

ENDPOINT

Lessons Learned

Madison Water Utility's
Smart Meter Installation Project



Outline

Project Overview

4 Lessons

- You don't "sell" the project just once
- We are wary of regional approaches
- The more Ph.D.s, the less common sense
- Choose your battles wisely

Current Status

Wrap Up

PROJECT OVERVIEW

The “before” state

Badger disc meters

Read O Matic remote registers

Manually read and billed semiannually

Average 6 month residential bill ~\$300

- Water
- Sewer
- Storm/landfill

Our vision

Improved Cash
Flow

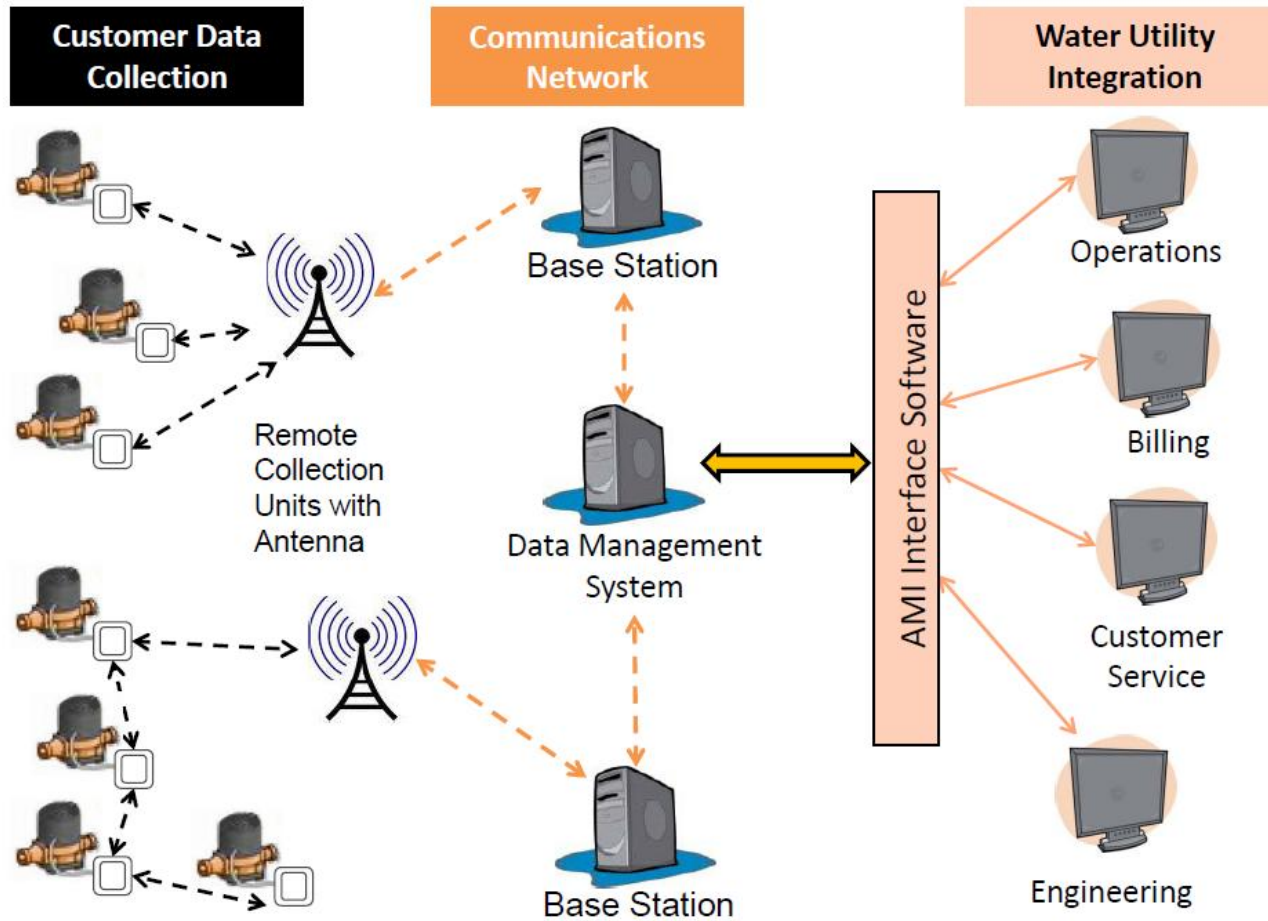
Improved
Customer
Service

Improved
Resource
Management

Enhanced
Data
Management

Industry
Leader

Advanced Metering Infrastructure

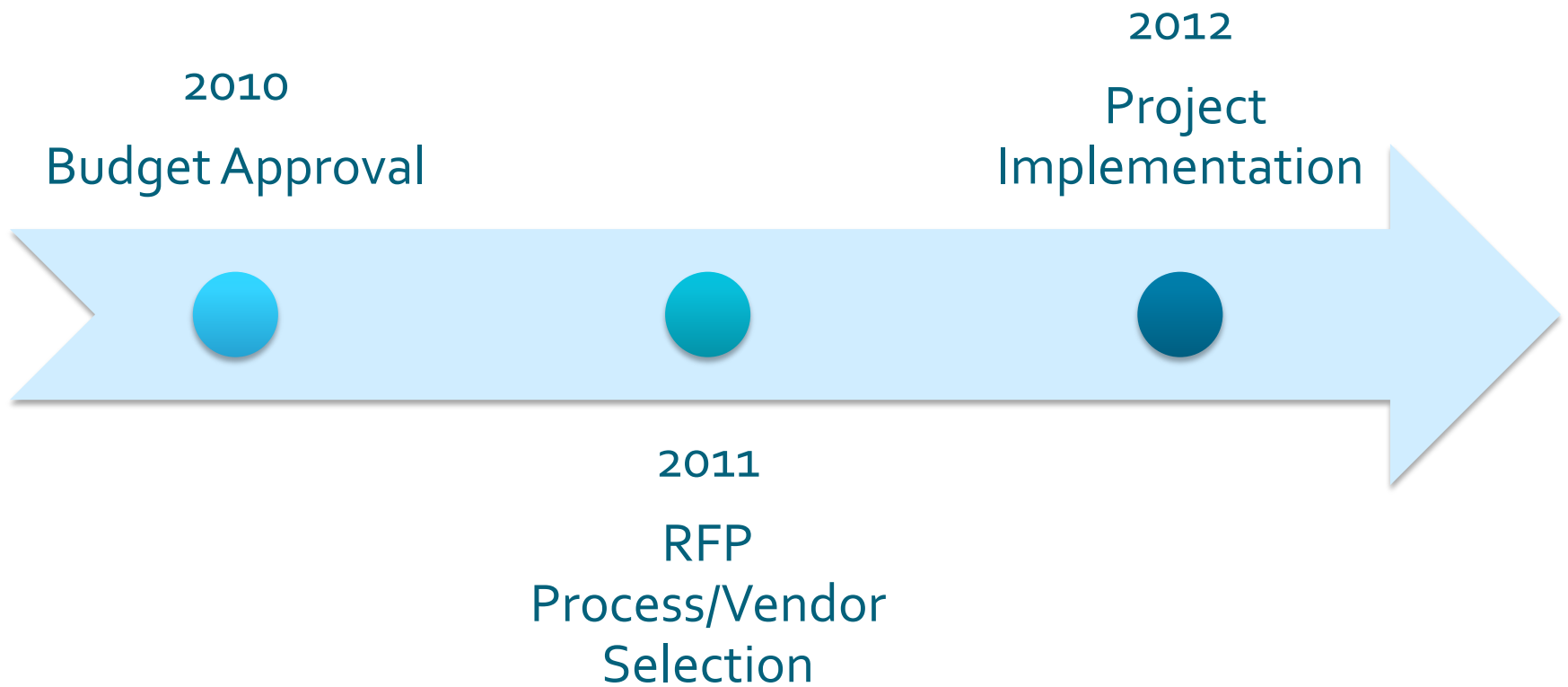


Scope and schedule



- 65,000 customers
 - 90% retrofit by contractor
 - 10% meter replacement in-house with solid state technology
- Switch to monthly billing
- Convert to gallons from CCF
- Meter Data Management system; integrate with SCADA, GIS, etc.
- Total project duration 2 years; 1 year for installation
- Budget: \$14M

Original Project timeline



LESSON NO. 1

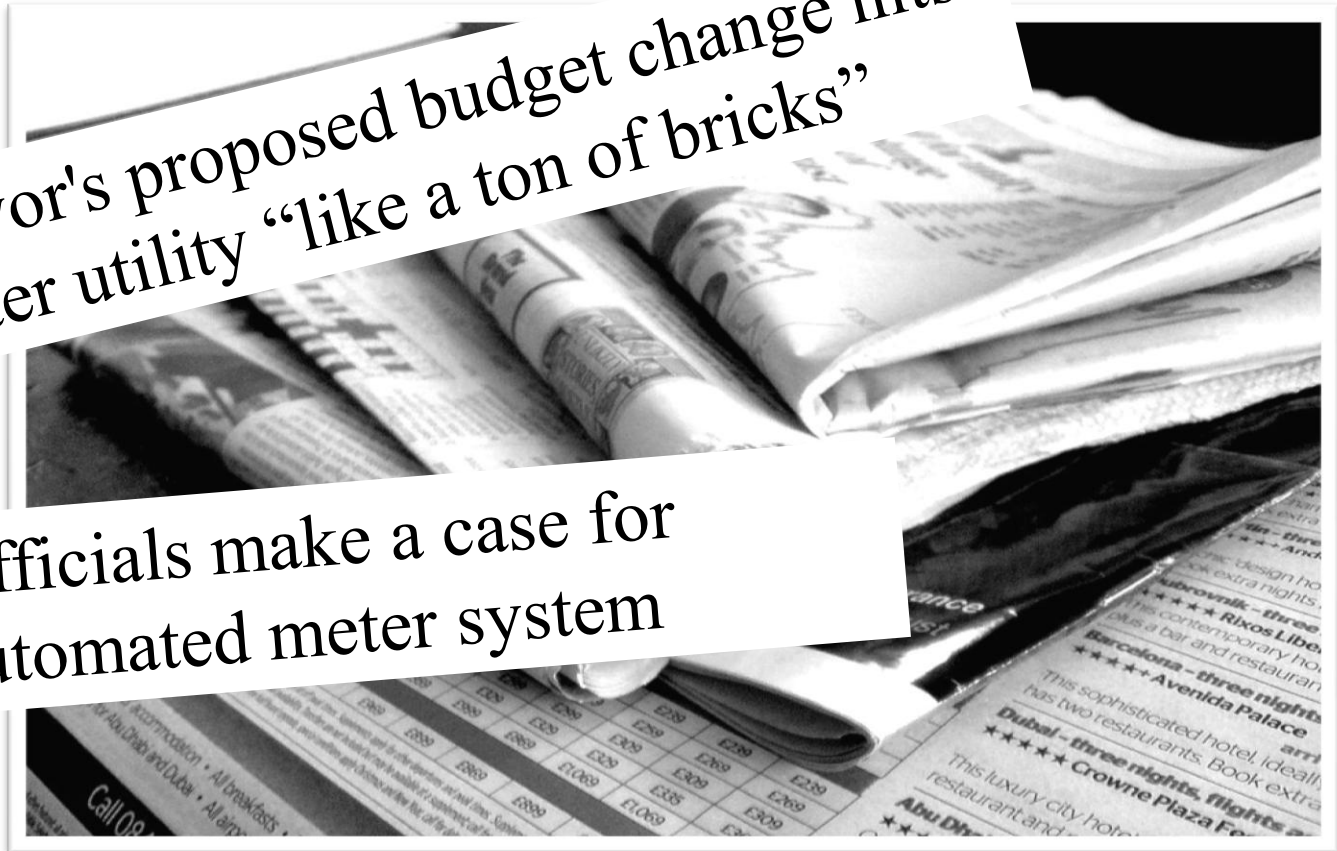
You don't sell the project just once

An unexpected hiccup

- October 2010 – Mayoral race begins, incumbent Mayor pulls the AMI project from budget

Mayor's proposed budget change hits water utility "like a ton of bricks"

Officials make a case for automated meter system



AMI becomes...



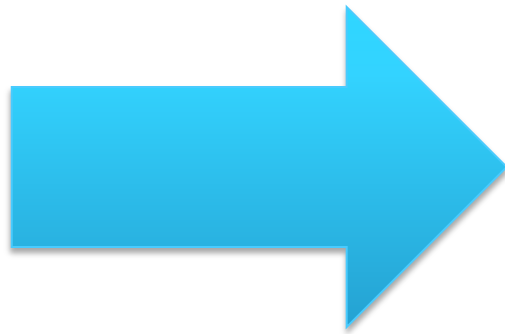
- Project website
 - Video explanation
 - FAQs
 - Detailed equipment specs
 - Project timeline
 - Media coverage
- <http://www.cityofmadison.com/water/programs/projectH2O/index.cfm>

LESSON NO. 2

We are wary of regional approaches

A missed opportunity

- Invited all neighboring Dane County jurisdictions to participate
- Hosted an informational meeting to discuss ways of partnering for mutual benefit
- In the end, only Fitchburg played ball



A shameless plug...

WWA Annual Meeting September 17-20,
Kalahari Resort, WI Dells

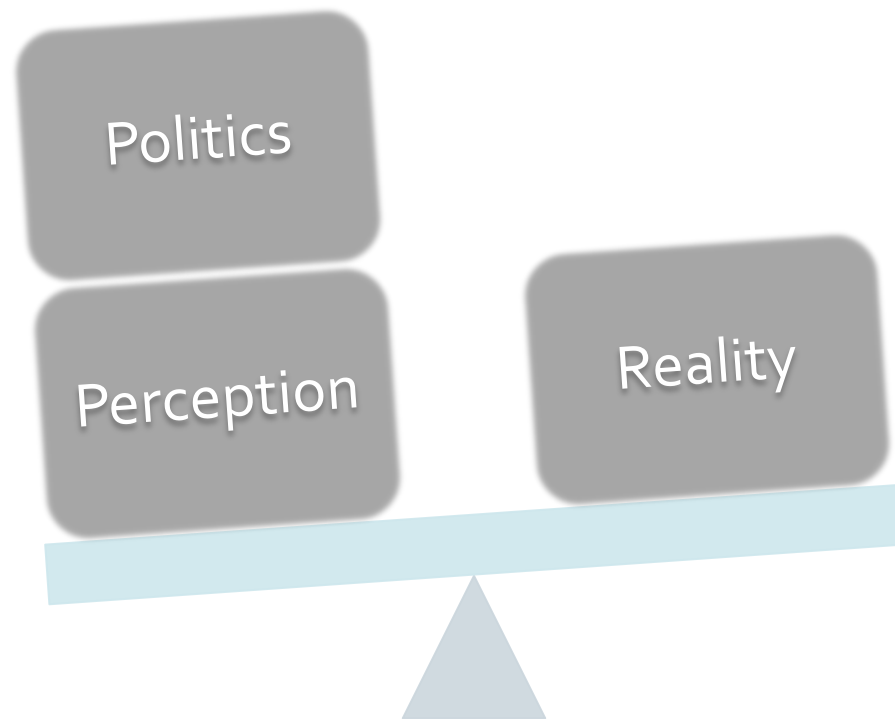
Panel discussion:

**Regional Cooperation on Water Issues in
Madison and Beyond- Benefits and
Challenges**

LESSON NO. 3

The more Ph.D.s, the less common sense

RF and privacy concerns



The facts

The radio transmitters use about 0.5 watts – $\frac{1}{4}$ the power of a cell phone

A transmission lasts about 10 milliseconds

Inverse Square Law

Batteries last 20 years!

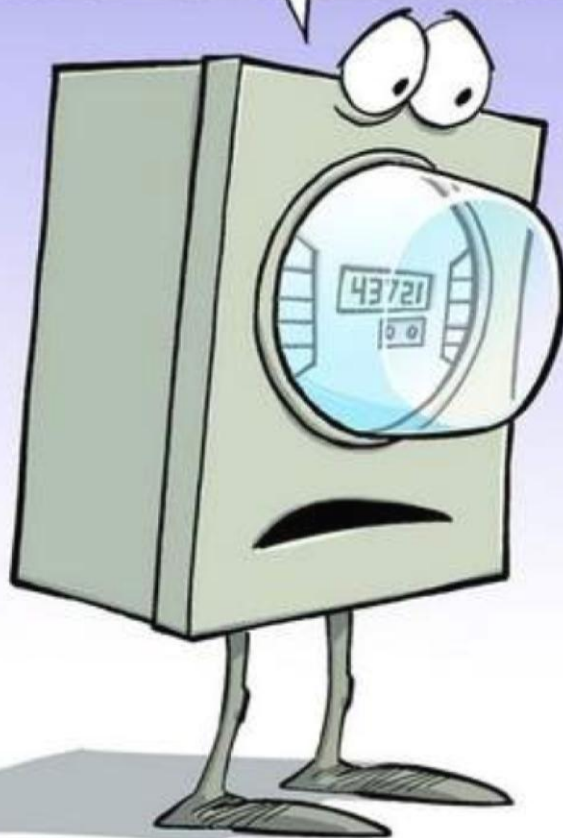
Comparison of typical radio frequency (RF) exposures

Relative power density in microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$)

FM radio or TV broadcast station signal	0.005
SmartMeter device at 10 feet	0.1
Cyber cafe (Wi-Fi)	10 - 20
Laptop computer	10 - 20
Cell phone held up to head	30 - 10,000
Walkie-Talkie at head	500 - 42,000

Source: Richard Tell Associates, Inc.

I DON'T GET IT. YOU SMARTPHONES
GIVE OFF RADIOFREQUENCY RADIATION...
YOUR CELLULAR CARRIER CAN TRACK EVERY
CALL, TEXT MESSAGE, AND WEBSITE
VISITED, BUT PEOPLE *LOVE YOU!*



IF YOU *REALLY*
WERE A SMART
METER, YOU'D
FIRE YOUR P.R.
PEOPLE.



LESSON NO. 4

Choose your battles wisely

The opt out saga

Second project status briefing for Madison Common Council June 19, 2012

- Routine pole use agreement also on agenda
- Anti's show up in force
- Council asks for Opt Out

Staff works with citizen group and PSC to develop policy

Opt Out Tariff approved November 1, 2012

The opt-out tariff

Option 1

- Outside mount installation
- One-time fee of \$50.69

Option 2

- No radio transmitter on property
- Monthly fee of \$7.78*

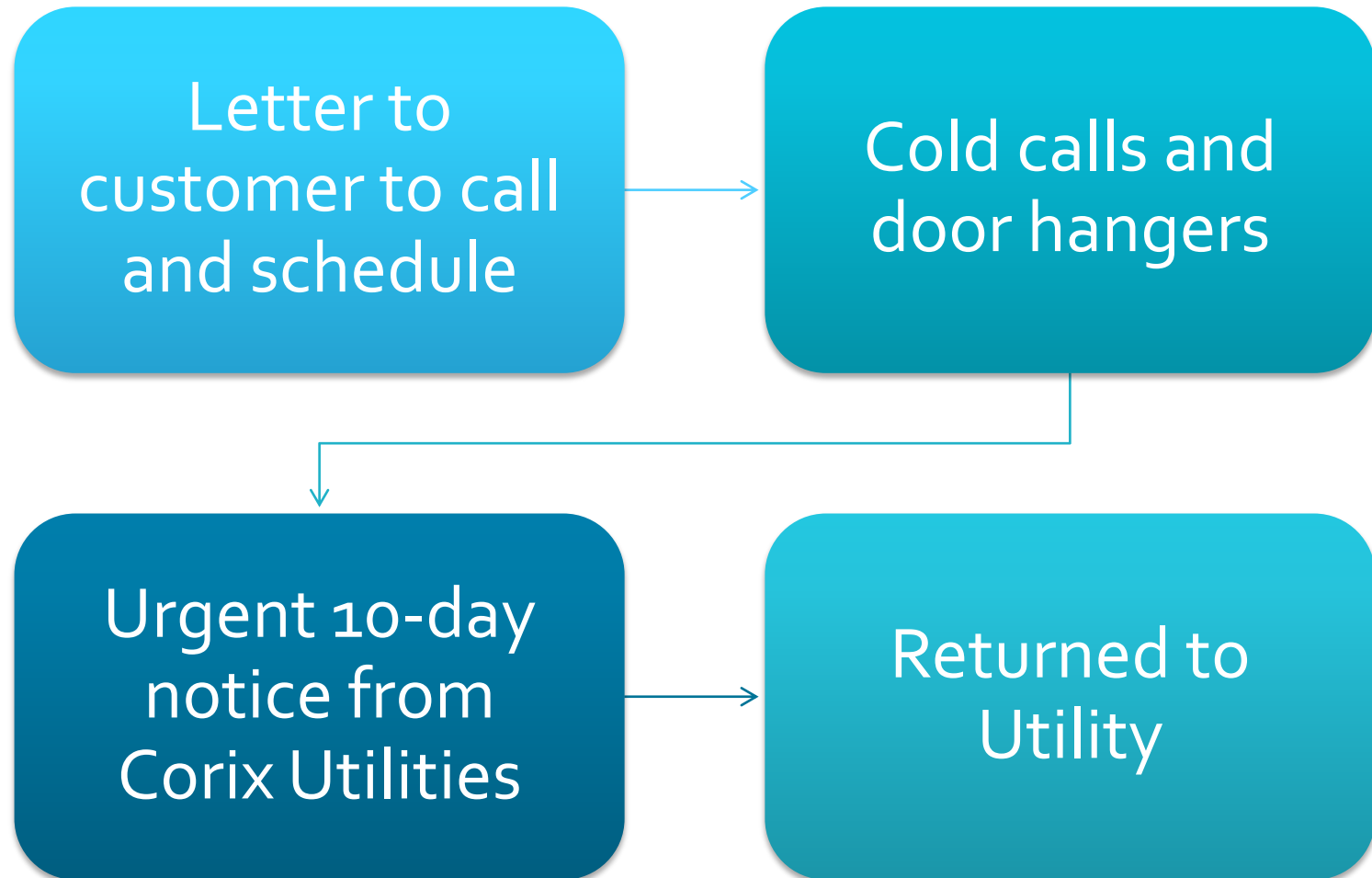
* Equates to a voluntary rate increase of 36%

CURRENT PROJECT STATUS

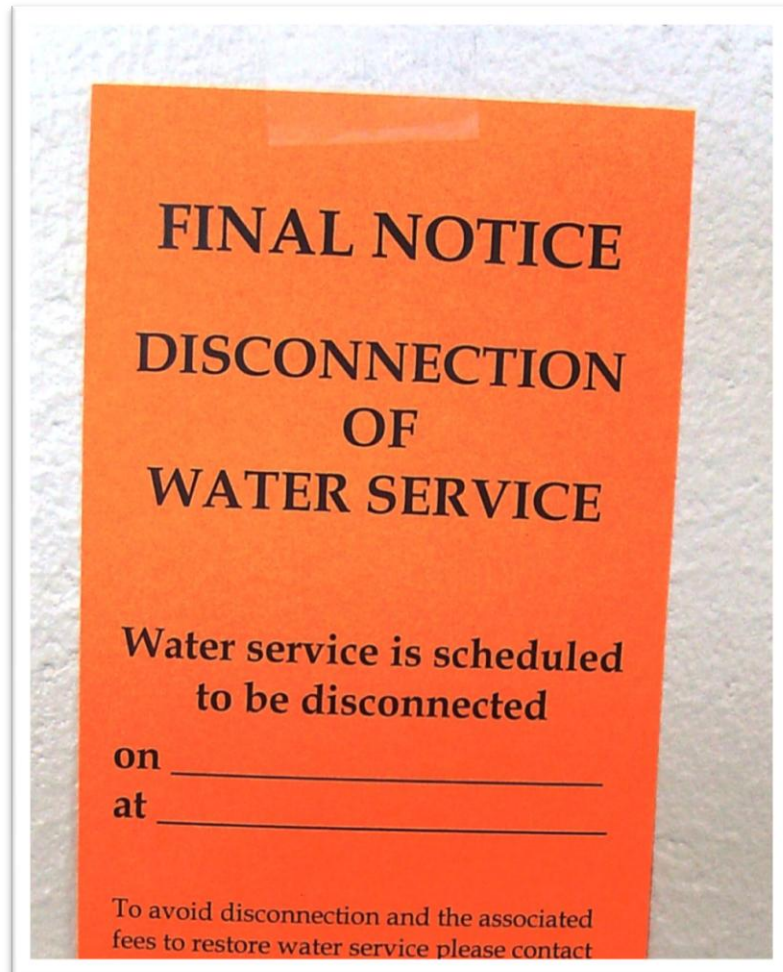
The numbers

- Installations planned: 66,570
- Installations completed: 46,701
- Option 1 (outside mount) 892
- Option 2 (total opt out) 361
- Service disconnections 1

Appointment process



Disconnection process



- After the RTU, the customer receives another 14-day Urgent Notice from MWU
- If still no appointment is made, a 10-day shut off notice is mailed
- If meter work or Opt Out form is not completed, property is posted for shut off

A FINAL THOUGHT

Bridging the ideological divide...



...with Smart Meters

QUESTIONS?