

How Do We Make The Smart Grid Green?

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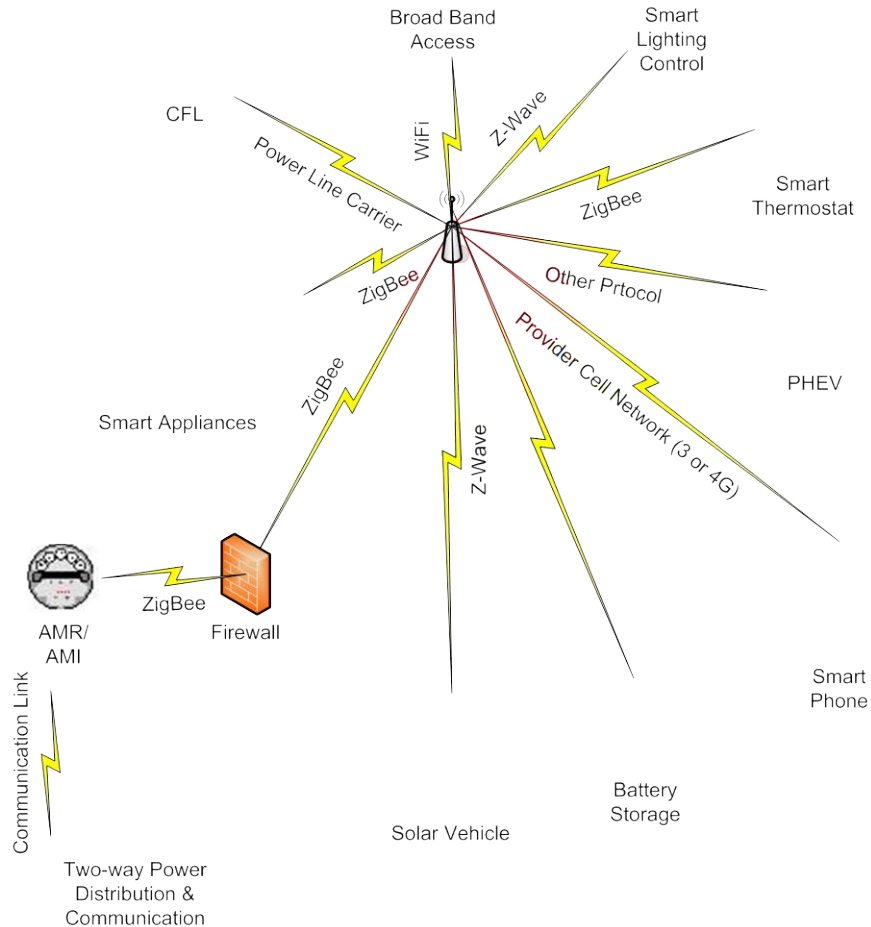


Your Touchstone Energy® Partner 

Smart Grid



Smart House



What Makes a House Smart?

Security

Power Back Up

Audio, Video

Plug-in Cars

Automation

Solar, Wind Generation

Smart Meters

Energy Efficiency



Focus on Energy Efficiency

Appliances

Controls

Information

User Interface

Energy Management System

Appliances

My clothes dryer is smarter than yours...

Energy Management Enabled Appliances

Ranges

Dishwasher

Microwaves

Washers and Dryers



Controllable Circuits

Do you mind waiting a couple of hours to enjoy a hot shower?

Control when circuits are energized

Air conditioners

Electric water heater

Pools & hot tubs

Irrigation pumps



Energy Consumption Information

Those lights are always on; do you know how much that costs?

Consumption Monitors

Research shows 4% to 6% reduction in energy use

In home display

Web Display

Real-time

Historical



Consumer Interface

Your house just called, do you want to turn the heat up before you get home?

Smart Phone apps

There's an app for that

Web access

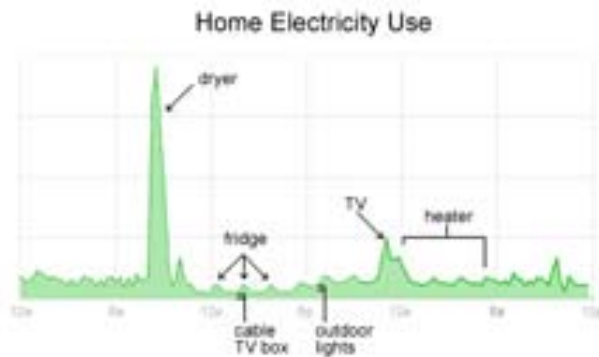


Energy Management System

You are close to the amount you budgeted for energy this month, what do you want to do?

Reduce usage

Increase budget



Next Steps

Market test

- Cooperative demographics
- Consumer acceptance

Applications for REPS compliance

- Reduction in kWh consumption
- Measurement and verification

Program implementation

- Design EE program
- Roll out

Summary

Smart grid should incorporate smart house

Give consumer tools to manage energy costs

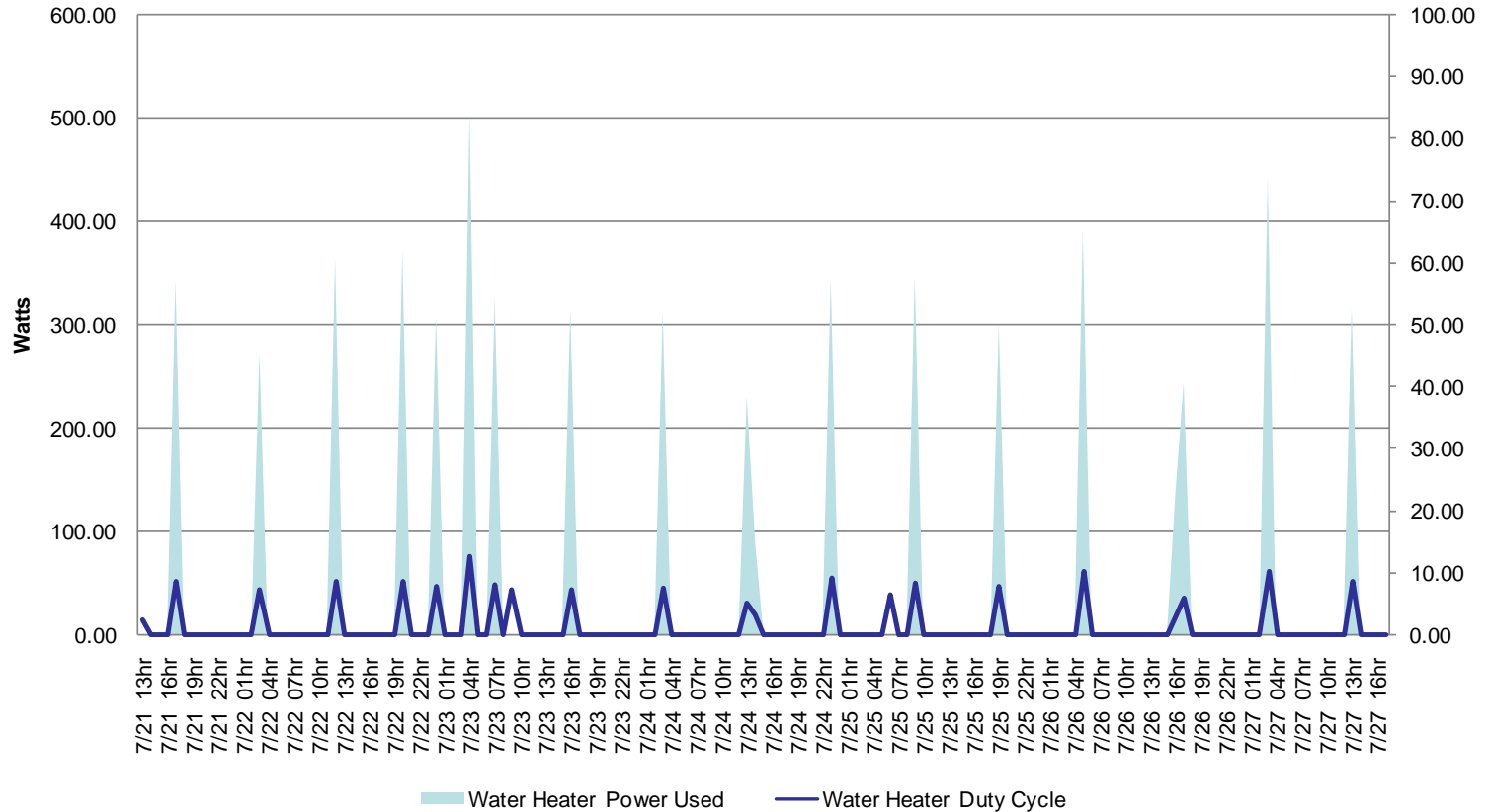
Give utilities access to known resources

Technology and applications are evolving

May become part of REPS compliance plan

Efficient Water Heater

Water Heater Power Usage (.90)



Inefficient Water Heater

Water Heater Power Usage (.149)

