

Including Efficiency: A National Sustainable Energy Portfolio Standard

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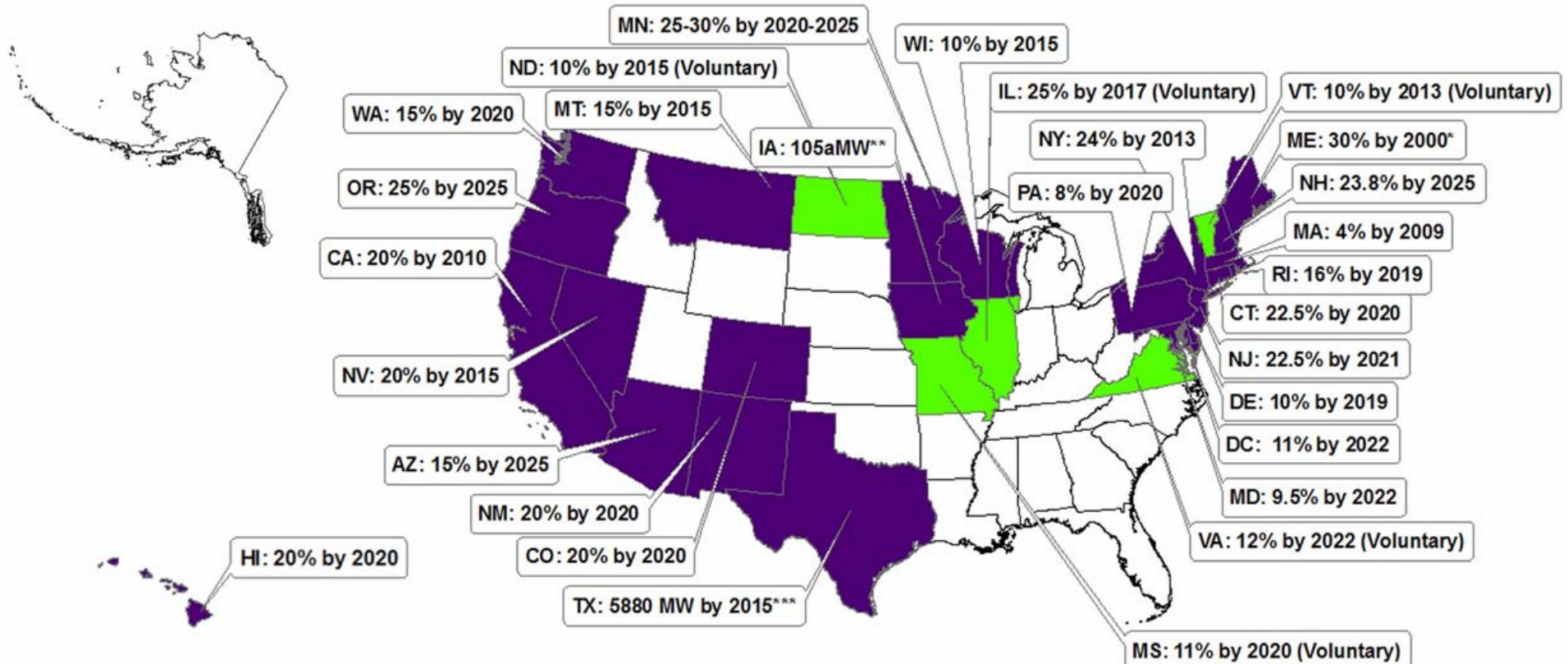
Congressional RPS Briefing sponsored by EESI
210 Cannon House Office Building
Washington, DC

July 11, 2007

Outline of Topics

- **The need for a National Portfolio Standard**
- **National RPS design recommendations of the National Commission on Energy Policy (NCEP) and the Network for New Energy Choices (NNEC)**
- **Including efficiency: A National Sustainable Energy Portfolio Standard (SEPS)**

Current Renewable Portfolio Standards: A Chaotic Policy Landscape



* In addition to their mandatory standard, Maine has an additional goal of achieving 10 percent of non-hydroelectric renewable penetration by 2017

** For incentive ratemaking purposes, the Iowa Utilities Board (IUB) initially interpreted the state's RPS as "average capacity" based on kilowatt-hour output. For most of the statute's existence, the IUB's interpretation has mandated the payment of incentive rates for 260 MW of renewable energy, the nameplate capacity of 105 "average" MW

*** The Texas statute originally set a goal of 2,280 MW by 2007, but increased the goal to 5,880 MW by 2015

Source: U.S. Department of Energy, Pew Center on Global Climate Change, DSIRE Database of Renewable Energy Incentives. Figure courtesy of Benjamin K. Sovacool and Kelly E. Siman.

Rationale for a National Portfolio Standard

- **Increase fuel diversity, reduce CO₂ emissions and otherwise improve environmental quality**
- **Improve marketplace efficiency (and correct distortions) by providing a common policy foundation**
- **Would not necessarily increase electricity prices, especially if efficiency measures are allowed**
- **State experience provides a basis for an effective national portfolio standard**

RPS design recommendations by NCEP and NNEC

- **Apply to all retail electricity providers, not just electric utilities**
- **Complement but not pre-empt state programs**
- **Be technology neutral—the program should be designed to treat all covered renewable sources equally**

RPS design recommendations by NCEP and NNEC (continued)

- **Provide credit for early action**
- **Allow for national trading, including efforts to standardize the monitoring, verification, and distribution of credits**
- **Include express provisions assuring retail electricity providers of cost recovery and a fair rate of return**

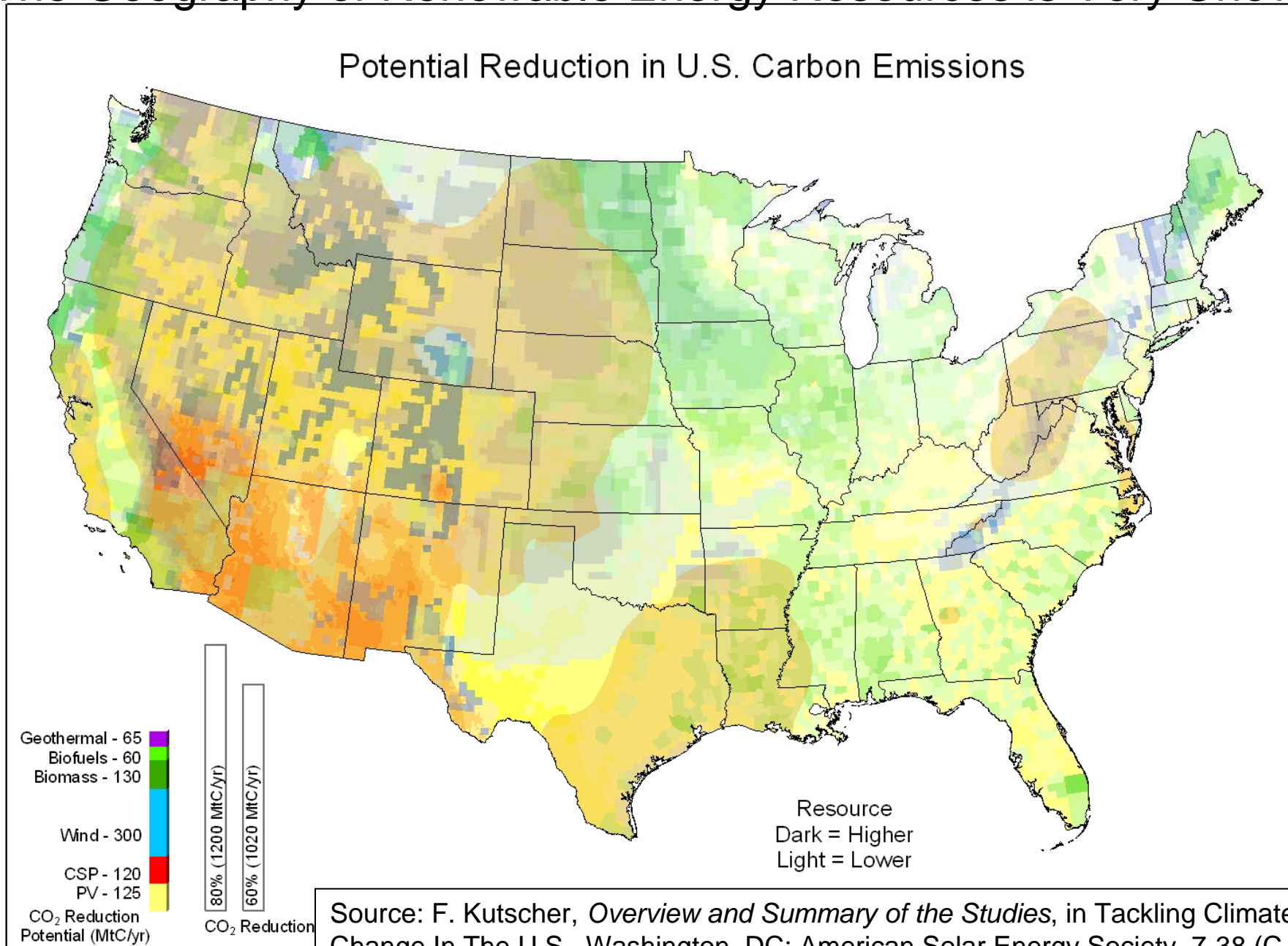
Including Efficiency: A National Sustainable Energy Portfolio Standard (SEPS)

- **Energy efficiency is fastest, cheapest, and cleanest energy resource**
- **Monitoring and verification tools exist to ensure performance**
- **Provides more options for utilities to meet targets and minimize costs**
- **Allows renewable resource-poor states to meet standards through efficiency improvements**

Some states have limited renewable resources

- **Louisiana, Missouri, and nine states east of the Mississippi River do not have any counties with high wind resources (i.e., class 4 or higher wind)**
- **Six states ranging from Virginia to Massachusetts (along with Utah and New Mexico) do not have any counties with at least 250,000 metric tons of currently available biomass/year**
- **With the exception of Florida the eastern half of the U.S. is devoid of counties capable of 6 kWh/m²/day using photovoltaics on south-facing surfaces**

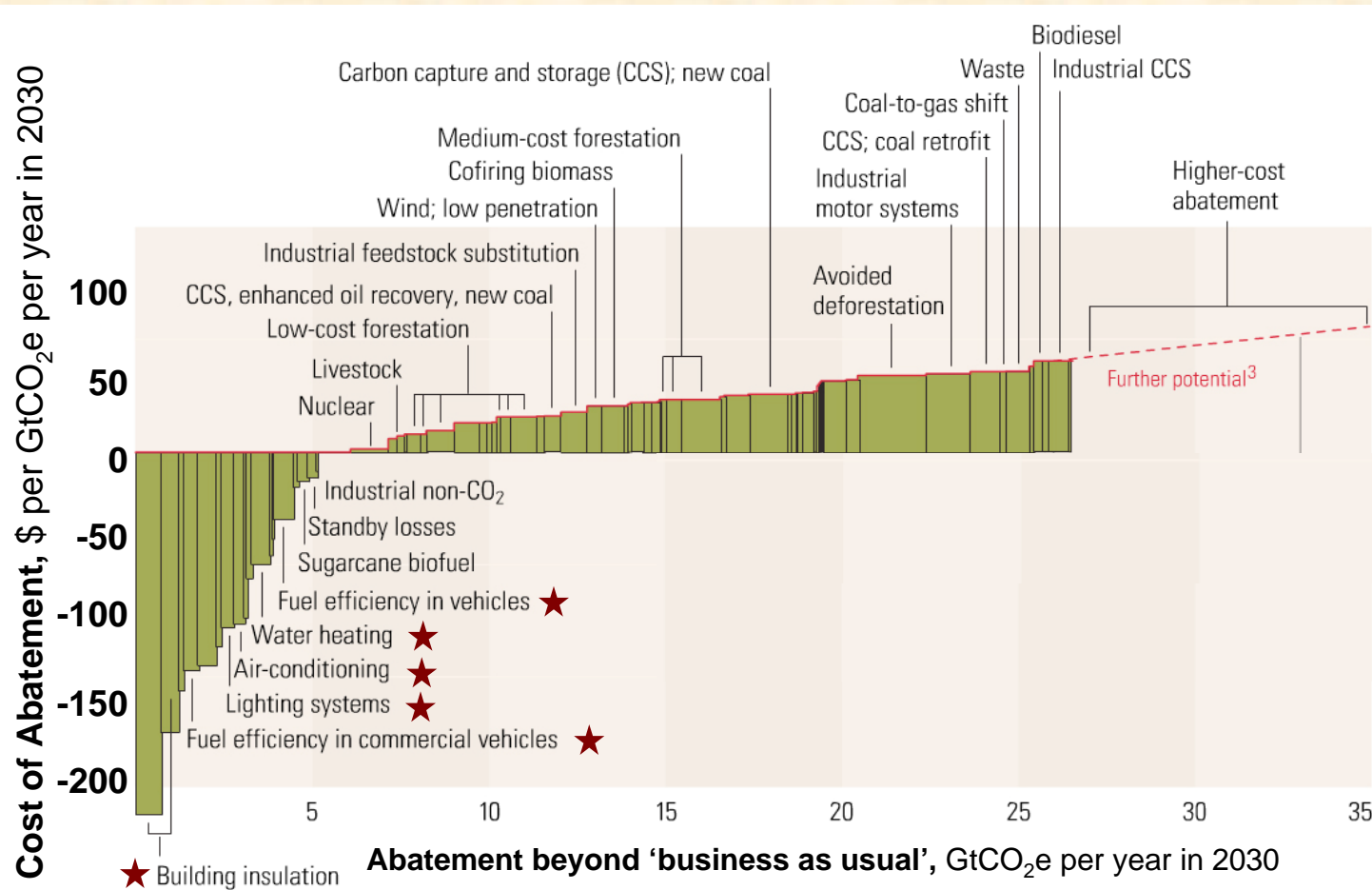
The Geography of Renewable Energy Resources is Very Uneven



Source: F. Kutscher, *Overview and Summary of the Studies*, in *Tackling Climate Change In The U.S.*, Washington, DC: American Solar Energy Society, 7-38 (C. F. Kutscher, ed. 2007)

Energy efficiency resources are among the most cost-competitive

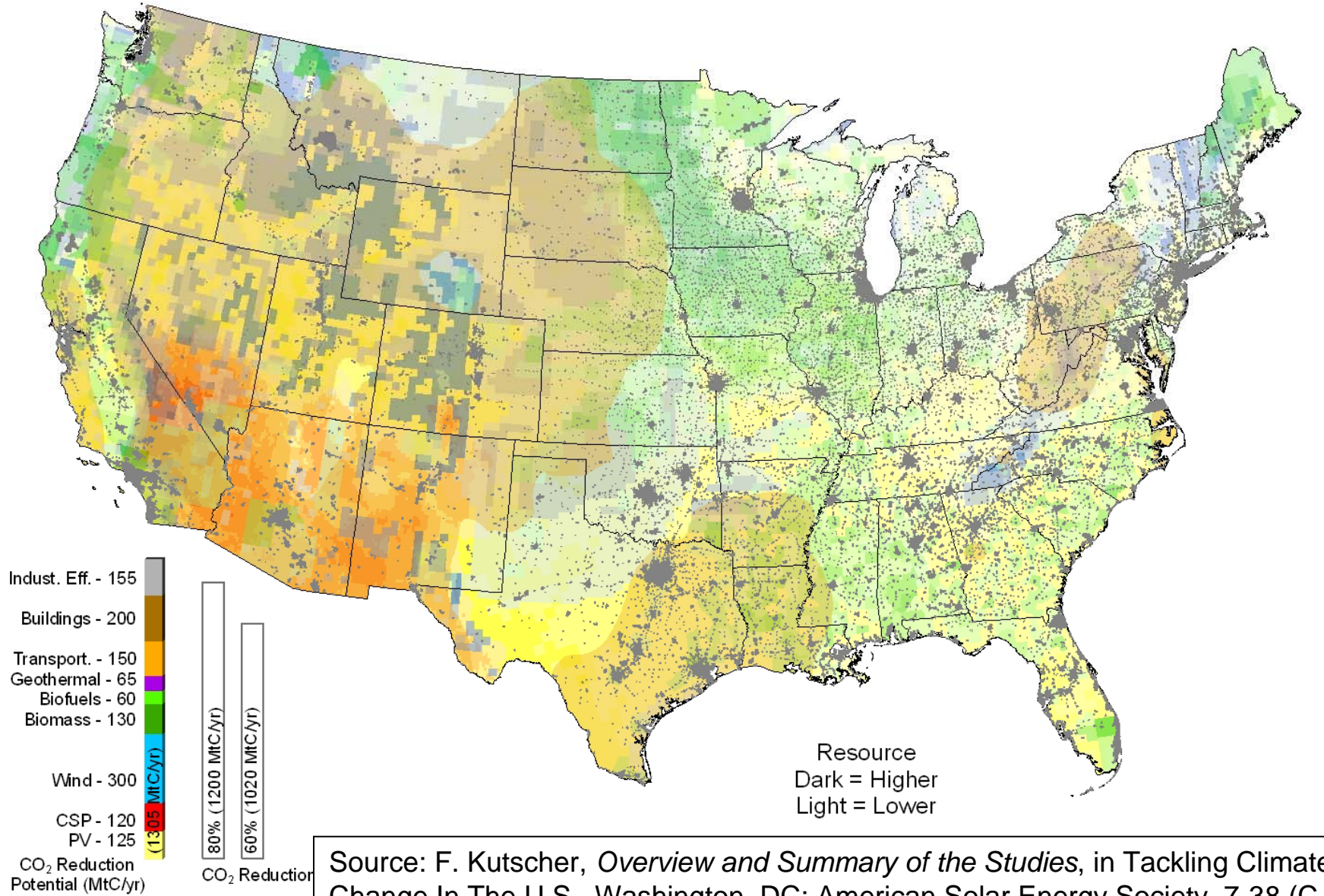
★ **Note: 7 of 9 Cost-Effective Measures are Efficiency Improvements**



Source: Modified from graph in P. Enkvist, T. Nauc ler, J. Rosander. "A Cost Curve for Greenhouse Gas Reduction". The McKinsey Quarterly. 2007.

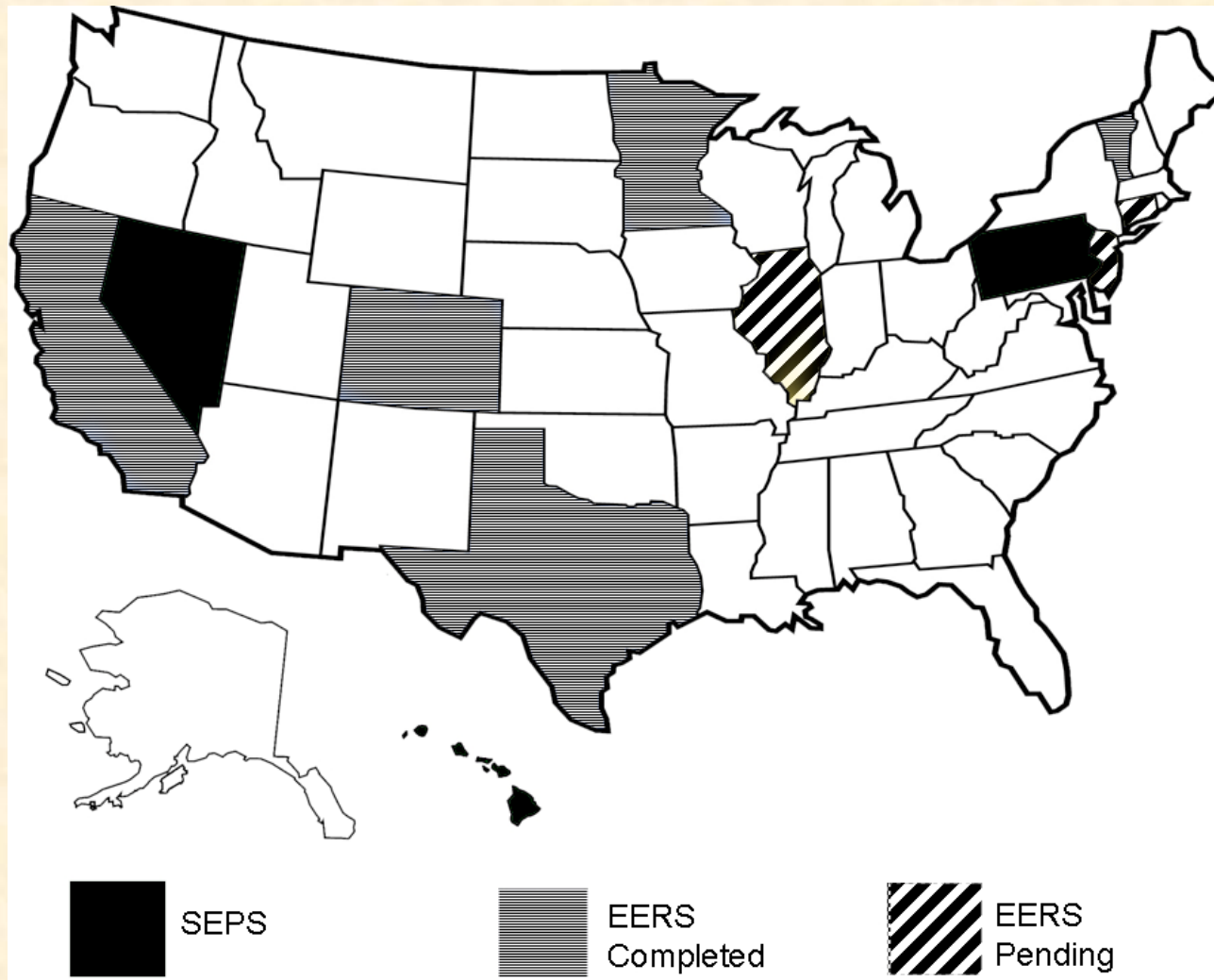
Cost-Competitive Energy Efficiency Exists in Every State

Potential Reduction in U.S. Carbon Emissions



Source: F. Kutscher, *Overview and Summary of the Studies*, in *Tackling Climate Change In The U.S.*, Washington, DC: American Solar Energy Society, 7-38 (C. F. Kutscher, ed. 2007)

Experience with SEPS and EERS is Growing



SEPS – Sustainable Energy Portfolio Standard
EERS – Energy Efficiency Resource Standard

Strategic Energy Institute

Conclusions

- **A National Portfolio Standard is needed**
- **Including efficiency would add energy resource flexibility, reduce costs, and improve equity across states**

Key References

National Commission on Energy Policy. 2007. *Energy Policy Recommendations to the President and the 110th Congress of the United States*. (Washington, DC: National Commission on Energy Policy),
<http://www.energycommission.org/site/page.php?index>.

Cooper, Chris and Benjamin Sovacool. “Renewing America: The Case for Federal Leadership on a National Renewable Portfolio Standard”. Network for New Energy Choices. 2007. Foreword by Marilyn A. Brown.

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Special thanks to Michael Hamilton (Georgia Tech and MIT) for assistance with these vugraphs.