Charlotte Energy Committee

2011-12 Update

Green Mountain Power

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Introductions

- Mike Burke: T+D Field Operations Leader
- Neale Lunderville: Enterprise Innovation Leader
- Brian Otley: VP Operations

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Topics

- 2011 Field Work in Charlotte
- 2012 Field Work in Charlotte
- GMPConnects Overview: Smart Grid
- Q+A throughout

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2011 Field Work in Charlotte

Project	Type	Description	Reason
Spear St Ext	Line Re-build	Distribution line re-build from Spear Corner Store south to the covered bridge. Line also feeds Prindle Rd, Bingham Brook Rd & Lewis Creek Rd. Reliability upgrade for this feeder. Status: poles are on-site awaiting set. Completion by June.	Aging conductor needs scheduled replacement.
Carpenter Rd / Dorset St	Line Re-build	Distribution line re-build from Carpenter Road , Dorset St North and South and O'Neil Road. Status: In final design. Completion by July.	Obsolete conductor needs replacement due difficult to work on in field.
Meadowside Dr Vault Replacement	Vault Replacement	Replace underground vaults that have been heaved out of place from frost. Charlotte excavator doing the ground work. Status: Start in Aug Completion by Sept.	Taking late 80's type of vault that has had problems out of the field.

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2012 Field Work in Charlotte

Project	Type	Description	Reason
Thompson Point Rd Re-build	Line Re-build	Rebuild from Sentinel Cedar Lane to the end of Thompson Point. Line also feeds Flat Rock, Blackwillow Farm, North Shore Rd, Point Bay, Wastewater Plant, etc. Off-road line: will be rebuilding when the ground is frozen to minimize damage from the tracked rigs.	Replace obsolete poles and wire.
Lake Road South Re-build	Line Re-build	Cedar Lane to Thompson Point Rd. Line touches customers on Thompson Point Road back to the Railroad and all of Lake Road Extension.	Replace obsolete poles and wire.
Mt Philo Road / Spear St Ext / Re-build	Line Re-build	Line rebuild from Hollow Road in North Ferrisburg north to Mt Philo Rd, turning right onto Spear St Ext to Guinea Rd. Line feeds Mt Philo Road, Spear St Ext, White Birch Lane, Guinea Rd, One Mile Road, ¼ Mile Road, ½ Mile Road, Mountains Edge, Mt Philo State Park.	Replace obsolete poles and wire.
Beach Rd / Greenbush Rd Re-build	Line Re-build	Beach Road in Shelburne to approximately Orchard Rd in Charlotte along Greenbush Road. Line takes in Greenbush Road, Ten Stones, Orchard Road, Ordway Rd, South 40 Road.	Replace obsolete poles and wire.

Other Updates

- Tree Trimming:
  - GMP performs vegetation management on a seven year cycle. Charlotte last trimmed in 2008-2009. No activity planned in 2011 or 2012 other than capital project work and outage issues.
- LED Streetlighting:
  - Town of Charlotte pays for 3 streetlights. All are eligible for replacement to LEDs – 66% more efficient and night sky friendly.
  - 55 total streetlights in town. GMP will be reaching out to coordinate LED replacement options.

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GMPConnects

- Cost – an efficient grid
- Carbon – a low emission grid
- Reliability – a solid grid

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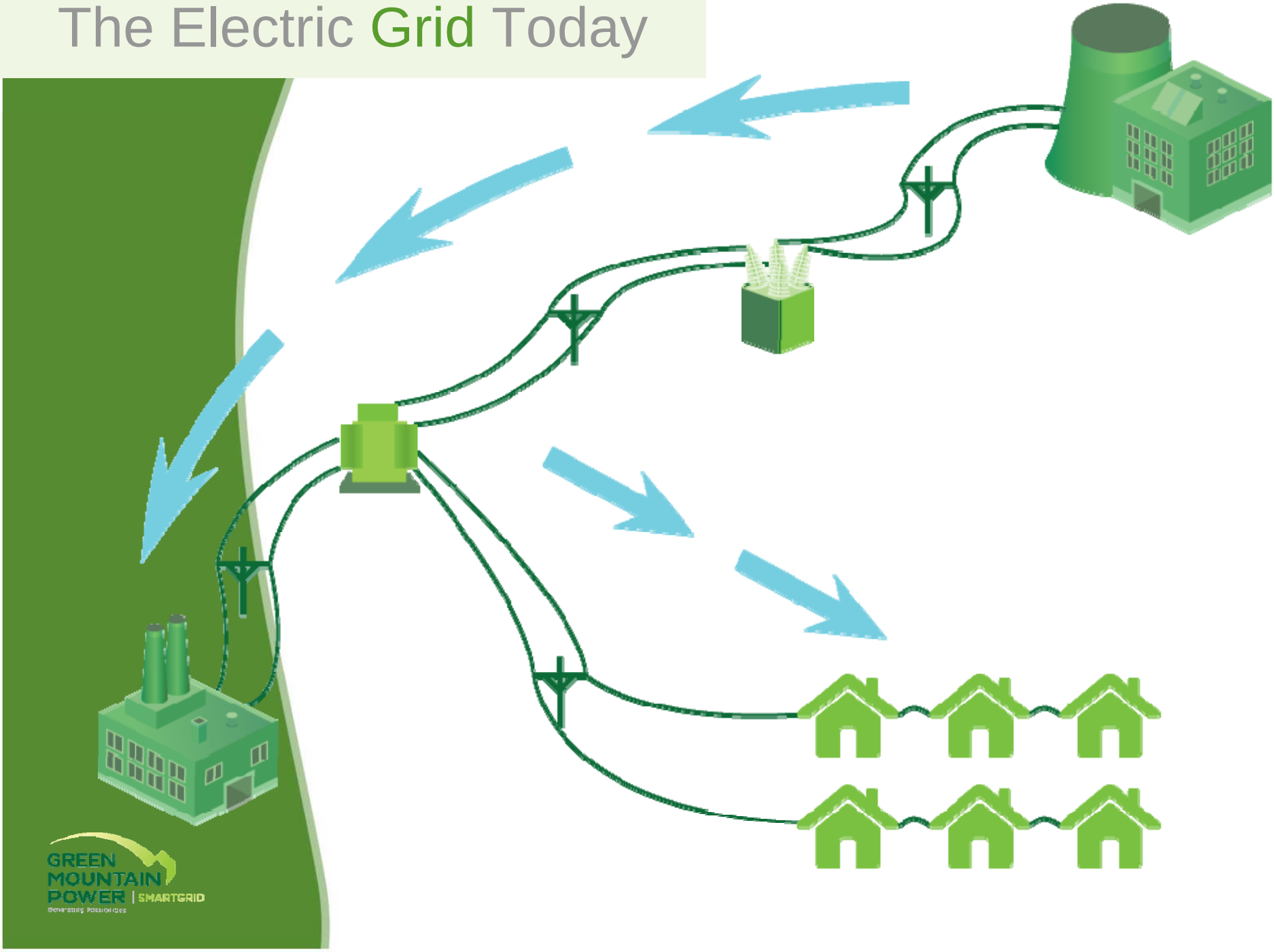
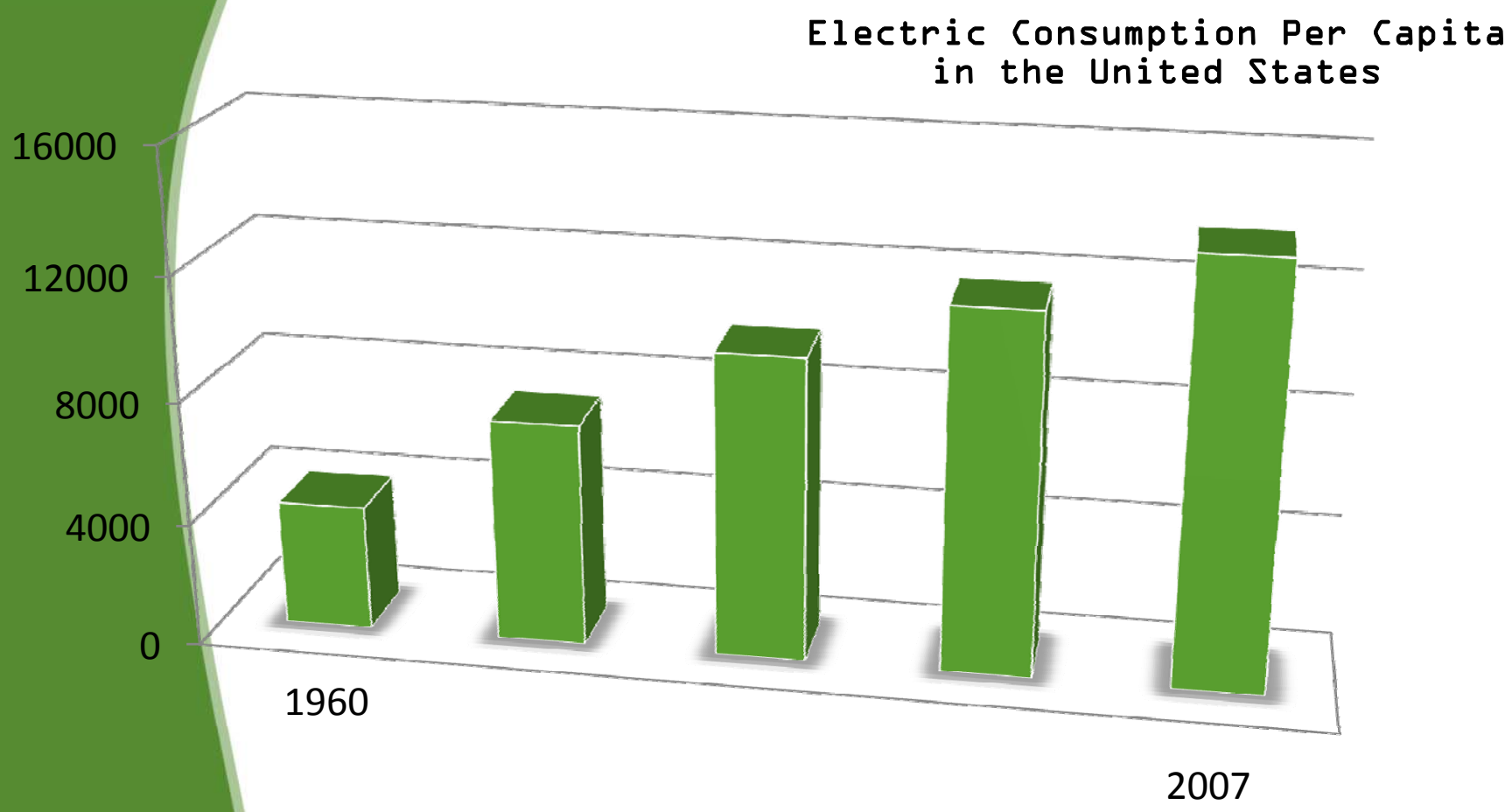
The Electric Grid Today



Household Energy Use



Electric use has tripled since 1960

Today's Grid is Stressed:

- Three of the five largest blackouts have occurred since the year 2000
- Power outages in the US cost $150 billion per year (US DOE estimate)

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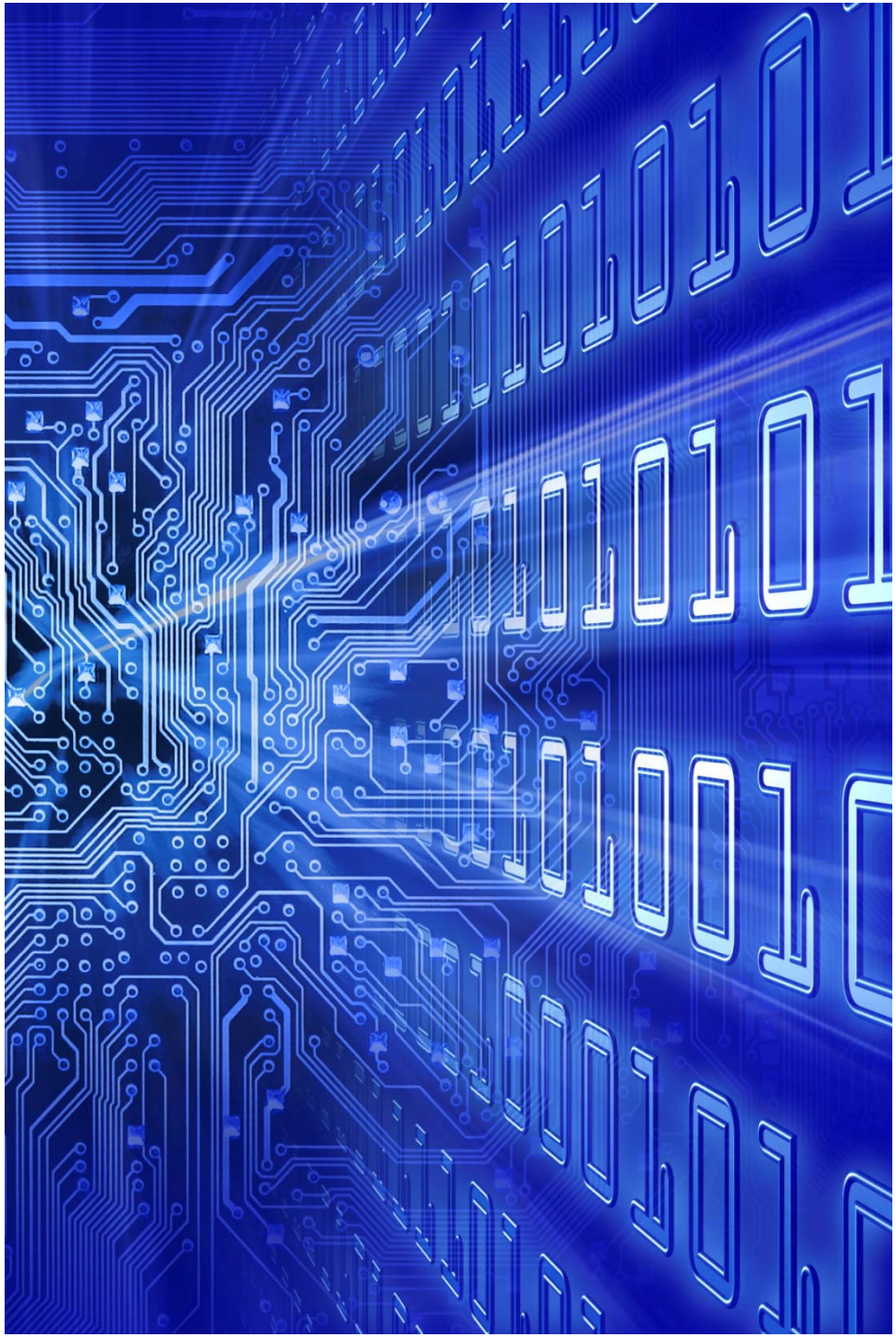
Today's Grid: Challenged

Needs to meet the power quality demands of digital technology

Not equipped to make full use of information technology

Environmental issues require we manage the grid differently for peak demand and renewable energy.



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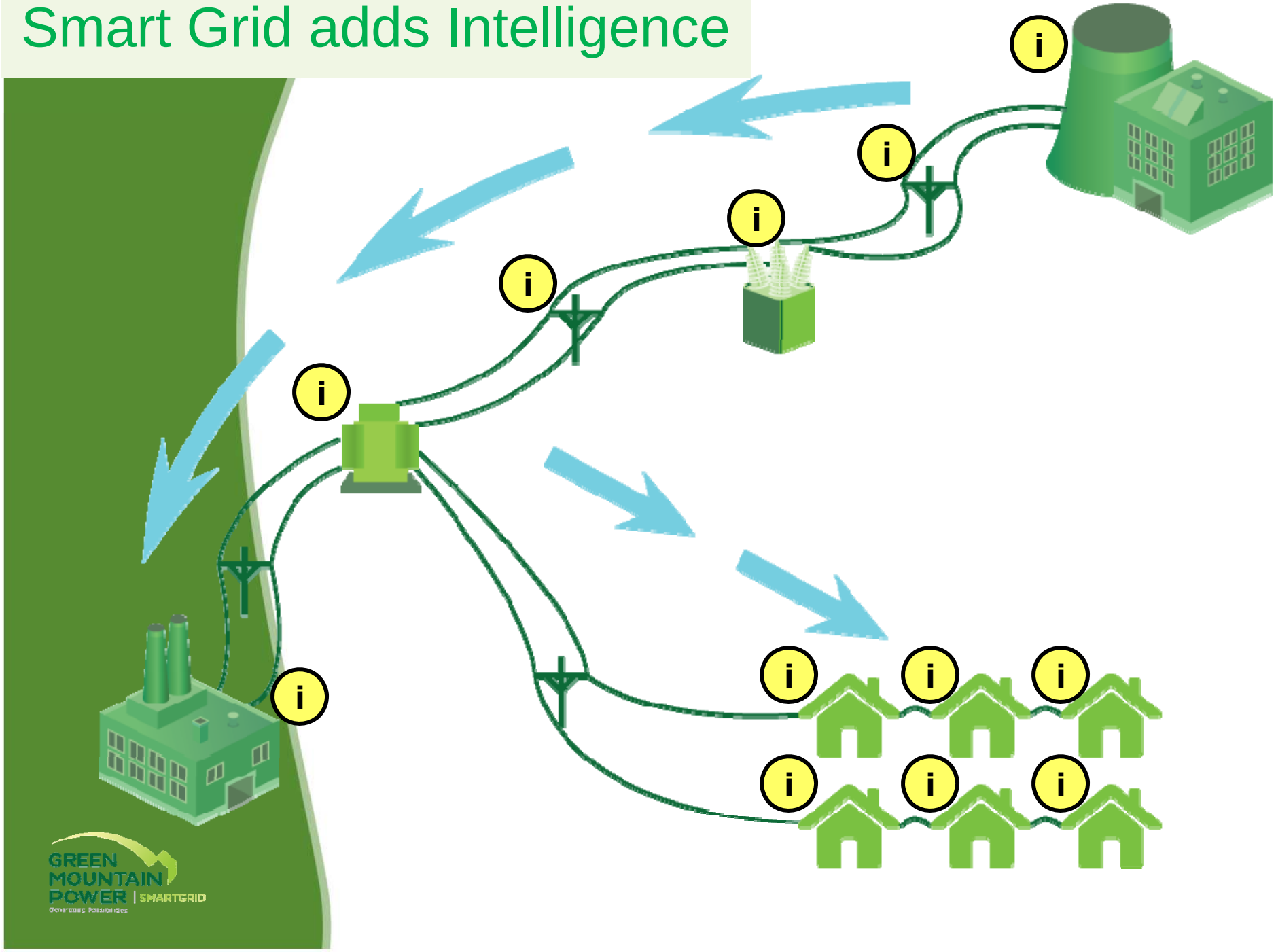
Smart Grid adds Intelligence



Smart Grid in Vermont

Laying the Foundation

2010: $138 million project;
$69 million DOE grant

Unique statewide approach
across 20 electric utilities

Creates a foundation for
immediate efficiency
& future innovation

3- year project includes:
Grid automation
Smart meters

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Grid Automation

Automated controls on substations, transmission and distribution systems.

Benefits

1. Reduce outage time
2. More work done centrally, more efficiently
3. Integrate renewable generation

Smart Meters

All GMP customers will receive a smart meter

Benefits:

- **Efficiency** - automated meter reading & outage/power quality notifications
- **Customer Choice** – opportunities to control costs thru new dynamic price plans; reduce/shape peak load; lower use of fossil fuels

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Customer Tools

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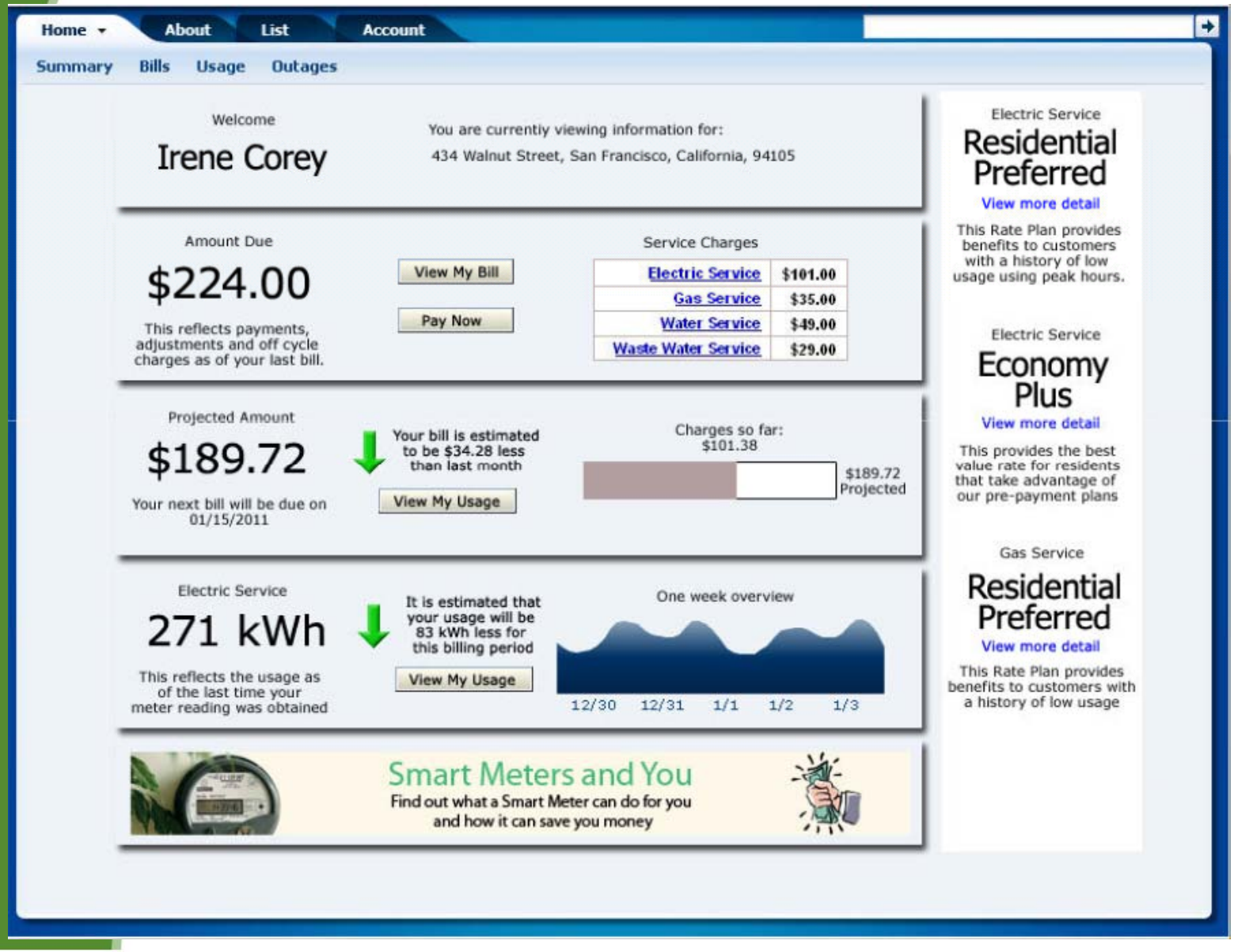
Customer Tools



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Timeline*

- Substation Automation Installations
  - July, 2011 thru January, 2013
- Distribution Circuit Automation Installations
  - June, 2012 thru February, 2013
- Smart Meter Installations
  - October, 2011 thru December, 2012
- Initial Dynamic Rate Availability for Residential Customers
  - June, 2012
- Customer Portal Availability
  - September, 2012

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* timeline subject to change based on project milestone completion & regulatory oversight

Thank You

We encourage
you to
actively participate
in your
energy future.