



Transportation and Climate Change Resource Center

REAL SOLUTIONS FOR CLIMATE CHANGE

What can state DOTs expect in Federal legislation on climate change and energy?

JANUARY 13, 2011

Presented by:

JUDI GREENWALD, Pew Center on Global Climate Change

BILL MALLEY, Perkins Coie LLP

GENEVIEVE CULLEN, Electric Drive Transportation Association





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Climate and Transportation: Federal Policy Outlook

JANUARY 13, 2011

Presented by:



Judi Greenwald
Vice President, Innovative Solutions
Pew Center on Global Climate Change



Overview

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Climate and Transportation: Federal Policy Outlook

- About the Pew Center
- The Transportation-Climate Nexus
- Congressional Outlook
- Executive Branch/Regulatory Outlook
- Budgetary Outlook
- Opportunities and Challenges for States

Pew Center Overview

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- Founded in May 1998
- Independent, non-profit, non-partisan
- Produces **research** on policy, economics, science & impacts, and solutions
- Works with **policy makers** at state, federal, and international levels
- Conducts **education** and outreach
- Engages the **business** community through our Business Environmental Leadership Council (46 mostly Fortune 500 companies proactive on climate solutions)



The Transportation/Climate Nexus: US GHG Emissions Sources, 2008

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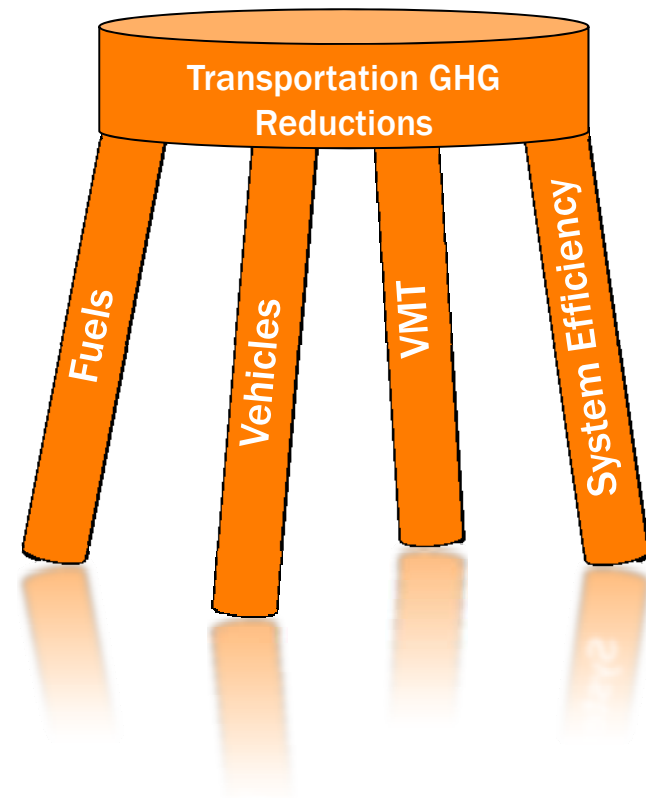


2008 US GHG Emissions (Tg CO₂e) from US EPA 2010. Images from NREL.

Technology/Policy Options

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- Fuels
 - Low Carbon Alternatives
- Vehicles
 - Efficiency/GHG Standards
 - Technology
- VMT
 - Land use planning
- System Efficiency
 - ITS



Climate Policy in 2009-2010

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- Climate change a top priority of Administration and Congressional leadership
- Many achievements
- House passage of bill with GHG cap-and-trade (Waxman-Markey bill), failed to advance in the Senate
- Major GHG regulatory actions
- Major businesses (e.g., USCAP) advocating for GHG cap-and-trade
- Many states and cities advance climate policies



Congressional Outlook

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- Many ways to affect GHGs through legislation- climate per se, energy, transportation, agriculture, etc.
- New Congress likely less climate-friendly than the last.
- Unlikely to take up comprehensive climate legislation.
- Legislative debates likely on relevant legislation, but partisan split makes any significant legislation very challenging.



Congressional Outlook: Transportation Reauthorization

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- Continuing Resolution expires early March
- Revenue and spending are out of whack: more likely to cut spending than to raise revenue
- Once again, may just kick the can down the road
- Many opportunities for oil savings and GHG reductions through reauthorization
 - But fiscal environment not conducive to new initiatives, and existing initiatives may be cut

Could save oil and reduce GHGs through reauthorization

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- 3 Rs: Restoring user fee model, Reducing oil consumption, and Research
 - **Restore**: expanding state pricing options; correct gas tax to bring in alternative fuels
 - **Reduce**: Encourage switch to more energy-efficient and alternative fueled vehicles; encourage low-cost options like carpooling.
 - **Research**: Collect better data to measure baselines and program effectiveness
- Performance based programs (good government; politically challenging)

Congressional Outlook: Energy Policy

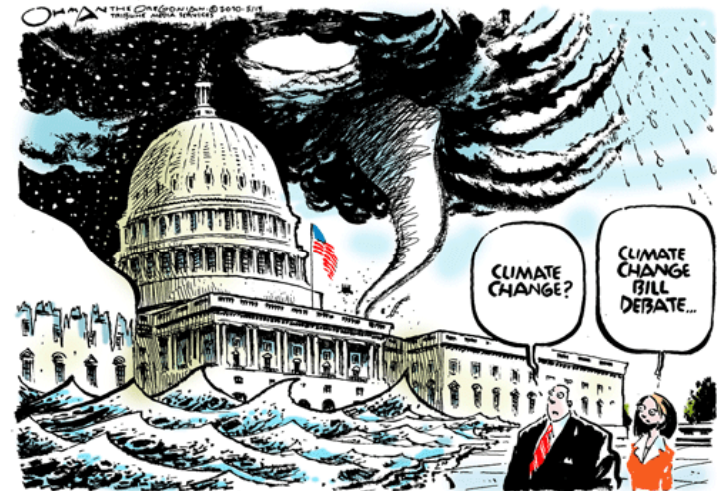
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- With oil prices climbing again, Congress might possibly enact energy legislation
- Numerous opportunities to save oil and reduce GHGs in that context, with bipartisan support, such as:
 - Electric vehicle and EV infrastructure funding and incentives
 - Clean Energy Standard for electricity

Congressional Outlook: Climate Policy

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- Congress is likely to use appropriations process to limit EPA regulation of GHGs from stationary sources
- What will the President do?



Executive Branch/Regulatory Outlook

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Action possible across the federal government to reduce GHGs; adapt to climate change



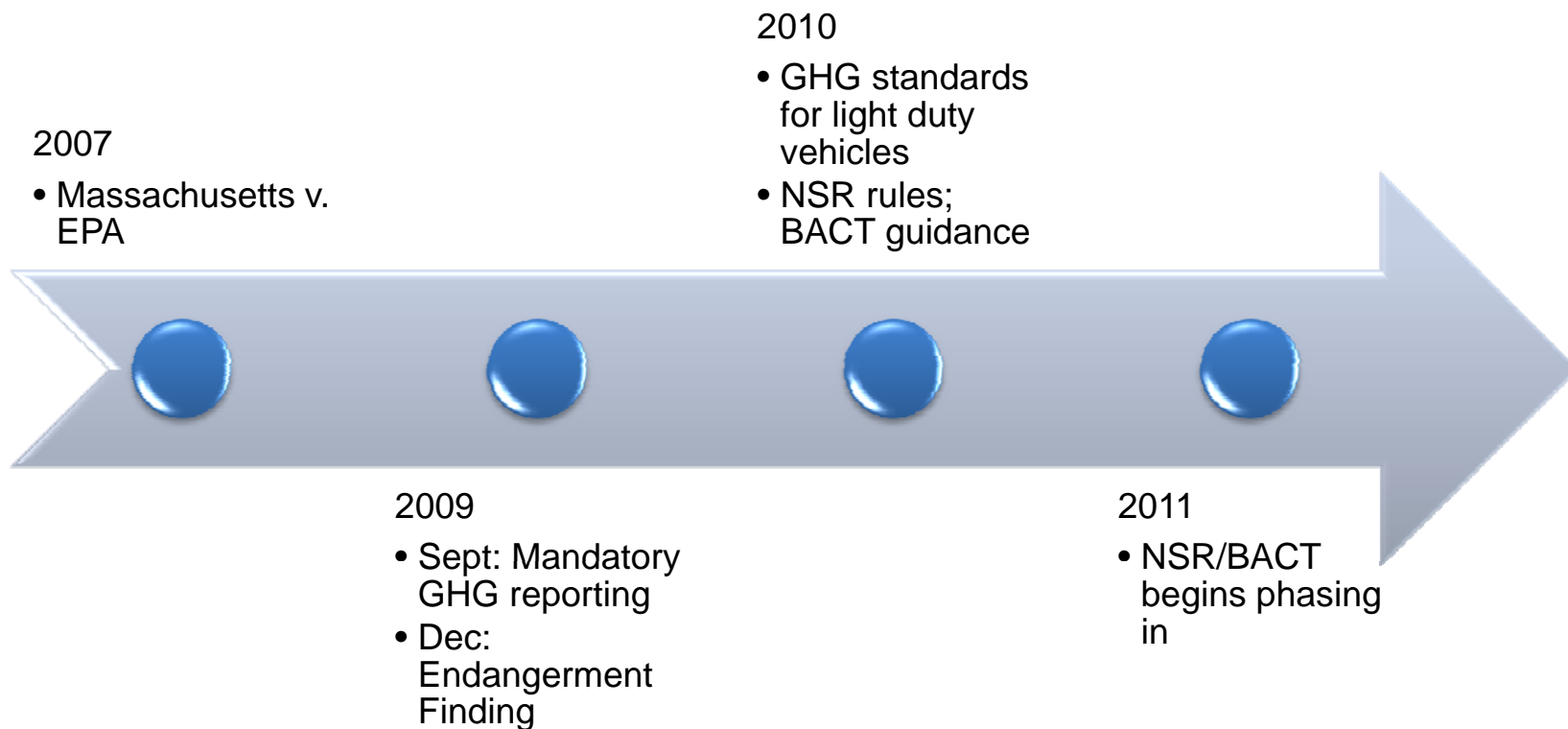
DOT could save oil and reduce GHGs, promote adaptation under existing law

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- Educating, funding and planning
- Mitigation: Fuels, vehicles, VMT, system efficiency, and construction/maintenance
 - Consider climate change/energy planning in metropolitan planning certifications
 - Focus U.S. DOT discretionary awards on GHG reductions and oil savings, make performance criteria clear, and clarify eligibility
 - FHWA workshops, peer exchanges, conferences, research, pilot programs, educational materials, case studies, technical assistance, webinars, and awards
- Adaptation planning tools

Recent EPA action

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Regulation Future

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2011-2012

- New Source Review phases in

July 2012

- Continue to phase in NSR; promulgate NSPS

2011

- New regulations for LDVs, MDVs & HDVs
- Propose NSPS for power plants and refineries

At earliest 2016

- Smaller Sources potentially under NSR/BACT

Regulatory Outlook: U.S. EPA

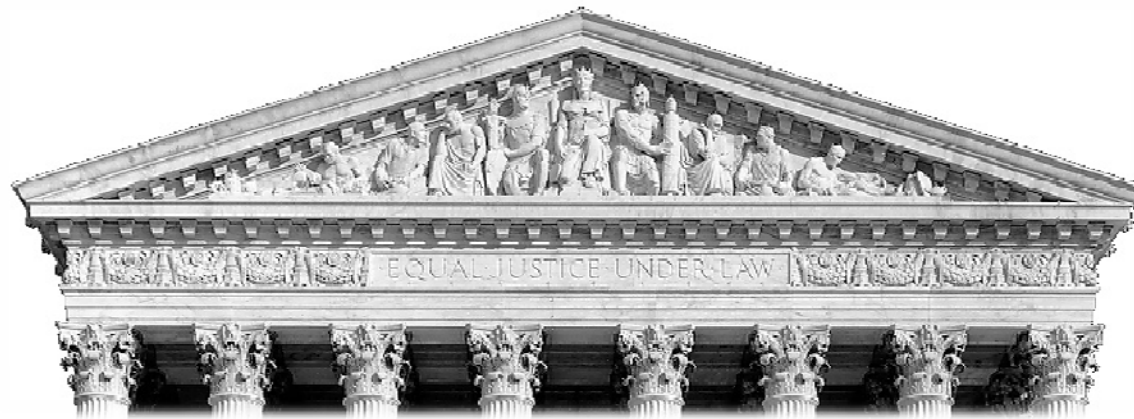
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- In 2011, EPA will likely promulgate new GHG standards for light duty vehicles and for medium and heavy duty vehicles
- *Unless Congress stops them*, in 2011, EPA will propose GHG standards for new and modified power plants and oil refineries; will promulgate in 2012
- *Unless courts or Congress stops it*, NSR/BACT will phase in 2011 and beyond

Common Law Nuisance Court Cases

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- The Supreme Court announced December 6 that it would hear an appeal in *AEP v. Connecticut*, one of the several common law nuisance cases against GHG emitters that are making their way through the courts.
- What is the appropriate role of the courts in addressing climate damages?
 - Depends on whether Congress and EPA are acting



Federal Budgetary Outlook

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The federal budgetary outlook is grim

- Livability initiatives and other local projects are vulnerable in the new Congress
- TIGER is vulnerable, including unobligated TIGER 2 funds
- Most ARRA funds for high speed rail will be diverted elsewhere; only \$2b of \$8b obligated; the rest could be rescinded

Opportunities and Challenges for States

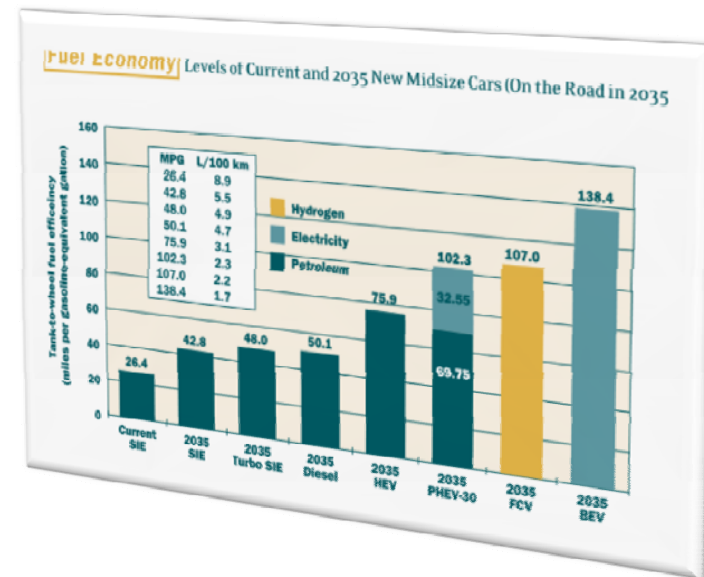
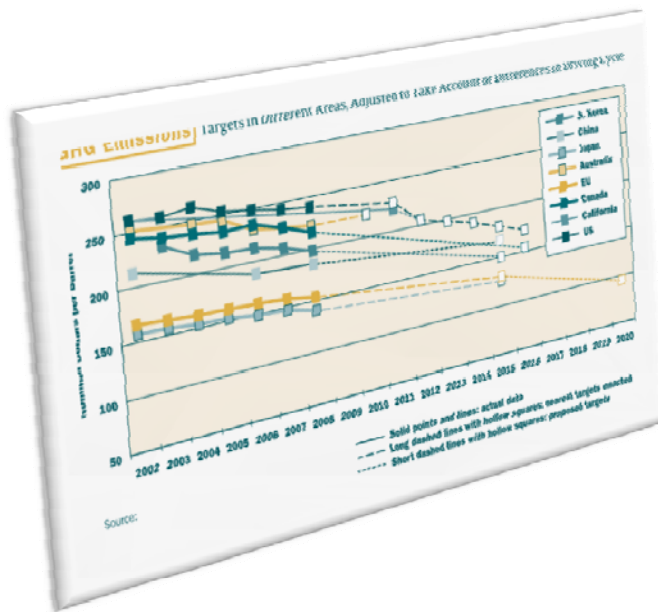
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- Likely to be less federal transportation \$
- States face budgetary challenges, too
 - But states seem better at raising transportation \$
- More devolution to states possible, with opportunities and challenges, e.g.,
 - Expanded tolling authority
 - State infrastructure banks
- States can take the lead on saving oil and reducing GHGs (some already are)

Reducing Greenhouse Gas Emissions from U.S. Transportation

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- A new report by the Pew Center released January 11, 2011



For More Information

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www.pewclimate.org





Transportation and Climate Change Resource Center

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Legislative and Regulatory Efforts to Reduce Transportation GHG Emissions What's on the Agenda for 2011?

January 13, 2011



Presented by:

Bill Malley
Partner, Perkins Coie LLP



GHG Emissions from the Transportation Sector

- Scope of the Problem
- Changing Policy Landscape
- Outlook for 2011

Transportation GHG Emissions: The Latest DOE Projections

Transportation GHG Emissions

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- DOE's Annual Energy Outlook
 - Published annually
 - 25-year time horizon (through 2035)
 - Projects trends for multiple sectors, incl. transport
 - Based on current laws and policies
 - Does not assume future increases in CAFE standards
 - Based on conservative assumption about future technological improvements (not breakthroughs)
 - <http://www.eia.doe.gov/oiaf/aeo/tablebrowser/>

Transportation GHG Emissions

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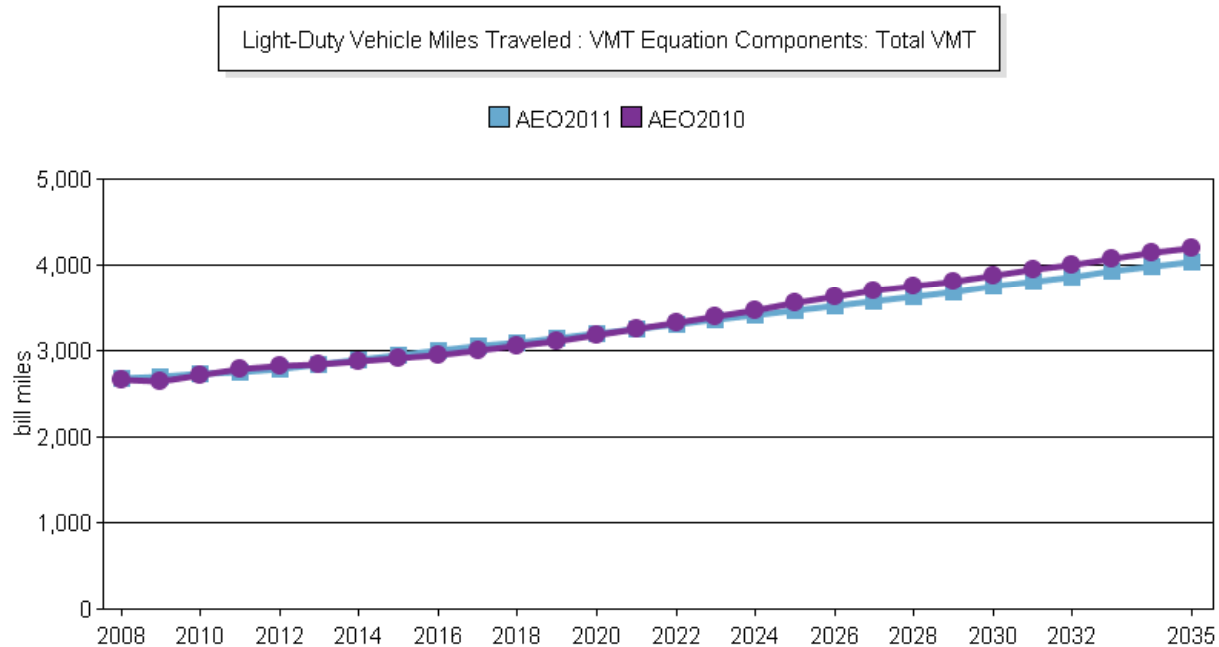
So what does the AEO say about GHG emissions from the transportation sector?

- VMT from passenger cars will continue to increase, faster than population growth.
- But GHG emissions from passenger cars are projected to remain similar to current levels ...

Transportation GHG Emissions

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Total VMT for light-duty vehicles is projected to increase at annual rate of 1.6% through 2035.



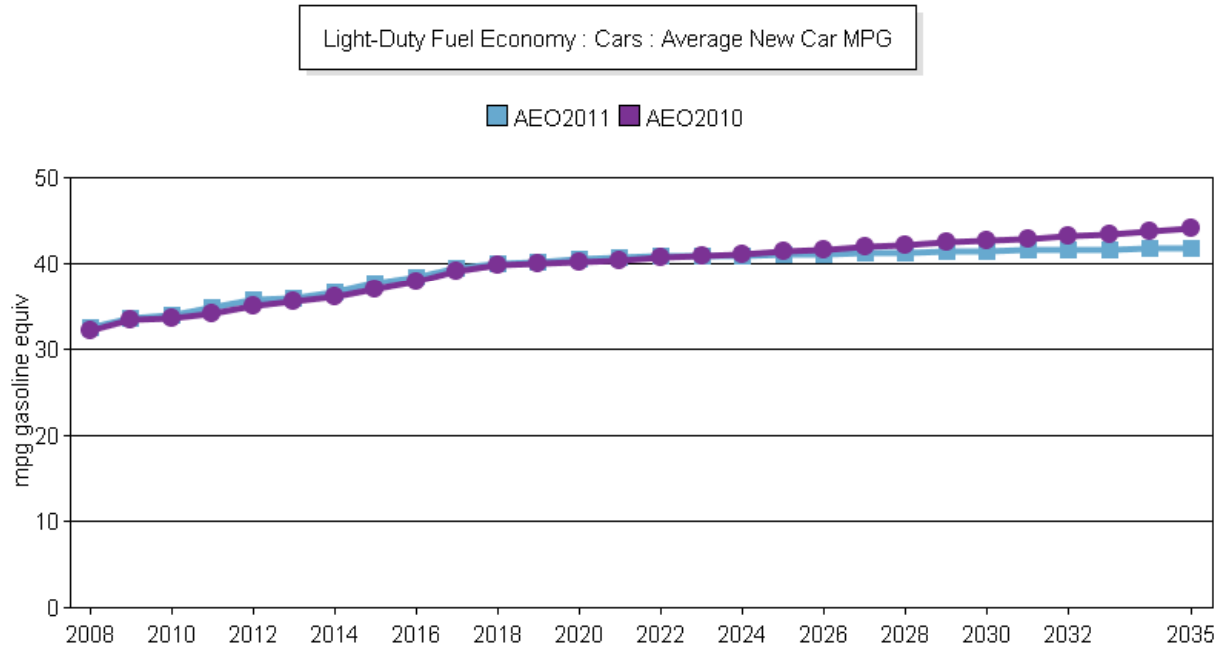
U.S. Energy Information Administration
Independent Statistics and Analysis



Transportation GHG Emissions

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Overall, average fuel economy for new light-duty vehicles is projected to increase gradually through 2035 – to 42 mpg.



 U.S. Energy Information Administration
Independent Statistics and Analysis

 AASHTO
The Voice of Transportation

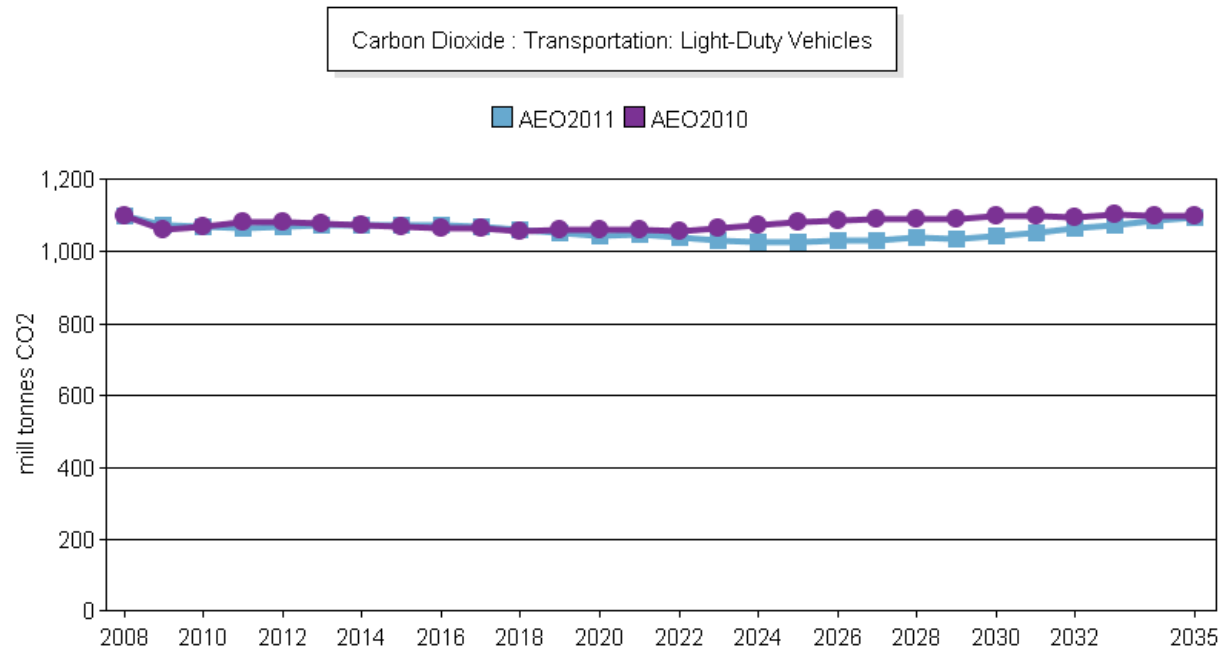


 U.S. Department of Transportation
Federal Highway Administration

Transportation GHG Emissions

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GHG emissions *from light-duty vehicles* are projected to remain roughly flat through 2035.



 U.S. Energy Information Administration
Independent Statistics and Analysis

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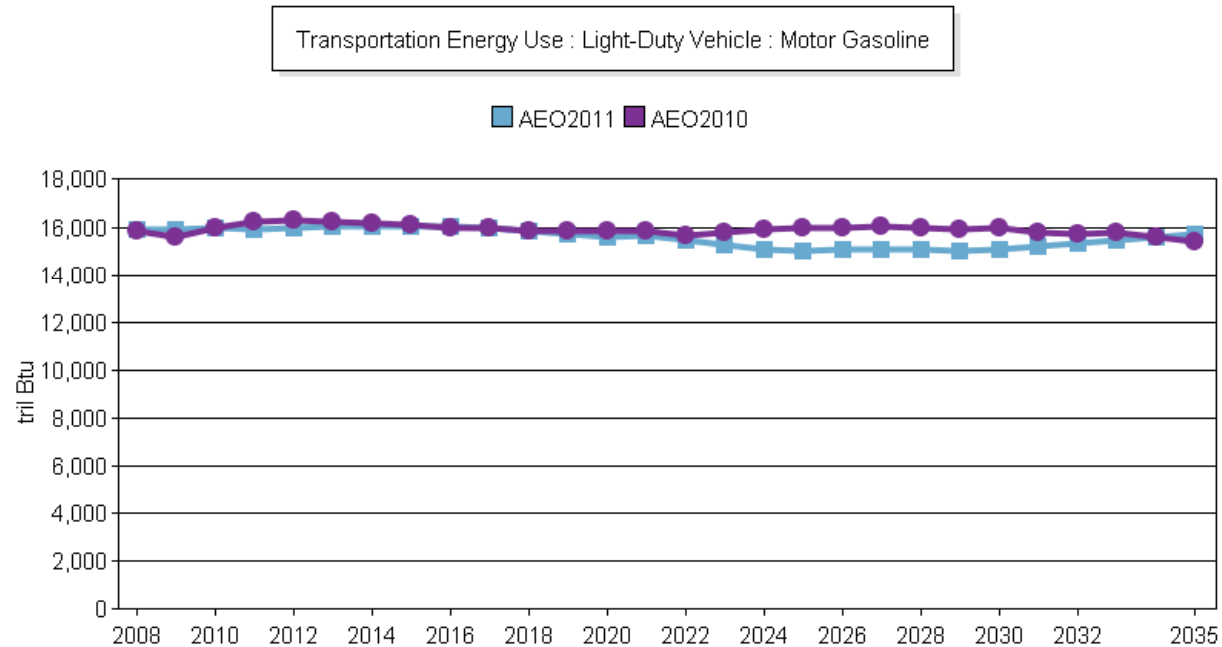


 U.S. Department of Transportation
Federal Highway Administration

Transportation GHG Emissions

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Gasoline consumption by light-duty vehicles also is projected to remain roughly flat through 2035.



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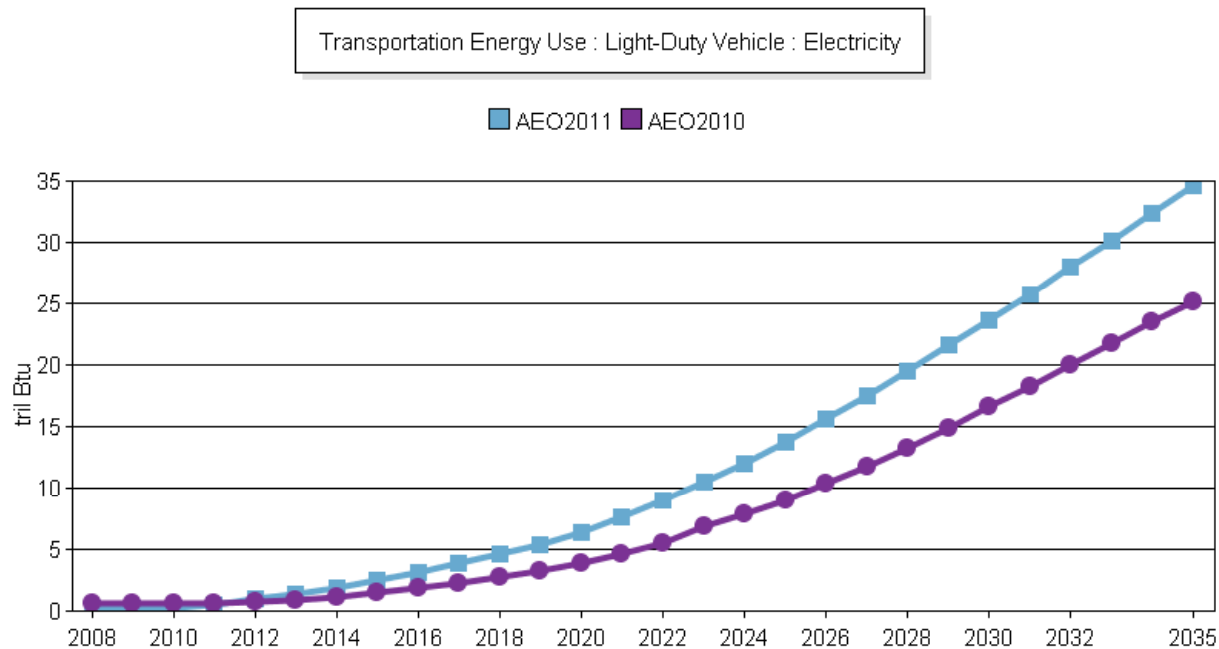


 U.S. Department of Transportation
Federal Highway Administration

Transportation GHG Emissions

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Electricity consumption by light-duty vehicles is projected to rise dramatically by 2035.



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Federal Highway
Administration

Transportation GHG Emissions

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What is the data telling us?

- The transportation sector will remain a large, and increasing contributor, to total GHG emissions.
- GHG emissions from light-duty vehicles basically flat.
 - Increasing efficiency largely (not entirely) offsets increase in VMT.
- Electric vehicles will become more widespread, but will remain a small fraction of the fleet.
- Reducing transportation GHG emissions in a significant way will likely require some combination of:
 - Changes in laws and policies (new incentives, standards, etc.)
 - Technological breakthroughs



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Transportation GHG Emissions: The Federal Policy Landscape



A Look Back

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- Last Congress:
 - We saw major initiatives to reduce transportation GHG emissions in two overlapping arenas –
 - Climate change legislation and related "energy bills"
 - Surface transportation authorization
- Key issues:
 - *Will the cap include the transportation sector?*
 - *If it includes the transportation sector, how much will the cap increase the price of transportation fuels?*
 - *Will any revenues from the cap-and-trade program be dedicated to transportation projects? If so, how much?*

A Look Back

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AASHTO supported action on climate change, but had two significant concerns about cap-and-trade:

- Potential to increase price of transportation fuel, without a proportionate increase in revenues for HTF
 - Potential to preclude increase in traditional gas tax
 - Exacerbates crisis in HTF
- Potential to increase complexity and delay, and reduce State/local autonomy, in transportation planning.
 - New planning requirements
 - Additional USDOT approval roles
 - New EPA regulations on transportation forecasting

A Look Back

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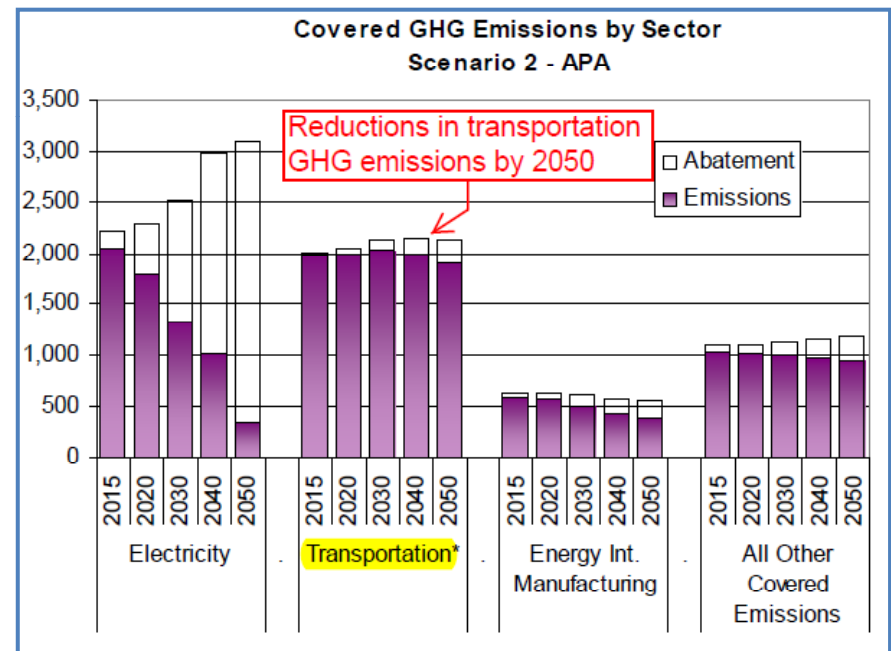
Would cap-and-trade have reduced transportation GHG emissions?

EPA's answer: **Not Much**

"The relatively modest indirect price signal on vehicle manufacturers from this particular cap-and-trade policy creates little incentive for the introduction of low-GHG automotive technology."

Source: *EPA Analysis of American Power Act (June 2010)*

EPA Projections (June 2010)



The Policy Landscape Today

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Legislative Front

- Federal cap-and-trade debate is over (for now), but some ingredients may re-emerge:
 - Requiring State DOTs and MPOs to develop plans and targets for reducing GHG emissions ("CLEAN TEA" concept)
 - Promoting alternative modes
 - Promoting cleaner vehicles, fuels
 - Limiting funding for new highway capacity
- Could be included in:
 - Comprehensive energy bills
 - Narrower-focus energy bills (e.g., electric vehicles)
 - Surface transportation authorization

The Policy Landscape Today

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Regulatory Front

- Continued efforts by EPA to regulate transportation GHG emissions under existing Clean Air Act authority
- Rulemakings completed or under way:
 - GHG emission standards for LD vehicles (2012-2016)
 - GHG emission standards for MD/HD vehicles
 - New window labels for vehicles (to include alt-fuel vehicles)
- Rulemakings in 2011/2012:
 - GHG emission standards for LD vehicles (2017-2025)

Note: In other rulemakings, EPA is taking steps to regulate GHG emissions from other sectors (e.g., utilities and manufacturing).

The Policy Landscape Today

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Efforts to Limit EPA Regulatory Authority

- EPA likely to continue facing efforts to limit or defer its authority to regulate GHG emissions, including:
 - Legislative strategies:
 - removing EPA authority to regulate GHG emissions under the CAA
 - nullifying specific regulations under the Congressional Review Act
 - limiting EPA's use of appropriated funds
 - Litigation strategies:
 - seeking to overturn EPA's endangerment finding
 - challenging specific rulemakings



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Transportation GHG Emissions: Outlook for 2011



"Policy Drivers"

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- Three intersecting debates will drive policy at the federal level on ways to reduce GHG emissions from passenger vehicles:
 - Surface transportation legislation
 - Funding programs
 - Planning requirements
 - Fuel economy & GHG emission standards
 - Incentives for cleaner vehicles and fuels
- Efforts to reduce GHG emissions also will continue at the State and local level.

Surface Transportation Legislation

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Will the next bill address climate change?

- Reducing GHG emissions is not likely to be a major driver of the next bill (if there is one)
- But State DOTs should expect efforts to include provisions to address GHG emissions, such as:
 - GHG emissions planning requirements ("CLEAN TEA")
 - Policies and funding to promote alternative modes
- Key difference from last Congress:
 - Cap-and-trade revenues no longer available as 'carrot' to encourage shift in transportation priorities.

MPG & GHG Emission Standards

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How high will EPA & NHTSA raise the standards?

- The next rulemaking will set MPG and GHG emission standards for 2017-2025 model years.
- Advance notice indicates agencies could require new cars to achieve 47 to 62 MPG by 2025.
 - These levels would far exceed current DOE projections for improvements in MPG.
 - If achieved, they would result in reductions in GHG emissions from current levels (even with VMT growth).
 - Would accelerate funding challenges in HTF.

Cleaner Vehicles and Fuels

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Will Congress create new incentives – and if so, for what types of vehicles or fuels?

- We could see multiple bills addressing:
 - Electric vehicles
 - Natural gas vehicles
 - Biofuels
- State DOTs' roles could include:
 - Vehicle charging infrastructure
 - Adoption of clean vehicles in State fleets
 - Financial & other incentives favoring clean vehicles
 - E.g., lower tolls, HOV access, parking preferences, lower taxes

State and Local Initiatives

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Efforts to reduce transportation GHG emissions will continue at the State and local levels.

These may include:

- Regional cap-and-trade programs
- VMT reduction policies/targets
- Improvements in transit service
- Road pricing
- Land use planning – e.g., SB 375 in California
- Tax and other incentives for clean vehicles/fuels

Thank You!

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Electric Drive Policy : Status and Outlook

January 2011

Presented by:

Genevieve Cullen
Vice President
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About EDTA

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EDTA Members

- Vehicle & Component Manufacturers
- Utilities & Infrastructure Companies
- Energy and Information Technology Developers



EDTA Provides

- Public Policy Advocacy
- Education
- Industry Networking
- International Conferences & Exhibitions



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Officers:



Energy Future Holdings



GRIDPOINT



nationalgrid

NISSAN



RP Associates



What is Electric Drive?

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Electricity moves the Wheels – all or in part

- Hybrid Electric
- All-Battery electric
- Plug-in Hybrid Electric
- Fuel Cell Electric

Market Outlook

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- GM Volt & Nissan Leaf first mass-market plug-in electric vehicles
- Nearly 20 expected by end of 2012
- National and Regional charging infrastructure cumulative investment - \$5-10 billion by 2015
- Federal and state tax credits for vehicles, infrastructure

Vehicle Announcements

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Battery Electric Vehicles:

2010 Mitsubishi i - *ARRIVED!*
2010 Nissan LEAF - *ARRIVED!*
2010 Ford TRANSIT connect electric - *ARRIVED!*
2010 Tesla Roadster Sport 2.5 - *ARRIVED!*
2010 BYD e6 Electric Vehicle* - *ARRIVED!*
2011 THINK City - *ARRIVED!*
2011 Coda Automotive Sedan
2011 Peugeot Urban EV*
2011 Renault Kangoo Z.E.*
2011 Renault Fluence Z.E.*
2011 Tesla Model S
2011 Ford Focus
2011 Opel Ampera Extended Range BEV*
2012 Fiat 500 minicar
2012 Renault Twizy Z.E.*
2012 Renault Zoé Z.E.*
2012 Audi e-tron
2013 Volkswagen E-Up*
2016 Tesla EV

Extended Range Electric Vehicles:

2010 Chevy Volt Extended Range EV - *ARRIVED!*

Hybrid Electric Vehicles:

2011 Mercedes E Class Hybrid
2011 Porsche Cayenne S Hybrid
2011 Toyota Camry Hybrid
2011 Toyota Prius Hybrid
2011 Audi A8 Hybrid (likely introduction)
2011 BMW 5-Series ActiveHybrid
2011 Honda CR-Z sport hybrid coupe
2011 Lexus CT 200h Hybrid Hatchback
2011 Peugeot Diesel Hybrid*
2011 Suzuki Kizashi Hybrid
2011 Audi Q5 Crossover Hybrid
2011 Hyundai Sonata Hybrid
2012 Infiniti M35 Hybrid
2014 Ferrari Hybrid

Fuel Cell Electric Vehicles:

Honda FCX Clarity
GM Hydro-GEN3
Chevy Equinox Fuel Cell
Ford Fuel Cell EV
2012 Hyundai Tucson ix35 Fuel Cell



Policy and Political Drivers

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- **Administration**
 - Goals: 1 million PEV/PHEV's by 2015
 - DOE program support: Budget requested increases and emphasis on electric drive and energy storage
- **111th Congress**
 - Climate Legislation
 - Energy Bill scenarios
 - Deployment Programs
 - RD&D Support
 - Tax Incentive Initiatives
 - Vehicles
 - Infrastructure
 - Manufacturing

EDTA[®]

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Policy and Political Drivers in 112th

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- New Congressional imperatives
 - Power split/Bipartisan support
 - Austerity
 - “smaller government”
- Conflict on regulatory approaches to carbon
- Price of oil
- Performance of first plug-in market entrants
 - Sales
 - Performance
 - Acceptance

Congressional Outlook

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- Energy Policy in “Chunks”
 - Electric Vehicle Deployment Act reintroduced; other deployment bills
 - Technology neutral efficiency legislation (Bingaman feebates)
- Likely Spending cuts at DOE challenge RD&D
- Push in tax arena
 - Vehicles – changes to light duty credit; restore medium & heavy duty incentives
 - Infrastructure – extend, refine refueling property credit
 - Manufacturing – advanced energy investment tax credit
- Decentralization of support
 - Clean cities
 - State programs
 - Non-financial incentives; highway bill programs

Regulatory Imperatives

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CAFE/GHG rulemakings

- 2012 - 2016
 - Overarching efficiency requirements
 - Treatment of PHEVs
 - Impact of Cap:
 - For manufacturers that produce fewer than 25,000 of the vehicles in 2012, they are able to claim credit for the first 200,000 vehicles; For manufacturers who produce more than 25,000 in 2012 are able to claim credit for the first 300,000 vehicles.
 - For production levels above the advanced vehicle caps, the rule states that ‘EPA will take into consideration the net increase in "upstream" emissions from an advanced vehicle compared to the gasoline vehicle it replaces when determining how the advanced vehicle aids a manufacturers' compliance with the rules broader mandates.’
- **2017 and beyond:** uncertainty about metrics going forward. 60 mpg push
- EPA/NHTSA moving forward on similar combined approach for med and heavy duty segment

NEXT STEPS: 2011 Electric Drive Action Plan for Energy Security

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- EDTA's policy recommendations for speeding the growth of the electric drive market and achieving the many benefits of electric drive transportation.
- Reduce Market Hurdles for Electric Drive Technologies
- Educate Consumers, Communities and Key Stakeholders
- Ensure U.S. Leadership in Manufacturing Capacity
- Establish Coherent Regulatory Policies for Electric Drive Vehicles and Infrastructure;
- Accelerate Technology Breakthroughs

For More Information

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http://environment.transportation.org/center/products_programs/climate_change_webinars.aspx

**These materials will also be available on AASHTO's climate change website,
where you can also find more information on climate change:**
<http://climatechange.transportation.org/webinars/>

Thank you!