

The logo for Consumers Energy features the company name in a bold, blue, italicized sans-serif font. The text is positioned above a thick, bright green swoosh that curves from the left side of the frame, underlines the text, and tapers to a point on the right side.

Consumers Energy

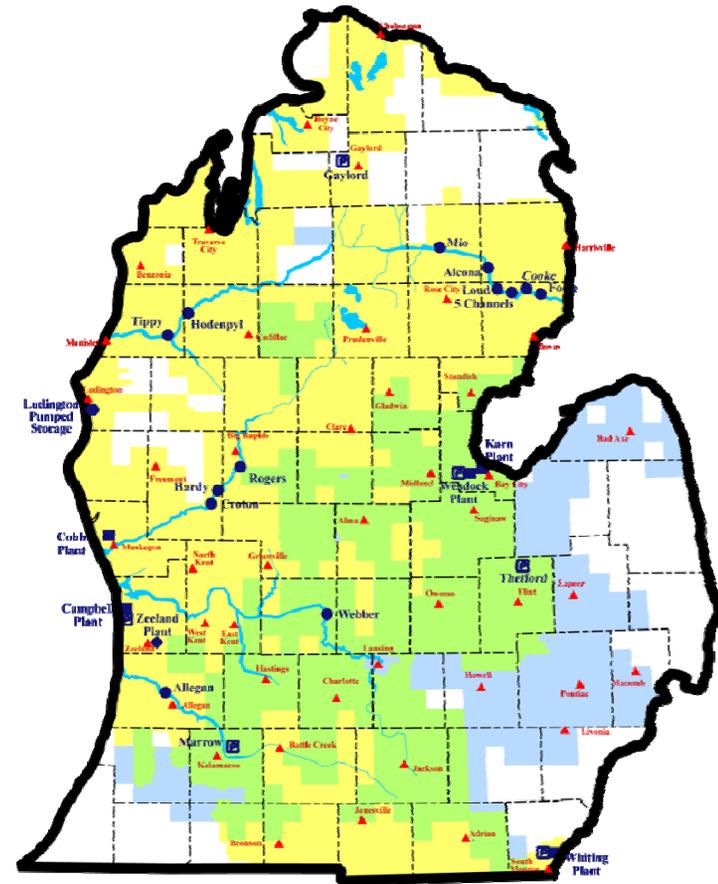
Count on Us

Smart Grid Development

October 2010

Company Profile

- The Utility
 - Principal subsidiary of CMS Energy
 - 7,500+ employees
 - \$6.8B in annual sales
- Electric and Gas Service
 - 1.8 million electric customers
 - 1.7 million gas customers
 - 70,000 miles of electric lines
 - 27,000 miles of pipelines
- Generation
 - 37,000 GWh per year
 - Fleet of 28 facilities/plants
 - Mix of coal, natural gas and hydro



Plant and facilities map

- Fossil
- Hydro
- ◆ Pumped Storage
- ◆ Natural Gas Fired

yellow = electric service area
 blue = gas service area
 green = electric and gas service area

▲ Consumers Energy
 Customer Service
 Centers

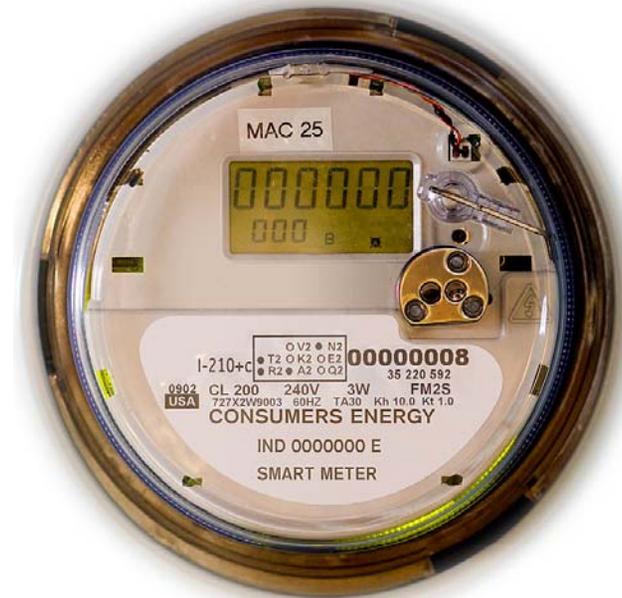
Investing in Michigan



- Consumers Energy is investing \$6.4 billion over 5 years with its Growing Forward strategy to:
 - Provide reliable and affordable energy options
 - Expand renewables portfolio
 - Support Michigan's economy
 - Promote environmental stewardship



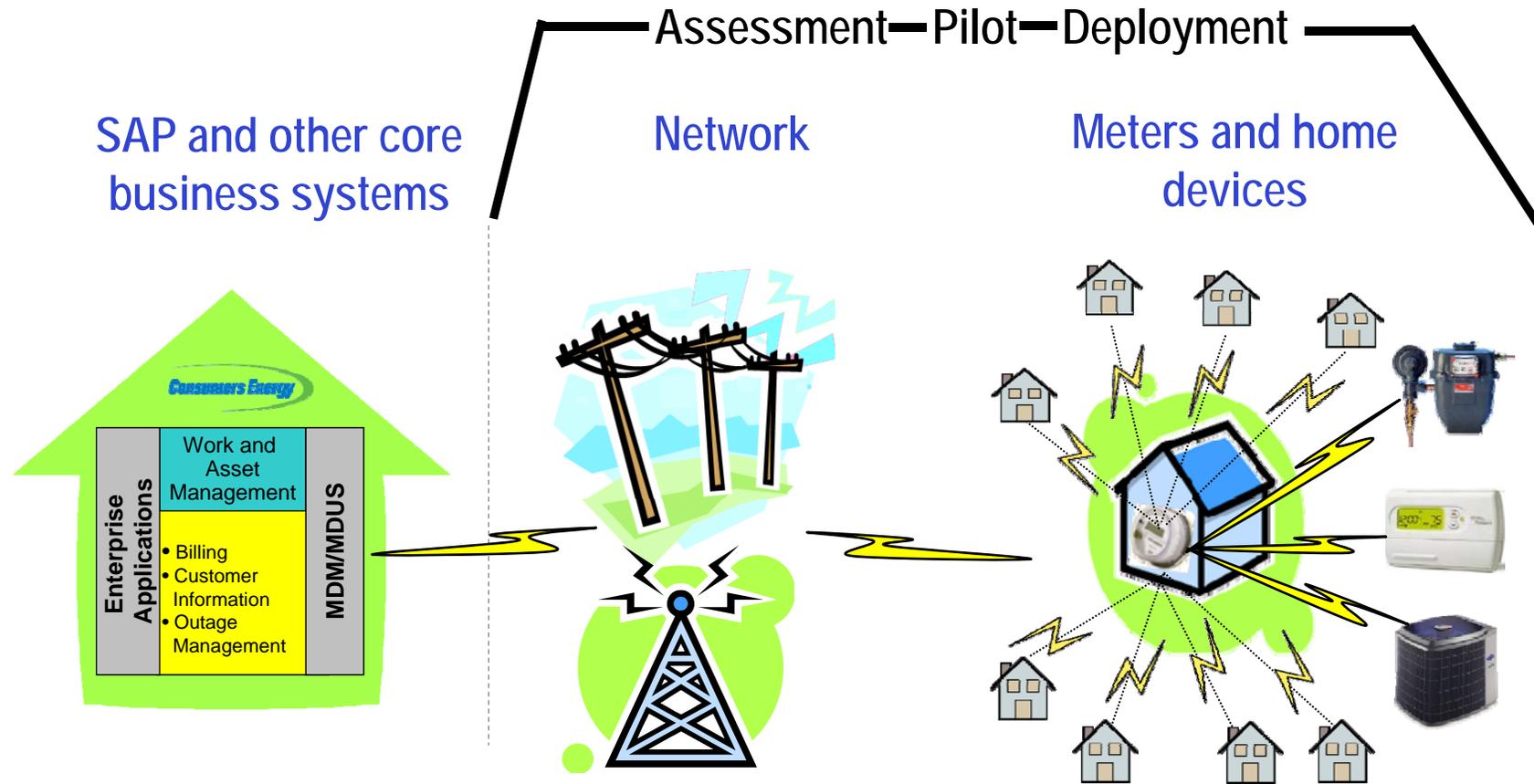
- Smart Meter Technology
 - Advanced electric meters
 - ◆ Two-way communications between the utility and its customers
 - ◆ Thermostats talk to the meter
 - ◆ Near real-time usage and rate information
 - Customer benefits
 - ◆ Lower energy usage
 - ◆ Rate design options
 - ◆ Increased billing accuracy
 - ◆ Immediate electric outage identification and notification



Aligning Company and Customer Benefits

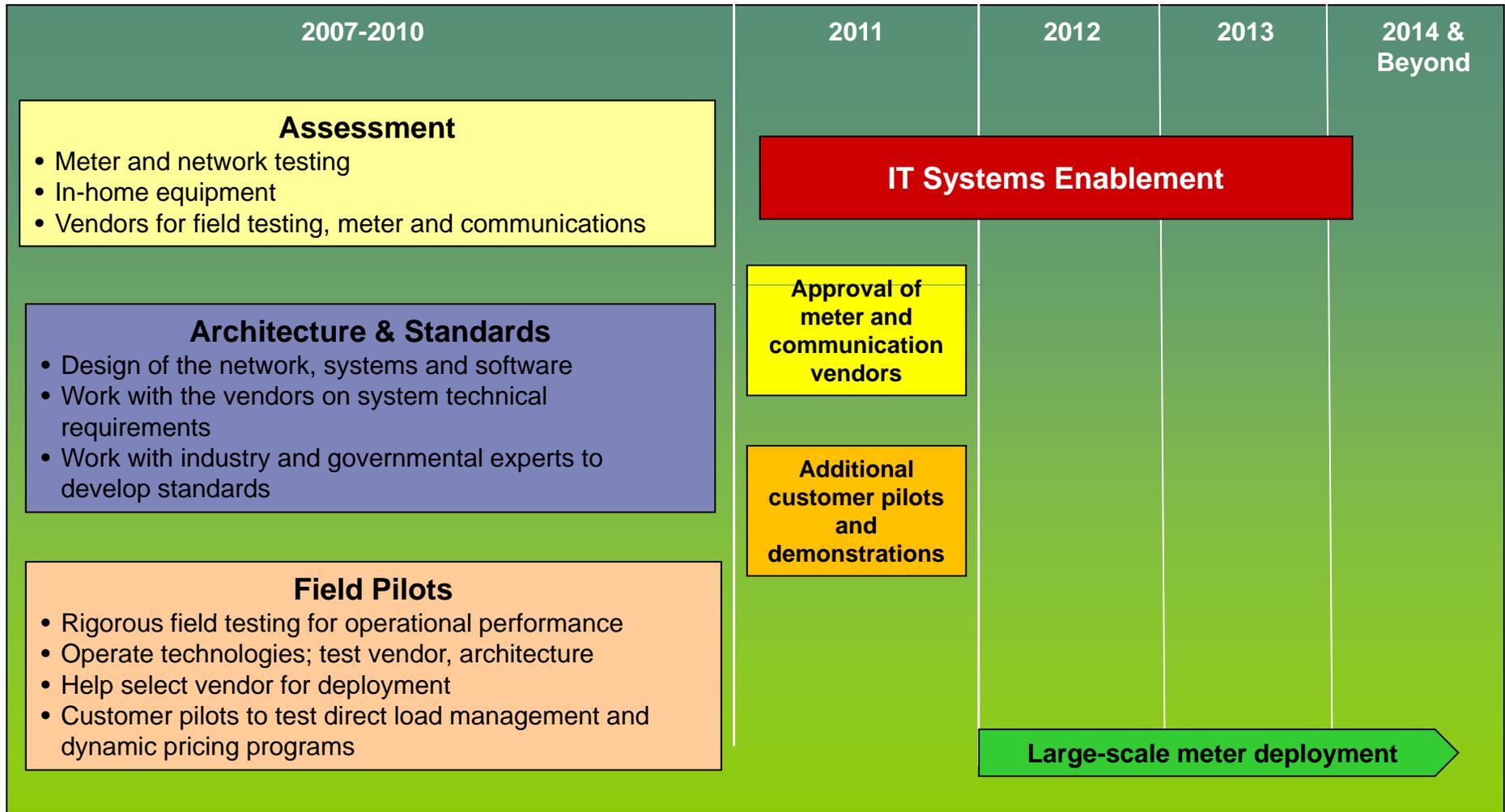
- **Avoided peaking capacity (and energy)**
 - ◆ Time-of-use pricing/demand response
 - ◆ Load management
 - ◆ Energy conservation and efficiency
- **Reduced energy losses/costs**
 - ◆ Theft detection
 - ◆ Managing unpaid accounts
 - ◆ Automated meter reading
 - ◆ Improved access to information
- **Customer knowledge = customer savings**
 - ◆ Supporting systems, customer education and participation are key to achieving desired benefits

Smart Grid Program Elements



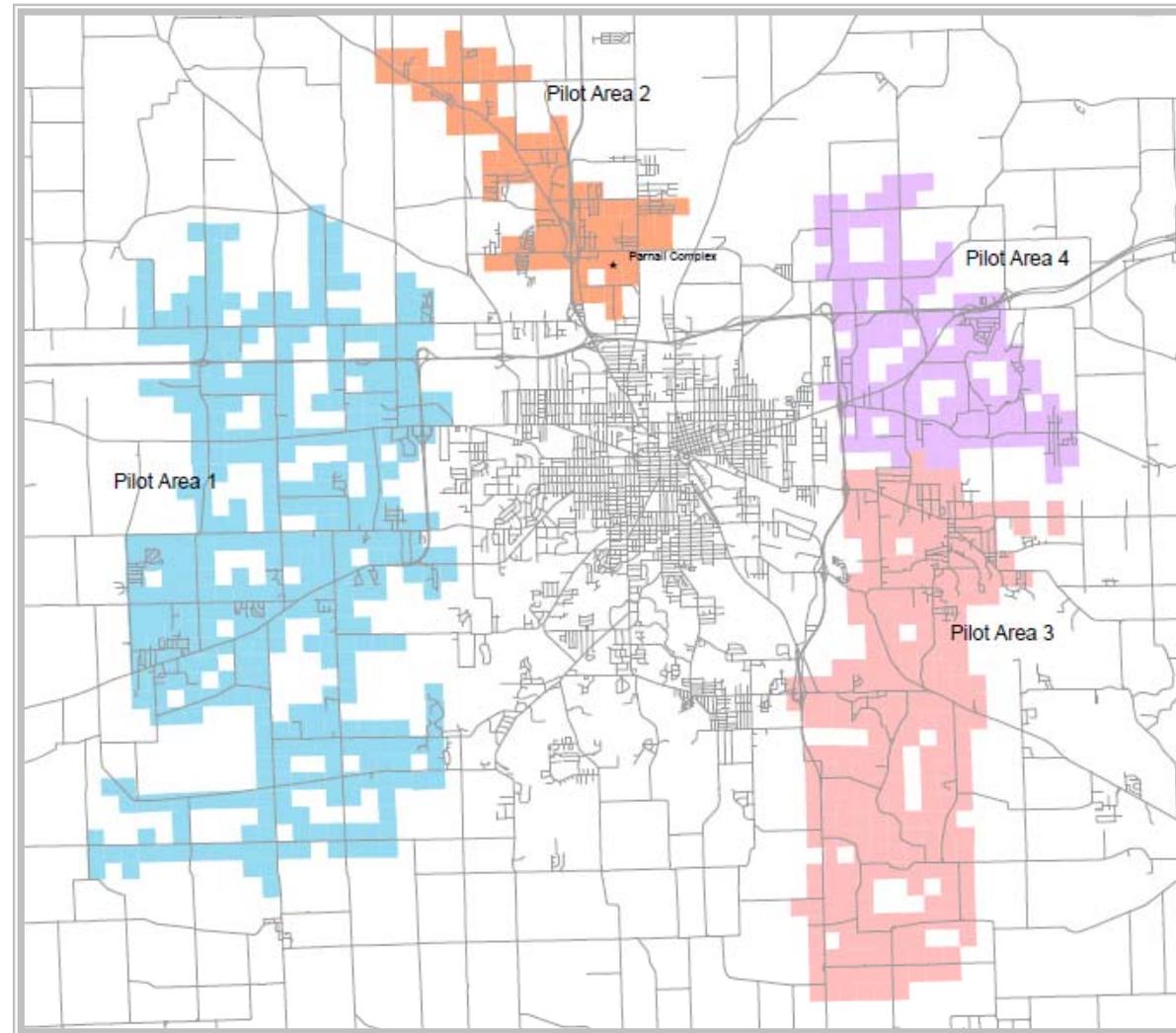
Sequencing the Smart Grid Program

Looking Back and Going Forward



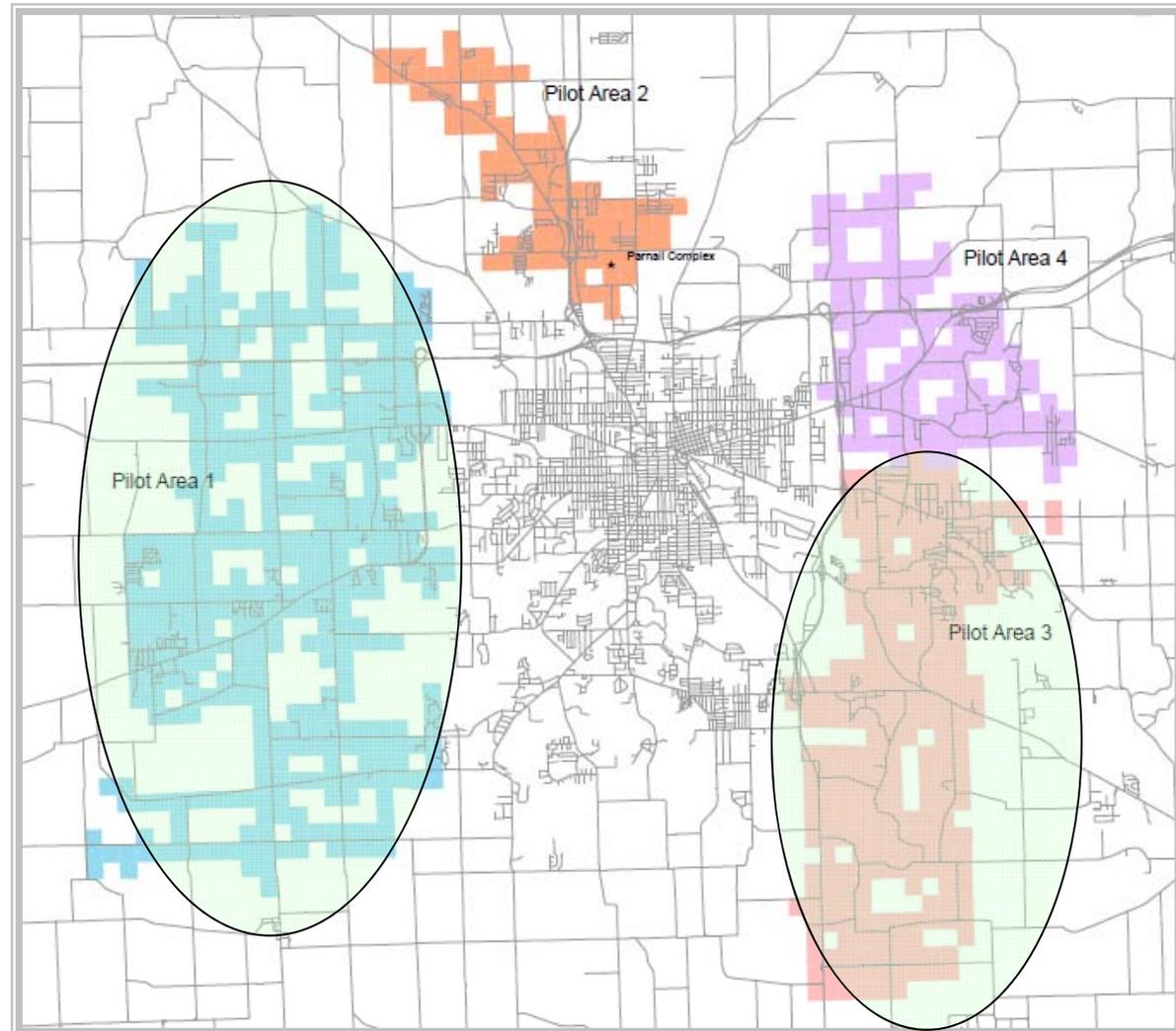
Meter Pilots

- 3 meter vendors, 6,500 meters, across Jackson County
- Rural and urban settings



Green Circuit Project

- EPRI Project, started in 2008
- Focused on ways to improve distribution line efficiency
- Fully monitored 4 circuits over 2 pilot areas
- Project will run through 2011



2010 Customer Pilots

- Direct Load Management Pilot Program
 - Pilot Objectives
 - ◆ Understand implementation
 - ◆ Customer motivation
 - Pilot Design
 - ◆ Appreciation payment
 - ◆ Rate discount > 600 KWh/month
 - ◆ Customer override
 - ◆ Cycling strategy



2010 Customer Pilots

- Dynamic Pricing Pilot Program
 - Pilot Objectives
 - ◆ Customer response:
 - Better/more information
 - Dynamic rates
 - ◆ Demand reduction potential
 - ◆ Understand implementation
 - ◆ Barriers and constraints
 - Pilot Design
 - ◆ Appreciation payment
 - ◆ Treatment groups



Personal Power Plan

2011 Plans

- **SmartStreet**
 - Demonstration in portions of Grand Rapids showcasing smart meter technology and energy efficiency programs
- **Pilots**
 - Commercial and industrial meter pilots planned in Grand Rapids
 - Low-income pilot planned in Jackson using customers already in smart meter pilot

Focusing on Customer Benefits

- Empowerment in controlling costs
- Improved outage response
- Accurate billing
- Lower bills via additional information available
- Shifting energy demand
- Increased reliability which results from the technology

Connecting with the Customer

Sending consistent messages via many channels is key:

- Direct mail
- Grass roots, such as county fairs and town hall meetings
- Video vignettes
- Consumers Energy website
- Social media
- Smart Services Learning Center
- Mobile experience center
- Billing inserts and messages

Smart Grid Test Campus



Data Aggregation Point



Field Pilot Equipment

Wimax Antenna



Silver Spring Collector



Elster Communications Equipment



Transformer Load Monitoring Meter



Field Pilot Equipment

Silver Spring
Landis & GYR Meter



Gridnet GE Wimax Meter



Silver Spring GE Meter

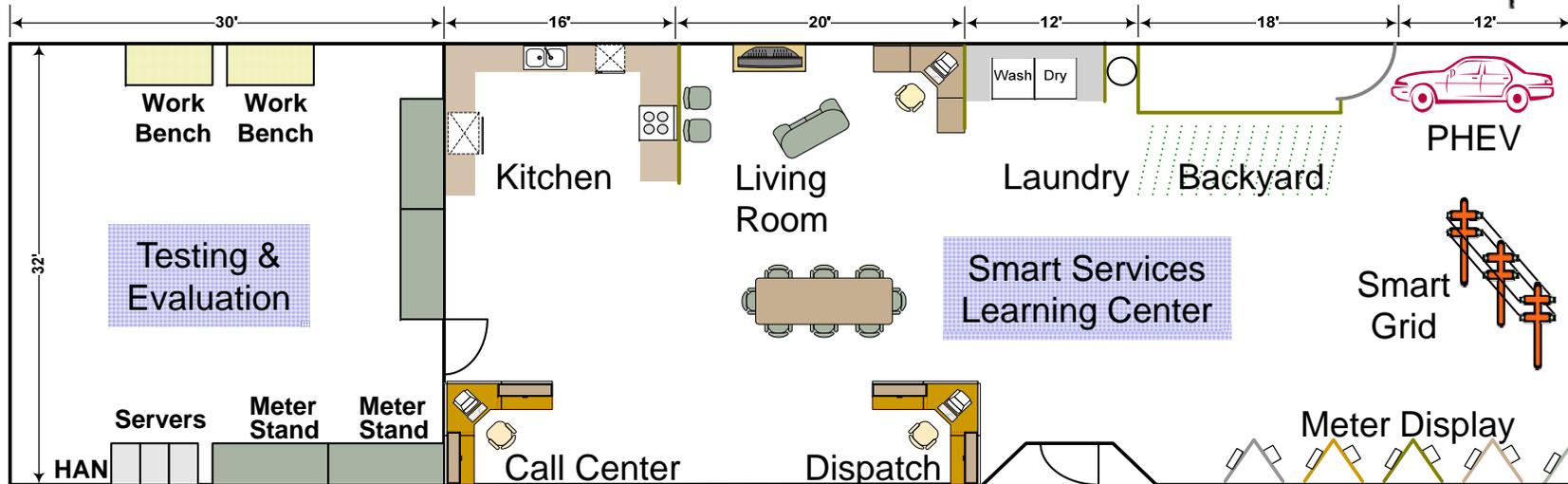


Gas Meter Module



Smart Service Learning Center (SSLC)

Testing,
Evaluation &
Demonstration



Smart Service Learning Center (SSLC)



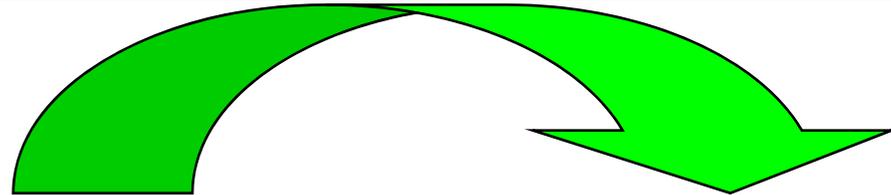
Smart Utility Strategy

Renewables
Distributed Generation

Smart Power



Load Management
Demand Response



Smart Grid

Outage Detection
Circuit Monitoring



Customers

Smart Meters



Meter Reading
Move in / Move out
Credit Disconnects
Energy Usage Info

Smart Choices

Smart Appliances
Intelligent Communicating Thermostats
Plug in Electric Vehicles
Home Area Networks

