Testimony of Acadia Center
Energy & Technology Committee

Public Hearing, February 10, 2015

Acadia Center
Advancing the Clean Energy Future

Acadia Center Supports:

Proposed H.B. 6030, An Act Concerning Zero-Emission Vehicles in Connecticut

Proposed H.B. 6031, An Act Concerning Electric Vehicles

Honorable Chairpersons and Committee Members:

Acadia Center appreciates this opportunity to provide written testimony to the Energy and Technology Committee in support of the two bills referenced above.

Acadia Center is a nonprofit research and advocacy organization committed to advancing the clean energy future. Acadia Center is at the forefront of efforts to build clean, low carbon, and consumer friendly economies.

Acadia Center strongly supports the accelerated adoption of zero-emission vehicles in Connecticut. In ClimateVision 2020, Acadia Center found that the six New England states had met 2010 emissions targets due largely to reductions achieved in the electric generating sector. These same states, however, are not yet on a clear trajectory to meet 2020 and later goals, including the necessary 80% reduction by 2050. In response to this, Acadia Center released EnergyVision[1] in February 2014, mapping a pathway to a deep emissions reduction target through interconnected solutions in four areas. Electrification of transportation, through widespread adoption of electric vehicles (EVs), is a key part of this vision. EVs also provide major benefits for consumers, the regional economy, energy independence, and public health.

I. Policy Framework for Electric Vehicles

Connecticut has ambitious targets for zero-emission vehicles (ZEVs), including electric vehicles and fuel cell vehicles, under clean car regulations and needs to have over 100,000 ZEVs on the road by 2025. Policy reforms are necessary to reach these goals and maximize the benefits for Connecticut and its citizens. Acadia Center is promoting a comprehensive suite of proposals to remove barriers to electric vehicle (EV) adoption:

- **Provide financial and non-financial incentives,** including:
    - A rebate or sales tax exemption incentive of between $2,500 to $5,000 to encourage consumer adoption of EVs (and other ZEVs);
    - Reduced electric rates or other program for low-cost nighttime EV charging at home (when grid demand is low);
    - Property tax exemptions to expand EV charging infrastructure (and other ZEV refilling infrastructure); and
    - Preferential parking and access to HOV lanes.

[1] http://acadiacenter.org/document/energyvision/

- **Create a utility framework to increase EV adoption and maximize benefits** through electricity rate design, vehicle-grid integration programs, and grid planning, including:
    - Reduced electric rates or other program for low-cost nighttime EV charging at home (when grid demand is low);
    - Required utility planning and forecasting for EV electricity demand;
    - Clarify that charging stations do not fit under PURA's jurisdiction because they do not meet relevant definitions for electric utilities or electric suppliers;
    - Amend existing statutory language regarding public charging stations and provide for continuation of fast charger demand charge pilot; and
    - With appropriate privacy protections, provide for notification of EV purchases and large charging station installations to utilities and appropriate government bodies.
    - Ensure that utility investment criteria allow for consideration of targeted investments related to EVs;
- **Facilitate build-out of charging infrastructure** by eliminating barriers to ownership and operation, providing consumer-friendly rules for charging stations, and ensuring that new construction will have the ability to install charging stations in the future, including:
    - Direct the State Building Inspector to issue official interpretation of Building Code to streamline permitting;
    - Expand the existing statute from a residential garage building code requirement to make other sectors "EV-capable";
    - Provide for adoption of nation-wide standards for the accuracy of charging stations and price disclosure when finalized at the federal level;
    - Adopt "open access" measures, including no membership-only charging stations, ensure that anyone can pay with a credit card or mobile technology, disclosure of location, price, and other characteristics to public database; and
    - Allow for enforcement of parking restrictions for EV charging spots.
- **Educate consumers, businesses, workplaces, dealerships, and municipalities** by publicizing programs to incentivize EV purchases and creating EV events (for example, ride-and-drives);
- **Lead by example** through the adoption of binding targets for state fleet acquisitions (ideally, 25% of light-duty purchases and leases to be EVs by 2025, with appropriate intermediate targets) and commissioning a study of state fleet electrification opportunities.

Although some progress toward these objectives has been achieved in Connecticut, legislative action will be needed to make significant progress. We are looking forward to working with the General Assembly, the Malloy Administration, and the Department of Energy and Environmental Protection to determine the best path forward.

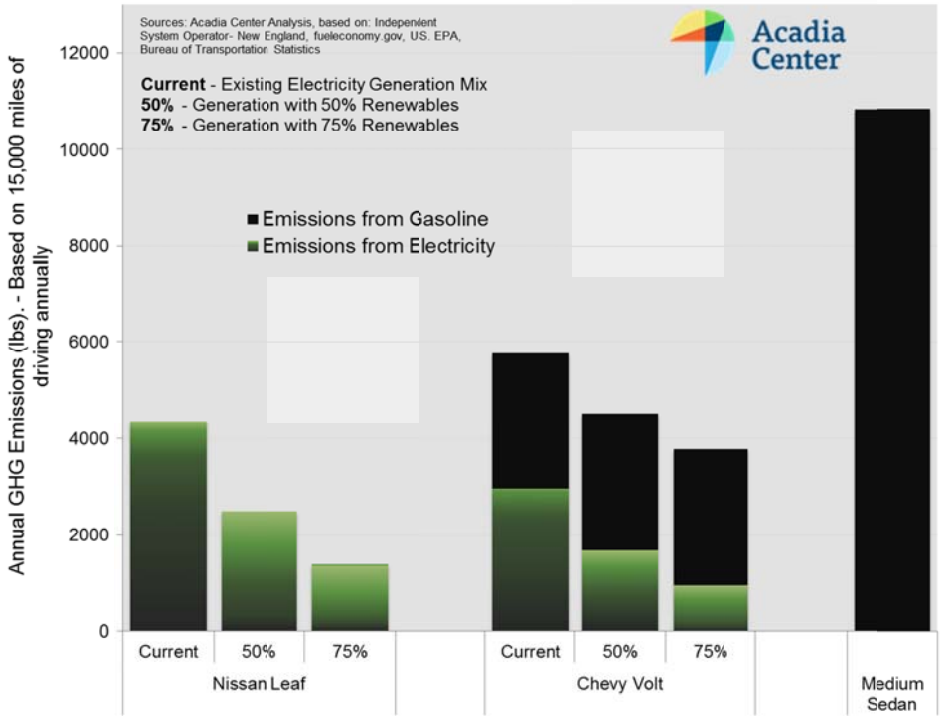
The reforms outlined here enjoy strong support in Connecticut and regionally from businesses, public utilities, community groups, and public interest organizations. The attached sign-on letter co-authored by Acadia Center and other partners shows the depth and breadth of support for comprehensive policy action on electric vehicles.

II. Benefits of Electric Vehicles

The current transportation system is unsustainable. The transportation sector is the second largest source of U.S. GHG emissions, responsible for 34% of emissions nationally, and nearly 40% in Northeast states. In Connecticut, transportation is responsible for 45% of emissions, more than electricity consumption or building energy use. In order to meet the ambitious GHG reduction targets in the Global Warming Solutions Act (10% below 1990 levels by 2020 and 80% below 2001 levels by 2050), Connecticut needs to support cleaner transportation options than the status quo.

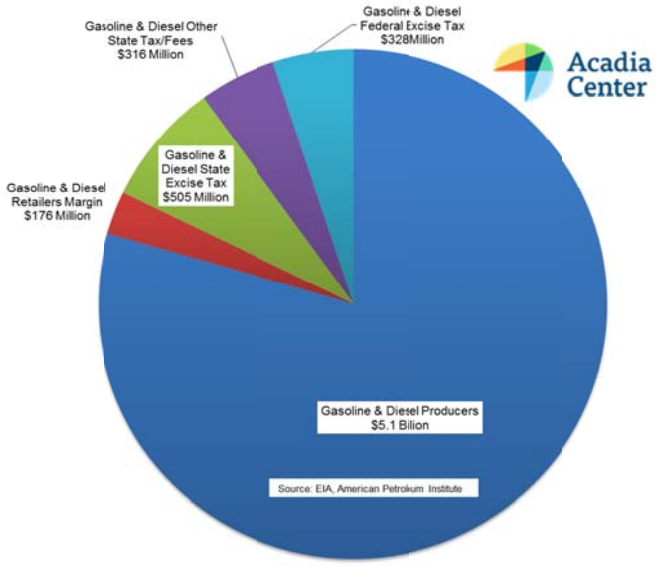
Shifting our transportation needs to electricity and increasing renewable generation capacity are critical to driving down greenhouse gas emissions from the transportation sector. As the carbon intensity of the regional energy mix decreases, the environmental and climate benefits of electric vehicles increase. Already in New England, electric vehicles can reduce transportation emissions by over 60 percent when compared to a traditional internal combustion engine. Furthermore, large electricity generators are covered by the Regional Greenhouse Gas Initiative, providing security that overall emissions will not increase due to EV adoption.

Chart 1: Greenhouse Gas Emissions from Electric and Conventional Vehicles in ISO-NE



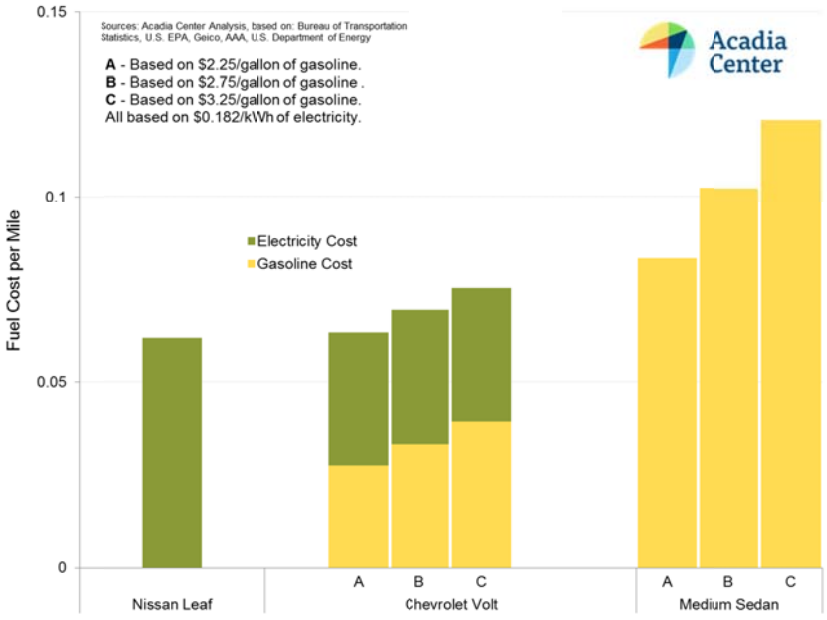
Additionally, the current transportation system is almost entirely dependent on gasoline and diesel, resulting in a transfer of wealth from New England to other regions and countries. In 2012, drivers in Connecticut spent over $6.4 billion on gasoline and diesel, of which approximately $5.1 billion (79 percent) left the state as payments to petroleum producers and refiners in other regions and countries.

Chart 2: Connecticut Gasoline and Diesel Fuel Expenditure, 2012



Even at recent electricity and gasoline prices, the fuel costs of a battery-electric vehicle like the Nissan Leaf are approximately 25 percent lower than the fuel costs of a conventional medium sedan. Shifting a greater portion of driving to electric vehicles will reduce our total expenditure on transportation fuels and slow the flow of wealth out of Connecticut.

Chart 3: Fuel Costs per Mile at Current Electricity Prices and Sample Gasoline Prices



Please do not hesitate to contact Acadia Center if you have any questions. Thank you.

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December 17, 2014

Governor Dannel Malloy
State of Connecticut

Governor Jack Markell
State of Delaware

Governor Paul LePage
State of Maine

Governor-Elect Larry Hogan
State of Maryland

Governor-Elect Charlie Baker
Commonwealth of Massachusetts

Governor Maggie Hassan
State of New Hampshire

Governor Chris Christie
State of New Jersey

Governor Andrew Cuomo
State of New York

Governor-Elect Tom Wolf
Commonwealth of Pennsylvania

Governor-Elect Gina Raimondo
State of Rhode Island and Providence Plantations

Governor Peter Shumlin
State of Vermont

Capturing the Economic, Environmental, and Public Health Benefits of Electric Vehicles

Dear Governors Malloy, Markell, LePage, Hassan, Christie, Cuomo, and Shumlin, and Governors-Elect Hogan, Baker, Wolf, and Raimondo:

We are writing to encourage you to support electric vehicles (EVs) as a top priority for your administrations going forward. EVs provide major benefits for consumers, the regional economy, energy independence, public health, and the environment. With your leadership, we can accelerate our progress into the electric vehicle future.

Even at current gas prices, driving an EV instead of a conventional car can save a consumer thousands of dollars in fuel costs over the life of the vehicle. These savings on fuel purchases give consumers more money to spend in local economies and decrease our dependence on oil. Air pollution from cars, trucks, and buses is linked to asthma attacks, heart attacks, other health complications, and premature deaths. Since EVs have little or no conventional tailpipe emissions, they can be a key component to improving health outcomes and reducing costs to treat illnesses caused or worsened by this pollution. EVs also have significant climate benefits. With the current electricity generation mix in the region, a car that only uses electricity from the grid will be responsible for 50-70% less greenhouse gas pollution than a comparable gasoline-only vehicle. As we shift to cleaner sources of electricity, public health and environmental benefits of EVs will only increase over time. This is a stark contrast to trends in the petroleum industry where dirtier oil sources are entering the market in increasing quantities.

Electric drive technology has established a solid footing in the vehicle market over the last several years, but needs additional support to reach the mainstream. Nearly every vehicle manufacturer has introduced new models and national sales of plug-in vehicles have increased from virtually zero in 2010 to cumulative sales of more than a quarter million by the fall of 2014. This progress has resulted in high-quality domestic jobs in manufacturing and the electrical sector. Many of your states have taken good initial steps to promote electric vehicles. Connecticut, Maine, Maryland, Massachusetts, New Jersey, New York, Rhode Island, and Vermont have all adopted California's zero-emission vehicle standards. Many of these states joined a Memorandum of Understanding on State Zero-Emission Vehicle Programs in October 2013 and the subsequent Multi-State ZEV Action Plan in May 2014.

The next two years present the opportunity to take these efforts to the next level. Action by the Northeastern and Mid-Atlantic states can help cross two key thresholds: (1) the scale of production necessary to drive down the cost of battery capacity and (2) the necessary level of charging infrastructure to make EV refueling convenient. In addition to regional coordination on issues like interstate fast charging corridors, action by individual states will reap the economic and social benefits of converting transportation to electricity. We recognize that policies will be appropriately tailored to the needs and circumstances of each state, but they should include:

1. **Establishing or Continuing a High-Level EV Task Force** – An official task force or commission, such as those currently operating in Maryland, Massachusetts, and Vermont, is a strategic way for a state to advance EV policies. Stakeholders should include agency leadership, utility companies, car manufacturers, EV infrastructure companies, and public interest advocacy groups.
2. **Providing Financial and Non-Financial Incentives** – Consumer and business interest in EVs can be spurred by establishing financial incentives for vehicles and fueling infrastructure, such as rebates and tax credits, supported by reliable funding streams. Non-financial incentives, such as HOV lane access and preferential parking, can also create additional interest in EVs.
3. **Creating a Utility Framework to Increase Adoption and Maximize Benefits** – Benefits of electric vehicles for owners and the electric grid as a whole can be optimized through innovative utility programs, including electricity rate design, demand response and other vehicle-grid integration programs, grid planning and targeted infrastructure investments, and vehicle registry reporting with appropriate privacy protections.
4. **Facilitating Build-out of Charging Infrastructure** – To motivate investment and create a competitive market, states should eliminate regulatory barriers to infrastructure ownership and operation. Incentives can target challenging market segments, such as workplaces, multi-family buildings, and neighborhoods without off-street parking. National standards for charging station measurement accuracy and price disclosure should be adopted to protect consumers and "open access" policies should allow drivers to use public charging stations. Appropriate additions to building codes and streamlining of permitting requirements can minimize the costs of needed infrastructure.
5. **Educating Consumers, Businesses, Workplaces, Dealerships, and Municipalities –** Raising awareness about electric vehicles and infrastructure installations should be a priority. We need better ways to inform the public about EVs as a fun and affordable way to get around. Clear and accurate signage to direct drivers is also important.
6. **Leading by Example –** States should adopt binding targets for EV procurement in state fleets, implement policies to maximize "electric miles" driven by government fleet vehicles, and provide fueling infrastructure for employees at state workplaces.

Several of your states have taken significant actions in these areas over the last few years. These achievements should be continued and can serve as models for others in the region. There are many other policies, both at the state and regional level, that your states can also take to increase the adoption of electric vehicles. We encourage the continuation of state and regional discussions on these topics. But the above steps, in combination, provide a solid foundation to boost the market penetration of electric vehicles and propel this region into a more environmentally-friendly and economically-sensible transportation future.

Respectfully,

Acadia Center
Appalachian Mountain Club
Baltimore-Washington Electric Vehicle Initiative
Better Future Project
Ceres
ChargePoint
Clean Water Action
Climate Parents
Clinton Electric Co.
Con Edison
Connecticut Fund for the Environment
Conservation Law Foundation
Drive Electric Cars New England
Electric Vehicle Association of D.C.
Energy Consumers Alliance of New England
(d/b/a Mass Energy in Massachusetts and People's Power & Light in Rhode Island)
Environment America
Environment Connecticut
Environment Maine
Environment Maryland
Environment Massachusetts
Environment New Hampshire
Environment New Jersey
Environment New York
Environment Rhode Island
Environmental Advocates of New York
Environmental Council of Rhode Island
Environmental League of Massachusetts
EV Power Pros
Institute for Energy Economics and Financial Analysis
KLD Energy
League of Women Voters of Connecticut
Maine Conservation Alliance
Mass Audubon
Massachusetts Climate Action Network
National Grid

Natural Resources Council of Maine
Natural Resources Defense Council
New England Clean Energy Council
New Hampshire Clean Tech Council
PennEnvironment
People of Albany United for Safe Energy
Plug In America
Proterra
RENEW Northeast
ReVision Energy
Riverkeeper
Sierra Club – Connecticut Chapter
Sierra Club – Delaware Chapter
Sierra Club – Maine Chapter
Sierra Club – Massachusetts Chapter
Sierra Club - National
Sierra Club – New Hampshire Chapter
Sierra Club – New Jersey Chapter
Sierra Club – New York Chapter
Sierra Club – Rhode Island Chapter
Sierra Club – Vermont Chapter
Sungevity
SunPower Corp.
The Jordan Institute
VCharge
Vermont Businesses for Social Responsibility
Vermont Conservation Voters
Vermont Energy Investment Corporation
Vermont Natural Resources Council
Vermont Public Interest Research Group
Vote Solar
Westport Electric Car Club