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Renewable Thermal Collaborative
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The Renewable Thermal Collaborative (RTC) appreciates the opportunity to comment on the Michigan Department of Environment, Great Lakes, and Energy (EGLE) and the Council on Climate Solutions' draft MI Healthy Climate Plan. The RTC applauds Michigan's commitment to achieve 100% economy-wide carbon neutrality by 2050 and values the effort and resources the state and its residents have committed to the task. While the draft plan includes many sources of emissions and solutions to decarbonize, it does not adequately address thermal emissions, especially from industry, or the opportunity to address these emissions in the near- and long-term with renewable thermal technologies.

About the Renewable Thermal Collaborative (RTC)

The RTC serves as the leading coalition for organizations that are committed to scaling up renewable heating and cooling at their facilities and dramatically cutting carbon emissions.¹ RTC members are industrial and commercial thermal energy buyers with ambitious emissions reductions targets who recognize the urgent need to meet the growing demand for renewable heating and cooling in a manner that delivers sustainable, cost-competitive options at scale.²

Renewable thermal energy describes energy used for process, water, and space heating and cooling applications that is derived from a sustainable renewable or waste-derived source, including biomass, biogas (including landfill gas), renewable natural gas (RNG or biomethane), geothermal, beneficial electrification, green hydrogen, and solar thermal.

The Industrial Thermal Energy Challenge

As the draft MI Healthy Climate Plan notes, industry produces 22% of Michigan's greenhouse gas (GHG) emissions. Michigan must address this tranche of emissions to achieve its carbon neutrality goal. Many large industrial energy users have themselves set ambitious, science-based GHG emissions reduction targets and are investing in energy efficiency and renewable electricity to meet them. But scalable, cost-effective solutions to address thermal energy emissions from process and

¹ The Renewable Thermal Collaborative was founded in 2017 and is facilitated by the Center for Climate and Energy Solutions, David Gardiner and Associates, and World Wildlife Fund.

² See page 4 for a list of the RTC's members and sponsors.



other on-site heating and cooling needs are not widely available. This is contrasted with the transportation and power sectors where available renewable electricity, electric vehicles, and new mobility strategies reflect important progress over the past two decades.

Renewable thermal energy solutions face many technology, market, and policy barriers that hinder their development and deployment at scale. Some technology and market challenges are similar to those the renewable electricity sector faced in its early development 15 years ago. For example, some renewable thermal technologies are still in their early research phase. Others are technologically proven but not yet commercially available or too costly compared with fossil alternatives like natural gas. Large energy buyers face market barriers as well, including a lack of information; an immature marketplace for renewable thermal technologies; no functional equivalent to Renewable Energy Certificates (RECs) in the power sector that would allow for credible, traceable, and tradable thermal environmental attributes; and inadequate financing tools to underwrite technology deployment.

While there is a growing demand from large energy users for renewable thermal energy solutions, policy adoption has not kept pace. The policy incentives that were essential for accelerating the development of renewable electricity—including subsidies and tax incentives for renewable electricity investments, research, development, demonstration, and deployment (RDD&D) investments, and renewable portfolio standards—are not established for renewable thermal energy solutions. The market urgently needs these types of policy incentives to reduce technology costs, accelerate renewable thermal technology RDD&D, and unlock renewable thermal investment.

Thermal energy also faces several unique challenges when compared with renewable electricity. Thermal needs vary tremendously from one industrial process to another and are often site- or sector-specific. Processes also require heat at widely different temperatures, and solutions for high-temperature processes differ greatly from low-temperature processes. Fuel availability is often limited by geography or scale. The complex needs of thermal energy users and the lack of cost-effective solutions call out for a more comprehensive approach.

Renewable Thermal Opportunities

Renewable thermal technology development and deployment can support Michigan's efforts to achieve its carbon neutrality goal. Supporting varied renewable thermal technologies will be important to meet the wide range of specific temperature needs in industrial processes.

Some states have already take action to support renewable thermal energy, using policy tools including RDD&D, financial incentives, performance standards or targets, acknowledging environmental impacts, procurement programs, and comprehensive planning. Our 2021 report, *Low-Carbon Renewable Thermal Technology Solutions: Policies to Support Development and Deployment*, further describes the



types of policies that found at the state level.³ In general, existing state policies target specific technologies which may hinder renewable thermal adoption in subsectors whose thermal requirements cannot be met by those specific resources. In addition, many state policies focus on transportation and building decarbonization or offer support to residential and commercial customers. There is less support for renewable thermal solutions for the industrial sector. Realizing emissions reductions across the industrial sector will require policies that support a wide range of renewable thermal technologies and include support for industry.

Michigan is already working diligently to tackle the climate change problem head on. Including a comprehensive industrial decarbonization plan that incorporates renewable thermal technology solutions in the MI Healthy Climate Plan would help the state to realize deep decarbonization across the economy.

Thank you for your consideration.

Sincerely,

The Renewable Thermal Collaborative

³ The Renewable Thermal Collaborative, "Low-Carbon Renewable Thermal Technology Solutions: Policies to Support Development and Deployment," February 2021, <https://www.renewablethermal.org/low-carbon-renewable-thermal-technology-solutions/>.



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