Comprehensive Energy Plan
Vermont’s Energy Future
Legislative Briefing
Comprehensive Energy Plan

What is it?

Title 30, Section 202b - The CEP must include:

Comprehensive Analysis and Projections

- Usage
- Supply
- Cost
- Environmental Effects

For All Sectors of Energy Usage

- Electricity
- Thermal Energy
- Transportation
- Land Use
- Efficiency

First plan mandated in 1994, with required plan every 5 years thereafter.

No adopted Department plan since 1999.
Comprehensive Energy Plan

Process

• Launched in February 2011
  Interagency/Department coordination key
  Used Department 2009 draft energy plan as a starting point

• 18 public meetings, hearings, and Stakeholder events all over state, plus many other community/nonprofit/business organization and media outreach.
Comprehensive Energy Plan

Process

Created website:

vtenergyplan.vermont.gov

...for engagement, information, and comment

Released Draft in early September
Created comment period, extended after requests – Closed November 4

Over 9100 comments since we launched the process

Over 700 of these were individual, substantive, detailed comments
Comprehensive Energy Plan

Process

• Working on updates and revisions now
• Targeting December final
• Creating recommendations and possible legislative actions lists

Will be first plan adopted by the Department as required by statute since late 1990s...but it is just the beginning of the real work...
Comprehensive Energy Plan

Content Overview

I believe there is no greater challenge and opportunity to Vermont and our world than the challenge to change the way we use and produce energy.

– Gov. Peter Shumlin
Comprehensive Energy Plan
Vol 2: Facts, Analysis & Recommendations
Comprehensive Energy Plan

Appendices

Vermont Agency of Natural Resources

Forest Management for Bio-Energy

Department of Health
Agency of Human Services

Public Health Assessments and Energy Planning
Comprehensive Energy Plan

Appendices

State Agency Action Plan

Economic Impacts of Energy Efficiency Investments
Comprehensive Energy Plan

Appendices

Vermont’s Energy Future:
A Conceptual Map of
Vermont’s Energy Goals &
Decision Makers

Electricity Scenario Analysis
for the
Vermont Comprehensive Energy Plan 2011
Where Are We Now?
Vermont Total Energy Use by Sector
(percent of total BTUs consumed, 2008)
Total Energy Usage Has Increased
VT GHG Emissions (MMTCO2e)

Source: VT ANR 2010

VT 2028 GHG Reduction Goal

(trajectory assumes that 2022 goal is not achieved)
Comprehensive Energy Plan

Current Electric Supply

Available Space to Meet Need
48% of electricity is currently from renewable sources, including HQ hydro and projects with RECs sold out of state.

Transportation and thermal are both heavily dependent upon fossil fuels.
Vermont’s Current Renewable Energy

- Renewable: 23%
- Other: 77%
Energy Costs

Energy Source Prices ($ /million BTU & inflation-adjusted 1990 $ /million BTU)

Electricity is the highest priced energy source, yet costs have risen less than the rate of inflation (US CPI). Gasoline and distillates prices have outpaced inflation.
Energy Costs

Energy Source Prices ($ /million BTU & inflation-adjusted 1990 $ /million BTU)

Electricity is the highest priced energy source, yet costs have risen less than the rate of inflation (US CPI). Gasoline and distillates prices have outpaced inflation.
Efficiency Is The Least Costly Way To Fulfill Our Energy Needs

Electric Efficiency:
- Annual average load growth savings of 2%/yr
- Annual average cost per kWh saved = ~ 4 cents
- The benefits of electric efficiency
  - $1 public spending = $4.6 in NPV to state
  - Local jobs creation
  - Regional charges on electric bills are avoided

Thermal Efficiency:
- Creates jobs
- Leverages fiscal resources
Transportation

• Nationally, transportation costs account for 21% of all household expenses
• Most Vermonters spend more than the national average
• Many Vermonters spend more on driving than health care, education, or food
• Driving is Vermont’s single largest GHG source (more than 40%)

“Driven to Spend: A transportation and Quality of Life Publication.”
Transportation Costs Vermonters and Our Environment

Vehicle Miles Traveled have increased dramatically in the last 30 years

Source: Vermont Agency of Transportation Highway Research VMT Report
Land Use and Energy Impact

Vermont is a rural state; over 30% of Vermonters live in our designated downtowns.

The 2010 Census shows that many of our communities grew at a slower pace than the state average.
The Transportation and Land Use Link

People travel fewer miles as accessibility to service, density and/or mixing of buildings increase

-Source: Ewing & Cervero, 2001
What Is Our Long-Range Goal?
What Is Our Long-Range Goal?

90% renewable energy by 2050

By mid-century, Vermont can be nearly free of fossil fuel usage, in all energy sectors

2011: ~23% renewable → 2050: 90% renewable
Why Strive To Achieve This Goal?
Why Strive To Achieve This Goal?

Four key benefits:

1. Foster Economic Security and Independence
2. Safeguard Our Environment
3. Drive Innovation and Jobs Creation
4. Increase Community Involvement and Investment
How Will the Goal Be Achieved?
How Will the Goal Be Achieved?

Set Goals and Policies Now To Achieve Progress Over Time...

This!

...Not this
How Will the Goal Be Achieved?

Concerted Planning and Integrated Action

Create Momentum:
1. Outreach and Education
2. Finance and Funding
3. Innovation and Expertise
4. Regulatory Policies and Structures
The Plan Has Recommendations in Every Energy Sector

- For a highlight of the recommendations in the Draft Plan, please visit: vtenergyplan.vermont.gov
  And click on “Public Hearing Informational Slideshow”

- Reviewing all comments received and will revise.
The Plan Has Recommendations in Every Energy Sector

Two Highlights:

• Efficiency: Focus on thermal. Task working group with delivery of report and draft legislation targeted at program delivery, ease of access, and finance/funding. Learn from significant ARRA investment projects now in final year, and successful programs like NeighborWorks of Western Vermont.

• Transportation: Efficiency. Electric Vehicle challenge: infrastructure and funding. It is not too early to task us with work on this subject so that we are at the forefront, not playing catch-up in 5 to 10 years.
Other Highlighted Actions...

Total Energy Standard

- Motor Gasoline: 25.52%
- Ethanol: 12.87%
- Fuel Oil Heating and kerosene: 11.53%
- Hydro Quebec Electric: 15.27%
- Natural Gas Electric: 0.06%
- Oil Electric: 3.98%
- Biomass: 0.31%
- Natural Gas - heat & other: 5.64%
- Non HQ Hydro Electric: 1.74%
- System Electric: 4.13%
- Renewable - Other: 0.64%
- Diesel-transportation: 5.37%
- Jet Fuel: 1.89%

Farm Energy Programs

State of Vermont Energy Leadership
Implementing the CEP

Recognizing the intersection of all energy usage:
• Climate Cabinet charged with oversight for executive branch

Presentation to the Legislature in January 2011:
• List of possible legislative actions or changes

Regional Planning Commissions & Town Energy Committees:
• Forums for RPCs and Energy Committee review and local action

Review, Revise, Repeat – Energy Policy and Progress is Dynamic
Thank you for inviting me...

For more information regarding the energy plan, go to:
www.vtenergyplan.vermont.gov

Thanks to Agency of Transportation, Agency of Natural Resources, and Agency of Commerce & Community Development for slides and data

Elizabeth Miller
elizabeth.miller@state.vt.us
802-828-2321