GE Energy

Molding The Future Electric Utility

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February 2009

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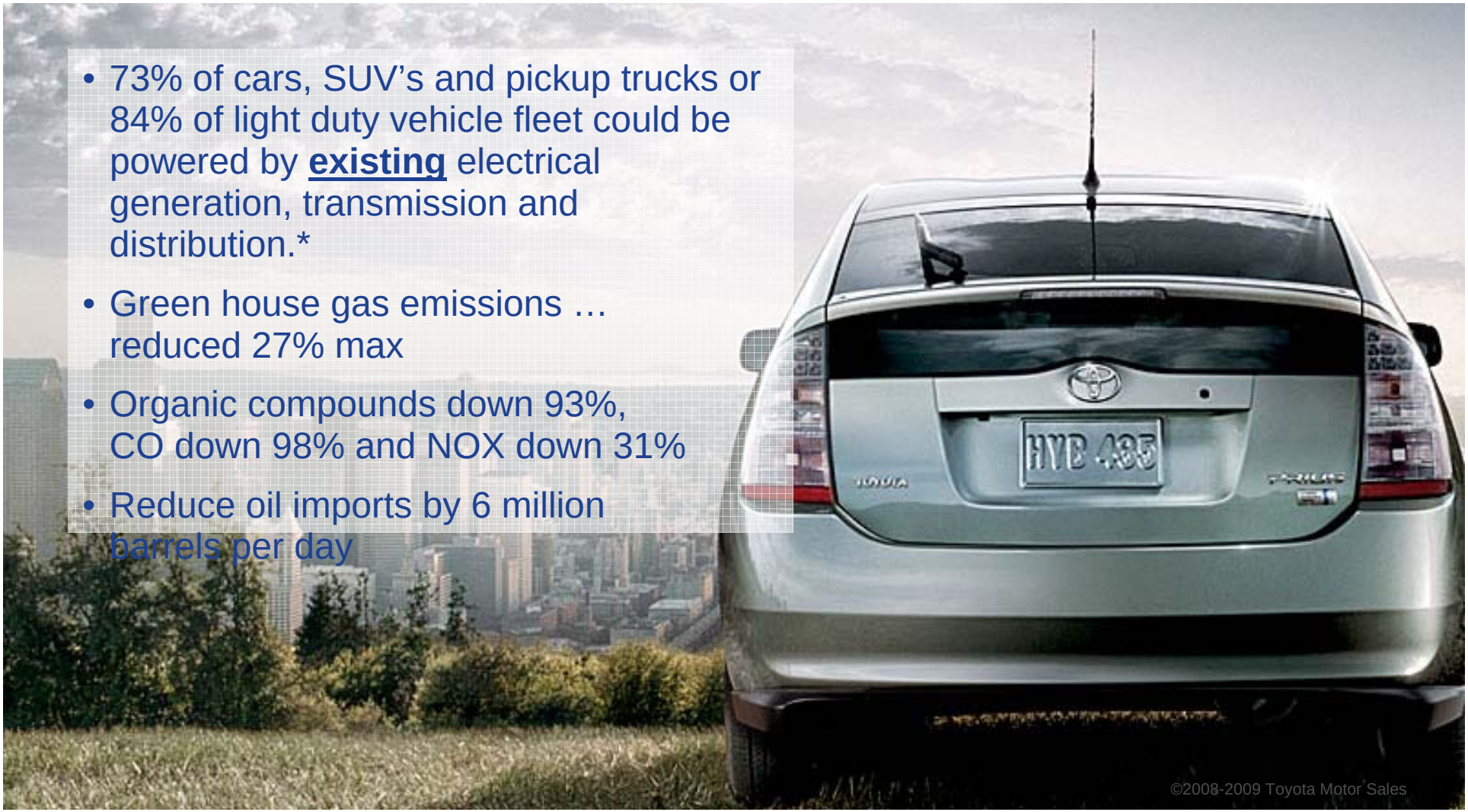
The EV/PHEV is coming



- 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

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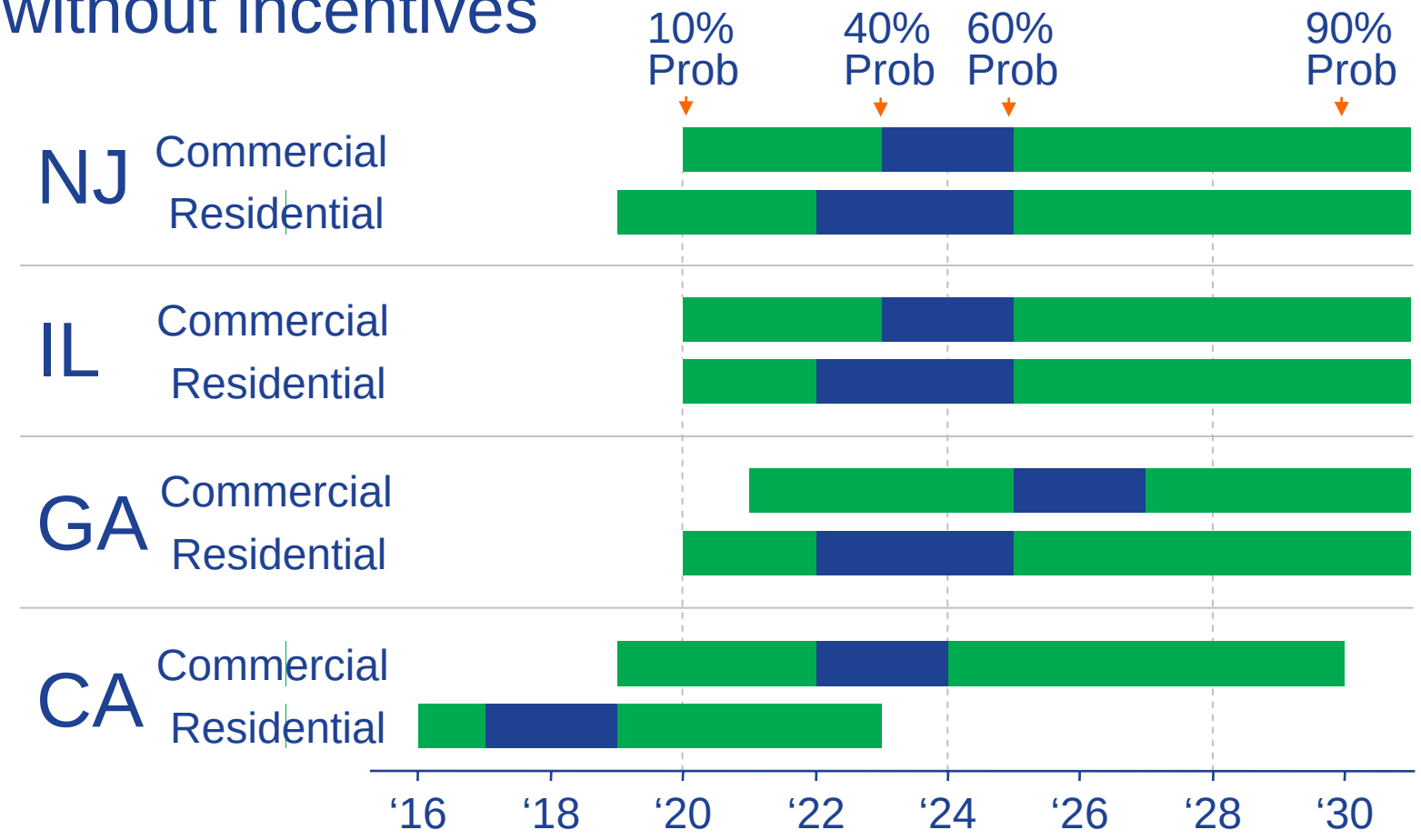
*Impacts assessment of plug-in hybrid vehicles on electric utilities & regional U.S. power grids Pacific Northwest National laboratory, Nov. 2007

PV grid parity is coming

… without incentives



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

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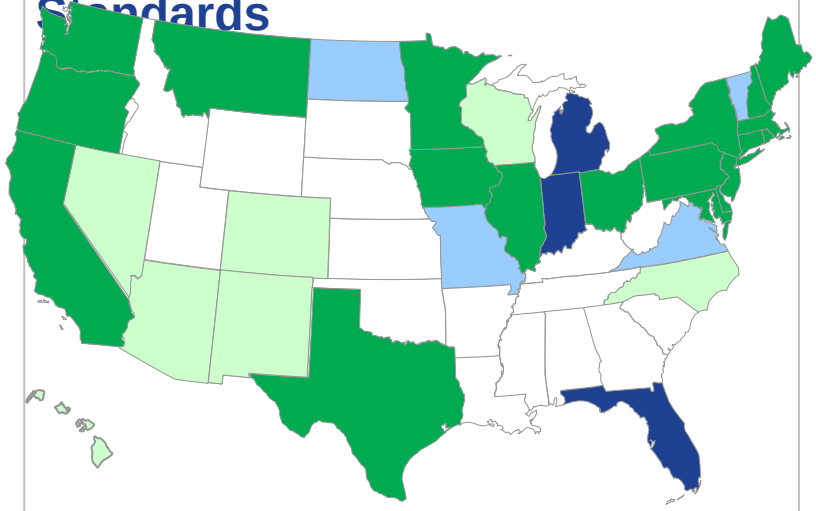
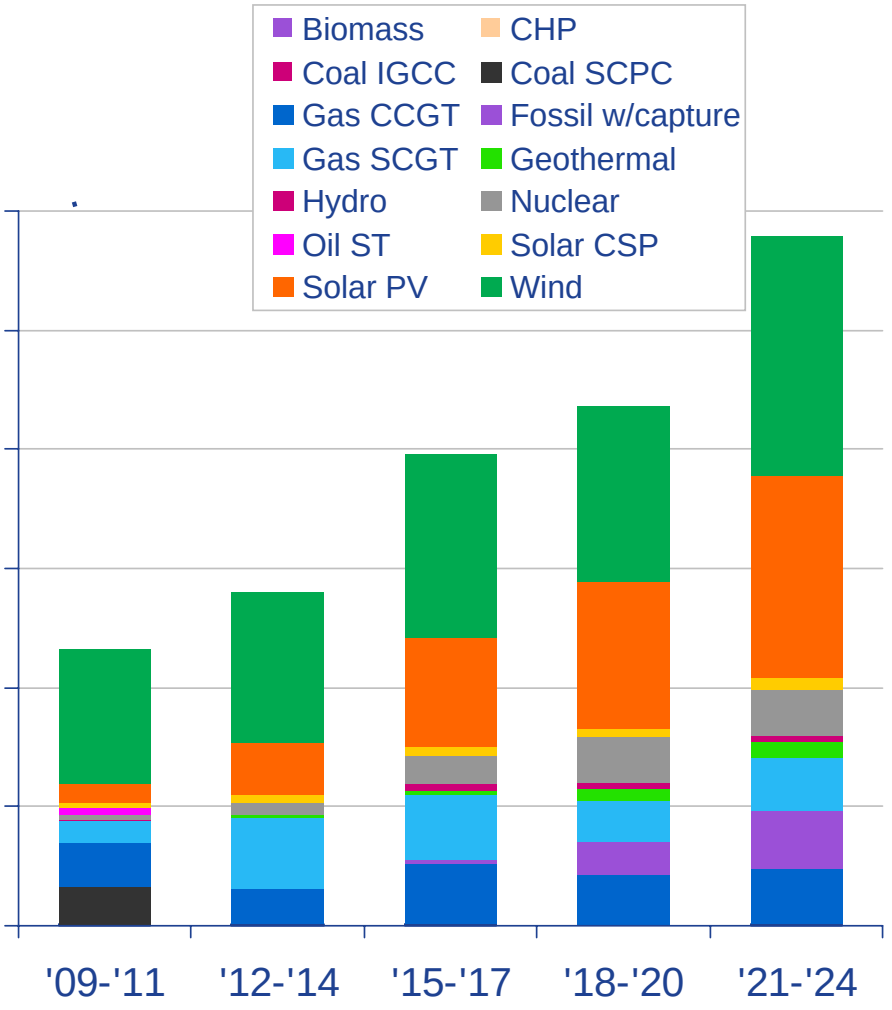
Renewables

Renewable Portfolio Standards



- RPS + penalty (19+DC)
- RPS + discretionary (7)
- Voluntary RPS (4)
- Proposed RPS (3)



New federal incentives will continue to drive renewable generation

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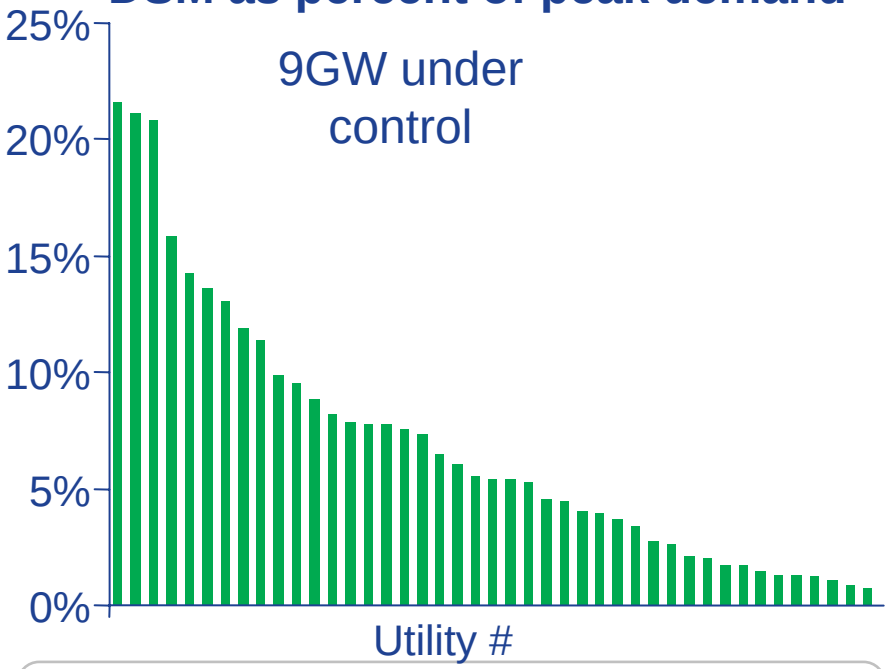
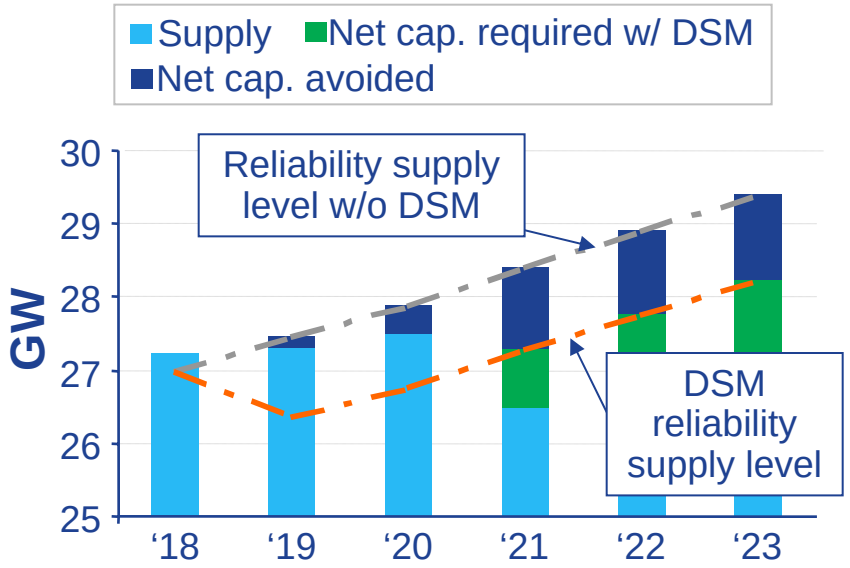
Demand side management

DSM as percent of peak demand



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

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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

Be the custodian of good electric policy

- Demand side management
- Long term plan

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%

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