

Renewable Energy Portfolio Standards

Kristin Higgins
UA Division of Agriculture
Public Policy Center

The Big Picture



Defining Renewable Energy

- A source of energy that is not depleted by its use
- Must be environmentally friendly

A longer definition

- Texas Renewable Energy Industries Association:

“Energy resource that is naturally regenerated over a short time scale and derived directly from the sun, indirectly from the sun, or from other natural movements and mechanisms of the environment. Renewable energy does not include energy resources derived from fossil fuels, waste products from fossil sources, or waste products from inorganic sources.”

United States Energy Policy

The U.S. does not have a federal policy

- States are crafting their own energy policies to guide energy infrastructure planning and to act as economic development tools

A Patchwork of Policies

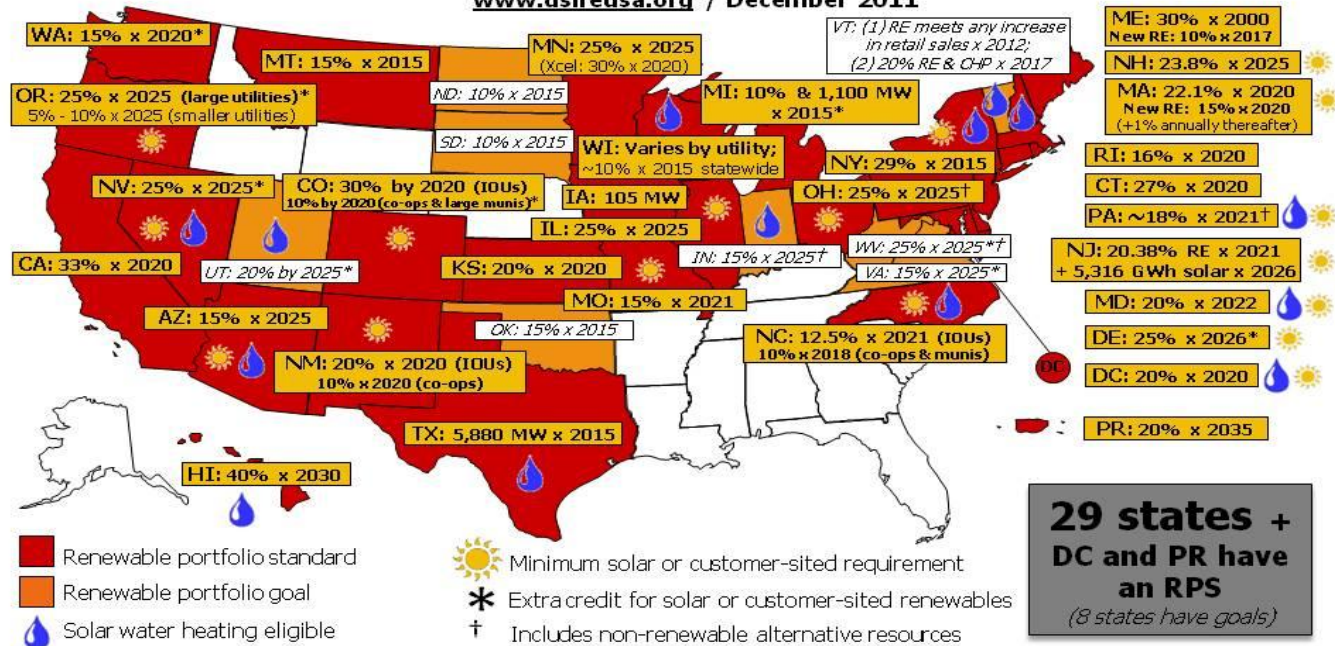
DSIRE™
 Database of State Incentives for Renewables & Efficiency

U.S. DEPARTMENT OF **ENERGY** | Energy Efficiency & Renewable Energy

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RPS Policies

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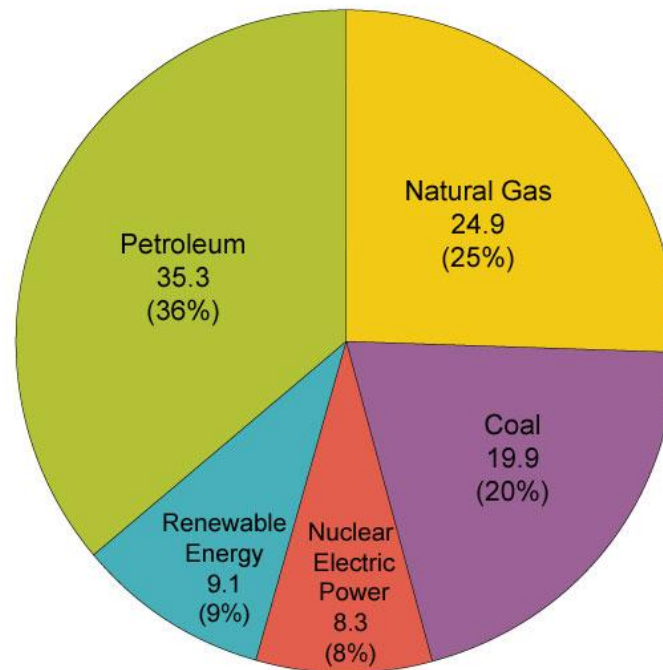
29 states + DC and PR have an RPS
(8 states have goals)

United States' Energy Consumption

Primary Energy Use by Source, 2011

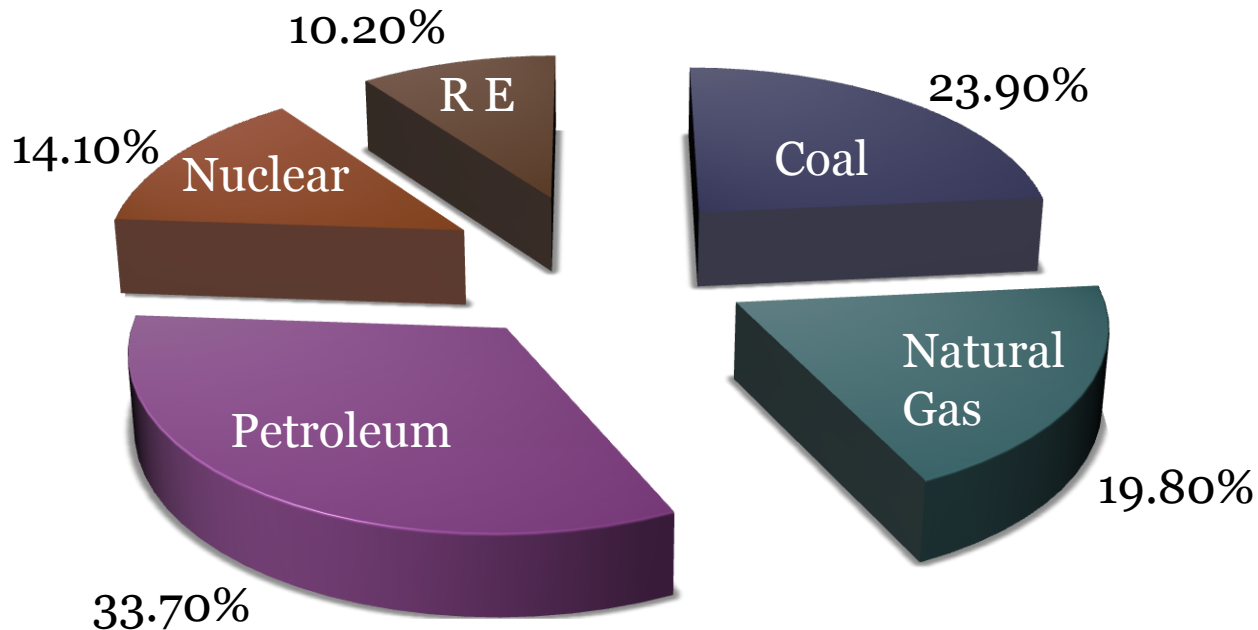
Quadrillion Btu and Percent

Total U.S. = 97.5 Quadrillion Btu



Source: U.S. Energy Information Administration, *Monthly Energy Review*, Table 1.3 (March 2012), preliminary 2011 data.

Sources of Arkansas' Energy Consumption - 2007



Renewable Portfolio Standards

- Iowa was the first to adopt what would become RPS in 1983
- State law requiring electricity providers to generate a certain percentage of their energy from renewable sources by a certain date or face financial penalty
- A policy tool to encourage renewable electricity generation
- Creates a market demand

RPS in the United States

Standards

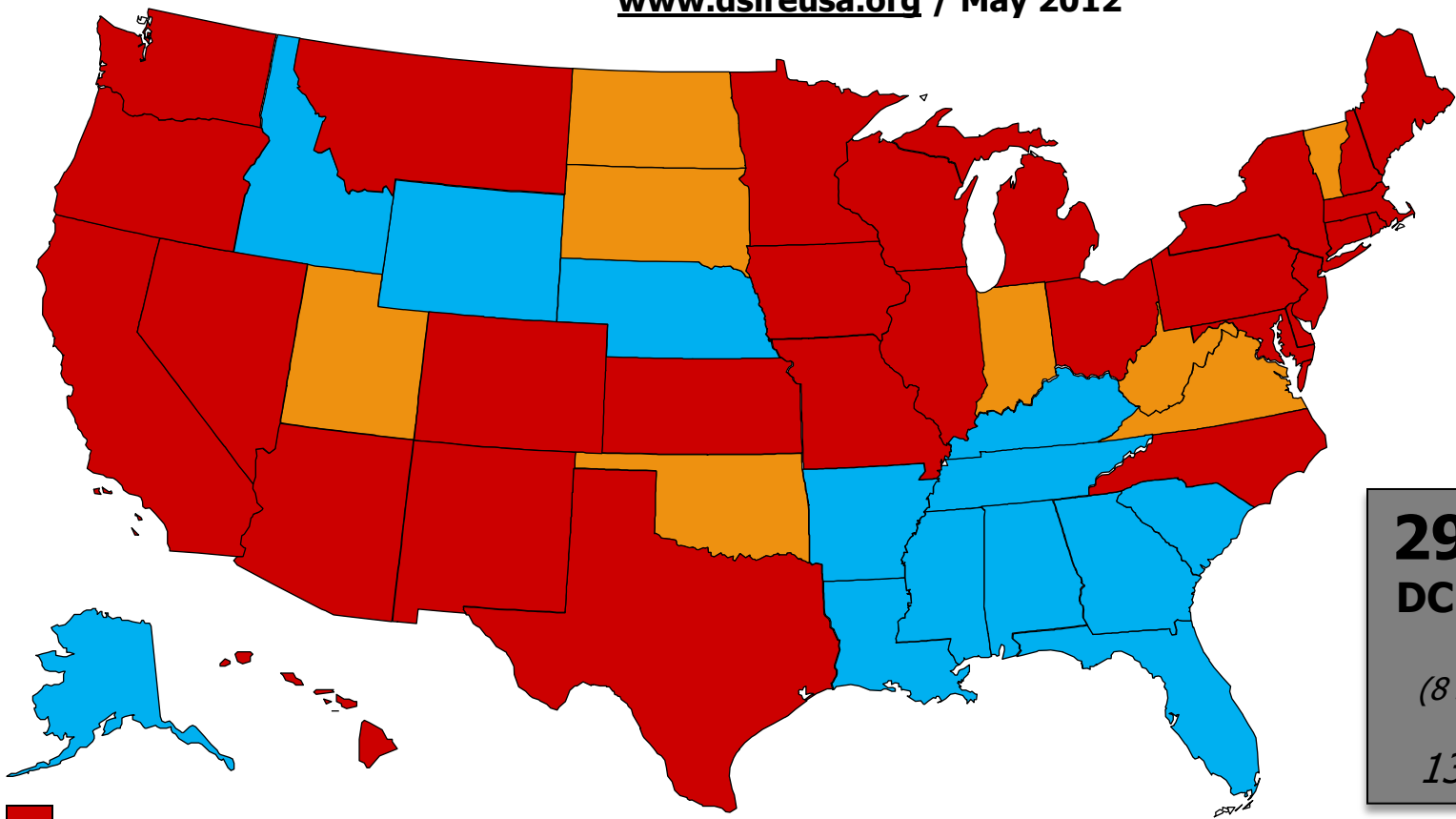
- 29 states & D.C. have adopted standards with set percentages, dates and penalties
- Eligible technologies and multipliers differ
- Some include municipal utilities, some exempt

Goals


- 8 states have adopted less-formal goals including percentages and dates
- Voluntary targets – no penalties
- No two are alike


RPS Policies


www.dsireusa.org / May 2012



29 states + DC and PR have an RPS
(8 states have goals)
13 have neither

 Renewable portfolio standard

 Renewable portfolio goal

 No standard or goal



Missouri

Voters repealed goal in 2008 in favor of RPS

15 % renewable energy by 2021
(Solar carve out of 2 %)

Eligible sources: solar thermal electric, photovoltaics, landfill gas, wind, biomass, municipal solid waste, anaerobic digestion, small hydroelectric, fuel cells using renewable fuels

Municipal, cooperative utilities exempt

Penalties

Net metering available



Oklahoma

Legislators adopted goal in 2010

15 % by 2015 (energy efficiency may account for 25 % of the goal)

Eligible sources: wind, solar, hydropower, hydrogen, geothermal, biomass and other sources approved by the Okla. Corporation Commission

Utilities must file annual report

Net metering available



Texas

Mandated 5,880 MW by 2015;
goal of 10,000 MW by 2025

Eligible sources: solar water
heat, solar thermal electric,
photovoltaics, landfill gas, wind,
biomass, hydroelectric,
geothermal electric, geothermal
heat pumps, tidal energy, wave
energy, ocean thermal

Wind represents 1/2 renewables

Municipal and cooperatives
exempt but can volunteer

Penalties authorized
but not set

Limited net
metering



Louisiana

No RPS or goal

Net metering available

RPS pilot study underway to determine cost effectiveness and best practices. Will issue RFPs for 350 MW.

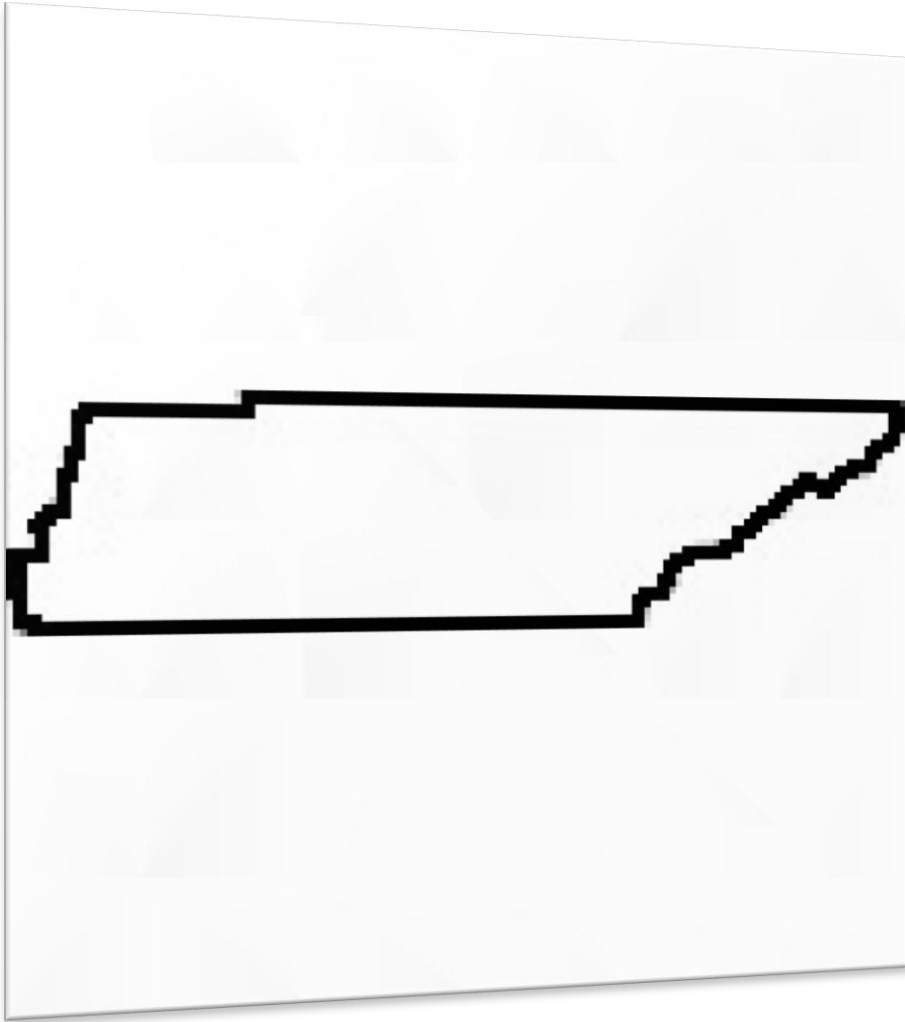
Eligible sources: solar thermal process heat, photovoltaics, landfill gas, wind, biomass, hydroelectric, geothermal electric, fuel cells, geothermal heat pumps, municipal solid waste, CHP, black liquor, small hydroelectric, wave energy, ocean thermal, fuel cells using renewable fuels, other distributed generation technologies, geothermal direct-use



Mississippi

No RPS or goal

Net metering not available



Tennessee

No RPS or goal

Net metering not available



Arkansas

No RPS or goal

2009 Legislation - state agencies to reduce building energy usage by 20 % by 2014

2012 - Gov. Beebe initiated planning process for an energy plan, with biomass possibly playing a role

Net metering available

De Facto RPS in Arkansas

- SWEPCO was required to buy renewable energy as part of Dec. 2011 settlement over Turk coal plant
 - Required: 400 megawatts of wind or solar
 - Response: Contracts signed for 407.85 megawatts of wind from KS, OK and TX; AR does not have grid
 - Quadrupled SWEPCO's wind portfolio. In 2010, energy portfolio was 84 % coal/lignite and 16 % natural gas

RPS had political benefit for SWEPCO. Part of settlement ending 4-year legal battle over new coal plant.

Advantages of RPS

- Environment benefits
- Creates demand for renewable energy
- Stimulates RECs market and technology development
- Diversifies energy sources, safety
- Promotes economic development
- Boosts investor confidence in renewable energy
- Can be tailored to local desires/policies

Disadvantages of RPS

- Complex to design and implement
- Costs not known until after implementation
- Utility costs passed on to customers in higher rates
- Would dissuade use of natural gas
- Promotes least-cost source development, not necessarily best source
- Doesn't stimulate large volumes of capacity by itself
- Jury still out on effectiveness

Recap

- No national energy policy so states are crafting their own
- 29 states have RPS and another 8 have goals
- RPS differ state to state on eligible sources, percentages, penalties and implementation dates

Questions?



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Sources



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