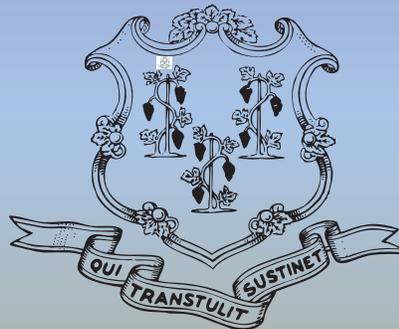


DEPARTMENT OF ADMINISTRATIVE SERVICES

Report on
CARBON FOOTPRINT DATA
as Factors in Awarding State Contracts

Pursuant to Section 73 of P.A. 13-247



Donald DeFronzo
Commissioner

February 1, 2014

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Honorable Governor Dannel P. Malloy and Distinguished Chairs of the Government Administrations & Elections Committee, pursuant to **Section 73 of [P.A. 13-247](#)**, the Department of Administrative Services (DAS) has completed the accompanying report entitled “***Carbon Footprint Data as Factors in the Awarding of State Contracts.***”

In our efforts to be responsive to this legislative directive, the Department of Energy and Environmental Protection (DEEP) has cooperated fully and provided significant input on this subject. Similarly, the Board of Regents, DAS Procurement staff and the Design and Construction staff of the DAS Division of Construction Services have contributed to the completion of this report. Other information for this report was drawn from other states, the national Environmental Protection Agency (EPA) and private sector research documents.

While DAS has attempted to be responsive, some of what has been requested in the public act is difficult to obtain and quantify. DAS has over one thousand active contracts for goods and services and dozens of construction related projects. Making a realistic determination on “miles traveled for bidders to perform” would be a lengthy and time consuming undertaking. In the case of goods and services, some come from as far away as Canada; but 56% of the vendors on the state’s goods and services contracts are Connecticut based companies. DAS Design and Construction staff reported a three year average (FYs 08, 09, 10) of 100% Connecticut company participation on capital projects administered by DAS. Those figures encompass the construction contracts of the Judicial Branch and the Board of Regents (BOR) since DAS administers their construction contracts. The University of Connecticut (UConn) reported 95%, the Department of Transportation (DOT) 86%, and Legislative Management reported 89%.

The task is further complicated by the fact that the same vendor may deliver multiple products to numerous government agencies around the state at the same time. Any meaningful analysis of comparable transportation costs and environmental factors would require a more lengthy and involved study.

Working with DEEP, we have provided a matrix indicating green house gas (GHG) emission estimates for a static transport scenario based on an EPA calculator involving three different modes of transportation, which will be outlined and discussed later.

This report **DOES:**

- Provide a legislative history of section 73 of [P.A. 13-247](#);
- Defines “carbon footprint factors” and explains Connecticut’s level of involvement and expertise with this methodology;
- Provides other state and national examples of carbon footprint methods applied to procurement;
- Explains the pre-requisites of establishing a carbon footprint measure for procurement purposes;

- Discusses policy constraints to applying this methodology to Connecticut contracting; and
- Describes Agency findings.

While there are several identifiable constraints to implementing a carbon footprint procurement requirement, there is certainly merit in attempting to increase the amount of in-state contracting to be done by Connecticut companies and to do so by use of measures that promote environmentally preferable means of supply. However, to achieve this goal, a proven and verifiable carbon footprint methodology must be adopted and tested. At this point Connecticut does not even have a proposed methodology, let alone an established and proven one. Attempting to apply such untested restrictions on the procurement process would almost certainly invite legal challenges and can only be viewed as premature at this time.

As is our practice, DAS remains willing to discuss this matter further and to work with the Legislature and sister state agencies in addressing this issue.

Sincerely,

Donald J. DeFronzo

Donald J. DeFronzo, Commissioner
Department of Administrative Services

Introduction

During any given year the state has approximately \$1.5 to \$2 billion worth of construction projects in some phase of development. In addition, DAS currently holds contracts for statewide use by executive branch agencies for the purchase of goods and services valued at approximately \$2 billion. DAS and other contracting agencies have participated in on-going discussions with policymakers on their legislative interest to direct as much of those investments as is legally possible to Connecticut companies.

Toward that goal, in 2011, the Legislature passed P.A. 11- 229 directing DAS to address issues of in-state contracting. This report "[2011 In-State Preference Report](#)," submitted to the Legislature in December of 2011 provided valuable information concerning the use of in-state versus out-of-state contractors, current state policies, legal issues and overall policy considerations.

In a similar fashion, the Connecticut General Assembly approved [Section 73 of Public Act 13-247](#), which calls for the Department of Administrative Services (DAS) in consultation with the University of Connecticut(UConn) and any other entities or agencies that we determine to study the feasibility of including carbon footprint data as a factor in the awarding of state contracts. Section 73 states the following:

The Commissioner of Administrative Services, in consultation with The University of Connecticut and other agencies or entities selected by the commissioner, shall study the feasibility of including carbon footprint data as factors in the award of state contracts. Such data shall include, but not be limited to: (1) The distance that bidders and proposers shall travel to perform under the contract; (2) the potential fuel consumption of bidders and proposers in the performance of the contract; and (3) the potential environmental impact and pollution created by the transportation of goods and services required to perform the contract. On or before February 1, 2014, the Commissioner of Administrative Services shall report, in accordance with the provisions of section 11-4a of the general statutes, the results of such study to the joint standing committee of the General Assembly having cognizance of matters relating to government administration.

Before discussing this topic we must first define what is meant by a “carbon footprint.”

The United States Environmental Protection Agency (EPA) provides an operational definition of a carbon footprint as: “the total amount of greenhouse gases that are emitted into the atmosphere each year by a person, family, building, organization, or company.” A person’s carbon footprint includes greenhouse gas emissions from fuel that an individual burns directly, such as by heating a home or riding in a car. It also includes greenhouse gases that come from producing the goods or services that the individual uses, including emissions from power plants that make electricity, factories that make products, and landfills where trash gets sent.” However, this is not a regulatory or statutory definition.

Although there is much discussion about carbon footprints, the Connecticut Department of Energy and Environmental Protection (DEEP) reports that the state does not have an existing methodology or emissions standard in place to assess carbon footprint. In the pages that follow this issue is addressed, as is information obtained from other states and countries, relevant findings and policy implications related to implementing a carbon footprint procurement requirement.

Legislative Background

Section 3 of [Substitute for Senate Bill 1133](#) (2013) was offered by the Commerce Committee with the intent of addressing concerns about a state construction contract being awarded to an out-of-state bidder with a small dollar variance in their respective “best offers.” See [Commerce Committee Testimony of United Steel](#), 3/19/13.

Thus, the catalyst for this legislation appears to be a UConn project involving a *hard bid trade package* contracted through the Construction Manager (CM) project delivery method. The use of this delivery method is available for construction projects (renovations, alterations, repairs, new construction, etc.) with a large construction estimate, complex scope, complex project requirements and / or a schedule critical project. The CM method is often preferred when preconstruction services are required.

In the CM approach, the CM bids and is awarded the project on the basis of the “guaranteed maximum price” (GMP) for the project and is then given full responsibility for the solicitation and selection of subcontractors. In this case the selection of preconstruction services was based on the “lowest qualified bidder” as determined by the CM. This process is contractually agreed to, and in this case, UConn would have no administrative authority to countermand the CM’s decision.

Although DAS is providing this analysis, UConn may be willing to add additional information if requested to do so by the Committee.

[Substitute for Senate Bill 1133](#), while receiving Joint Favorable action by the Commerce Committee, died during the Committee process and was never provided a File Copy. Concerns of state contracting agencies and concerns of the business community regarding the legal and practical application of such a measure; as well as the fiscal impacts associated with these directives, never had the benefit of a public hearing. This DAS study that eventually passed in the Budget Bill, P.A. 13-247, was requested as part of a subsequent information gathering step.

The Current Status of Carbon Footprint Policies in Connecticut

The considerations set forth in the Public Act are somewhat consistent with requirements of section 4a-67h of the Connecticut General Statutes, DEEP’s [2005 Climate Change Plan](#), and DAS’s [Environmentally Preferable Purchasing](#) (EPP) policies.

However, discussions with the Department of Energy and Environmental Protection (DEEP) have confirmed that there is no state statutory or regulatory definition of a “carbon footprint.” Consequently, there is no standard definition of “carbon footprint data” or standard methodology for calculating a “carbon footprint.”

As indicated earlier, the EPA provides an operational definition of a carbon footprint as: “the total amount of greenhouse gases that are emitted into the atmosphere each year by a person, family, building, organization, or company.” A person’s carbon footprint includes greenhouse gas emissions from fuel that an individual burns directly, such as by heating a home or riding in a car. It also includes greenhouse gases that come from producing the goods or services that the individual uses, including emissions from power plants that make electricity, factories that make products, and landfills where trash gets sent.” However, this definition is not established in statute or regulation.

DEEP regulates carbon dioxide emissions from certain equipment such as electric generators; however, these direct emissions are just one component of what could be considered the carbon footprint of a facility or activity. To date, however, DEEP has not cited, or imposed, any limits or requirements specific to the “carbon footprint” of a facility or activity in as broad a manner as the EPA operational definition above might suggest.

While state purchasing agencies do not use a carbon footprint measure, agencies do maintain policies that encourage concern for the environment.

The following is an excerpt from DAS’s EPP website reflecting procurement statutes that promote Environmentally Preferable Purchasing:

Connecticut	
Policy / Statute Name	
Cooperative purchasing plans	CGS 4a-53
Purchasing standards and specifications	CGS 4a-56
Competitive bidding or competitive negotiation for purchases and contracts. Regulations. Waivers. Exceptions	CGS 4a-57
Distribution of surplus state property. Lease of property to municipalities	CGS 4a-57a
Standardization Committee. Waiver of bid or proposal requirement	CGS 4a-58
Award of contracts	CGS 4a-59
Plan to increase state purchase of goods containing recyclable materials and goods capable of being recycled or remanufactured	CGS 4a-67a
Elimination of use of disposable and single-use products in state government	CGS 4a-67b
Equipment and appliances for state use, energy standards	CGS 4a-67c
Purchase of cars and light duty trucks. Gasoline mileage ratings. Exemption. Alternative fuel vehicles required to be purchased	CGS 4a-67d
Standards for purchase of recycled paper	CGS 4a-67e
Specifications for printing and writing paper	CGS 4a-67f
Recycling and remanufacturing of laser printer toner cartridges	CGS 4a-67g
Procedures promoting the procurement and use of recycled products and	CGS 4a-67h

environmentally preferable products and services by state agencies	
An Act Concerning the Use of Cleaning Products in State Buildings	CGS 4b-15a

Federal

Policy / Statute Name	Citation
EPA Comprehensive Procurement Guidelines	Guidelines
10 CFR 490, Federal EPA Act	Policy

Findings and Responses from Other States, Countries, and the Federal Government

DAS Procurement Services Director Carol Wilson surveyed procurement officials in other states for feedback and perspective on “carbon footprint methods” being applied to government procurement. In addition, DEEP shared some information from the EPA and other resources. It should be noted that most respondents confirmed that transportation of goods and services contributes a minimal amount of emissions when compared to the manufacturing and development phases of a product, all of which are part of a product’s carbon footprint.

The research indicates that there are five phases in the life cycle of product, each generating a part of the product’s carbon footprint.

The life-cycle phases of a product are:

- Phase I Raw Material Extraction
- Phase II Manufacturing Process
- Phase III Distribution
- Phase IV Consumer Use
- Phase V Disposal

Underscoring the point made by many of those surveyed by DAS, there are many examples of studies concluding that goods produced using low-carbon production methods can have a lower carbon footprint even if transported long distances, when compared to locally-produced goods that are made with the use of high environmental impact methods.

National Association of Procurement Officials (NASPO) Procurement Officials

The survey responses of several states, received from DAS' contacts through the National Association of Procurement Officials, are reported below.

Oregon

“I'd like to share some information that should help you with your study effort responding to your query regarding carbon foot printing and contracting. I work in our Department of Environmental Quality and have done some work with carbon (and other environmental) footprints, although not in the context of state purchasing. The 3 factors explicitly mentioned in your study bill (distance traveled, fuel used in contract performance, and transportation of goods and services) are all real and valid contributors to carbon footprints. However, for many (although not all) purchased goods and services, they border on trivial when compared to the *upstream emissions associated with producing the goods in the first place*.

Fortunately, your bill allows you to consider other factors than just transportation. Doing so will be essential to achieve actual reductions in greenhouse gas emissions.”

These comments illustrate a critical point that is highlighted throughout the report. The assumption that the transportation of goods and services is a major contributor to green house gas (GHG) and CO emissions does not appear to be factual.

South Carolina

“The State of South Carolina Environmentally Preferred Purchasing Policy includes several endeavors, including ‘purchasing from South Carolina businesses to minimize transportation costs and emissions, when it can be done with adequate competition and without compromise of performance or quality of products or services.’ The policy applies to all SC state agencies, publicly funded colleges and universities, and other governmental bodies as defined in SC Code Section 11-35-310(18). (<http://www.scstatehouse.gov/code/t11c035.php>).

The full policy is available at <http://procurement.sc.gov/PS/general/PS-general-proc-policy.phtm>.”

As a result of this policy and others that promote in-state purchasing South Carolina is subject to New York Reciprocity and Sanctions Provisions that states:

Bidders are hereby notified that if their principal place of business is located in a country, nation, province, state or political subdivision that penalizes New York State vendors, and if the goods or services they offer will be substantially produced or performed outside New York State, the Omnibus Procurement Act 1994 and 2000 amendments (Chapter 684 and

Chapter 383, respectively) require that they be denied contracts which they would otherwise obtain. NOTE:

As of May 15, 2002, the list of discriminatory jurisdictions subject to this provision include the states of South Carolina, Alaska, West Virginia, Wyoming, Louisiana and Hawaii.

Massachusetts

“While the Commonwealth of Massachusetts is not guided by the same legislation as Connecticut; our Executive Order 515 involving increased procurement of environmentally preferable products did cause me to re-think purchasing tote bags from China. Research indicated that even those companies claiming to have tote bags manufactured in the U.S. are merely assembling what they purchase from China. However, there was a company in NH; Enviro-Tote that had a tote bag made from 100% recycled material with fabric made in New Hampshire. Thus, was the need to identify the carbon footprint savings for domestic versus international procurement.

The carbon footprint between Boston and Beijing is 6,739 miles and between Hudson, NH and Boston is 54.6 miles a difference of 6,684.4 miles. The equation to compute the savings in fuel is based on the NASA formula below. Given 2,000 tote bags at an approximate weight of 1,250 lbs the carbon footprint was:

By air cargo for the 6,700 miles 3.06 tonnes of CO₂ (one "tonne" is a metric ton) would be produced. Using truck for 55 miles there would be .01 tonnes of CO₂ produced. Source: <http://www.carbonfund.org/business/calculator#shipping> .

The 3.06 tonnes is equivalent to 128 propane cylinders (used in the home BBQ), as they weigh 20 pounds when filled, which equals about 127 propane cylinders being used in a year. The formula used was <http://www.epa.gov/cleanenergy/energy-resources/calculator.html>.

While the above calculations were done by an intern here at OSD in March 2011 other formulas were identified that would require you knowing the service record of the air cargo plane and ground transit (truck, train or barge) to know what the level of efficiency the respective power system was at. This would then have to address fuel type, tank size, oil etc. to calculate savings based on the efficiency level in between service maintenance.”

International and National Findings on GHG Emissions

- [Food-Miles and the Relative Climate Impacts of Food Choices in the United States](#)
Carnegie Mellon University study, 2008

This study evaluated the carbon footprint of the average food consumed by the average U.S. household. Its analysis begins in the supply chain of food and includes growing, harvesting, processing, packaging, and transporting it to retailers. (Emissions downstream

from the retailer, e.g., driving the food home from the grocery store, refrigerating it at home, cooking, and land filling uneaten food are not included).

The study finds that emissions associated with transporting food from the final producer to the retailer contribute a mere **4 percent** of the carbon footprint.

“Upstream” transportation (supply chain transportation, such as transporting fertilizer to a farm, wheat from a farm to a mill, and flour from a mill to a bakery) contributes more, yet only **7 percent**. A whopping **83 percent** of emissions are associated with production – fertilizers decaying in fields, methane burps from cows, energy used in food manufacturing, etc.

- EPA's construction sector manual also references World Resource Institute's Corporate Standard, an internationally recognized tool for estimating GHG emissions. Information specific to the Scope 3 standards and calculations can be found at [Scope 3 Calculations](#), which provides insight on calculating greenhouse gas emissions from procured goods, and from upstream and downstream transportation.
- EPA website <http://www.epa.gov/climateleadership/> provides a variety of tools and emissions factors developed by the Climate Leadership, a private/government partnership that may be useful in estimating, at least, the greenhouse gas emissions from the transportation of goods and services to perform the contract.

The [GHG Inventory Management Plan \(IMP\) Checklist \(DOC\)](#) is the product of an EPA-private sector partnership of Climate Change Leaders and outlines the various components an individual company would need to incorporate to adhere to EPA climate change strategies. Please note the series of components (31) and implementation steps that the companies who participated in this GHG emissions partnership with the EPA needed to perform regularly to comply with these standards. If approved in Connecticut, companies bidding on any state project would be required to develop and implement similar GHG inventory management plans which could be costly. DAS is not suggesting that all 31 listed components and required detail would be applicable if adopted in Connecticut, but do believe the checklist demonstrates that companies would be required to make substantial process changes to comply with this policy change.

- Also attached is EPA's construction sector report, which provides insights on how emissions from construction projects can be quantified and reduced. This report references the EPA Climate Leadership Program. [Potential For Reducing Green House Gas Emissions In Construction Report.pdf](#)
- [Carbonomics Presentation - Canadian Institute Feb 2012 \(2\).pdf](#). This report provides a demonstration of a region – Canada – which has done thorough research of GHG emissions in the manufacturing and production of goods, and the provisions of service contracts. The report summarizes the detailed research and analysis applied to their methodology which includes “life costs analysis,” GHG emissions during all phases - 1) raw material, 2) manufacturing, 3) distribution - to ensure that if applied to a goods or

service contract there has been a fair value analysis performed that considers costs, environmental factors, and societal good.

- From a procurement standpoint, the Canadian Institute’s position is that any methods or policies that wish to apply these environmental standards to procurement must be *relevant, complete, consistent, transparent, and accurate*.
- The “Process Map in the Life of a Croissant” section of the report illustrates that all the phases of a product’s life include:

- Phase I Raw Material
- Phase II Manufacturing
- Phase III Distribution
- Phase IV Consumer
- Phase V Disposal

Transportation/distribution is the phase that maintains the lowest chemical emissions.

Attempts to Quantify Environmental Impact

While Section 73 of Public Act 13-247 calls for the development of “data measuring the environmental impact and pollution created by the transportation of goods and services required to perform the contract,” our ability to do so is limited. DEEP, in reviewing EPA resources, has provided us with a matrix indicating green house gas (GHG) emission estimates for a static transport scenario based on an EPA calculator involving three different modes of transportation.

Example

The emission estimates are based on transporting ten tons of goods over 100 miles by one of three modes of transportation - rail, aircraft, and truck – and are determined by use of these factors and the formula that follows:

- E = Total CO₂e Emissions (kg)
- TMT = Ton Miles Traveled
- EF_{CO2} = CO₂ Emission Factor
- EF_{CH4} = CH₄ Emission Factor
- EF_{N20} = N₂0 Emission Factor
- 0.021 = Conversion Factor
- 0.310 = Conversion Factor
- Ton Miles = Tons * Miles

Product Transport Emissions Equation:

Formula: $E = TMT * (EF_{CO2} + (EF_{CH4} * 0.021) + (EF_{N20} * 0.310))$

Scenario # 1 – Truck Transport:

Emission Factors for Medium- and Heavy-Duty Truck Product Transport (ton-mile)

CO₂ Emission Factor (kg CO₂/ton-mile)	CH₄ Emission Factor (g CH₄/ton-mile)	N₂O Emission Factor (g N₂O/ton-mile)
0.297	0.0035	0.0027

$$E_{\text{Truck}} = (10 \text{ tons}) * (100 \text{ miles}) * (0.297 + (0.0035 * 0.021) + (0.0027 * 0.310))$$

$$E_{\text{Truck}} = 297.9105 \text{ kg CO}_{2e}$$

Scenario # 2 – Rail Transport:

Emission Factors for Rail Product Transport (ton-mile)

CO₂ Emission Factor (kg CO₂/ton-mile)	CH₄ Emission Factor (g CH₄/ton-mile)	N₂O Emission Factor (g N₂O/ton-mile)
0.0252	0.002	0.0006

$$E_{\text{Rail}} = (10 \text{ tons}) * (100 \text{ miles}) * (0.0252 + (0.002 * 0.021) + (0.0006 * 0.310))$$

$$E_{\text{Rail}} = 25.428 \text{ kg CO}_{2e}$$

Scenario # 3 – Air Transport:

Emission Factors for Aircraft Product Transport (ton-mile)

CO₂ Emission Factor (kg CO₂/ton-mile)	CH₄ Emission Factor (g CH₄/ton-mile)	N₂O Emission Factor (g N₂O/ton-mile)
1.527	0.0417	0.0479

$$E_{\text{Air}} = (10 \text{ tons}) * (100 \text{ miles}) * (1.527 + (0.0417 * 0.021) + (0.0479 * 0.310))$$

$$E_{\text{Air}} = 1524.7247 \text{ kg CO}_{2e}$$

DEEP identified equations, conversion factors, and assumptions found by the EPA http://www.epa.gov/climateleadership/documents/resources/commute_travel_product.pdf (May 2008). *Climate Leaders Greenhouse Gas Inventory Protocol Core Module Guidance Optional Emissions from Commuting, Business Travel and Product Transport.*

Based on the above analysis, rail is by far the preferable means of transport, although in many instances, it may not be an available mode of transport.

Findings

1. Discussions with the DEEP indicate that a carbon footprint methodology trusted and proven on this issue does not currently exist in Connecticut. As a result, any efforts to implement such a comprehensive procurement related environmental policy would be premature. Even if a carbon footprint policy was in use in Connecticut, the process needed to obtain the relevant data from actual or potential bidders would be substantial as would any project management system needed to validate and enforce this measure.
2. Connecticut procurement goals involve two, sometimes competing objectives: 1) the need to ensure fair and open competition and acquire goods and services at the lowest possible cost; and 2) the desire to acquire those goods and services from in-state providers. Policymakers must ensure that changes in procurement policy are consistent with these goals, are constitutional and do not trigger retaliation clauses in neighboring states that penalize Connecticut companies who bid on out-of-state contracts. For example, South Carolina is on the New York Sanctions list for having adopted policies that are perceived as favoring South Carolina resident bidders over out-of-state companies. Connecticut companies currently have no impediments in doing business in other states and any policy that might change that relationship could have an adverse impact on Connecticut-based companies and the economy of the state.
3. In developing the ["2011 In-State Preference Report,"](#) Division of Construction Services staff reported a 3 year average (FYs 08, 09, 10) of 100% Connecticut company participation on capital projects administered by DAS, previously the Department of Public Works. Those figures encompass most executive branch agency construction projects, as well as the construction contracts of the Judicial Branch and the Board of Regents (BOR), whose construction projects are administered by DAS. The University of Connecticut (UConn) reported 95%, the Department of Transportation (DOT) 86%, and Legislative Management reported 89%. While not addressing the status of subcontractors, this report does indicate that an extremely high level of in-state contracting on major state construction projects is already the norm.
4. The mission of procurement officials is to keep the procurement process fair and open and ensure maximum competition, a concept which is the cornerstone of public procurement. Additionally, Connecticut procurement officials have continually sought ways to streamline the contracting processes and make it easier for potential users. Some of these steps have included on-line applications, certifications and bid submissions, e-alerts of upcoming bid opportunities, etc. A decision to move forward with carbon footprint evaluation scenarios would certainly have consequences both in terms of state staffing to guarantee compliance, as well as creating another potential burden for companies, particularly small companies, attempting to do business with the state.

5. Connecticut does currently have statutory language that requires the DAS Division of Construction Services to consider as selection criteria (1) a firm's "knowledge of the state's building and fire codes, and (2) the geographic location of such firm in relation to the geographic location of the proposed project" when choosing the most qualified consultants for DAS construction projects. See C.G.S. § 4b-57(b). In implementing this statute, DAS Construction Services applies an extra ten points to consultants bidding on state contracts if the company's headquarters is within 60 miles of the project site, and the company is able to demonstrate the requisite knowledge of the state codes. This is an example of an existing justifiable measure that works to support Connecticut companies in our procurement processes, without being overly burdensome in its application or inciting other states to take retaliatory action against Connecticut contractors. Please note, however, that these factors only come into play in the award of construction consultants; they do not apply to the state's selection of general contractors, or a Construction Manager at Risk ("CMR") selection of its subcontractors.

UConn also indicated that it currently uses criteria similar to the C.G.S. 4b-57(b) factors, such as the location of the company's primary office when considering design professional services, and that it gives preference to firms with offices within 100 miles of the project site.

6. This study was initiated in response to a UConn project that utilized a Construction Manager at Risk (CMR), and left the selection of its suppliers and subs solely up to the CMR. As an alternative to adopting a costly and arguably inaccurate carbon footprint procurement measure, perhaps a more practical approach would be to consider the applicability of requirements similar to the 4b-57(b) factors (used in the selection of consultants) to the selection of general contractors and/or subs. It is imperative, however, that such an analysis keep in mind the differences between the state's evaluation of construction consultants versus contractors and subs. Notably, consultant selections are qualifications-based, while contractor selections are based on the lowest responsible and qualified bidder. Additionally, requirements that dictate subcontractor award in the CMR context may reduce the number of bidders and provide an argument for the CMR to qualify its risk.

How other agencies with contracting authority would view any policy change in this area, and the impacts of applying professional service preferences to construction delivery methods, would need to be discussed further.

Policy Implications

Substantial Agency(s) Costs

Implementation of a carbon footprint procurement requirement would require additional staff for all agencies with contracting authority. Agency staff needs would be three-fold: There would be the need for increased staff in order (1) to review/analyze existing contracts (currently over 1000 in number at DAS alone) for critical data pertaining to distance from suppliers to users; (2) to maintain a system, and develop internal processes to implement this carbon footprint methodology into agencies' contractual processes and to educate the public to its use; and (3) to monitor compliance and respond to challenges once the methodology was implemented.

Administrative Costs on Small and Large Businesses

As referenced in the [National Findings](#) section above, the EPA/private sector GHG emissions partnership of Climate Change Leaders developed an outline of the various components an individual company would need to implement in order to adhere to this EPA policy, it was called the GHG Inventory Management Plan. The checklist [GHG Inventory Management Plan \(IMP\) Checklist \(DOC\)](#) contains dozens of measures companies must take in order to comply. DAS is not suggesting that all of these components would be applicable to companies bidding in Connecticut if this policy change is implemented. However, there will be additional costs to in-state firms, as well as out-of-state firms interested in doing business with the state if this measure is adopted. Those costs could have disproportionate impact on smaller firms who already find the state's contract processes to be difficult to comply with. These increased measures could be a disincentive to many of the small businesses that by definition are Connecticut companies from continuing to pursue opportunities on state contracts.

Reciprocity

Policy changes that add other purposes, such as maximizing the use of in-state suppliers for goods or services, while encouraging local employment, may have the effect of undermining the traditional purpose of achieving the best price for the purchase at hand. The tension in balancing these two legitimate policy concerns, cost versus local employment, is a central point in this discussion.

To the extent that an in-state preference is established or expanded, a commonly discussed problem is that of potential retaliation by other states against Connecticut companies seeking to do business elsewhere. This is particularly relevant inasmuch as Connecticut is a relatively small state and there are several states nearby where Connecticut companies do business or may hope to do business. Of course, these companies employ Connecticut residents as well. Any policy that has the effect of dampening the out-of-state demand for in-state companies while pursuing an increase in in-state demand for in-state companies may well be counter-productive.

Connecticut, along with at least thirty-five other states, has a law that provides for a penalty in procurement competition for companies that compete for business with the State of Connecticut but whose home states provide an in-state preference to their own companies doing business with

their state government. Connecticut General Statute § 4e-48 requires the contracting agency to increase the out-of-state bid by the amount of preference the contractor receives on bids in its home state. If the increase makes an in-state contractor the lowest bidder, then the in-state contractor can win the contract if it agrees to meet the original low bid made by the out-of-state contractor.

Oregon.gov provides an updated chart of each state's reciprocal preference penalty laws.

Legal and Constitutional Concerns

Discussions concerning in-state preferences in state government procurement inevitably involve constitutional concerns that become relevant when states choose to treat citizens or businesses differently based on their state of residence or domicile.

Connecticut, along with most other states, has a variety of in-state preferences in its procurement laws. Most of these, as written and as applied, are likely constitutional. The U.S. Constitution grants the sovereign states wide latitude when they are acting as buyers or sellers of goods or services and are using their own taxpayer's money to do it.

Where courts tend to find problems is in cases where the preference is rigid and exclusionary with regard to participation by non-residents or the preference is overly broad in its application and has more extensive, "downstream" impacts in the larger private market. Preferences that survive challenge tend to be narrowly drawn and directly related to a valid public purpose.

How an in-state preference is viewed by the federal courts will turn on a number of factors: What is the role the state is playing, i.e. market participant vs. market regulator? What is the impact of the law on the larger private market, i.e., are there substantial ripple effects beyond the instant case? What is the rationale for the preference, i.e., is there a legitimate state interest and is the preference substantially related to it? Are there more narrowly tailored methods for achieving the same goal?

It is clear that a preference has a good chance of passing constitutional muster if it is a modest approach that (1) does not categorically or practically preclude out-of-state workers or businesses, (2) serves an important state interest, (3) is narrowly tailored and (4) is substantially related to the state's interest.

The comprehensive policy change of applying carbon footprint methods to state contracting would need to demonstrate the positive environmental outcomes and address all of these market participation factors. Clearly this type of analysis should be undertaken before state agencies invest in staff and other business costs associated with implementing such a policy.

Clarify Scope of Policy

EPA has done substantial work on the “carbon footprint” and has been an invaluable resource for this reporting. While Public Act 13-247 focuses on transportation-related environmental impacts, when looking at the life cycle of products, each phase of which contributes to the size of a carbon footprint, is it intended that a complete life cycle carbon footprint analysis be done as part of the procurement determination, or is the much more limited transportation related analysis preferred?

Policymakers should commit to ensuring that if carbon footprint methodology in contracting is pursued, that the scope of analysis identified in this legislation is clear.

Engage Vested Stakeholders

Contracting agencies and potentially affected companies and stakeholders should have an opportunity to provide comment on any potential fiscal or business-related impacts. Further legislative consideration of this subject matter should begin with a legislative concept to which all vested stakeholders may respond. Due to the potential impact of such a policy, legislative review may require referral to multiple committees including the Government Administration & Elections, Energy and Technology, and Environment committees. DAS and UConn administer a large amount of government contracts; but there are other agencies with contracting authority—Board of Regents, Department of Transportation, Legislative Management, and the Judicial Branch, and various business interest organizations who should have an opportunity to express their position on the issue.