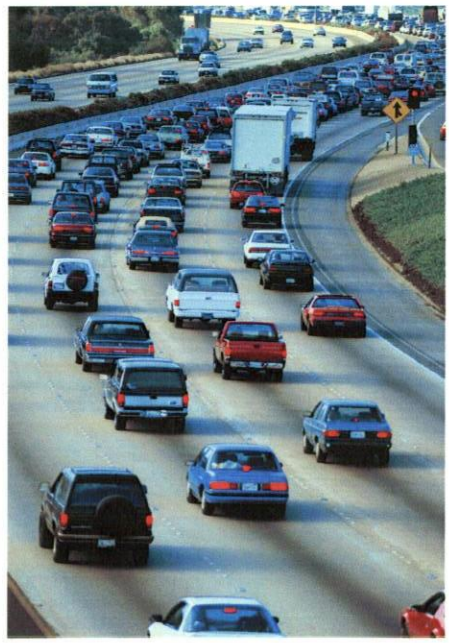
Commissioner Gina McCarthy
Connecticut Department of Environmental Protection

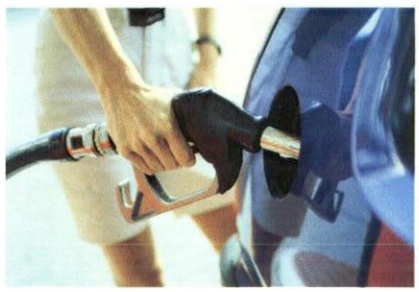
Special Act No. 05-6

Connecticut
Clean Car Incentive Program

Report to the Joint Committee on
the Environment of the
Connecticut General Assembly

January 2006





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January 2006

SPECIAL ACT 05-06, AN ACT CONCERNING A CLEAN CAR INCENTIVES PROGRAM

OVERVIEW

In June 2005, Governor Rell signed Special Act 05-06: An Act Concerning a Connecticut Clean Car Incentive Program, (SA 05-06). This legislation requires the Commissioner of Environmental Protection, in consultation with a variety of stakeholders, to develop a plan that would offer financial incentives and disincentives to consumers based upon the greenhouse gas emissions of the subject vehicle. Incentives would be provided for new motor vehicles that emit the least greenhouse gases[1] (GHG), while disincentives would be established for inefficient vehicles that emit high amounts of GHG. Such an incentive is known as a feebate program. Specifically, SA 05-06 requires the Commissioner to develop a plan that will allow a sales tax reduction of up to 3% for new motor vehicles that have low emissions of GHG, and a sales tax increase of up to 3% for new motor vehicles that have high emissions GHG. The desired outcome is to reduce GHG emissions in Connecticut through raising consumer awareness of the relationship between the vehicles they drive and their environmental impact.

Commencing in July of 2005, staff from the Department of Environmental Protection (DEP) met with a group of diverse stakeholders, including state agencies, environmental and business groups. While there was broad support for the goal of reducing GHG emissions, there was no consensus on the effectiveness of a feebate program in Connecticut as a way to achieve that desired result, particularly in light of recent efforts to promote clean cars including:

- Adoption of the California Low Emission Vehicle (LEV) Program;
- Finalization of regulations to reduce greenhouse gas tailpipe emissions (a.k.a. Pavley); and
- Adoption of a sales tax exemption for gasoline-electric hybrid passenger cars that achieve 40 miles per gallon or greater on highways through 2008.

The environmental stakeholders clearly support a feebate program as another visible sign of Connecticut's commitment to reducing GHG emissions. However, the state agencies and business groups expressed reservations regarding the potential impact such a program would have on consumer choice and resulting emission reductions, as well as the costs of administrative and structural changes that would be necessary to implement a feebate program at both the state and business level.

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[1] For purposes of this report, motor vehicle greenhouse gases include carbon dioxide, methane, nitrous oxides and hydrofluorocarbons.

With those diverse opinions as a background, the DEP has worked with the stakeholders to explore the various components of a feebate program including: the potential benefit of a Connecticut feebate program and how the program could be structured, including its applicability to cars and light trucks and ways to calculate the fees. In addition, DEP examined the key factors that determine the revenue impact from a feebate program, including administrative and structural issues associated with program implementation given Connecticut's existing sales tax structure, as well as the level of outreach necessary to influence consumer purchasing habits.

The key findings of the planning process are:

- **Potential changes in consumer behavior must be significant enough to influence manufacturer's decisions.** The primary reduction in GHG emissions from a successful feebate program is anticipated to be from a manufacturer's response to consumer habits, i.e. manufacturing cars that emit less GHG emission in response to increased consumer demand for lower GHG emitting vehicles. While a Connecticut feebate program could be the first step in the adoption of a multi-state or national program with broad enough reach to impact manufacturing decisions, a Connecticut program in and of itself will have limited influence on vehicle manufacturers given that the Connecticut market constitutes only 1% of the national new car sales market.
- **The impacts of the feebate must be clear to consumers who are shopping for a new car, making consumer education a critical component of any feebate program.**
  It is not clear that changes in sales tax will be visible enough (or large enough) to influence consumer behavior without a robust education and outreach program.
- **A feebate program must be as straightforward as possible to influence consumer decisions and ease implementation.** To that end, DEP examined various program designs and concluded that a sliding tax schedule based on the average fuel economy is the simplest and most effective approach. In addition, a separate schedule for cars and for trucks was seen as the most manageable and equitable program design.
- **Administering a feebate program in Connecticut would require significant changes in the way sales tax is currently collected on new cars and trucks.** The stakeholder process identified two fundamental tax rules that will limit the effectiveness of a feebate program.
  - First, the sales tax on a new motor vehicle does not apply to the full purchase price of the vehicle when there is a trade-in allowance. This means that a sales tax based feebate would not provide the full incentive/disincentive when the purchase price is offset by a trade in allowance. While data on the number of sales transactions involving trade-in allowances was not available, it may be significant.
  - Second, sales tax is not applied to leased vehicles in the same manner as vehicles sold to final purchasers. Leased vehicles are not subject to sales tax at the time of lease, but when lease payments are made. This means that 20-40% of the annual new car market would not be subject to a sales tax based incentive program.

- **Administering a feebate program in Connecticut would require significant changes in the way sale tax is reported to the state, as well as data management system investments for the Department of Revenue Services (DRS) and the Department of Motor Vehicles (DMV).**
    - The design of the current sales tax reporting system does not readily support a feebate program. Total sales tax collected is remitted on the last day of the month following the month of the purchase on a form that summarizes gross sales, less deductions, tax due and paid for the prior thirty day period. The current sales tax structure does not require the tracking of individual vehicle sales or leases. The information reported to DRS does not contain a breakout of the number of vehicles sold, taxable or exempt, the class or type of vehicles, etc. It is a summary only.
    - To implement a feebate program, the data management systems used by DRS, DMV and vehicle dealers would need to be updated to breakout sales tax per vehicle in order to assure the proper sales taxes were assessed and collected for approximately 150,000 new vehicle transactions each year.
- **A feebate program could be designed to be revenue neutral or revenue generating.** While advocates of a feebate program have suggested in the past that a feebate program be designed to generate revenue to support related pollution reduction activities such as diesel bus retrofit programs, SA 05-06 is silent on this matter. In any case, it is advisable to design the program to generate revenues sufficient to support the operation of the program. However, it is difficult to estimate the amount of revenue a feebate program would generate because the effect of the incentive/disincentive is largely unknown, new vehicle purchases and fleet mix fluctuate from year to year, the amount of vehicle leasing fluctuates from year to year depending on other economic factors, and the overall value of vehicle trade-in allowances also fluctuate from year to year.
- **A feebate program should be designed to support program implementation costs, however, significant upfront costs will be necessary to start up a program.** While the cost of developing and implementing a feebate program was not quantified, development and implementation costs associated with administrative changes needed to accommodate the feebate, ongoing operational expenses, and a public outreach campaign could be significant. While a feebate program could be designed to support implementation costs, significant upfront investments would have to be made to accommodate the start up of the program.
- **Additional study is warranted to investigate other clean car incentives that could offer a more cost-effective and easily implemented strategy to achieve comparable greenhouse gas reductions.** Other states have adopted programs to assist consumers in identifying low GHG emitting vehicles. Connecticut should consider this option. Initiating a consumer labeling program, similar to programs adopted in other states, could help call consumer attention to low emission, fuel-efficient vehicles and raise awareness – with or without a feebate program. Combining a labeling program with added incentives for the purchase of most efficient vehicles, such as the current sales tax exemption for certain hybrid vehicles, could potentially influence consumer behavior without the need for

multi-state coordination or national involvement. Significant program costs could also be avoided. In addition to the consumer labeling option, the Departments of Transportation and Public Safety could explore additional GHG reduction strategies for low GHG emitting vehicles, including: allowing access to HOV lanes without regard to occupancy levels; set-aside parking or preferred parking at transit stations or commuter parking lots; or free meter parking in willing locations.

INCENTIVE OVERVIEW

The goal of an incentive or "feebate" program is to provide a financial incentive to influence consumer choice so that vehicles with low environmental impacts are chosen over vehicles with high environmental impacts. The clean car incentive specified in SA 05-06 is a sales tax reduction for low GHG emitting new motor vehicles of up to 3% and a sales tax increase for high GHG emitting new motor vehicles of up to 3%. This incentive plan would impose a sliding sales tax of 3% – 9% for new motor vehicles, based on GHG emissions. The policy options associated with adopting a sales tax based incentive program to encourage the purchase of more efficient vehicles raise significant technical issues for the implementing agencies, most notably the DRS and the DMV.

EXISTING CLEAN CAR INCENTIVES

Connecticut has already adopted a number of clean car incentives. They include:

- A sales tax exemption for gasoline-electric hybrid passenger cars with an Environmental Protection Agency (EPA) rated highway mileage of 40 miles per gallon or more. The sales tax exemption was outlined in Connecticut General Statutes section 12-412(115) as amended by Public Act 04-231, effective October 1, 2004. According to DMV data, there are almost 2,100 of the popular gasoline electric hybrid Toyota Prius registered in Connecticut. There is also about a six-month wait to purchase a Prius in every state. Given this high demand, which seems to operate independent of the Connecticut state sales tax incentive; it is impossible to quantify the effect of this incentive in Connecticut.

- Legislative adoption of the California Low Emission Vehicle (LEV) program. In 2004, the General Assembly directed DEP to adopt and implement the LEV program in Connecticut for 2008 and later model year vehicles. This program establishes strict emission standards for all new cars sold in California as well as for any other state that adopts the program. The standards address nonmethane organic gas (NMOG), a precursor of ozone pollution in the lower atmosphere; nitrogen oxides (NOx); and carbon monoxide (CO). The General Assembly also directed DEP to revise the LEV program whenever California does so.

- DEP recently revised its LEV regulations, as directed by the General Assembly, to reduce tailpipe greenhouse gas emissions beginning with model year 2009 vehicles. The environmental benefits of this program are outlined below.

POTENTIAL GHG REDUCTIONS FROM A CONNECTICUT FEEBATE PROGRAM

Experts[2] in the field of assessing the potential effectiveness of incentive programs designed to reduce GHG emissions note that emission reduction benefits are attributable to two sources: consumer response and manufacturer response. Consumer response is that portion of anticipated emission reductions attributable to consumers, who modify their purchasing decisions based on the incentive. Manufacturer response is that portion of the anticipated emission reductions attributable to manufacturers who modify their production decisions based on consumer demand. In a national model, consumer response accounts for only 5% of anticipated emission reduction benefits and the manufacturer response accounts for the rest.

Therefore, a successful feebate program must have an immediate impact on consumer behavior. That impact must be sufficient to then influence the production choices of manufacturers. Given that the State of Connecticut accounts for only 1% of national new car sales, a Connecticut only program is unlikely to achieve the desired impact unless it expanded to other states or the nation.

The potential benefits of implementing a feebate program in Connecticut were quantified for inclusion into the Connecticut Climate Change Action Plan 2005 (CCAP 2005). According to the CCAP 2005, adopting a feebate program in Connecticut would reduce GHG emissions by:

- 0.036 Million Metric Tons of Carbon Dioxide equivalent (MMTCO2e) in 2010
- 0.109 MMTCO2e in 2020

While these reductions represent substantial reductions in GHG emissions, by comparison, the recently adopted GHG tailpipe standards are estimated to achieve the following reductions[3]:

- 0.05 MMTCO2e in 2010
- 2.63 MMTCO2e in 2020

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[2] There have been a number of studies undertaken to determine the feasibility of implementing a feebate program. Chief among these is a report entitled "Feebates, Rebates and Gas-Guzzler Taxes: A Study of Incentives for Increased Fuel Economy" by Greene, D.L., P.D. Patterson, M. Singh, J. Li. (Energy Policy Vol. 33, No. 6, pp. 721-827, 2004) (the Greene Report).

[3] The Northeast States for Coordinated Air Use Management (NESCAUM) performed additional analysis in October 2005 finding the implementation of California's GHG tailpipe standards in Connecticut would reduce GHG emissions by 2.82 MMT (3.11 million short tons) in 2020 and by 3.99 MMT (4.4 million short tons) in 2030.

While a feebate program will reduce GHG emissions, based on estimates prepared for the CCAP 2205, this option offered the second lowest GHG emission reductions of any strategy evaluated in the Transportation and Land Use Sector report of the CCAP 2005.

OVERVIEW OF STAKEHOLDER CONSULTATIVE PROCESS IN DEVELOPING THE PLAN

As required by SA 05-06, the DEP consulted with other state agencies including DRS and DMV, the EPA, the Governor's Steering Committee on Climate Change, and representatives from the business community, environmental organizations, public health interests, and the automotive industry. DEP held five meetings to consult with the identified stakeholders and receive their comments. The details of the DEP's consultative process are set forth in Appendix A.

The stakeholder process helped DEP identify and explore a number of fundamental questions critical to the design of an effective incentive program consistent with SA 05-06. These fundamental questions include:

- **How should program applicability be determined?**

A feebate program must be structured in a way that will promote the greatest degree of fairness to consumers, recognizing the variety of motor vehicle needs of individuals and families. A significant fairness issue is whether trucks and mini-vans will be assessed on the same basis as passenger cars. For purposes of the plan required by SA 05-06, it was agreed that a feebate program should utilize a multiple tiered system. There are many ways to delineate a tiered system. Two tiered systems were explored: a two-tiered program with one tier that combines all passenger cars and a second tier that combines all light duty trucks up to 10,000 pounds gross vehicle weight rating; and an 8 tiered system incentive program based on the federal "bin" system used to characterize a vehicle's criteria pollutant emissions profile.

DEP recommends a two-tiered system as the least complicated and most consumer friendly (i.e., recognizable and fair) approach. It can be designed to recognize and reward the relative increased fuel efficiency achieved by newer hybrid light duty trucks such as the Ford Escape Hybrid and Toyota Highlander Hybrid.

The 8-tiered bin system may be the most precise method to compare relative GHG emissions, but it would unnecessarily complicate the program and cause confusion among motor vehicle purchasers and sellers. For example, under the bin system the same vehicle model (e.g., Volkswagen Jetta) could fall into 3-4 bin categories depending on the engine displacement and transmission type (e.g., 4cyl, 6cyl and/or 2WD or AWD). It is probable the same 3-4 tiers for this vehicle may be subject to only 1 or 2 incentive levels. As such, it would add needless layers to the program by requiring effort to identify and categorize all vehicle trim levels into the 8 bins without providing any substantial environmental or consumer education benefit.

- **How should GHG emissions be calculated?**

The feebate program design must include a methodology to calculate GHG emissions to ensure that all vehicle emissions are measured in the same manner. The methodology must not be overly complicated to allow motor vehicle dealers to determine or otherwise obtain each motor vehicle GHG emissions rate to ensure they collect the appropriate amount of sales tax.

There are numerous methods available to calculate tailpipe GHG emissions. They range from very complex calculations based on the federal test procedures used to determine vehicle emissions and fuel economy to less complex calculations based on average fuel economy. GHG emissions may also be calculated based on the rate of emissions or by lifetime vehicle emissions. These methodologies are outlined in Appendix B.

The least complicated manner to assess GHG emissions is to use a legislatively established schedule under which average fuel economy is the sole surrogate for GHG emissions. An example of such a schedule is provided in Table 1.

Table 1
Example of Possible Fuel Economy Tax Schedule for Passenger Cars

Average Fuel Economy	Sales Tax Rate
15 mpg or less	9%
16-19 mpg	8%
20-24 mpg	7%
25-29 mpg	6%
30-34 mpg	5%
35-39 mpg	4%
40 mpg or more	3%

A more complex approach, suggested by some stakeholders, is to set the incentive based on lifetime GHG emissions determined in accordance with procedures such as those discussed in Appendix B. Table 2 is a proposed metric to identify low and high GHG emitting vehicles based on lifetime GHG emissions in short tons.

Table 2
Example of Lifetime GHG Emission Based Tax Schedule

Lifetime GHG Emissions (tons)	Sales Tax Rate

Less than	Not Less than	
--	113.85	9%
113.85	104.75	8%
104.75	91	7%
91	82.5	6%
82.5	76	5%
76	70	4%
70	0	3%

Requiring the calculation of individual GHGs emission for every vehicle make, model and trim level would place unreasonable demand on limited agency resources and not guarantee that such calculations could be performed for late (mid-model year) vehicle introductions. Therefore, DEP recommends that GHG emissions be calculated based on average fuel economy given the simplicity of the methodology, the ease of implementation and transparency to the consumer.

- **How do we calculate the sales tax for vehicles within each category of average fuel efficiency?**

SA 05-06 requires that a feebate plan include an incentive comprising of either a decrease of up to 3% in the sales tax for new motor vehicles that have low GHG emissions or an increase of up to 3% in the sales tax for new motor vehicles that have high emissions of such gases. However, the Act is silent as to whether or not the revenues collected should be revenue positive to support the costs associated with the program's implementation and/or other air pollution reduction efforts. While some stakeholders advocate designing a feebate program to raise revenue for other air quality and public health related environmental programs, DEP recommends that a feebate program be designed to raise revenue sufficient to cover the costs associated with the operation of the program. The Act is also silent as to what level of emissions constitutes either high or low GHG emissions, providing wide discretion in developing one of the most important elements of the required plan – which vehicles would be subject to either a higher or lower sales tax. This determination, known as setting the "pivot point" is crucial. The pivot point is the point at which a low GHG emitting vehicle will receive an incentive and a high GHG emitting vehicles will receive a fee. A variation of the pivot point could place an entire range of vehicles in a "zero band" where neither an incentive nor a disincentive would apply. In this instance, only very high and very low GHG emitting vehicles would be impacted. Even though establishing a wide zero band would reduce the GHG emission reductions associated with the program, it is worth considering if it will improve consumer acceptance.

Setting the pivot point faces the same challenges as with determining the revenue stream. However, it will be impossible to determine with precision where the pivot point should be set because the effect of the incentive/disincentive is largely

unknown, the ratio of new vehicle purchases and leases fluctuate from year to year, and the total net value of trade in allowances also fluctuates.

Regardless of whether or not the program is designed as revenue neutral or revenue positive, it will be difficult to estimate the amount of revenue collected given annual variation in the number of vehicles sold and leased and the system wide net value of trade-in allowance that will offset the amount of tax collected. External variables, such as the price of gasoline, could also impact revenue projections.

- **To assure consumer acceptance, what outreach efforts will be needed?**

The most significant challenge from the perspective of consumer acceptance, is devising an education and outreach program that will enable the consumer to fully consider the GHG incentive in their decision making process. Otherwise, a consumer could be faced with a significant and possibly unanticipated cost in the form of a higher sales tax **after** they have made their purchase. In this instance, the incentive would have failed to meet a principle of its fundamental design – influence of consumer purchasing habits.

A consumer-labeling program, for example, would enable prospective purchasers to easily identify the cleanest and most fuel-efficient vehicles on dealer lots. There are many design options for a consumer-labeling program. For example, several New England states have adopted consumer labeling programs that allow California LEV (or better) certified vehicles that get 30 miles per gallon, or greater, fuel efficiency to be labeled and identified as "cleaner cars." Using these criteria, there are about 180 2005 model year vehicles that would qualify as "cleaner cars." Cleaner cars are identified on dealer lots with brightly colored static labels. A consumer-labeling program provides an important message: by exercising personal choice, we can reduce our contribution to air pollution, help improve air quality and reduce dependence on foreign oil.

In addition to further exploring consumer labeling options, the Departments of Transportation and Public Safety could explore additional GHG reduction strategies that would benefit consumer who purchase low GHG emitting vehicles. These strategies include allowing access to HOV lanes without regard to occupancy levels; set-aside parking or preferred parking at transit stations or commuter parking lots; or free meter parking in willing locations.

It is also important that the benefits derived from existing incentive programs be quantified for the people of Connecticut to understand that programs accomplish their stated goal. For example, has the demand for hybrid vehicles subject to the sales tax exemption in Connecticut increased relative to the demand for such vehicles in nearby states that do not offer this incentive?

IMPLEMENTATION CHALLENGES OF A FEEBATE PROGRAM

Even if a feebate program was designed to be fair, simple and effective in influencing consumer choices and providing a model for an interstate or national program that impacts manufacturer production, there are significant logistical challenges involved in assuring proper fee collection, and numerous information technology, quality assurance and quality control issues. These challenges include:

- The need for the motor vehicle retail industry to modify its accounting and information technology systems to ensure that vehicles are assessed the proper sales tax.
- Recognition that a sliding sales tax based on GHG emissions could not be administered in a manner that treats vehicle leases the same as vehicle purchases. Dealers do not charge sales tax to the lease companies. Lease companies instead purchase vehicles on a resale basis (tax exempt), and charge a sales tax on each lease payment, including down payments. The lease company, like the dealers, then remits the sales taxes to the appropriate state agency. Sales taxes are paid on the number of lease payments, which are usually much less than the purchase price of the vehicle.
- The need to address the fact that sales tax on a new motor vehicle does not apply to the full purchase price of the vehicle when the sale involves a trade-in allowance. Some stakeholders suggested basing the feebate tax rate on the net vehicle sales price prior to trade in allowance. This would require a fundamental change in the methodology of assessing sales tax on new vehicles for which there is a trade-in allowance, and create confusion for both the purchaser and the seller.
- The need for DRS to modify its information technology systems and fundamentally change their business practices concerning setting the value on which a vehicle is taxed and the taxing of leased vehicles.
- The need for fundamental changes in sales tax reporting to ensure accurate accounting of GHG related taxes.
- The need for enforcement resources to assure compliance.
- The need for enforceable procedures to calculate GHG emission rates for all vehicles sold in Connecticut, including mid-model year introduction of new vehicles.
- The possibility, according to some stakeholders, of unintended short term and long term environmental consequences, including:
    - Potential purchasers of high GHG emitting vehicles "pre-buying" to avoid the added costs imposed by a feebate program.
    - Potential purchasers of high GHG emitting vehicles purchasing used vehicles in lieu of new vehicles to avoid the added costs imposed by a feebate program.
    - Potential purchasers of high GHG emitting vehicles holding out for as long as possible before purchasing a new vehicle.

  - Potential increase in "vehicle miles traveled" (VMTs), which is a metric to measure vehicle use and associated air pollution. Under a feebate program, more efficient vehicles with lower operating costs than other vehicles would comprise a significant portion of the state's vehicle population. A basic economic theory suggests these vehicles would be utilized more, thus increasing VMTs. Refer to the analysis contained in Appendix C for additional information.
- The difficulty involved in the identification and redirection of revenues that would be needed for program support under the current reporting system.

CONCLUSION

Given the significance and complexity of the issues identified in the stakeholder process, the ability of a feebate program to reduce GHG emissions must be weighed against the costs of doing so and the benefits of other GHG reduction strategies now in place or under development. The GHG reductions achievable in Connecticut through the adoption of a feebate program are modest in comparison to other potential mobile source GHG emission reduction programs. The GHG emission reductions achievable by the feebate program envisioned in SA 05-06 may be overstated than those estimates provided in the CCAP 2005 given that leased vehicles (accounting for 20-40% of the Connecticut market) would not be impacted by an upfront sales tax incentive/disincentive.

Although states are well suited and should experiment with novel programs and policies, there are significant challenges with the design and implementation of an effective feebate program. Should the General Assembly further consider adopting a feebate program, DEP recommends:

- That a two-tiered system be adopted under which one tier would include all passenger cars and a second tier would include all light duty trucks up to 10,000 pounds gross vehicle weight rating. A two-tiered system is the least complicated and most consumer friendly (i.e., recognizable and fair) approach. Furthermore, this approach recognizes and rewards the relative increased fuel efficiency achieved by newer hybrid light duty trucks such as the Ford Escape Hybrid and Toyota Highlander Hybrid.
- GHGs be calculated based on average fuel economy[4] but that flexibility be retained to adjust GHG administratively if necessary;
- The sales tax laws be further studied and amended, if practicable, to fairly address stakeholder's concerns related to leased vehicles and trade in allowances.

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[4] EPA is proposing to amend federal regulations containing the methodology by which fuel economy is determined. EPA believes that when the proposed rules are finalized the city miles per gallon (MPG) rating for conventional (non-hybrid) vehicles will drop by 10-20% from today's fuel economy labels, while the highway MPG estimates will drop from 5-15%.

- More precise information be gathered by DRS, DEP and DMV as to the costs associated with the planning, development and implementation of a feebate program and associated data management requirements.
- Implementation of any program be delayed to allow for start up as well as a thorough review of new car sales to assist in the calculation of appropriate pivot points (sales tax)
- The General Assembly consider allocating funds to DRS, DMV and DEP to cover costs associated with program start up and that sufficient sales tax revenues be allocated to support continued operation of the program.
- The General Assembly determine if additional revenue above and beyond program costs should be collected and for what purpose.
- Additional input be sought on a consumer labeling program to increase awareness and the effectiveness of a feebate program as well as other clean car incentives.

Attachments

1. Special Act 05-06

Substitute House Bill No. 6908

Special Act No. 05-6

AN ACT CONCERNING A CONNECTICUT CLEAN CAR INCENTIVE PROGRAM.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 1. (*Effective from passage*) (a) The Commissioner of Environmental Protection, in consultation with the chairpersons and ranking members of the joint standing committee of the General Assembly having cognizance of matters relating to the environment, the United States Environmental Protection Agency, the Governor's Steering Committee on Climate Change, representatives from the state's business community, representatives from environmental organizations, representatives of public health interests, and representatives from the automotive industry, shall develop a plan for the implementation of a decrease of the sales tax by not more than three per cent for new motor vehicles that have low emissions of greenhouse gases, as defined in section 22a-200 of the general statutes, and an increase of the sales tax by not more than three per cent for new motor vehicles that have high emissions of such gases.

(b) Not later than January 1, 2006, the commissioner shall submit the plan to the joint standing committee of the General Assembly having cognizance of matters relating to the environment, in accordance with the provisions of section 11-4a of the general statutes.

Approved June 24, 2005

2. The Connecticut Climate Change Action Plan 2005 www.ctclimatechange.com

    - Transportation and Land use Sector TransportationSector_CCCAP_2005.pdf

APPENDIX A

Stakeholder Consultations

DEP met with diverse stakeholders in accordance with the criteria set forth in SA 05-06 to obtain input from industry and environmental groups. There was a direct invitation to various groups to contact other interested parties, to attend scheduled meetings and provide suggestions and comments. Among the companies represented were: the Alliance of Automobile Manufacturers, American Honda Motor Co, the Association of International Auto Manufacturers, Brown Rudnick, Connecticut Business and Industry Association, Connecticut Auto Retailers Association, Connecticut Conference of Municipalities, Connecticut Fund for the Environment, Connecticut Public Interest Research Group, Environmental Defense, Gerbain and Associates, Goodwin College, Kowalski Group, Manchester Honda, Murtha Cullina, Northeast States for Coordinated Air Use Management (NESCAUM), Regional Economic Models Inc, Southern Connecticut Gas, Stratton Resources, and State agencies. The state agencies included the DEP, Department of Motor Vehicles (DMV), Department of Revenue Services (DRS), Office of Fiscal Analysis (OFA), Office of Legislative Research (OLR), and the Office of Policy and Management (OPM). A summary of stakeholder meeting dates follows:

1. On July 12, 2005, the Commissioners of Environmental Protection, Motor Vehicles and Revenue Services as well as the Secretary of OPM met to discuss the planning involved with meeting the required elements of SA 05-6.

2. On July 21, 2005, state agency staff from DEP, DMV, DRS, and OPM met to discuss and plan for meeting the requirements of SA 05-6. Each state agency presented concerns about implementing the feebate plan using their agency resources and reviewed a plan to solicit stakeholder participation from environmental groups.

3. On September 8, 2005, DEP held the first stakeholder meeting with 32 representatives from various organizations. The meeting presented an opportunity to dialogue with stakeholders. Stakeholders were presented with information on the need to further reduce emissions in the Northeast, an overview of clean car incentives, regional economic modeling and the statutory language requirements. Stakeholders were asked to provide their opinions and recommendations along with an invitation to provide additional input at a secondary meeting.

4. On October 13, 2005, DEP held the second stakeholder meeting with 31 representatives from various organizations. Stakeholders from environmental groups and industry presented additional information on incentive programs. Stakeholders engaged in further dialogue on implementation issues expressing diverse opinions and concerns about various program options and recommendations.

5. On November 18, 2005, state agency staff from DEP, DMV, DRS, and OPM met to discuss a draft plan for meeting the requirements of SA 05-6. DRS and DMV presented possibilities for implementing the plan through their agency and brainstormed what additional resources would be necessary.

Stakeholder Comments submitted to DEP

1. A local environmental group sent a letter to the Commissioner in favor of using the sales tax approach for feebates. It would be the preferred policy approach and has several advantages for the consumer incentives.

2. A local car dealership suggested that Connecticut invest more in CNG infrastructure as an efficient alternative fuel and as an interim step towards a hydrogen-fueling infrastructure. The commenter writes that New York and Massachusetts have made similar commitments.

3. An attendee at a stakeholder meeting suggested that any vehicle incentive program be based on engine "bin" type rather than vehicle class (e.g., PC, LDT1 or LDT2). The commenter noted such an approach would provide a more fair comparison of vehicles.

4. A letter from EPA Region 1 suggesting the use of EPA's Green Vehicle Guide as a reference for consumers to choose the cleanest and most fuel-efficient vehicle that meets their needs. It is updated annually and is available at http://www.epa.gov/greenvehicles. The website gives three important pieces of information of each vehicle's environmental performance: the air pollution score, the GHG score and the fuel economy estimates. EPA believes these scores would be a good basis for any incentive plan that a state may wish to encourage.

5. Comments submitted by the Alliance of Automobile Manufacturers (Alliance) stated that the feebate tax proposal is an added cost with no benefit. According to the Alliance, the proposed "feebate" legislation would tax minivans, pickups and SUVs at a higher rate than small cars and raise costs for the majority of new vehicle purchasers. The Alliance believes a feebate program will harm businesses and families without providing meaningful benefits to consumers. The Alliance indicated that automakers want to accelerate the introduction of fuel-efficient technologies, but believe there are better ways than a feebate tax to encourage the purchase of the fuel-efficient and advanced technology vehicles available today.

APPENDIX B: AUTHORITY AND METHODOLOGY TO CALCULATE MOTOR VEHICLE GHG EMISSIONS

Based on information provided by Environmental Defense, a comprehensive methodology to calculate all four GHGs emitted by motor vehicles entails:

1. Request CO_2, methane (CH_4), and oxides of nitrogen (NOx) emissions data from EPA certification test records for the current and upcoming model year.
2. Use a recommended methodology to weight the various test scores in order to calculate overall CO_2 emissions for each vehicle. Possibilities include:
    a. California Air Resources Board (CARB) methodology used for computing GHG compliance levels,
    b. Current EPA methodology used to calculate fuel economy,
    c. New EPA methodology for calculating fuel economy labels when finalized , forthcoming in a proposed rule later this year and a final rule anticipated in 2006.
3. Follow similar procedure with CH_4.
4. Use existing emissions factors (from EPA or from CARB) to convert NOx emissions levels to N_2O emissions levels.
5. Weight each type of GHG by the appropriate weighting factor reflecting global warming potential to develop a single index of GHG emissions expressed in grams per mile of CO_2-equivalent.
6. Multiply the derived GHG index by a standard estimate of lifetime miles (e.g., 150,000 miles for all vehicles) to develop an estimate of lifetime tons of GHGs expressed in metric tons of CO_2-equivalent.
7. Use the GHG index derived in steps 1-6 to rank vehicles according to their GHG emissions and assign each vehicle model a sales tax adjustment level.

A less complicated process would yield tailpipe CO_2 GHG emissions only. Such a process entails using the weighted fuel economy of each vehicle as follows:

[(0.55)(EPA estimated city fuel economy)] + [(0.45)(EPA estimated highway fuel efficiency)]

multiplied by

25.0 pounds of CO_2 for gasoline powered vehicles or
25.4 pounds of CO_2 for diesel powered vehicles

resulting in the pounds of CO_2 per mile.

Lifetime GHG emissions in tons would be calculated as:

[(pounds of CO_2 per mile) x 150,000 miles] / 2,000 pounds per ton

Appendix C – REMI Analysis

REMI Analysis (Dec. 2004).

Economic Impact of Enacting a Feebates Program in Connecticut, Using REMI Policy Insight Single-Region State Model of Connecticut, December 31, 2004. (http://ctclimatechange.com/documents/Appendix8_REMI_FeebateProgram_CCCAP_2005_000.pdf.)