



**RAP**

Energy solutions  
for a changing world

# Energy Savings Obligations

## Global Lessons & the “Efficiency Utility” Model

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# The Regulatory Assistance Project (RAP)

**RAP** is a global, non-profit team of experts providing technical and policy assistance to government officials on energy and environmental issues. RAP has advised governments in more than 30 nations and 55 states and provinces.

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A member of the IEA DSM Executive Committee, he served 12 years as Chair of the Vermont PSB (utilities regulator), Chaired the NARUC Committee on Energy & Environment, and the National Council on Competition and the Electric Industry. He is an advisor to the New York Independent System Operator, and Chair of the Electricity Advisory Committee of the US Department of Energy.

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# Major points today

1. **“Efficiency First” -- Energy efficiency resources deliver multiple benefits** – to power systems, the economy, consumers, and the environment
2. **Energy savings obligations** are powerful tools to deliver efficiency benefits
3. **A variety of structures and approaches are working well** in the US, EU, AUS, China, elsewhere
4. **One leading example: -- the statewide “efficiency utility” in Vermont, *Efficiency Vermont***
5. **Key design features: Clear obligation, capable & motivated efficiency entity, stable funding, quality control**

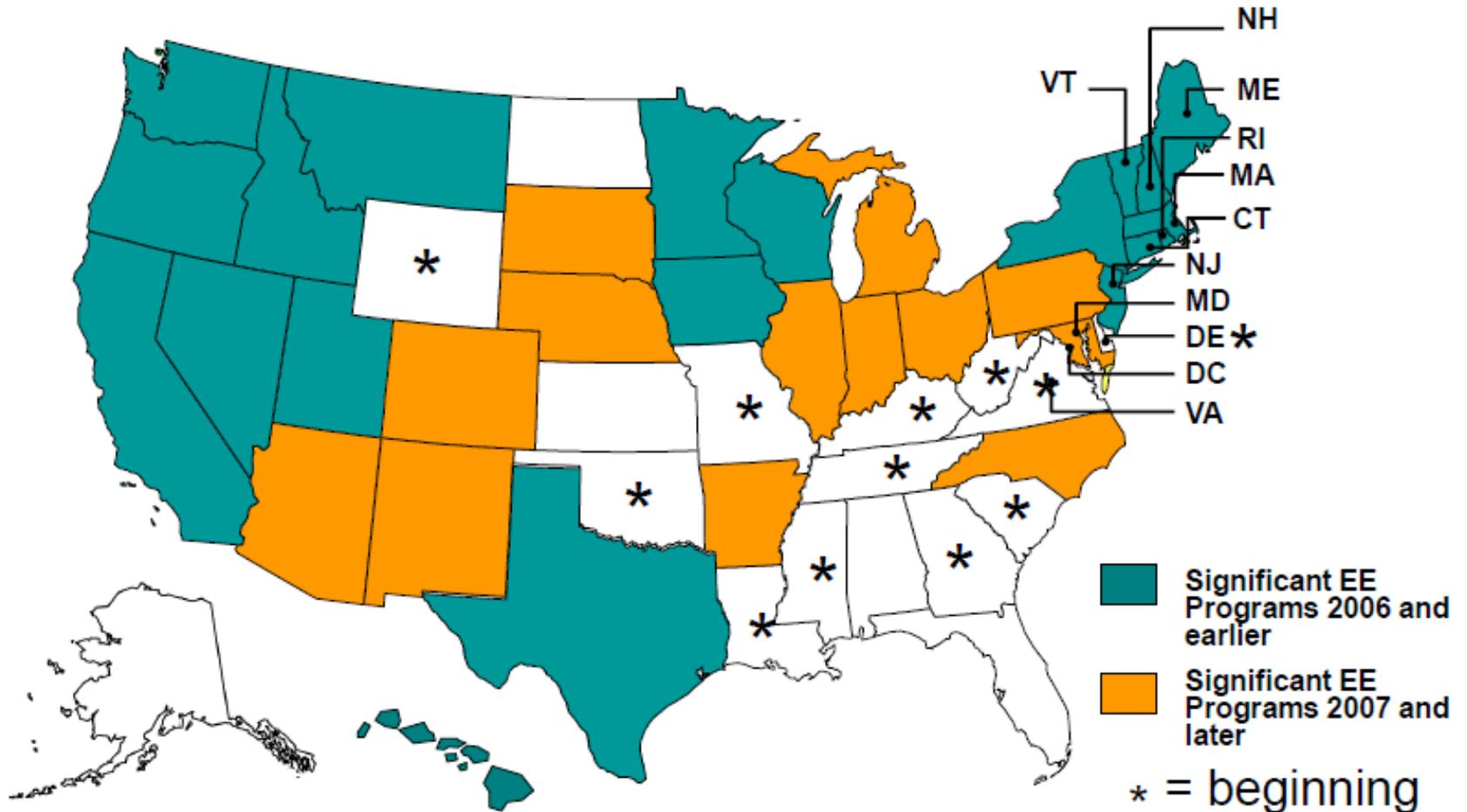
# Why Energy Savings Obligations (ESOs)?

- **Market barriers and market failures:** modern economies underinvest in end-use efficiency
- **Consumers need help to invest** – technical, financial, delivery
- **Energy providers are a logical and stable source of revenues:**  
**ESOs put the responsibility for efficiency on the actors in the sector directly connected to the purchase and sale of energy**
- **Energy providers also have key roles in other parts of an EE policy package** – codes and standards, consumer education, financing, smart metering and tariff reform.
  - Similar to environmental obligations in energy markets, such as Carbon Certificates or Renewables Obligations
- **ESOs lower system costs and lead to LOWER BILLS :**
  - **eg, in the EU, 20% energy savings by 2020 saves (net) 78 Billion Euros per year** (Ecofys-Fraunhofer 2010)

# Global Experience with Energy Savings Obligations

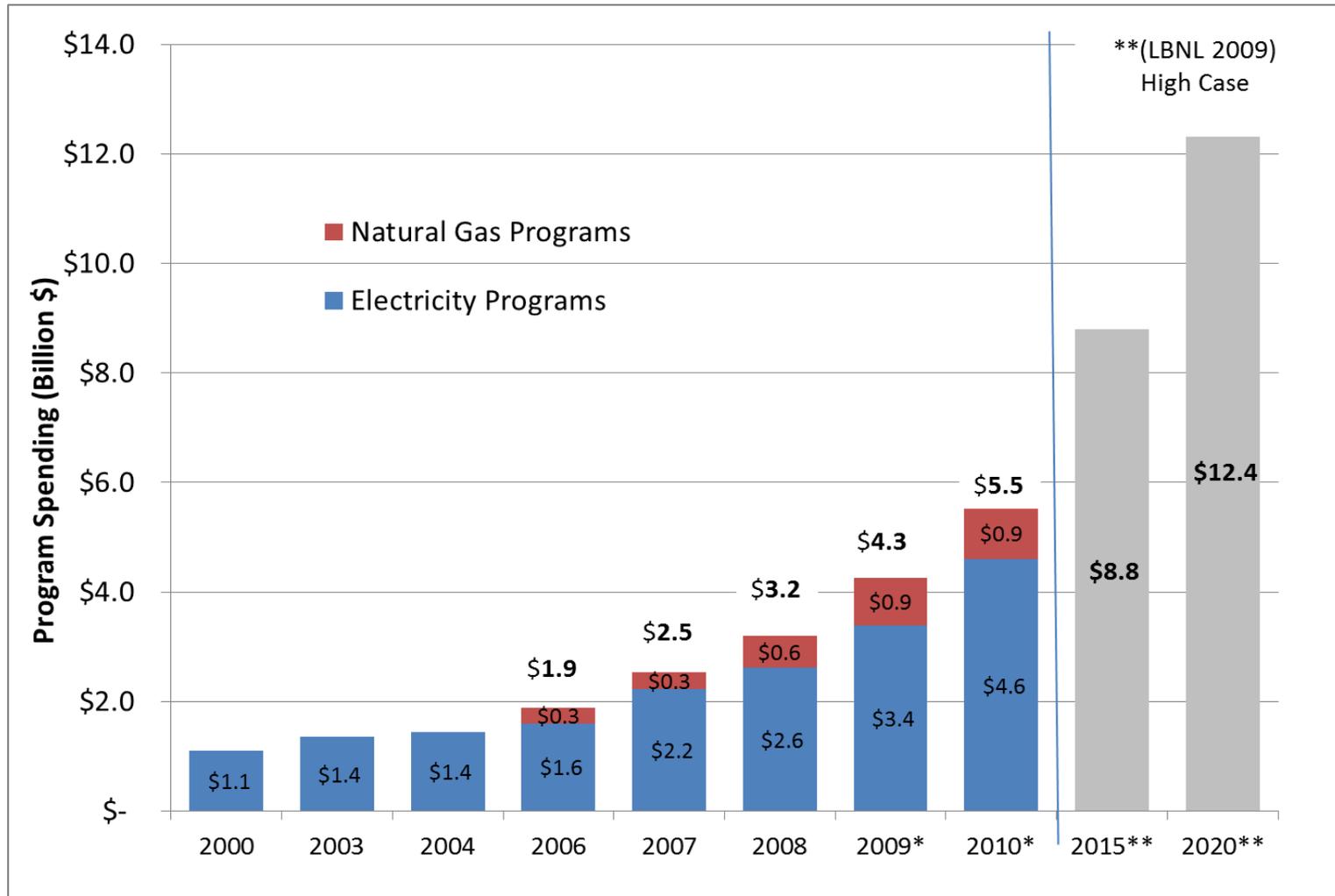
- ❖ Europe: 5+ Member States or Regions
- ❖ 34 US States
- ❖ Australia: 3 States -- New South Wales, Victoria, South Australia
- ❖ China: “Efficiency Power Plants”
- ❖ Brazil: 1% for public purposes, ½ for EE
- ❖ Other nations acting: Canada, India

# U.S. States with Efficiency Programs



Graph courtesy of ACEEE

# U.S. Efficiency Program Spending



Graph courtesy of ACEEE

# Strong programs add 2% incremental savings per year

- ❖ **Energy savings add up, can become one of the largest energy resources in the economy.**
- ❖ **Some obligations now in place:**
  - ❖ New South Wales: growing to save 34% in 11 years
  - ❖ New York -2% per year by 2015
  - ❖ Arizona: -2% annually, over 20% in 10 years
  - ❖ Illinois: -2% annually, 2015-2022
  - ❖ Massachusetts: -2.3% per year through 2020
- ❖ **Leading programs spend 3% to 5% of system revenues on energy savings (and save more)**

# Who Should Be Obligated? Who Should Deliver?

## “Top 10” US States Showcase 5 Different Models

<b>State</b>	<b>Efficiency Portfolio Manager Structure of Top 10 States*</b>
<b>California</b>	<b>Regulated Utility (e.g., DNO)</b>
<b>Massachusetts</b>	<b>Regulated Utility (e.g., DNO)</b>
<b>Connecticut</b>	<b>Regulated Utility (e.g., DNO)</b>
<b>Vermont</b>	<b>Contracted Private Entity</b>
<b>Wisconsin</b>	<b>Contracted Private Entity</b>
<b>New York</b>	<b>Unit of Government</b>
<b>Oregon</b>	<b>Sole-Purpose Public Corporation</b>
<b>Minnesota</b>	<b>Regulated Utility (e.g., DNO)</b>
<b>New Jersey</b>	<b>Contracted Private Entity</b>
<b>Washington</b>	<b>Regulated Utility (e.g., DNO)</b>

\*Ranking by ACEEE based on depth and breadth of EE programs

# The Efficiency Utility – “Efficiency Vermont”



- ❖ A unique franchise –for EE services only -- **awarded in 1999 through a public tender and competitive bidding**
- ❖ Funded by a uniform “wires charge” on electricity sales –paid by all customers of all Distribution Utilities (parallel for gas)
- ❖ Supervised by the PSB (independent energy regulator)
- ❖ **Prohibited from owning any part of the supply chain—must facilitate private EE companies to be successful**
- ❖ EVT will meet over 12% of total electric demand by 2012
- ❖ Now saves 2% per year, more than 100% of load growth

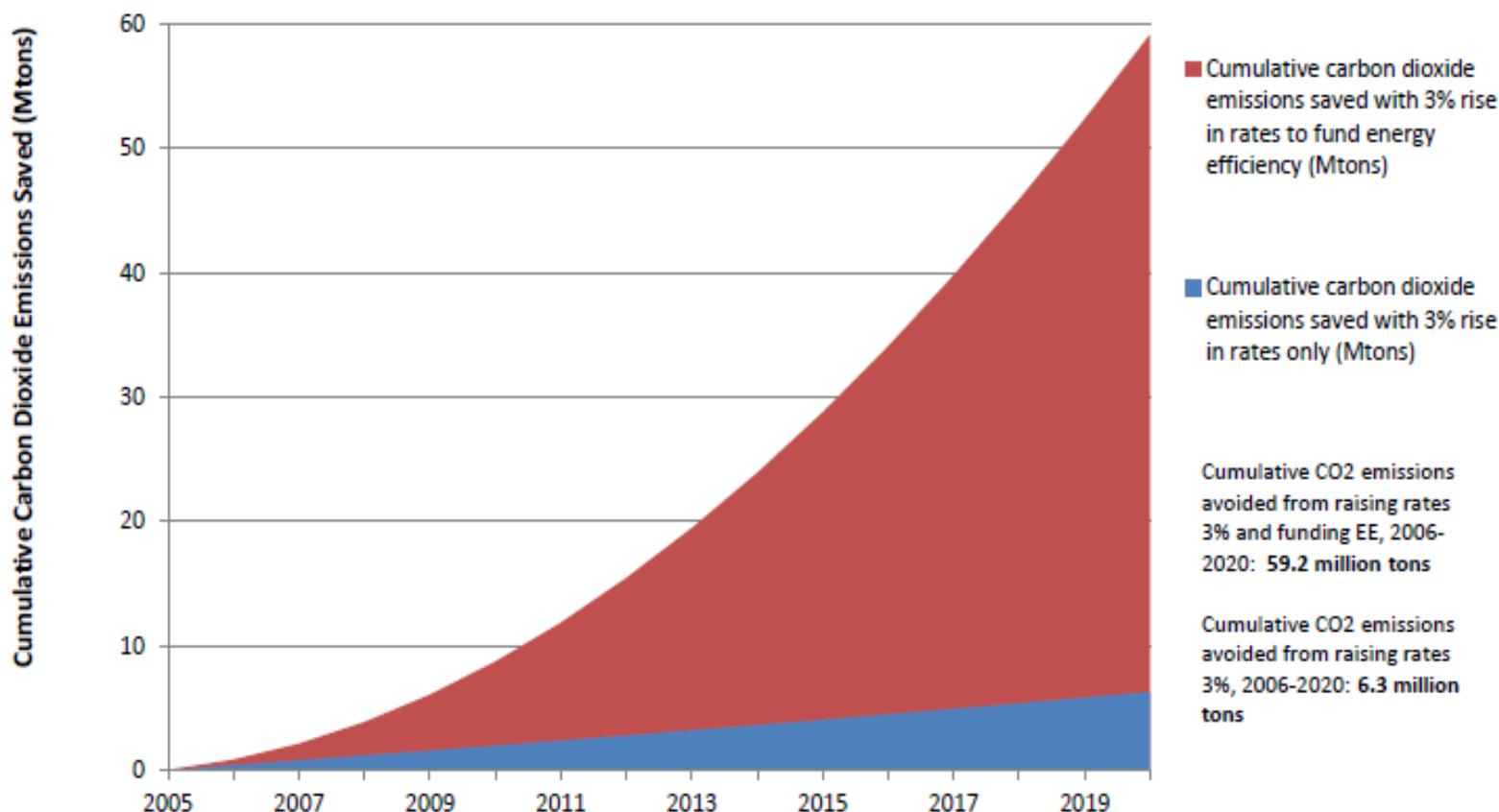
# Why has EVT worked so well?

- ❖ **Mission alignment** – no conflicting interest in increasing energy sales
- ❖ **Political stability** – not a state agency
- ❖ **Consumer benefit** –  
single brand builds awareness & trust
- ❖ **Performance-based compact** – clear goals with a bonus/penalty regime for EVT
- ❖ **Secure funding** -- “Wires charge” paid to a dedicated EE Fund
- ❖ **Independent M&V** -- savings are measured and verified, programs adjusted and improved



# Efficiency programmes save 9x more carbon per consumer EUR than carbon taxes or prices

**Cumulative CO<sub>2</sub> Emissions Saved by: Increasing Rates 3%; and Increasing Rates 3% to Fund Energy Efficiency (UK Example)**



# Questions?

*RAP has many reports and publications on the design of efficiency programs, power market reform, smart grids, renewable power and grid management.*

Posted at [www.raonline.org](http://www.raonline.org)

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