Picturing possibility
The real meaning of R & D:

Rip off and duplicate

(success models for us)
A demand management utility: Efficiency Vermont

Impact of Efficiency Vermont on growth in statewide annual electrical use

- Energy use without efficiency
- Actual statewide electric use
- Energy savings

Millions of kWh Consumed
- 4,900
- 5,100
- 5,300
- 5,500
- 5,700
- 5,900

Years
- 1999
- 2000
- 2001
- 2002
- 2003
- 2004
- 2005
Eff VT County Results
Cut annual energy use 98,050 MWh ($66M)

Prevented power plant CO2 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

- Natural gas: 41%
- Coal: 1%
- Nuclear: 6%
- Oil: 2%
- Other: 4%
- Hydro: 7%
- Wind: 0.01%
- Wood: 35%
- Large hydro: 4%

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

- 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 ~
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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