



# SUMMER 2010 PREPAREDNESS

Duke Energy Indiana Presentation to Indiana Utility Regulatory Commission  
Jim Stanley, President, Duke Energy Indiana  
May 21, 2010



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## OVERVIEW OF PRESENTATION

- Operational challenges / accomplishments since summer 2009
- Summer 2010 capacity and energy needs
- Steps taken to prepare for summer 2010
- Ongoing initiatives
- Challenges for summer 2010 and beyond



## OPERATIONAL CHALLENGES / ACCOMPLISHMENTS SINCE SUMMER 2009

- Challenges
  - Economic recession / mild weather
    - Reduced generation
    - Increased coal inventories
  - New Source Review (NSR) lawsuit operational impacts
- Accomplishments
  - Dresser transformer will be in-service by June 1
  - Continuous runs on units
  - Demonstration of unit capability to Midwest ISO

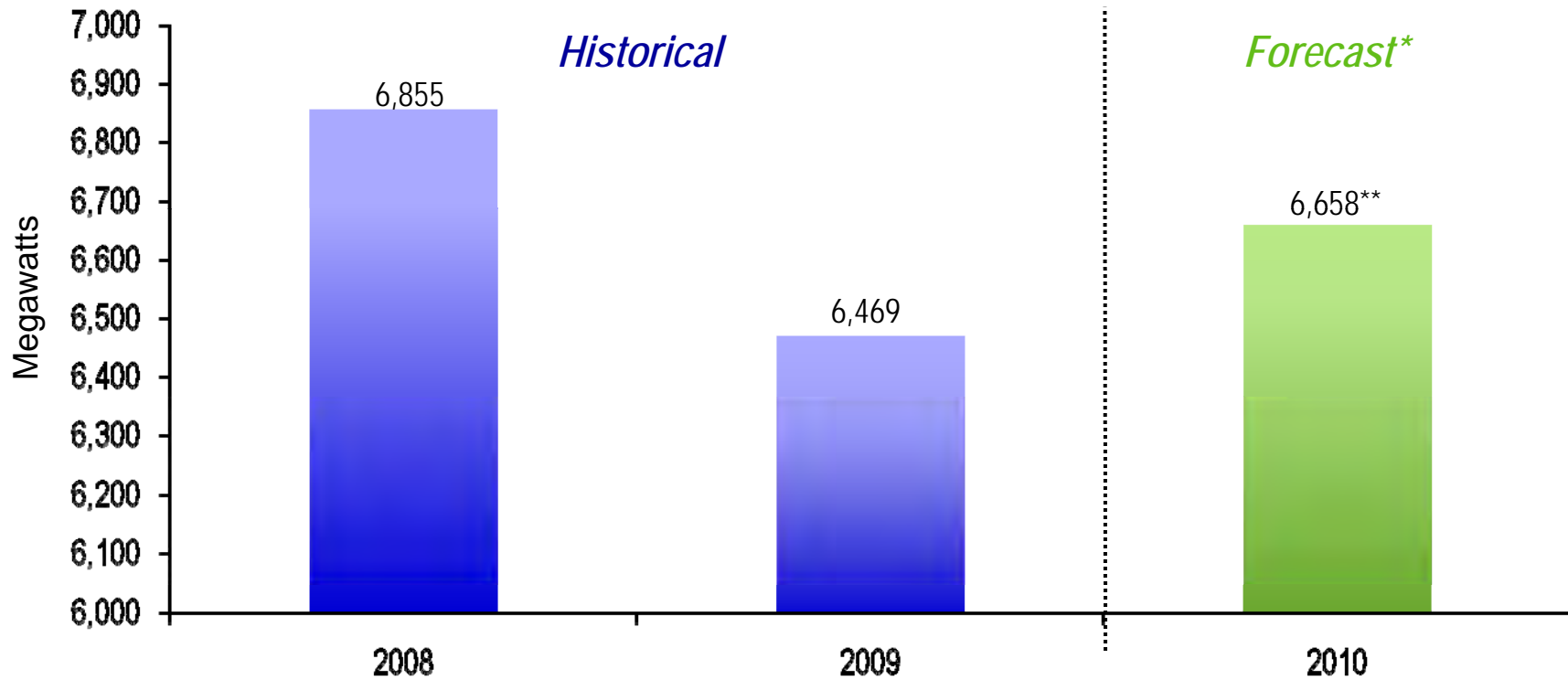


Installation of Dresser 450 MVA 345/138 kV Transformer



# PEAK DEMAND FORECAST

Weather Normalized Peak Load



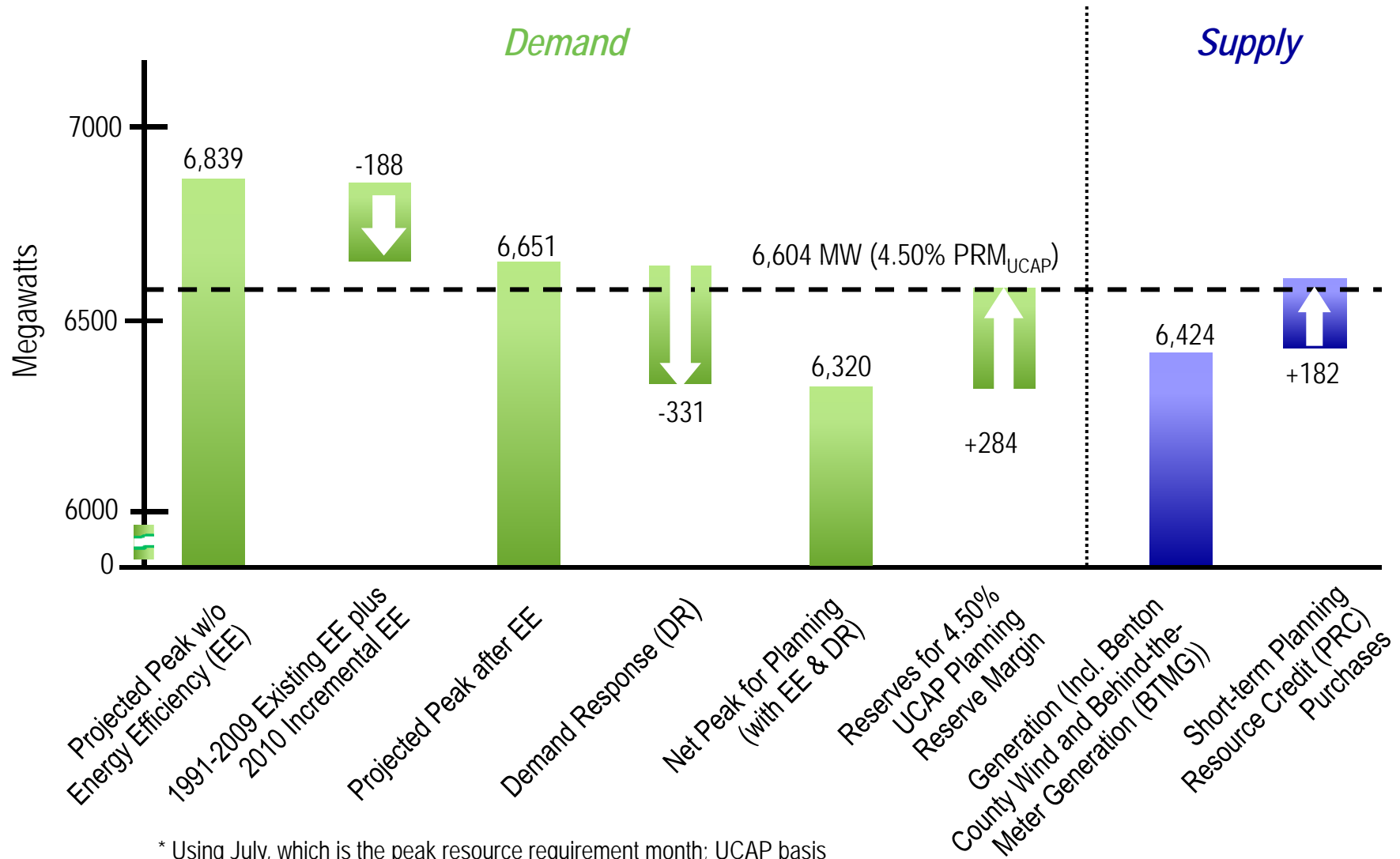
Incremental Growth (MW)...	-386	189
Percent Growth...	-5.6	2.9

\* Using July, which is the peak load month

\*\* Peak load not reduced for 7 MW incremental EE for 2010



# SUPPLY / DEMAND BALANCE FOR SUMMER 2010\*



\* Using July, which is the peak resource requirement month; UCAP basis



## GENERATION SYSTEM



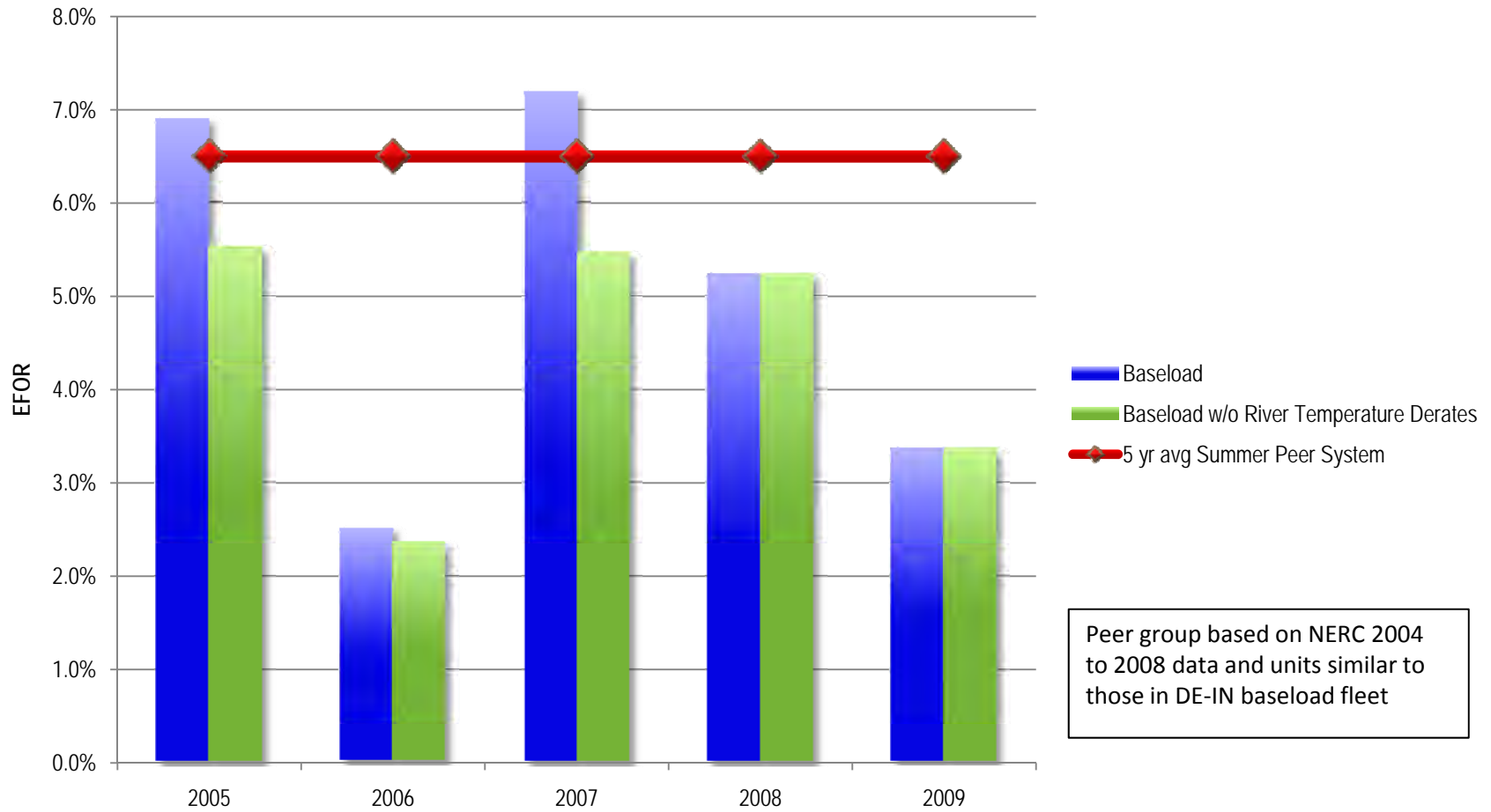
Gibson Station

- Over 47 weeks of maintenance outages were performed this spring
- All units are available this summer except:
  - Wabash River 2, 3, 5 due to NSR court order
  - Miami Wabash 4 (17 MW oil-fired peaker)
- Continued focus on:
  - Summer reliability
  - A program of "availability outages"
  - System-wide and plant-wide contingency planning



# EQUIVALENT FORCED OUTAGE RATE (EFOR)

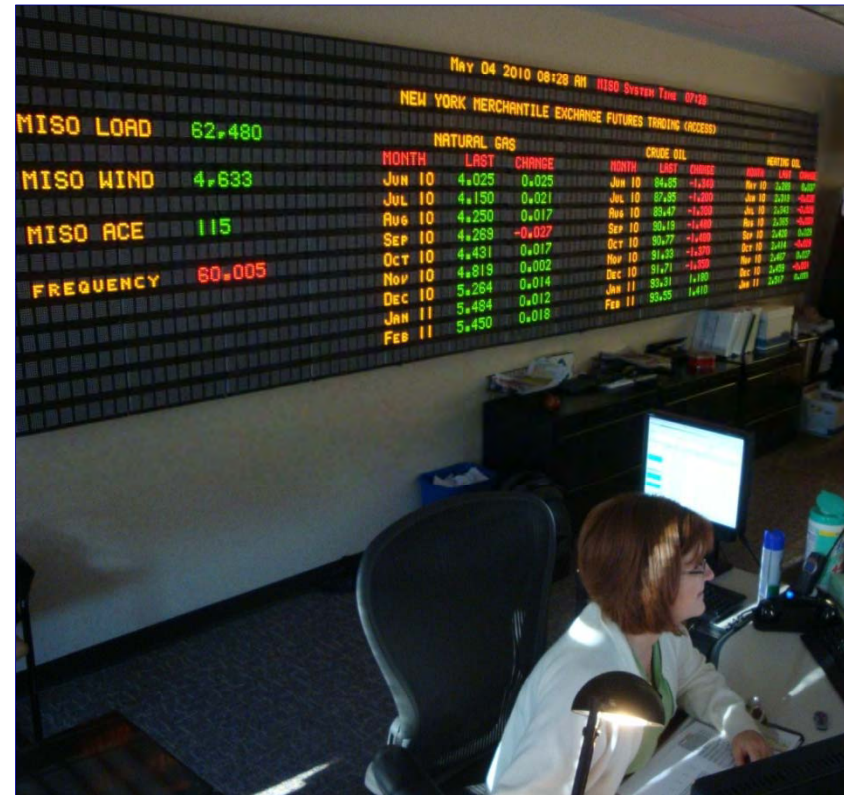
## Summer Baseload EFOR





## FORWARD PURCHASED CAPACITY AND ENERGY

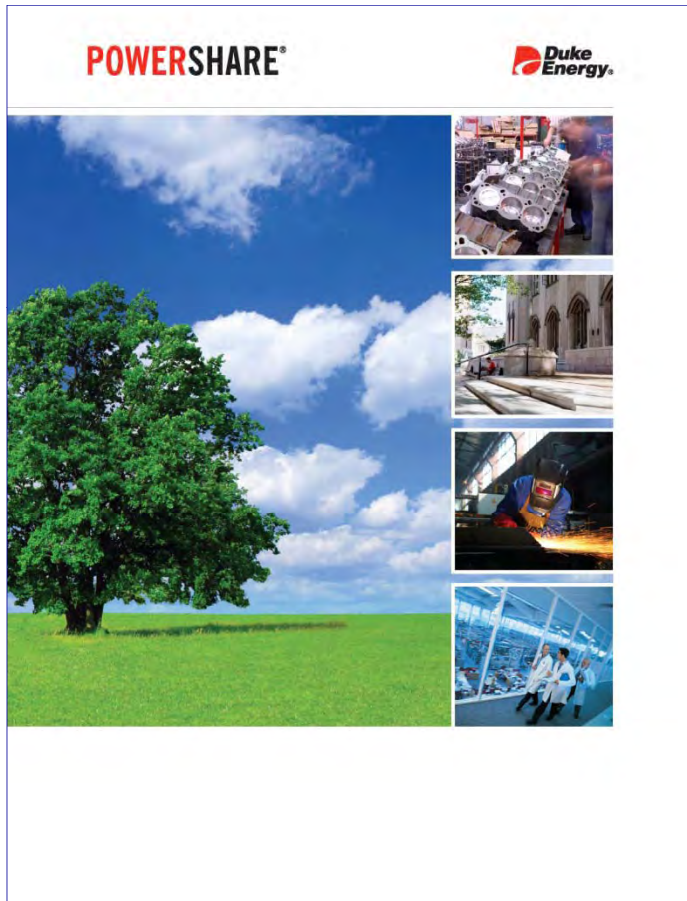
- Current on-system reserve margin is below the Midwest ISO Resource Adequacy Requirement of 4.50% on a UCAP basis
  - Short-term Planning Resource Credit (PRC) purchases of 182 MW for July – August were made to comply with the requirement
- Financial swaps will also be used to hedge against wholesale market price volatility
- 100 MW PPA with Benton County Wind Farm (20-year agreement)
  - Midwest ISO only gives 8% capacity credit toward Resource Adequacy Requirement for wind resources







## ENERGY EFFICIENCY AND DEMAND RESPONSE PROGRAMS



PowerShare® Brochure

- From 1991 through 2010, Energy Efficiency (*i.e.*, conservation) programs have achieved:
  - Approximately 188 MW of annual peak demand reductions
  - Over 760,925 MWh annual energy reductions
- 2010 projected Demand Response reductions in July (adjusted for losses):
  - Special contracts (*e.g.*, interruptible) 184 MW
  - PowerShare®
    - Call (customer contractual commitment)
    - Demand Resources (DR) 113 MW
    - Behind-the-Meter Gen. (BTMG) 4 MW
    - Quote (voluntary, yet compensated)\* 28 MW
  - Power Manager – direct load control 34 MW

\* Due to its voluntary nature, Quote cannot be counted for Midwest ISO Resource Adequacy



## EXISTING DSM PROGRAMS

- DE-IN already has a wide range of existing programs:
  - Home Energy House Call\*
  - Low Income Weatherization\*
  - Smart \$aver® C&I\*/\*\*
  - Low Income Refrigerator Replacement\*\*
  - Smart \$aver® Residential HVAC\*\*
  - ENERGY STAR®\*\*
  - Power Manager\*\*
- 2010 will be a transition period until Third Party Administrator is in place



\* Programs that will transition to Core Programs under Third Party Administrator in 1<sup>st</sup> Q 2011

\*\* Core Plus Programs



## TRANSMISSION & DISTRIBUTION SYSTEM



Plainfield West Substation Construction – April 2010

- \$141 M in long-term T&D investments for load growth and system enhancements
  - Dresser 345/138 kV bank addition
  - Indiana Arsenal to Clark Maritime Center new 138 kV circuit
  - Pleasant Grove – Seymour 138 kV reconductor
  - Plainfield West substation
  - Highland Park upgrade
  - Westfield Ditch Rd new transformer
  - Noblesville Southwest new transformer
  - Hortonville Capacitor Bank



## ONGOING INITIATIVES TO SERVE CUSTOMERS

- Edwardsport IGCC
- SmartGrid
- Energy Efficiency
- Project Plug-IN



Duke Energy SmartGrid Envision Center



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## CHALLENGES FOR SUMMER 2010 AND BEYOND – OVERVIEW

- Planning for tightening environmental requirements
- Integrating renewables in an uncertain regulatory environment
  - Net Metering
  - Renewable Energy Standards



## PLANNING FOR TIGHTENING ENVIRONMENTAL REQUIREMENTS



Cayuga Generating Station with New FGDs

- Uncertainty regarding scope/timing of ultimate requirements
- DE-IN continues to evaluate potential equipment requirements
- 2009 IRP included some assumptions of tighter requirements – Results reflected expected trends including:
  - Large units may need FGDs & SCRs
  - Intermediate-sized units may need Fabric Filters w/ Activated Carbon Injection
  - Smaller, older coal units are more likely to be retired
- DE-IN already has or is implementing dry flyash handling for some units
  - Studies are underway for other units



## INTEGRATING RENEWABLES – NET METERING

- 74 total customers currently
  - 14 schools, 47 residential, 13 commercial
  - 209 kW solar, 70 kW wind
- Tariff
  - Residential, Small Commercial, Schools with <10 kW generation
  - Case-by-case discretion for other classes / sizes
  - Photovoltaic, wind, low head hydro
  - Customer's generation must be intended primarily to offset part or all of customer's load



2 kW Solar Installation in Evergreen Village,  
Bloomington, IN



## INTEGRATING RENEWABLES – POTENTIAL RENEWABLE ENERGY STANDARDS



Markland Hydro Generating Station

- Potential Federal or State requirements
  - Ultimate targets of 15-20%
  - Wind, solar, biomass, landfill gas, incremental hydropower, and energy efficiency
  - Out-of-state resources receive <100% credit in IN legislative bills
  - Allow alternative compliance options
- DE-IN Planning Philosophy
  - Concentrate on cost-effective resources located in Indiana
    - Examples: Benton County Wind, Markland Hydro upgrade
  - Maintain good relationships with wind developers; ongoing review of development landscape
  - Investigating biomass co-firing in our units, leveraging off experience in Carolinas
  - Continue to study as part of the IRP process





## CONCLUSION

