

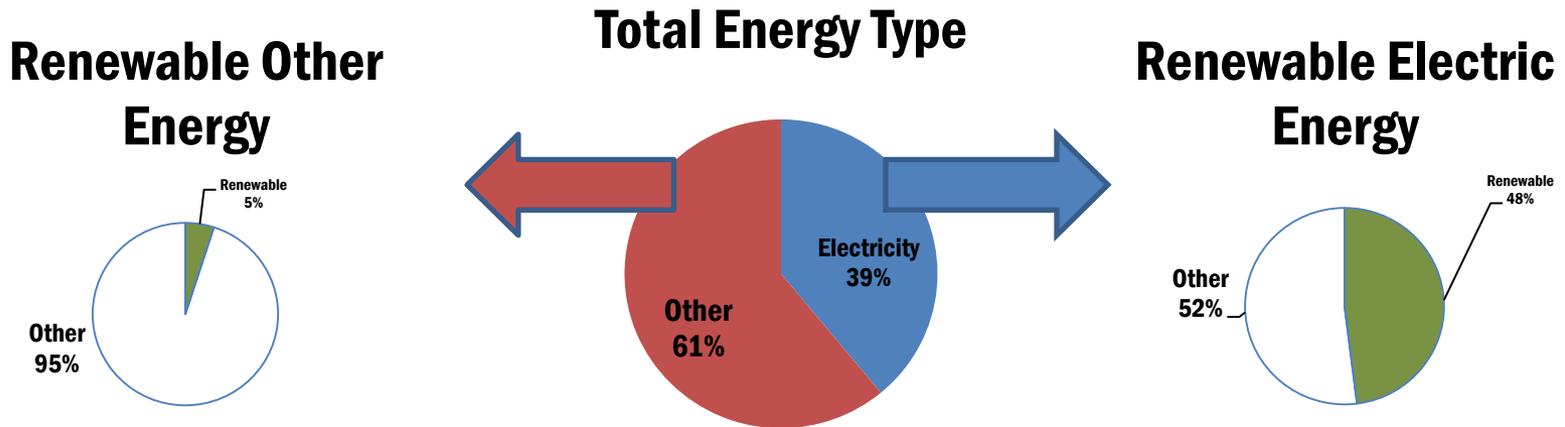
Comprehensive Energy Plan

Vermont's Energy Future

Community Energy &
Climate Action
Conference



Vermont Renewable Energy Usage



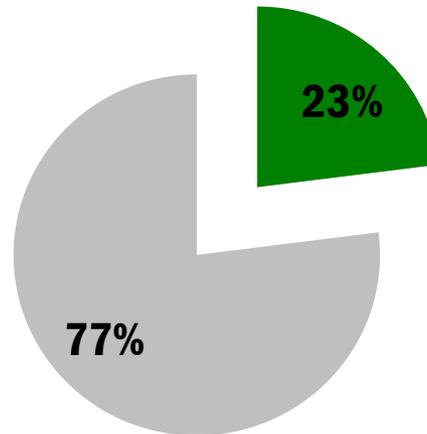
48% of electricity is currently from renewable sources, including HQ hydro and projects with RECs sold out of state

Transportation and thermal are both heavily dependent upon fossil fuels

Total Renewable Energy

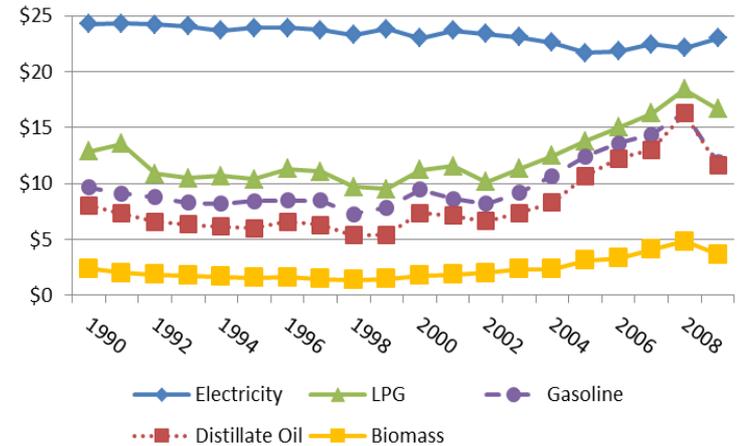
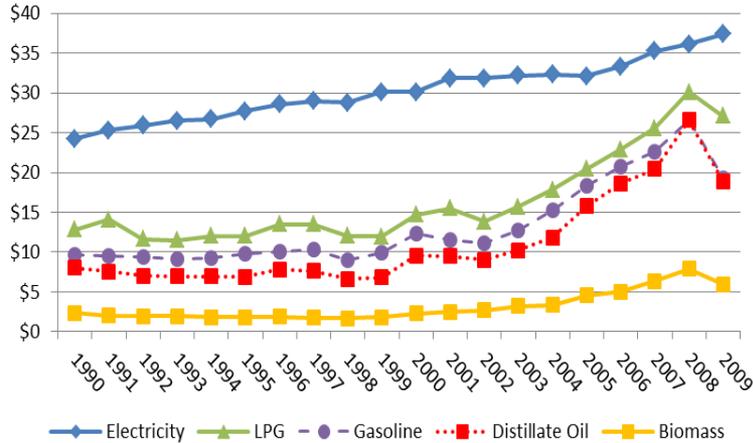
Vermont's Current Renewable Energy

■ Renewable ■ Other



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.

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

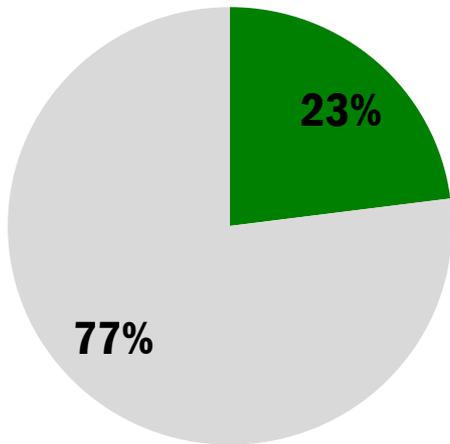
2011: ~ 23% renewable  **2050: 90% renewable**



What Is Our Long-Range Goal?

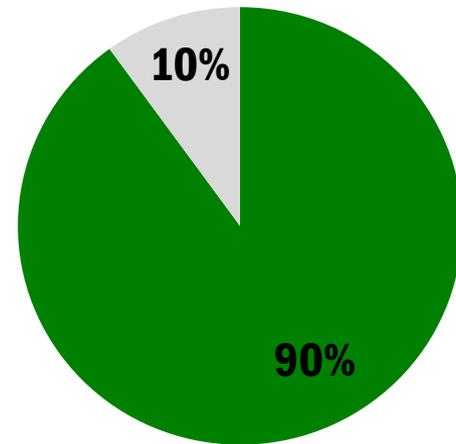
2011

■ Renewable ■ Other



2050

■ Renewable ■ Other



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**



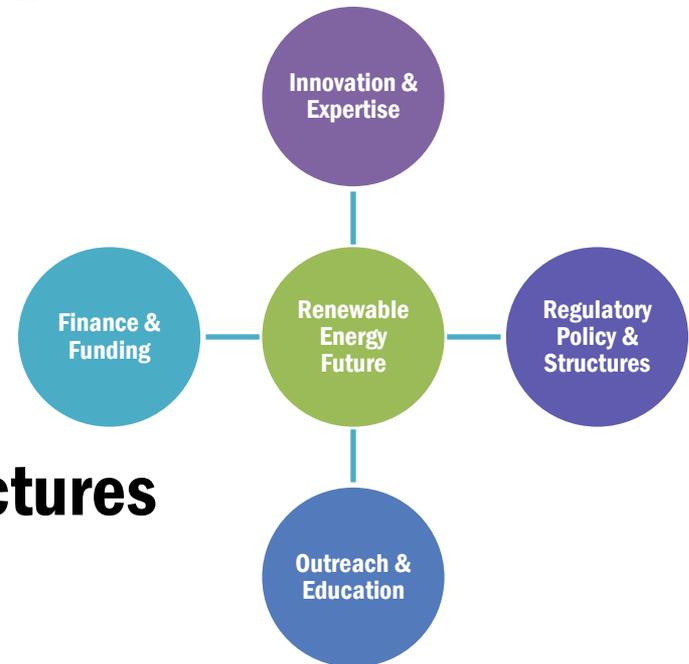
How Will the Goal Be Achieved?



How Will the Goal Be Achieved?

Concerted Planning and Integrated Action Create Momentum:

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



Transportation

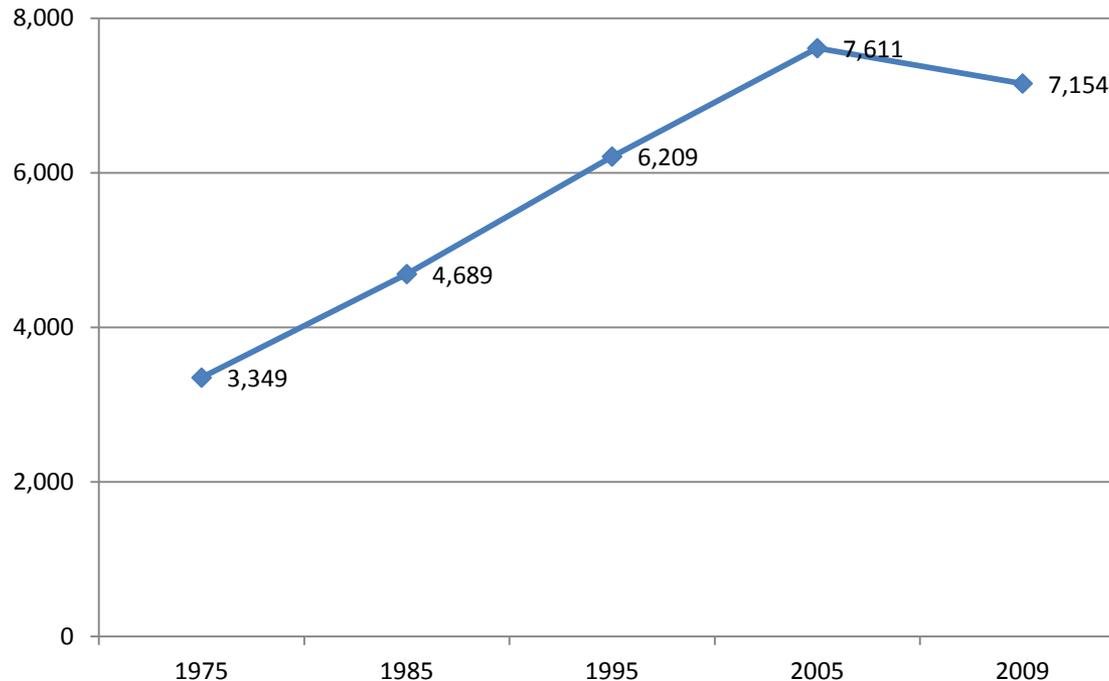
- **Nationally, transportation costs account for 21% of all household expenses**
- **Most Vermonters spend *more* than the national average**
- **Many Vermonters spend more on driving than health care, education, or food**
- **Driving is Vermont's single largest GHG source (more than 40%)**

Surface Transportation Policy Project, 2003.

"Driven to Spend: A transportation and Quality of Life Publication."



Transportation Costs Vermonters and Our Environment

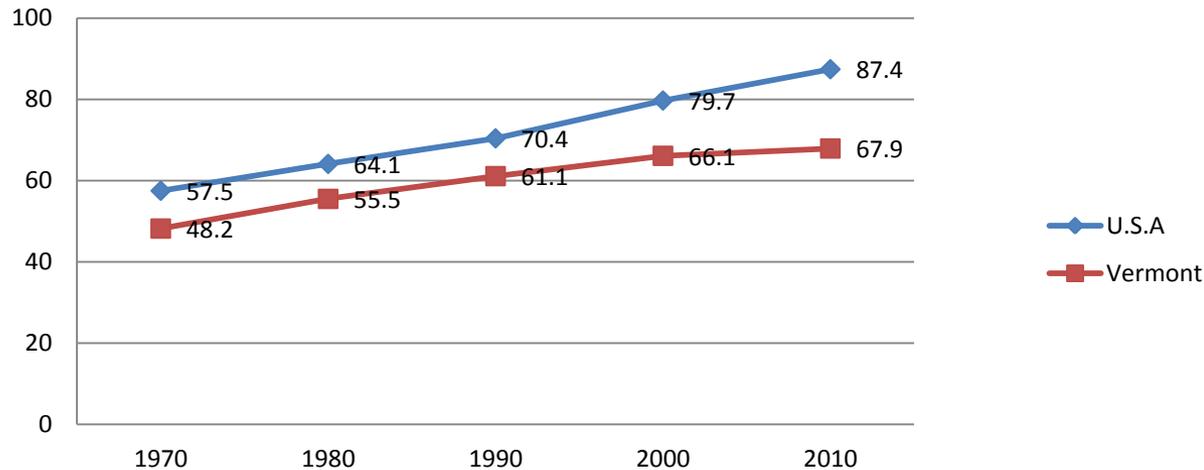


Vermont Annual Vehicle Miles Traveled, in millions, 1975-2009

Vehicle Miles Traveled have increased dramatically in the last 30 years

Source: Vermont Agency of Transportation Highway Research VMT Report

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 23 designated downtowns

The 2010 Census shows that many of our 23 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

How We Grow Matters...



Strategies by Energy Sector



Transportation: A Major Energy Challenge For The Next Generation

Highlights of Transportation Recommendations

Transportation represents our:

Largest Cost

Greatest Use of Fossil Fuels

Highest Contributor to GHGs



Highlights of Transportation Recommendations

• **Key to setting a 90% renewable by 2050 goal is ability to transition transportation to renewable electricity - requires many policy changes**

Financing Vehicle Charging Infrastructure Technology/Cost

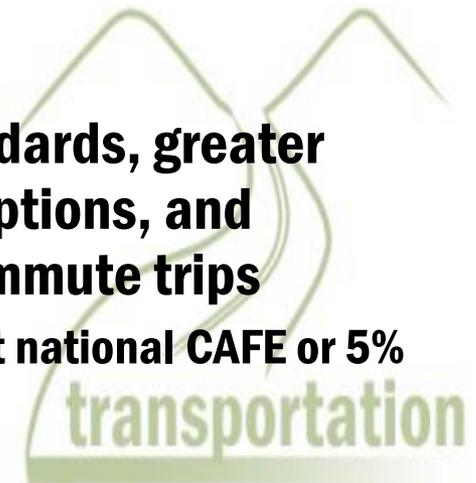
Sets metrics based upon achieving 25% renewable in transportation by end of 20 years – an ambitious lens for planning.

• **We must also continue to push for better fuel standards, greater access to commuter facilities and transportation options, and reduction in number/length of single-occupant commute trips**

• **Determine VT-registered CAFE and then set goal to meet national CAFE or 5% improvement in state CAFE (whichever greater) by 2025**

• **Triple Park & Ride spaces in 20 years**

• **Reduce single-occupant commute trips by 20% in 20 years**



Strategies by Energy Sector

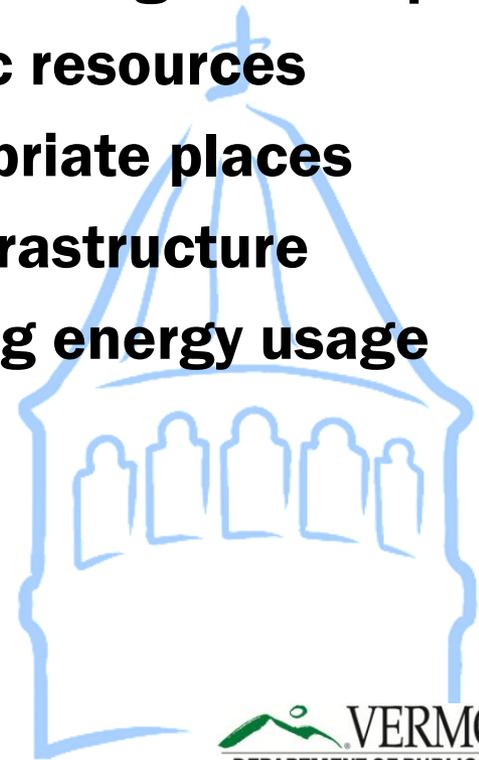


Land Use: Lowering Energy Use And Fostering Our Communities

Highlights of Land Use Recommendations

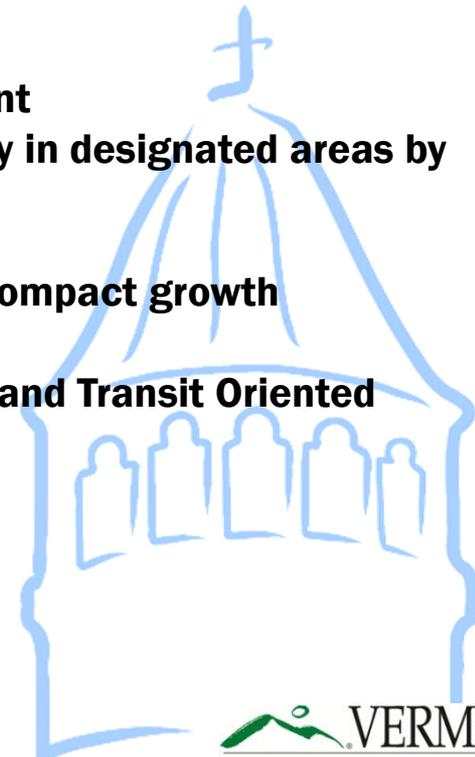
Land Use Programs are intended to help...

- **Preserve rural character and the working landscape**
 - **Conserve natural and historic resources**
 - **Support development in appropriate places**
 - **Invest efficiently in public infrastructure**
- ...All with the benefit of improving energy usage**



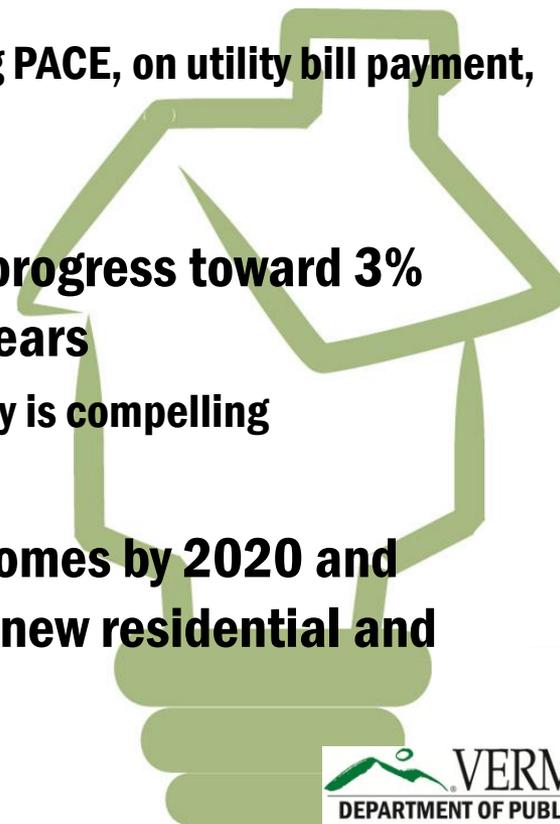
Highlights of Land Use Recommendations

- **Foster better coordination with Regional Planning Commissions and Energy Committees**
- **Improve State Designation Programs:**
 - **Finish recommendations by July 2012 and implement**
 - **Measure success in next census – increased density in designated areas by 2020**
- **Coordinate state incentives and programs to align with compact growth**
- **Develop specific training programs for Complete Streets and Transit Oriented Design:**
 - **Hold three workshops in 2012**

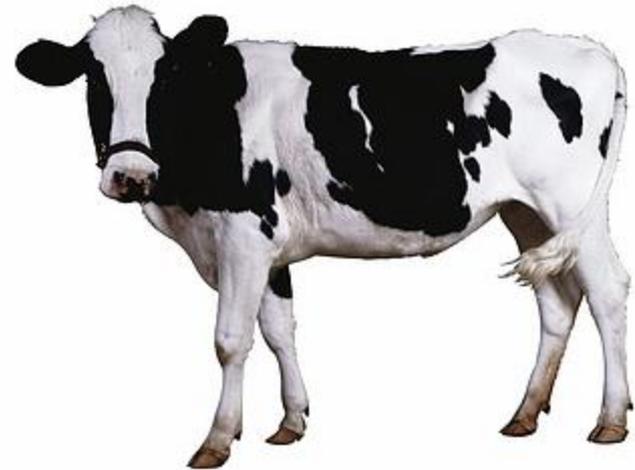
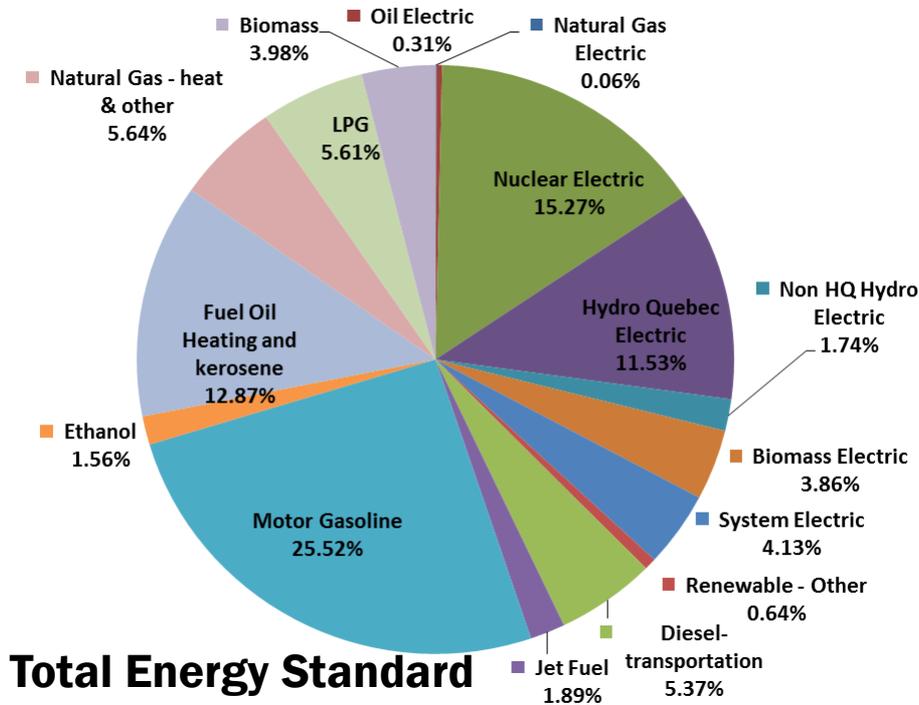


Highlights of Electric and Thermal Efficiency Recommendations

- **Whole Building Roadmap by the end of 2012**
 - **Consumer delivery – ease and accessibility**
 - **Funding and finance mechanisms, including PACE, on utility bill payment, public financing tied to fuel source**
- **Electricity: Continue steady yet robust progress toward 3% savings annually, greater than in past years**
 - **The economic case for electric efficiency is compelling**
- **Thermal: Double % of new EnergyStar homes by 2020 and encourage path to net zero by 2030 for new residential and commercial construction**



Other Highlighted Actions...



Farm Energy Programs



**State of Vermont
Energy Leadership**



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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