STATE OF MICHIGAN

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GOVERNOR

DEPARTMENT OF TECHNOLOGY, MANAGEMENT & BUDGET
LANSING

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DIRECTOR

June 5, 2023

MEMORANDUM

TO: Members of the House Appropriation Subcommittee on General Government and Senate Appropriations Subcommittee on General Government

FROM: Maria Tyszkiewicz, DTMB Budget Director

SUBJECT: Section 838 of Public Act 166 of 2022 reporting requirement

This memorandum is in response to Public Act 166 of 2022, Section 838 regarding new requests for proposals or other arrangements for the installation of solar energy projects, or the purchase of solar energy through utility voluntary green pricing programs authorized by the Michigan Public Service Commission, for use at state owned or leased facilities in which MDTMB may consider the value of the lifecycle carbon emissions in the manufacturing of the solar equipment as part of the selection process.

The current data available for solar equipment does not follow a consistent reporting format or certification that has been widely adopted by the industry to provide qualitative comparisons of products based on sustainability characteristics of a product's lifecycle carbon emissions.

There are currently two notable systems of relevant certification methods, or ecolabels, within the United States which are the Cradle-to-Cradle Products Innovation Institute's 'Cradle to Cradle' (C2C) certification and the Global Electronics Council's 'Electronic Product Environmental Assessment Tool' (EPEAT) referenced within the Public Act. Both are in part based on the NSF International Standard and American National Standard document titled 'NSF/ANSI 457-2019 Sustainability Leadership Standard for Photovoltaic Modules and Photovoltaic Inverters'. This standard allows for testing ecolabels, such as the C2C and EPEAT, to provide sustainability comparisons of both photovoltaic modules and photovoltaic inverters based on a multitude of characteristics to establish product sustainability performance criteria and corporate performance metrics.

While there is not a current or adopted industrywide method of product comparison based solely on the lifecycle carbon emissions criteria, the use of the EPEAT or C2C

third-party ecolabels can be used to provide information in which products can be rated and therefore selected based on their sustainability characteristics. Currently, the C2C label continues to have two manufacturers participating with some of their solar products and the EPEAT label continues to have only a single manufacturing participant for solar products in which they have two of their products tested and rated. The assumption and expectations are that other manufacturer's will complete the processes to have more of their products rated in the future, though, since the initial 2022 report there has been no change in additional manufacturers or products for either ecolabel.

As the two ecolabel ratings mechanisms were found to be similar, a summary of the EPEAT system is being provided as a background into the criteria that such ecolabels utilize. The EPEAT system provides for three levels of sustainability conformance:

Bronze: meets all required criteria
Silver: meets all required criteria plus at least 50% of the optional criteria points
Gold: meets all required criteria plus at least 75% of the optional criteria points

The EPEAT rating system standard is divided into seven performance categories consisting of both required and optional criteria:

1. Management of Substances
2. Preferable Material Use
3. Life Cycle Assessment
4. Energy Efficiency and Water Use
5. End of Life Management and Design for Recycling
6. Product Packaging
7. Corporate Responsibility

Within the rating system of both ecolabels, the Life Cycle Assessment (LCA) portion of the criteria requires that the manufacturer of the solar equipment conduct a LCA of the product or a manufacturer defined representative core product in accordance with the International Organization of Standardization (ISO). Of these standards, the solar equipment must comply with ISO 14040/14044 which included all stages of the product life cycle, from extraction of raw materials through end-of-life, and quantifies, at a minimum, the mid-point impact indicators using a number of defined impact assessment methodologies or equivalent methodologies included within the standard.

As the Life Cycle Assessment criteria is not yet an industry wide standard or method of reporting on products and as the current ecolabels continue to have only a small number of representative manufacturer's participating in either C2C's or EPEAT's certification programs, MDTMB would not propose implementing such systems and will

monitor the rating/certification programs for inclusion of a larger set of manufacturers. To ensure bidding competitiveness as required in Section 241 of Public Act 431 of 1984, once there is adequate coverage of multiple manufacturers and products included within any such certification programs, MDTMB will be able to include performance specification criteria, including the subset topic of lifecycle carbon emissions, as part of the bidding and selection process for solar equipment products that would be provided as part of state-owned or leased facilities projects for the State of Michigan.

Please feel free to reach out to me to discuss if you have any questions and/or concerns.

cc:

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