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watersmartinnovations.com





Water Conservation and the Green Industry

Jennifer Riley-Chetwynd

jriley-chetwynd@rainbird.com

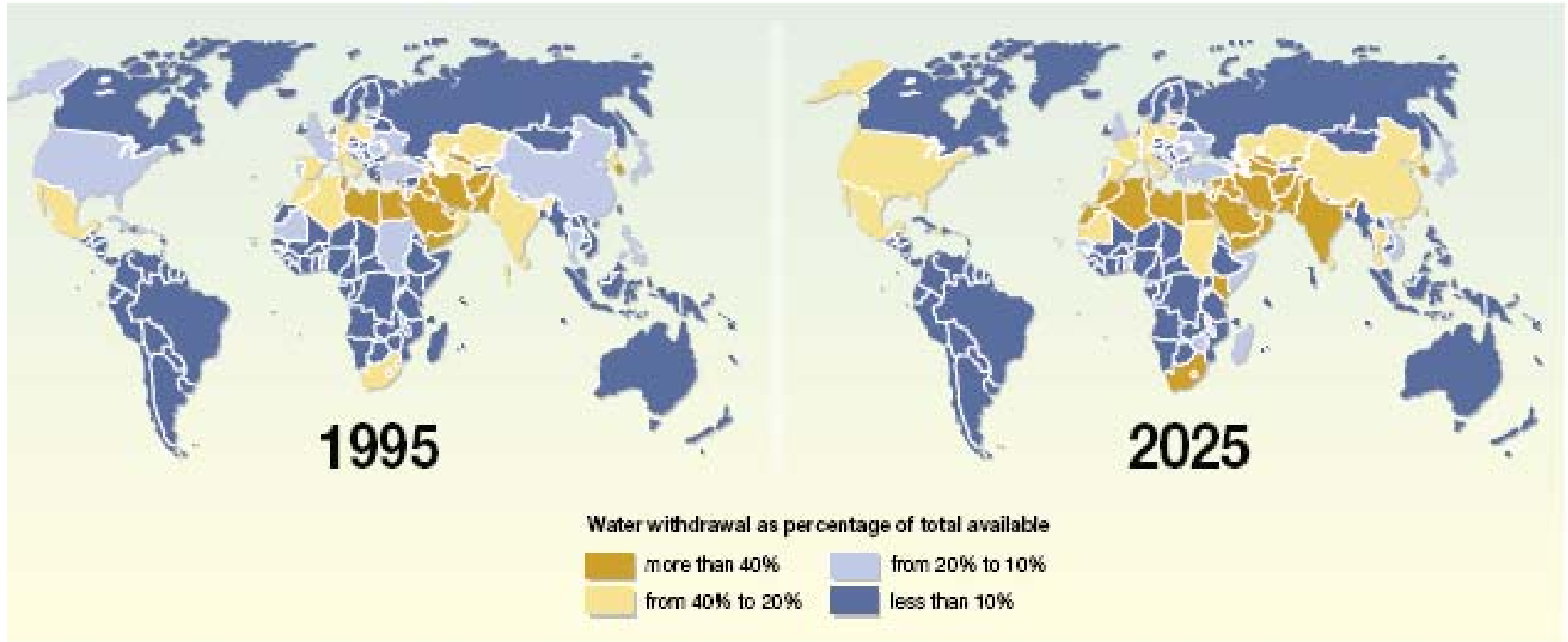
Oct. 7, 2010

The Intelligent Use of Water.™

Overview

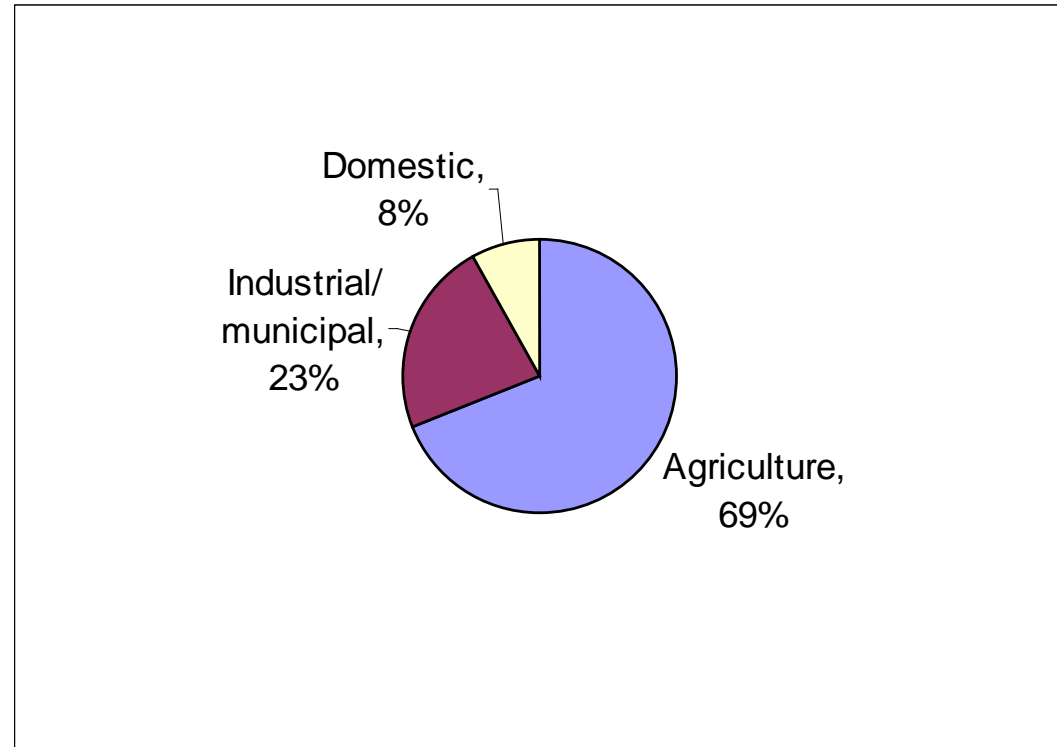
- **Global water shortages**
- **Trends and influencing factors in conservation**
- **Efficient irrigation and green industry technological advances**
- **The conservation movement**
- **Conclusions**

Global water shortages



How is water used

- **69% of water used in Agriculture**
- **23% used in industry**
- **8% used domestically**
- **Anywhere from one- to two-thirds domestic water use is on landscapes**



Potential solutions to shortages

OPTION 1:
Water
Re-Pricing

OPTION 2:
Water
Re-Use

OPTION 3:
Desalination

OPTION 4:
Water Transfers &
Improvements to
Water Delivery
Systems

OPTION 5:
Alternate
Plant
Selection

OPTION 6:
Conservation
Through
Water-Efficient
Irrigation

Trends and influencing factors in conservation

Water conservation = threat?

- **Australia “stage 3” restrictions**
- **England “hose pipe” bans**
- **US:**
 - Water managers in 36 states predict water shortages by 2013
 - Increased scrutiny of outdoor water use
 - Watering restrictions
 - Rising popularity of synthetic turf
 - Turf replacement programs
 - Opportunity for the green industry
 - Offer water-efficient product and service solutions to homeowners and businesses

Water conservation = opportunity

- In defense of landscapes...
 - Green Associations Water Conservation Council
 - Project Evergreen
 - American Society of Landscape Architects
 - American Society of Irrigation Consultants



The value of landscaping

- **Environmental:**

- Release oxygen
- Absorb carbon dioxide
- Reduce soil erosion
- Purify and replenish water supply
- Serve as natural barrier to wildfire
- Naturally insulate homes and buildings

- **Socioeconomic:**

- Increase real estate values
- Provide beautiful, safe recreation areas



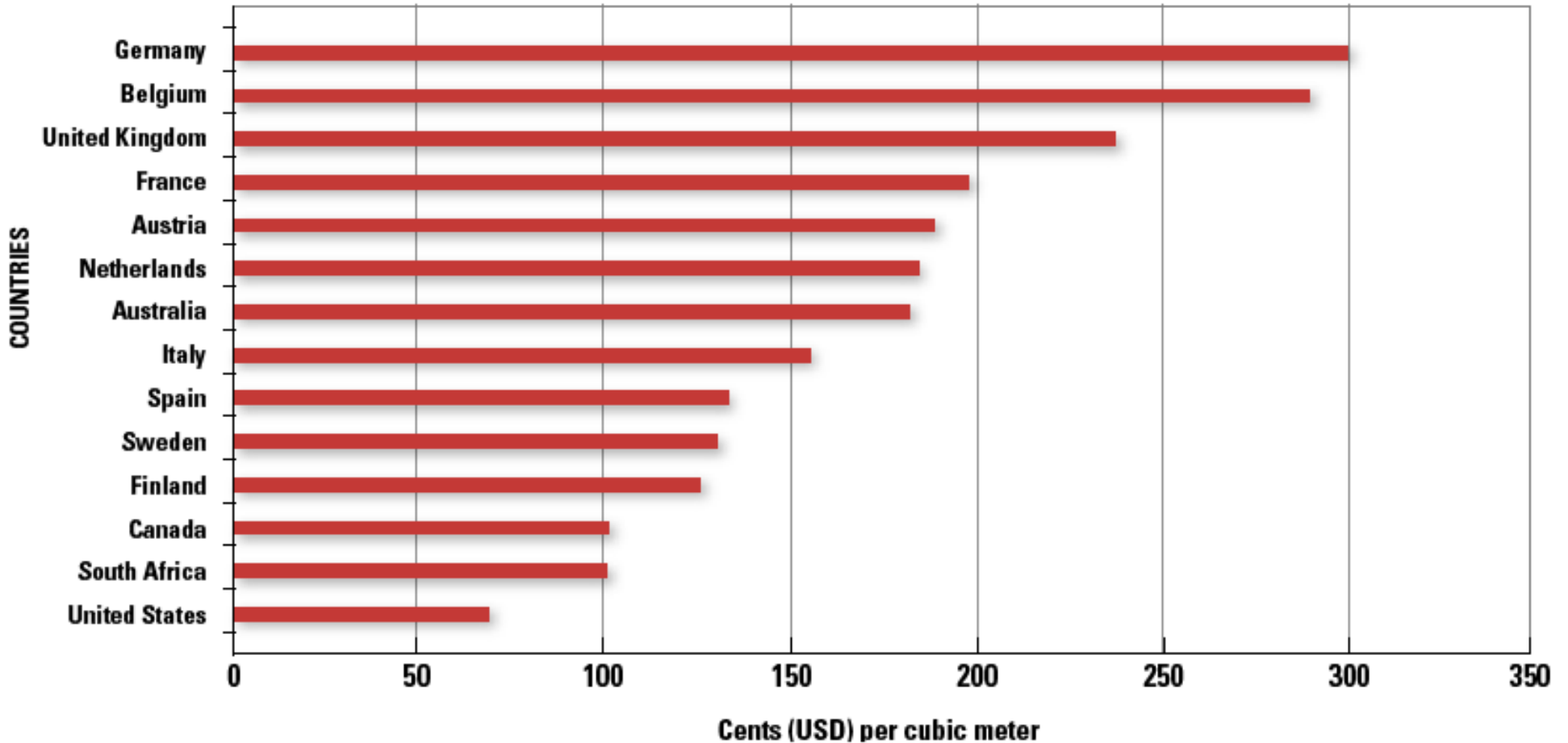
Facilitating opportunity

- **EPA WaterSense**
 - Certification of landscape professionals as water efficient - 2006
 - Landscape watering guidelines for new homes - 2009
 - Certification of “smart” irrigation controllers – expected 2010
- **Patterned after Energy Star program**
 - More stringent: third-party vs. manufacturer product certification



Altruism vs. cost

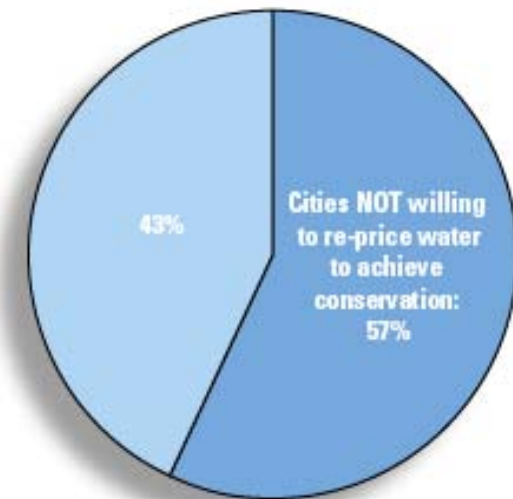
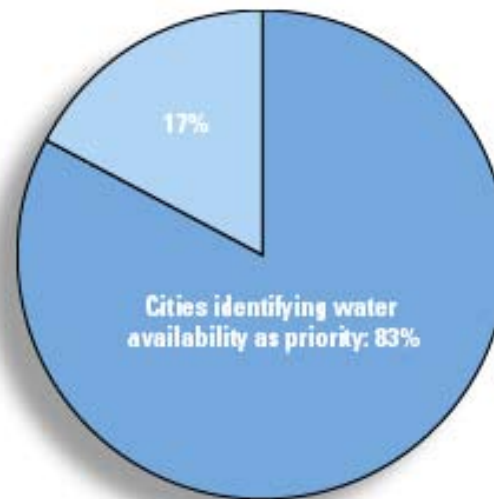
INTERNATIONAL WATER COST COMPARISON 2008²⁴



The “true” cost of water

“Quite simply, we are not paying the true cost of water. Water rates, with rare exceptions, do not include a commodity charge for the water itself. The water is free.”

Robert Glennon *Water Follies: Groundwater Pumping and the Fate of America’s Fresh Waters*



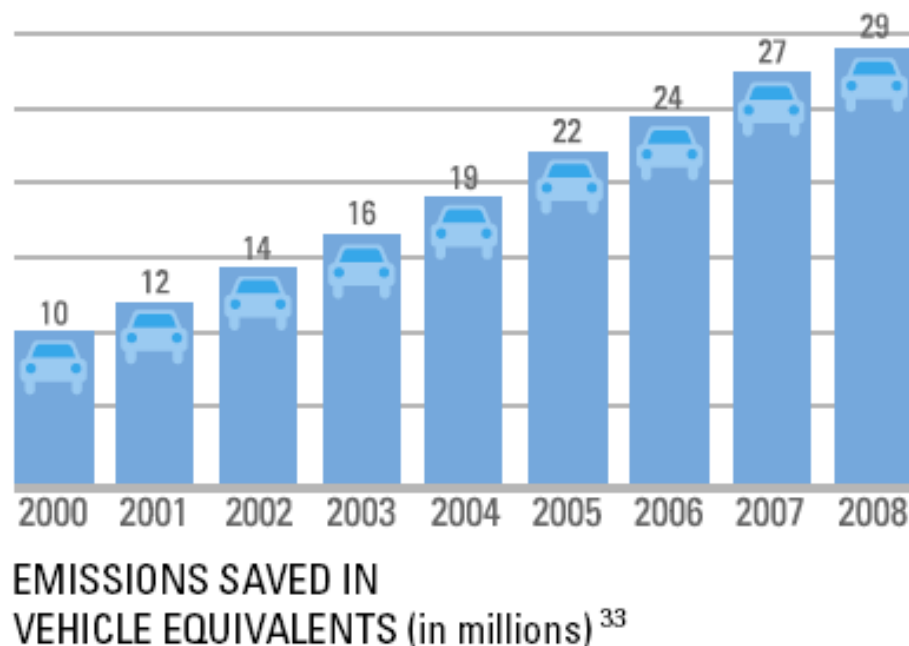
Mayors Water Council Study, 2005

Efficient irrigation and green industry technological advances

Making water conservation easy

- **Energy Star program as a model for EPA WaterSense:**

- 2.5 billion Energy Star qualified products sold since 1992
 - Reduction of 43 million metric tons of greenhouse gas emissions in 2008 alone
 - Equivalent of removing 29 million vehicles from the road for the entire year



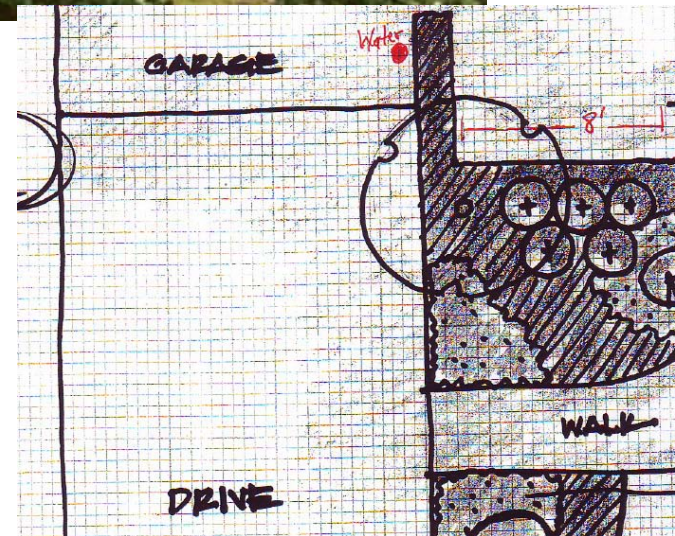
Cost-effective water-efficient irrigation technology

- **Smart (weather-based) controllers**
- **Automatic shut-off devices**
- **Water-efficient rotor and spray features:**
 - Pressure regulation
 - Check valves
- **Landscape Drip: Direct-to-plant-root watering devices**
- **High-efficiency nozzles:**
 - Rotary Nozzles



Plant selection

- **New turf species**
 - Drought-tolerant
 - Saltwater-tolerant
- **Xeriscaping**
- **Design matters**
 - Zoning by plant type
 - The right irrigation method for the right plant
 - Pavement won't grow



The conservation movement

The economics of being green

- **Energy Star program as a model for EPA WaterSense:**
 - 2.5 billion Energy Star qualified products sold since 1992
 - 2,400 manufacturers
 - 1000 retailers
 - 6500 homebuilders, service providers, architects installing and specifying
- **USGBC LEED**
 - By 2013, greenbuilding market estimated to grow from \$10 billion to \$50-\$80 billion
 - Water efficiency is a criteria for all LEED programs



Conclusions

Looking Ahead

- **“It’s all one water”**
- **Solving the crisis will take collaboration**
- **Water-efficient irrigation can make a significant impact**
- **Education is key**

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