The EV/PHEV is coming

- 73% of cars, SUV’s and pickup trucks or 84% of light duty vehicle fleet could be powered by existing electrical generation, transmission and distribution.*
- Green house gas emissions … reduced 27% max
- Organic compounds down 93%, CO down 98% and NOX down 31%
- Reduce oil imports by 6 million barrels per day

PV grid parity is coming
... without incentives

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10-25% IRR’s today in AZ, CT, HI, MA, NJ, & OR with incentives
Renewables

Renewable Portfolio Standards

New federal incentives will continue to drive renewable generation
Demand side management

DSM as percent of peak demand
9GW under control

Value of peak reduction – generation example

If all utilities performed on top decile:
• 75,000 MW of generation would be avoided
• 168,600,000 tons of CO2 emission / year would be avoided

Potential Savings     NPV
Generation avoidance   $1,200MM
T&D deferment (2 yrs)  $50MM
Energy reduction      $130MM

Source: DOE EIA 2005
Policy implications

Help utilities deal with the inevitable

• Incentivize inevitable Smart Grid functions
  – Time use of metering
  – Distribution management system
  – New and more protection
  – Volt/VAR management

Focus on consumer - society benefits

• Lower cost to charge EV/PHEV at night
• Net metering with easy interconnect standards
• Consumer empowerment
• Energy efficiency – reduce T&D losses by 20%

Be the custodian of good electric policy

• Demand side management
• Long term plan