



**We're
Going
Green!**

SMART METERING FOR THE TOWN OF BERLIN WATER UTILITY

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TOWN OF BERLIN, MARYLAND

TOWN OF BERLIN, MARYLAND WATER RESOURCES

Town of Berlin, Maryland

- Economically sustainable and environmentally progressive.
- Committed to working together to define and shape a sustainable future.
- A people-friendly community and place to live in for a lifetime.



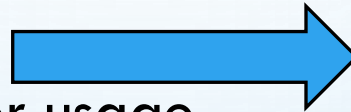
BERLIN WATER RESOURCES

1. **Water:** Operation and maintenance of municipal water system
2. **Wastewater:** Wastewater treatment, sewage, sewer infrastructure
3. **Spray Irrigation:** 2 Spray irrigation sites that use treated effluent to spray irrigate woodlands
4. **Stormwater Management:** maintain stormwater conveyance and enforce Storm Management Code.



RECOGNITION OF THE NEED FOR SMART METERING

1. Environmental Pollution.
2. Population Increase = Urbanization.
3. Global Warming.
4. Leakage from Pipeline.
5. Aging water infrastructure.
6. Loss of revenues – non-metered water usage.
7. Lost and un-billed water has a high cost to produce.
8. Old or under-registered mechanical meters pour \$\$ down the drain.



Water Shortage



Non - Contact



The High Cost of Non-Revenue “LOST” Water.

WATER LEAKS, MAIN BREAKS, TANK OVERFLOWS – real (physical) losses from the distribution system:

- The highest components of real losses, water is unaccounted for in leaky and broken pipes.

BILLING ERRORS, THEFT, METER ERRORS – apparent (non-physical) losses, clean, treated drinking water successfully delivered but not recorded accurately:

- The highest components of apparent losses, are faulty mechanical meters that under register the water usage.



Old Mechanical Meters: Water Loss and Increased Cost



- **Water Revenue Loss**
 - The annual loss is 25% of production, translated into over \$160,000 of lost water revenues per year. American Water Works Association water loss standard is 10%
 - Old mechanical meters are the primary cause of under-register usage.
 - Faulty meters mean **water loss** at water main lines and water leaks at the households are **not detected accurately**
- **Expensive to read and replace**
 - Berlin has more than 2,000 old mechanical meters
 - Require expensive manual reading
 - More prone to needing to be replaced.

WHY TOWN OF BERLIN NEEDS SMART WATER METERING

THEY ARE PART OF THE INTERNET OF THINGS

- Increased Accuracy
- Reduce apparent water loss
- Ensure that customers are paying accurately for water
- Making each property smart
- Water pressure monitoring throughout the distribution system

WATER MANAGEMENT

- Conservation of water
- Customers can access and visualize their own water usage over time
- Water utility bills budgeting
- Detection and immediate replacement of leaky pipes


WATER REVENUE CONTROL

- Detection of water leaks
- Elimination of real water losses
- Remote water shutoffs
- No more physical manual meter reads
- Prevention of fraud or meter tampering
- Accurate billing





SMART METERING FOR THE TOWN OF BERLIN WATER UTILITY

- Help the Town of Berlin's water utility become a **smart utility**
 - **Minimize water losses** and non-billed water gallons
 - **Increase** water revenues.
 - Promote water **conservation**, customers will monitor own usage
 - **Detection of** water **leaks**
 - Water **accountability** for the utility
 - **Sustainability** of the water resources
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IMPLEMENTATION AND FUNDING OF THE PROJECT

IMPLEMENTATION

- Staff, Mayor & Council, Engineering **teamwork**
- **RPF process** vendor, preparation of the budget **Priority areas** for meter installation
- **Progress reports**
- **Inventory orders**
- **Community outreach**
- **Contract** for installation
- **Software implementation**
- **Monitoring**

FUNDING

- **ARPA Grant Funds** allocation for water infrastructure
- Project **budgeted at \$1.5 million** for meter inventory and installation labor
- **Revenues allocation**

OUTCOMES FOR THE TOWN OF BERLIN SMART WATER UTILITY

Increase in water revenues of \$1.6 million over the next 10 years

Water pressure monitoring

Improve water distribution

Immediate water shutoffs

Eliminate water losses

Water leak detection

Accurate billing

Water utility sustainability

Water conservation

Become the recipient of the “Smart 50 Award”, an annual recognition for the smart project of the year



Thank You

More details and information are on the Town of Berlin, Maryland webpage
berlinmd.gov

Thank you for the support and teamwork:
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Town Administrator, Mary Bohlen
Water Resources Director, Jamey Latchum

