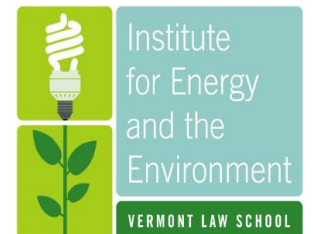

Green Mountains, Green Valleys & A Green New Deal for Vermont

Vermont Senate Committees:
Agriculture
Economic Development
Energy and Natural Resources
Transportation

Michael Dworkin, Professor of Law & Director,
R. Lee Gresham, Research Associate,
Institute for Energy and the Environment
Vermont Law School
January 24, 2007

-Thanks to Tom Friedman, NY Times 1/23/07 for the "GreenNew Deal" and to Lt. gov Brian Dubie for "The Green Valley"



Issues & Potential Problems: The Energy “Trilemma”

- Cost of Energy
- Security and Reliability of Supply and Delivery
- Environmental Stress (Land Use Compatibility and Impacts of Energy Use)

**What we need is not a silver bullet, but a
“Green New Deal” with a broad
spectrum of measures.**

Potential Sectors For State Climate Policy

- Electric System Efficiency –
 - Utility Generation, Transmission, Distribution
- Natural Gas Use
- End Use Efficiency
 - Buildings, Farms
 - Appliances
 - Industrial Processes
- Non-Utility Electric Generation –
 - especially renewables
- Transportation

Air Pollutants: The Willie Sutton Principle

| CO₂ | | | | |
|-----------------------|----------------------|----------------|-------------------|--|
| | % of Electric | % of US | % of World | |
| 20 Plants | 15% | 6% | 2% | |
| 50 Plants | 31% | 13% | 3% | |
| 100 Plants | 51% | 20% | 5% | |
| 3,000 Plants | 100% | 40% | 10% | |

| SO₂ | | | | |
|-----------------------|----------------------|----------------|-------------------|--|
| | % of Electric | % of US | % of World | |
| 20 Plants | 23% | 15% | | |
| 50 Plants | 42% | 28% | | |
| 100 Plants | 61% | 41% | | |
| 3,000 Plants | 100% | 67% | | |

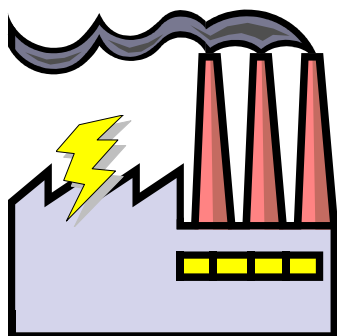
U.S. Carbon Emissions:

More Than 1/3

3,000

Power Plants

15% from 20 plants
50% from 100 plants
90% from 300 plants



About 1/3

200 million
Cars & Trucks

Most vehicles made by 7
manufacturers



Less Than 1/3

2 Billion
Other Sources



Where is the problem?

- Think vehicles
- Think fossil-fired electric power
- Think a dozen other ideas across the board
- Most Importantly: *THINK !*

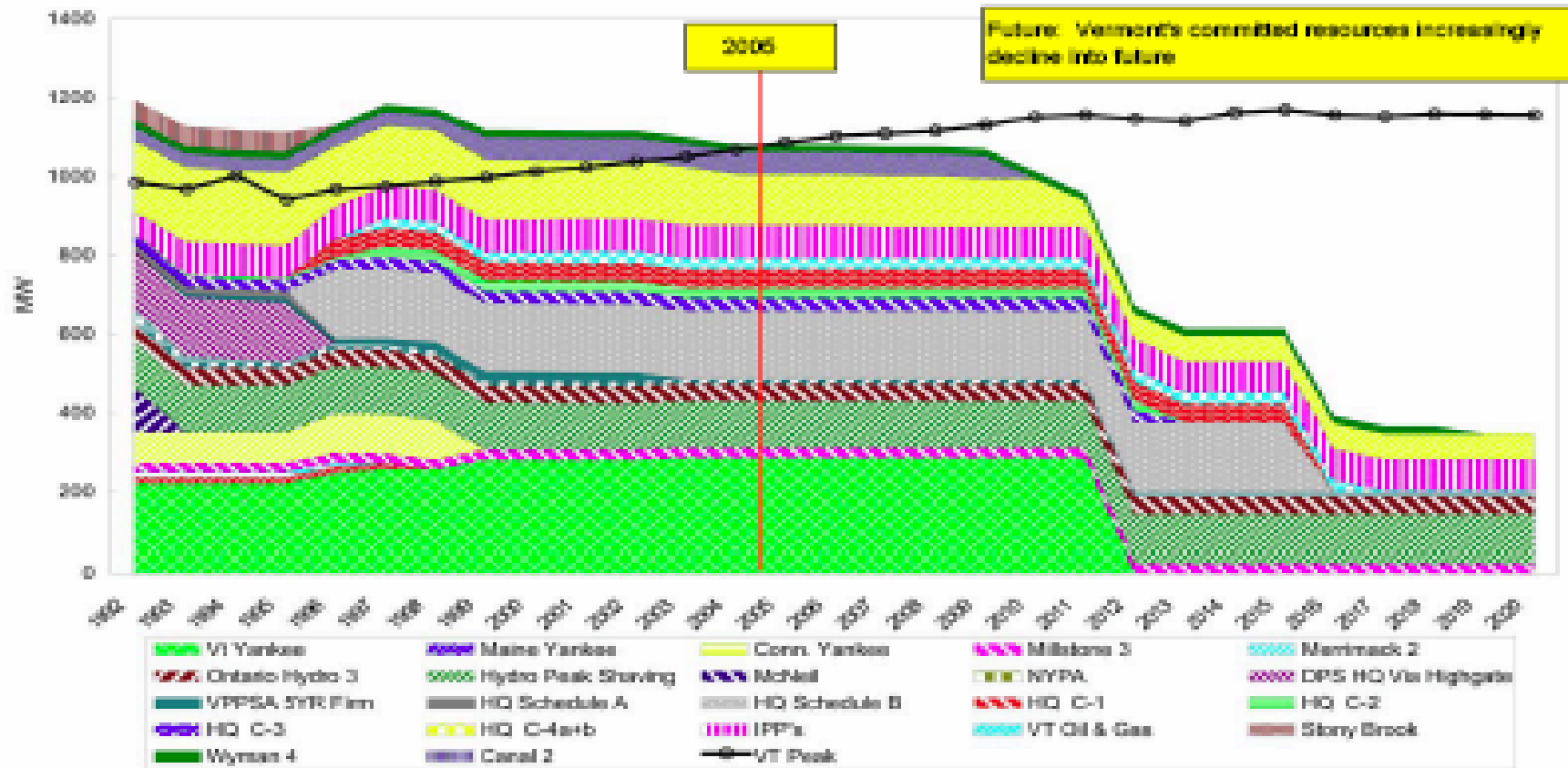
But, Isn't *Vermont* Already Clean?

- Physically, operationally, Vermont is part of New England's unified electric system
- 85% of time fossil fuel runs the *marginal* electric unit in New England (running the power plant turned on if our demand goes up, and turned off if our demand goes down)
- Every kWh *we* serve with efficiency or with renewables reduces New England carbon.

... and *we* may not be low-carbon for long



Vermont Committed Resources



Data Source: Vermont Department of Public Service

Low Carbon Futures – Key Next Steps

It is feasible: What we *have* done, we *can* do

Energy Efficiency: Vital and Foremost

Electricity: Lighting, Motors, Insulation

Transport: New Cars ? CAFÉ and license fees

Current: High Mileage Tires

Bus routes

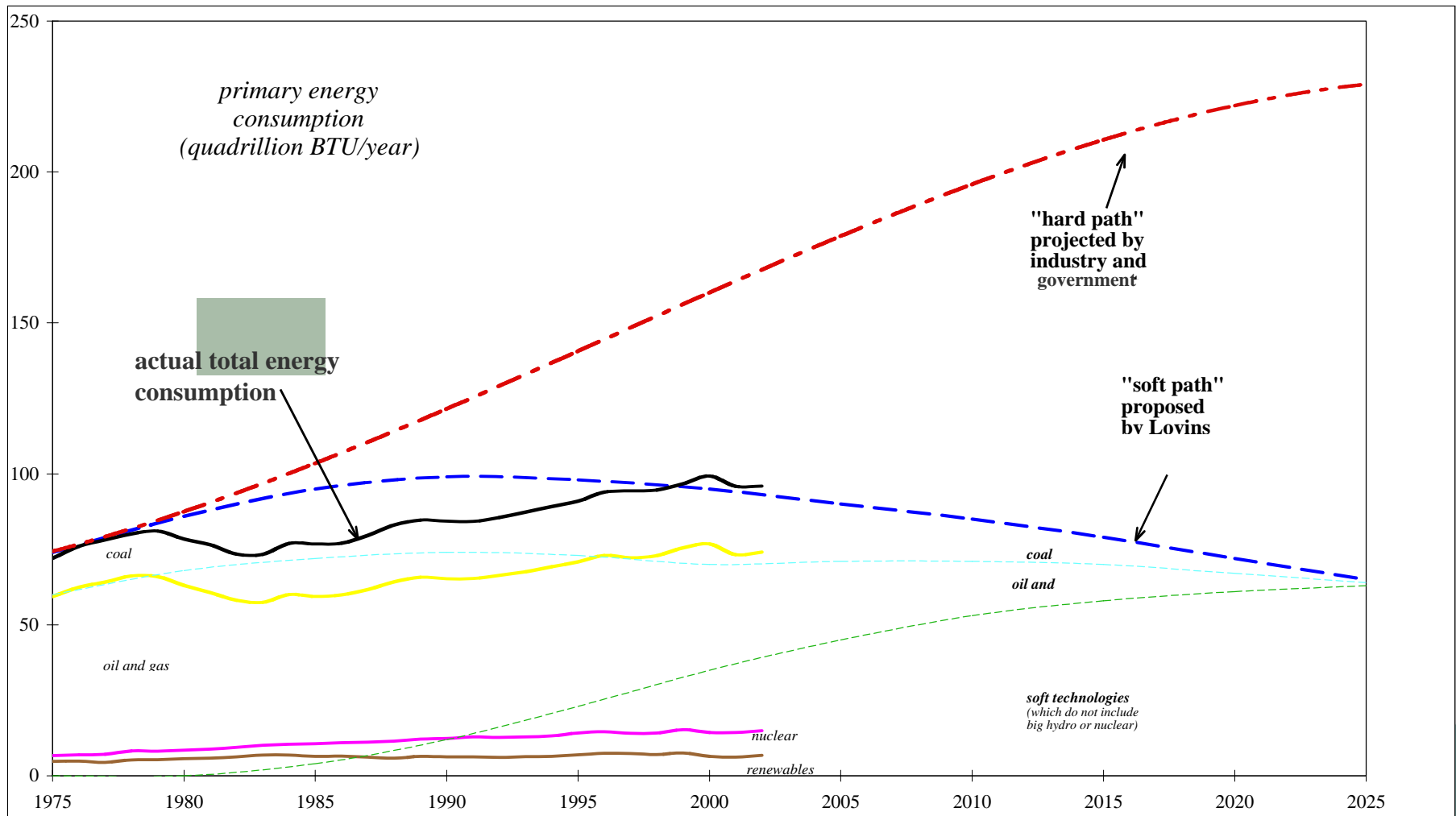
New Fuels:

Electricity: Renewables

Transport: Bio Fuels, Cellulosic Ethanol

Most Importantly: *Attention & Awareness, Commitment!*

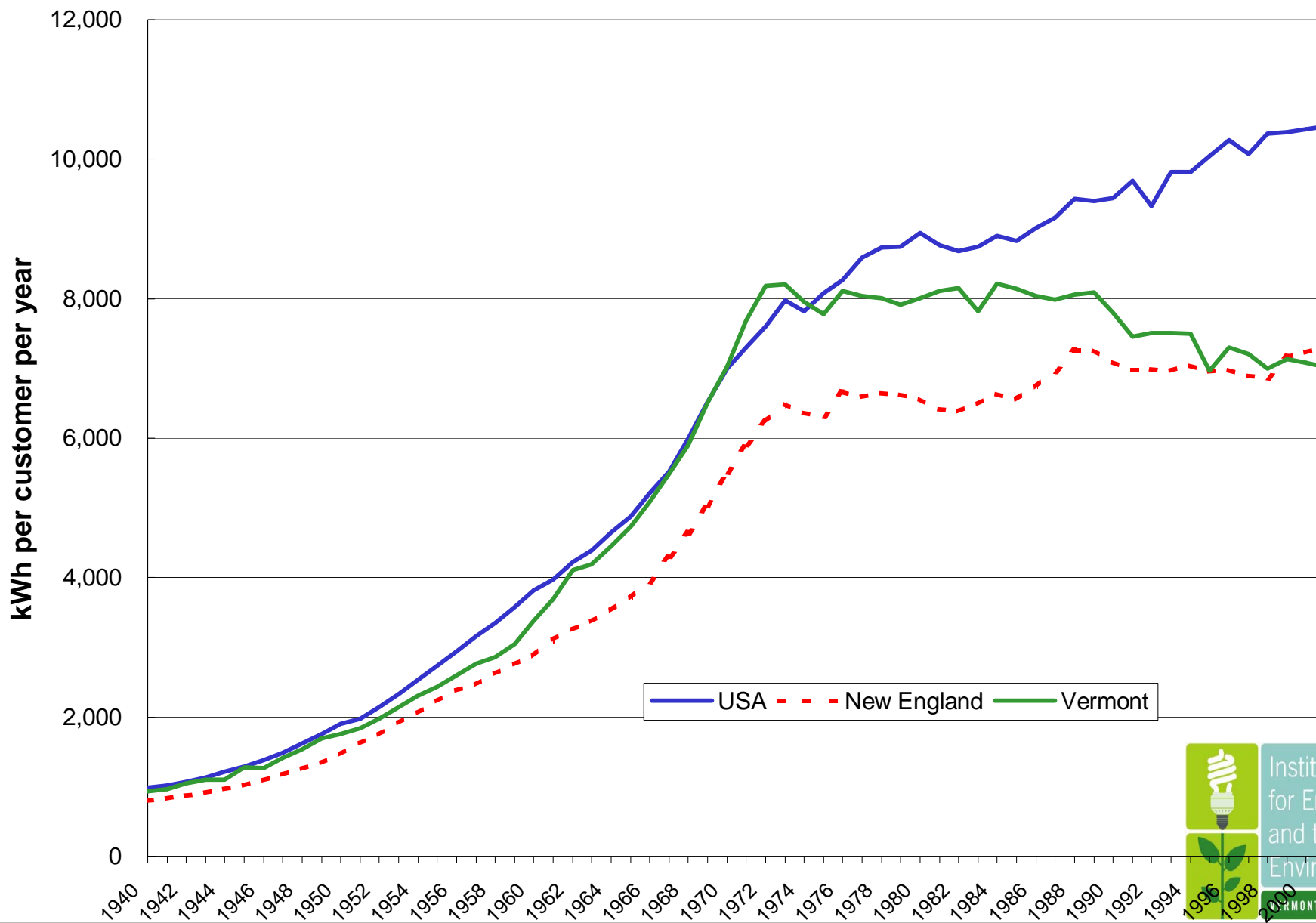
Lovins: US energy/GDP already cut to 1973 “soft path”



but that just scratches the surface, esp. for oil & electricity

Residential Electricity Use

kWh per customer per year, 1940-2001



Things For Vermont To Do

- Mobile Sources: Transportation
- Stationary Sources
- Business Opportunities
- Fiscal Opportunities
- Policy
- Technical Assistance

Mobile Sources

3-part approach to prepare for transportation carbon market

- Fewer Miles Traveled
- Better Fuels
- Better Vehicles

Things For Vermont To Do

- Mobile Sources: Transportation
- **Stationary Sources**
- Business Opportunities
- Fiscal Opportunities
- Policy
- Technical Assistance

Stationary Sources

Electric

- Utility
- Non-Utility

Non-Electric

- Regulated
- Unregulated

State-Funded Buildings & Programs

- State-Owned Buildings
- Non-State-Owned Buildings

Electric Utility and Use

System Improvement

- Sustained Renewable Energy Support
 - Ratepayers
 - Taxpayers
 - Utility Performance Based Regulation with GHG in performance

End-Use Efficiency

- *Make Efficiency Vermont Enduring*
- Franchise with same term and same freedom to advocate that investor-owned utilities now have
- *Expand scope of efficiency utility*

Stationary Sources

Electric

- Utility
- Non-Utility

Non-Electric

- Regulated
- Unregulated

State-Funded Buildings & Programs

- State-Owned Buildings
- Non-State-Owned Buildings

Electric Non-Utility

Community Energy Production & Ownership or Control

- Group Net Metering
- Clean Community Generation
- Distributed Generation/CHP
- Streamlined Permitting for Renewables

Stationary Sources

Electric

- Utility
- Non-Utility

Non-Electric

- Regulated
- Unregulated

State-Funded Buildings & Programs

- State-Owned Buildings
- Non-State-Owned Buildings

Regulated Non-Electric

VT Gas Systems

- Continue and expand VGS efficiency programs
- Building Energy Use
 - HVAC
 - Residential insulation and furnaces

Stationary Sources

Electric

- Utility
- Non-Utility

Non-Electric

- Regulated
- **Unregulated**

State-Funded Buildings & Programs

- State-Owned Buildings
- Non-State-Owned Buildings

Unregulated Non-Electric

End-Use Efficiency

- Expanded Efficiency Vermont
- Building Codes
 - Updating
 - Enforcement
- Appliance & Equipment Efficiency Standards

Renewable Content in Heating Fuels

Stationary Sources

Electric

- Utility
- Non-Utility

Non-Electric

- Regulated
- Unregulated

State-Funded Buildings & Programs

- State-Owned Buildings
- Non-State-Owned Buildings

State-Funded Buildings & Programs

State-Owned Buildings

- Goal
- Stiffer standard than generally applies
- Clean energy and efficiency as a *design* fundamental

State Supported Non-State Buildings

- High Performance Schools - required for state \$\$
- Scoring bonus on state-administered grants for green buildings and clean energy



Things For Vermont To Do

- Mobile Sources: Transportation
- Stationary Sources
- **Business Opportunities**
- Fiscal Opportunities
- Policy
- Technical Assistance

Business Opportunities!

- Jump start for forest products industry
 - Note sustainability issues (regrowth and mono-culture)
- Use of reserved ag land for woody (cellulosic) fiber
 - Biofuels
 - Biomass Energy
- Intellectual capital brings \$ to Vermont
 - Professional – Regulatory Assistance Project
 - Academic – VLS & UVM... and GMC and
- Implementation Skills and tools for Export
 - GRO
 - NRG
 - Northern Power Systems
 - Solar Works
 - VEIC

Things For Vermont To Do

- Mobile Sources: Transportation
- Stationary Sources
- Business Opportunities
- **Fiscal Opportunities**
- Policy
- Technical Assistance

Fiscal Opportunities

- Exclude value of clean energy systems in grand list value
- Sales tax exception or holiday
- *Production* Tax Credit (better than *Investment* Tax Credit)
- Low Cost Financing
- Faster Permitting
- VT state employees' pension fund investments in financing efficiency potentials through Efficiency Vermont

Things For Vermont To Do

- Mobile Sources: Transportation
- Stationary Sources
- Business Opportunities
- Fiscal Opportunities
- **Policy**
- Technical Assistance

Related Policy Areas

Land Use Planning & Regulation:

- Require efficiency and GHG consideration in Act 250 permit decisions
- Emission Fees / “Carbon Tax”
- Pollution Caps (first “cap”, then “trade”)
- *Green House Gas Assessment* Obligations for all Significant Governmental Actions.

Things For Vermont To Do

- Mobile Sources: Transportation
- Stationary Sources
- Business Opportunities
- Fiscal Opportunities
- Policy
- **Technical Assistance**

Technical Assistance

- Ombudsman for state and federal grants
 - Cow Power per:
 - USDA, DOE, VT Agriculture, VT DPS
 - Net Metering (similar)
- Policy Planning: State Assistance for Locals
- *Answers* to Frequently Asked Questions
- Guidance *Through* Regulations

Institute for Energy & the Environment

- Michael Dworkin,
 - Professor of Law and Director,
 - Institute for Energy and the Environment
 - Vermont Law School
-
- 802.831.1319 South Royalton VT
 - 802.249.7840 Cellular
 - MDworkin@VermontLaw.edu

