Using Tax Policy to Support Advanced Truck Technologies

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CALSTART and the Hybrid, Electric, and Advanced Truck Action Group (HTAG)

U.S. House of Representatives Committee on Ways and Means
Subcommittees on Select Revenue Measures and Oversight
Joint Hearing on Energy Tax Policy and Tax Reform

CALSTART and the Hybrid, Electric, and Advanced Truck Action Group (HTAG) thank the House Committee on Ways and Means, subcommittee Chairman Tiberi and subcommittee chairman Boustany, and committee members for the opportunity to share our knowledge on energy tax policy as it relates to advanced truck technologies. As noted by Chairman Tiberi, "Energy security and comprehensive tax reform are two of the most important priorities we can pursue to create jobs and ensure the long-term strength of the U.S. economy." We agree, and our comments here will focus on the role of the tax code in driving advances in transportation technologies and reductions in oil usage.

In that regard, we believe the core recommendations we will share with you can be summarized as follows:

- Addressing energy security (oil reduction) requires targeting actions in transportation, not stationary power; transportation uses 70 percent of the nation's oil;
- Transportation has received much less funding and other support than other sectors in relation to its energy security benefits, particularly medium- and heavy-duty vehicles (commercial trucks and buses);
- Commercial trucks and buses are "big bang for the buck" platforms; individually they are the nation's biggest fuel users, and targeted assistance/tax credits for these vehicles can reap great benefits for fewer dollars than other segments; a truck can use three to thirty times the fuel use of a car
- US companies are currently leaders in advanced, fuel efficiency technologies for trucks such as hybrid and electric drive systems; targeted assistance here benefits energy security and American jobs;
- In an age of tough choices there are several pieces of targeted tax credit legislation already proposed, at extremely reasonable (low offset) cost, that can have tremendous benefits for US industry and oil use.

These comments outline and provide detail for these recommendations and your consideration.

CALSTART and HTAG: Working Together to Support Advanced Truck Technologies

CALSTART is North America's leading advanced transportation technologies consortium. It is a national, fuel and technology neutral, non-profit organization with more than 150 private industry company as well as public agency members, dedicated to expanding and supporting a high-tech advanced transportation industry that addresses energy security through reducing imported oil use while also reducing air emissions and creating economic opportunity. We operate across all fuels and technologies, and across all vehicle platforms sizes, from two-wheeled vehicles through heavy-duty trucks. We target those solutions that can achieve multiple benefits.

As one example of CALSTART's work across multiple technologies and fuels, one of our major programs in efficiency and oil reduction is the Hybrid, Electric and Advanced Truck Users Forum (HTUF). HTUF is operated by

CALSTART in a unique partnership with and under contract to the U.S. Army Tank-Automotive Research, Development and Engineering Center (TARDEC) – National Automotive Center (NAC)[1]. Its focus has been to speed the development deployment of dual-use (military and commercial) technologies to increase the efficiency of commercial and military vehicles.

The Hybrid, Electric and Advanced Truck Action Group (HTAG) is a group of HTUF stakeholder companies that have come together to advocate for strong and consistent policies to advance the industry. Current Steering Committee members include Azure Dynamics, BAE Systems, Bosch Rexroth, Daimler Trucks, Eaton Corp, FedEx Express, Meritor, and Volvo Group.

Advanced Truck Technology Investments Should be Part of Portfolio Approach to Energy Policy

Nearly 70 percent of the oil used in the United States goes for transportation according to the U.S. Energy Information Agency. To effectively address energy security and oil use, we must make transportation the top focus of our national efforts. It is therefore very important to ensure that any "clean energy" discussions include a focus on policy options and approaches for supporting advanced transportation technologies.

While it is tempting to fix on attractive single solutions, CALSTART strongly believes there is no "silver bullet" able to address our national energy and oil dependence challenges, no one fuel or technology that alone can effectively reduce our petroleum use to the degree needed. Rather, we recommend a "silver buckshot" strategy, advocating a portfolio approach to policy, technology development and market support decisions. Though clean power generation and passenger cars have traditionally received the most attention, the truth is that hybrid, electric, and advanced trucks are a vitally important piece of this clean energy portfolio. Medium- and heavy-duty vehicles use roughly a third of the fuel consumed in U.S. transportation, and on a single vehicle basis are easily the highest fuel use vehicles on our roads. They represent a "big bang for the buck" opportunity for oil reduction that has been insufficiently addressed.[2]

Currently there are tax credits of up to $7500 for encouraging consumers to purchase electric cars. These are important incentives and we support this targeted assistance to a new market. At the same time, however, **a hybrid or electric truck may reduce oil use by three to ten times or more the reductions from an advanced passenger car, yet receives no assistance at all** (there are proposed tax credits to address this). From a public policy perspective, therefore, advanced trucks can be extremely cost effective and targeted ways to reduce transportation oil use.

As a final point, a just-published Quadrennial Technology Review of the Department of Energy has concluded that the agency has greatly underinvested in transportation compared to stationary energy, particularly in

[1] The NAC is the Army's outreach arm to the commercial transportation industry, and is charged with both understanding the capabilities of the commercial vehicle industry and working to increase the capabilities of the industry to build advanced vehicles and technologies that can support emerging Army and military needs.

[2] The federal government has been very proactive in providing tax policy support for advanced passenger vehicles. Currently, there is a tax credit of up to $7,500 available for car-buyers who purchase electric and plug-in electric vehicles. However, despite the higher per-vehicle petroleum and emissions reduction benefits of advanced technology medium- and heavy-duty trucks, there is no tax credit available for these vehicles. We believe that tax policies should be performance-based, with support that is commensurate with the benefits provided by a given technology.

deployment of vehicles. And trucks get much less than cars. In other words, transportation in general receives far too little funding related to its energy security benefits, and the biggest areas of benefit receive the least. The tax code is one important avenue for supporting this industry.

There is a strategic opportunity in this sector, as well, for **economic leadership and job growth**. The U.S. is currently the world leader in advanced efficiency technologies for trucks and buses, particularly in hybrid and electric drivelines, presenting a tremendous opportunity for job growth. A recent Duke University – Center on Globalization, Governance and Competitiveness report identifies these technologies as areas in which the United States has a strategic advantage as an early leader. The particular areas it researched were electric hybrid and hydraulic hybrid drive systems and the growing high tech component industry supply chain in the United States to produce them. Additionally, the Union of Concerned Scientists and CALSTART last year completed a report on the economic and job growth opportunities from high efficiency trucks. It documented that 124,000 jobs can be created along with $24 billion in economic savings over the next two decades through expansion of efficiency throughout medium- and heavy-duty vehicles. Demand for these technologies is growing in China and other countries around the world, and the U.S. stands to gain as the current industry leader. With strategic investments now to maintain our leadership, this industry can become a source of exports.

This is of even greater importance given the emerging regulatory pressure to increase efficiency from the National Highway Transportation Safety Administration (NHTSA) and the Environmental Protection Agency (EPA). The first standards for fuel efficiency in medium- and heavy-duty vehicles go into effect as early as 2014. Policies that can support the industry's work to develop and produce these new technologies will be extremely timely and helpful.

Advanced Truck Industry Status and Needs

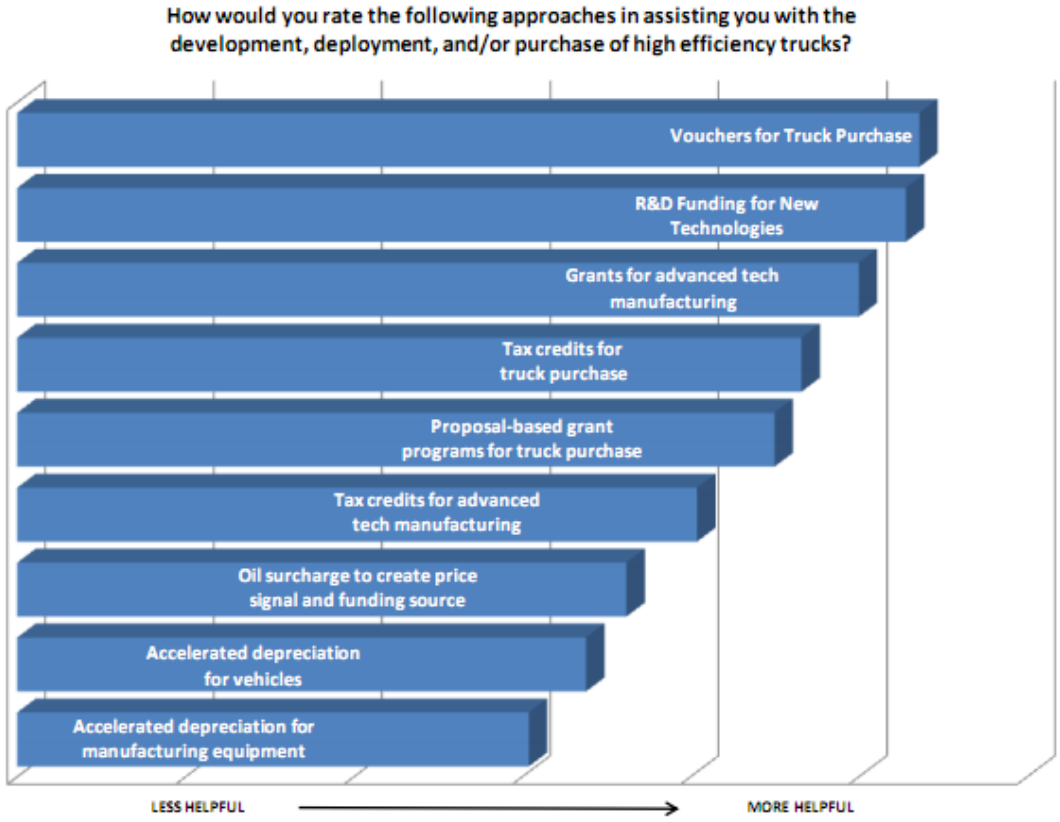
Advanced truck technologies are at a new threshold level in America: they are ready for greatly expanded deployment, support and use. Approaches that ten years ago were still in early or developmental stages are more mature and increasingly cost effective, particularly on an operational basis when capital costs for ownership can be reduced at the time of purchase. The currently high cost of fuel is an important additional inducement to consider these technologies and fuels. However, the great price volatility of fuel confuses manufacturers and users alike in terms of when to make investments in vehicles with these technologies and fuels.

The capital costs – in the form of incremental cost beyond the conventional vehicle – are generally still relatively high because of low volume production and first or second generation designs. Hybrid technology in trucks, for instance, is roughly ten years behind its introduction in cars. Additionally, there are also some barriers in terms of first-time costs for fueling/charging infrastructure in the case of some fuels and technology as the transition to these approaches is made. This is true of the re-emergence of electric drive in passenger cars and its new emergence in all-electric commercial trucks.

Given these observations, CALSTART has identified with its industry and fleet partners the core needs for continuing momentum in technologies and fuels that reduce oil use, and they fall along the general stages of development:

- Consistent, targeted funding of research and development in advanced vehicles systems and partnerships to assist manufacturers transition to new technologies
- Funding partnerships with fleets and manufacturers to speed pilot projects and validate performance and reliability
- Manufacturing assistance in the form of grants to tax credits for retooling and facility expansion
- Fleet-focused purchase assistance in the early market stage to speed introduction and rapidly increase manufacturing volume

Industry stakeholders agree that tax policy has an important role to play in addressing these needs. Recently CALSTART completed a report – "Speeding High Efficiency Truck Adoption: Recommended Policies, Incentives and Investments" – that addressed this topic. It was informed by research and a task force of industry stakeholders, including fleet vehicle users, manufacturers and suppliers. The findings from the report are highly instructive. They identify the top measures the industry feels would speed the development, production and purchase of more-efficient vehicles (see below).



The top measures identified by industry were those measures to assist vehicle purchase, thus encouraging greater production and supporting industry investment, and longer term R&D efforts, to partner with industry to keep the next generation of technology in the product "pipeline" and moving to market. **Consistent, predictable, and long-term tax credits for truck purchase and technology manufacturing were cited as important tools**, though they are not sufficient on their own. Industry stakeholders would also like to see a simplified purchase "voucher" program such as the Hybrid Truck and Bus Voucher Incentive Program currently in

place in California.[3] They would also like to see expanded support for research, development, and demonstration (including testing and validation) through grants or other structures. Finally, the industry cites a need for manufacturing support in order to maintain our lead in this space.

What this industry needs is a comprehensive set of policies to provide a **consistent and supportive business environment**. Ideally, this could be accomplished through stable, long-term standards and incentives (including tax incentives) that are performance-based. We recognize that resources are limited and that the federal government must make difficult choices when deciding where to invest public dollars. We therefore suggest a performance-based approach focusing on solutions that achieve multiple benefits, including energy security, job creation, and pollution reduction. The most valuable approaches achieve these multiple benefits. As laid out above, efficient and advanced truck technologies address all three of these goals and offer good "bang for the buck." There are also creative reform and repurposing measures that could be undertaken to utilize existing programs and appropriations and direct their funding to more directed purposes, such as supporting US technology deployment.

Specific Tax Policy Recommendations

Today, advanced truck technologies cost more to produce and purchase than conventional technologies. However, the widespread adoption of advanced truck technologies promises multiple benefits for our country. Tax policy is a proven and valuable way to help address outstanding barriers and accelerate the development and deployment of advanced truck technologies. **Tax incentives should be stable, long-term, and predictable.** The certainty provided by longer term incentives will help attract private investment and drive purchase decisions. Incentive should be allowed to sunset once they are no longer needed, but incentives that are repeatedly allowed to lapse or only extended in one year increments will do little to change business investment decisions.

Additionally, **purchase incentives should be performance-based and technology-neutral**, providing rewards that are based on the overall benefits achieved, and not tied to the specific technology employed. Performance-based incentives encourage technological innovation and diversification, rather than artificially slanting the market toward one politically popular technology. Tying rewards to performance also helps to maximize the return on investment, as large incentives are reserved for technologies that yield the greatest benefits. The increasing incentive amounts encourage technology developers to aim high, and allow fleets to purchase the most advanced technologies that benefit them, despite their higher price tags, leading to earlier action and accelerated reductions of fuel use. From a tax policy perspective, the goal should be to design a tax incentive that is directly tied to a clear set of performance metrics. We recommend using metrics that take into account our multiple related policy goals, including energy security and pollution reduction. We recognize that this is not

[3] The HVIP program run through the California Air Resources Board (CARB) provides simplified purchase voucher funding for hybrid trucks and buses. This voucher approach has several advantages over other incentive structures. First, the voucher directly reduced capital costs at the point of purchase. This is the equivalent of actually reducing the purchase price. This approach is valuable for fleet managers who are working with fixed budgets and may never see the advantages of tax credits. Additionally, tax-exempt entities such as government fleets are able to take advantage of the voucher, whereas they cannot take advantage of tax credits. Finally, the program provides certainty for participating fleets, as it has clear rules, set incentive amounts, and does not require a time-consuming grant-writing process.

always easy to achieve in practice, but we do recommend a flexible and inclusive approach to tax policy that provides incentives for technologies that achieve our national policy goals.

In past years, there was a tax credit for the purchase of hybrid medium- and heavy-duty vehicles. This credit, known as Section 30B, has expired. There are currently two pieces of legislation that would extend and enhance this tax credit so as to provide the longer-term certainty needed to support the hybrid truck industry:

- **S.1285 Hybrid and Electric Trucks and Infrastructure Act (Kohl, Blunt)**
- **S. 298 Charging America Forward (Stabenow)**

Both of these bills would extend the 30B credit for multiple years while updating the incentive amounts to recognize current costs and technologies. CALSTART, HTAG, and HTUF Stakeholders believe that the expanded and extended tax credit would be invaluable in helping make the business case for these technologies. We encourage your support for this legislation.

Additionally, tax policy can be used to encourage research and development and manufacturing of advanced technologies. We encourage the Committee to continue searching for opportunities to advance our energy security and related goals through smart tax policy. **A performance-based, technology-neutral approach to tax policy would support a broad portfolio of solutions.**

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Tax Incentives for Clean Trucks: A Near Term Need and Opportunity

The advanced truck technologies industry is a potential bright spot for the U.S. economy. American companies are currently world leaders, but assistance is needed to now maintain the momentum. The industry is at a critical stage and on the threshold of a successful launch. Tax policy has an important role to play in supporting this launch, and the bills outlined above represent a very important first step. ***Investing in this sector now through smart tax policy will pay significant dividends over time in the form of reduced petroleum dependence, increased energy security, cleaner air, reduced operating costs for trucking fleets, and increased jobs and export opportunities for world-leading U.S. companies.*** Well-designed tax incentives will lay the foundation for a growing industry that has the ability to address numerous policy priorities for our nation.