



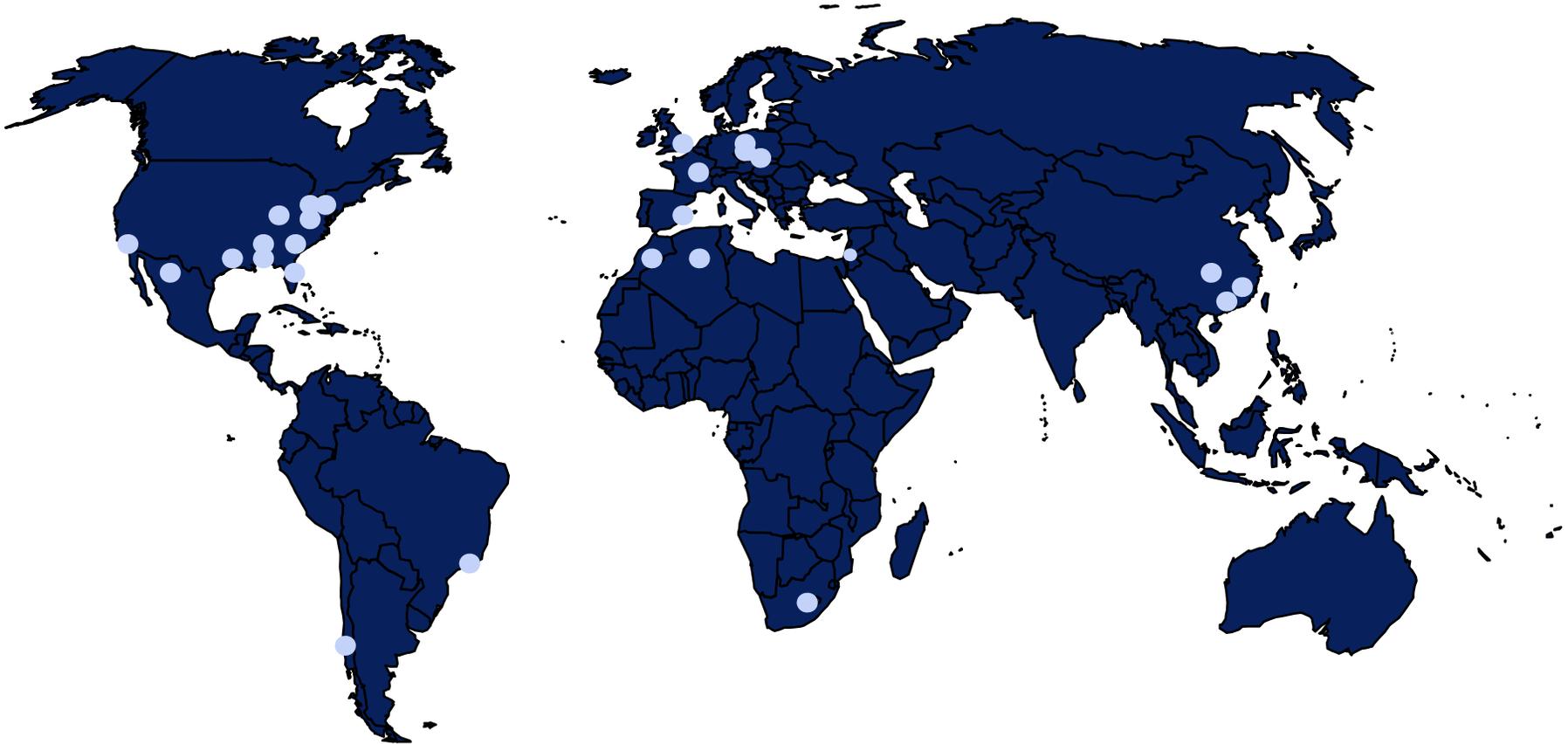
The Measure of the Future

Smart Metering

July 16, 2009

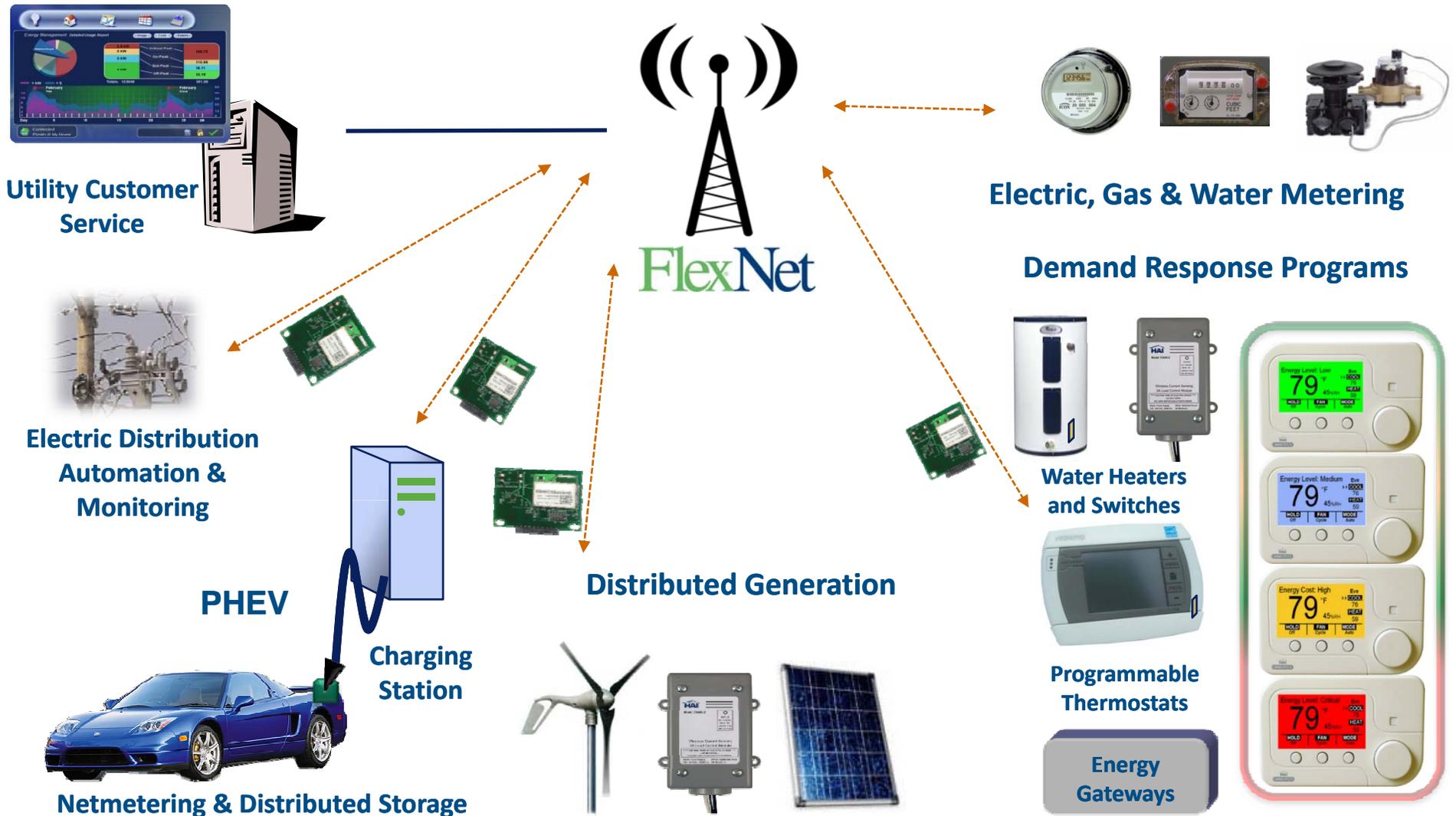
George Uram
VP, Industry & Regulatory Affairs

Sensus – More than a century of utility experience ...



\$800M+ turnover, 41 facilities on five continents and 4,000 people

Sensus FlexNet – Smart Metering, Smart Grid and More ...



Electric Utility Smart Metering References ...

Utility	Total	Installed
 Hawaiian Electric	430,000	10,000
 Portland General Electric	850,000	100,000
Ontario 	1,100,000	300,000
 ALLIANT ENERGY.	1,400,000	300,000
 SOUTHERN COMPANY	4,300,000	1,500,000

... plus 200,000 FlexNet gas endpoints and 600,000 FlexNet water endpoints at over 170 projects in North America

Alabama Power's SmartPower program has 1500 PCTs and is installing 15,000 load control modules

Sign up for SmartPower and get a FREE thermostat with FREE installation (\$300 value). It's yours to keep. We'll even maintain it for you as long as you're in the SmartPower program.

Sign up now!

Call 1-800-357-4117 today.
Monday-Friday 7 am-7 pm
Saturday 7 am-4 pm

Prices subject to change. Not available in all areas served by Alabama Power. Alabama Power makes no warranty about any thermostat, either express or implied, including without limitation any implied warranty of merchantability or fitness for a particular purpose. The program is limited to the first six customers in an area. Alabama Power requires a 3-month commitment for SmartPower. © 2011 Alabama Power Company



Set your thermostat to "Save."

Introducing SmartPower:™ The innovative energy efficiency system that automatically adjusts your thermostat to maximize savings.

SmartPower Program Benefits

- Reduced rates save SmartPower customers an average of 11% on their power bills.
- Receive a FREE thermostat with FREE installation (\$300 value).
- Save money by programming your thermostat according to different rate periods.
- SmartPower rates are lower than standard rates approximately 63% of the time during a year.
- Help reduce energy consumption during high-demand periods.

ALABAMA POWER Always on.™
A SOUTHEAST COMPANY

SmartPower	Price per kWh
Off-peak	3.0009 cents
Intermediate	6.2109 cents
On-peak	13.0422 cents
Critical	20.5422 cents
Jun – Sep	Time Periods
Off-peak	9pm – 10am
Intermediate	10am - 12pm & 7pm - 9pm
On-peak	12pm – 7pm
Critical	5hrs/day max 120hrs/yr max

The CLECO TOU/CPP 200 PCT pilot has been running for 18 months ...

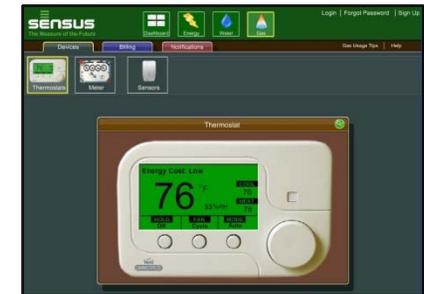


The screenshot shows the CLECO TOUCH web interface. At the top left is the CLECO TOUCH logo with the tagline "Time Of Use, Choice of Hours". Below it is a navigation menu with "ADMINISTRATION" and "CUSTOMERS" (the latter is highlighted). The main content area displays the customer's name "Scott Biggers" and FlexNetID "51000143". A large image of a white thermostat is shown, with its screen displaying "Energy Cost Med", "74 °F", and "COOL 74". Below the thermostat image is a note: "You may need to resize your text for this to display properly." Underneath is the "Additional Information:" section, which includes "Last Read Time: 2008-10-06 12:27:37.897" with a "[PING DEVICE]" link, a "Modify Pricing Offsets" form with input fields for "Medium Price Offset: 0", "High Price Offset: 2", and "Critical Price Offset: 6", and an "Update Offsets" button. To the right of the form are links for "Show History Graphs" (1 Day Graph, 3 Day Graph, 5 Day Graph, 7 Day Graph) and "View Message History" (View Messages). At the bottom left, there is a copyright notice: "©2008 Sensus Metering Systems. All rights reserved. CLECO is a registered trademark of Cleco Corporation."

Additional HAN Pilots

NU/CP&L (600 PCTs)
Minn. Power (150 PCTs)

Sensus *FlexServer*[™]
 provides customer access
 via the web or other
 devices ...



SENSUS The Measure of the Future

Welcome manager@mail.com | Sign Out

Dashboard Energy Water Gas

Billing Usage Help

Total Usage Building 1 Building 2 Building 3 Building 4

Current Gas Usage

Meter #	1553291
Electronic Readings	
03/20/09	825.3
04/20/09	-811.0
Usage in 30 Days	14.3
Next bill will be mailed	05/21/09
Due Date --	06/15/09

Gas Usage History

Usage by Month for last 13 months

SENSUS The Measure of the Future

Log In | Forget Password | Sign Up

Dashboard Energy Water Gas

Billing Usage Messages Help

Current Gas Usage

Meter #	1553291
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Dashboard Energy Water Gas

Billing Usage Help

Total Usage Building 1 Building 2 Building 3 Building 4

13 Month Gas Usage History - Building 4

Usage by Month for last 13 months

PA Smart Metering Minimum Requirements ...

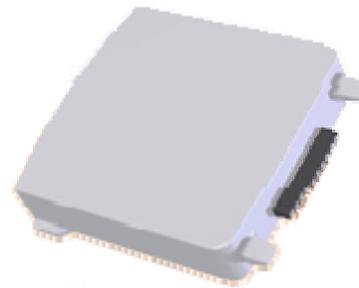
Requirement	Sensus
▪Bi-directional Communications	
▪Hourly usage data, once a day	
▪Customer data access to price and consumption data	
▪Hourly consumption info to customers	
▪TOU and RTP	
▪Auto control of customer usage	

... the PA Smart Metering minimum requirements can be supported by Sensus” system ... and by all modern meters and Advanced Metering Infrastructure systems

... the key issues related to choice and cost are:

- How is data on price and consumption to be provided to the consumer
- Who provides “control equipment” or display equipment at customer premises

Common Point of Interoperability for DR Applications



U-SNAP

www.u-snap.org



110 VAC Power Plug



USB to Computers

Costs for in-premise equipment...

Device	Today's approx. cost in Volume 10k
▪ Programmable controllable thermostat (PCT) with radio	\$200 - \$250
▪ In home display	\$125
▪ Load control module (control water heaters, pool pumps, etc.)	\$100 - \$120

PA Smart Metering Additional Requirements

... most of the additional requirements are supported by modern AMI systems

Requirement	Sensus	Comment
▪Remote disconnect/reconnect		▪\$50 dollar per meter adder ▪Enables pre-payment
▪15 min. interval data		▪Included w/o additional meter cost
▪On board data storage compliant with standards, e.g., ANSI C12		▪All C&I meters ▪Many utilities question benefit for residential meters
▪Open standards and protocols, e.g., IEEE 802.15.4		▪Interoperability at system interfaces is key ▪802.15.4 is a PHY/MAC standard ... would require every system to be the same
▪Ability to upgrade		▪Ability to do F/W upgrades included w/o additional meter cost ▪No ability to modify hardware
▪Voltage monitoring and reporting		▪Included w/o additional meter cost
▪Remote re-programming		▪Included w/o additional meter cost
▪Communicate outages & restorations		▪Included w/o additional meter cost
▪Net metering		▪Included w/o additional meter cost

Thank you ...

Sensus

George Uram

724-425-7956

George.uran@sensus.com