



# Energy Efficiency

Wastewater Treatment Division

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**King County**

Department of Natural Resources and Parks  
**Wastewater Treatment Division**



**Operational Efficiency Improvement Resource**



**Planning & Capital Project Support**



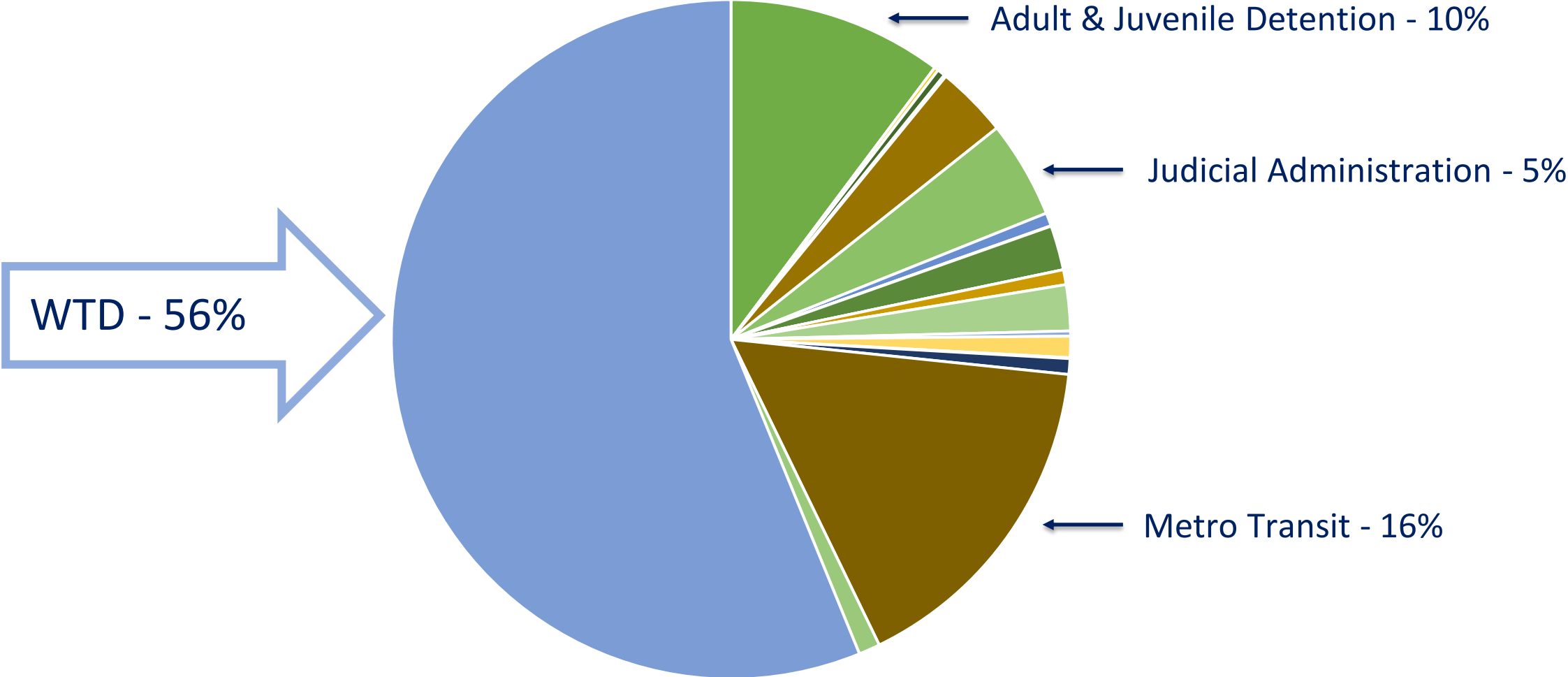
**Technical Standards, Specifications, & Design Guidelines**



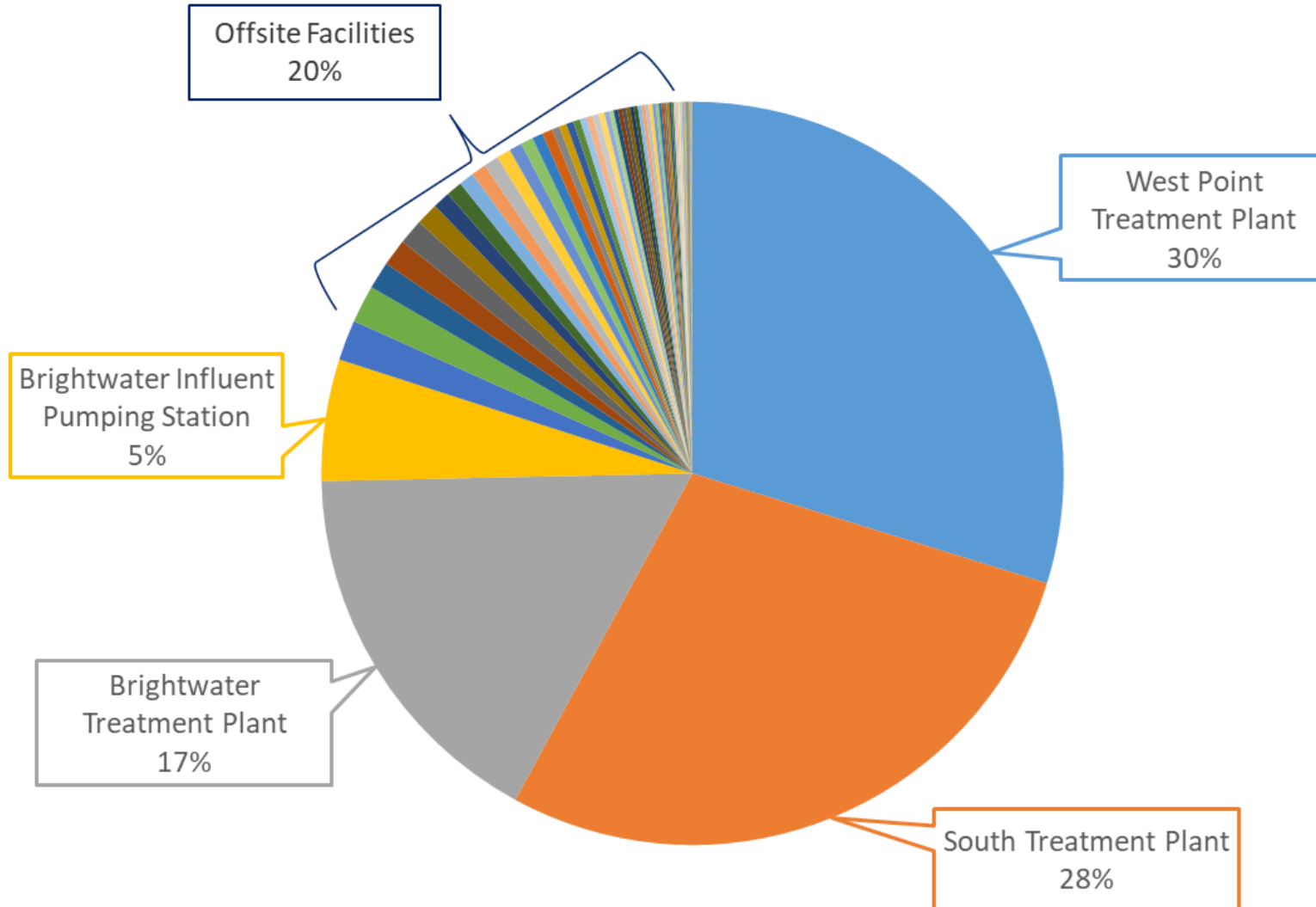
**Efficiency & Renewables - Revenues & Financial Incentives**

# **WTD Energy Program**

# KING COUNTY FACILITY ENERGY CONSUMPTION

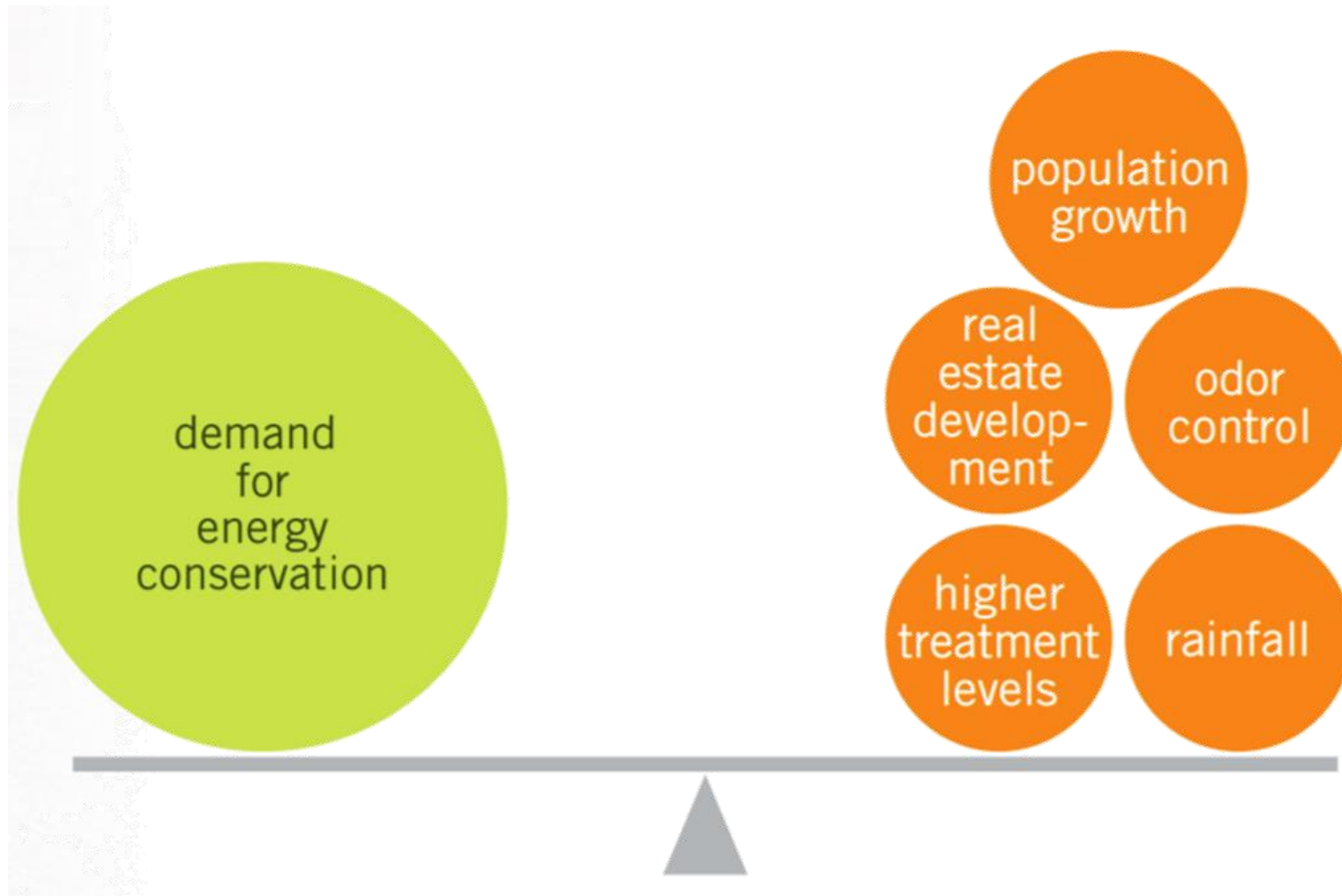


# WTD FACILITY ENERGY CONSUMPTION



# BENEFITS OF ENERGY EFFICIENCY

- Reduce energy costs
  - WTD spends ~\$16 million/year on energy
- Reduce greenhouse gas emissions
  - King County Strategy Climate Action Plan (SCAP) energy use reduction targets:  
-12.5% by 2025, -17.5% by 2030 (2014 baseline)
- Asset management
- Earn utility rebates
- Be fiscally responsible to ratepayers



*Harnessing valuable resources that would otherwise be lost.*

# IDENTIFYING ENERGY EFFICIENCY OPPORTUNITIES

- Track and monitor energy use
- Get ideas from treatment plant and offsite facility staff
- Perform energy audits
- Participate in Strategic Energy Management programs
- Provide energy support to capital projects
  - Energy analyses
  - Sustainability Scorecard
  - Commissioning
  - Training for Operations & Maintenance

# ENERGY EFFICIENCY PROJECT FUNDING & REVENUE

- Funding
  - Carbon and Energy Fund
  - RINs revenue
  - Utility efficiency financial incentives
  - Capital Improvement Program
- Revenue
  - Over \$175,000 in utility grants received in 2021
- Reinvestment in greenhouse gas emissions reduction efforts



*Harnessing valuable resources that would otherwise be lost.*



# EXAMPLE: West Point Mixed Liquor Blower Replacement

- In 2022, replaced blowers that aerate the West Point mixed liquor channel in order to maintain solids suspension
- Improved airflow and better control of aeration system
- 30% reduction of air use
- Anticipated energy savings:  
~1,000,000 kWh per year



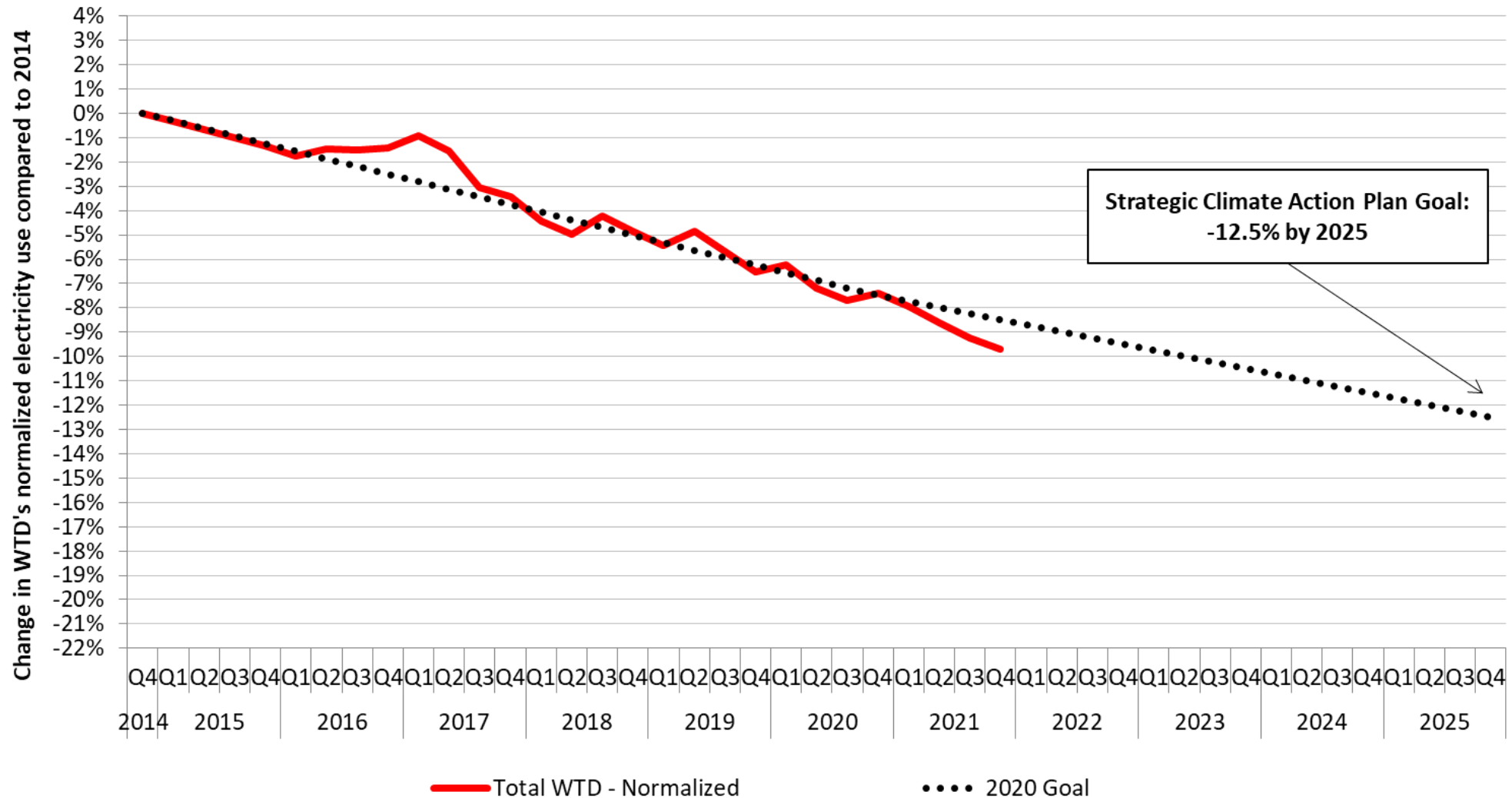
# EXAMPLE: Digester Circulation Pump Replacement

- Replace existing pumps for digester circulation and heating
- Pilot project at each treatment plant
- If successful, replace all digester pumps
- May help with digester foaming
- Potential energy savings:  
~100,000 kWh per digester



# TRACKING ENERGY EFFICIENCY

## Tracking WTD's Progress Towards the 2025 SCAP Energy Use Reduction Target



# NEXT STEPS

- Implement Digester Circulation Pump Replacement Pilots
- Identify and investigate new energy efficiency opportunities
- Pursue energy efficiency grants for completed projects
- Report on progress towards SCAP energy use reduction targets – 2023 SCAP Biennial Report



# Questions?



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