

**Global Water Technologies, Inc.** 

#### FORWARD-LOOKING STATEMENT:

Statements relating to plans, strategies, economic performance and trends, projections of results of specific activities or investments, and other statements that are not descriptions of historical facts may be forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. Forward-looking information is inherently subject to risks and uncertainties, and actual results could differ materially from those currently anticipated due to a number of factors, which include, but are not limited to, risk factors inherent in doing business. Forward-looking statements may be identified by terms such as "may," "will," "should," "could," "expects," "plans," "intends," "anticipates," "believes," "estimates," "predicts," "forecasts," "potential," or "continue," or similar terms or the negative of these terms. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, levels of activity, performance or achievements. The company has no obligation to update these forward-looking statements.



# Forward-Looking Statement

Big Data's impact on dysfunction in drinking water distribution

"People + Pipes + Policy"

## February 2013

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"People + Pipes + Policy"



Three gallons of tap water for one penny

One 16 oz bottle for one dollar



# Total disconnect in value

= \$1.00

## **Drinking water consumption**

Household of four people 100 gallons per person daily 12,000 gallons per month

Billed in hundreds of cubic feet  $12,000 \div 100 \div 7.48 = 16$ 

Limited and estimated readings of water meters

Wide price range across U.S. \$20 per month \$140 per month

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1 BAG	5 The age	Clarge	14 1 1 1 1	* change	15 Mary	° change	
The same	1990 - 19 M	Ban Ban	Call of Land	130	Called Tall	Tables	
13	ALCO LONG	5 4 4	11 4 48 30	3 4 40	1.4	3 4 33	14
City				2		92 J	
Onnorm Season	1600	11.21	0.0%	26.50	0.0%	64.97	0.00
Phoenix	1600	11.31	0.0%	30.39	0.0%	04.37	0.0%
Eroopo	100	14.90	0.0%	10.75	0.0%	24.61	0.00
Memobio	122	14.09	0.0%	19.75	0.0%	24.01	0.01
Chicogo	083	15.00	0.0%	22.02	0.0%	33.02	24.06
Unicago	NVA 0200	15.00	24.970	30.12	24.9%	40.10	24.91
New York	8360	25.30	7.5%	50.72	7.5%	76.08	7.5
Seasonal Increa	1000	12.94	2.5%	21.20	2.26/	24.60	2.00
Salt Lake City	1000	12.84	3.370	21.30	3.3%	34.09	3.3
San Lake Uity	380	15.73	3.3%	24.92	2.0%	34.70	1.5
Los Angeles	4000	20.17	-11.7%	59.05	-8.9%	100.93	-4.8
Seattle	030	50.00	9.2%	83.01	0.000	130.23	12.4
Santa Fe	78	50.62	8.1%	142.10	8.2%	262.51	8.2
Increasing Bloc	K 4000	04.67	5 404	00.00	5 40/	00.00	
Denver	1300	21.57	5.4%	39.36	5.4%	69.90	5.5
Tucson	775	21.29	12.1%	39.50	8.8%	88.86	6.9
Dallas	1306	17.62	5.4%	40.28	6.1%	95.82	8.9
Jacksonville	614	23.11	6.6%	41.12	15.6%	59.14	19.69
Las Vegas	2000	24.79	25.3%	41.13	13.8%	61.53	8.99
Charlotte	774	16.41	11.2%	43.69	20.4%	86.25	9.49
Fort Worth	625	23.26	4.4%	45.66	4.4%	70.78	4.6
San Jose <sup>1</sup>	107	27.23	5.9%	47.73	5.9%	70.61	5.99
Columbus	1115	27.80	8.0%	50.00	8.0%	72.20	8.09
Houston	2060	27.78	8.9%	53.46	8.9%	95.82	8.99
Austin	796	26.16	28.6%	59.16	18.0%	115.77	14.49
Boston	609	34.72	6.2%	71.39	6.3%	108.74	6.3
San Francisco	2400	40.50	12.3%	77.30	12.0%	114.10	11.99
San Diego	1300	48.53	0.0%	80.83	0.0%	116.02	0.0
Atlanta	1200	42.64	12.0%	91.92	12.0%	141.20	12.09
Decreasing Blo	ck						
Milwaukee	661	20.20	0.0%	33.64	0.0%	47.08	0.0
Detroit	740	19.28	9.3%	33.75	9.2%	48.23	9.19
Baltimore	1800	29.34	9.0%	46.94	9.0%	70.40	9.09
Indianapolis	800	31.38	-0.5%	53.04	-0.6%	74.05	-0.6
Philadelphia	1672	32.65	9.5%	58.93	9.9%	82.72	9.9
Total Average De	rcent Chan	ne	7 2%		7 3%		7 20



# Confusing water billing

## Water loss is unsustainable

18% of drinking water is lost before it reaches customers
850 water main breaks per day
Undetected leaks underground
Damage to collapsed roadways
Disruptions to homes & business
Public health issues
Public safety issues



Water main break closes Indianapolis Art Museum entrance



# Broken distribution system

## **Need for better water policy**

### Emergency water bans

- punish types of use
- ignore total use
- hurt small businesses
- save new trees, lose mature

#### Conservation disconnect

- mandates vs. incentives
- no meaningful metrics
- suggest "pick up ice cubes"

### Funding problems

- little comprehensive planning
- crisis-driven approach





# Questionable policy





# People + Pipes + Policy

### Local partners

- Global Water Technologies
- IUPUI
- Grundfos Peerless Pump

#### IUPUI SCHOOL OF ENGINEERING AND TECHNOLOGY

A PURDUE UNIVERSITY SCHOOL Indianapolis





## **Regional partners**

- Confluence (IN-OH-KY)
- Tri-State Alliance (WI-IL-IN)
- Great Lakes Region



# Establish partnerships

## People

- Engage users of the system
- Educate them on water usage
- Empower with better information
- Motivate efficiency with incentives
- Reward sustainable behavior



# Start by engaging users



## Living Lab for Sustainability

- partner with IUPUI and RCL
- 2,000 urban households
- light industrial, commercial
- city park and golf course
- near water treatment plant
- bounded by river, canal, creek
- along new tech corridor
- targeted economic development





# Living Laboratory



## **Give users better tools**

- educate on water usage
- empower with information
- develop plan for action
- motivate efficiency (incentives)
- reward sustainable behavior
- encourage competition







# Educate, empower, reward

## People

- Engage users of the system
- Educate them on water usage
- Empower with better information
- Motivate efficiency with incentives
- Reward sustainable behavior



- Provide better usage/loss data
- Discover undetected/growing leaks
- Prevent water main breaks
- Balance load with demand



## Connect users to infrastructure

## **CONFIDENTIAL PARTNER**

Upgrade to smart meter data

- provide real-time usage
- upgrade existing meters
- utilize two-way communications
- transmit consumption data
- send control signals
- create emergency protocols





# Upgrade meter technology



## **Monitor distribution network**

- flow, pressure & noise
- create virtual zones (DMA)
- establish baselines
- identify hidden leaks
- reduce water loss
- warn of water main breaks

Rio de Janeiro (Brazil), leakage Pressure Flow Leakage~950 m away from sense WÅ



Identify hidden leaks





# Combine user and system data

## **Create better policy**

- reward conservation at peak demand
- develop innovative pricing models
- allocate limited resources effectively
- alert to prevent emergencies









# Create better water policy





# Analyze big data and metrics

## **Future possibilities**

- balance supply with demand
- demand-driven distribution
- extend infrastructure life
- prioritize repairs with data
- create early warning systems
- implement flexible pricing
- curb demand during shortages
- improve customer relations



Water mains, flow diagram and breaks in RWELLS area

Future possibilities





"Every citizen, family and business has a role to play in calling for investment in water infrastructure — not only for health and safety reasons, but because adequate investment creates jobs and spurs economic growth." -Michael Deane, NAWC

## **Breaking news**

- US Chamber + NAWC
- WIFIA Legislation
- ARPA-W
- water.org



Growing awareness



## Next steps for 2013

- Launch pilot in living laboratory (refine at smaller scale)
- Add additional sites (urban, suburban, rural)
- Secure strategic partners, sponsors and investors for expansion



Next steps for 2013



**Global Water Technologies, Inc.** 

For more information, go to www.GWTR.com