

3M advances decarbonization technologies, showcases power of science to address climate change during Climate Week NYC

3M is expanding its climate technology portfolio with green hydrogen and low-carbon intensity energy separation solutions

Innovative 3M climate solutions have potential to deliver scalable impact in critical industries

3M demonstrates power of people and science to create a bright future with its Climate Innovation Center exposition during Climate Week NYC (Sept. 20-22)

ST. PAUL, Minn., Sept. 20, 2022 /[PRNewswire](#)/ -- 3M is expanding research and development into emerging technologies focused on decarbonization and renewable fuels. Through cross-functional global teams, 3M Corporate Research and [3M Ventures](#), the company's corporate venturing arm, 3M is investing in and developing innovative materials for green hydrogen and low-carbon intensity energy separations. Their work builds upon current climate-focused solutions from 3M, which will be on display at a temporary 3M Climate Innovation Center during Climate Week NYC, Sept. 20-22.

"3M's diverse global portfolio and deep industry expertise enables our company and our customers to address climate change from both a mitigation and an adaptation perspective," said John Banovetz, 3M executive vice president, chief technology officer and environmental responsibility. "3Mers around the world are collaborating and applying their extensive knowledge of science and large-scale manufacturing to produce solutions for the most pressing climate challenges. Science offers hope for a brighter future, and we are making investments to help achieve it."

3M developing solutions to lower carbon emissions

3M is applying materials science that could make the production of green hydrogen more cost-effective and efficient. Green hydrogen is a sustainable fuel source that is produced with renewable energy and does not release operational carbon emissions. This form of hydrogen could offer a solution for sectors that are hard to decarbonize, such as steel and long-haul transport. Leveraging support from the U.S. Department of Energy (DOE), 3M is developing a catalyst technology used in water electrolysis, which is the primary means of green hydrogen production.

The innovative 3M™ Nanostructured Supported Iridium Catalyst Powder reduces the amount of iridium, a rare precious metal, that is required to meet the stringent efficiency and lifetime requirements of water electrolyzers.

The catalyst technology can result in substantial cost savings for customers, reducing another barrier to the adoption and expansion of green hydrogen production.

Given that more than 95% of current hydrogen production is fossil-fuel based, 3M anticipates a substantial opportunity to address the needs of customers in the field of green hydrogen, a \$450 million market in 2021 that is [expected to grow](#) to \$4.3 billion by 2026.

3M is also using its deep expertise in membrane separation technologies to explore new applications in low-carbon intensity energy separations. While membrane separations are established technologies in various sectors—many of which 3M has advanced—the company believes new solutions can improve and scale up renewable fuel production, battery recycling and decarbonization technologies like carbon capture.

This climate technology research would, when fully commercialized, help expand 3M's portfolio of climate solutions, which includes a major focus on automotive electrification, and builds on external investments by 3M Ventures, which include ongoing support of the [TPG Rise Climate fund](#).

3M Climate Innovation Center at Climate Week NYC

To demonstrate the power of people and science to address climate change, 3M solutions for decarbonization, electrification, energy efficiency, waste reduction, and sustainable infrastructure will be on interactive display in New York City at The Battery during Climate Week NYC, Sept. 20-22. These innovations represent a portion of 3M's broader cross-industry climate portfolio, which has the potential to deliver scalable impact in some of the most critical industries, including manufacturing, transportation, construction, and retail. In addition to the green hydrogen catalyst technology, solutions that will be on display include:

[3M™ Passive Radiative Cooling Film](#): This innovative multi-layer film enables 24/7 passive thermal management and 10-20% energy savings when deployed on [SkyCool Systems](#) panels and integrated with a building's HVAC or refrigeration system.

[3M™ Sun Control Window Film Prestige Series](#): By rejecting up to 97% of the sun's infrared light and 60% of the heat coming through a window, this film offers energy savings and solar protection while maintaining natural light and interior aesthetics.

[3M™ Natural Pozzolans](#): This technology can be used as a partial cement replacement to help lower the carbon dioxide emissions of concrete. For every ton of natural pozzolans used to displace concrete, CO₂ emissions can be reduced by an estimated 0.75 tons.

[Scotch™ Cushion Lock™ Protective Wrap](#): To help make shipping sustainable, this wrap is made from 100% recycled paper and is curbside recyclable after use. It can expand to fill a box using up to 60% less material than plastic bubble (based on filling a 1-cubic foot box vs. 3/16" plastic bubble).

[3M™ Cool Roofing Granules](#): When used in shingles to reflect more sunlight and absorb less heat than a standard roof, this product can assist in saving energy and money—and can help reduce the effects of urban heating.

[3M™ Smog-reducing Granules](#): Roofing shingles with this embedded technology can help reduce smog pollutants and improve urban air quality.

[3M™ Thinsulate™ 100% Recycled Featherless Insulation](#): Made from 100% post-consumer recycled content, this material is as lightweight as natural down, and it still performs when wet.

[3M™ Boron Nitride Cooling Fillers](#): Through formulation into many different thermal management solutions, this technology helps manufacturers facilitate crucial heat removal in the battery packs, motors, electronics, and antennas of electric vehicles.

Collaboration and commitments to expand positive impact

Climate change is an issue that people around the world are concerned about, according to the 3M [2022 State of Science Index](#). Despite this growing focus on climate change, however, people may not be aware of the role that they can play in advocating for solutions. To help educate the public, 3M is partnering with Sophia Bush, actress, entrepreneur, and climate advocate, to showcase the power of climate innovation and why it's important for addressing climate change.

To enable individuals to join 3M and drive a positive impact on the climate issues they care about most, the company is facilitating a donation to a group of nonprofits via GlobalGiving. By visiting www.3M.com/ClimateInnovation through Friday, Sept. 30, members of the public can vote for the cause of their choice and help designate what portion of the donation will go to a corresponding nonprofit. This donation builds on an annual commitment of nearly \$2 million in environmental philanthropy from the company via 3Mgives, its community investment arm.


The impact driven by 3M innovation and investment to address climate change is bolstered by positive progress on its environmental and operational commitments. Coinciding with the 3M Climate Innovation Center exposition at The Battery, Senior Vice President and Chief Sustainability Officer Gayle Schueller will represent the company at Climate Week NYC. Through her engagements, she will detail the company's decarbonization roadmap, including its accelerated transition toward renewable energy and goal of 100% renewable energy use by 2050. After achieving its initial goal of 25% renewable energy use by 2025 six years early, 3M set a more ambitious goal of 50%, which it successfully reached at the end of 2021.

To learn more about 3M's commitments to decarbonize industry, accelerate climate solutions and improve its

environmental footprint, visit www.3M.com/ESG. For a broader perspective on 3M's portfolio of climate solutions, current applications and resulting impact around the world, visit www.3M.com/ClimateInnovation.

About 3M

3M (NYSE: MMM) believes science helps create a brighter world for everyone. By unlocking the power of people, ideas and science to reimagine what's possible, our global team uniquely addresses the opportunities and challenges of our customers, communities, and planet. Learn how we're working to improve lives and make what's next at 3M.com/news or on Twitter at [@3M](https://twitter.com/3M) or [@3MNews](https://twitter.com/3MNews).

Additional assets available online:  [Photos \(1\)](#)

<https://news.3m.com/press-releases?item=124904>