

# Picturing possibility

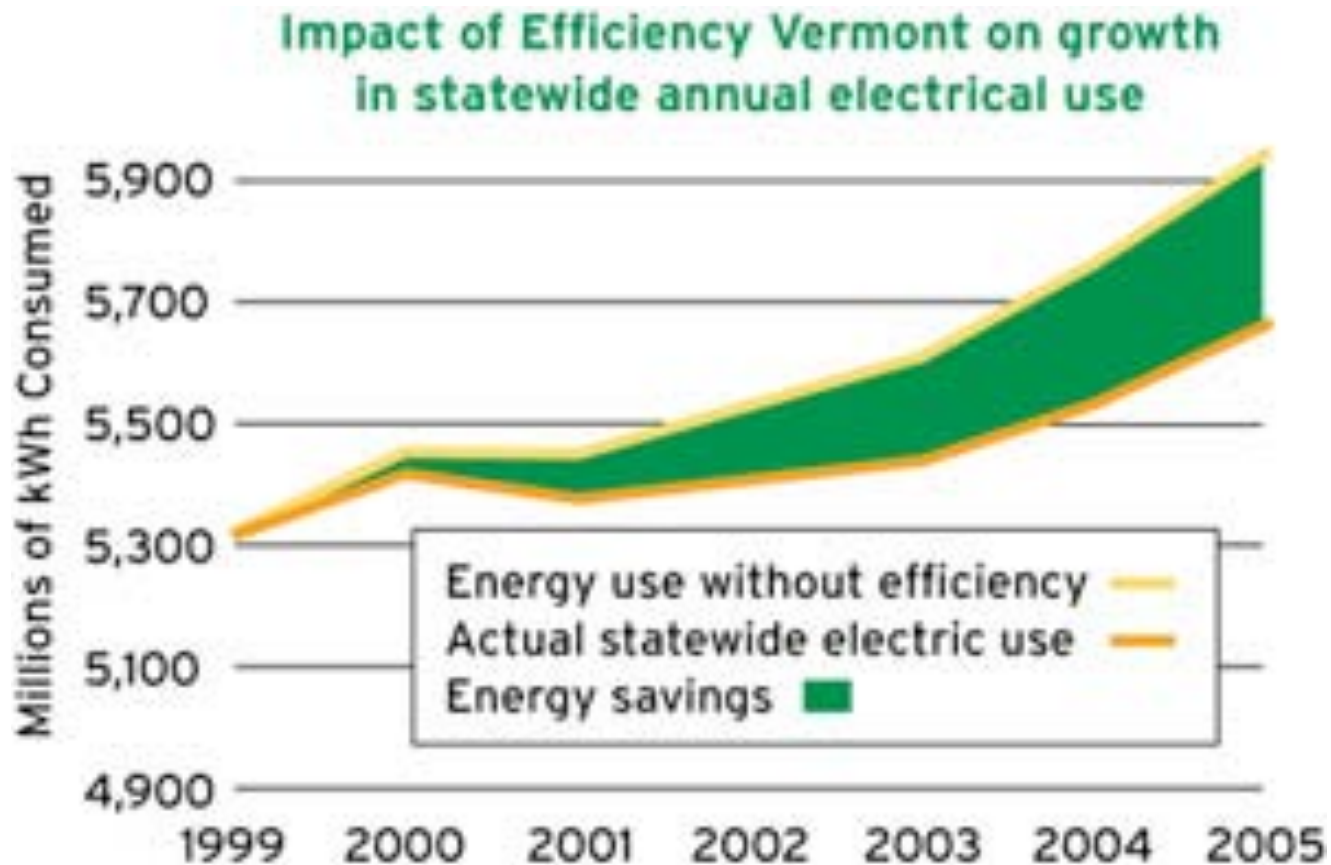


The real meaning of R & D:

Rip off and duplicate

(success models for us)

# A demand management utility: Efficiency Vermont



# Eff VT County Results

Cut annual energy use 98,050 MWh (\$66M)

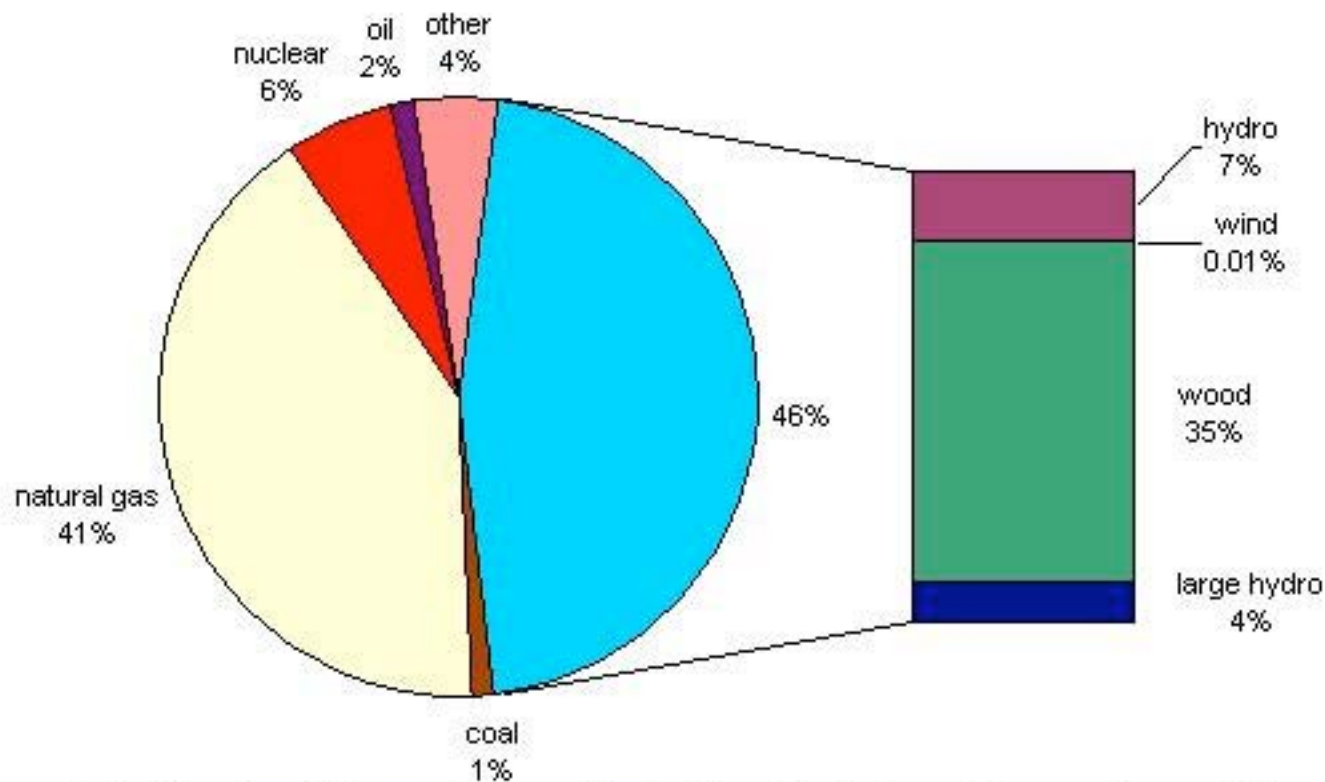
Prevented power plant CO<sub>2</sub> emissions > one million tons of carbon dioxide, 1,343 T oxides of nitrogen, 4,383 T sulphur dioxide and 361 T particulates.

Energy-saving rate 52% lower than utility purchase.

Savings last average of 14.4 years

# Diversified sources: Burlington Electric Department

BED FY2005  
Sources of Power by Fuel Type



**Note: No power is directly contracted from nuclear or coal plants. Power displayed as nuclear or coal is a result of system or contract purchases that default to the New England residual mix. Large hydro power is from sources greater than 80 MW's.**

# Incentives and mechanisms

NJ: unlimited net metering  
for commercial & res.  
Systems up to 2 MW

Germany, Denmark, Spain  
Ontario: “feed-in rates” -  
guaranteed minimum  
price based on the cost  
of each energy source



# Utility scale wind

NYSERDA-Sponsored Wind Development



- NY has 5,000 MW land-based wind potential
- Could meet 10% of state electricity needs
- NYSERDA: prospecting, piloting

# Community Sensitivities First

VT 2002 state stakeholder process for wind siting:

- Neutral facilitation, multi-stakeholder deliberations
- Workshops on land use, aesthetics, biological resources
- Resulted in policy and planning packet for locals

# NY Solar Road Map in development

- Energy and Environmental Technology Center, College of Nanoscale Science & Engineering, U Albany
- NY Solar Energy Industry Association
- COME to SOLAR NY MAY 14 IN ALBANY!

**SOLAR POWER FOR  
NEW YORK MUNICIPALITIES AND  
GOVERNMENTAL ENTITIES  
AT NO ADDITIONAL COST**



**~ NO UP-FRONT CAPITAL COST ~  
~ LOW ELECTRIC RATES ~**



**ALLCO RENEWABLE ENERGY GROUP LIMITED  
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## HOW THE ALLCO SOLAR PROGRAM WORKS

- ◆ Drawing on its relationships with financial and technical partners around the country, Allco offers economical, turn-key solar power to colleges, universities, governmental entities and other non-profits.
- ◆ Allco installs the solar energy systems on municipal property, and Allco is responsible for the operation and maintenance of the systems.
  - ◆ Allco sells RECs and deals with NYSERDA to obtain rebates and/or production incentives, as applicable. The benefit of these incentives is reflected in a reduced power price for the municipality.
  - ◆ The municipality buys the power that is produced by the solar systems under a 20-25 year agreement at a fixed price.
- ◆ The initial power cost may be below the municipality's current cost of power, and escalates at only 2% per year.



# Industry development: strengthening the supply chain

NJ solar installer training model -

Mom & Pop heating oil companies as  
“energy service” companies, trained as  
solar installers (Direct Global Power  
model)

Of 34 wishing to enter the industry, 14  
succeeded (project goal = 12)

Evaluation: ongoing support needed

# Industry development: Freiburg Germany

- Solar-Fabrik - 130 jobs
- Over 400 installations including PV, hot water, winter gardens
- Central Station, hospital, brewery, stadium
- Govt - R & D, dissemination, building code
- New eco-development feeds energy to grid



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