

SmartMeter Data Utilization

Pat Hogan

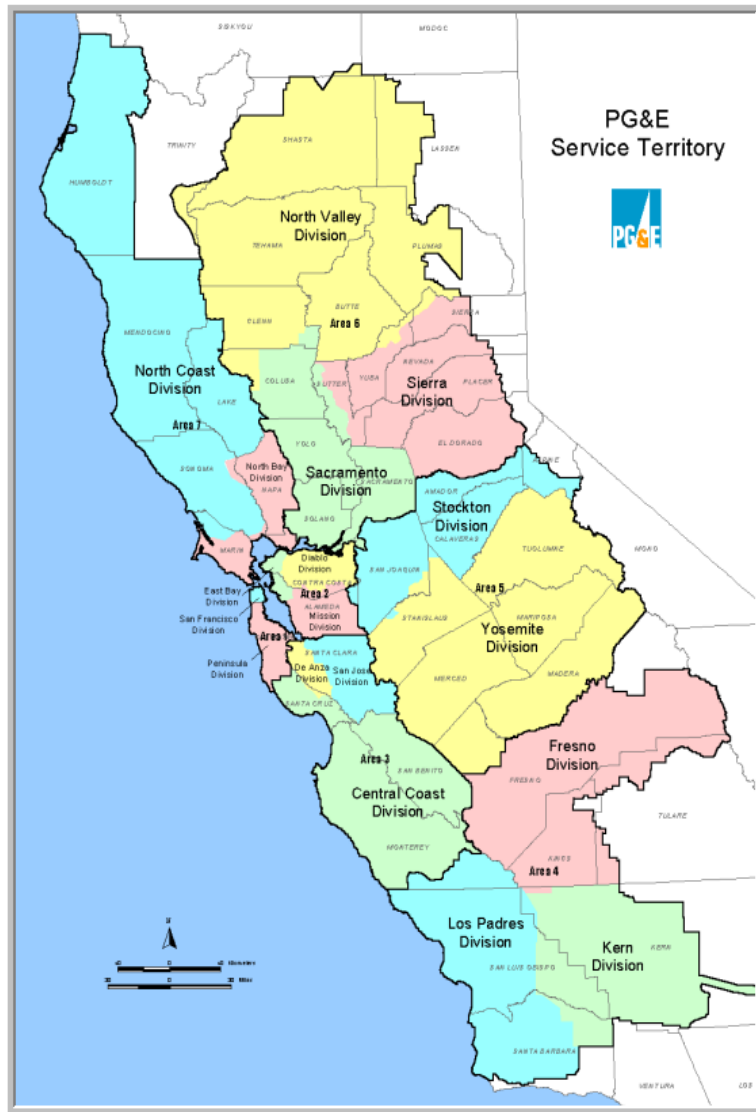
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PG&E at a Glance



- Serves approximately 5.4 Million electric customers, 4.4 Million natural gas customers
- 70K square-mile service area
- Operates 106K miles of Distribution line, 18K miles of Transmission line
- 3K Distribution Circuits
- 1 Million Transformers
- As of March 2018 approximately 900 Automated Self Healing Circuit Schemes (FLISR)
- 5.4 Million Electric SmartMeters which provide outage and operational data

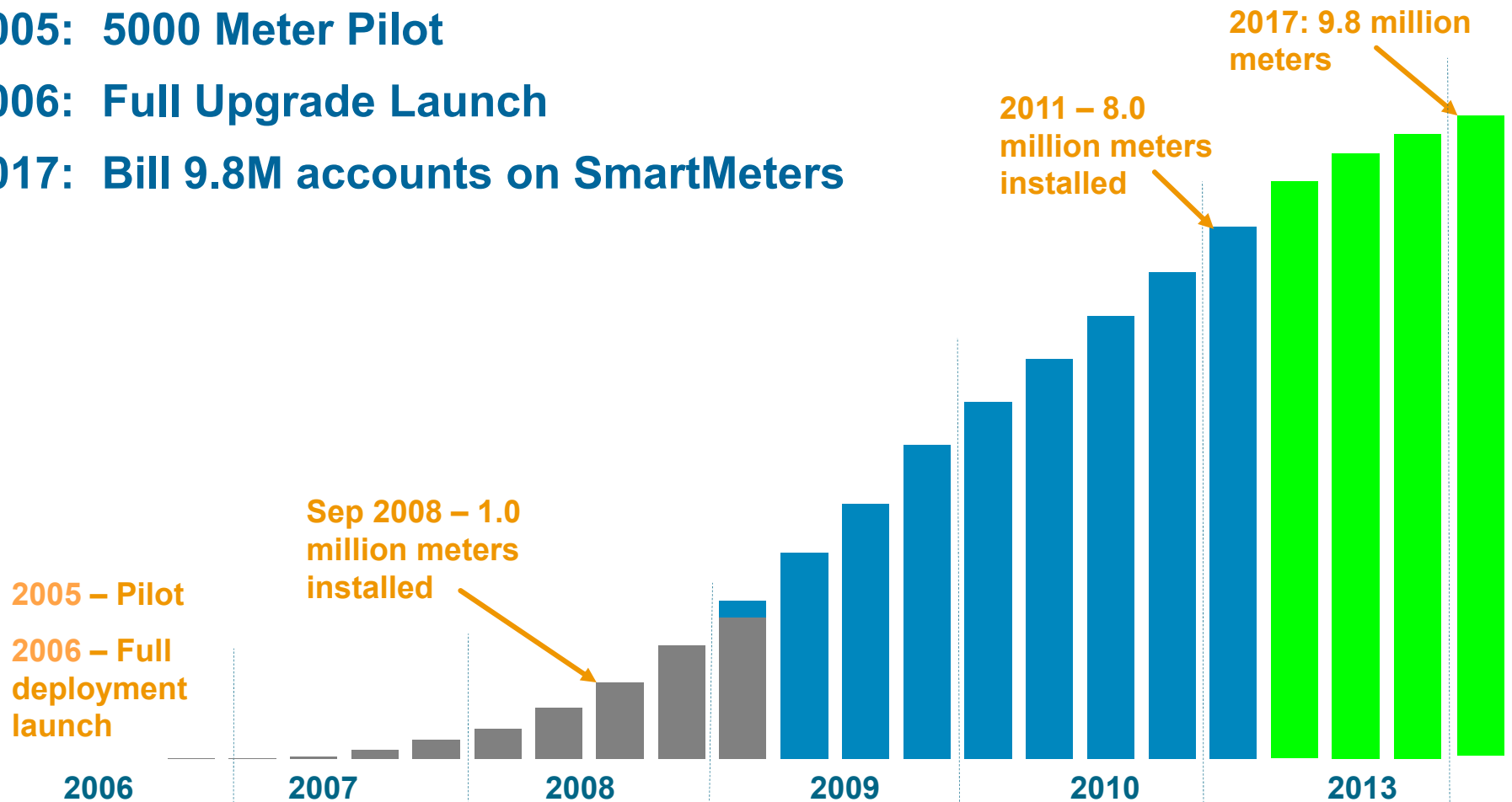


SmartMeter Deployment - History

2005: 5000 Meter Pilot

2006: Full Upgrade Launch

2017: Bill 9.8M accounts on SmartMeters





SmartMeter Capabilities Today

PG&E's SmartMeter network provides electric usage interval data, voltage information, and outage information to help PG&E provide our customers better energy information, increased system reliability, and a lower cost of service.



Metering Intervals

- Hourly intervals for residential electric
- 15 min intervals for commercial electric
- Gas usage data received hourly; uploaded 4 times daily
- 90 billion intervals per year across all electric and gas customers

Some examples of how we use our SmartMeter Data today include:

Customer Services

- > *Help customers understand their energy usage*
- > *Automate functions like connect / disconnect*

Outage Restoration

- > *Improved system reliability through improved outage visibility*

Distribution Planning

- > *Improved forecasting of system load, including DER impacts*



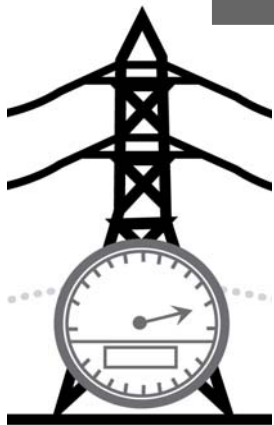
SmartMeter Innovation Underway

In the future, the SmartMeter platform could:

Proactively identify energized wire down situations for faster response and restoration

Automate hosting capacity analysis to enable faster DER interconnection

More effectively plan and manage our grid by more fully accounting for non-wires alternative approaches





SmartMeter is an Enabler for PG&E's Future

Invest in a sustainable energy future

- **Clean transportation** and **electrification** to help create a clean energy future for California
- **Storage** and **integrated grid platform** to provide reliable service with an increased clean energy focus

How can our SmartMeter Data help?

- Improved understanding of grid conditions
- Increased visibility to ensure reliability with more DERs

Maximizing value for our Customers

- Continually improve our **customer service** through new offerings and data driven approaches
- Pursue an effective **affordability** program

How does our SmartMeter data contribute?

- Enables predictive analytics
- Enables advanced customer offerings



Questions

