



Pecan Street Project Inc.

Two energy economies

Electricity

Percentage from
petroleum:

0.6 percent

Transportation

Percentage *not* from
petroleum:

0.3 percent

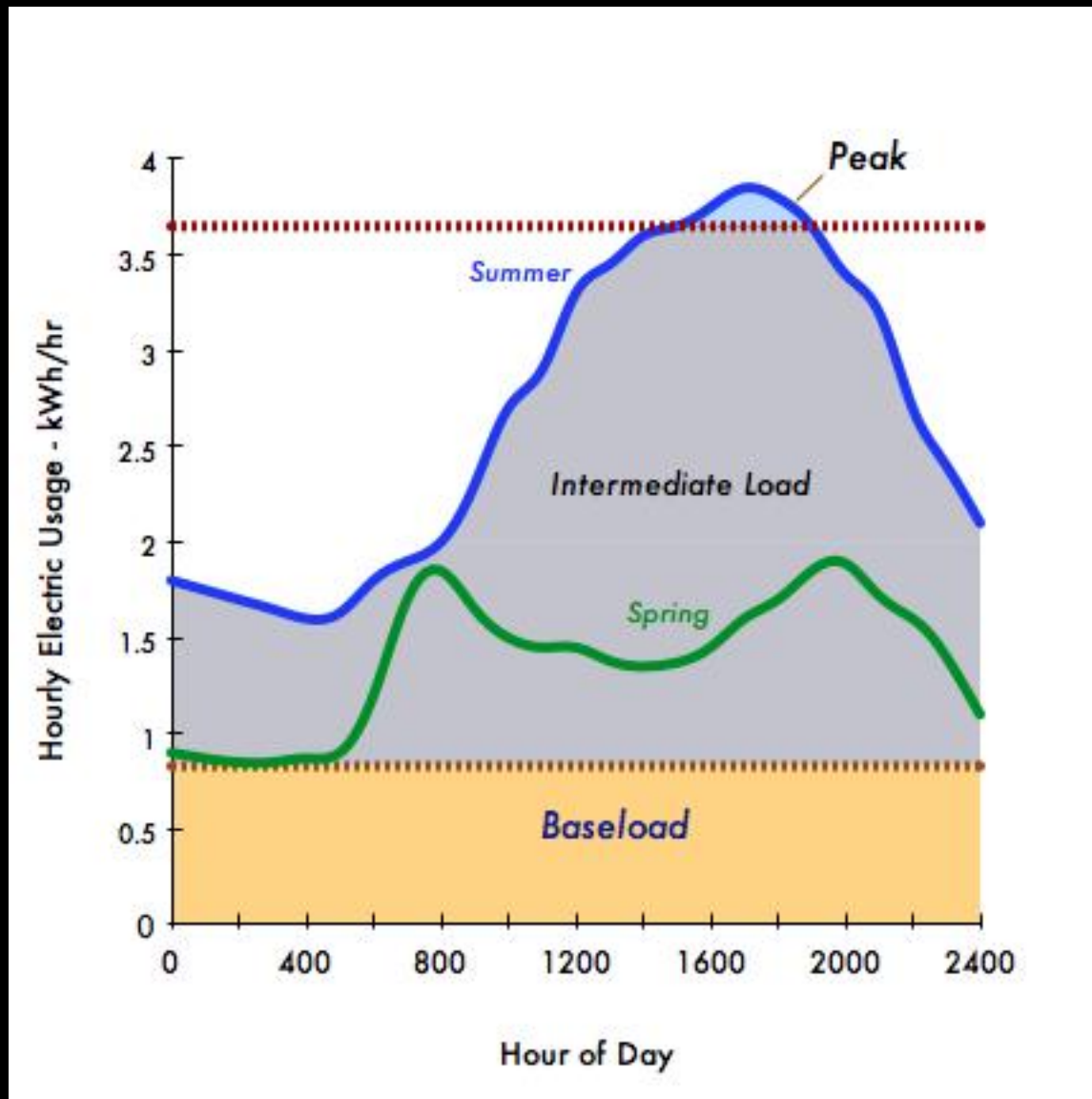
Challenges in electricity

Peak demand

Pollution impact

Creating dynamic economic sector

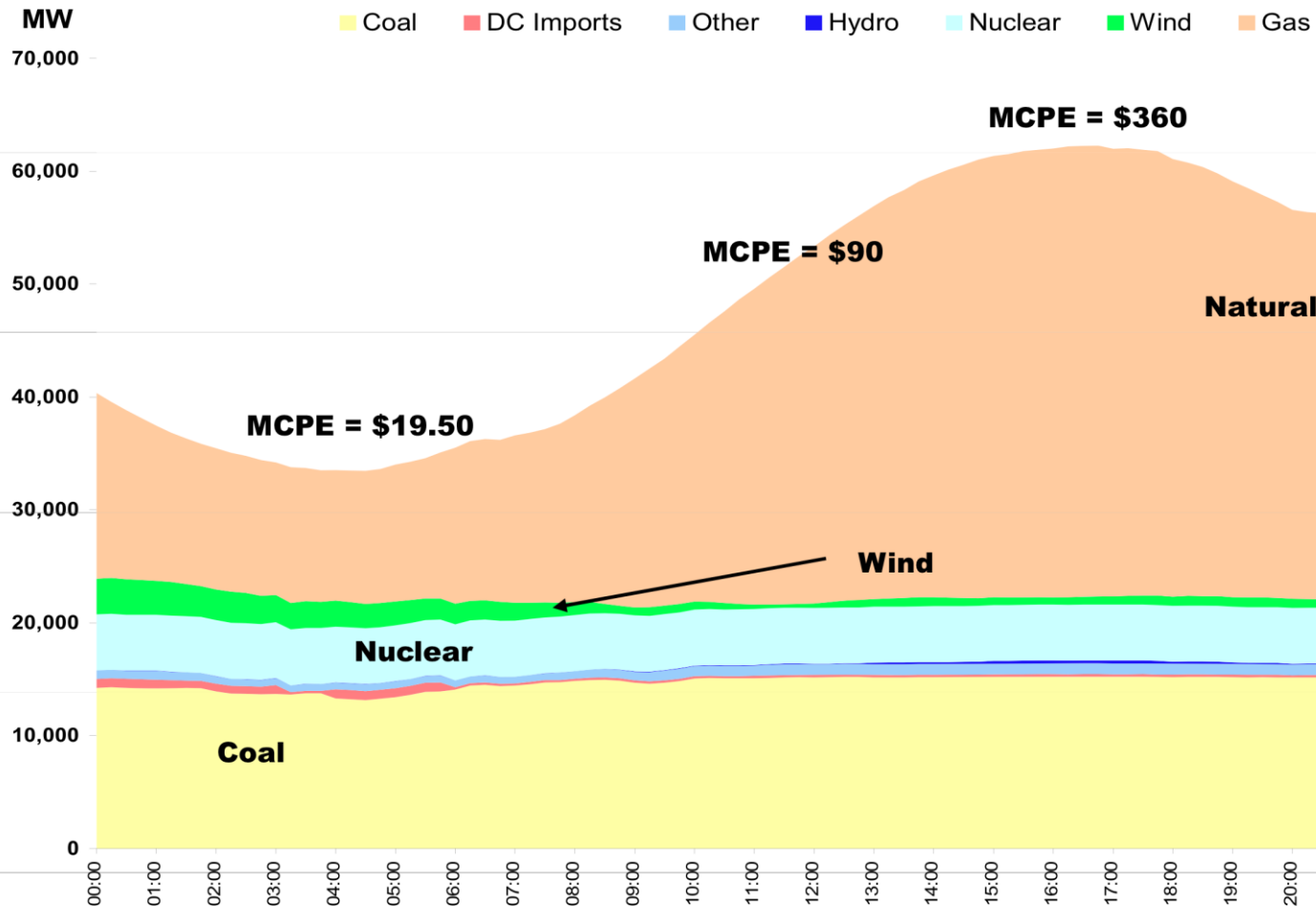
How customers use electricity



What this electricity costs utilities

Summer Day Load Shape with Fuel Mix

Generation by Fuel - August 4, 2008



What this electricity costs you

MCPE of \$360 = **42¢** / kW hr

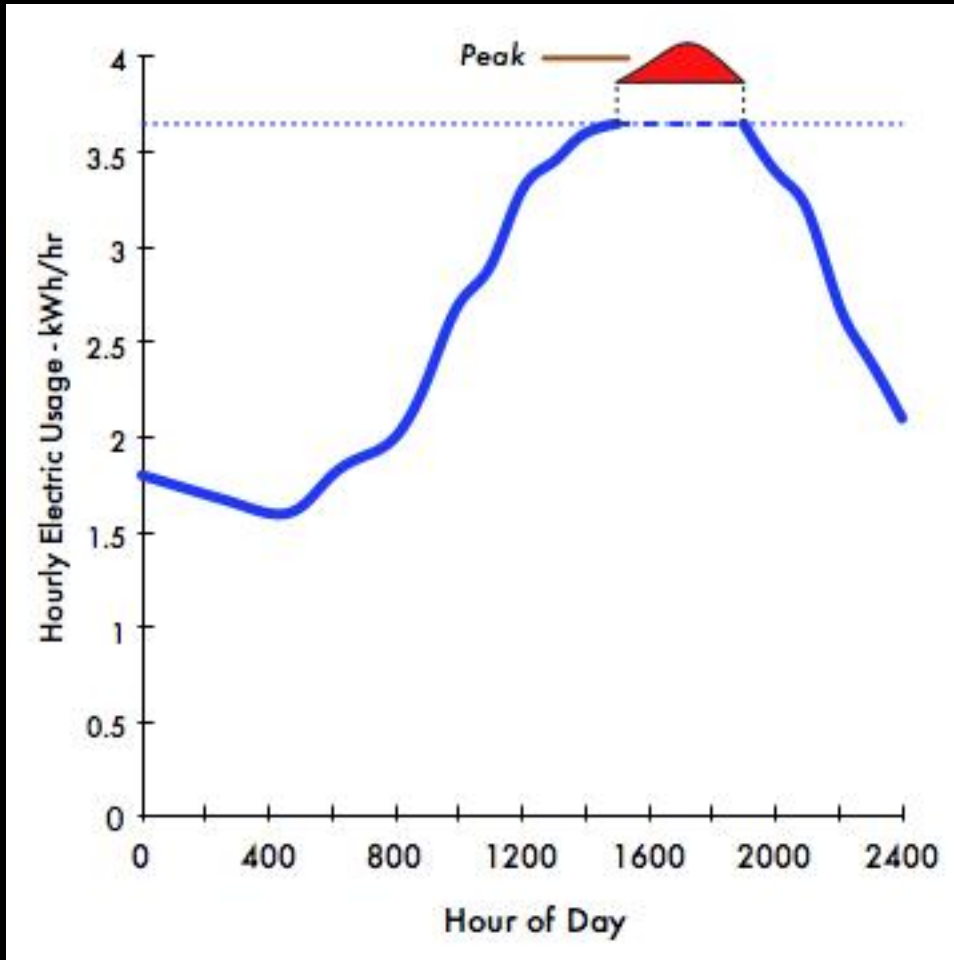
MCPE of \$19.50 = **8¢** / kW hr

Texas average **11.54¢** / kW hr

AE Green Choice
batch 1 **5.25 ¢** / kW hr

Status quo

Build peaking power plant



Construction cost

Interest - construction cost

Transmission lines

Upsize substations

Upsize distribution

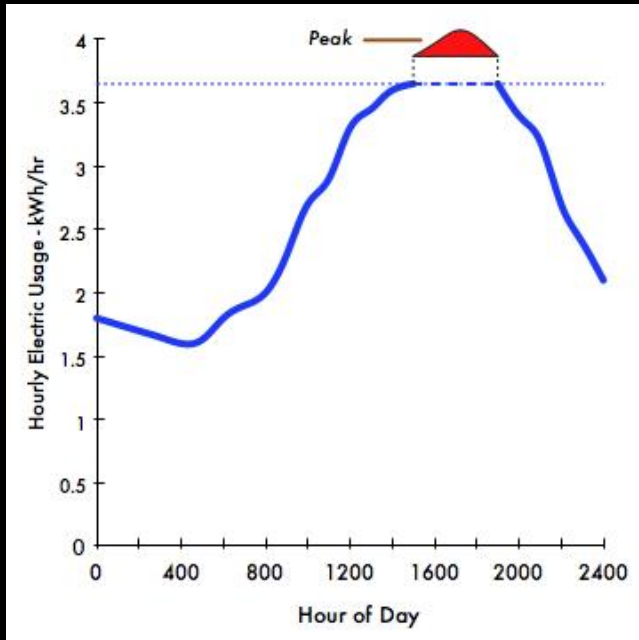
Fuel to burn at plant

Water

Pipelines and fuel transport

Pollution mitigation

Alternate approaches

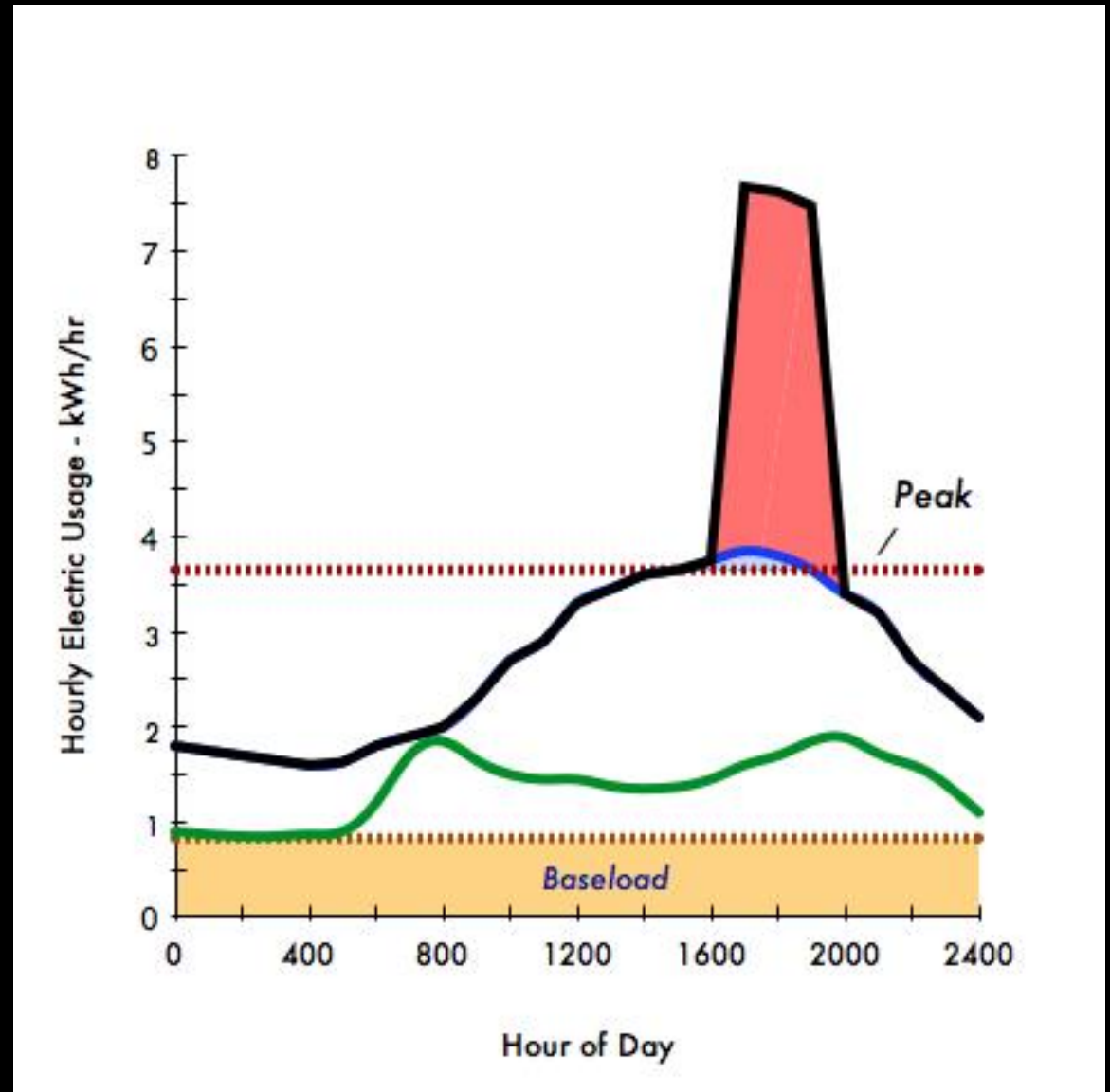
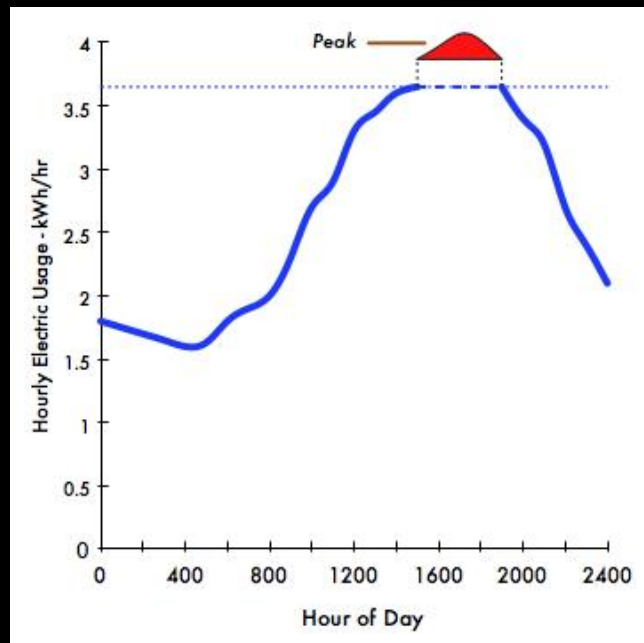


Build power plant

Energy Efficiency
Distributed Generation
Demand Response

~~Construction cost~~
~~Interest - construction cost~~
~~Transmission lines~~
~~Upsize substations~~
~~Upsize distribution~~
~~Fuel to burn at plant~~
~~Pipelines and fuel transport~~
~~Pollution mitigation~~

Electric vehicle impact



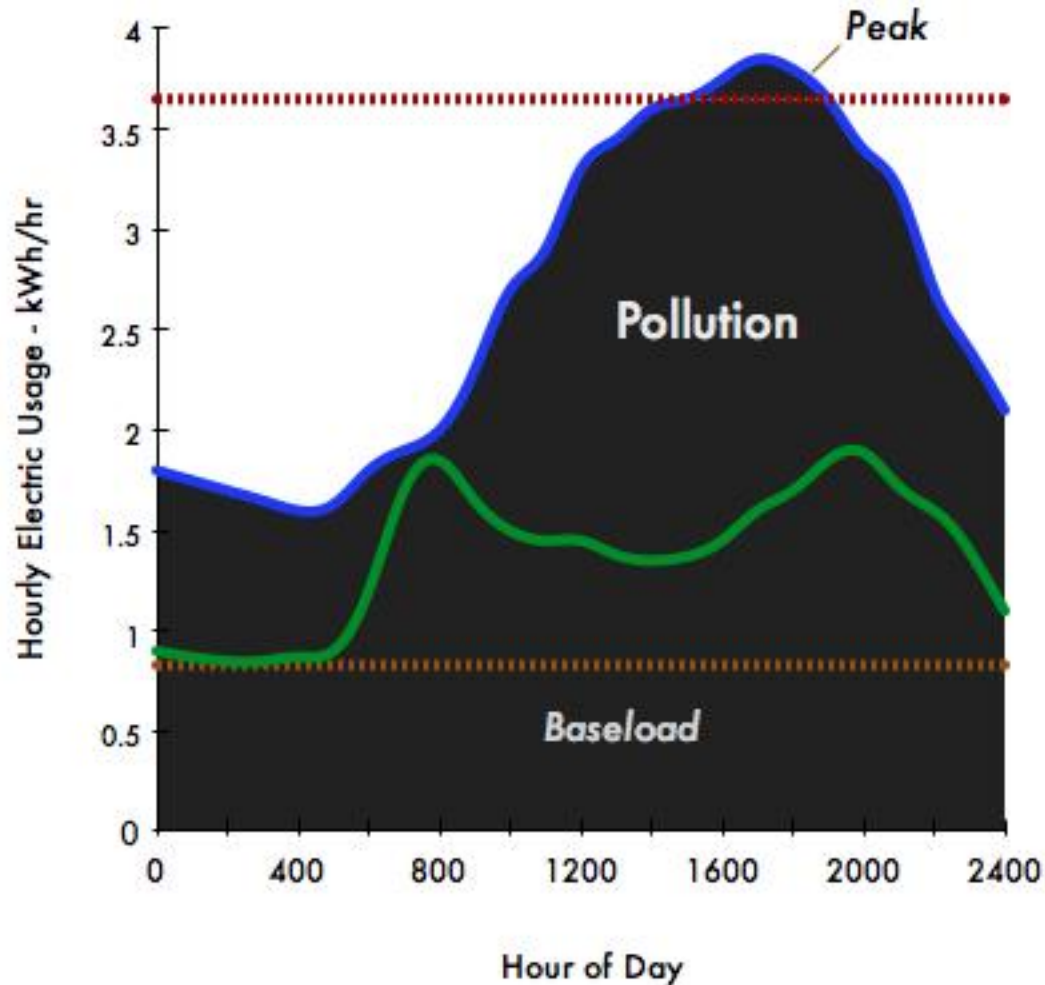
Challenges in electricity

Peak demand

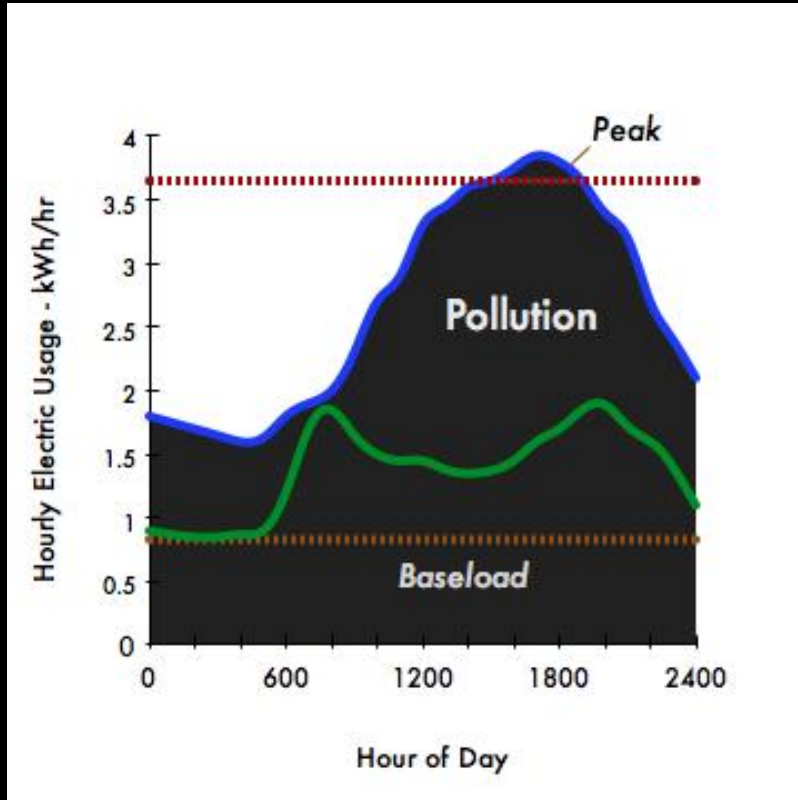
Pollution impact

Creating dynamic economic sector

Pollution challenge



Options



Conventional

Nuclear (baseload only)

Wind

Gas-fired plants

Remote solar

Carbon sequestration

Biomass

Smart grid/ clean energy

Energy efficiency

Green building

Software – system mgmt

Distribution-system solar

Rooftop solar

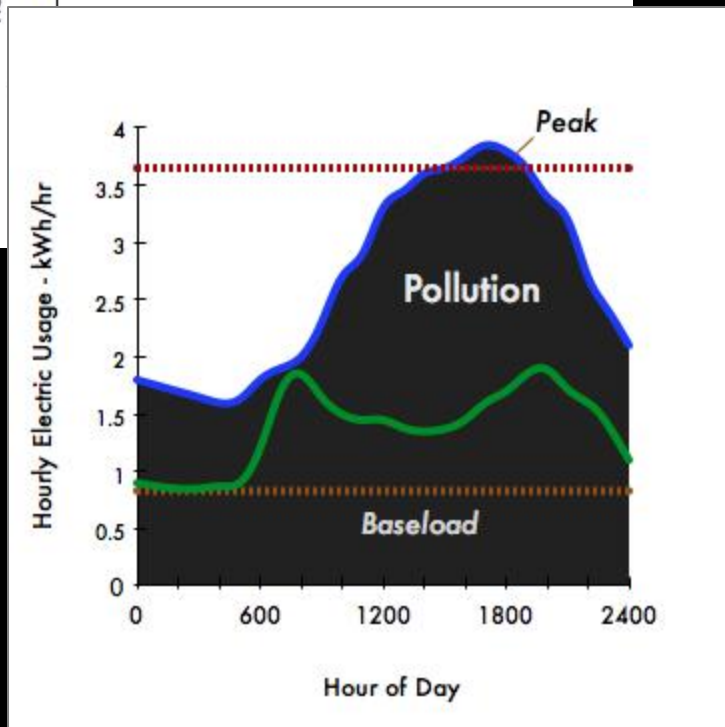
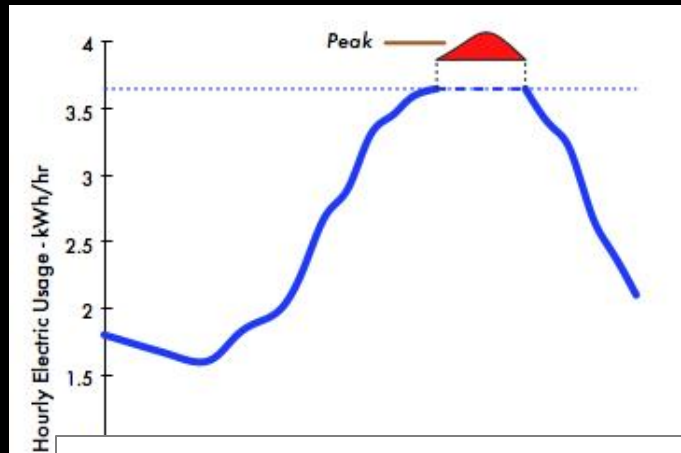
Demand response

Energy storage

Smart meters

CHP, gas micro-turbines

Solving two problems at once



Energy efficiency
Green building
Software – system mgmt
Distribution-system solar
Rooftop solar
Demand response
Smart meters
CHP, gas micro-turbines
New pricing models

Smart grid

Challenges in electricity

Peak demand

Pollution impact

**Creating dynamic economic
sector**

Creating dynamic economic sector

Collaboration of

- research university
- private sector
- public sector

Innovate

Create new companies

Pricing models that
reward innovation

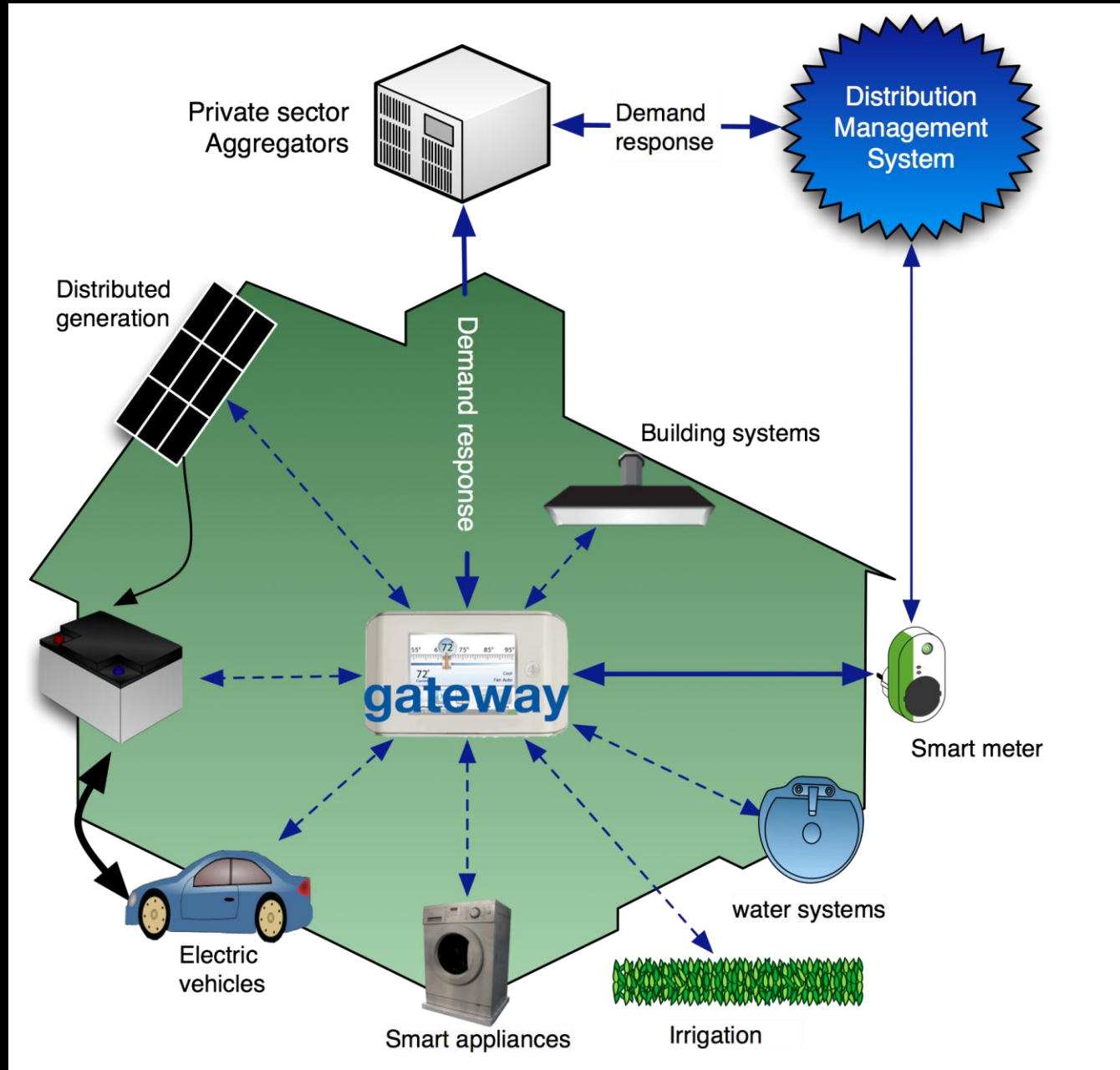


Austin's Mueller Community



- 711 acre mixed use
- 2 miles from Capitol
- All green-built
- world's first LEED platinum hospital
- reclaimed water system
- native landscaping
- 25% affordable housing
- senior housing
- Critical loads
- CHP gas microturbine
- Chilled water loop

Electricity's future



What is electricity's future?

Look at telecom

Distribution-level systems

Decoupled pricing

Energy Internet

What is electricity's future?

Disruptive technologies

- Solar (distribution only)
- Electric vehicles

Core technologies and services

- Advanced batteries
- CHP gas microturbines
- Computer chips embedded in devices
- Software
- Private sector aggregators