitely be improving our management of carbon, especially in large cities where rooftops cover a great deal of land area," said researcher Krystal Getter, a horticulturist at Michigan State University, in East Lansing, author of the report in Environmental Science & Technology.

"If all rooftops in an urban area with a population of one million - about the size of Adelaide - grew them, it would be equivalent to eliminating a year's worth of CO<sub>2</sub> emitted by 10,000 large cars and trucks, says the study.

This strategy to combat global warming draws on the natural process of photosynthesis in plants, which removes carbon dioxide from the atmosphere and stores the carbon in plant biomass and soil.

One experiment in the study involved eight green roofs in Michigan and four in Maryland, ranging from one to six years in age. All 12 roofs were composed primarily of Sedum (thardy

and low growing, shrubby plants) and had soil depths from 2.5 to 12.7 cm. Plant and soil samples were randomly harvested every month during the growing season for two years for carbon analysis. On average, each green roof



system had the capacity to sequester 375 g of carbon per square metre of roof.

In addition, Getter said green roofs offer other benefits: improving stormwater management, conserving energy, mitigating air and noise pollution, and increasing urban biodiversity.

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### Effectiveness

375 gm/sqm in two years

Say 200gm /sqm per year (forest say 5kg sqm/year)

BASIX 3268kg per year

Say 50sqm per person

=10Kg=0.31% (1/325) CO2e person per year

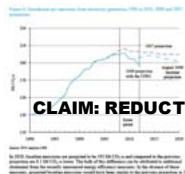
### Cost

Say extra over of \$100 per sqm

\$ 5,000 for 10Kg

\$ 500,000 per tonne

To actually sequester the carbon you have to replace the shrubs and store it....every two years



CLAIM: REDUCTION

11 Electricity generation, by fuel (TWh)

Fuel	2007-08	2008-09	2009-10	2010-11	2011-12
Coal	108	107	106	105	104
Gas	10	11	12	13	14
Oil	1	1	1	1	1
Wind	1	2	3	4	5
Solar	0	0	0	0	0
Hydro	1	1	1	1	1
Other	1	1	1	1	1
Total	122	123	123	125	127

ANOTHER AGENCY

Table 1.1 Electricity generation, by fuel (TWh)

Fuel	2007-08	2008-09	2009-10	2010-11	2011-12
Coal	108	107	106	105	104
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INDEPENDENT DATA

Table 1.1 Electricity generation, by fuel (TWh)

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Solar	0	0	0	0	0
Hydro	1	1	1	1	1
Other	1	1	1	1	1
Total	122	123	123	125	127

CALC: 11.3% INCREASE

**A SHAME  
IT DOESN'T  
APPLY TO  
LEGISLATION**

### HIGHER STANDARDS?

Almost meaningless in the absence of a hypothecated carbon tax or CPRS-

Savings are simply spent on other possible more carbon intensive goods or services - like a plasma TV or on improved comfort-

“REBOUND OR LEAKAGE”

**WE must undoubtedly criticise wrong ideas of every description. Mistakes must be criticised and poisonous weeds fought wherever they crop up. What is needed is scientific analysis and convincing argument.**

**Chairman Mao Zedong**

**On the Correct Handling of  
Contradictions Among the People,  
February 1957**