

Low Carbon Transportation Committee

NC Energy Policy Council

March 18, 2010

Legislation Low Carbon Transportation Committee Recommendations

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Low Carbon Transportation Committee Recommendations

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 - Legislation
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Mission

Enhance the transportation system and its efforts to move toward a low carbon and clean energy state.

Strategic Approach

- Reduce the demand for roadway space by influencing travel choices and time of travel.
 - Less highway construction: more and bigger highways leads directly to increased vehicle miles traveled.
 - Policies may produce modal switches to lower-emission means of travel, and/or decrease the total amount of travel.
- Reduce greenhouse gas emissions per vehicle mile traveled.
- Reduce the carbon intensity of fuels.

Strategic approach

- Create opportunities for long term low carbon transportation industry
 - Keep all options open to use of *Alternative Fuels*
 - Keep all options open to the use of *Alternative Vehicles*
 - Create incentives for private innovation and creativity

Transportation Policy

Recommendations

Executive Orders

- Establish a Governors task force/cabinet level/interagency team to coordinate current efforts, remove barriers and accelerate clean transportation (low carbon) technologies and practices.
- Executive Office and Cabinet Agencies should establish an annual recognition and incentive programs to reinforce the importance of Petroleum Displacement Plan (PDP)/low carbon transportation. Compliance with the PDP's 20% reduction requirement should be emphasized.



Executive Orders

The Secretary of Transportation should add a Transportation and Low Carbon/Land Use Planning working group to focus on effective coordination of energy efficiency and energy conservation initiatives.

Implementation of Legislation

- H1079 Energy Efficient State Motor Fleet: Sponsors: Harrison, Martin, Tillison, Samuelson. Status: **Ratified by 2009 General Assembly**
- *Summary: Requires that every request for proposals for new passenger motor vehicles to be purchased by the Department of Administration must state a preference for vehicles that have a fuel economy for the new vehicle's model year that is in the top 15% of its class of comparable. Excludes vehicles used in law enforcement, emergency medical response, and firefighting.*
- *Action Needed: Implementation and Enforcement*

Other 2010 Programs

- **The following Energy Efficiency Programs should be strongly encouraged:**
 - Synchronization of traffic signals.
 - Replacement of traffic signals and street lighting with energy efficient lighting technologies, including LEDs.
 - Installation of solar panels on interstate right of ways to conserve energy in highway operations and maintenance activities.

2010-11 Recommendations

Reducing demand for roadway space.

Set as a goal reducing the demand for highway space through a combination of the following:

- increasing modal options for travelers,
- improving the integration of land use and transportation planning,
- building fewer new roads, and
- prioritizing new transportation projects using a consistent standard that takes account of greenhouse gas emissions.

2010-11 Recommendations

- Evaluate feasibility of increasing state funding for the Intermodal Transportation Fund, established in 2009 by S.L. 2009-527. .
- Assess personnel staffing that is needed to meet goals for low-carbon transportation, including compliance with the Petroleum Displacement Plan.

2010-11 Recommendations

- **Increase use of Idle Reduction technologies and/or facilities to conserve energy and reduce harmful air pollutants and greenhouse gas emissions from freight movement.**
- Install truck stop electrification at rest areas and provide incentives for private stations to install electrification systems at strategic points across the state.

2010-11 Recommendations

- **State/local/regional integrated planning activities:**
 - Each County is required to develop a Comprehensive Transportation Plan and submit that Plan as part of an RPO and MPO submittal to NCDOT.
 - The NCDOT should consider adjusting its priorities to include:
 - incentive programs that reduce greenhouse gas emissions and vehicle miles traveled;
 - Policies that reduce commutes by single occupancy vehicles;
 - Improvements in the operational and system efficiency of the transportation system such as implementation of intelligent transportation system strategies;
 - transportation friendly mixed use neighborhoods that encourage alternative forms of transportation such as sidewalks public transits, bikeways, walkways, greenways, rail, etc.

2010-11 Recommendations

State/local/regional integrated planning activities should:

- Expand the project prioritization system to choose how to spend limited resources.
- Give credit to projects that will result in lower carbon emissions.
- Integrate into the current TIP process, offering the chance to substantially improve the return on state transportation investments.
- Revisit the cost-benefit calculations of NCDOT projects and reevaluate projects that may have become poor investments.

2010-11 Recommendations

- Strengthen city and county codes on regional planning and local planning to promote compact and carbon efficient patterns of development.

2010-11 Recommendations

- Increase use of public transportation, expanding Transit infrastructure (rail, bus, high speed rail).
- Improve bike and pedestrian infrastructure as feeders and stand alone modes to reduce vehicle miles traveled.
- Fully fund public transportation to 13% level: more public transit correlates directly with reduced VMT.
- Use natural gas and propane as fuels for public transportation and school buses.

2010-11 Recommendations

- Establish the creation of new green jobs in vehicle and engine manufacturing as a high priority for economic development, building upon these existing firms:
 - Cummins Westport builds natural gas engines in Whitakers, NC.
 - Freightliner CNG and LNG "M2" truck in Mt. Holly, NC.
 - Thomas-Built Buses in High Point, NC.
 - Trans-Eco Natural Gas Vehicle conversion facility in Asheville, NC.

2010-11 Considerations

- Infrastructure is needed to fuel and maintain Biofuels, Flex-fueled, Electric , CNG and Propane vehicles
- Revenue source (e.g. tax credits) is needed for the installation of fueling stations for those fuels and vehicles heading toward the mainstream.
- Biofuels price disadvantage is the major barrier keeping NC heating oil marketers from selling bio-fuels. Removing the sales tax (7.75%) from bio-blends would offset the extra cost as well as the price of blending infrastructure.

Alternative Fuels and Vehicles

Recommendations

Executive Orders

- Update Motor Fleet Management policies/legislation to require conservation and expanded use of AFVs and hybrid electric vehicles (HEV). Examples include allowing agencies to purchase their own HEVs and replace older less efficient vehicles even if they have lower mileage.

2010 Pending Legislation

- **Senate Bill 1066 Tax Credit for Alternative Fuel Facilities/Vehicles** Sponsors: Senators Albertson; Atwater, Davis, Dorsett, Goss, Jenkins, Kinnaird, Purcell, Stein, and Weinstein. Referred to Finance
- **House Bill 906 Alternative Fuel Infrastructure & Vehicle Tax Credit** Sponsors: Representatives Bryant, Harrison, Tolson (Primary Sponsors); Faison, Fisher, Glazier, Insko, Martin, McLawhorn, and Wray.
- Status: Favorable report from Energy and Energy Efficiency; now assigned to Finance Committee.

Infrastructure Tax Credit

- *Summary:*
 - Provides a 30% tax credit for refueling infrastructure for biodiesel, ethanol (E85), propane, natural gas and electricity for motor vehicles.
 - *Sellers to tax exempt entities may take credit and presumably pass on benefit to purchaser.*
 - A \$2,000 tax credit is provided for vehicles that operate on natural gas, propane and electricity.
 - *Electric vehicles must be less than 14,000 pounds, charged from an external source and have a battery capacity no less than 4 kWh.*

2010 Possible Legislation

- The General Assembly should consider the Idle Reduction Rule (15A NCAC 02D.1010) drafted by the Department of Environment and Natural Resources in 2010.

2010-11 Recommendations

- The Governor should reevaluate the method and procedures by which state vehicles and fuel are purchased to encourage the bulk purchase of alternative fuel vehicles and the optimum pricing of alternative fuels. All State agencies, universities, and community colleges should be included in this evaluation and the findings should support the requirements of the State Petroleum Displacement Plan (Session Law 2005-276).
- This evaluation should also include school buses and examine how the use of alternative fuels in school buses can be expanded. The increased use of alternative fuel buses, such as hybrids and CNG buses, should also be evaluated.

2010-11 Recommendations

- The General Assembly should consider Café and/or Tailpipe Standards Legislation in 2010-11 should the Federal Government regulate emission standards for GHG under Clean Air Act in 2010.

Biofuels and Biomass

Recommendations

Executive Orders

- Require E10 and B20 use for agencies that operate their own fueling sites, and require state agencies that do not operate their own sites to fuel at DOT sites (which all have E10 and B20), effective July 1, 2010.

2010 Legislation

The Biofuels Center of North Carolina has been established by the General Assembly to guide and assist North Carolina's sustained, multi-party, and policy-based initiative over time. As development of the sector must be methodically addressed over many years, permanent funding for the Center is required to ensure credible and functional long-term state commitment.

2010 Legislation

- Fund the Biofuels Center for fiscal year 2010-2011 at \$5 million to continue the General Assembly's commitment to having 10% of NC liquid petroleum use by 2017 be biofuels.
- Tax Credit for Alternative Fuel Production Facilities (NCGS 105-129.16D) – merits attention this year, as it is set to expire in January of 2011. This credit is 25% of plant and equipment.

2010 Pending Legislation

- **H902 Up B-20 Biodiesel Purchases for School Buses:** Sponsors: Representatives Harrison, Current and Glazier
- **Status:** Referred to Energy & Energy Efficiency Committee; if favorable, then Education.
- **Summary:** *Increased percentage of B20 from 2% to 5% of fuel used by NC school buses with reporting requirement to State Board of Education*

2010 Programs and Funding

Because biomass resources will be increasingly important to simultaneously support four sectors – biofuels, electric power generation, the forest products industry (**wood energy**), and other new sectors – smart anticipatory thinking is required. A targeted, goal-oriented, multi-party process should be undertaken in the coming year to develop a framework for long-term balance among economic, sector, and sustainability goals. Added urgency springs from the reality that biomass demands from two of the sectors – biofuels and power generation – are triggered by state policy goals.

2010-11 Recommendations

- Develop the liquid biofuels industry in North Carolina that is substantial in output, agriculturally and economically sustainable across the state.

2010-11 Recommendations

- A comprehensive package of appropriate and targeted incentives, credits, and tax policies for biofuels must be identified and implemented.
- These incentives should serve the needs for the growing, production, distribution, and consumption of biofuels – as well as areas ranging from infrastructure development to incentives for increased biofuels use by state vehicles.
- Determination of a dovetailed package should be undertaken in the coming year, for conveyance to the 2011 Legislative session.

2010-11 Recommendations

- Expand access to E85 refueling to provide for the state's E85-capable flex-fuel vehicles while earning Energy Policy Act Credits that are being sold and deposited in the Alternative Fuel Revolving Fund. Require all state agencies to use E10 and B20.

2010-11 Recommendations

- Biodiesel discount allowance for biodiesel distributors, equal to the tax times the percent biodiesel, should be evaluated. Funds would be transferred from General Revenue so as not to impact Highway Trust Fund.
- Tax E85 at 71% of motor fuels tax to take into consideration the lower BTU content of the fuel. Ethanol has less BTU content than gasoline, requiring more fuel to go the same distance as the same vehicle operating on gasoline.

2010-11 Recommendations

- Consideration should be given to providing a producer payment of $$.xx$ *per gallon*, up to a specific cap, for biofuels produced in North Carolina using feedstocks in NC that improve air quality.
- A feasibility study should be undertaken to determine if all off road diesel and heating oil (both red dyed fuel) sold in NC should be required to contain a minimum of 2% biodiesel.

2010-11 Recommendations

- ***Mobile Source Emission Reduction Program:***

Consideration should be given to establishing a variable motor vehicle registration fees based on the vehicle's pollution and fuel economy score to generate funds for public and private sector use of alternative fuel and advanced transportation technologies.

Funds would be distributed through the State Energy Office for low carbon transportation projects.

Low Carbon Transportation: 2010

Transportation	Potential	Policies	Price 2007-2020 Net Direct Cost Millions\$	Pollutant (MMtCO₂e Reduced)	People
Biofuels Bundle	Offset fossil fuel use	Set targets for replacement through biofuels	Not available	1.9	
Anti-Idling Techs/Practices	Reduce idling-induced emissions; Provide electrical hookups	Idle reduction elimination policy; Availability of alternate power sources	-6+	0.1	
Electric Vehicles	Increase vehicle fuel economy			.654	
Vehicle Purchase Incentives	Increase use of alternative fuel vehicles	Create incentives through funding, education, and promotion			
Mode Shifting: Truck to Rail	Increase use of public transit, shift to low carbon options	Increase transit service, expand infrastructure, support transit-oriented development			
Planning/ Smart Growth	Decrease vehicle miles traveled by 10% statewide	Land use and development legislation to require adoption of growth plan	Net savings	2.6	
Soil Carbon and Forest Management	17+ million wood acres and 15-20 million green tons of potential residues annually	Ensure legislation is board enough to include wood energy as a resource for fuel and other uses	Variable and uncertain cost	No specific data	Energy potential will encourage R&D

Low Carbon Transportation: 2010

Transportation	Potential	Policies	Price 2007-2020 Net Direct Cost Millions\$	Pollutant (MMtCO₂e Reduced)	People
Biofuels Bundle	Offset fossil fuel use	Set targets for replacement through biofuels	Not available	1.9	
Truck Stop Electrification & Idle Reduction	Reduce idling-induced emissions; Provide electrical hookups	Idle reduction elimination policy; Availability of alternate power sources	-6+	0.1	
Café' and Tailpipe STD.	Increase vehicle fuel economy	Federal light-duty vehicle standard expected March 2010 for Model Years 2012-2016; Adopt Pavley II standards for post CY 2017	-1,150	0	-32 FTE net employment
Diesel Retrofits	Older, inefficient engines replaced or retrofitted	Create incentives through funding, education, and promotion	Not available	.3	
Multi-Modal	Increase use of public transit, shift to low carbon options	Increase transit service, expand infrastructure, support transit-oriented development	-1,300	3.7	98 FTE net employment
Planning/ Smart Growth	Decrease vehicle miles traveled by 10% statewide	Land use and development legislation to require adoption of growth plan	Net savings	2.6	
Total Transportation					

Low Carbon Transportation: 2010

Transportation	Potential	Policies	Price(mil.) 2008-2020	Pollutants MMtCO _{2e}	People
Electric (EV)	Increase vehicle fuel economy	Provide 30% tax for AF infrastructure, \$2000 tax credit for purchase of AFV including PHEV		.645/yr by 2030	250/each adopter
Hybrid	Increase vehicle fuel economy	Include PHEV in state fleet include in state contracting			
Diesel	Offset fossil fuel use				
Flex-fueled	Offset fossil fuel use				
Natural Gas/ Propane	Offset fossil fuels	Incentives for fleet, infrastructure, vehicles, production		.5 by 2020	Green jobs for vehicles, engines, infrastructure, conversions
Total Transportation					