



**“The best way
to predict the future
is to create it”**


Abraham Lincoln



**Creating the
Future of Water
Together Today**

Oregon Association of Clean Water Agencies
July 27-29, 2016

Claudio H. Ternieden
WEF Director of Government Affairs



About WEF



As a global water sector leader we:

- Connect water professionals
- Enrich the expertise of water professionals
- Increase the awareness of the value and impact of water
- Provide a platform for water sector innovation



Our Traditional Roles

Protector of the environment



Protector of public health






Utility of the Future Today's Energy Producers



Utility of the Future Today's Resource Recovery

WATER UTILITY OF THE FUTURE
2015 Annual Report

NACWA WEF WWTAP

Today's Resource Recovery

*WEF believes that wastewater treatment plants are **NOT** waste disposal facilities, but rather **water resource recovery** facilities that produce **clean water**, **recover nutrients**, and have the potential to reduce the nation's dependence upon fossil fuel through the production and use of **renewable energy**.*

Today's Nutrient Removal & Recovery

Nutrient Removal and Recovery 2016
July 15-17
Exhibition: July 11-12
Guest Columns
www.Nutrient-WEFNA.org

IMA

Today's Nutrient Removal & Recovery



Today's Nutrient Removal & Recovery



Today's Nutrient Removal & Recovery



Effluent is reused rather than discharged

Water Environment Federation

Dan Konecky for NPR

Utility of the Future

Today's Technology Research & Development

WATER
UTILITY OF
THE FUTURE
2015 Annual Report

NACWA WEF WERF

LIFT

Leaders Innovation Forum for Technology

A WEF/WERF initiative accelerating innovation into practice

Water Environment Federation WERF

LIFT MA Toolbox

Water Environment Federation WERF

Leaders Innovation Forum for Technology (LIFT)

1. Secure a LIFT Affinity

2. Join the Online Water Network

3. Participate in Each Step

4. Start a Mentoring Program

5. Connect with Toolbox

6. LIFT Greenhouse & Webinars

7. Prepare Your WEF MA Sites for LIFT

8. LIFT Support and Evaluation

Water Environment Federation WERF




WEF's Operator Initiatives

- Library of knowledge
- Leading the process toward national certification



The Future Workforce Young Professionals

- Mid-Year Springboard Program
- Student Design Competition
- WEF Community Service Project
- WEFTEC YP Reception
- Annual Student Chapter Meeting
- WEFTEC Session Moderator
- Water Palooza
- YP Summit





Water Environment Federation
www.wef.org

Utility of the Future

Operates Outside the Fence

WATER
UTILITY
FUTURE
2011 Annual Report

NACWA

Alexandria Renew Enterprises
(formerly Alexandria Sanitation Authority)

ALEXANDRIA
renew
ENTERPRISES®

Alexandria VA Community Engagement

Alexandria Resource Recovery Facilities

Water Environment
Federation

Reuse Policy Statement

- WEF is developing a revised Reuse Policy Statement to be announced at WEFTEC in September
- It will specifically lay out the basis for why reusing water is necessary and needed
- It will outline the key elements of a national framework and why the reuse or recycling of water is part of our future
- It will specify the role of direct potable reuse (DPR) in our toolbox for addressing water scarcity

Comparative Human Health Risk Between Direct Potable Reuse (DPR) and Indirect Potable Reuse (IPR) Project

- This is a \$410,000,000 joint project between WEF/WE&RF/AWWA and CDM Smith
- It is doing something not yet done and very needed if we are to have DPR as an option in our toolkit
- This project will help provide a framework for water resource recovery facilities (WRRFs) to compare influent water quality from planned indirect potable reuse (IPR), *de facto* IPR, and direct potable reuse (DPR) sources

Comparative Human Health Risk Between Direct Potable Reuse (DPR) and Indirect Potable Reuse (IPR) Project(cont'd)

- The project will focus on:
 - examining the hypothesis that influent water quality for both IPR and DPR are similar in terms of possible human health impacts and,
 - as a corollary, that similar flexibility in evaluation needs for treatment and disinfection can reasonably be applied in any reuse approach

Why a DPR Relative Risk Project?

- The relative risk of DPR and whether it presents a greater risk than either planned or *de facto* IPR for current drinking water practices is poorly understood
- Predicated upon the assumption that *de facto* IPR has been safely used for decades, it will serve the relative standard in this study for comparison of water quality between the two treatment trains
- Regardless of any estimate of “margin of safety”, if a utility can’t identify an important difference in water quality between *de facto* IPR and DPR, it can make the empirical determination that health risks are also not different – a decision framework that could help unlock resources now not being considered.

What are we exploring?

- The key questions to be addressed as part of the project include:
 - What differences in influent water quality exist among several representative IPR and DPR situations?
 - Do such differences suggest DPR poses a greater threat to human health than planned and/or *de facto* IPR?
 - Do differences in possible health impacts suggest a need for different treatment methods and goals for DPR than methods and goals currently used for planned and/or *de facto* IPR?
 - Do gaps in current knowledge exist that limit our ability to assess relative impacts and, hence, treatment needs for DPR versus IPR, planned or *de facto*?

WEF Water Reuse Roadmap – What Might We Want in a National Reuse Framework?

1. Legitimacy & Local Issues
2. Strategic Management
3. Financial Sustainability
4. Innovation
5. Monitoring and Control
6. Communication & Outreach
7. Message Development
8. Product Development
9. Risk & Resiliency
10. Technological Advances

1. Legitimacy & Local Issues

- Local Goals
- Collaborative Partnerships for “One Water
- Integrated Water Resources Management
- Legitimacy
- Local Drivers

2. Strategic Management

- Staff Development and Alignment
- Strategic Direction
- Vision
- Reuse Team

3. Financial Sustainability

- Financial Viability
- Benefit Identification
- Cost Identification
- Funding

4. Innovation

- Research and Development
- Alternative Management Approaches

5. Monitoring and Control

- Monitoring
- Analytics
- Control

6. Communication & Outreach

- Customers and Community
- Regulatory and Legislative
- Media Outreach
- Environmental Advocacy Groups
- Water Sector

7. Message Development

- Stakeholder
- Risk Communication
- Message Development

8. Product Development

- Marketing
- Product Production and Control
- Fit For Purpose
- Upstream Management

9. Risk & Resiliency

- Regulatory Risk Management
- Water Rights
- Public Health
- Resiliency
- Continuity of Operations
- Risk Management

10. Technological Advances

- Technology Evaluation
- Treatment Management
- Test Beds



weftec 89th Annual Technical Exhibition & Conference
the water quality event™ September 24 - 28, 2016
New Orleans



WEFTEC 2015 Chicago

- 25,000 registrants
- 1,030 exhibits

Water Environment Federation



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Water Environment Federation
the water quality people™

Thank You!

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