Is There a Path Forward to Direct Potable Reuse?

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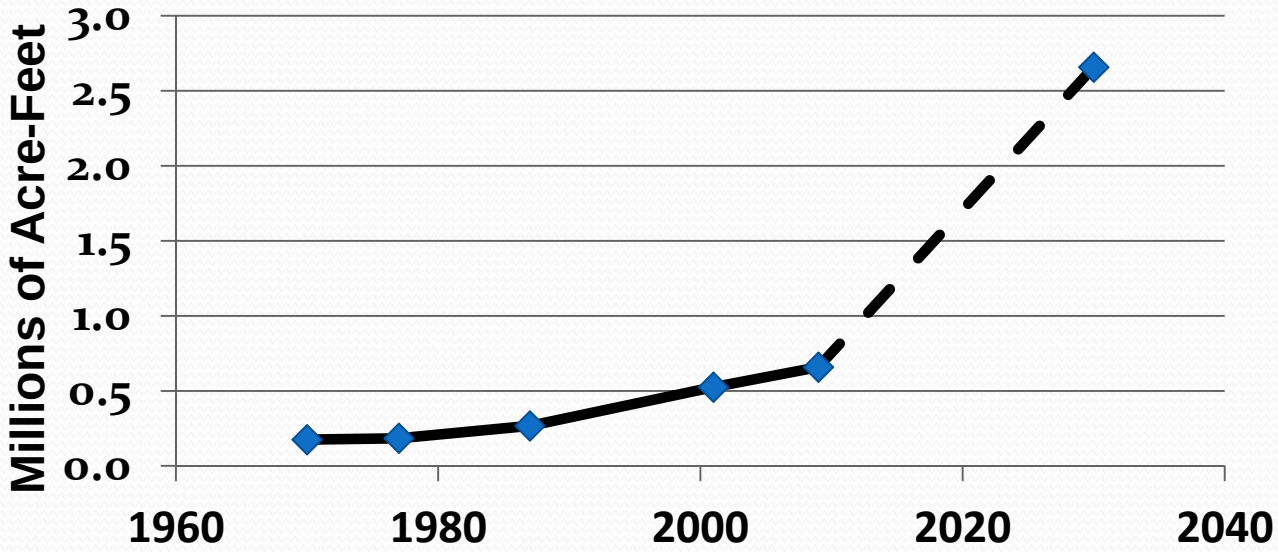
WateReuse's DPR Initiative

- **This is an unprecedented and special initiative of the WateReuse Research Foundation and WateReuse California – focused on California, for California's benefit.**
- **Based on premise that water reuse is a viable, strategic solution to water availability.**
- **Direct Potable Reuse, and greater Indirect Potable Reuse, can be key to meeting California's water challenges and goals – quicker, more efficiently, and cheaper.**
- **Research is the key to developing a sound scientific underpinning from whence we can impact public policy and gain public acceptance and regulatory support.**

The State's Recycled Water Goals

California has adopted a goal of increasing the use of recycled water from approximately 0.65 MAF per year, to 1.5 MAF/year by 2020, and then to 2.5 MAF/year by 2030 – approximately a four-fold increase over the next 18 years. How will we be able to meet these goals?



What We Seek to Accomplish

Senate Bill 918 (SB918)

- ✓ **Signed into law on September 30, 2010**
- ✓ **Sponsored by WateReuse California**
- ✓ **The California Department of Public Health (DPH) is to adopt regulations for indirect potable reuse for groundwater recharge by December 31, 2013**
- ✓ **Requires DPH to adopt regulations for surface water augmentation by December 31, 2016, if an expert panel convened pursuant to the bill finds that the criteria would adequately protect public health**
- ✓ **Requires DPH to *investigate the feasibility of developing direct potable reuse* and to provide a final report to the legislature by December 31, 2016**

Greater adoption of Indirect Potable Reuse (IPR)

Augments drinking water supplies with advanced treated water followed by environmental buffers, but some regions lack the geology or large reservoirs for groundwater replenishment, and there are detailed state regulations on IPR with which to cope.

Acceptance of Direct Potable Reuse (DPR)

Currently there are no approved DPR programs in CA (there are single DPR uses in NM and TX). DPR criteria and impact studies need to be developed. More purple pipe isn't the answer; it can be costly and disruptive – and we can't install enough purple pipe by 2020 to increase the total flow four-fold . However, one of the biggest hurdles with DPR is public perception.

From the National Research Council Report (2012):

“Recycled water should no longer be considered a water of ‘last resort’. In the U.S., up to one-third of the water used nationally each day can be recycled back into water supplies.”

“Additional research could enhance the performance and quality assurance of existing processes and help address public concerns over the safety of reuse to human health and the environment.”

“The committee did not identify any technological hurdles holding back the application of reuse to address local water supply needs.”

Barriers to Adoption of Potable Reuse

PUBLIC ACCEPTANCE

"Toilet to Tap" Psychology…The Yuck Factor

REGULATORY ACCEPTANCE

In municipal drinking water – safety, water quality, compliance
For agricultural use – expanded uses and types, runoff impacts
In CII applications – safety, incentives, capital costs

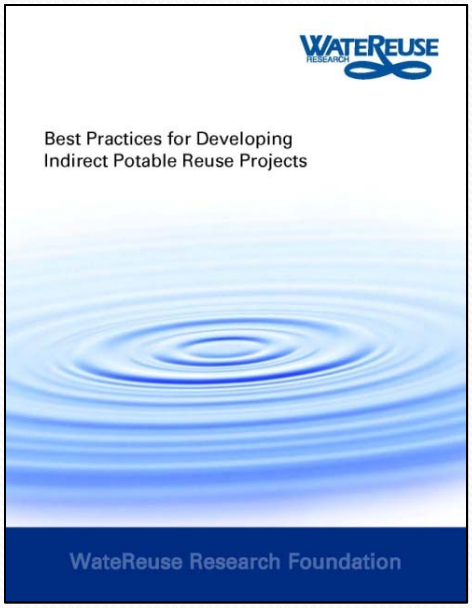
LACK OF POLITICAL WILL

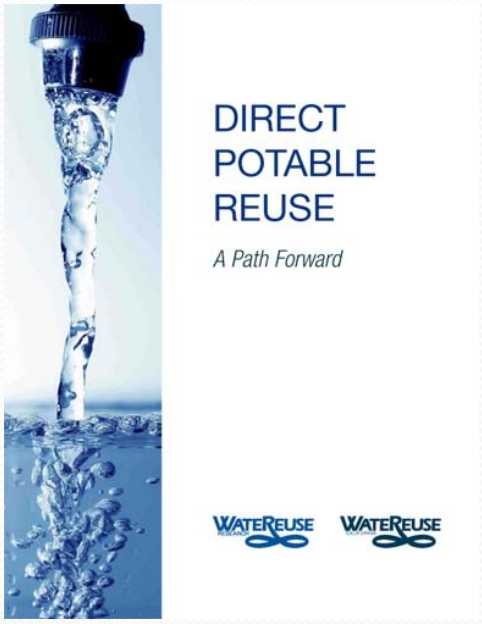
Overcoming "making people drink toilet water costs votes" belief
Compacts, infrastructure bills, relationships with constituents

IMPLEMENTATION COSTS

Tight budgets/rate increases/subsidies
Technology upgrading and operating costs
Adopting best practices and ensuring QA/QC, compliance

The WateReuse Research Foundation has launched research into both IPR and DPR – providing guidelines and a path forward to advancing their adoption.





This is our opportunity to build upon this research, addressing specific issues relevant to California, and to derive data and analyses we can use in Sacramento and with local boards – and with the public.

Research + Awareness + Advocacy = Impact → CHANGE

The WateReuse Research Foundation has an established, professional research apparatus ready to serve our common goals. It is best suited to supply the research and analyses.

WateReuse California is best suited to engage in public awareness and advocacy, rooted in scientific findings and expert analysis. Policymakers, consumers and activists can be persuaded only with facts and demonstration projects…proffered by Californians.

Together, we can effect CHANGE at this critical time, make a huge difference in California's water challenges, and capitalize on the opportunities at hand.

Specific Goals To Be Achieved Through Our Collaboration

- **Barriers to IPR and DPR removed by 2016**

- **Complete body of scientific research needed, building upon "DPR: A Path Forward" and the NRC Report – covering technical, practical, economic, policy and public awareness.**

- **Attainment of SB918 schedule for developing potable reuse regulations (i.e., IPR regulations in place; draft DPR regulations proposed).**

- **Public acceptance of DPR as measured by consumer, customer, environmental groups and political leaders espousing DPR as a solution to CA water challenges.**

The Value Proposition – How Will California Benefit?

- **All types of reuse will be enhanced.**
- **Reuse – non-potable, IPR, and DPR will be enhanced.**
- **Significantly more water will be available for all Californians.**

The $6 Million Challenge:

- **Goal is to raise a minimum of $6 million in "new money" under this initiative.**

- **The $6 million will be raised from four sources:**
  - **20-30 major water agencies in California;**
  - **California Water Foundation (CWF);**
  - **10-15 major consulting engineering firms; and,**
  - **Private foundations, corporations and philanthropists.**

The Good News – Pledges To Date

Orange County Water District	**$100,000**
Water Replenishment District of SoCal	**$100,000**
West Basin Municipal Water District	**$100,000**
Western Municipal Water District	**$ 50,000**
Eastern Municipal Water District	**$ 50,000**
Orange County Sanitation District	**$ 50,000**
Irvine Ranch Water District	**$ 50,000**
TOTAL:	**$500,000 to date**

Pledges Requested and Pending

Metropolitan Water District

Delta Diablo Sanitation District

San Diego County Water Authority

Los Angeles County Sanitation Districts

Sonoma County Water Authority

City of Santa Rosa Utilities Department

Inland Empire Utilities Agency

Monterey Regional Water Pollution Control Agency

Santa Clara Valley Water District

San Francisco Public Utilities Commission

Contra Costa Water District

Upper San Gabriel Valley Municipal Water District

Conclusions

- Is There a Path Forward to Direct Potable Reuse?
  - An Unequivocal “YES”
- Key Elements of Success are
  - Solid Scientific Underpinnings that can Result only from Applied Research
  - Gaining Public Acceptance through Education & Outreach
  - Advocacy and Collaboration with Policy Makers in Sacramento