This presentation premiered at WaterSmart Innovations

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Direct Drive Conservation – Using Information and Incentives to Save Water

Ed Borromeo
VP Operations

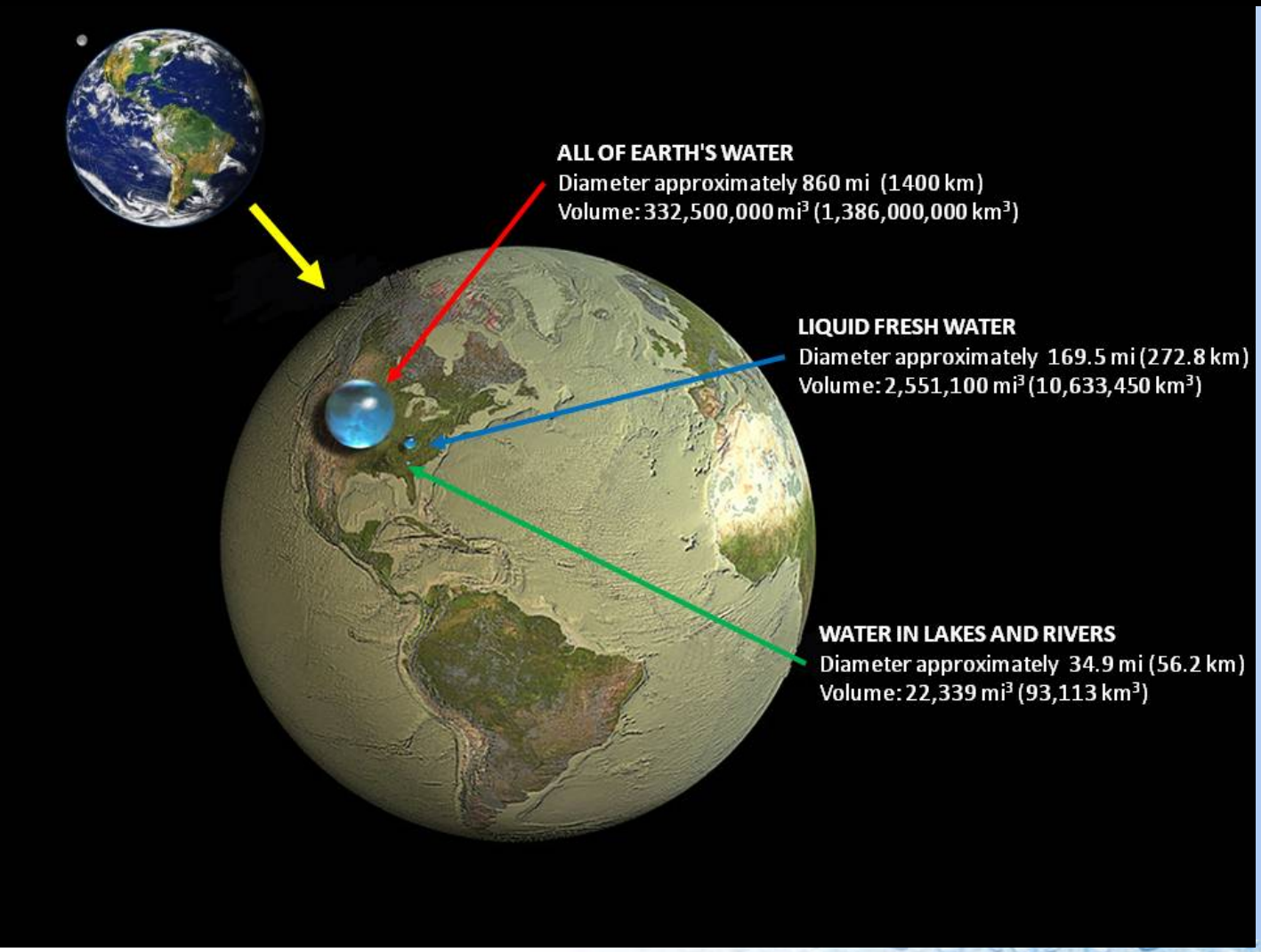
Global Water FATHOM
October 2012

GLOBAL WATER FATHOM

Global Water

GLOBAL WATER
FATHOM

Where's the Water?



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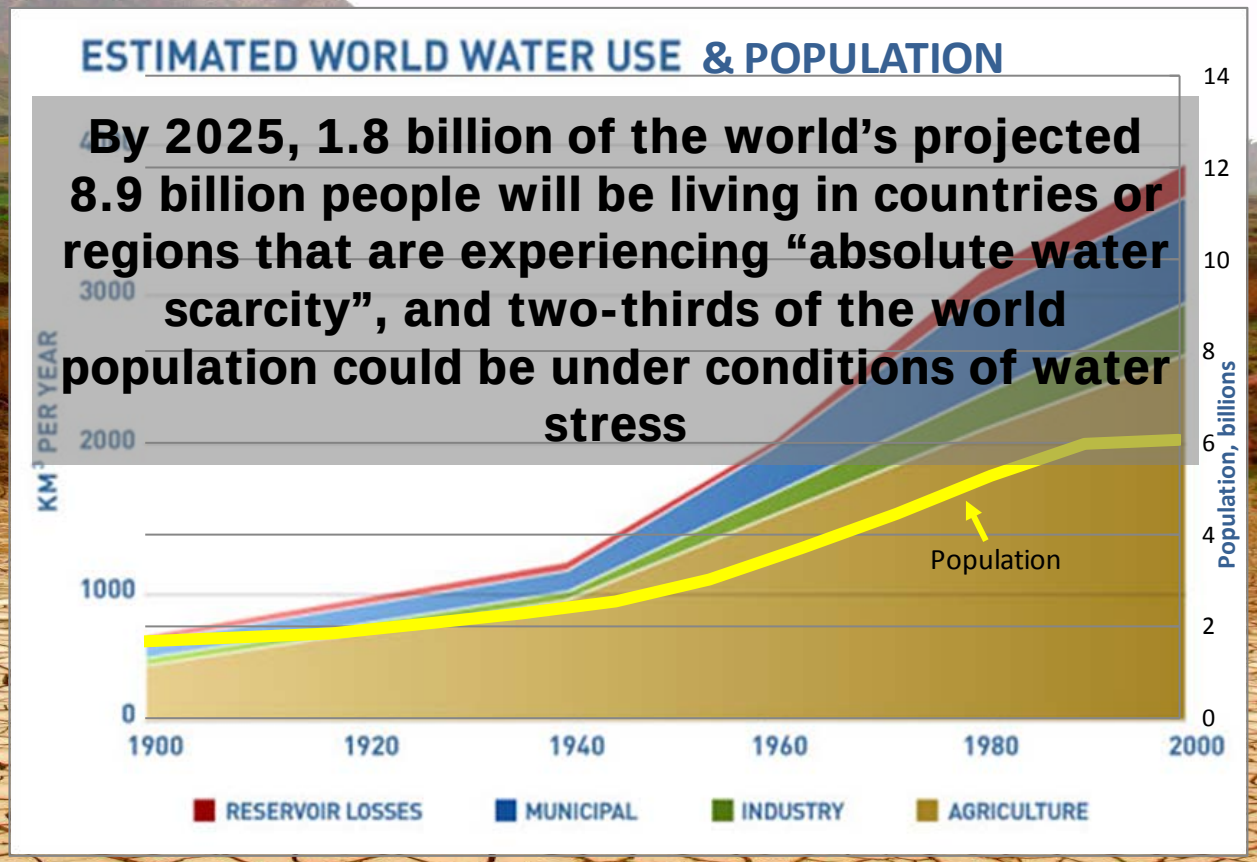
Water Scarcity



Source: UN FAO (http://www.fao.org/nr/water/art/2008/wateruse.htm) and UN "World at Six Billion"

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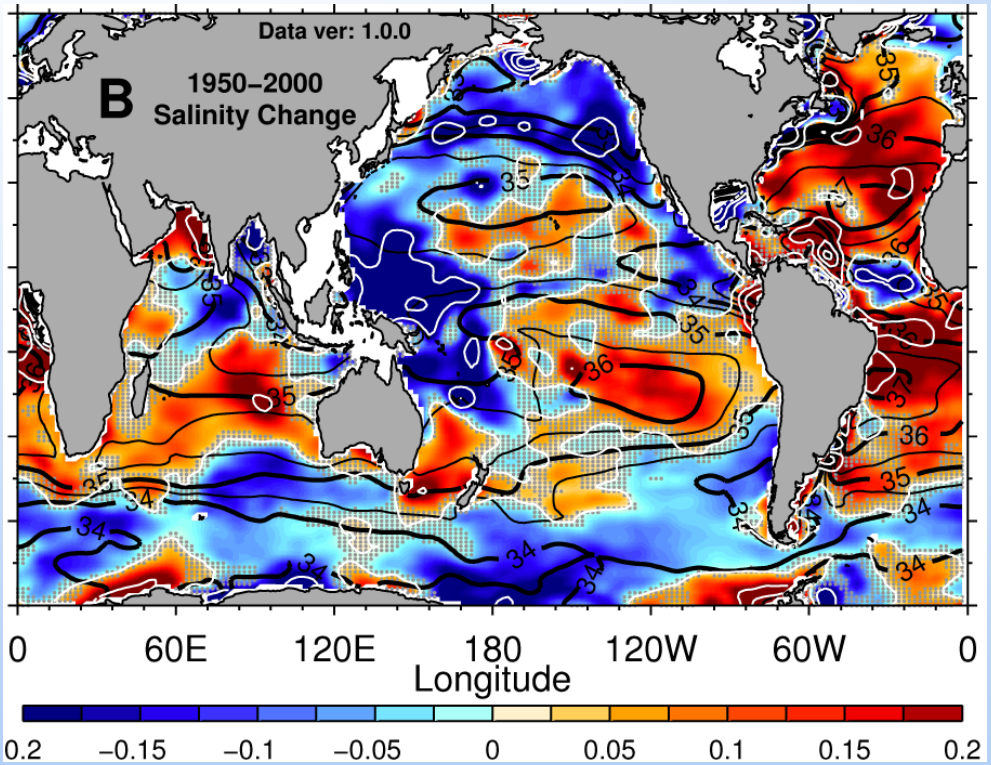
And it's getting worse



"In a future GHG-forced 2° to 3°C warmer world, this implies a 16 to 24% amplification of the global water cycle will occur."

"The faster water cycles, the more abundant and more violent those storms might be. And wet places getting wetter can lead to more severe and more frequent flooding. Dry places getting drier would mean longer and more intense droughts."

Source: Durack & Wijffels, Journal of Climate, 2010 (CSIRO)
Paul J. Durack et al, Ocean Salinities Reveal Strong Global Water Cycle Intensification During 1950 to 2000 Science 336, 455 (2012)
R. Kerr, "The Greenhouse Is Making the Water-Poor Even Poorer", SCIENCE VOL 336 27 APRIL 2012

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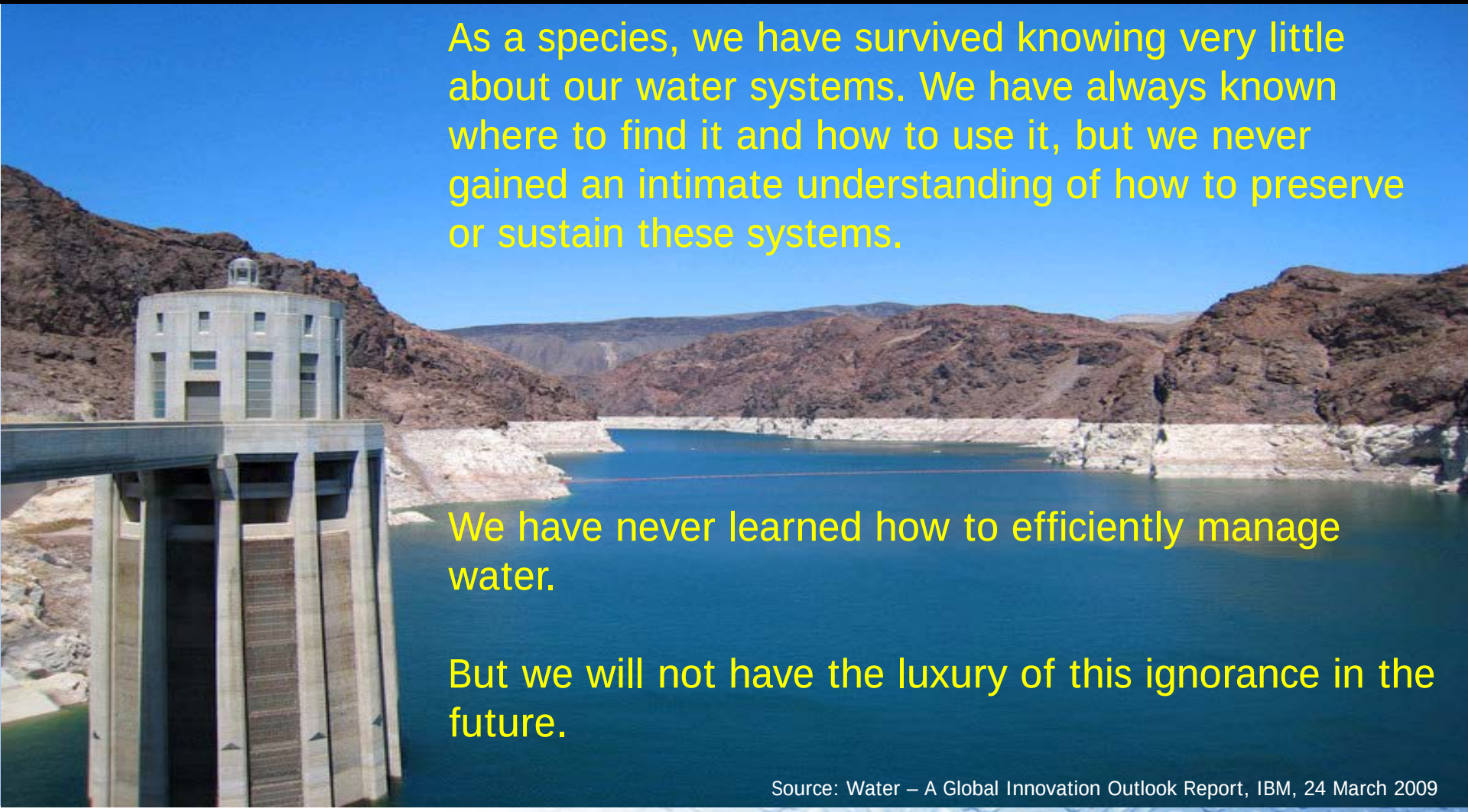
Luxury of Ignorance



As a species, we have survived knowing very little about our water systems. We have always known where to find it and how to use it, but we never gained an intimate understanding of how to preserve or sustain these systems.

We have never learned how to efficiently manage water.

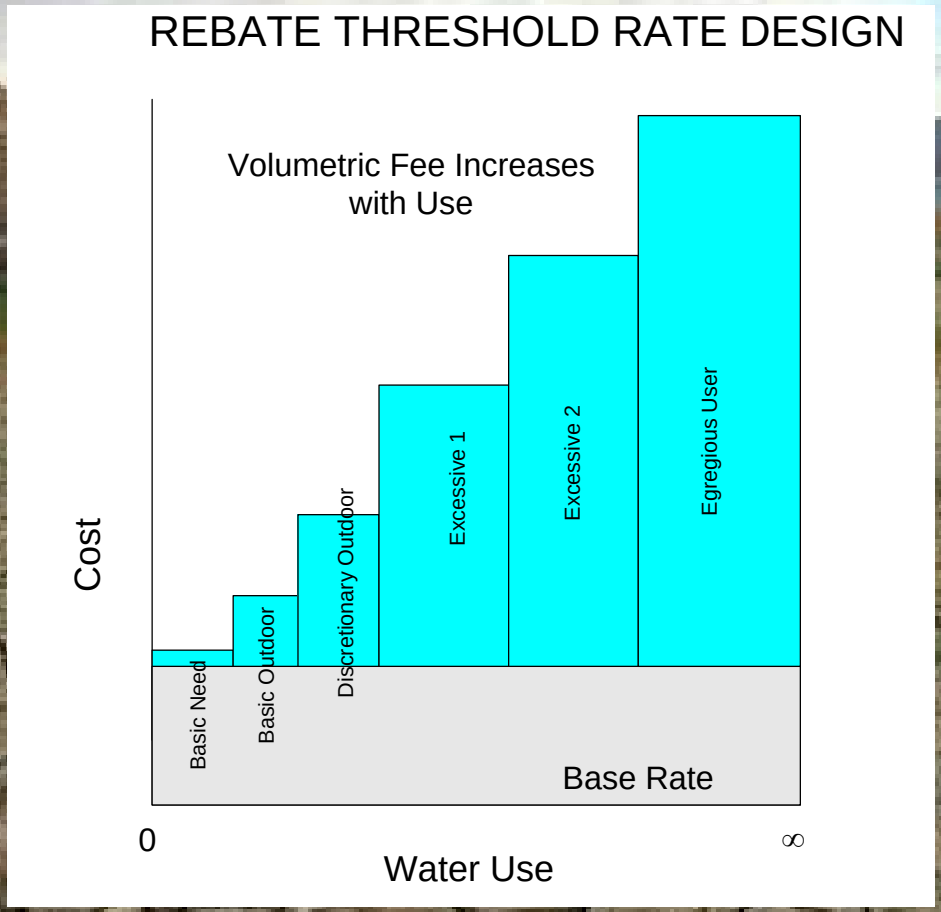
But we will not have the luxury of this ignorance in the future.

Source: Water – A Global Innovation Outlook Report, IBM, 24 March 2009

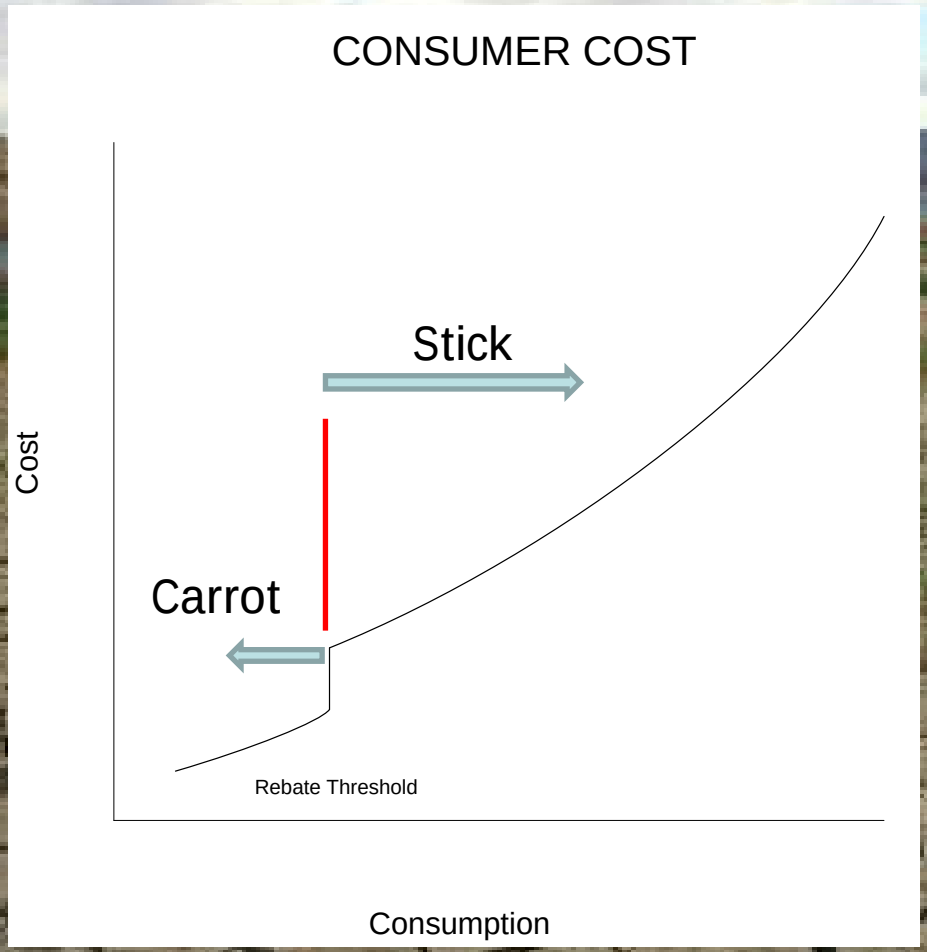
Demand-side Management

Source: Gleick, P., "Roadmap for sustainable water resources in southwestern North America," PNAS, 14 Dec 2010

Altering Behavior - Incentives



Altering Behavior - Incentives



As Rates Increase…

People will demand information

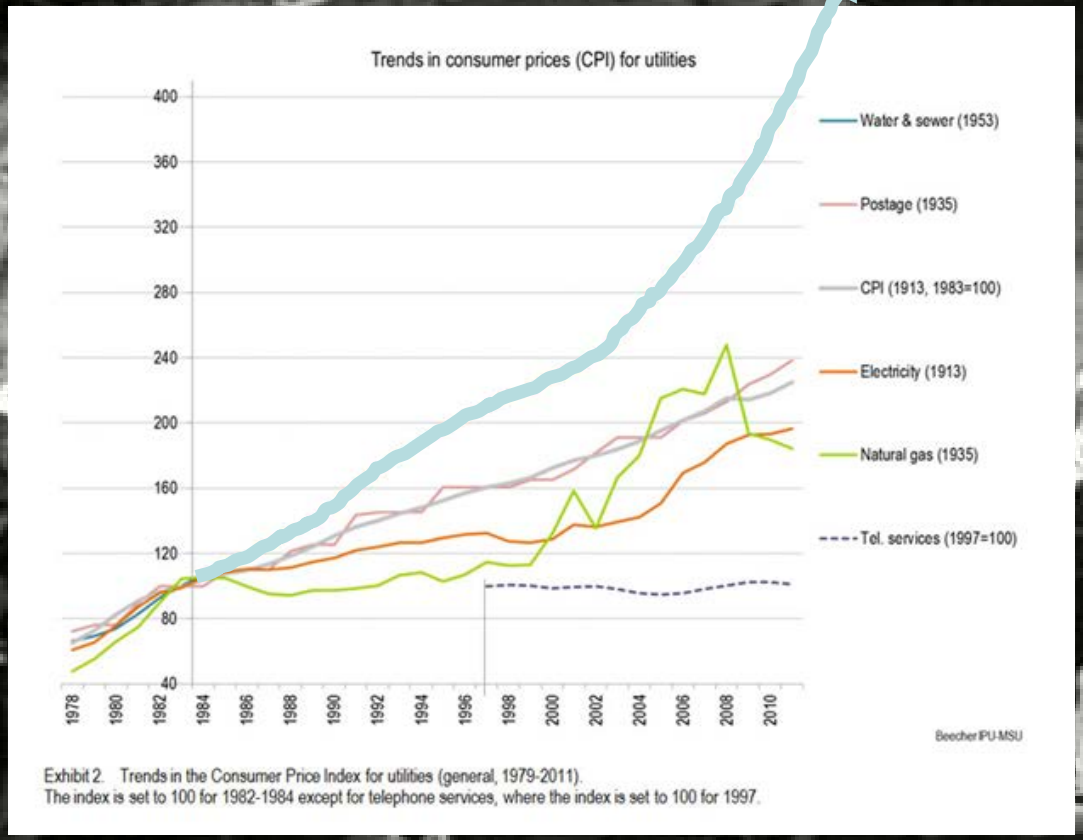
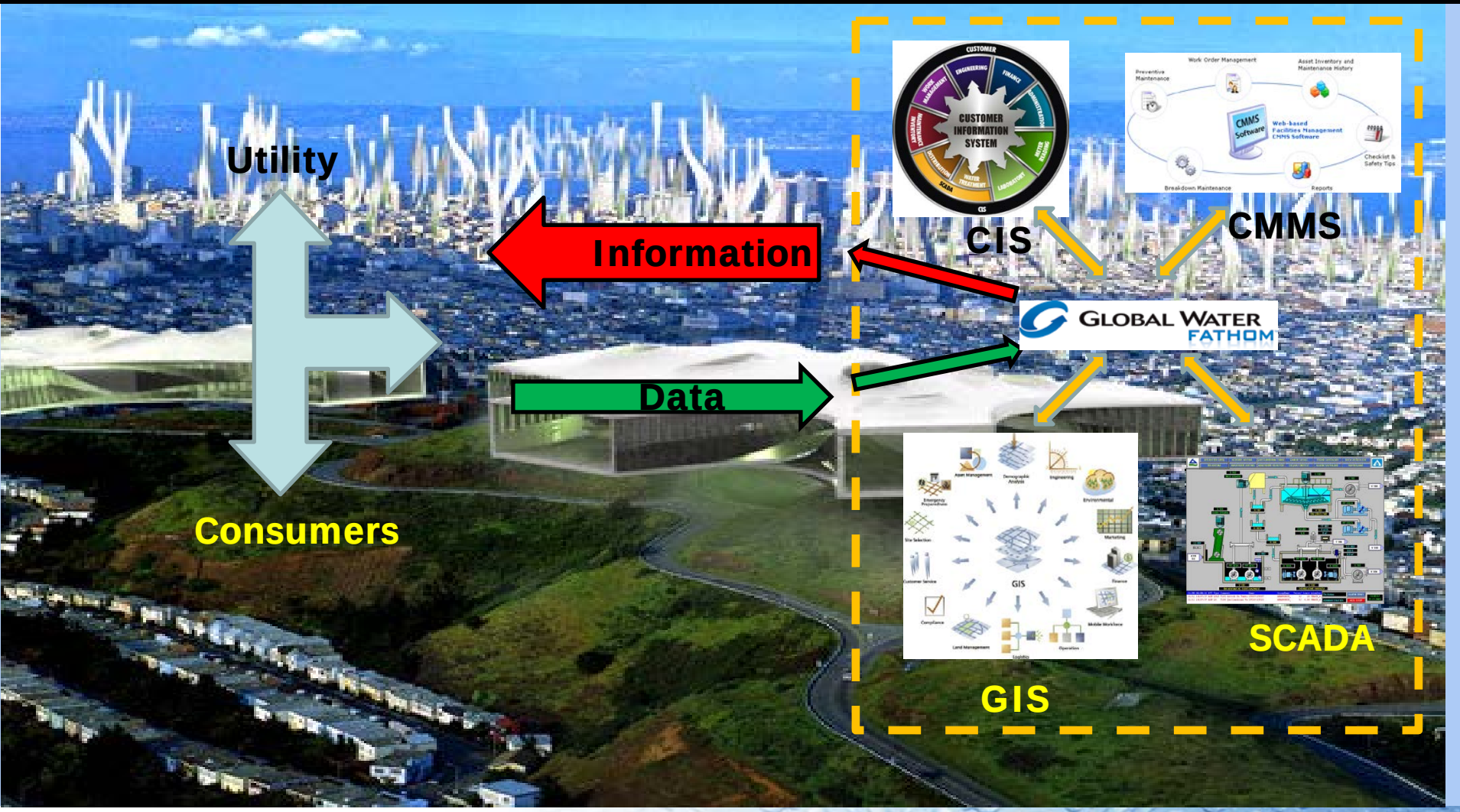


Exhibit 2. Trends in the Consumer Price Index for utilities (general, 1979-2011).
The index is set to 100 for 1982-1984 except for telephone services, where the index is set to 100 for 1997.

Source: Brett Walton, Circle of Blue, "The Price of Water 2012: 18 Percent Rise Since 2010, 7 Percent Over Last Year in 30 Major U.S. Cities", 10 May 2012

Where is the Data?



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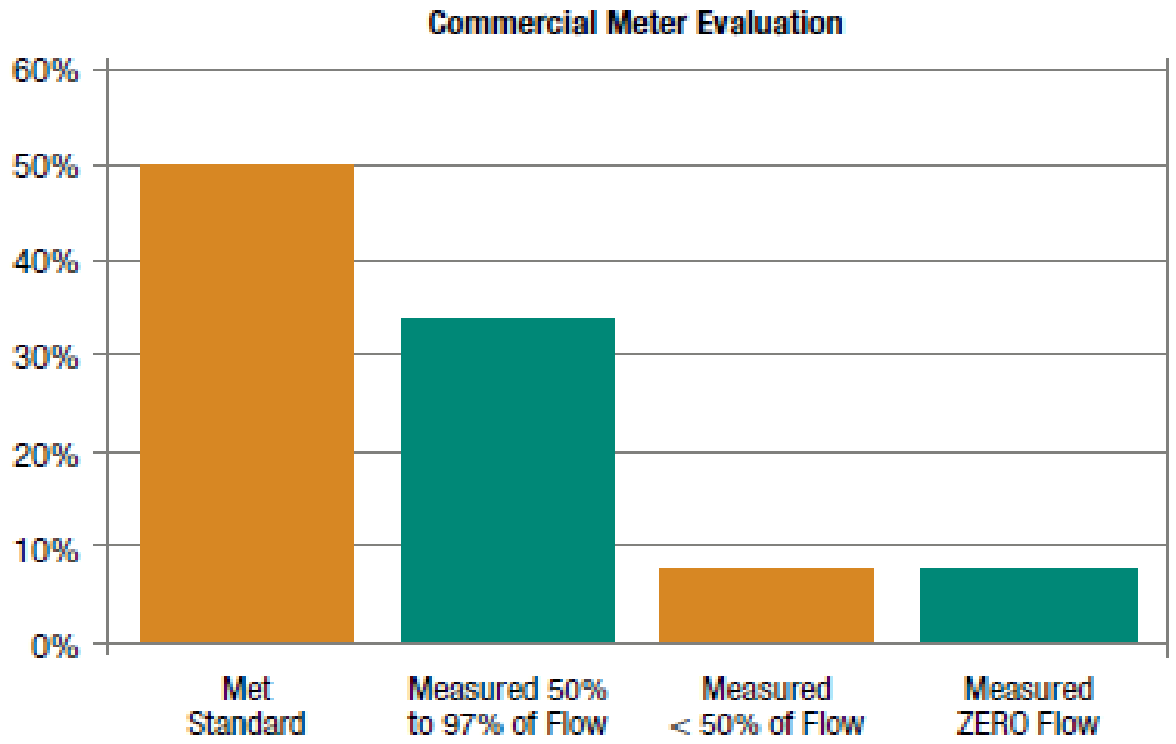
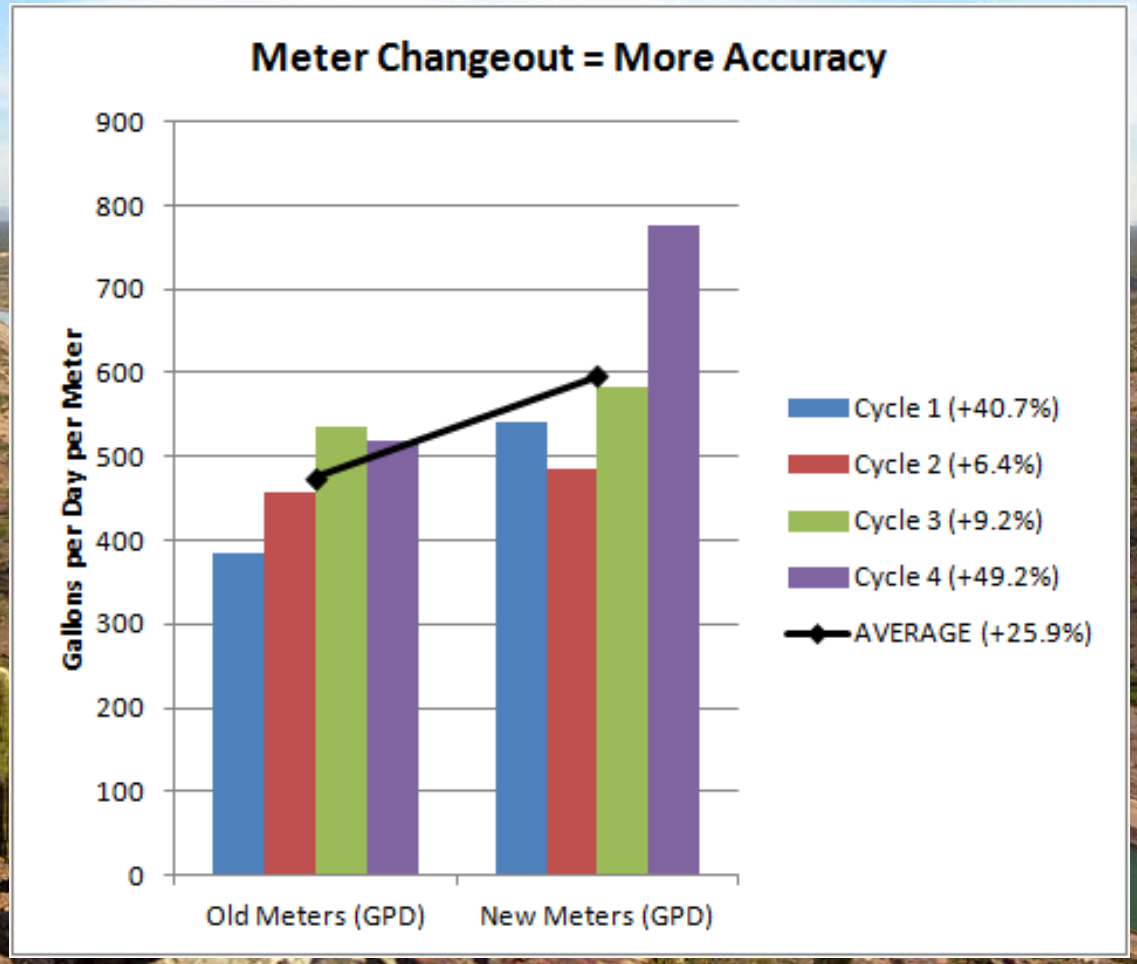
Finding the Drops in the Data

Figure 1: Results of commercial meter audit in Global Water – Santa Cruz Water Company



Source: Symmonds, G., “Are You Leaking Water or Data?”, Water Canada, Sep/Oct 2011

Finding the Drops in the Data



Source: Symmonds, G., "Get Smart!", UIM, Jan/Feb 2012

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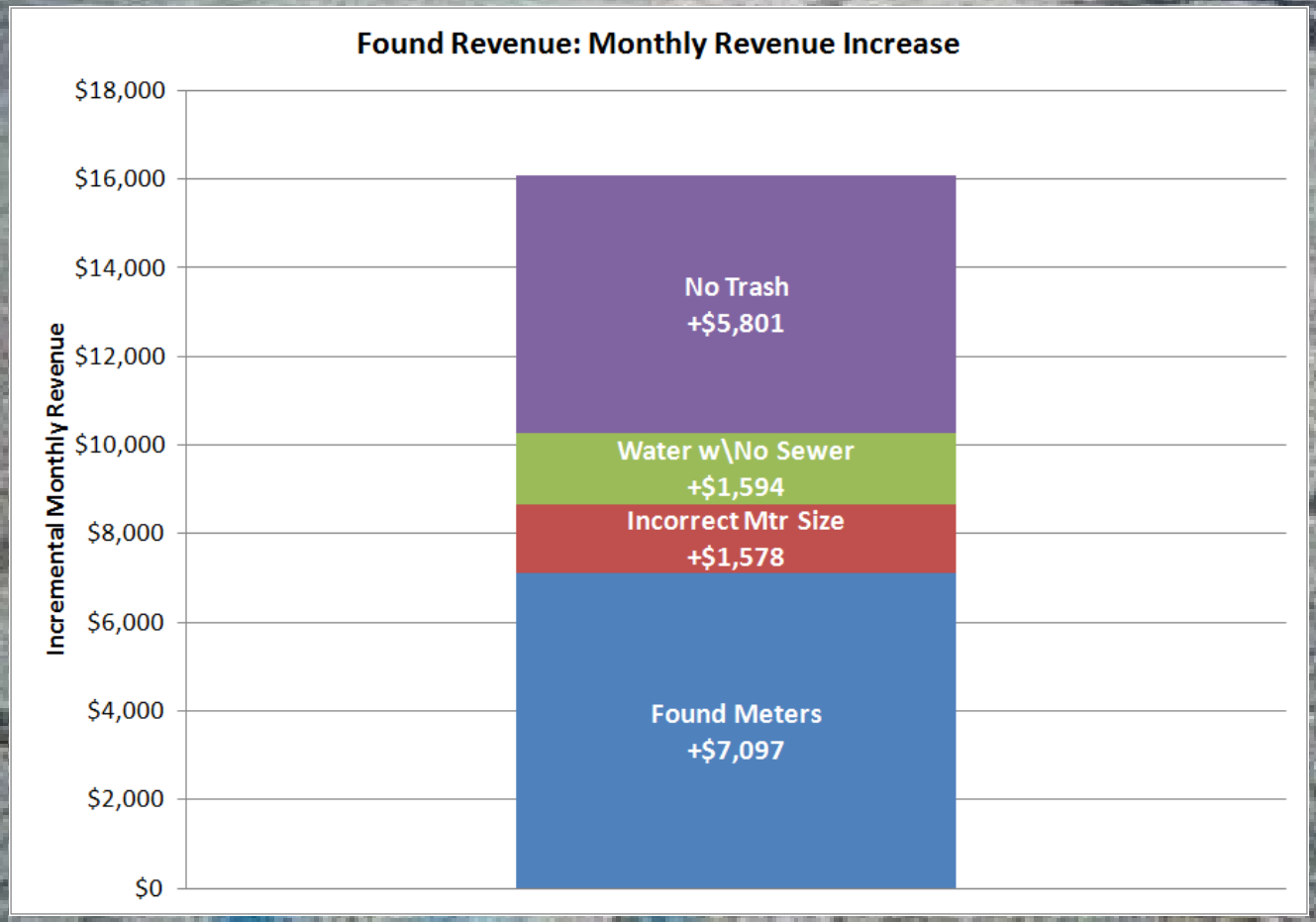
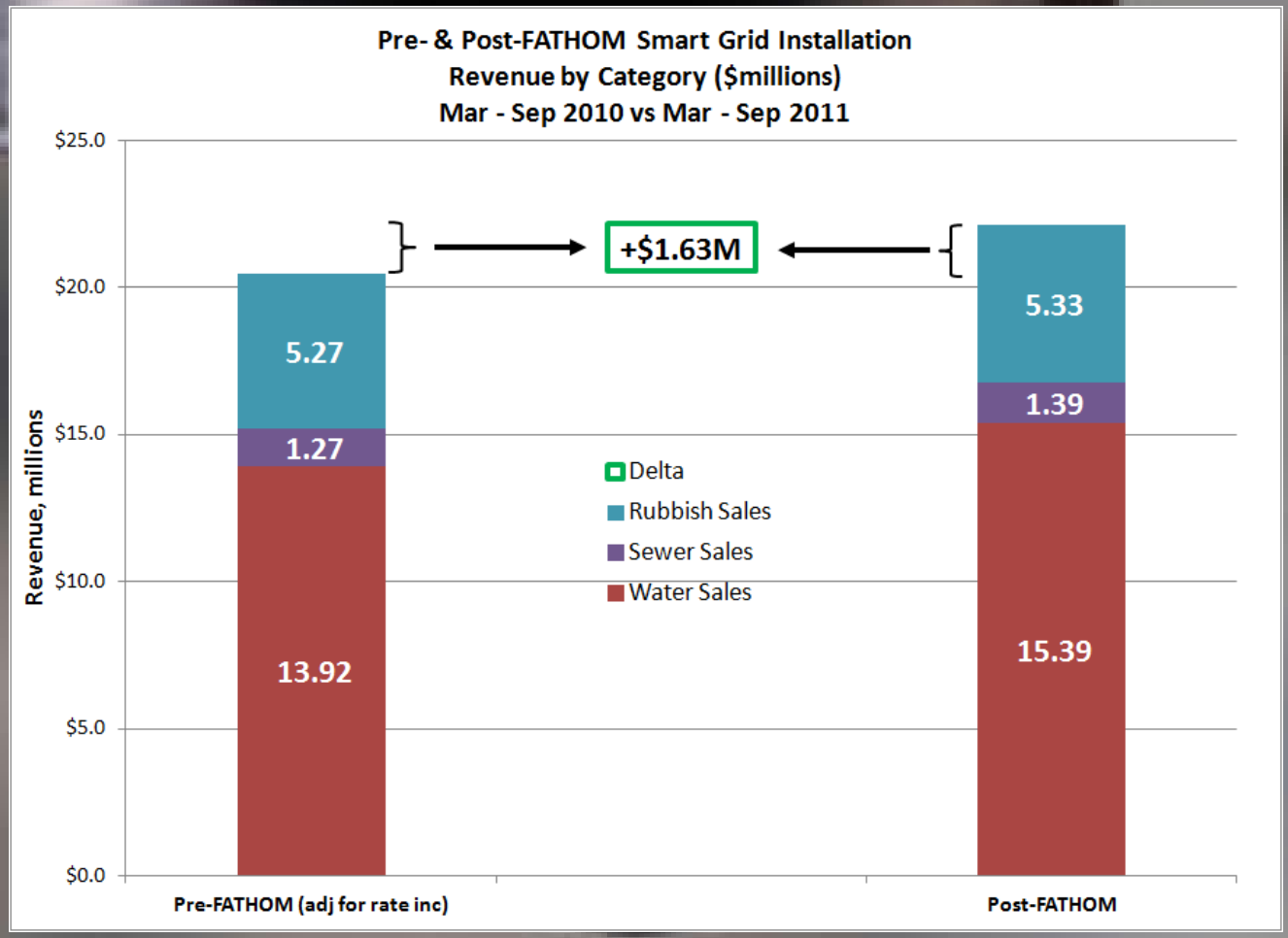
Finding the Dollars in the Data



Source: Symmonds, G., "Get Smart!", UIM, Jan/Feb 2012

Finding the Dollars in the Data



Source: Symmonds, G., "Get Smart!", UIM, Jan/Feb 2012

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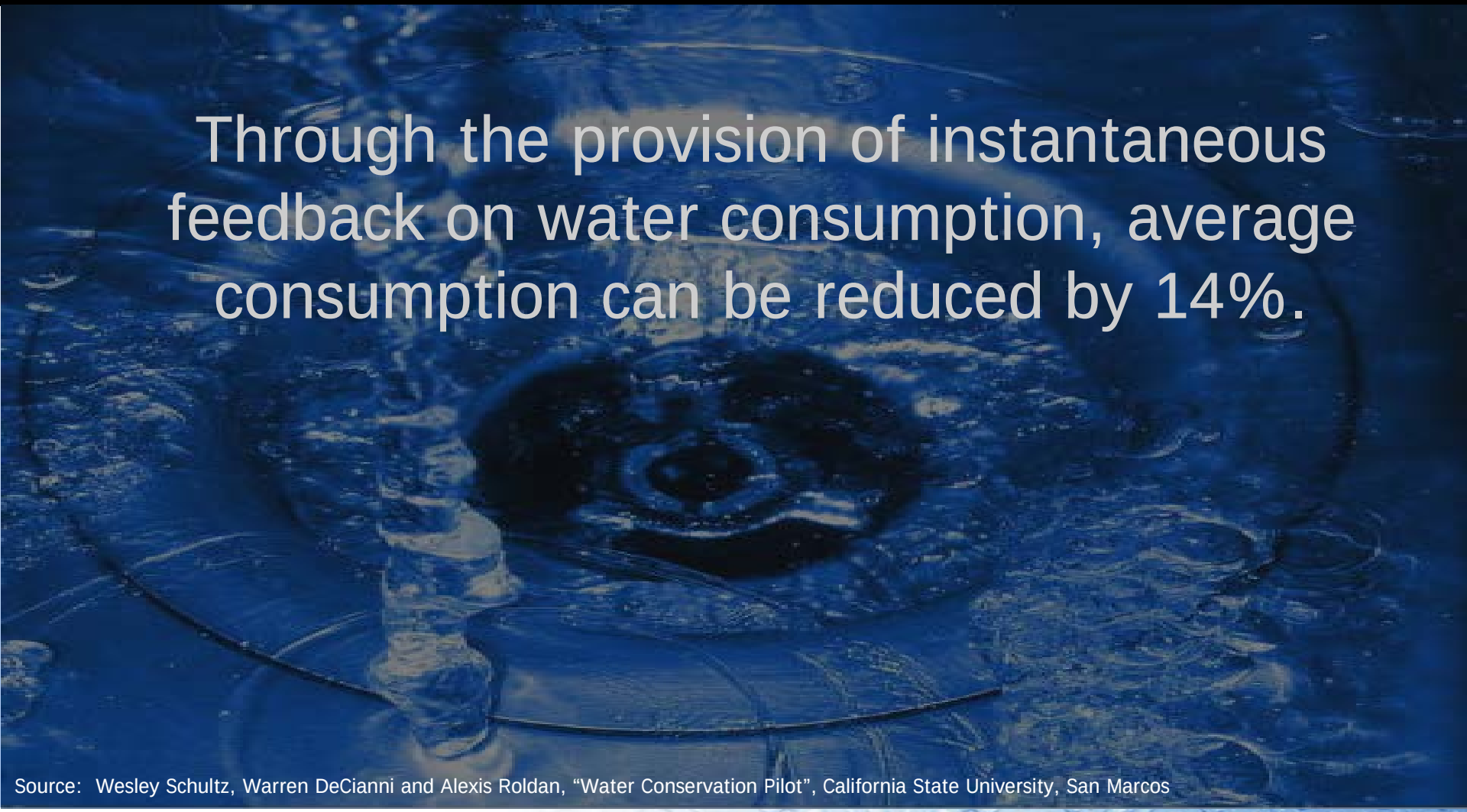
Benefits of Data for Consumers



Through the provision of instantaneous feedback on water consumption, average consumption can be reduced by 14%.

Source: Wesley Schultz, Warren DeCianni and Alexis Roldan, “Water Conservation Pilot”, California State University, San Marcos

PERSONALIZED DATA

How much water do I use?

How do I fare compared to my street, my neighborhood, my city?

How much water should I use?

Based on weather data and evapotranspiration calculations – how much should I have used outside?

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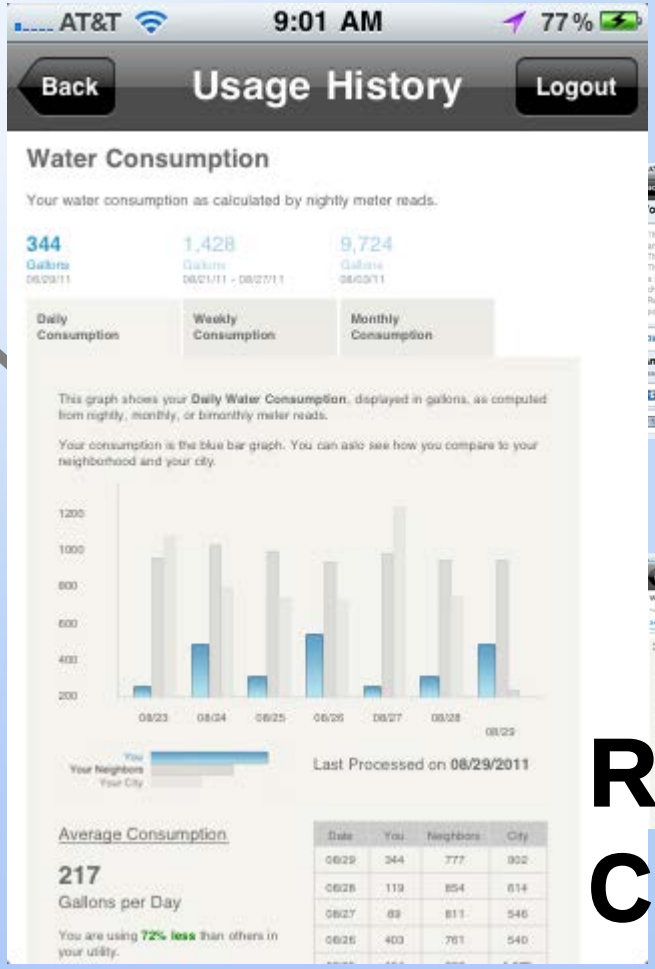
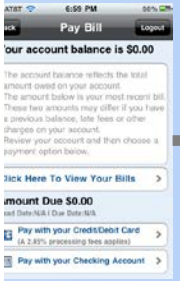
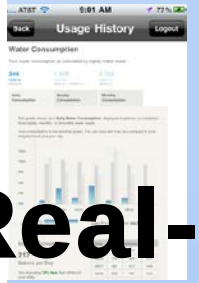
Access to Data = Conservation







Real-time Conservation

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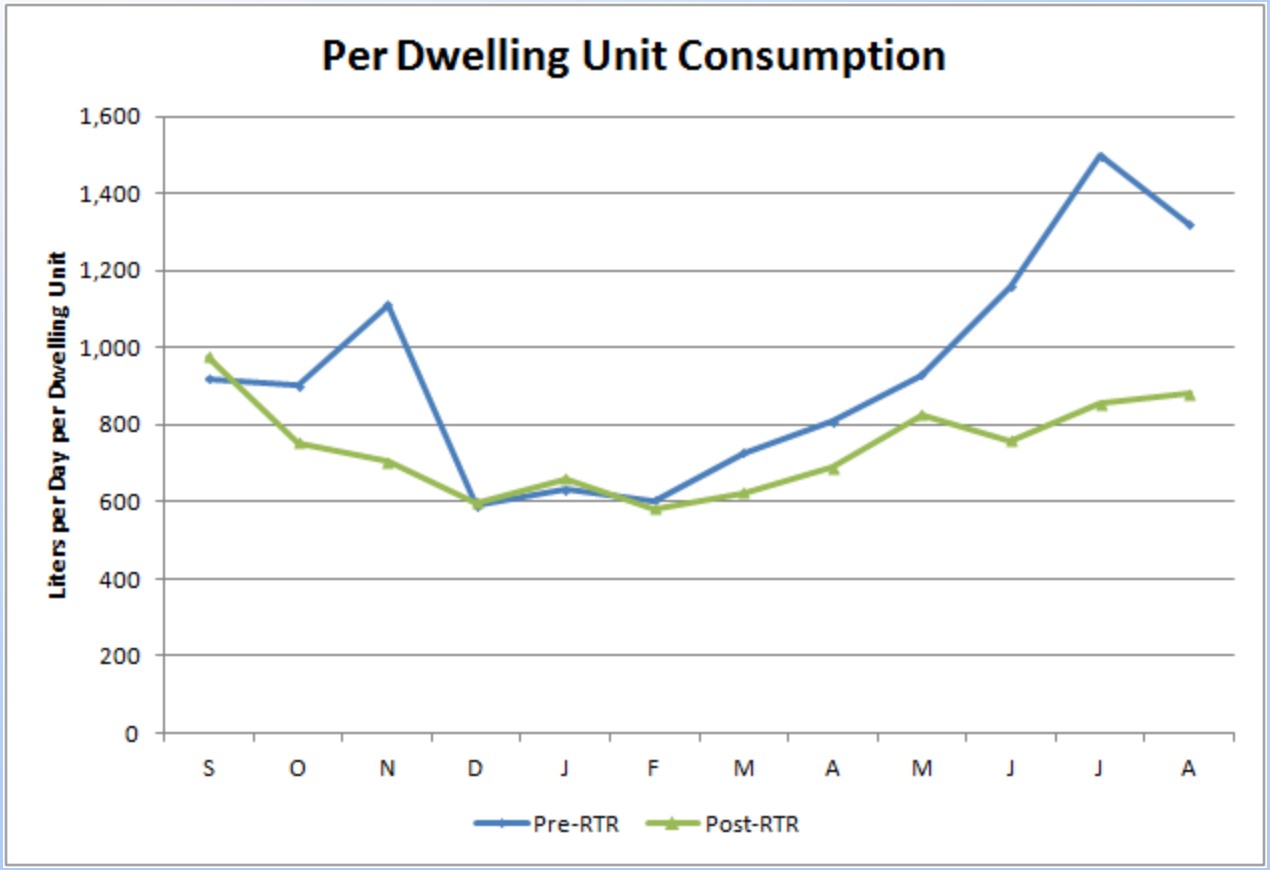
Incentives and Information



Changing the Industry

QUESTIONS?

"Truly sustainable water management and use requires efficiency, smart economics, advanced technology, and better governance and water management."

Source: Gleick, P., "The Real Cost of Water We Use", presented at the Stanford Graduate School of Business, 9 Feb 2010