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.

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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.**

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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

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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…

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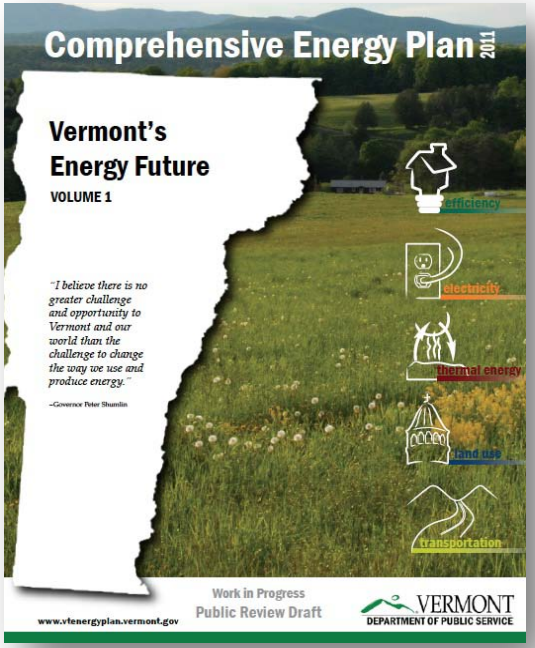
Content Overview



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

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Vol 2: Facts, Analysis & Recommendations

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Appendices

Forest Management for Bio-Energy

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Department of Health
Agency of Human Services

Public Health Assessments and Energy Planning

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Appendices

BGS
BUILDINGS & GENERAL SERVICES
WORKING TOGETHER TO SERVE VERMONT

State Agency Action Plan

Optimal ENERGY *Integrated Energy Resources*

Economic Impacts of Energy Efficiency Investments

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Appendices

Institute for Energy and the Environment
VERMONT LAW SCHOOL

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

Synapse
Energy Economics, Inc.

Electricity Scenario Analysis
for the
Vermont Comprehensive Energy Plan 2011

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Where Are We Now?

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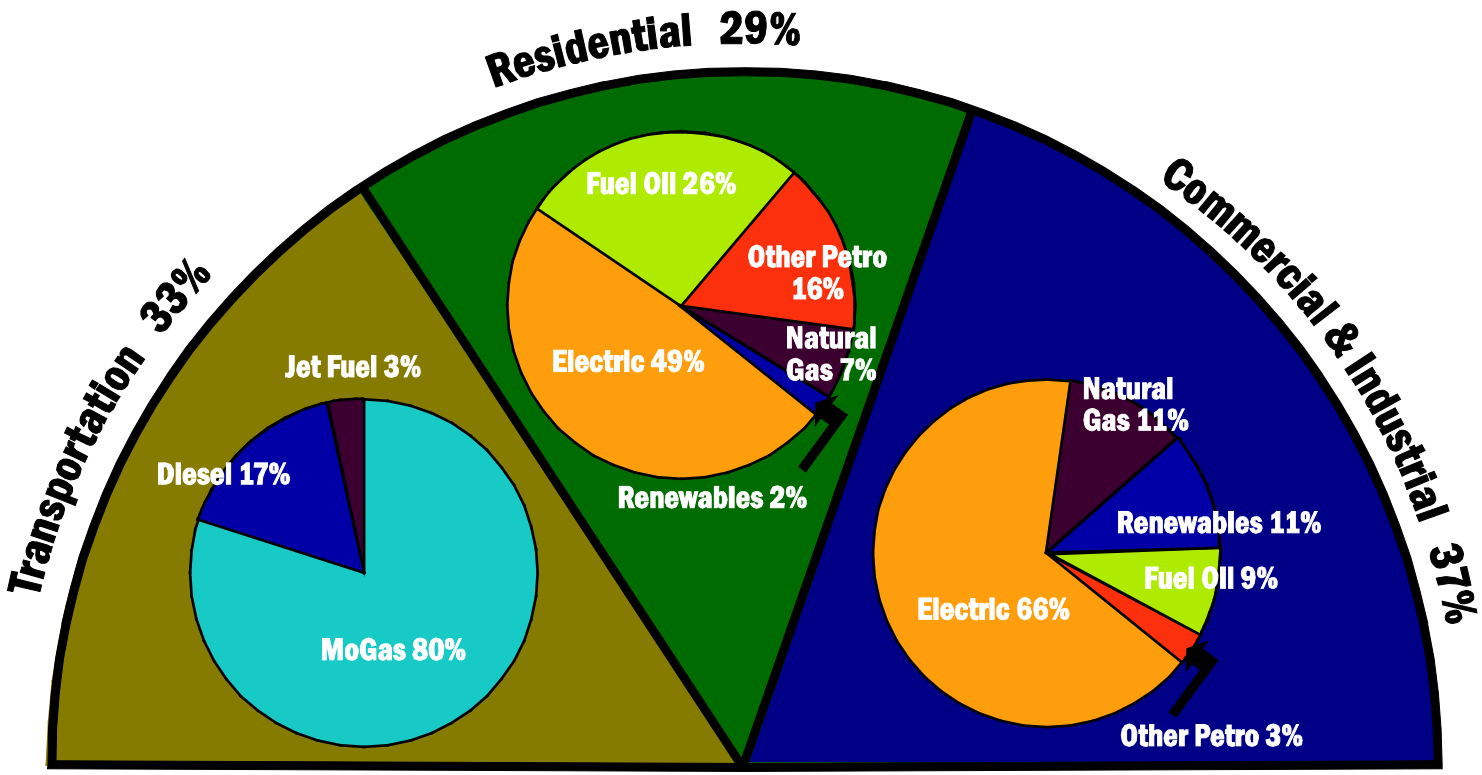
Vermont Total Energy Use by Sector

(percent of total BTUs consumed, 2008)



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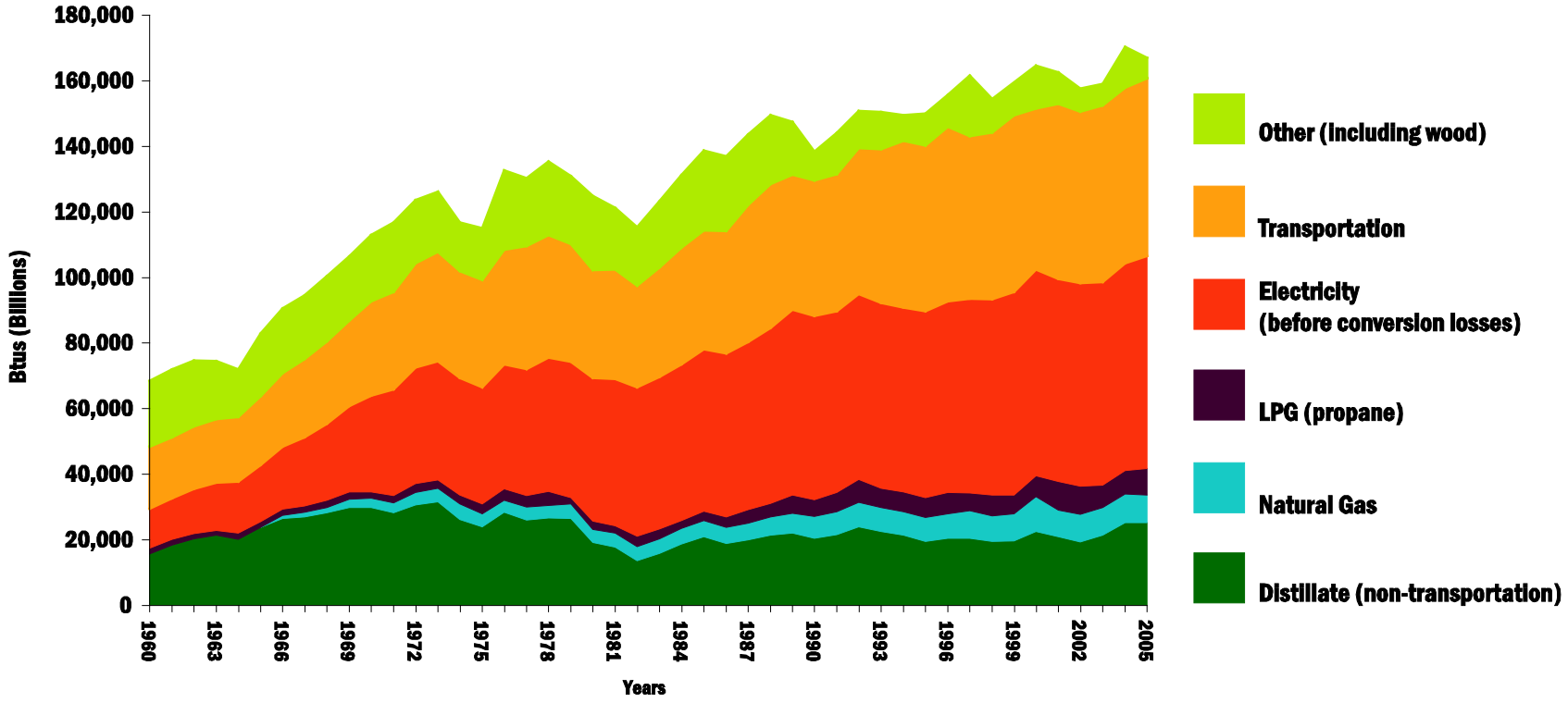
Total Energy Usage Has Increased



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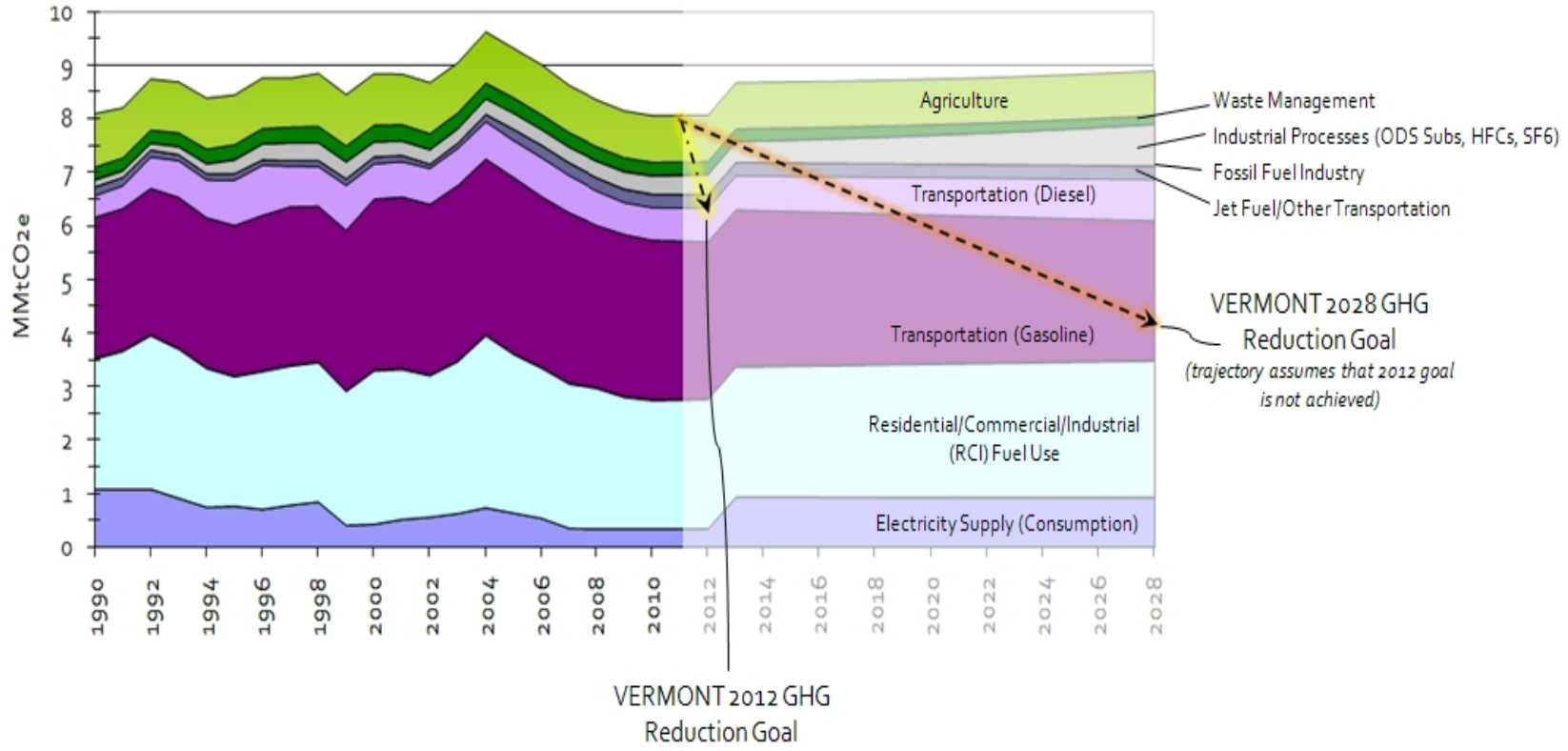
VT GHG Emissions (MMTCO2e)



Source: VT ANR 2010

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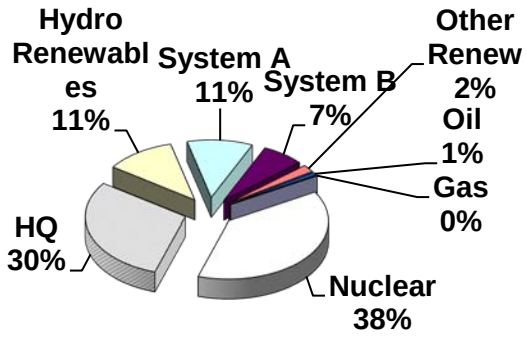
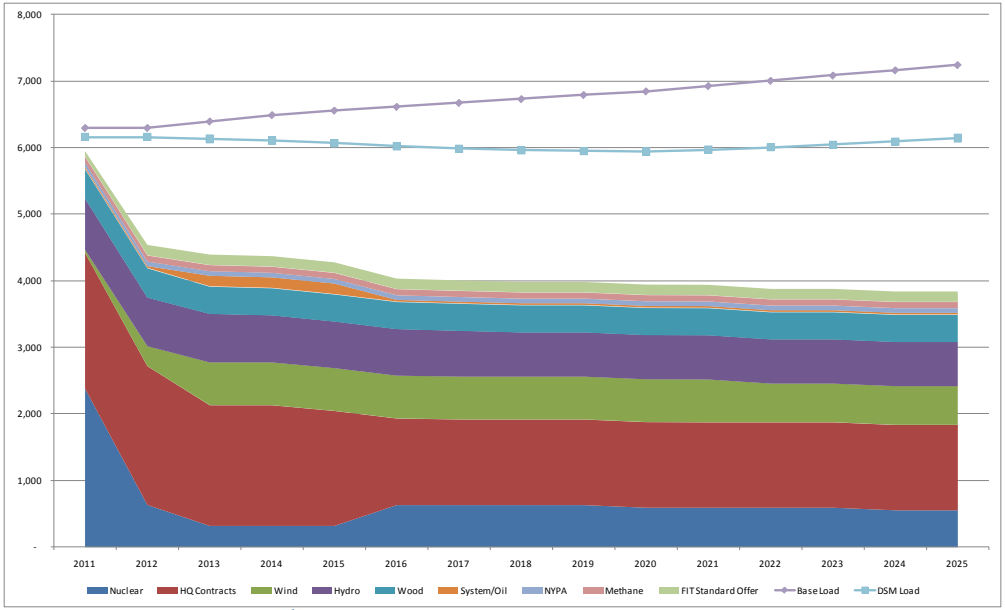


Current Electric Supply

Available Space to Meet Need



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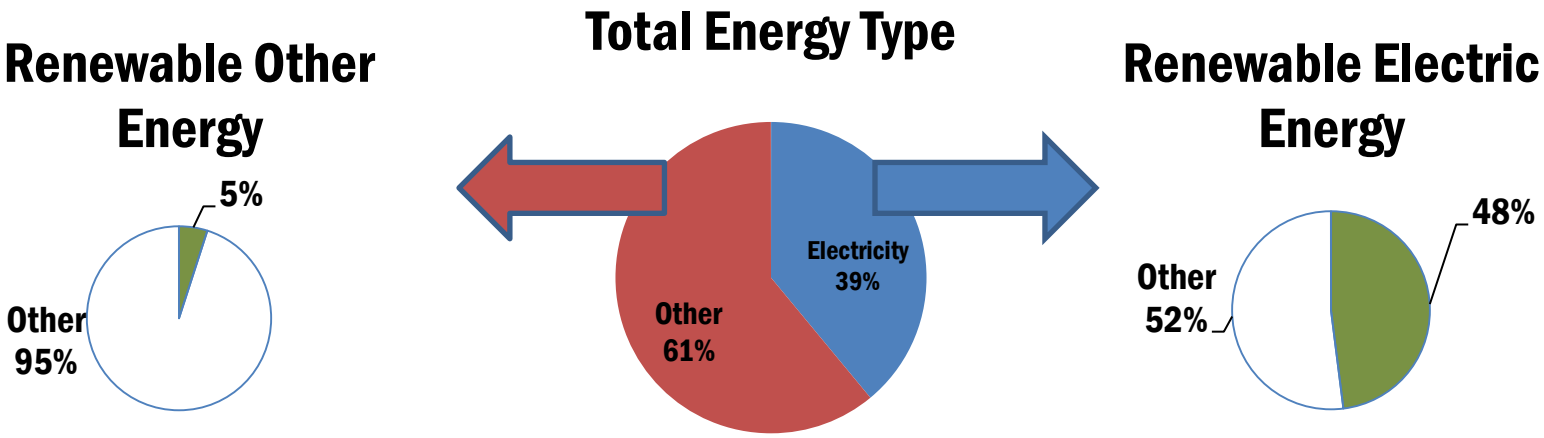
Vermont Renewable Energy Usage



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

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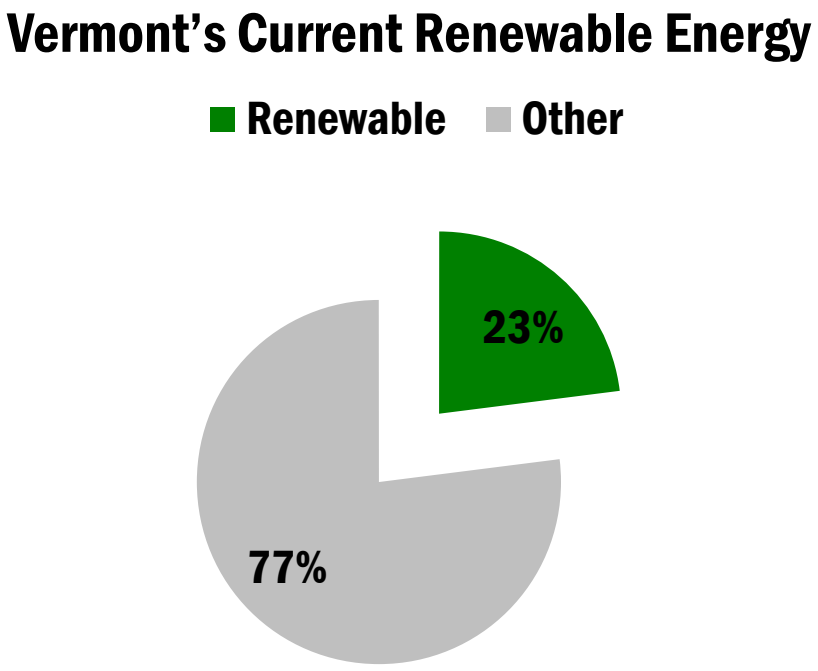
Total Renewable Energy



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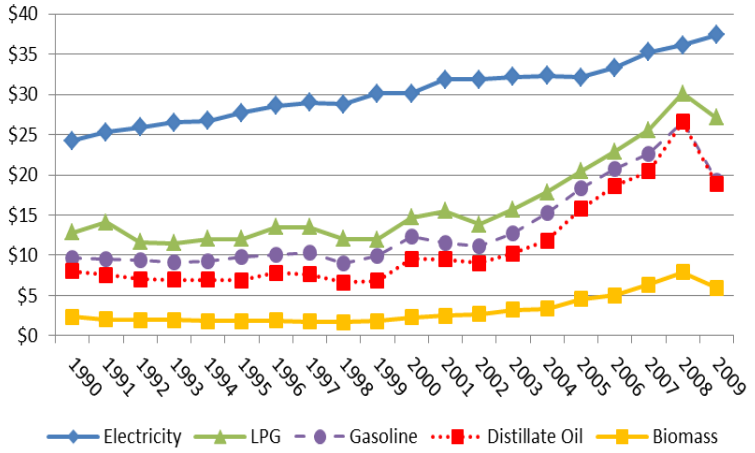
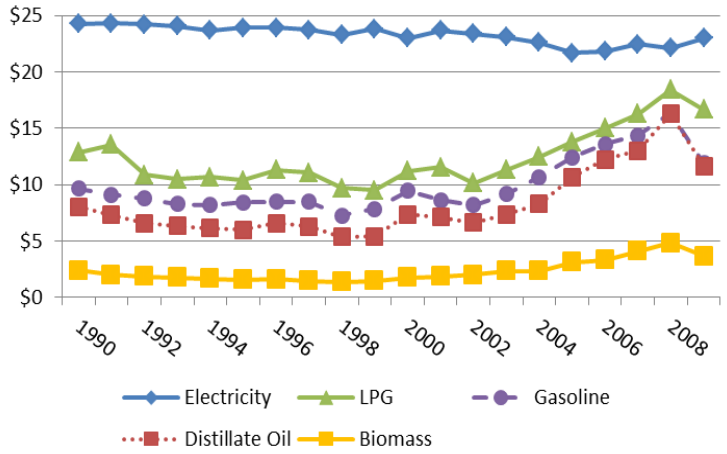
Energy Costs

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.

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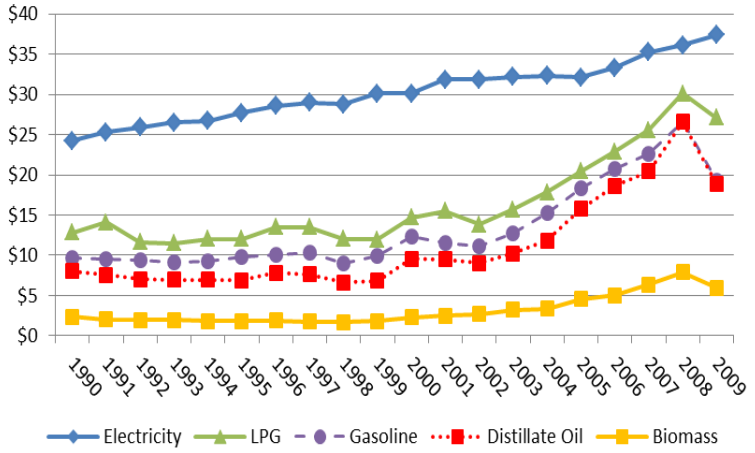

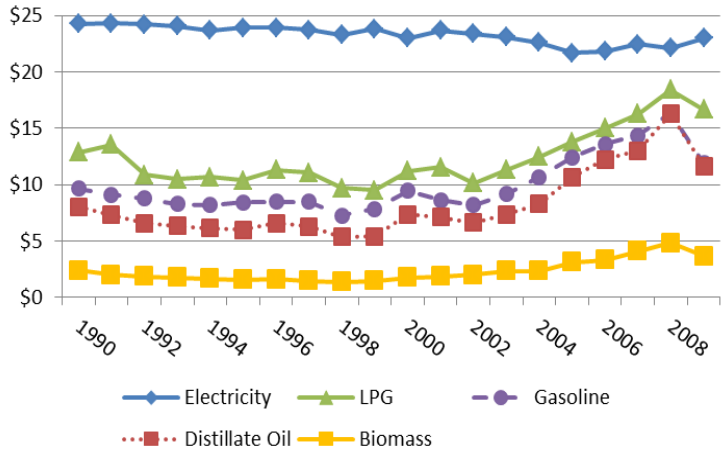

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Efficiency Is The Least Costly Way To Fulfill Our Energy Needs

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

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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%)**

Surface Transportation Policy Project, 2003.
"Driven to Spend: A transportation and Quality of Life Publication."

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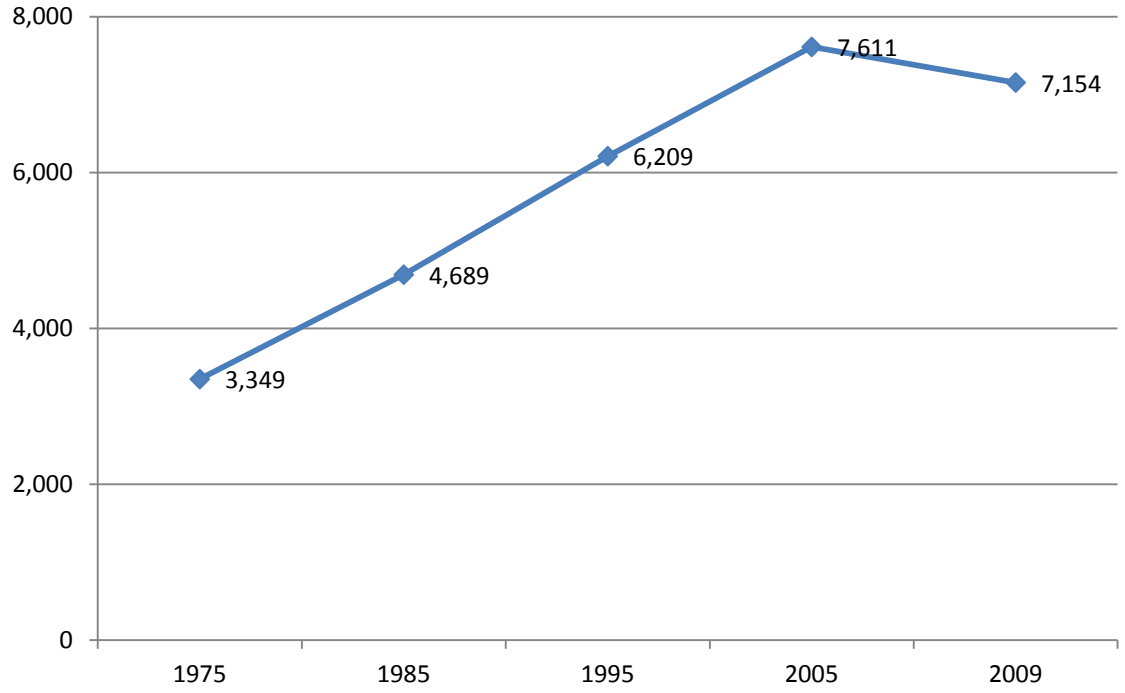
Transportation Costs Vermonters and Our Environment



Vermont Annual Vehicle Miles Traveled, in millions, 1975-2009

Vehicle Miles Traveled have increased dramatically in the last 30 years

Source: Vermont Agency of Transportation Highway Research VMT Report

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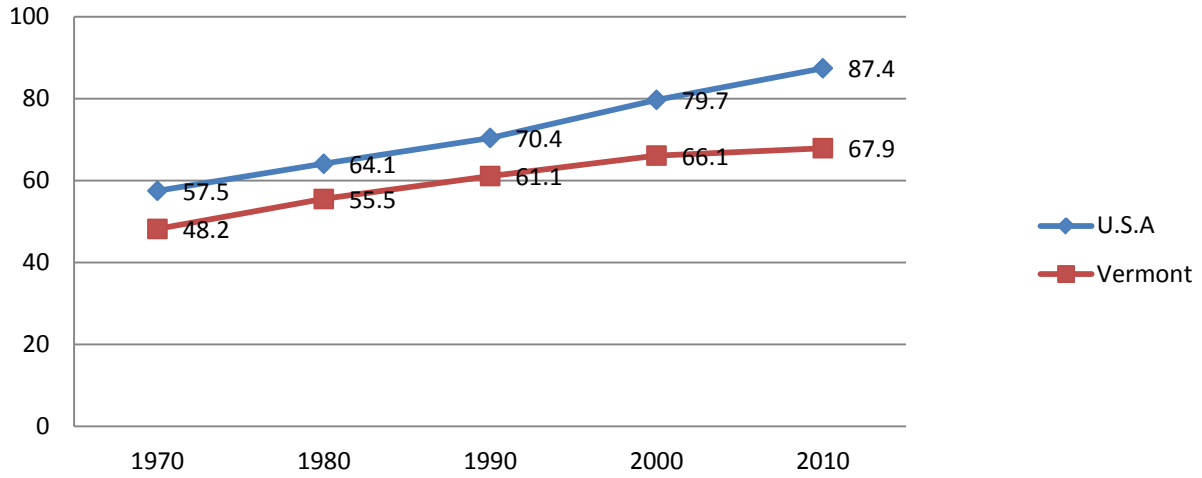
Land Use and Energy Impact



Population density, Vermont vs. US, 1970-2010, U.S. Census

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

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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

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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?

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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?

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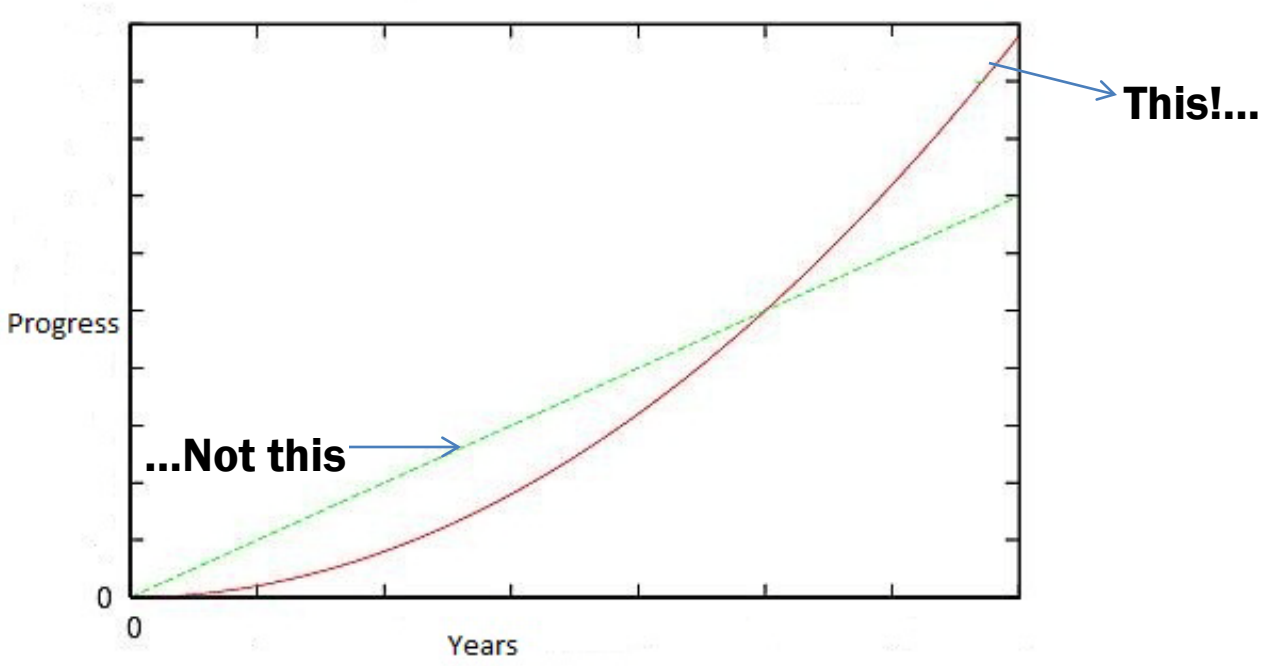

Set Goals and Policies Now To Achieve Progress Over Time…

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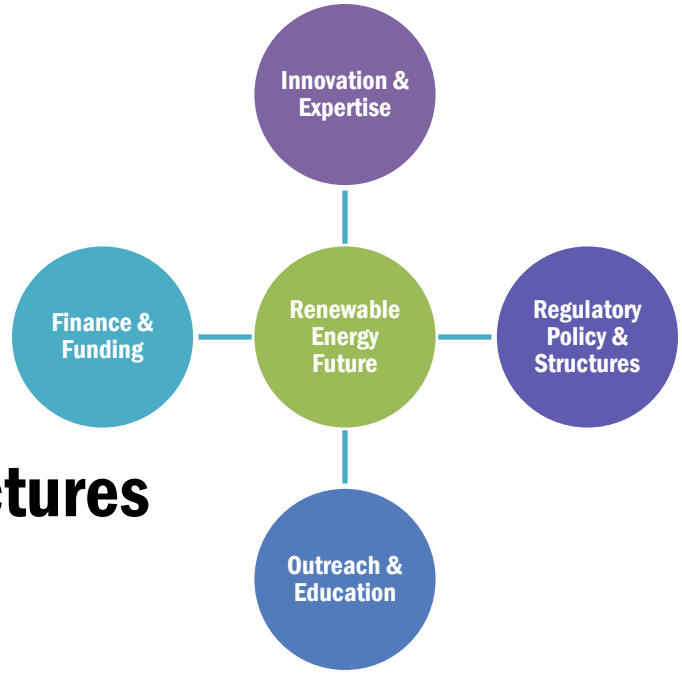
How Will the Goal Be Achieved?

Concerted Planning and Integrated Action Create Momentum:

1. Outreach and Education
2. Finance and Funding
3. Innovation and Expertise
4. Regulatory Policies and Structures



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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.**

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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.**

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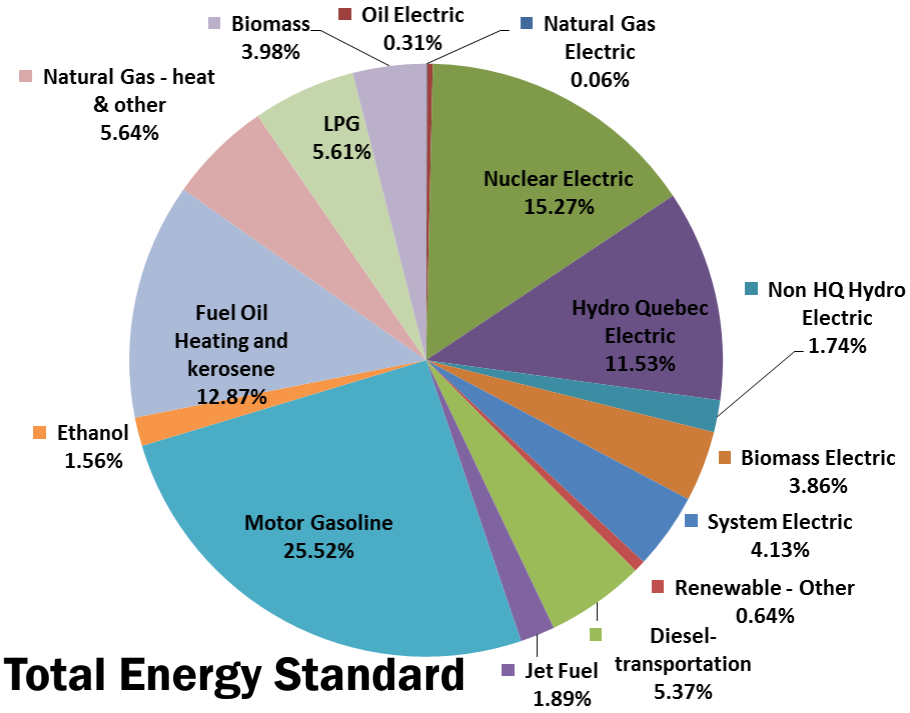
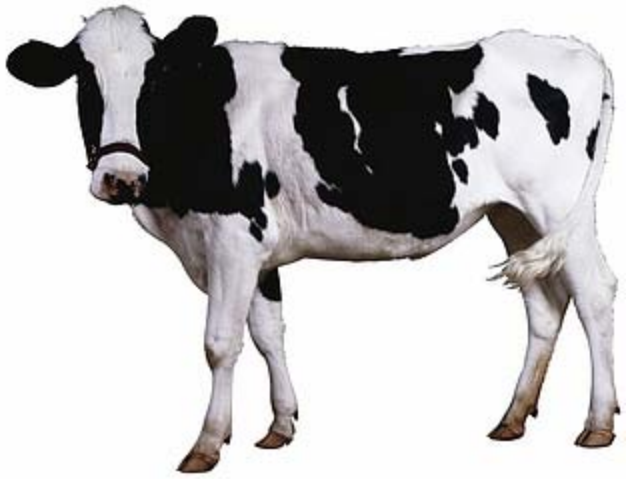
Other Highlighted Actions…



Total Energy Standard



Farm Energy Programs

State of Vermont Energy Leadership

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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

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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

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