Water ReUse

The 21st Century Opportunity

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“Water is the oil of the 21st century.”

Andrew Liveris, CEO Dow Chemical

Texas files water lawsuit against N.M. - Jan 2013
U.S. rainwater market to exceed $1 billion

U.S. Market
100% = $426 Million Revenue, 2009

- Tanks: 35%
- Labor: 40%
- Accessories: 25%

14% Annual Growth Rate
In 2016

5% Annual Growth Rate
$1B in 2018

Source: U.S. Rainwater Industry Analysis
Split Between Residential and Commercial

- Residential: 37%
- Commercial: 28%
- Government: 21%
- Rain Barrel: 11%
- Other: 3%
Products Favored by Installers

Above Ground Brands
- No Brand
- Norwesco
- Pionneer
- RMI
- Cor Gal
- Snyder
- Bushman
- Other

Filtration Brands
- None
- Other
- Graf
- Rain Harvesting
- 3P
- Pura
- Supplier's Brand
- Natural Wizy
- Other
Distribution of Market

<table>
<thead>
<tr>
<th>State</th>
<th>Number of Businesses</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Texas</td>
<td>208</td>
<td>18.86%</td>
</tr>
<tr>
<td>California</td>
<td>158</td>
<td>14.32%</td>
</tr>
<tr>
<td>New Mexico</td>
<td>79</td>
<td>7.16%</td>
</tr>
<tr>
<td>Georgia</td>
<td>75</td>
<td>6.80%</td>
</tr>
<tr>
<td>Arizona</td>
<td>61</td>
<td>5.53%</td>
</tr>
<tr>
<td>Washington</td>
<td>60</td>
<td>5.44%</td>
</tr>
<tr>
<td>North Carolina</td>
<td>43</td>
<td>3.90%</td>
</tr>
<tr>
<td>Hawaii</td>
<td>38</td>
<td>3.45%</td>
</tr>
<tr>
<td>Florida</td>
<td>35</td>
<td>3.17%</td>
</tr>
<tr>
<td>Oregon</td>
<td>30</td>
<td>2.72%</td>
</tr>
<tr>
<td>Illinois</td>
<td>29</td>
<td>2.63%</td>
</tr>
<tr>
<td>Ohio</td>
<td>20</td>
<td>1.81%</td>
</tr>
<tr>
<td>Virginia</td>
<td>20</td>
<td>1.81%</td>
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</tbody>
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Regulations, drought and lack of or too much water (most of the time) drive interest
Drivers of industry growth

Supply side growth
- Improving reliability of solutions
- New technologies and product offerings
- Existing industry value chain
- Plumbing code updates

Demand side growth
- Increasing water costs
- Water scarcity
- Desire to conserve
- Growing awareness of rainwater solutions
- Incentives
- Sustainability movement

Growth Inhibitors
- Economy
- Rainwater is not part of discussion!
- Scant Federal or State support
- No industry standards
- State-by-State “opinions”
- RWH regs often more stringent than well water
- A lot of foreign products
Examples – How many Guides Do we Really, Really Need

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>EPA Municipal Handbook</td>
<td>Los Angeles City Low Impact Development Ordinance</td>
</tr>
<tr>
<td>Rainwater Harvesting Policies</td>
<td>U of FL Cisterns To Collect Non-Potable Water For Domestic Use Guidelines</td>
</tr>
<tr>
<td>Guidelines on Rainwater Catchment Systems for Hawaii</td>
<td>Oregon Smart Guide - Rainwater Harvesting</td>
</tr>
<tr>
<td>Rainwater Harvesting in San Francisco</td>
<td>&gt;&gt; The list goes on and on….</td>
</tr>
<tr>
<td>Georgia Rainwater Harvesting Guidelines</td>
<td></td>
</tr>
<tr>
<td>Virginia Design Specification No. 6: Rainwater Harvesting</td>
<td></td>
</tr>
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</table>
Examples – Regulations Do Work

Ord. 1996-16 (5/29)
- 4 Stages – Stage 1 is voluntary; 2+ are mandatory
- Odd/even watering initiated. No outdoor watering on Mondays.
- Watering prohibited between 8AM-7PM
- Customers requested to reduce consumption by 25% over previous year
- Base usage determined by water meter size (May-Aug./Sept.-Apr.)
- Surcharges, penalties and fines authorized

Ord. 1996-20 (6/12)
- Same provisions as Ord. 1996-16
- Surcharge for resid. water use over 25,000 gpm (gallons per month)

Ord. 1996-30 (7/31)
- As Above
- Base usage months changed to Apr.-Sept./Oct.-Mar.

Ord. 1996-35 (9/11)
- As Above
- Change of appeal process for customers

Ord. 2000-30 (6/28)
- 4 Stages – officials & water utility employees vested to enforce regs.
- Provisions of Stages 2 & 3 apply to Stage 1 on a voluntary basis.
- Odd/even in mandatory Stage 2. Watering 1x/wk. in Stage 3
- No new construction meters in Stage 3
- Stage 4 includes regulation of domestic wells
- Watering prohibited between 10AM-4PM
- Low flow shower heads and faucet aerators required for commercial facilities
- Surcharges are now called “Drought Emergency Surcharges” in Stage 2+

Ord. 2002-17 (4/10)
- 4 Stages
- Odd/even in Stage 2. 10AM-4PM. Watering 1x/wk. in Stage 3
- Drought Emergency Surcharges apply through entire monthly billing cycle in 2+

Ord. 2002-26 (6/12)
- 5 Stages (when Stage 4 has not resulted in necessary reduction in water demand)
- Recinded
- Fixture retrofits (toilets, urinals, faucets and showerheads) became compulsory
- Building permits require offsets commensurate with increased water demand.
- Lodging facilities shall not exceed 140 g/day/room or pay surcharge of 2x bill
Examples – Incentives Do Work

- Solar industry benefiting from great incentives
- Higher incentive in some areas than others
- Even within States it is all over the board – NM

Works for solar, why not water?
What To Do???

- **Zero runoff** from Fed Bldg – Lead by Example
- Fund equivalent of **Database of State Incentives for Renewables and Efficiency** (Dept of Energy)
- **Sample guides** that could be copied by States and counties (i.e. irrigation, toilet flushing, drinking systems)
- Rationalize **water quality standards** (e.g. why can untested well water be used in a toilet and not rainwater. We have naturally occurring arsenic and uranium in NM wells)
- **Grants** to research/build US products. Most imported from Germany, UK and Australia
Summary

• Rainwater needs to be part of the solution, not a problem (i.e. Stormwater)
• Rainwater market is growing but very, very fragmented
• Regulations and incentives vary greatly from state-to-state and even within states
• Many, many things can be done
• Start the discussions now! Action to Follow