



# **R2E2, NEW Water's Path to More Sustainable Wastewater Treatment**

CSWEA Operations Seminar – Stevens Point, WI

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# Agenda

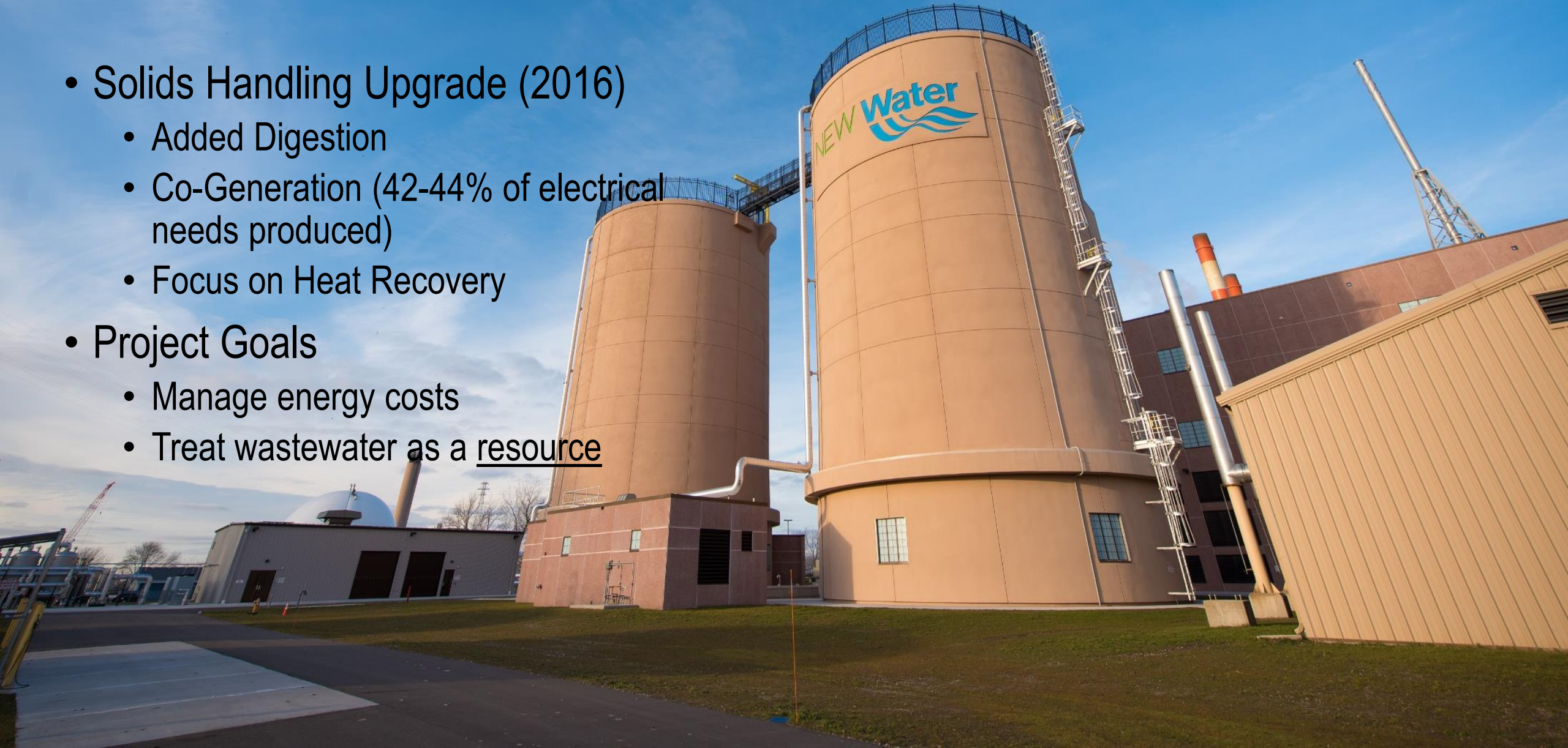
- NEW Water Background
- Energy and Efficiency Focus
  - Where We Have Been
  - What We Are Doing Now
  - Where We Are Headed
- Challenges
- Closing





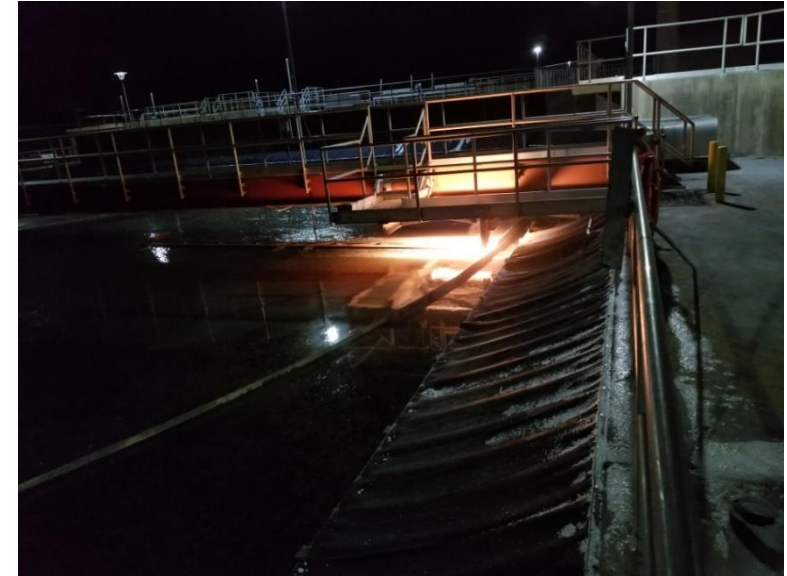
# Where We Have Been

- Solids Handling Upgrade (2016)
  - Added Digestion
  - Co-Generation (42-44% of electrical needs produced)
  - Focus on Heat Recovery
- Project Goals
  - Manage energy costs
  - Treat wastewater as a resource



# What We Are Doing Now (2026)

- Internal “Energy” team
  - Monitors power, potable water, chemical usage and identifies issues and areas of improvement
- Process Efficiency team
  - Group of operations staff that are close to the issues
  - Identifies areas of improvement/issues and works on solutions – prioritize needs
- Major Capital Investment in Liquids Train at Both WWTP’s
  - How to best prioritize capital spend can be complex



# What Else We Are Doing Now

- Evaluating outlets for excess Biogas from anaerobic digestion
- Evaluating pumping efficiency within different processes (operating level of tanks, VFD's)
- Disinfection chlorine contact mixing improvements, and injection efficiency
- Polymer selection and usage improvements (dry polymer system)
- Tertiary filter backwash efficiency (reduction in Vacuum/backwash pump speed) – recently upgraded from sand filters to disc filters – greatly reducing backwash return volumes and allowing for additional flow capacity



# Support and program utilization

- Wisconsin Focus on Energy
  - Thickening Improvements
- Department of Energy Industrial Assessment Center
  - Energy Audit Both Facilities
- Department of Energy Better Plants Program
  - Training Programs and Potential Auditing
- MISO Demand Response Program Participation
  - Using existing generation capacity at both plants to create a revenue stream during periods of high grid demand



# Current Capital Projects



## 0-3 Years

- Pump Station/Headworks DePere Plant
- Thickening
- Clarifier Rehabilitation

## 3-5 Years

- Pump Station/Headworks Green Bay Plant

## 5-? Years

- Secondary Treatment Both Facilities
- Disinfection



# Where We Are headed

- Strategic planning with internal focus on energy efficiency and service reliability
  - Working at setting organizational goals to help guide future capital work and initiatives
- Prioritize optimization of chemical usage
  - Evaluating dosing locations and dosing strategies
- Intensification
  - Piloting Activated sludge technologies to inform capital projects
- Data driven decision making
  - Prioritizing data collection that will drive capital spending decision

# Challenges:

- Buy in from internal groups
  - Agreeing on priorities and approaches
- Buy in from external groups
  - Justifying costs
- Capital
  - Issues with available capital and priorities
- Incorporating cool ideas into capital projects



# Conclusions:

- Dedicate time/personel(I know its hard) to looking at process efficiency options – constantly brainstorm
- Set goals and align capital projects to the goals – weakness of ours
- Talk to other plants
- Utilize grant and funding sources
- Small changes can have a big impact
  - Shut down some small air compressors that saved us over \$60,000 a year in electricity and maintenance





Thank You!

Questions / Comments?

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