TMS Position on Climate Change

March 2023

Climate change is a critical global challenge that poses an existential threat to humanity and the planet. The overwhelming scientific consensus is that it is largely driven by the human emission of greenhouse gases, particularly carbon dioxide, into the atmosphere.[1] The Minerals, Metals, and Materials Society (TMS) acknowledges that the community at large has had a role in legacy extraction, processing, and manufacturing methods that directly and indirectly contributed to historical greenhouse gas emissions. The TMS community continues to pursue more sustainable methods that can be implemented today and in the future. TMS actively participates in the urgent development, analysis, evaluation, and implementation of sustainable technologies to facilitate the net-zero carbon economy and the implementation of technological advances that optimize environmentally and socially conscious stewardship of resources, including minerals, water, and energy sources.

- TMS applauds the growing list of international industry leaders in our field who are developing and implementing meaningful changes to reduce their impact on climate change.
- TMS encourages urgent industry-wide development, adoption, and implementation of technologies to support the net-zero carbon economy and environmental sustainability.
- TMS advocates for funding of basic and applied research, development, and demonstration in the minerals, metals and materials field to advance sustainable methods for extraction, processing, manufacturing, and recycling to meet material supply chain needs while simultaneously addressing factors that can contribute to climate change. Such funding must underpin advances in energy production, storage, transmission, and use of that energy, as well as include all other sectors where materials enable significant reductions or elimination of greenhouse gas emissions.
- TMS recommends policies, legislation, and agreements that urgently address the causes of climate change, facilitate international collaborations, and educate scientists and engineers who will contribute to addressing the causes and impacts of climate change, and alleviate the racially, geographically, and socially inequitable impacts of climate change.
- TMS commits to the abovementioned goals and actions by continuing to embed them in the Society's operations and organizational structure, programming activities, and internal and external communication and representation.

This position aligns with the mission of TMS to include concern for the environment as outlined in our bylaws. It draws on the science and engineering expertise of all TMS Technical Divisions. This position also aligns with many existing TMS Advocacy Interests including energy and environmental sustainability, Materials Innovation/Materials Genome Initiative, rare earth/critical materials/natural resource utilization, manufacturing and advanced manufacturing, STEM education, racial and social justice, and support for basic research in science and engineering while strengthening and stabilizing funding.

[1] National Academy of Sciences. 2020. Climate Change: Evidence and Causes: Update 2020. Washington, DC: The National Academies Press. https://doi.org/10.17226/25733.