

# **New Hampshire's Climate Action Plan**

***An Opportunity to Leverage Social,  
Economic and Ecological Benefits  
through Coordinated Planning***

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# Overview

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- New Hampshire's Changing Landscape
- New Hampshire's Energy Dependence
- New Hampshire's Changing Climate
- Opportunities to Address All Three



# Current New Hampshire Land Use Patterns

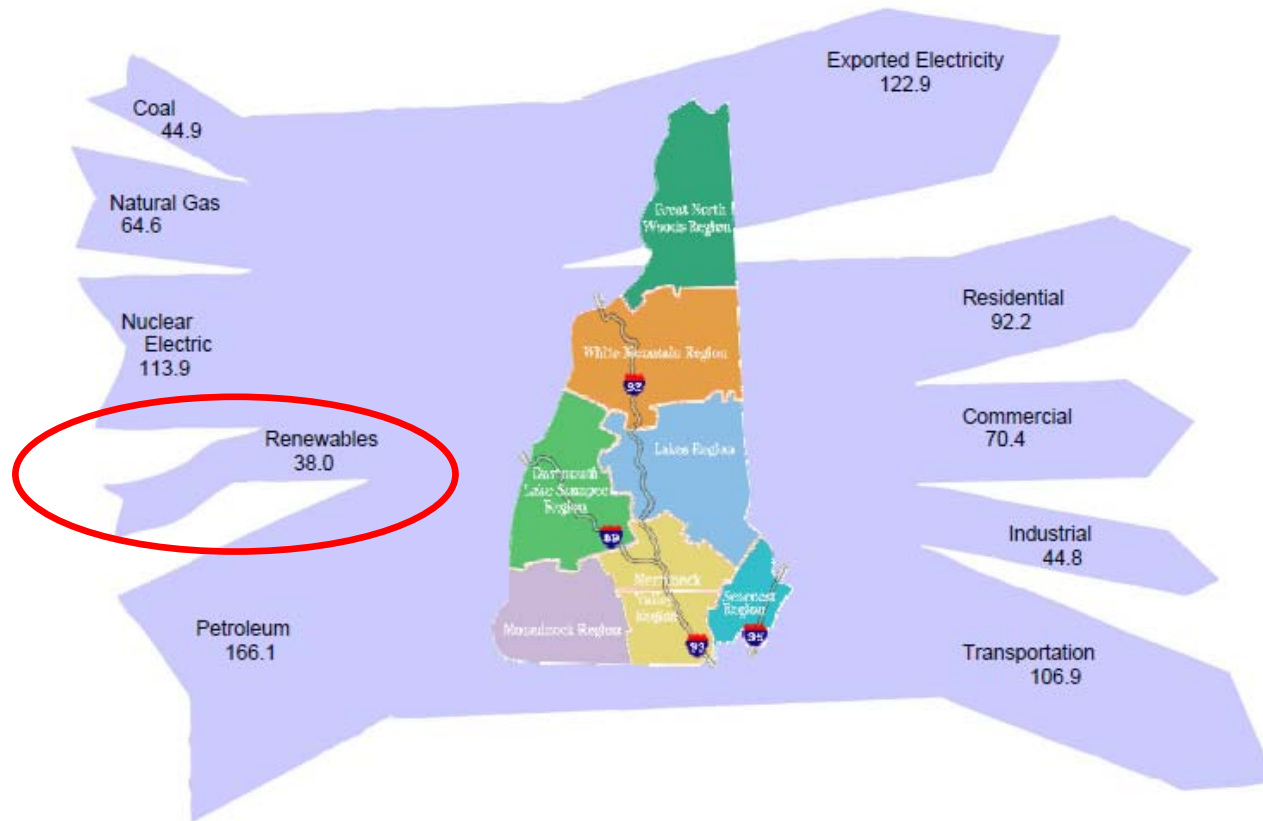
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- Rapidly growing small towns
- Scattered development
- Dispersing population
- Increasing rate of land consumption
- Segregated land uses
- Lack of activity centers
- Poor accessibility



# NH Energy Inputs & Consumption

NH Energy Sources and Uses - 2007  
All Units in Trillions of British Thermal Units (TBtu)



# Environmental Impacts of Energy Consumption

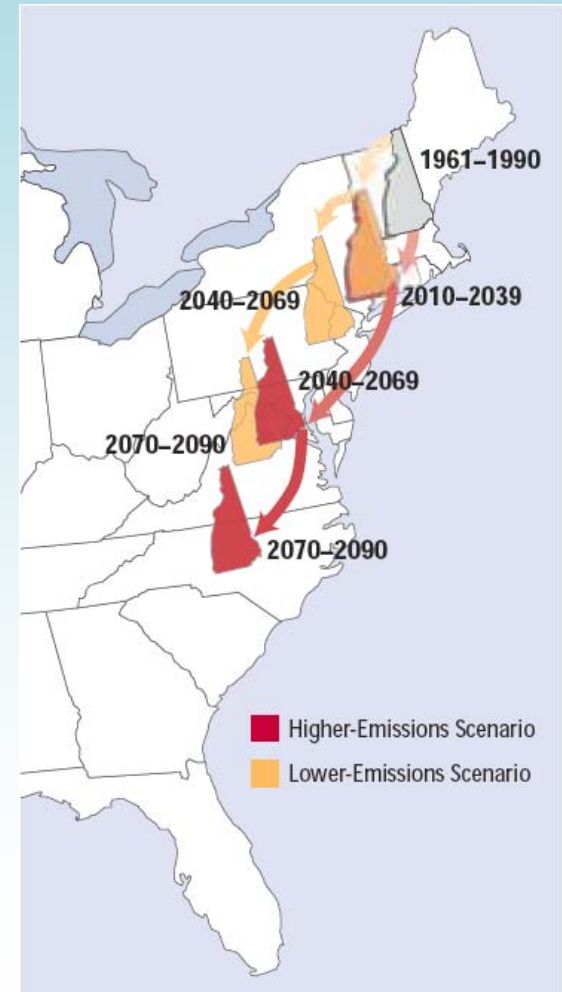
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- Impacts of electricity generation from fossil fuel use still exist, including, but not limited to:
  - Mercury
  - Acid deposition (e.g., NO<sub>x</sub>, SO<sub>x</sub>)
- Practically all energy sources have potential environmental impacts, either direct or indirect
- Climate change is a new and serious threat

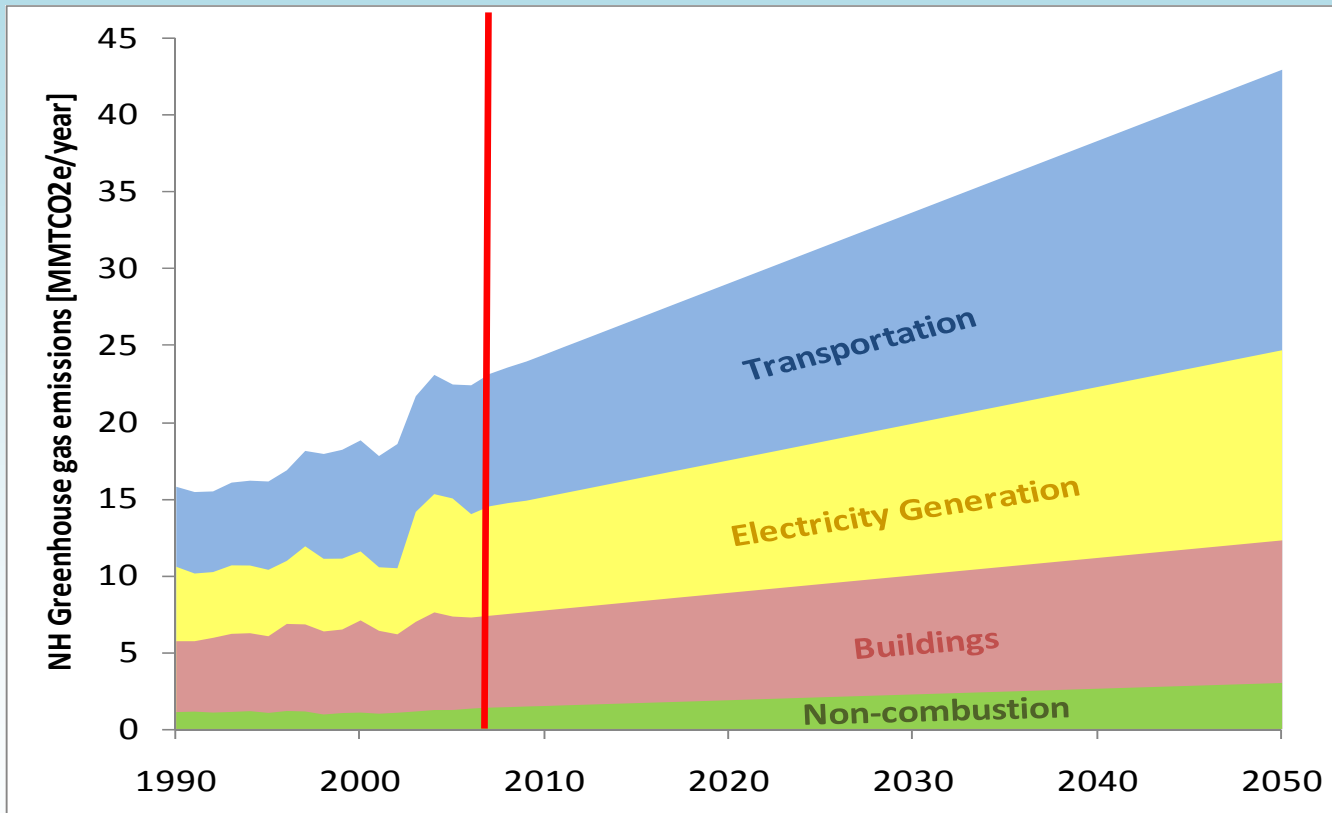
# Climate Change Impacts in the Northeast

- More precipitation
- More frequent extreme precipitation
- Winter warming
- Decreased snowfall
- Fewer days with snow on ground
- Lake ice out dates earlier
- Earlier spring runoff
- Extended growing season
- Sea-level rise

Hodgkins et al., 2002; 2003; Wolfe et al., 2005;  
Wake and Markham, 2005; Wake et al., 2006



# Greenhouse Gas Emissions Projections



Historical data from EPA

Business as Usual (BAU) estimates from CSNE



# NH Climate Action Plan

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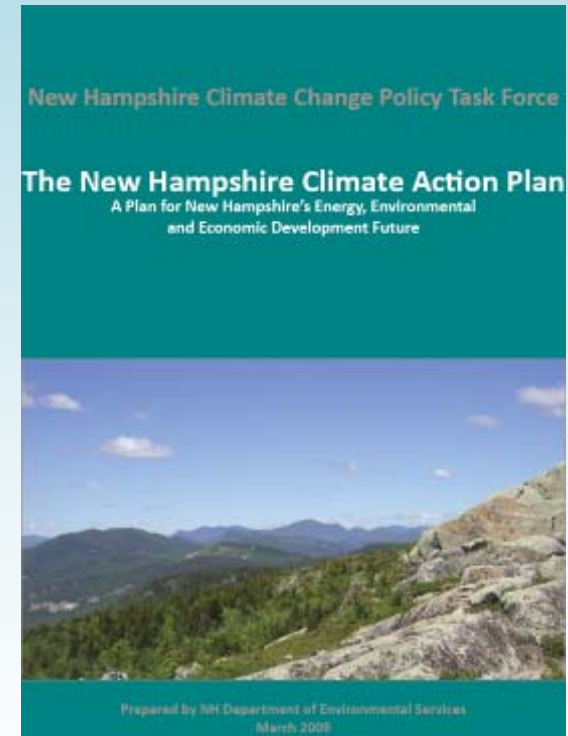
## The Plan

- Plan completed in March 2009

## The Goals

Reduce greenhouse gas emissions:

- 20% below 1990 levels by 2025  
[ 44% below 2005 levels by 2025 ]
- 80% below 1990 levels by 2050





# NH Climate Action Plan

## Overarching Strategies

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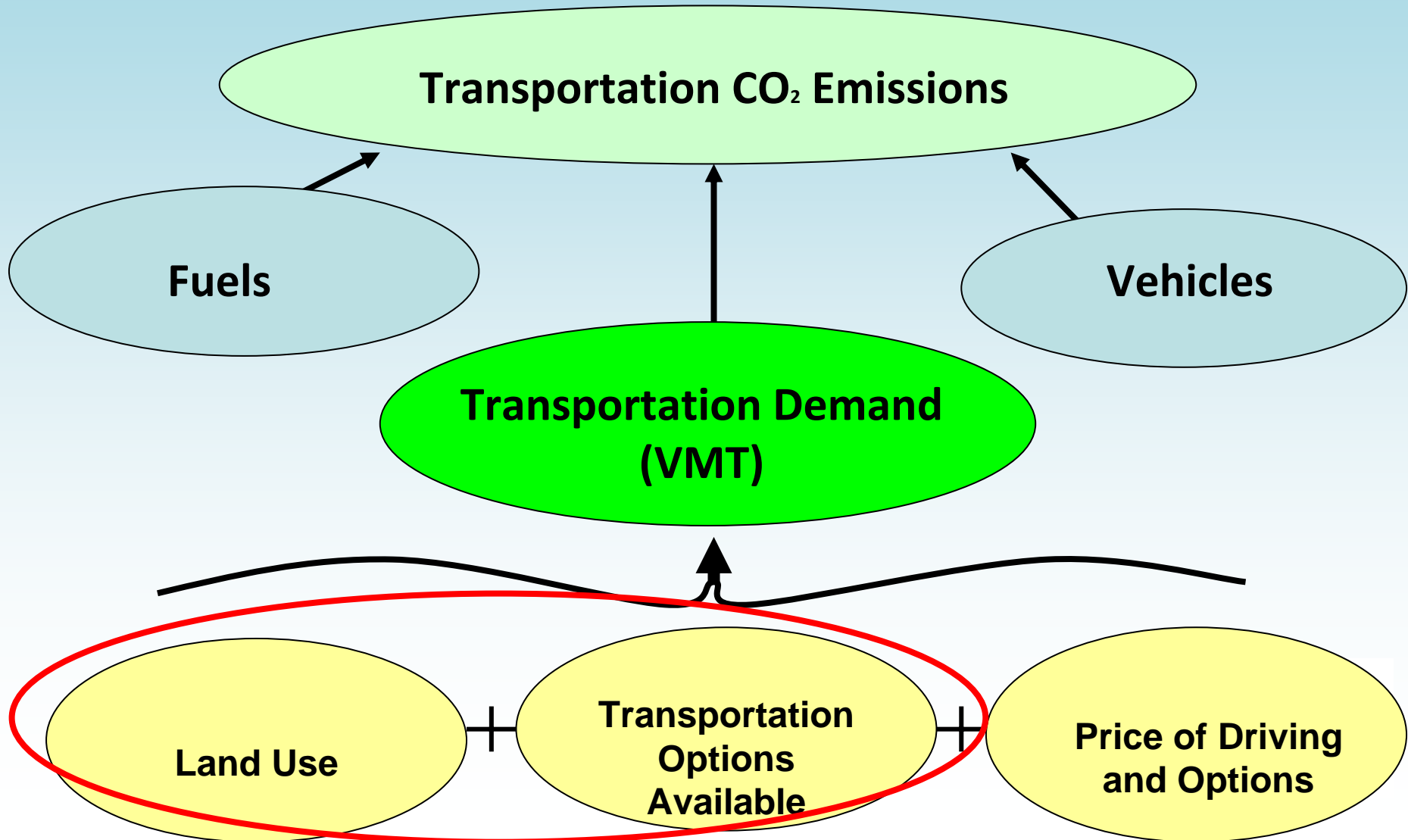
1. Maximize energy efficiency in buildings and transportation;
2. Increase renewable and low-emitting heat and electric power sources;
3. Protect our natural resources to maintain the amount of carbon sequestered;
4. Develop an integrated education, outreach and workforce training program; and
5. Adapt to existing and potential climate change impacts.



# Greenhouse Gas Emission REDUCTIONS

## Transportation Sector

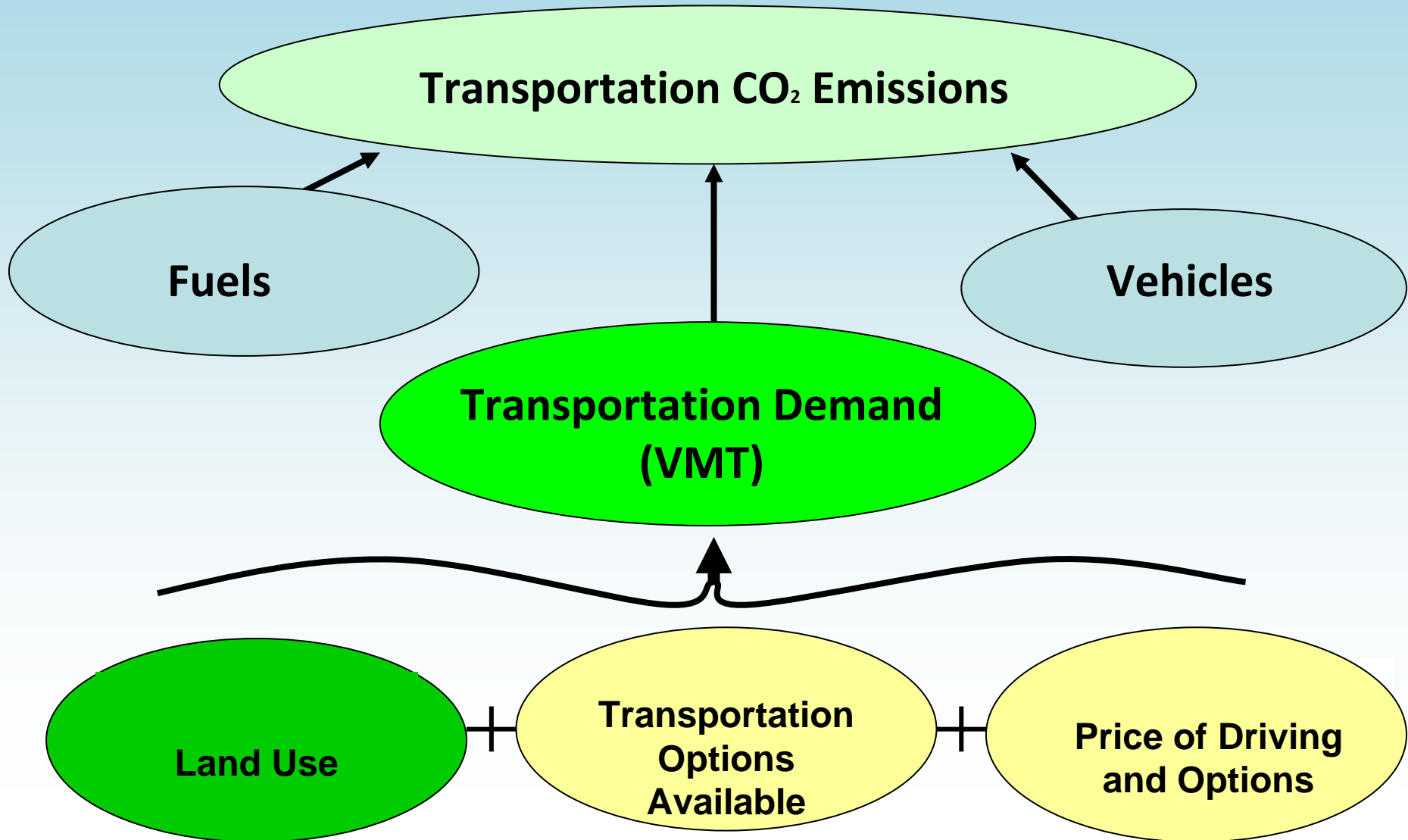
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# Greenhouse Gas Emission REDUCTIONS

## Transportation Sector

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# Desired Land Use Conditions

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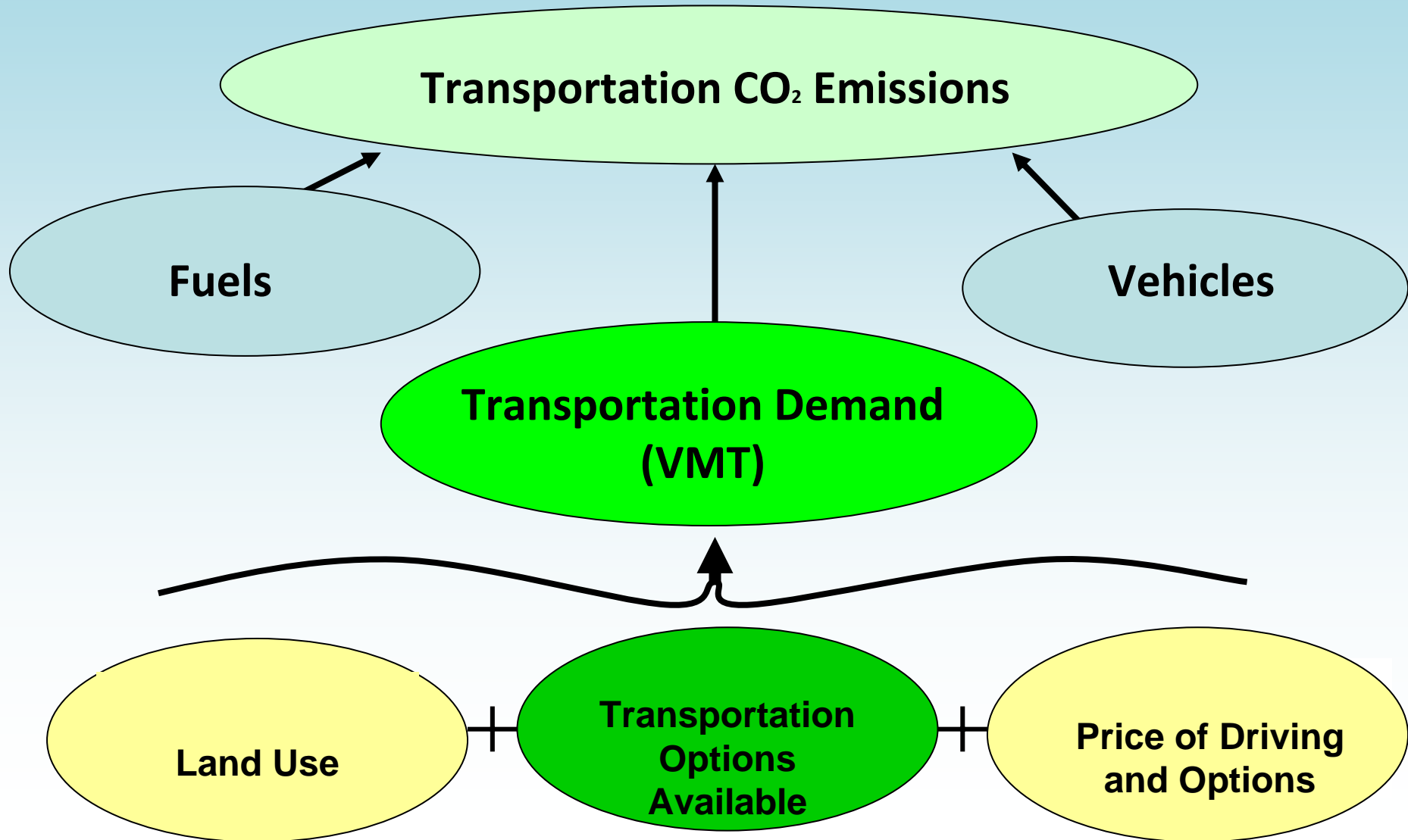
- Open space preservation
- Higher density development
- Concentrated activity centers
- Mixed use development
- Pedestrian oriented design
- Increased density near transit



# Greenhouse Gas Emission REDUCTIONS

## Transportation Sector

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# Desired Transit Outcomes

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- Expand existing transit availability
- Increase transit options
- Increase connectivity and accessibility of transportation system



# Addressing Climate Change Impacts

Newmarket, NH  
May 2006



*Fosters Daily Democrat photos*



# Desired Adaptation Outcomes

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- Facilitate early responses/avoided impacts
- Enhance communities' resistance to change
- Promote resilient communities





# Potential Planning Community Role

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- Technical Assistance
  - Master Plan Energy Chapter Development
  - Land Use and Energy Policy Audits
- Network Development
  - Engage diverse partners
  - Outreach & Education

