This presentation premiered at WaterSmart Innovations

watersmartinnovations.com

watersmart
INNOVATIONS

Water Smart Innovations 2013

The 'Grey Water' Resource: Water and Energy Recycling

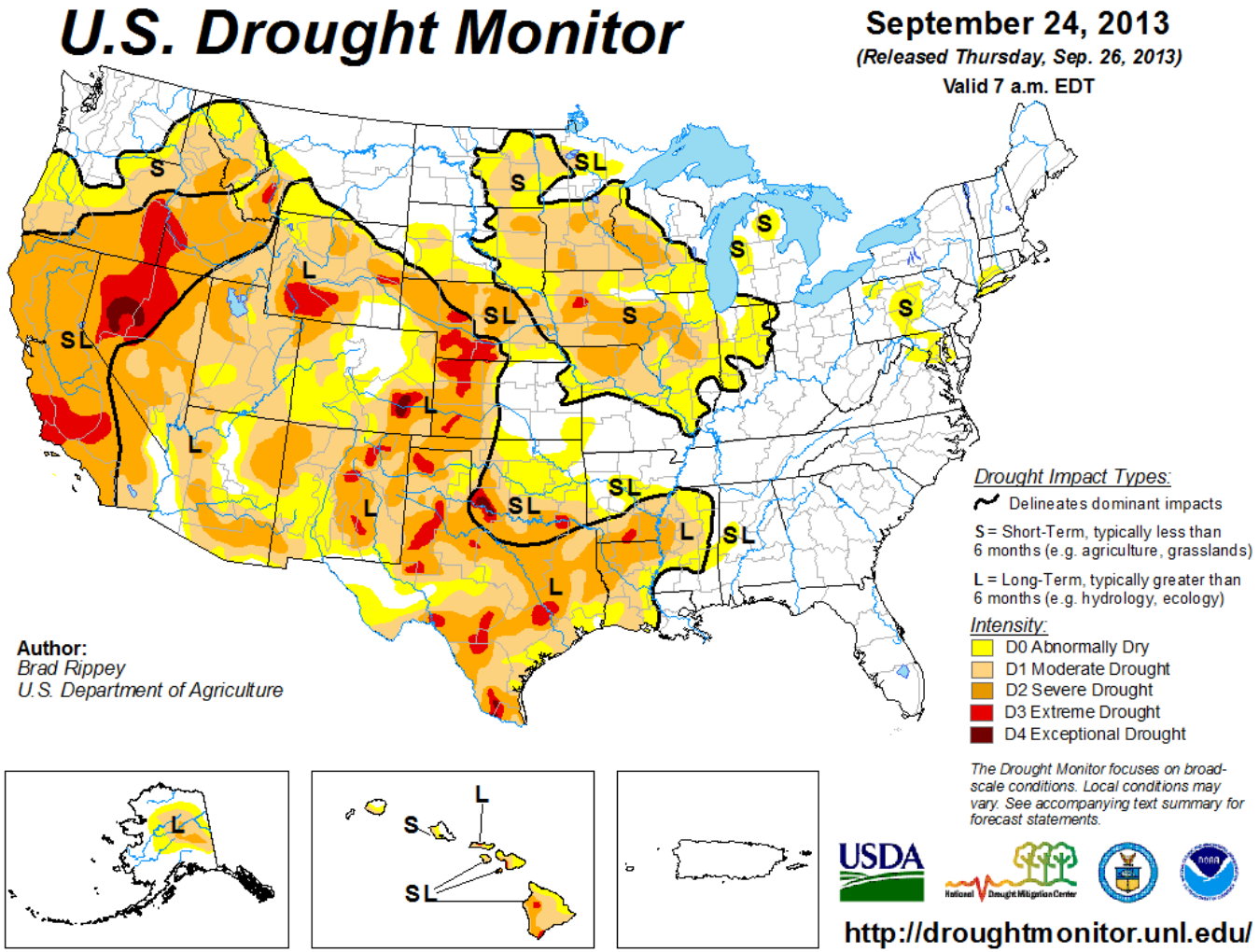
Craig Richmond
CEO Nexus eWater

UNLOCKING THE POWER of GREY WATER

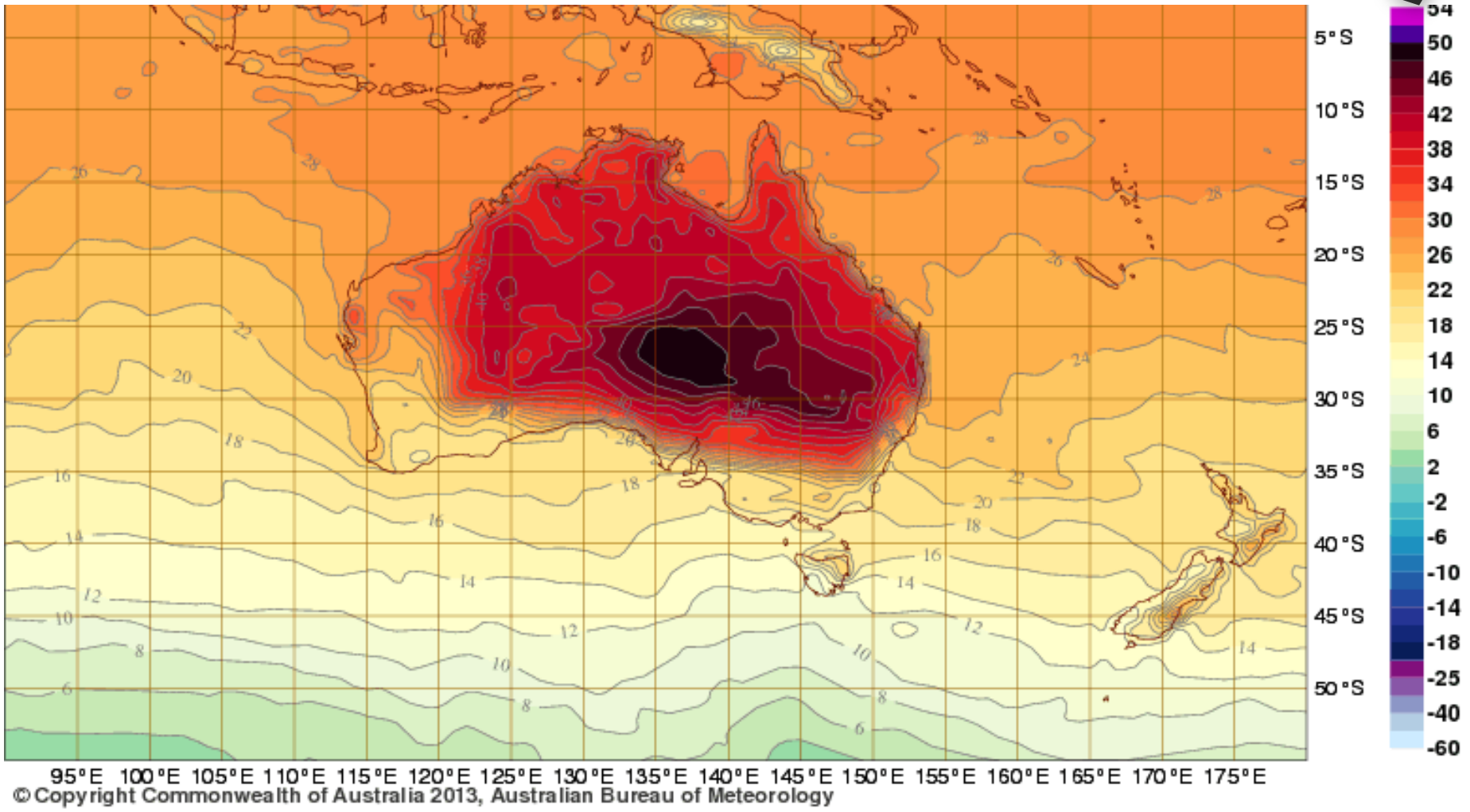
Who are we?

- Australian-based experts in residential grey water treatment – but now also energy recycling
- Australian and US based team
- Innovative products for mass-market use
- Runner-up Imagine H2O 2012
- We are launching our product suite at WSI 2013

The Value of Water

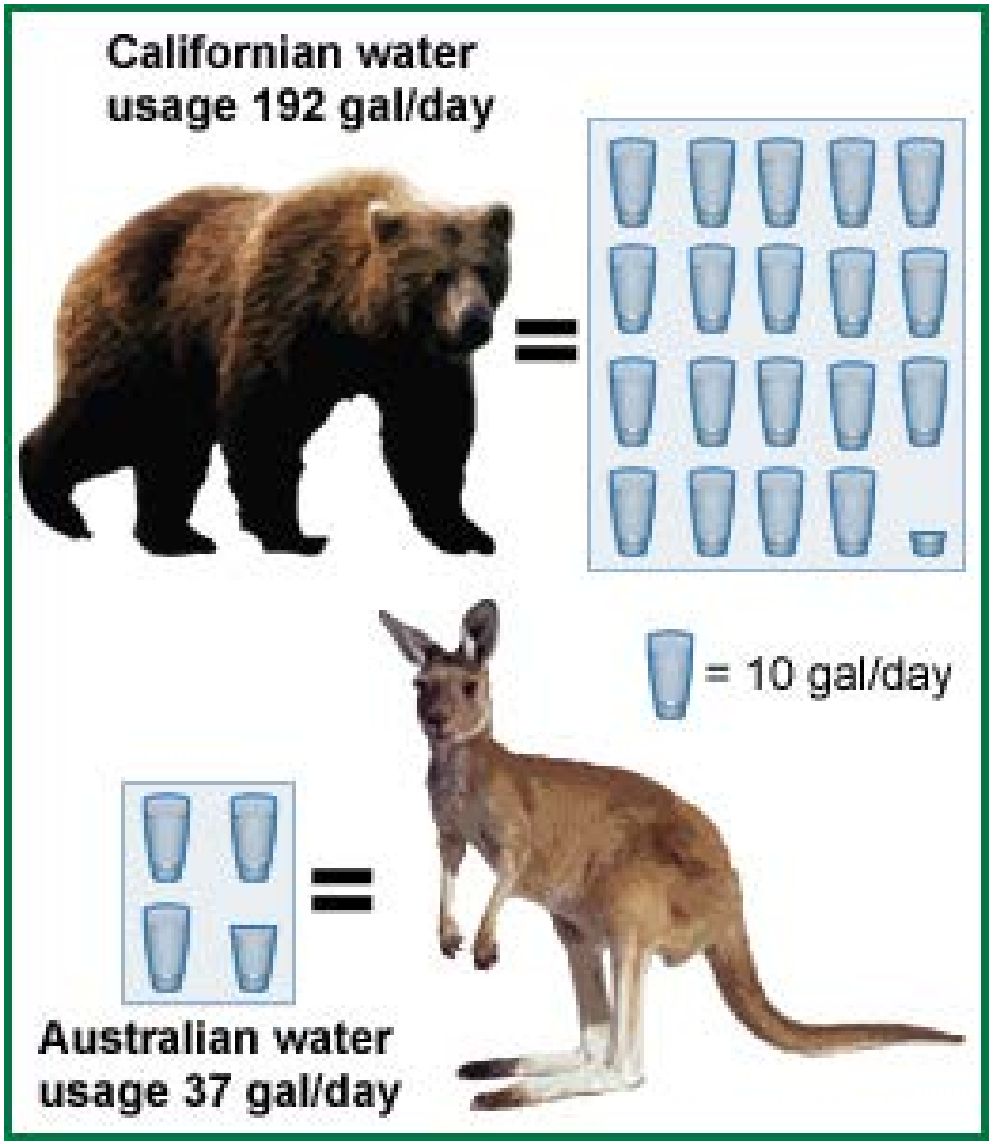


We Also Know the Value of Water



© Copyright Commonwealth of Australia 2013, Australian Bureau of Meteorology

California v Australia



What is Grey Water?

Why Grey Water?

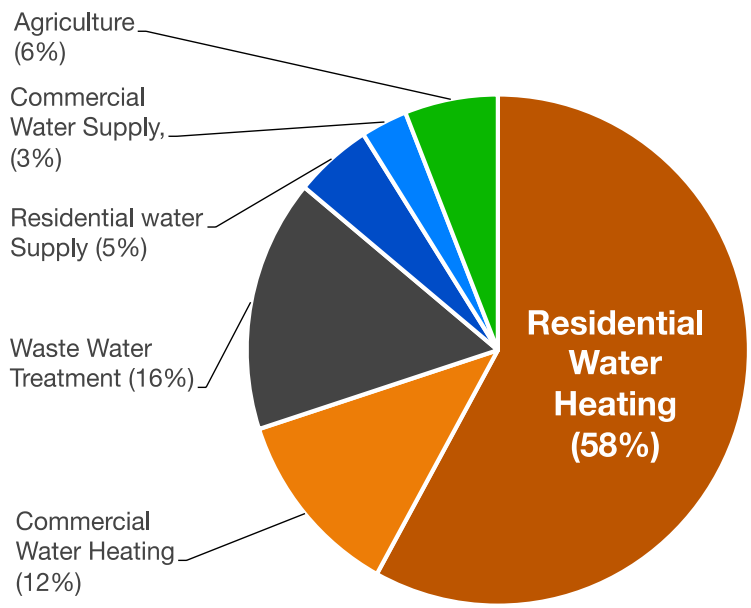
- A valuable and abundant resource
- Found in every home
- Lightly contaminated
- We can treat it to a near-potable standard
- Reduces potable water use ~200 gal
- Sewer discharge ~200 gal
- ***AND IT IS HOT!***

The Great Bruce Hall Toilet Mystery

The Water/Energy Nexus

Energy in the Water/Energy Nexus: Usage by Application

Total: 521 million MWH electric power equivalent

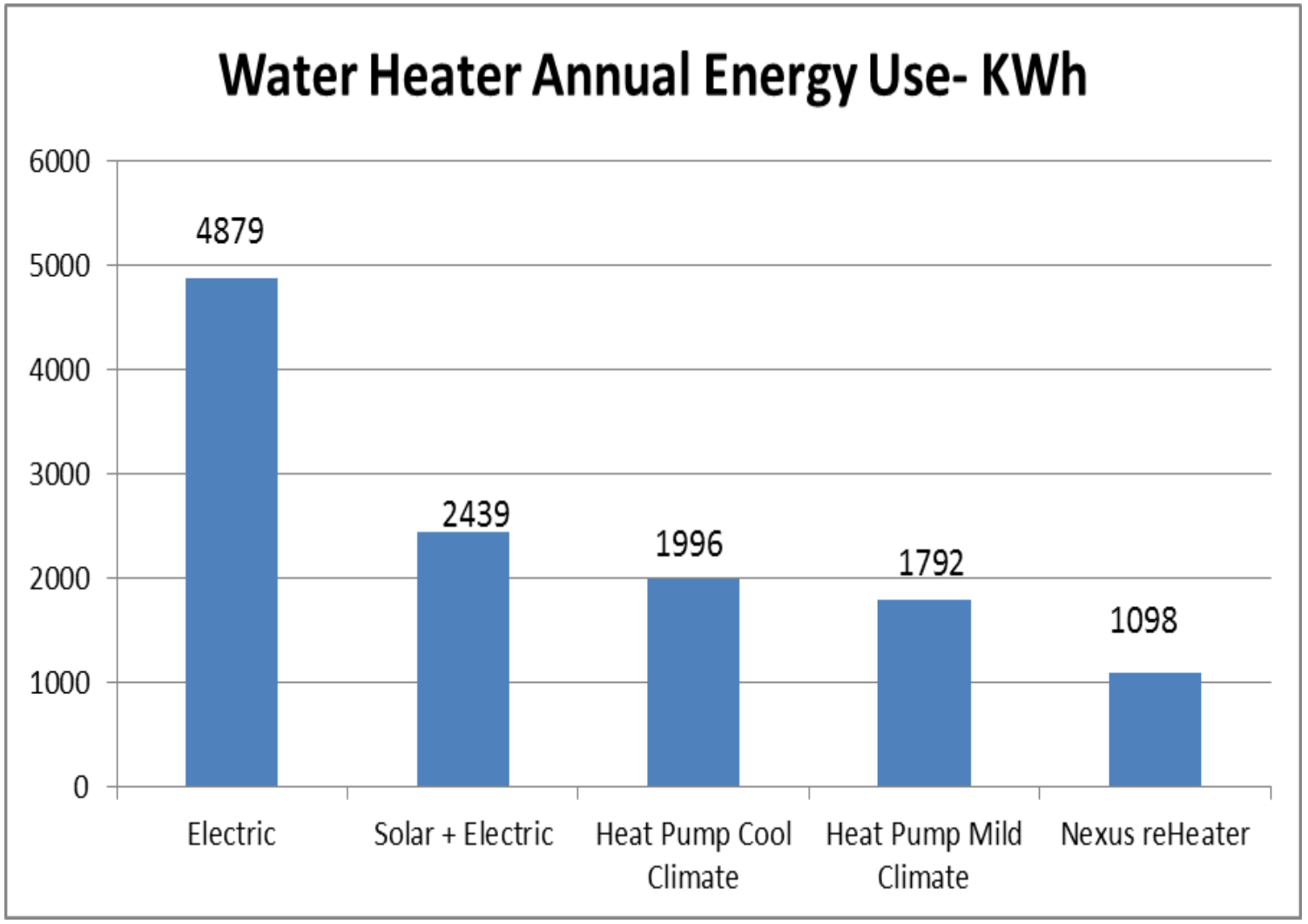


Source: The Carbon Footprint of Water, The River Network, c. 2009

What's in a number?

- The average home uses 26,000 kWh annually
- Water heating accounts for 18% (DoE)
- Potential reduction in energy used in water heating by utilizing the heat in grey water - 75%
- In any climate…..

Water Heating Today



So how can it be done?

- Hold the hot grey water
- Heat pump transfers heat
- Nexus reHeater high-efficiency water heater - CoP ~4
- Generally better efficiency than solar thermal
- At lower cost and no reliance on the weather
- And you can still use the water…..

Potential Household Savings

Monthly Savings for Target Customers in Three Cities				
	Water	**Sewer**	**Water Heating**	**Combined**
San Francisco	44.00	84.00	93.50	$221.50
Seattle	94.40	93.20	30.91	$218.51
San Diego	35.20	28.80	85.25	$149.25

The New Grey Water Value Proposition

- It is now about far more than the value of the water itself, which is already priceless
- Unprecedented water *and* energy conservation outcomes
- The value proposition extends beyond drought-prone regions

What can you do?

In summary

- **200 gallons of high quality treated water/day**
- **3,000+KWh of energy saved**

So

- **Don't waste these resources**
- **Sensible grey water reuse codes (eg treated grey water reuse standards in 2013 CA Plumbing Code)**
- **Incentives**
- **Try it for yourselves**

MAKE HOMES GREY WATER READY!

Thank You

Craig Richmond

CEO

Nexus eWater

craig@nexusewater.com

UNLOCKING THE POWER of GREY WATER