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## MEMORANDUM

October 1, 2013

**TO:** United States Transportation Command (USTRANSCOM) Acquisition Directorate (TCAQ)

**FROM:** American Clean Skies Foundation

**RE:** Response to Market Research Questionnaire for Proposed Worldwide Express Solicitation Number HTC711-14-R-C001-WWX6:

**The Law Requires USTRANSCOM To Prefer Transport Vendors that Advance Petroleum Reduction and Environmental Goals to Deliver Best Value For WWX-6 Requirements**

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The American Clean Skies Foundation (ACSF) appreciates the opportunity afforded by the United States Transportation Command (USTRANSCOM) Acquisition Directorate (TCAQ) to respond to the Market Research Questionnaire for the next Worldwide Express (WWX-6) delivery service contract, Solicitation Number HTC711-14-R-C001-WWX6.

### **Background**

WWX-6 is likely to be the largest package delivery contract ever awarded by the federal government. It is expected to be a five year contract valued at over \$500 million per year, making its total potential value more than \$2.5 billion.<sup>1</sup>

Federal agencies are required by existing Executive Orders and other controlling authorities to consider oil consumption and harmful emissions in awarding new shipping contracts. As such, the multi-billion dollar budget for WWX-6 provides an exceptional opportunity to put the nation's shipping infrastructure on a path to consuming less petroleum and generating less harmful pollution. Doing so will produce widespread

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<sup>1</sup> This is even larger than the upcoming \$1.5 billion third-generation Domestic Delivery Service (DDS3) contract that we have also identified as a prime opportunity for the Obama Administration to make good on commitments to reduce America's oil dependence and cut greenhouse gas emissions related to contract transportation services. See <http://www.cleanskies.org/oilshift/dds3-contract/>

rewards for the United States, including more domestic jobs, cleaner air, and a reduction in the vast transfer of our wealth to oil rich nations in the Middle East.

Under the WWX-6 contract, TCAQ plans to consolidate the current Domestic Express Package Delivery Service (DOMEX) Blanket Purchase Agreement (BPA) with the current WWX-5 contract. The DOMEX BPA provides domestic express delivery services for the United States Department of Defense (DoD), while WWX-5 provides international express delivery services for the United States Federal Government to include all civilian agencies and organizations.

ACSF is an independent Washington D.C. based nonprofit working for cleaner energy in the U.S. transportation and power sectors. Over the past two years, we have worked to help federal agencies purchase cleaner, more fuel efficient, lower cost transportation services. In August 2012, the Foundation published *Oil Shift: The Case for Switching Federal Transportation Spending to Alternative Fuel Vehicles*. This 55 page report describes how shifting federal transportation contracts to vehicles running on alternative fuels could reduce oil imports by billions of gallons annually, cut greenhouse gas (GHG) pollution by over 20 million metric tons a year, and stimulate the nationwide introduction of tens of thousands of new alternative fuel vehicles.

Drawing on this report, the Foundation has subsequently provided numerous briefings for the Council on Environmental Quality, Office of Management and Budget, Council of Economic Advisors, General Services Administration, Department of Energy, and the Environmental Protection Agency. It has also commissioned a workshop for representatives of 14 agencies, including the Postal Service, with industry leaders in purchasing cleaner transportation services. And, most recently, ACSF submitted recommendations for the upcoming Domestic Delivery Services third-generation procurement (DDS3).

### **Introduction**

To keep this submission clear and concise, ACSF submits its recommendations and analysis solely in response to questions 7 and 20. This submission will recommend terms for inclusion in WWX-6; discuss the legal basis for and impact of these terms; evaluate environmental and energy programs of vendors likely to submit bids; propose language for the solicitation and contract; and introduce a method for monetizing the social costs of key environmental performance metrics in a best value evaluation.

Extensive analyses by carriers, large customers of transportation services, and consultants demonstrate that cleaner, more fuel efficient package delivery services decreases costs for vendors and prices for customers.

*7. Do you believe that this consolidation will generate benefits to include cost savings, price reduction, and quality improvements that will save time and improve/enhance performance and efficiency? Would your company be able to provide better terms and conditions as a result of this consolidation? Do you foresee any other benefits?*

*20. Please provide any comments/concerns you feel are relevant and need to be addressed to this proposed acquisition:*

## **I. ACSF RECOMMENDATIONS**

TCAQ must use this solicitation to promote the environmental and energy security goals of Executive Order 13514, as well as DoD's own Strategic Sustainability Plan and Green Procurement Program. In particular, ACSF urges TCAQ to include the following five elements in the WWX-6 procurement:

1. Establish a preference for vendor commitments on fuel efficiency and emissions in each year of the contract and in any renewal term;
2. Set targets for air and non-air transportation services on a disaggregated basis each year of the contract for reduced emissions and lower petroleum use;
3. Require annual reporting by the vendor of relevant environmental and fuel measures for air and non-air transportation services on a disaggregated basis;
4. State a preference (or renewal expectancy) in deciding on annual contract extensions based on the vendor's performance against its commitments and the targets, and offer contract incentives for superior environmental performance; and
5. Monetize the social costs of key environmental performance metrics, and then integrate those environmental costs together with the bidders' charges for products and services when making a best value evaluation.

Inclusion of the foregoing terms would make WWX-6 a major win for TCAQ as well as for taxpayers. It would help drive the transition toward a cleaner and more efficient transportation sector, and would ensure the Administration leads by example when it comes to federal energy and environmental policy.

## II. FEDERAL PETROLEUM AND EMISSION REDUCTION MANDATES AND PROGRAMS

The legal authority for all of ACSF's proposed contract preferences, targets and reporting measures are contained in existing statutes, Executive Orders and DoD's own Strategic Sustainability and Green Procurement Plans. No new legislation, regulation, or DoD procurement guidelines are needed to implement the Foundation's proposals.

Executive Order 13514, Federal Leadership in Environmental, Energy, and Economic Performance, signed by President Obama in 2009, is particularly relevant here.<sup>2</sup> Among other things, EO 13514 requires federal agencies, including DoD, to develop and implement a Strategic Sustainability Performance Plan (SSP), set greenhouse gas (GHG) emissions reduction targets, increase energy efficiency, and leverage federal purchasing power to promote environmentally-responsible products and technologies. It requires federal agencies to report and reduce their own GHG emissions, as well as those of their delivery services and other contractors (Scope 3 emissions).<sup>3</sup> EO 13514 further mandates that 95 percent of new contract actions, including task and delivery orders, for products and services (with the exception of acquisition of weapon systems) meet the requirement for use of sustainable environmental practices.

Pursuant to EO 13514, in May 2011, the Federal Acquisition Regulation (FAR) was amended to reflect a "sustainable acquisition policy."<sup>4</sup> The objective of the FAR is "to deliver on a timely basis the *best value* product or service to the customer, while

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<sup>2</sup> Executive Order 13514, Federal Leadership in Environmental, Energy, and Economic Performance (2009), available at [http://www.whitehouse.gov/assets/documents/2009fedleader\\_eo\\_rel.pdf](http://www.whitehouse.gov/assets/documents/2009fedleader_eo_rel.pdf).

<sup>3</sup> Executive Order 13514 defines Scope 3 emissions as "greenhouse gas emissions from sources not owned or directly controlled by a Federal agency but related to agency activities such as vendor supply chains, delivery services...."

<sup>4</sup> The FAR defines "sustainable acquisition" as "acquiring goods and services in order to create and maintain conditions (1) [u]nder which humans and nature can exist in productive harmony, and (2) [t]hat permit fulfilling the social, economic, and other requirements of present and future generations." 48 C.F.R. Sec. 2.101. See also Kate M. Manuel and L. Elaine Halchin, (Congressional Research Service), "Environmental Considerations in Federal Procurement: An Overview of the Legal Authorities and Their Implementation," (January 7, 2013).

The FAR is a regulation, codified in Parts 1 through 53 of Title 48 of the Code of Federal Regulations, which generally governs acquisitions of goods and services by executive branch agencies – including DoD. It addresses various aspects of the acquisition process, from acquisition planning to contract formation, to contract management. While the FAR contains the principal rules of the federal acquisition system, DoD has supplemented the FAR with the Defense Federal Acquisition Regulation Supplement (DFARS) to further describe its own procedures.

maintaining the public's trust and fulfilling public policy objectives.”<sup>5</sup> Best value “must be viewed from a broad perspective and is achieved by balancing the many competing interests in the System. The result is a system which works better and cost less.”<sup>6</sup>

The interests of energy efficiency and environmental protection in “best value” acquisitions are also highlighted in the FAR at 48 C.F.R. § 23.103(a)(1)-(6). This regulation generally requires that agencies “shall advance sustainable acquisition by ensuring that 95 percent of new contract actions for the supply of products and for the acquisition of services (including construction) require that the products are – (1) Energy-efficient (ENERGYSTAR® or Federal Energy Management Program (FEMP)-designated); ... (4) Environmentally preferable (e.g., EPEAT-registered, or non-toxic or less toxic alternatives) ....”

In FY2004, DoD established a formal Green Procurement Program (GPP) “to enhance and sustain mission readiness through cost effective acquisition that achieves compliance and reduces resource consumption.....”<sup>7</sup> Among the defined objectives is to reduce consumption of energy and natural resources, and increase purchases and expand markets for green products and services.<sup>8</sup>

In addition, the DoD Strategic Sustainability Performance Plan FY 2012 sets a target of 13.5% reduction in Scope 3 emissions by 2020, compared to a FY2008 baseline.<sup>9</sup>

The WWX-6 solicitation and contract must comply with these controlling regulations and programs, and as such TCAQ must encourage vendors to reduce emissions and fuel consumption as part of its best value determination.

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<sup>5</sup> 48 C.F.R. § 1.102(a) (emphasis added).

<sup>6</sup> 48 C.F.R. § 1.102-1(b).

<sup>7</sup> DoD Green Procurement Program at 2, available at [http://www.denix.osd.mil/gpp/upload/FINAL-GPP-Strategy-Update\\_USA001967-08\\_Complete-Distro-2.pdf](http://www.denix.osd.mil/gpp/upload/FINAL-GPP-Strategy-Update_USA001967-08_Complete-Distro-2.pdf).

<sup>8</sup> *Ibid.*

<sup>9</sup> Department of Defense, Strategic Sustainability Performance Plan FY 2012 at I-8, available at [http://www.acq.osd.mil/ie/download/green\\_energy/dod\\_sustainability/2012/DoD%20SSPP%20FY12-FINAL.PDF](http://www.acq.osd.mil/ie/download/green_energy/dod_sustainability/2012/DoD%20SSPP%20FY12-FINAL.PDF)

### III. THE FEDERAL GOVERNMENT'S PURCHASING POWER

The federal government has the capacity to drive the transition toward a transportation sector that consumes less petroleum and generates fewer harmful air emissions. It is the largest consumer of energy in the U.S. economy.<sup>10</sup> As such, the federal government can and should lead by example when it comes to creating innovative ways to reduce GHG and other harmful pollutants.

Many large customers of transportation services and leading industry consultants have found that preferences in purchasing for cleaner, fuel efficient carriers result in decreased costs and prices. This is especially so from a cost standpoint because, when it comes to transport contracts, there is now strong evidence that fuel-efficient and alternative fuel vehicles yield lower operating and lifecycle costs for many applications as compared to other vehicles.<sup>11</sup>

By way of example, the vehicle acquisition cost for trucks fueled by natural gas is higher than for diesel trucks; however, the lower fuel and maintenance costs of natural gas lead to total operating and lifecycle savings for many applications. To illustrate, Golden Eagle Distributors, Inc., a beverage distributor in Arizona, operates a fleet of 75 delivery trucks and 200 small service vehicles.<sup>12</sup> It currently operates 32 compressed natural gas (CNG) fueled trucks via a turnkey lease. For Golden Eagle's Tucson delivery fleet, the annual vehicle leasing costs are \$414,924 for diesel and \$496,572 for CNG. However, with this fleet using 90,000 gallons per year, the annual fuel costs are \$358,020 for diesel and \$216,000 for CNG. Additionally, vehicle maintenance costs are \$12,500 less for the CNG vehicles. In total, CNG saves \$72,872 for this fleet.

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<sup>10</sup> White House Press Release, October 5, 2009, available online at [http://www.whitehouse.gov/the\\_press\\_office/President-Obama-signs-an-Executive-Order-Focused-on-Federal-Leadership-in-Environmental-Energy-and-Economic-Performance/](http://www.whitehouse.gov/the_press_office/President-Obama-signs-an-Executive-Order-Focused-on-Federal-Leadership-in-Environmental-Energy-and-Economic-Performance/)

<sup>11</sup> E. Neandross, "The Business Case: Determining Where and When The Integration of Alternative Fuels Makes the Most Sense" (2013) (presented at workshop for federal agencies), available at [http://www.cleanskies.org/wp-content/uploads/2013/05/oilshiftworkshop\\_neandross.pdf](http://www.cleanskies.org/wp-content/uploads/2013/05/oilshiftworkshop_neandross.pdf); ACSF, "Oil Shift: The Case for Switching Federal Transportation Spending to Alternative Fuel Vehicles" (2012), available at [http://www.cleanskies.org/wp-content/uploads/2012/08/OilShift\\_FINAL\\_File\\_For\\_Web-1.pdf](http://www.cleanskies.org/wp-content/uploads/2012/08/OilShift_FINAL_File_For_Web-1.pdf)

<sup>12</sup> Presentation by Bill Osteen (Senior Vice President of Business Operations, Golden Eagle Distributors, Inc.), Natural Gas Vehicle Fleet & Infrastructure Summit, Atlanta, GA, June 6, 2013.

Another carrier, Paper Transport, Inc., operates 35 CNG trucks on a corridor between Green Bay, Wisconsin, and Chicago. Compared to diesel trucks, each CNG vehicle yields annual fuel savings of about \$50,000.<sup>13</sup>

According to a leading industry consultant, replacing 35 diesel trucks with liquefied natural gas (LNG) vehicles on a trucking carrier's run for the U.S. Postal Service between Los Angeles and Sacramento (100,000 miles per truck annually) would be expected to yield these impacts: (a) incremental cost for trucks \$2.275 million; (b) annual fuel cost savings \$1.16 million; (c) simple payback in less than 2 years; and (d) annually reduced emissions of 1,971 million tons of GHG, 43 tons of nitrogen oxides, and 0.9 tons of particulate matter.<sup>14</sup>

The WWX-6 Procurement involves billions of dollars worldwide, much bigger operations than these regional examples, so the clean energy stakes are enormous. WWX-6 is likely to impact the carbon footprint and oil use associated with almost anyone who uses express delivery services, or indeed even flies on an airplane.

If DoD consistently directs federal transport contracts to transport vendors that reduce harmful emissions and fuel consumption, the billions of dollars in federal buying power each year would be added to the clean energy market. That spending power can also help to drive clean energy manufacturing jobs and jobs in providing cleaner, domestic fuels.

#### **IV. THE WWX-6 CONTRACT SHOULD BUILD ON THE ENVIRONMENTAL AND ENERGY PROGRAMS OF EXPRESS PACKAGE DELIVERY VENDORS**

Notably, the vendors likely to bid on WWX-6 – including UPS, FedEx, and DHL – have already made significant progress in reducing their carbon footprints and reducing their use of petroleum. They have established programs that quantify the relevant environmental factors and recognize the feasibility of dramatic improvements for this industry in the next few years.

Yet, the federal government should challenge the industry to do better. Substantial package delivery operations continue to exist which fail to incorporate industry best

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<sup>13</sup> Savings reflect a \$2.00 differential in price per diesel gallon equivalent and 180,000 miles per year per truck. Presentation by Erik Neandross (Gladstein Neandross Associates), ACSF Oil Shift Workshop, Washington, DC, June 10, 2013, available at <http://www.cleanskies.org/events/2013/06/oil-shift-workshop/>.

<sup>14</sup> Ibid.

practices, leading to wasteful costs and emissions. And industry best practices can be improved. The WWX-6 vendor selection process and contract terms should be structured to spur further improvements in carriers.

Taking this into account, TCAQ should make every effort to incorporate meaningful energy and environmental standards into the WWX-6 procurement.

UPS. UPS's 2012 Sustainability Report<sup>15</sup> identifies the following achievements and goals:

- Recent accomplishments:
  - Aircraft
    - Airlines used 1.3 percent less fuel in 2012 compared to 2011, while handling 4.8 percent greater shipping volume.
    - Airlines decreased carbon dioxide (CO<sub>2</sub>) emissions per available ton mile by 8.5% in the five years from 2007-2012.
  - Ground
    - Carbon dioxide-equivalent emissions (normalized) per 1,000 U.S. domestic packages reduced by 6.8% in the 3 years from 2009 – 2012.
    - Gallons of fuel per U.S. domestic ground package reduced by 6.6% in the 3 years from 2009 – 2012.
  - Used intermodal shifting to avoid approximately 3.3 million metric tonnes of CO<sub>2</sub> emissions in 2012. The total includes nearly 2.4 million metric tonnes avoided by shifting delivery volume from air to ground, and 0.9 million metric tonnes avoided by shifting volume from ground to rail.
  - Reduced absolute Global Scope 1 and 2 CO<sub>2</sub> emissions by 2.1 percent in 2012 compared to 2011, even though shipping volume increased 2.3 percent.
- Greenhouse Gas Reduction Strategy includes the following goals:
  - Aircraft
    - Reduce airline emissions by 20 percent in 2020, from a 2005 baseline.
    - Reduce airline CO<sub>2</sub> emission intensity from 1.4 pounds per ton mile in 2012 to 1.24 pounds per ton mile in 2020 – a reduction of 11.4%.
  - Ground
    - Reduce fine particulate emissions per vehicle by 75% between 2012 and 2020.

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<sup>15</sup> UPS Corporate Sustainability Report 2012 at 13, 56, 67, 85, 87-88, 91 available at [http://www.responsibility.ups.com/community/Static%20Files/sustainability/UPS\\_CSR2012\\_WEB\\_072213.pdf](http://www.responsibility.ups.com/community/Static%20Files/sustainability/UPS_CSR2012_WEB_072213.pdf).

- Reduce nitrogen oxides emissions per vehicle by 60% between 2012 and 2020.
- Increase the alternative fuel and advanced technology miles driven to 1 billion by 2017 (more than double previous goal of 400 million globally).

FedEx. FedEx 2012 Global Citizenship Goals & Progress Report<sup>16</sup> sketches high levels of improvements in environmental and energy efficiency performance:

- Accomplishments:
  - Aircraft:
    - Reduced aircraft CO2 emissions intensity by 4% in 2012, bringing cumulative reduction to 18% compared with FY05;
    - Purchased newer fuel-efficient aircraft which provided an estimated fuel savings of more than 37 million gallons in FY12, resulting in avoided CO2 emissions of 353,792 metric tons.
    - Implemented Fuel Sense initiative which realizes savings of 49 million gallons of jet fuel each year, thereby avoiding more than 466,000 metric tons of CO2 emissions.
  - Ground
    - Increased FedEx Express vehicle fleet fuel efficiency by 6%, bringing cumulative improvement since FY05 to 22%.
- Goals
  - Aircraft
    - Reduce aircraft emissions intensity 30% by 2020 compared with FY05.
    - Obtain 30% of jet fuel from alternative fuels by 2030.
  - Ground
    - Increase FedEx Express vehicle fuel efficiency 30% by 2020 compared to FY05.

DHL. DHL's Corporate Responsibility Report 2012<sup>17</sup> states:

- Accomplishments:
  - DHL's operations in 2012 showed a carbon efficiency improvement of 16% compared to 2007.
- Goals:

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<sup>16</sup> FedEx, 2012 Global Citizenship Goals & Progress Update, Environment & Efficiency at 3, 7, available at [http://about.van.fedex.com/assets/pdf/2012\\_FedEx\\_Global\\_Citizenship\\_Goals\\_Progress.pdf](http://about.van.fedex.com/assets/pdf/2012_FedEx_Global_Citizenship_Goals_Progress.pdf).

<sup>17</sup> Deutsche Post DHL, Corporate Responsibility Report 2012 at 60, 63, available at <http://www.dpdhl.com/content/dam/dpdhl/responsibility/corporate-responsibility-report-2012.pdf>.

- DHL targets a 30% improvement in the carbon efficiency of its operation by 2020, compared to a 2007 baseline.

## V. SOLICITATION AND CONTRACT LANGUAGE

To implement the proposals advanced here, and to ensure that prospective vendors are fully apprised of TCAQ's requirements, we suggest the following language for the Statement of Objectives (SOO), Request for Proposals (RFP), and the WWX-6 contract:

“Executive Order 13514 requires each agency to establish a Scope 3 GHG reduction target for FY2020.

Contractor must set targets on GHG and particulate matter emissions and petroleum consumption in year one of the contract and in each of the potential years of the renewal term. Contractor is encouraged to state targets for air and non-air transportation services on a disaggregated basis. Contractor will be required to submit an annual report regarding its performance with respect to these targets. A contractor may propose pricing or other incentives for superior environmental and fuel performance.”

In addition, the Evaluation Criteria in the SOO should include the following:

“The Contractor's environmental and energy efficiency performance and commitments on emissions reduction and fuel use shall be given significant weight in reviewing the Contractor's response. The Contractor's annual performance with respect to the foregoing metrics shall be given significant weight in deciding on annual contract extensions.”

## VI. BEST VALUE

Despite the legal mandates contained, *inter alia*, in EO 13514 and the DoD's Green Procurement Plan, many procurements by DoD and other agencies proceed without significant consideration of environmental factors. ACSF believes that a failure to include such factors is inconsistent with a best value procurement because, among other things, the cost of harmful air emissions contrasting petroleum and other fuels can be readily monetized and incorporated into a best value evaluation together with bidders' charges for products and services. For many products and services (a) environmental metrics, data and

corresponding social cost estimates already exist; and (b) these environmental costs are substantial and differ significantly across vendors.

More specifically, ACSF suggests that the following approach be used to integrate a vendor's proposed charges and related environmental costs:

*Best Value minimizes (A) Vendor's Charges + (B) Social Costs of Vendor Providing the Product or Service*

Where a vendor's social costs are the sum over the relevant metrics of:

*(C) Vendor's Performance on a Key Environmental Metric x (D) Social Cost of that Environmental Impact.*<sup>18</sup>

To implement this analytical framework, agencies need to identify the key environmental metrics, obtain data for vendors' performance on those metrics, and estimate the associated social costs. These tasks are manageable. Years of work by EPA and other agencies as well as private-sector organizations and companies already provide much data and analysis.

For many products and services, these efforts have defined key environmental performance metrics, developed standard methodologies and tools for measurement, collected and reported environmental data, and estimated the social costs of these impacts. While these measurements and estimates were aimed at assessing the costs and benefits of regulations, selecting and evaluating grant recipients, addressing investors' demands for corporate transparency, and other purposes, procurement teams should apply these findings in best value evaluations.

A few illustrations of readily-available building blocks for integrating environmental factors into best value evaluations are:

- Thousands of corporations track and publish their key environmental performance metrics through company sustainability (corporate responsibility) reports as well as standardized tools and accounts developed by organizations like the Global Reporting Initiative, Ceres' Global Initiative for Sustainability Ratings, and GHG Protocol Corporate Standard.

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<sup>18</sup> The proposed social cost accounting is not exhaustive; it would focus on a few key environmental performance metrics for a particular solicitation and not all impacts on policy goals, such as energy independence and environmental justice.

- EPA Regulatory Impact Analyses and other programs estimate the social costs of a wide range of pollutants, like particulate matter (PM), sulfur dioxide, mercury, ozone and nitrogen dioxide. EPA and its advisory committees applied extensive scientific, medical and economic research in estimating these social costs.
- The Office of Management and Budget developed a social cost of carbon dioxide emissions. For other GHGs, EPA has developed conversion factors allowing estimates of the social costs of emissions of methane, nitrous oxide and fluorinated gases.

The following example demonstrates the monetization of environmental factors in best value evaluations regarding procurements of freight, package delivery and other transportation services. The calculations for domestic package delivery services use publicly-available data and estimates of social costs on four key vehicle environmental performance metrics selected by EPA. The analysis indicates that, in many bid evaluations, the monetized social costs of vendors' vehicle emissions should be significant (about five percent or more of bids for transportation services) and should give a substantial preference to the lower-emissions vendor.

As use of this method of best value evaluation expands, more measures of environmental performance and their social costs will become available, paving the way for better-valued procurements of a wide range of products and services.

**Introduction to Transportation Example.** In many bid evaluations, the monetized social costs of emissions from transportation vehicles is significant (about five percent or more of bids for transport services). That means vendors proposing less polluting services should be able to demonstrate substantially better value.<sup>19</sup>

**Data on Key Environmental Metrics for Truck and Rail Fleets.** Over three thousand truck fleets, rail carriers, logistics providers, shippers and other businesses annually collect and report to EPA four measures of their vehicle emissions: carbon dioxide (CO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), fine PM (PM<sub>2.5</sub>), and coarse PM (PM<sub>10</sub>).<sup>20</sup> CO<sub>2</sub>

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<sup>19</sup> Vehicle emissions comprise a large portion of transportation vendors' environmental impacts. Other metrics reflecting the vendors' facilities may also be relevant to the analysis. See measurement of carbon dioxide-equivalent emissions per U.S. domestic package reported by UPS, covering mobile and stationary sources, both Scope 1 and Scope 2. UPS, "Corporate Sustainability Report 2012" at 67 [http://www.sustainability.ups.com/community/Static%20Files/sustainability/UPS\\_CSR2012\\_KPIs.pdf](http://www.sustainability.ups.com/community/Static%20Files/sustainability/UPS_CSR2012_KPIs.pdf). This methodology aims at a few key environmental performance metrics, and does not reflect all of vendors' social costs.

<sup>20</sup> EPA, "SmartWay Transport Partnership Carrier Performance Rankings" <http://epa.gov/smartway/partnership/performance.htm>.

and NOx are GHGs with climate impacts, and the PM emissions harm public health (increasing premature death as well as cardiovascular, respiratory and other illnesses) and have other social costs.

These data are collected in accordance with standardized methodologies and are available to the public and agencies through the SmartWay Transport Partnership, EPA’s “flagship program for improving fuel efficiency and reducing greenhouse gases and air pollution from the transportation supply chain industry.”<sup>21</sup> Using SmartWay software tools, participants report the emissions data in grams per mile and grams per ton-mile for these four pollutants. The participants develop the measures by analyzing the characteristics and utilization of the vehicles in their fleets or used by their contractors.

The SmartWay performance spreadsheets present vehicle emissions data for a wide range of small, medium and large companies. While the publicly-available spreadsheets usually present data on a company-wide basis, the participants make more detailed measurements which may be more suited to assessing the emissions for a particular contract. For a potential bidder that does not currently collect these data, the numerous and diverse SmartWay participants demonstrate that the burdens of such measurements are typically manageable.

Carriers differ substantially in these emissions. To illustrate, the SmartWay data on package carriers’ trucks show the following range:<sup>22</sup>

Table 1 Domestic Ground Package Carriers’ Truck Emissions (grams per mile) in 2012 Reporting Year

carriers by ranking	CO2	NOx	PM2.5	PM10
top 20%	950	2	0.025	0.025
bottom 20%	1350	10	0.225	0.225

<sup>21</sup> EPA, “SmartWay Transport Overview” <http://epa.gov/smartway/documents/publications/overview-docs/420f13017.pdf>.

<sup>22</sup> EPA, “SmartWay Transport Partnership Carrier Performance Rankings”, *supra* (click on Pkg tab).

These vehicle emissions data should be used with data on vendors' mileage traveled for the package delivery services requested.<sup>23</sup>

This range of differences, together with the substantial social costs described in the next section, indicate the importance of integrating environmental factors in best value evaluations.

**Social Costs of Vehicle Emissions.** Leading social cost estimates of the four pollutants covered by the SmartWay data are:

1. **CO<sub>2</sub>**. In 2013, the Office of Management and Budget (OMB), with the advice of a White House Interagency Working Group, developed an estimate of **\$38 per metric ton** for the social cost of CO<sub>2</sub>.<sup>24</sup> CO<sub>2</sub> is a GHG linked to climate impacts.
2. **PM<sub>2.5</sub>**. EPA's Diesel Emissions Quantifier estimates the health benefits of reducing PM<sub>2.5</sub> emissions from on-road diesel sources at **\$1.2 million per ton** as the national average. The estimates are available by county and range up to \$9.9 million in benefits per ton of PM<sub>2.5</sub> reduced in New York County. As part of EPA's Clean Diesel Program, this tool allows users to estimate the benefits of diesel emission reductions resulting from a variety of control strategies for mobile or stationary diesel engines.<sup>25</sup> PM<sub>2.5</sub> causes or worsens cardiovascular, respiratory and other illnesses, including premature deaths.
3. **NO<sub>x</sub>**. NO<sub>x</sub> is a precursor to the formation of PM<sub>2.5</sub> and ozone in the air, with adverse impacts on cardiovascular and respiratory illnesses. EPA's 2010 Regulatory Impact Analysis for Revising the Nitrogen Dioxide National Ambient Air Quality Standard estimated benefits from reducing a ton of NO<sub>2</sub> from mobile sources in the range of \$5,238 to \$12,857, with a midpoint of **\$9,047 per ton**.<sup>26</sup>

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<sup>23</sup> Through differences in vehicle capacity and loading, multimodal logistics, location of distribution centers, and other factors, lower-emissions carriers are able to reduce vehicle miles traveled per package.

<sup>24</sup> Testimony of H. Shelanski. Administrator for the Office of Information and Regulatory Affairs, OMB, Before the House Committee on Oversight and Government Reform, Subcommittee on Energy Policy, Healthcare and Entitlements (July 18, 2013) <http://oversight.house.gov/wp-content/uploads/2013/07/Shelanski-OIRA-Testimony-SCC-7-18.pdf>.

<sup>25</sup> EPA, "Diesel Emissions Quantifier Health Benefits Methodology" (2010) at 6, 26, 28 (national average calculated on a population-weighted basis) <http://www.epa.gov/cleandiesel/documents/420b10034.pdf>.

<sup>26</sup> EPA, "Final Regulatory Impact Analysis (RIA) for the NO<sub>2</sub> National Ambient Air Quality Standards (NAAQS)" at ES-6, 4-12 (2010)(analysis limited to PM<sub>2.5</sub> co-benefits of NO<sub>x</sub> reduction) <http://www.epa.gov/ttn/ecas/regdata/RIAs/FinalNO2RIAfulldocument.pdf>; EPA, "Nitrogen Dioxide: Public Health" <http://www.epa.gov/oaqps001/nitrogenoxides/health.html>.

4. **PM10.** PM10 damages respiratory systems, including increasing the incidence of cancer and premature death.<sup>27</sup> In response to a Congressional request, the National Research Council of the National Academies of Science estimated the damages per ton of PM10 emissions at about 5.8 percent of the costs of PM2.5 emissions.<sup>28</sup> Applying this factor to the EPA’s Diesel Emissions Quantifier noted above, the national average social cost is about **\$69,600 per ton** of PM10 from on-road sources.

**Significance of Pricing the Social Costs of Truck Emissions in Best Value Evaluations.** The social costs of truck emissions are significant for many freight, package delivery and other transportation services. When best value evaluations reflect these social costs, the monetized environmental factors have important impacts on evaluating the prices offered by vendors (about five percent or more). Furthermore, the differences in emissions across bidders logically leads to preferences for the bidder or bidders with lower-emissions.

Table 2 below draws on this SmartWay data for package carriers; the methodology is further described in the footnote.<sup>29</sup>

**Table 2 Monetized Social Costs of Domestic Ground Package Carriers’ Truck Emissions (cents/package)**

carriers by ranking	CO2	NOx	PM2.5	PM10	total emissions costs	emissions costs as % of vendor price
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<sup>27</sup> EPA, “Particulate Matter (PM-10)” <http://www.epa.gov/airtrends/aqtrnd95/pm10.html>.

<sup>28</sup> National Research Council, Hidden Costs of Energy: Unpriced Consequences of Energy Production and Use at 89 (2010) [http://www.nap.edu/download.php?record\\_id=12794](http://www.nap.edu/download.php?record_id=12794).

<sup>29</sup> Average truck miles per domestic ground package estimated at 0.8 using 8.8 ground packages per gallon of fuel (UPS, “UPS Corporate Sustainability Report 2012” at 90 [http://www.responsibility.ups.com/community/Static%20Files/sustainability/UPS\\_CSR2012\\_WEB\\_072213.pdf](http://www.responsibility.ups.com/community/Static%20Files/sustainability/UPS_CSR2012_WEB_072213.pdf)) and 7 miles per gallon for trucks (EPA, “SmartWay Trends, Indicators and Partner Statistics” (Nov. 26, 2012) (miles per gallon range for SmartWay Class 5 fleets (mid-sized local package delivery trucks), mostly 6 to 10 miles per gallon) <http://epa.gov/smartway/tips/tips6-b.htm> (miles per gallon range for SmartWay Class 8A fleets (large local or regional over-the-road trucks), mostly 5 to 7 miles per gallon) <http://epa.gov/smartway/tips/tips6-c.htm>). Average price per domestic package charged by package delivery service vendor estimated at \$7.71. GSA, “Domestic Delivery Service (DDS) Generation 3 - EXPRESS and GROUND SMALL PACKAGE AND HEAVYWEIGHT DELIVERY SERVICES”, Solicitation Number: RFI-DDS3-IndustryDay <https://www.fbo.gov/index?s=opportunity&mode=form&tab=core&id=7d1f141f3e8280ec81273193a59695c6>.

top 20%	3.0	1.6	2.6	0.2	8.0	1.0
bottom 20%	4.2	8.0	23.8	1.4	37.4	4.8

In this illustration, the social cost of truck emissions associated with some potential bidders (those producing higher emissions) is about 37 cents per package delivered, or about 5 percent of the price charged by a vendor for the transport service. Importantly, the lower-emissions vendors produce social costs of only about 8 cents per package, 29 cents per package less than the higher-emissions vendors. This difference is about 3.8 percent of the price charged by a vendor for the transport service.

The size of the difference in monetized social cost of emissions indicates the importance of reflecting an environmental preference in the best value evaluation.

**Conclusion on Transportation Example.** Through programs at EPA and other government efforts, standard methodologies, software tools, data and social cost estimates are available to monetize the social costs of vendors’ truck and rail emissions in providing freight, package delivery and other transportation services to federal agencies. Procurement processes can and should take the social costs of vehicle emissions into account in best value evaluations of bidders. This methodology for monetizing the social costs of harmful pollutants allows the procurement teams to consider environmental factors along with the prices that vendors charge for transport services.

In many cases, the social costs of emissions are substantial and demonstrate major differences across vendors.

**VII. CONCLUSION**

TCAQ must use WWX-6 to promote the environmental and energy security goals of Executive Order 13514, as well as DoD’s own Strategic Sustainability Plan and Green Procurement Program. By implementing ACSF’s above proposals, including the integration of social costs and transport related emissions into best value evaluations, TCAQ can leverage the vast spending of WWX-6 to drive the transition of our entire national shipping infrastructure toward one that consumes less petroleum and generates less pollution. It will also create more domestic jobs, and curb the vast transfer of our wealth to oil rich nations in the Middle East.