

Drivers of Efficiency in the Water Energy Nexus



Presented to: Canadian Water Summit
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Date: June 25, 2015



Trust. It flows from experience & commitment.

OCWA's View into Water and Wastewater

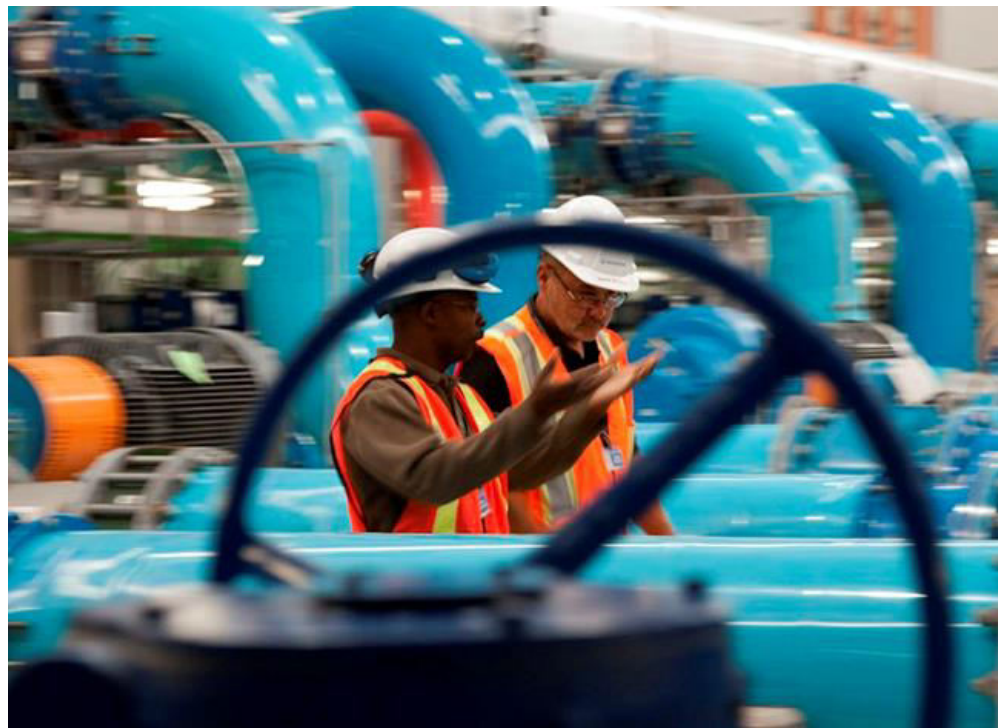


- Largest water and wastewater operator in Canada with 800+ staff
- Hub and spoke network is the organization's structural backbone
- Over 800 water and wastewater treatment facilities across Ontario
- Five emergency Response Teams backstop water emergencies across province

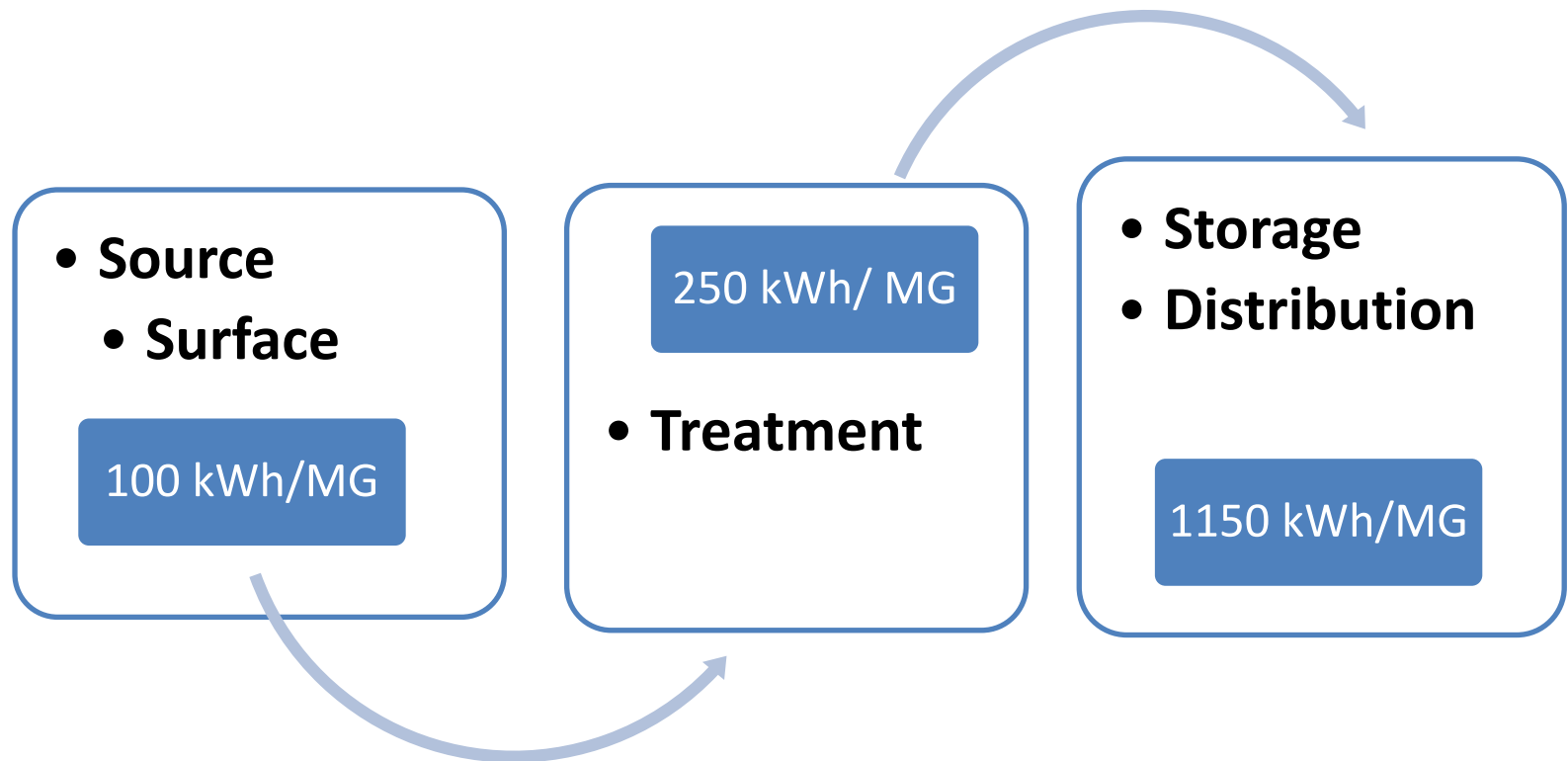
Energy to Clean & Pump Water in Ontario

In 2012, total energy consumed was 4,345 GWh:

- 27% of energy consumption related to pumping and treatment
- Energy supply is approximately 30% fossil fuel - every kWh saved reduces CO₂



Energy in Water Facilities



Pumping typically accounts for 90-99 % of energy consumption

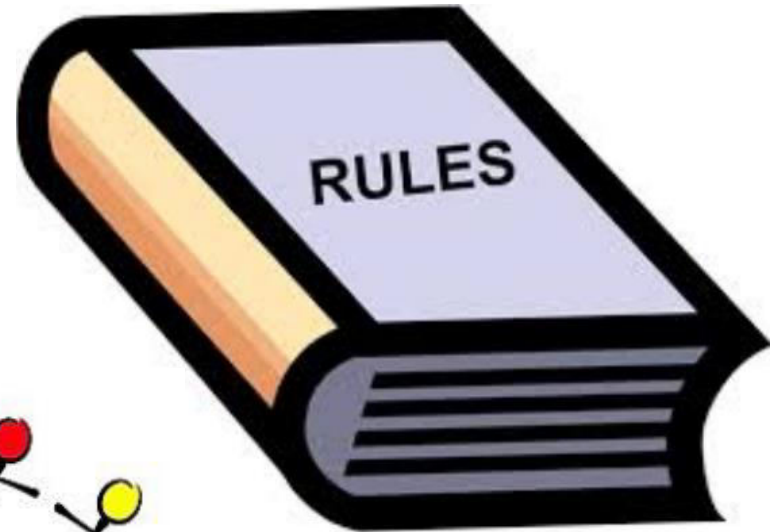
Water in Energy Facilities

- Generally a broader water resource issue with water drawn from the natural environment for cooling or hydraulic energy
- Treated wastewater can be an alternative for cooling

Wastewater Facilities are evolving into Energy and Resource Recovery Facilities

– Energy, nutrients, metals...

Drivers of Water & Energy Efficiency

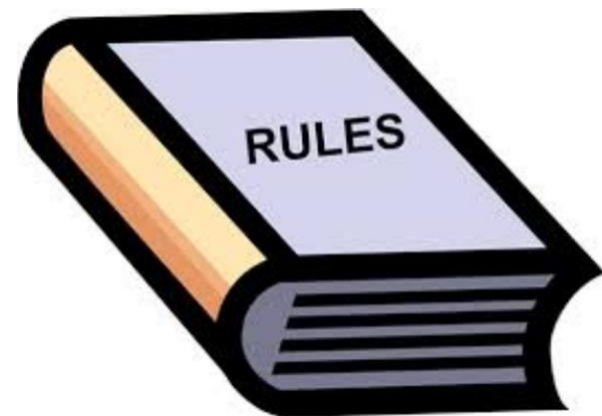


It's Mainly About the Money

- Energy/Water Nexus efficiency is being driven by business cases that are increasingly considering a multiple bottom line
- Good regulation and programs provide conditions and incentives to achieve desired outcomes
- Corporate Citizenship supports water and energy efficiencies

Rules & Regulations Emerging

- Ontario's Cap and Trade
- Sustainability Plans are contemplated for municipal water systems
 - Incentivizes total life cycle costing
 - Coupled with Financial Plan requirements would be formative for water pricing
- Green Energy Act
- Feed In Tariff
- Conservation Demand Mgmt



Corporate Social Responsibility

- Influencing financial decisions, but not displacing
- Weaves energy/water efficiency into all decisions
 - Fuels, materials, buildings, transit, production, wastes
- It all goes to Brand
 - Connects to value proposition



Sustainability Drives Efficiency in the Water and Energy Nexus

*WASTEWATER = LOST MARGIN and practical, business-case driven solutions can be implement to ...reduce liability risk and improve the bottom line**

** Kevin Jones, in Sustainable Business Magazine*





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