Item #200059
JPWC

GRU Climate Change Report

June 22, 2020

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Climate Change Objectives

Community Goals

1. Healthy environment
2. Sustainable resources
3. Efficient GRU systems
4. 100% renewable by 2045

Photo by Wesley Hetrick


Energy Delivery/Energy Supply
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Carbon Reductions

Energy-Efficient LED Street Lights

Tons of CO_2 offset per year:

16,572

Calculated Estimate.

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Carbon Reductions

Energy-Efficient Transformers

Tons of CO_2 offset per year:

~20,000

Calculated Estimate.

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Carbon Reductions

Solar FIT

Tons of CO_2 offset per year:

20,476

Based on 2019 operational data.

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Carbon Reductions

Landfill Gas

Tons of CO_2 offset per year:

21,915

Based on 2019 operational data.

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Carbon Reductions

SEC

Tons of CO_2 offset per year:

27,905

Based on 2018 operational data.

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Carbon Reductions

J.R. Kelly

(Repowering of Unit 8
to combined cycle)

Tons of CO_2 offset per year:

151,522

Based on 2019 operational data.

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Carbon Reductions

DHR

Tons of CO_2 offset per year:

580,665

Based on 2019 operational data.

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ONGOING PROJECTS

Community Solar

GRU has reached an agreement with Miami-based Origis Energy to purchase power from a 50 MW solar facility Origis will build and operate in Alachua County.

Community-First Solar

- 50 megawatts of solar by December 2022
- Battery backup for intermittent cloud cover
- Affordable solar for entire community
- Another step toward 100% renewable

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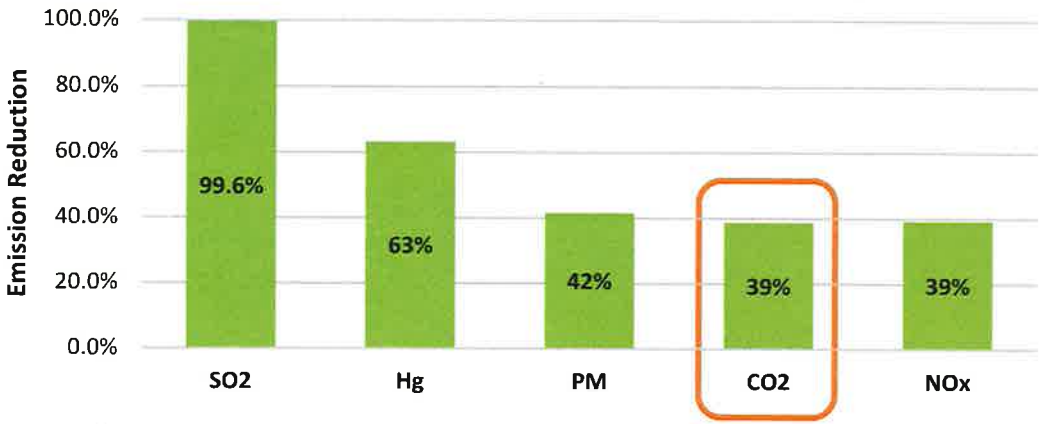
Dual-Fuel Conversion



GRU could cut Deerhaven Unit 2 CO_2 emissions by about 40% by converting the coal plant to a natural gas/coal facility while also reducing costs for electric customers.

Deerhaven Dual-Fuel Conversion

- Converts coal plant to natural gas/coal
- Reduces emissions
- Reduces costs for electric customers
- Another step toward 100% renewable

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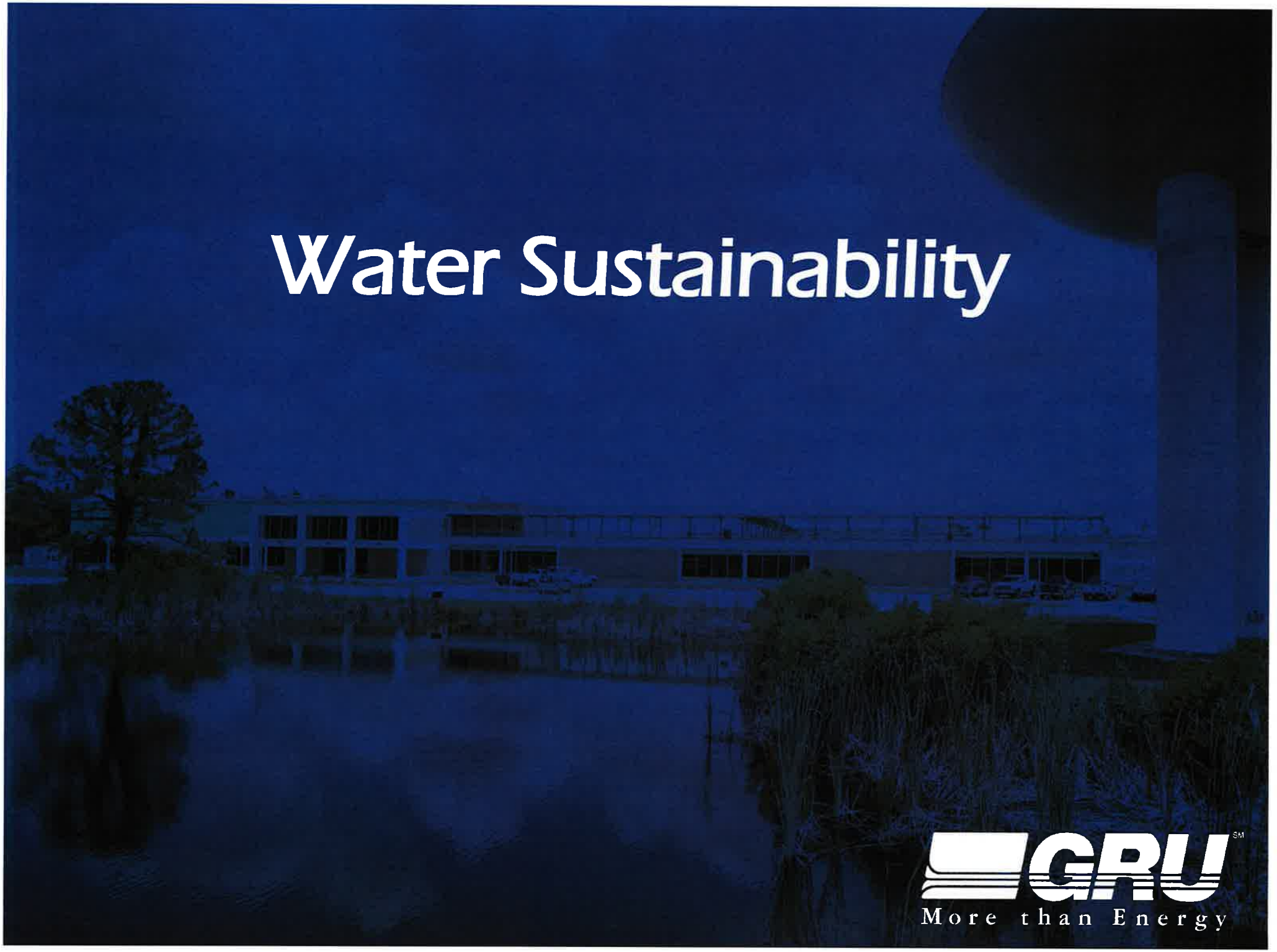
Water Sustainability
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Impacts of Climate Change

- Increased frequency/severity of drought and wet cycles
- Increased frequency/severity of storms
- Sea level rise

After the storm:
U.S. 441 at Paynes Prairie following Hurricane Irma in 2017

W/WW Climate Change Objectives

1. Utilize renewable energy
2. Upgrade & modernize to improve efficiency
3. Manage water resources sustainably
4. Improve system resiliency

W/WW Climate Change Objectives

Utilize Renewable Energy

- W/WW buys its energy from GRU, taking advantage of internal synergies.

Deerhaven Renewable Generating Station

W/WW Climate Change Objectives

Upgrade & Modernize

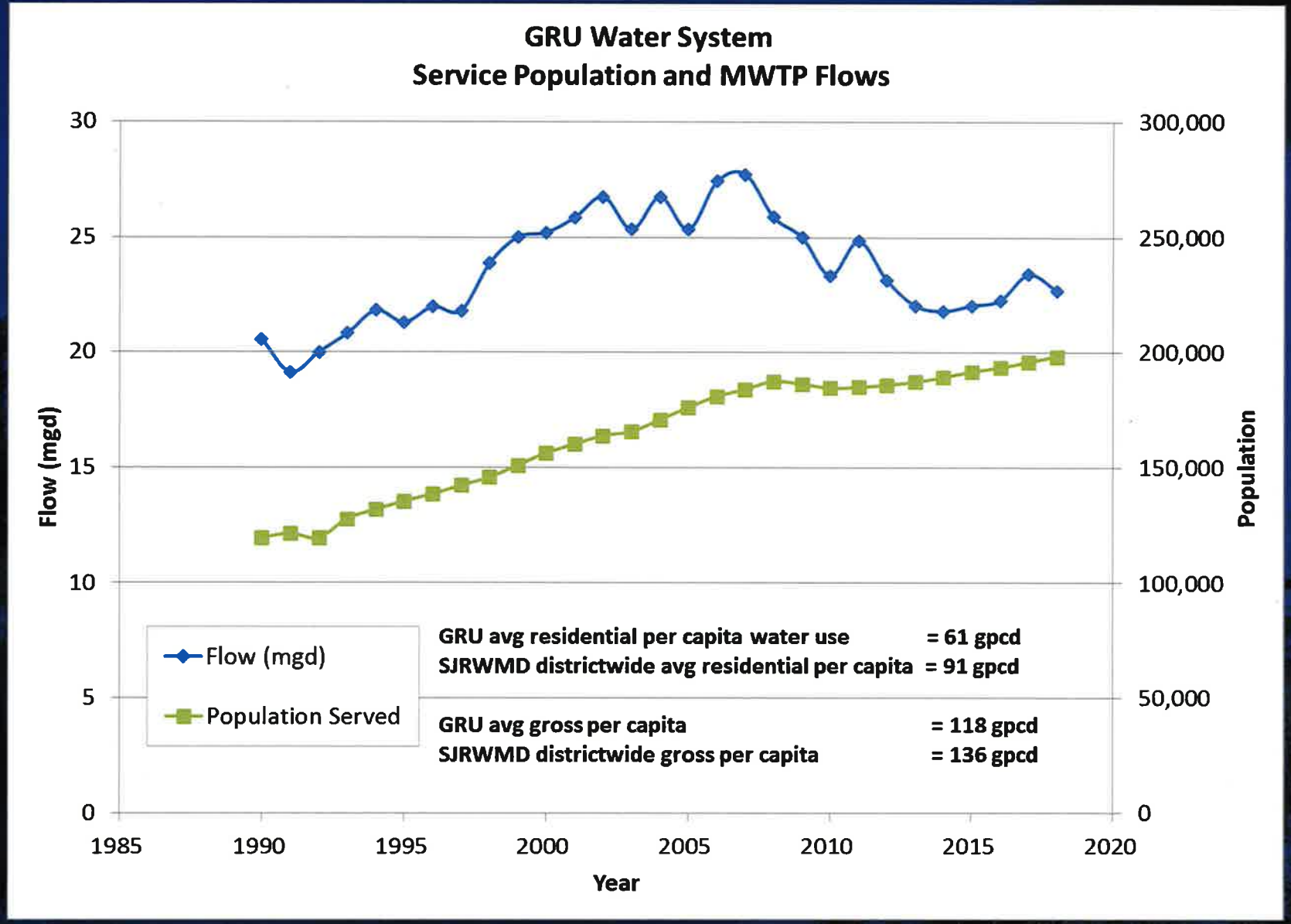
- Biosolids dewatering facility
- Ongoing replacement of motors & control systems
- Main Street Water Reclamation Facility upgrades
- Kanapaha Water Reclamation Facility optimization & future upgrades

W/WW Climate Change Objectives

Manage Water Resources Sustainably

- Water conservation
- Water reuse (100% beneficially reclaimed or reused)
  - Targeted irrigation and cooling
  - Environmental restoration
  - Aquifer recharge

Water Conservation




Sweetwater Wetlands Park


Groundwater Recharge Wetlands
• Aquifer recharge
• Water quality polishing
• Wildlife habitat
• Recreational and educational opportunities

Groundwater Recharge Wetland Project

- Recharge aquifer with high-quality, low-nutrient water
- Benefit Santa Fe River & springs
- Funding from SRWMD & FDEP
- 75-acre site with 20-45 acres of wetlands
- Anticipated future public park

GROUNDWATER RECHARGE WETLAND
FACT SHEET

AT A GLANCE:

What: Groundwater recharge wetland to replenish the Floridan aquifer and benefit our water resources.
Where: Parker Road, near Diamond Sports Park in SW Gainesville.
When: Wetland construction will be complete in 2024.
Why: Beneficial use of reclaimed water to recharge the aquifer while creating a park for local community and a natural habitat for wildlife.
How: Multi-agency partnership spearheaded by GRU.

Recharge Wetland Project

Gainesville Regional Utilities (GRU), in partnership with the Suwannee River Water Management District (SRWMD) and the Florida Department of Environmental Protection (FDEP), is constructing a groundwater recharge wetland. The project will help replenish, or recharge, the Floridan aquifer, which will benefit the Santa Fe River, its springs and our community.

What is a groundwater recharge wetland?

Groundwater recharge wetlands are manmade wetlands constructed on sandy soils that allow water to gradually percolate through the soil and recharge the natural aquifer beneath Gainesville.

These systems are widely heralded in the scientific community as a means to provide groundwater recharge with high-quality, low-nutrient reclaimed water. The process helps boost groundwater supplies, raise aquifer levels and maintain positive flows at springs, rivers and other nearby water bodies. When completed, the manmade wetland will recharge the Floridan aquifer with up to 5 million gallons per day (MGD) of high-quality, low-nutrient water.

What will the wetland look like?

The planned wetland system will be designed as a beautiful park-like space for the public to enjoy. The property will have several wetland basins eventually totaling 20 to 45 acres. Each basin will be planted with native wetland plants, including many flowering species.

Reclaimed water from GRU's Kanapaha Water Reclamation Facility will continuously hydrate the wetland ecosystem and breathe life into a native landscape. Picture wildlife habitats, scenic views and meandering trails lined with beautiful shade trees. The wetland recharge park will be a popular location for flora, fauna and the community.

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W/WW Climate Change Objectives

Improve System Resiliency

- Murphree electrical system upgrade
- Treatment plant & lift station upgrades
- Water distribution system
- Wastewater collection system renewal
- Inflow/infiltration reduction
- Resiliency & vulnerability assessment

WW Collection System Renewal

Renewal of Existing Sewer Main.

Overall Goal

Sustainable Water and Wastewater Systems

- Environmental Sustainability
- Resource Efficiency
- Resiliency

Sweetwater Wetlands Park

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Questions?
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