



May 1, 2023

Office of Chemical Safety and Pollution Prevention
United States Environmental Protection Agency
1201 Constitution Avenue, NW
Washington, DC 20405

Re: Docket ID – EPA-HQ-OPPT-2022-0924

Thank you for the opportunity to provide information regarding the sustainable marketplace/environmentally preferable purchasing program that was released on January 19, 2023.

With more than 1,100 member companies, the National Asphalt Pavement Association (NAPA) is the only trade association that exclusively represents the interests of the asphalt pavement producer/contractor on the national level with Congress, government agencies, and other trade and business organizations. NAPA's membership also includes companies and individuals that support the asphalt pavement industry, such as construction equipment manufacturers and material suppliers. NAPA members are leaders in implementing sustainable plant and pavement technologies, such as Reclaimed Asphalt Pavements (RAP) and Warm-Mix Asphalt (WMA), that reduce environmental impacts and greenhouse gas (GHG) emissions.

NAPA is also the Program Operator for the Product Category Rules (PCR) for Asphalt Mixtures in North America and the owner of Emerald Eco-Label, a tool used to produce third-party verified Environmental Product Declarations (EPDs) for asphalt mixtures.

Before we address the questions in the RFI, we ask that you consider a few themes and considerations.

1. This was a complex RFI. Many of the answers are nuanced based on our interpretation of the questions. NAPA asks that EPA continue to seek additional stakeholder feedback to refine efforts once responses to these questions have been analyzed. There are numerous examples of programs that have been rushed without taking sufficient time to collect stakeholder feedback. It is critical for the success of these programs to take the time to evaluate and discuss comments and suggestions.
2. There are numerous experts and resources in different material fields available. Collaborative efforts have already been taken to define what EPDs are and how they can be used. The EPA should not recreate materials and efforts that have already been developed but should instead use what is available to strengthen the programs being addressed.
3. The maturity of the programs for different construction materials varies. While the EPD programs for the four priority materials (asphalt, concrete, glass, and steel) are robust, many of the upstream ingredients for these materials do not have a PCR. The asphalt pavement industry is concerned that by including second- and third-tier priorities in the program, funds will not be sufficient to adequately support the four products that are required by the law. Since both the General Services Administration

(GSA) and Federal Highway Administration (FHWA) are required to implement the program, preference should be given to materials that are commonly used by both agencies.

4. One of the biggest hurdles in advancing this program is data. Upstream material suppliers need to provide data to ensure that EPDs for construction materials are as robust as possible. The EPA should also help fund efforts like the Federal Life-Cycle Analysis (LCA) Commons so industries can consistently pull from high-quality public data sources. Doing so will require funding to update and then maintain the life-cycle inventories that program operators can rely upon for common energy and materials.
5. The EPA should focus on the legislation that addresses environmental impacts and materials. Moving beyond what is required, set forth in legislation by Congress, would spread the allocated funds too thin and prevent the EPA from developing more robust programs for the materials legislated by Congress. The EPA should use this time to develop high-quality programs that are robust within the limits of what Congress authorized it to do.

As requested, we will address each question pertinent to industry individually.

Section A. What Construction materials/products should EPA prioritize in implementation of IRA Sections 60112 and 60116?

1. Newly Manufactured Materials: How should EPA prioritize construction materials and products to focus on for its EPD assistance program? How should EPA prioritize construction materials and products for its carbon labeling program? Please provide a justification for each of the construction materials/products proposed. For context, Federal Buy Clean efforts have initially focused on concrete (and cement), glass (including, but not limited to, flat/float glass, processed glass, and insulated glazing units), asphalt mix and steel (including, but not limited to, hot rolled sections, plate, hollow structural sections, steel reinforcing bars/rebar, cold formed steel framing and steel joists). This focus is due to the high embodied (manufacturing) greenhouse gas intensity, availability of data and reporting frameworks (such as EPDs) and percentage of federal expenditure on these materials/products. The General Services Administration (GSA) issued an RFI in October 2022 that identified aluminum (including curtain walls and storefronts), insulation (including enclosure, equipment, piping, and acoustical), roofing materials, and gypsum board as the second tier of priority and structural engineered wood (including mass timber and cross-laminated timber) as the third tier of priority.

Response: The Inflation Reduction Act (IRA) specifically calls for the EPA to prioritize concrete, asphalt, steel, and glass. The asphalt pavement industry is concerned that by including second- and third-tier priorities in the program, funds will not be sufficient to adequately support the four products that are required by the law. As both GSA and FHWA are required to implement the program, preference should be given to materials that are commonly used by both agencies. This program should also include ingredients used in the manufacturing of these four common materials. For example, supply-chain specific data for asphalt binder, aggregates, and additives are needed to improve the quality of the asphalt mixture EPD. The EPA should focus on the materials that are purchased in large quantities and have higher carbon emissions, which will allow EPA to provide the most benefit to GSA and FHWA in execution of effective programs.

2. Minimally Processed, Salvaged and Reused Materials: How might EPA's programs incentivize, measure, and standardize the salvage and reuse of building/infrastructure materials as a key part of the Federal embodied greenhouse gas reduction strategy given the current lack of labels or EPDs and other challenges for some of these materials? What salvaged and reused materials should be prioritized and why?

Response: The EPA should be aware that, in many cases, the industry’s ability to use minimally processed, salvaged, or reused materials is limited by owner specifications and standards. In some cases, these limits may be based on scientific data and knowledge of how the material could impact the engineering properties of the construction material. However, this is not always the case. Agencies should be encouraged to use these types of materials coupled with standards and specifications that promote performance.

3. Biobased Materials: How might EPA’s programs incentivize biobased construction materials (e.g., mass timber, straw, hemp, cellulose cement), given the captured greenhouse gas emission advantages of some of these materials, while also ensuring sustainable forestry and agricultural practices (which may not be fully included in life cycle assessments (LCAs)) are considered as part of EPD assistance and carbon labeling, where relevant? Similarly, how might EPA measure impacts associated with the feedstock for biobased materials potentially displacing crops that might otherwise be used for food or biofuel? What are the opportunities to use agricultural waste in construction materials to substantially lower the embodied greenhouse gas emissions?

Response: Research is ongoing in the area of biobased asphalt binder modifiers, extenders, and replacements. Further research, development, and deployment of these materials can be accelerated by ensuring that their environmental benefits are properly accounted for in EPDs so financial incentives can be applied. The significant challenge with biobased construction materials that EPA can address is that there is still little guidance for how to account for biogenic carbon in EPDs. The American Center for Life Cycle Assessment (ACLCA) has produced draft guidance; however, it needs to be more thoroughly reviewed and then must be applied across PCRs for construction materials.

Section B. What data accessibility and improvement approaches should EPA consider?

5. Public Accessibility of Data: What role can EPA play to support greater public access to product and facility specific environmental data? What background datasets need to be generated, made publicly accessible, and/or updated and enhanced to reflect embodied greenhouse gas emissions of the final product more accurately? What role should the Federal LCA Commons (<https://www.lcacommons.gov/>) have, if any?

Response: NAPA supports the use of data from the Federal LCA Commons, and public data in general for use in PCR and EPD development. However, the Federal LCA Commons needs dedicated funds and a dedicated data curator to be effective. Background datasets for transportation, electricity, fuels, and landfill processes need to be established or updated. Regular updates are needed to reflect changes in the electrical grid, transportation fuels, and industrial fuels as these sectors transition to renewable and biobased energy sources. Dedicated funding to maintain and continually update the Federal LCA Commons as technologies change is critical for the success of this program. These datasets need to be interoperable between the various LCA modeling tools used by LCA practitioners who develop EPDs.

6. Moving More EPDs From Averages Towards Actuals: How can EPA support the development of product-specific EPDs that use more actual, facility-specific data for greenhouse gas emissions along a product’s “upstream” supply chain? What type of/approach to verification is needed to ensure reported data is accurate?

Response: EPDs for asphalt mixtures produced under the PCR for Asphalt Mixtures are product and facility specific; however, the EPDs produced do not use product- and facility-specific data from upstream materials

suppliers. In the case of asphalt binder and aggregate, there is not currently an ISO-compliant PCR that supports product- and facility-specific EPDs. Both industries are creating PCRs that will allow this type of EPD to be produced. The PCR for Asphalt Mixtures was crafted so that when these data are available, asphalt mixture EPDs can be created using supply-chain specific data instead of industry average data.

The EPA could develop a program that investigates (potentially with key stakeholder involvement) which quality assurance strategies are needed and provide further guidance and support to Program Operators looking to implement such programs. Financial and technical assistance may also be needed to develop PCRs for asphalt additives and modifiers to ensure that upstream data associated with these materials are consistent with the asphalt mixture product system.

7. Life Cycle Stages: How should EPA consider the environmental impacts/contributions of the use and disposal stages of materials/products when those stages are not often addressed in EPDs and depend heavily on decisions by future owners of the materials/products?

Response: This question aligns itself with question 2 in this RFI for addressing end of life.

Using EPDs to determine what type of structures to build (e.g., concrete vs steel) is inappropriate at this stage of the project decision-making process because owners are not choosing a material supplier. EPDs might be used as a data source to support these decisions provided product- and facility-specific data were somehow normalized. Additionally, this type of effort would require harmonization across product categories, which is currently not the state of practice. The overall challenge with current efforts is that a short ton of asphalt mixture could perform differently depending upon the overall pavement structure. Therefore, including other life cycle stages in an EPD would require the development of an overall pavement or building PCR to characterize those other stages.

Currently, EPDs are being considered at the procurement stage. Soon they will also be collected before construction to ensure that the material meets certain global warming potential (GWP) limits. At that point, owners have already made certain design considerations, which include engineering criteria to ensure similar levels of performance. It is critical that agencies define products based on these standards of expected performance. Per ISO standards, it is acceptable to not include future stages that are considered similar. If an agency is using the same pavement design and same material specifications, then it is acceptable not to include the future stages.

One significant opportunity in this area is the use of RAP. Increasing RAP significantly reduces the carbon footprint of asphalt production, but many agency specifications limit the use of RAP. With improvements in asphalt mixture design methods, such as Balanced Mix Design (BMD), and performance testing, asphalt can be produced with higher percentages of RAP while achieving performance standards. The EPA has an opportunity to influence this area to allow more carbon reduction.

Within the context of procurement, it's important to consider transportation of products from the gate of the plant to the construction site (the A4 information module as defined in ISO 21930). For asphalt mixtures, transportation can be a significant driver of GHG emissions. Including the A4 stage can help prevent the unintended consequence of selecting "low carbon" materials without considering the impacts of transporting those materials to the project.

Due to the nuances of this topic, there is no consensus on how to apply subsequent life cycle stages of construction materials. Additionally, the uncertainty in many of these stages could lead to faulty decision-making. A workshop on addressing such application gaps might be an important step to take to better understand these additional stages. Any such workshop or similar proceeding should include a report that summarizes lessons learned and recommended practices.

8. Improving Background Datasets: EPDs rely on background datasets in cases where primary data is not available. What is the best way to ensure the quality of these datasets (maintenance, assurance processes, etc.)? What types of uncertainty data should be reported in an EPD and how should this data be used in benchmarking?

Response: One current challenge related to this question is that many consider data quality and uncertainty the same. They are not. EPDs should rely on high-quality and transparent data sources. Each PCR should be transparent in how it assesses data quality.

Currently, the asphalt mixture PCR does not require EPDs to quantify uncertainty. NAPA is beginning to have discussions on how best to quantify uncertainty in its PCR in the future. There is a need for standardized guidance about how to report uncertainty in EPDs. Disclosing supply-chain specific data will reduce uncertainty once supply-chain specific EPDs are developed for asphalt binder, additives, and aggregate.

9. **Whole Building Life Cycle Assessment (WBLCA) and similar whole project approaches:** WBLCA may be able to inform low greenhouse gas emission design and the selection of substantially lower embodied emissions materials and products. Should EPA consider WBLCA and similar whole project approaches in EPD development and labeling of substantially lower embodied greenhouse gas emission materials/products, and if so, how?

Response: The response to question 7 is also appropriate for this question. There are numerous challenges, and there is no PCR for pavements, only PCRs for pavement materials. Within the context of whole project LCAs, EPDs are best used as a data source. For pavements, FHWA's LCA Pave tool should be used as the preferred tool for whole project LCA. The LCA Pave tool will benefit from many of the recommendations in our comments, such as supporting the Federal LCA Commons and improving data quality up the supply chain.

10. Other Environmental Impacts: Existing PCRs/EPDs cover additional environmental impact categories related to air and water quality, resource depletion and human and ecological health. To what extent should EPA's efforts on EPDs consider/address these other impact categories? Are there concurrent data/model improvements needed to improve the characterization/quantification of other impacts for the purposes of improving the quality of EPDs?

Response: The current statute focuses on carbon emissions; therefore, EPA should focus only on the environmental indicators required by ISO 21930 and those needed to support decisions related to carbon emissions, such as the additional indicators describing emissions and removals of carbon. Many of the optional indicators included in ISO 21930, such as abiotic depletion potential and toxicological aspects, are subject to very large uncertainties and debate regarding the methodological approach. Resolving these issues is beyond the scope of Sections 60112 and 60116 of the IRA. Furthermore, requiring these additional factors would force many program operators to revise the PCRs, including the underlying LCAs, and the

upstream datasets, to include these new factors. Creating the need to update these EPD programs could have unintended consequences in terms of inefficient use of resources, delaying process on other carbon-reduction efforts.

11. Other Input on data accessibility and improvement approaches that EPA should consider?

Response: There needs to be international collaboration to provide background datasets that the Federal LCA Commons may not supply for US companies that have international supply chains. This will be critical if agencies are focused on supply-chain specific data. The EPA should also consider how background datasets might align with the current Greenhouse Gas Reporting Protocols since many companies may be subjected to both reporting schemas.

Section C. What PCR and EPD standardization, measurement, verification, and reporting approaches for use in procurement decision-making should EPA consider?

12. Standardizing and Verifying Product Category Rules: How might EPA grants/cooperative agreements improve and harmonize Product Category Rules (PCRs) and support the development of a conformity assessment/verification program for PCRs?

Response: The ACLCA 2022 PCR Open Standard should be used as the basis for a prescribed PCR conformity assessment. PCR review panels can be instructed by program operators to check conformity of the PCR to the “Procurement” use case identified in the ACLCA 2022 PCR Open Standard. This requirement should be phased in to allow PCRs that were published prior to publication of the ACLCA 2022 PCR Open Standard to demonstrate conformity. A separate verification program for PCRs is not necessary due to the existing ISO 14025 requirement that PCRs be subject to public review as well as review by a third-party panel.

EPA grants or cooperative agreements should be used to provide technical and financial assistance for program operators to conduct this additional conformity assessment for existing PCRs.

13. Standardizing EPDs: How might EPA grants/cooperative agreements improve and harmonize EPDs so as to provide comparable results and meet other needs?

Response: We have identified several aspects related to EPD harmonization that can be addressed through EPA grants and cooperative agreements:

- PCRs need to be sufficiently prescriptive to ensure that EPDs developed by different practitioners or EPD software tools for products within the same PCR are comparable. We believe that PCRs that meet the “Procurement” use case identified in the ACLCA 2022 Open PCR Standard will meet this requirement.
- Harmonization of PCRs for products within the supply chain of a given product system (e.g., upstream material ingredients such as additives used in an asphalt mixture) is necessary to ensure consistency and comparability of supply-chain specific EPDs for alternative products that have different material ingredients. EPA should prioritize grants and cooperative agreements that provide technical and financial assistance to harmonize PCRs for materials in the supply chain of the priority materials (asphalt, concrete, glass, and steel). Once implemented, this supply chain PCR harmonization approach can then be replicated for other product categories as necessary and appropriate.

- Harmonization of PCRs for alternative end-use products with different PCRs (e.g., asphalt vs. concrete pavements, or steel vs. concrete bridges) is a necessary step to improve comparability when using EPDs as a data source for whole-project comparative LCAs. While technical and financial assistance for harmonization of PCRs for alternative materials would be an acceptable use of funding, this should be a lower priority than harmonization within a product system due to the IRA's primary focus on the embodied carbon of materials, rather than whole life cycle impacts.

14. Verifying EPDs: When an EPD is verified by a third-party, what requirements should that verifier/Conformity Assessment Bodies (CABs) meet or accreditations should that CAB have to ensure credibility? Does the ISO 14025 verification scope and verifier competencies sufficiently satisfy expectations for third-party verification of an EPD used for public procurement? How should EPA support better verification practices?

Response: The ISO 14025 verification scope and verifier competencies are not sufficient – as an example, NAPA has observed EPDs for asphalt mixtures, developed and verified by separate third-party practitioners, that do not meet the requirements of the PCR for Asphalt Mixtures. ACLCA's certification program for LCA Reviewers could be a useful model for establishing the credentials of EPD verifiers, but EPA could support further development of a more robust certification program that focuses on EPD verification.

NAPA is developing an auditing program for its EPD tool, which would provide an additional check on the veracity of data inputs. Financial assistance for operating a third-party audit program would help minimize the cost to develop EPDs while also providing a potential oversight mechanism.

15. Digitizing EPDs: What are issues to consider when transitioning to machine-readable reporting? How can EPA help advance digitization of EPDs for both producers and users of the data? What parameters should EPA be considering when establishing criteria for digitizing EPDs (e.g., interoperability, data security)?

Response: Digitized, machine-readable EPDs must provide sufficient metadata to accurately identify the product, including manufacturer information and the applicable agency specification or relevant performance requirements, as discussed in our response to question 23.

NAPA supports e-construction and the move toward digital delivery of all information related to projects. Electronic transmittal of digitized EPDs will improve efficiency and accuracy. EPDs provide a significant amount of environmental information about the product as well as information regarding development and use of the EPD. It's critical that digital transfer of EPDs include either all of the information reported in an EPD or a link to the published EPD to ensure that the entire content of the EPD is available to the end user.

A standard protocol that applies to all material types and is extensible for individual product categories will accelerate the adoption of digitized EPDs. With the use of software platforms to develop EPDs becoming increasingly common, this protocol also needs to account for version tracking of EPDs.

16. PCR and EPD Repositories/Data Platforms: How might EPA grants/cooperative agreements help foster the development of national and/or international PCR and EPD repositories? What existing platforms have the greatest potential to support the goals of IRA Sections 60112 and 60116? What additional functionality and features are needed?

Response: For asphalt mixtures, any national EPD repository that is used for implementing IRA Sections 60112 and 60116 should be searchable by the product specification, since specifications govern the mix

design procedures (including performance requirements) for asphalt mixtures. Please see our response to question 23 for more information.

17. Unique Approaches Needed for Salvage and Reuse: What barriers and solutions exist for materials reuse, and what potential opportunities/solutions should EPA support as part of the EPD technical assistance and/or labeling program? Should PCRs and EPDs be developed for salvaged and reused materials/products like salvaged steel beams, wood flooring, bricks, etc? Should existing PCRs be modified to address these materials/products? How should EPA support other standardized approaches for salvaged materials?

Response: Asphalt and concrete pavement maintenance and rehabilitation practices often rely on the structural strength of existing (lower) pavement layers. The value of these pavement layers should be taken into account when conducting whole project LCAs. We recommend the EPA engage with FHWA, the pavement industry, and other stakeholders to establish standardized procedures to account for the salvage value of existing pavement layers when conducting whole project LCAs.

18. Other input on standardization, measurement, verification, and reporting approaches that EPA should consider.

No response.

Section D. What factors should EPA consider for the EPD Assistance program?

19. Manufacturer Needs: What types of incentives and/or financial and technical support would help construction material and product manufacturers, including small businesses, to develop high quality, digital/machine-readable, third-party verified EPDs for the materials and products they produce?

Response: Technical support from the EPA for the asphalt mixtures EPD program may not be the most effective way to spend monies allocated in IRA. There is already significant technical support available on the FHWA Sustainable Pavements Program website as well as the NAPA EPD Program page. Additionally, it will be difficult for the EPA to develop the technical expertise needed to answer product-specific questions that may require expertise in the operation of an asphalt plant or cement kiln. A better use of the funds would be helping program operators to staff up to handle this effort. (A significant amount of time is spent by NAPA staff as we are both the owner of the Emerald Eco-Label and Program Operator of the PCR for Asphalt Mixtures in North America.)

The EPA could develop a protocol for digital/machine readable, third-party EPDs. Program operators could then use this protocol for developing EPD templates to ensure they comply with the needs in this space. Additional funds would be needed for the implementation of this protocol.

Funding the existing program will help NAPA reduce the cost of creating EPDs for asphalt contractors.

20. Fair, Equitable Distribution of Resources: How should EPA shape grant programs providing technical assistance or funding for developing EPDs to reach a wide array of entities and to ensure equitable, fair distribution of resources?

Response: NAPA released its first PCR in 2017 and launched Emerald Eco-label simultaneously. The organization had the forethought to invest and prepare for a time when such efforts as, discussed in this

RFI, were to come. In the webinars, it was mentioned the EPA could offset costs for running the program; however, each program will have different requirements. NAPA has already spent hundreds of thousands of dollars to develop and update the program and has built a business model based on an expected revenue stream to continue to enhance the software and refine the system.

The EPA should meet each program where it is and determine how best to advance it. The asphalt pavement industry should not be punished (or receive less consideration) because of the level of effort it has already undertaken. Additionally, working with Program Operators and Tool Owners will allow current resources to become more widely used and available, ensuring larger and smaller companies will have access to the tools they need to produce EPDs.

To ensure there is a fair, equitable distribution of resources, the EPA should focus only on the construction materials listed in the legislation and their upstream supply chains. Including additional materials would reduce the overall impact of the monies allocated by Congress and make fair and equitable distribution more difficult.

21. Existing Programs and Lessons Learned: What are lessons learned from other governmental and non-governmental entities currently offering this kind of assistance? What are the most effective ways for EPA to collaborate with these programs to support consistency and scalability?

Response: One of the biggest efforts related to EPDs is technical assistance provided by Program Operators. Those creating EPDs want to spend time with NAPA staff trying to understand how to set up a program within the company or even ensure they are using the correct data in each field. A knowledge of PCRs, LCA, and EPDs is needed, but an in-depth knowledge of each PCR is also required to ensure the right data are plugged into the right fields. It is unlikely that the EPA will be able to maintain the level of technical expertise needed on asphalt mixtures and all other construction materials to provide adequate technical support. Funding the Program Operators to handle this would be the most efficient and direct source of help for industry.

Not only does it require a lot of staff time to develop and run a program, but it also requires a significant investment. Underlying LCAs, ISO reviews, LCA reviews, software development, software upgrades, and development of education and training all take time and money. And these are not one-time costs. Some expenses occur annually while others occur every five years. The EPA should consider how to develop sustainable programs that would not burden Program Operators with significant additional costs to maintain once IRA funding expires.

22. Other input on the EPD Assistance program that EPA should consider?

Response: NAPA suggests keeping the focus of this effort limited to the statute. Additional efforts will require time and money that will take away from the intent of the law.

Section E. What should be considered for setting thresholds for “substantially lower levels” of embodied greenhouse gas emissions for qualifying materials/products under a labeling program?

23. Performance Characteristics and Other Variables: For each of the four initially prioritized construction materials/products (concrete, asphalt, steel and flat glass) what performance characteristics and other variables (e.g., strength class, recycled content) that can impact the product’s embodied greenhouse gas

emissions should EPA consider when developing or selecting criteria for the labeling program? Are there private sector standards/ecolabels that EPA should consider?

Response: The EPA should consider performance characteristics and other factors that could affect the embodied carbon of a product, where appropriate. Performance characteristics for asphalt materials vary significantly at the state- and local-agency level. Most agency mix design specifications are prescriptive, recipe-based procedures that may or may not include performance characteristics. Nuanced changes in mix design specifications from one agency to another can lead to significant differences in the asphalt mixture composition that, in turn, can have a substantial impact on EPD results. In these cases, reference to the approved specification that the mix design follows would be most appropriate in lieu of predetermined performance characteristics. EPA should work with Program Operators and industry to include the appropriate performance characteristics as performance-based mixture design procedures, such as BMD, are adopted by agencies.

24. GWP Threshold/Criteria Development and Update Approach: What approaches should EPA use to create market certainty and maximize consistency of definitions of substantially lower levels of embodied greenhouse gas emissions? What role should private sector standards play? How can regional differences be appropriately considered in development of thresholds?

Response: Creating a one-size-fits-all approach for the entire nation will be challenging. Material availability by market can be a significant factor in assessing the GWP of a material. For asphalt mixtures, contractors may have little control over the source of their asphalt binder, which could impact A1 in an EPD once supply-chain specific EPDs are being used. In some parts of the country, quality aggregates needed to make asphalt mixtures are not available and must be transported great distances, while in other parts of the country asphalt mix plants sit in quarries, greatly impacting A2. If a national industry average is applied to the current interim determination, there will be parts of the country where no contractor or supplier may be able to meet the definition of low carbon, even at the industry average level, and other parts of the country where nearly every mix producer will meet the best performing 20% threshold.

With this in mind, the EPA should empower owners to benchmark lower embodied GHG emissions for their specific areas. Create these regional areas, much like a local market (i.e., metropolitan planning areas), and that market should be able to define the limits that meet the interim determination. The EPA should support the development of standardized methodologies to calculate industry averages and establish GWP thresholds for defining substantially lower levels of embodied GHG emissions. Such methodologies should be developed collaboratively with state/local agencies, industry, and other stakeholders.

25. Existing Programs and Lessons Learned: What are lessons learned from State, local, and Tribal governments that are currently setting embodied greenhouse gas emission thresholds for procurement (often known as Buy Clean Programs) as well as international efforts underway? What are the most effective ways for EPA to learn from these programs or otherwise support consistency, where appropriate?

Response: Setting thresholds and benchmarks can be a challenging undertaking. A benchmark should be a representative snapshot of a singular point in time. In Colorado, state legislators established a method for implementing Buy Clean in the state without industry input. This could become problematic in the future when the Colorado Office of State Architecture and Department of Transportation set GWP limits that can never be raised. What happens if a data gap is filled? What happens if we get better data for a particular input, but that more representative data is a bigger number? Practices would not have changed, but the

GWP value of a particular product would. There must be a way to encourage cyclical evaluations over the course of time as data sets change and become more certain, supply-chain specific data become available, or PCRs evolve.

If any agency is going to create benchmarks and thresholds, they should be completed by product. For example, the same threshold should not be applied to conventional asphalt mixtures and modified asphalt mixtures. Additives that can extend the service life of an asphalt mixture could include an additional environmental burden when assessing a mixture cradle to gate. However, when considering the full life cycle of a pavement, it could delay maintenance and rehabilitation, which could in turn reduce the overall GWP for the life of the pavement. As there is no standard way to evaluate the full life cycle right now, ensuring that benchmarks and thresholds are developed on a product (i.e., mix type) is paramount.

There are international efforts that have created benchmarked. The Dutch use the Milieukosten indicator (MKI). Norway has developed a benchmark. The EPA, GSA, and FHWA should engage in meaningful conversations with those countries to evaluate the benefits and challenges involved with implementation efforts.

26. Other input on setting embodied greenhouse gas emission thresholds that EPA should consider?

Response: It is critical that EPA focus on the materials listed in the statute and those materials' input supply chains.

Section F. What should EPA consider in meeting the goals of IRA Section 60116, which directs EPA to develop a program to identify and label construction materials/products with substantially lower levels of embodied greenhouse gas emissions? What would be the key elements of an effective carbon labeling program?

27. Role of Private Sector Labels: What role(s) could private sector ecolabels play? How could EPA work to ensure consistency of approaches between ecolabels addressing different construction materials?

Response: NAPA is not aware of any ecolabels specific to asphalt mixtures. There are numerous private sector ecolabels for products and companies. However, many private sector labels include other criteria around Corporate Social Responsibility (CSR) activities such as environmental stewardship or community involvement, among others. The EPA should recognize that most private sector labels were made from the viewpoint of the Non-Government Organizations (NGOs) or ecolabel owner. Such ecolabels were not made (to NAPA's knowledge) with industry input or in partnership with industry. As the EPA looks to develop its ecolabel, it should be done in partnership with industry to ensure that the label is effective in reaching the goals outlined in the IRA while still being achievable.

The ecolabels for the different materials may have to look different based upon nuances with the manufacture of each material. For example, IBISWorld reports, as of January 11, 2023, that in the United States there are more than 3,700 asphalt plants while there are only 238 active steel mills, meaning that in many parts of the country steel will have to travel much farther than asphalt.

While there may be different nuances between the ecolabels, the consistency between labels could be similar criteria, method of measurements, and output limits, as well as evaluations based on percent reduction related to product carbon footprint and energy sustainability, percent recycled material, percent plant-based material comparing back to a benchmark for each facility manufacturing the product. The cost

of verification for the ecolabel program should also be considered. EPDs are already third-party verified; therefore, using them as the basis for an ecolabel would reduce the burden of further verification.

28. What label characteristics would be most helpful for purchasers and specifiers in identifying construction materials/products with substantially lower embodied greenhouse gas emissions? What label model approach would be most effective in this context – tiered levels of recognition (e.g., bronze, silver, gold – as used by the EPEAT ecolabel and others), a variable/rating score (e.g., the Department of Energy’s EnergyGuide), pass/fail/binary (e.g., the ENERGY STAR products, building and plant certification and labeling approach), or some other approach?

Response: Label characteristics might be a percent GWP reduction from the benchmark for a product supplier’s facility or based on a local benchmark. This seems to be the most equitable as considerations like availability of RAP, availability of natural gas, or specification restrictions significantly impact the amount of carbon reduction that is possible.

A tiered system might be easiest for customers to comprehend. Numerous other programs like Green Globes and LEED have been using tiered approaches for years. Additionally, a tiered system allows for the acknowledgement of gradual improvements. Instead of a pass/fail, a contractor could show that the company continues to make improvements moving up the tiers.

29. Verification/Conformity Assessment: What kind of conformity assessment approaches are needed to ensure that the label provides reliable and consistent data? What kind of verification requirements should be in place to ensure it is possible for Conformity Assessment Body(ies) (CAB) to determine conformance of a material/product to embodied greenhouse gas emission criteria?

Response: Construction material suppliers should be following a set standard of criteria for measuring and verifying conformance to the requirements to maintain label certification. These measurements should be based on a set frequency and results should be documented. The use of EPDs to show either percent GWP reduction or that a material falls below some GWP limit would be a way to circumvent a CAB as EPDs are shown to follow a prescriptive methodology for calculating and assessing GWP. The program outlined in question 6 would also help with the verification process.

30. Certified Product Registry: Should there be one central product registry of all materials/products covered by this program to help purchasers more easily find and procure construction materials/products with substantially lower embodied greenhouse gas emissions? If so, what would the key components of that registry be? Who should manage/maintain the registry?

Response: A singular registry may be the easiest way for customers to procure materials under this label, but there differences between the fields would be necessary, but might make it cumbersome to build a singular registry. For example, concrete might have compressive strength as a field related to performance, and customers wanting asphalt might want to query by specification name.

Whether one registry or many registries are used, key components could be material type, supplier name and address, product name, and available tiered level labels.

31. Label Outreach: What outreach approaches should EPA consider for the label? What are the purchasing processes, key sales channels, and key market actors for each priority material/product?

Response: Outreach approaches could include surveys with question/answer or multiple choice. Stakeholder focus groups or workshops could be very effective in reaching consensus and gathering feedback to develop and implement the ecolabel. Strategic stakeholders could be suppliers, infrastructure owners, and those agencies and NGOs that developed specifications. Ask owners and specifiers 'if' questions around a simple recognition system, how they view the integrity and confidence in this type of system, and how the process might work.

The purchasing process could be a request for a product that meets a minimum label characteristic in the specification with cost incentives tied to the level of achievement. Key sales channels include Direct-to-Consumer (Pick-up) and Business-to-Business (Tender). Key market actors are primarily the customers (architects, developers, engineers, and owners).

32. Other input on the carbon labeling program that EPA should consider?

Response: NAPA reiterates that the ecolabel should focus on carbon. Adding complexity and other requirements goes beyond the scope of the law and diverts money from developing a more robust program.

We again thank you for the opportunity to provide information regarding the future of these programs. Please do not hesitate to reach out to us at rwillis@asphaltpavement.org with any further inquiries.

Sincerely,



J. Richard Willis, PhD
Vice President, Engineering, Research, & Technology



Joseph Shacat
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