

California Water: New Thinking about Solutions



Heather Cooley, NBWA Annual Conference
April 11, 2014



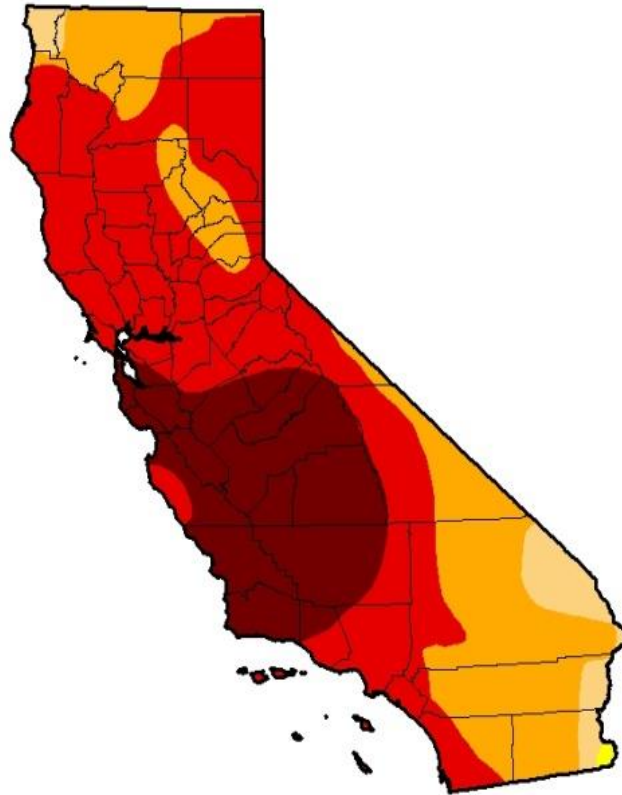
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Challenges for California water

- Decaying infrastructure
- Droughts, floods, and limited water availability
- Declining water quality
- Collapsing Delta ecosystems and fisheries
- Growing demands
- Long-term climate change

U.S Drought Monitor

U.S. Drought Monitor California



April 1, 2014
(Released Thursday, Apr. 3, 2014)
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

| | None | D0-D4 | D1-D4 | D2-D4 | D3-D4 | D4 |
|---|------|--------|-------|-------|-------|-------|
| Current | 0.00 | 100.00 | 99.81 | 95.21 | 68.76 | 23.49 |
| Last Week 3/23/2014 | 0.00 | 100.00 | 99.80 | 95.21 | 71.78 | 23.42 |
| 3 Months Ago 12/1/2013 | 2.61 | 97.39 | 94.25 | 87.53 | 27.59 | 0.00 |
| Start of Calendar Year 12/31/2013 | 2.61 | 97.39 | 94.25 | 87.53 | 27.59 | 0.00 |
| Start of Water Year 10/1/2013 | 2.63 | 97.37 | 95.95 | 84.12 | 11.36 | 0.00 |
| One Year Ago 4/2/2013 | 0.00 | 100.00 | 48.38 | 24.22 | 0.00 | 0.00 |

Intensity:



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

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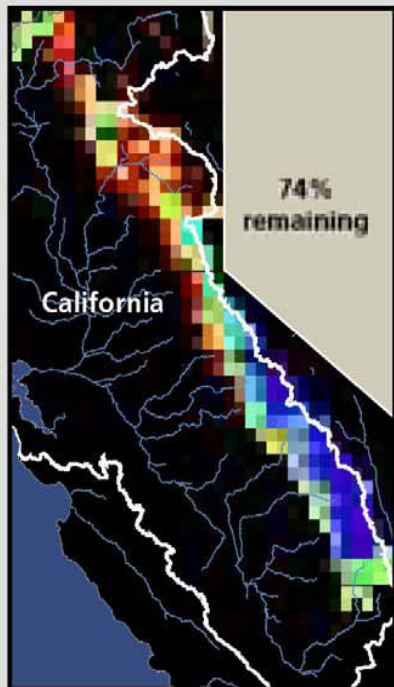
<http://droughtmonitor.unl.edu/>



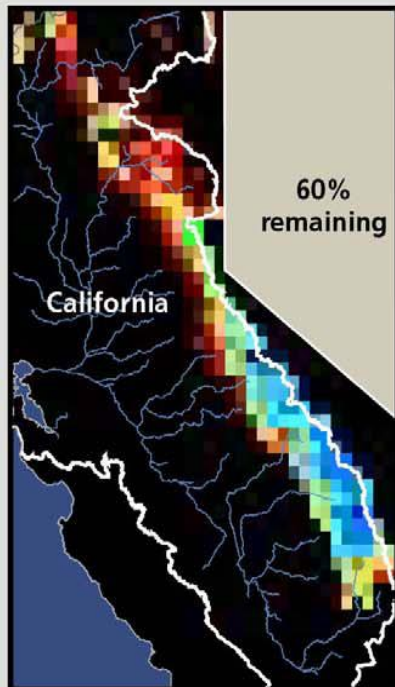
All Climate Models Show California Losing Snowpack

2020–2049

Lower Emissions

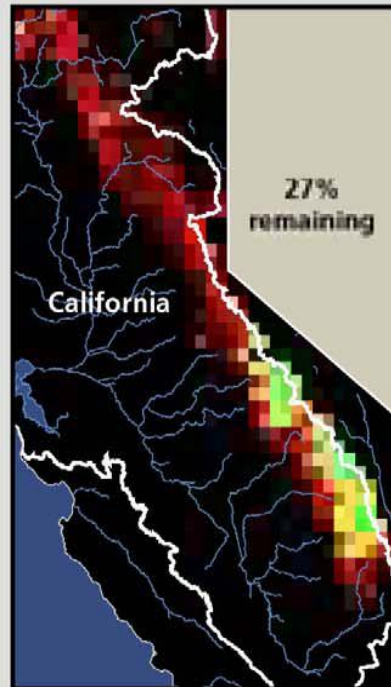


Higher Emissions

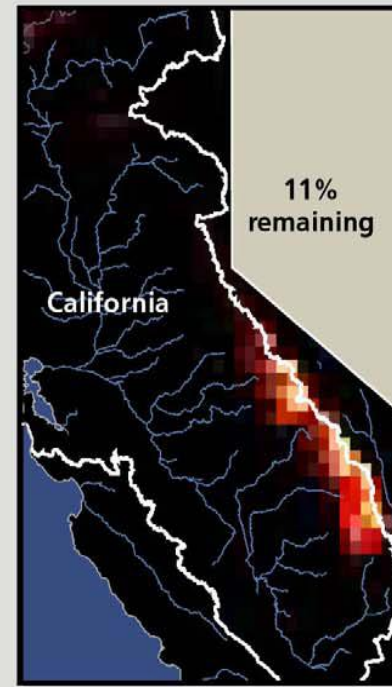


2070–2099

Lower Emissions



Higher Emissions

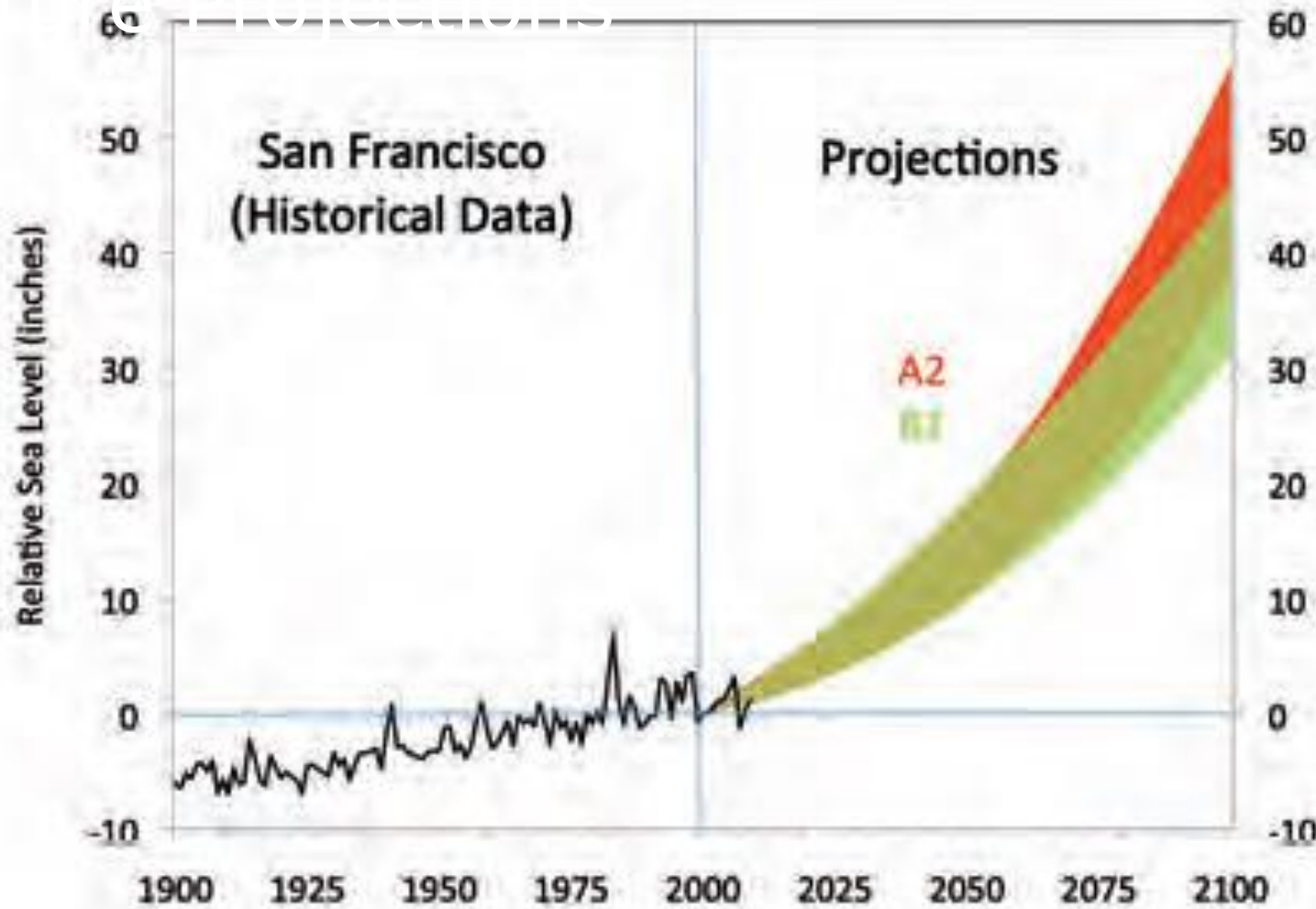


Remaining Snowpack (%)



Source: PNAS 204

Sea Level Rise: Historical Trend and Future Projections

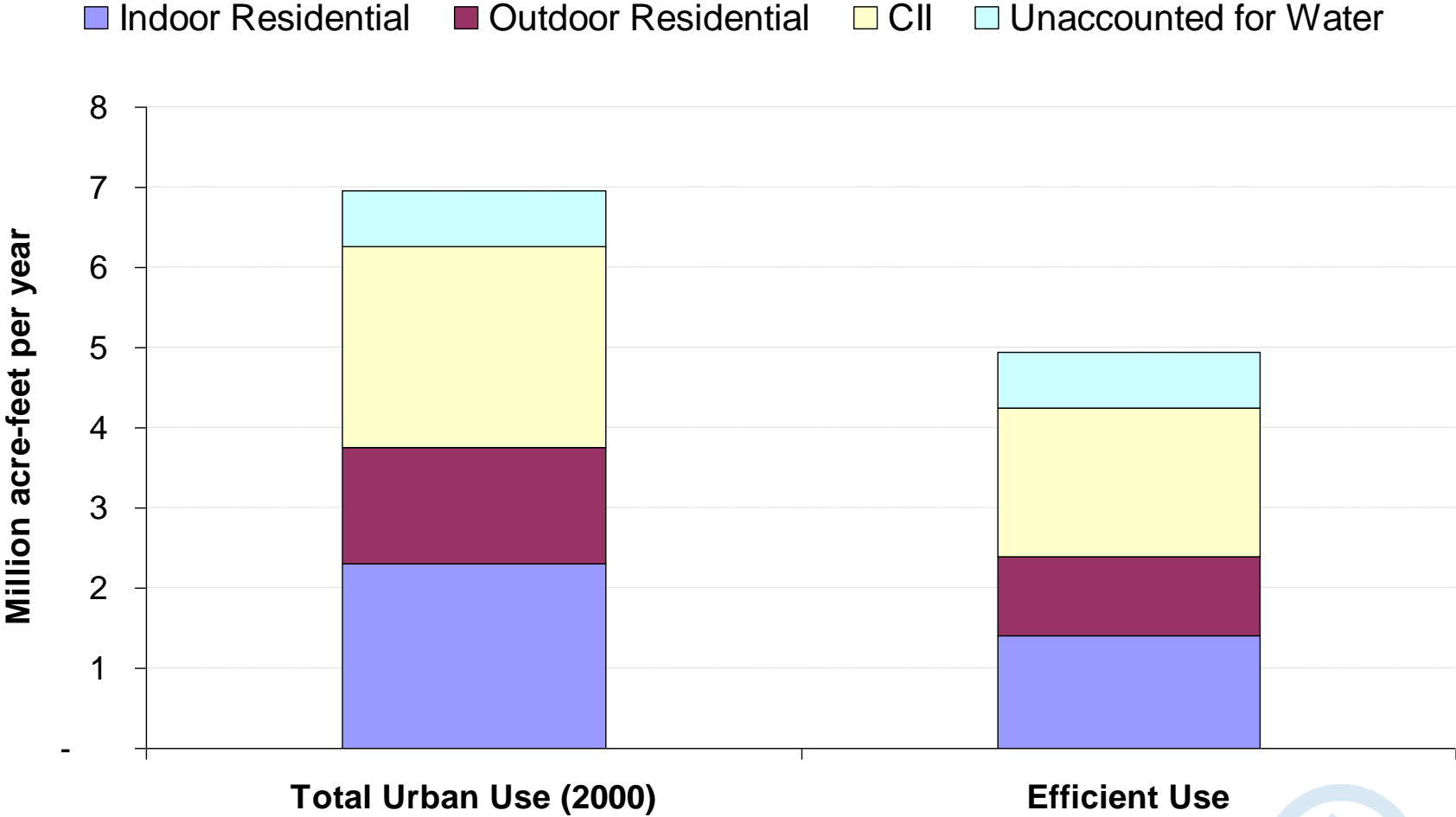


Source: California Climate Change Center. Our Changing Climate 2012

New Thinking about Solutions

- Rethink “demand”
 - Reduce waste and increase efficiency, rethink economic priorities and choices
 - Rethink “supply”
 - Treated wastewater, stormwater, innovative transfers, desalination, rainwater harvesting, conjunctive use
 - Rethink “management”
 - New institutions, improve existing institutions, better water monitoring
-

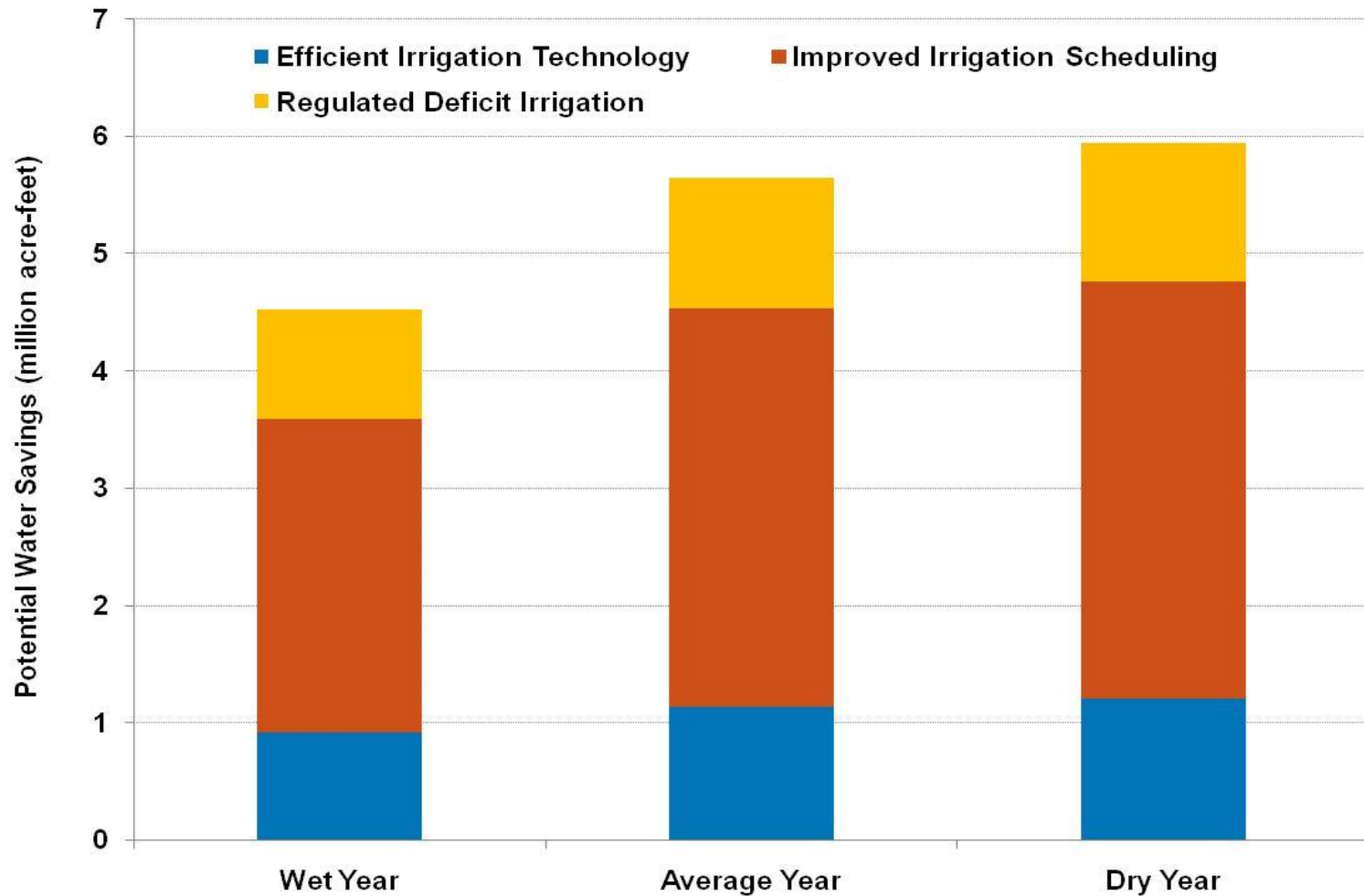
Rethinking Demand: Urban Efficiency



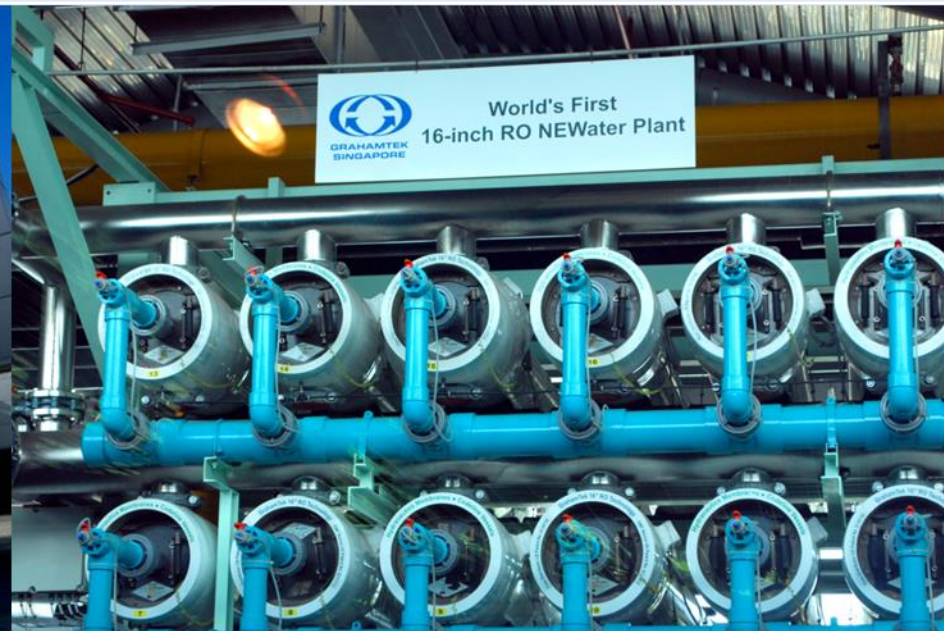
Gleick et al. 2002



Rethinking Demand: Agricultural Efficiency

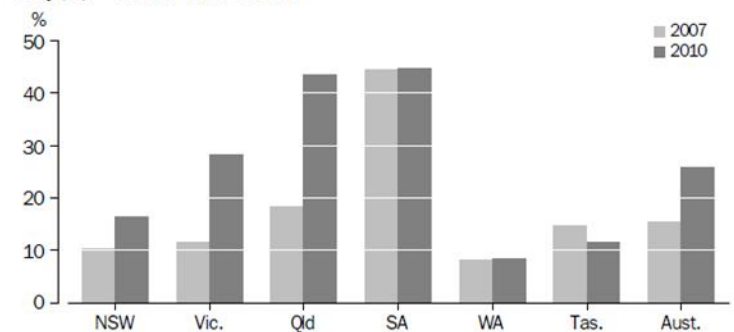


Rethinking Supply



NeWater, Singapore (photo: P.Gleick 2011)

HOUSEHOLDS WITH RAINWATER TANK INSTALLED(a), By state capital city(b)—2007 and 2010



(a) Includes only dwellings suitable for a rainwater tank.

(b) No regional split between capital city and balance of state/territory for the NT and ACT as the sample does not support any breakdown beyond the whole territory.

Rethinking Management: Integration

Low-Impact Development





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