

PLASTIC: ESSENTIAL TO A RESILIENT AMERICAN INFRASTRUCTURE



Plastic is an irreplaceable part of our nation's economy, contributing to nearly every vital segment of our manufacturing sector... and our lives. It's essential to creating medical supplies, comfortable housing, personal safety equipment, a safer food supply, clean energy, and our family cars.

Making and distributing plastic where and when it's needed is vital to our ability to go places, deliver food, run a business, make a cell phone call, and fight disease. And it helps us drive down greenhouse gas emissions.

Plastic makes our modern life possible.

Critical Manufacturing Capacity

As a key part of America's critical manufacturing capacity, plastic makers will play an integral role in rebuilding our nation's ability to move people, energy, goods and water while simultaneously driving down greenhouse gas emissions. As the disruptions from the pandemic and this winter's severe weather in the Gulf Coast remind us, we need a strong and resilient supply of materials such as advanced, modern plastic to serve our nation's infrastructure.

Public policy should help strengthen our nation's manufacturing resiliency, encourage products that can cut greenhouse gas emissions and help enable the technologies needed to recycle/reuse plastic resources in U.S. manufacturing.



Plastic: Structural and Environmental Benefits

Public policy should leverage the structural and environmental benefits of durable plastic materials in multiple sectors of our nation's infrastructure – not only to rebuild but to combat climate change. A few examples:

Water – Plastic pipes typically are more economical to install and maintain and often can retrofit crumbling and rusting pipes without digging massive trenches. They also save substantial energy by significantly reducing drag of moving water through old fashioned pipes.

Wind Energy – To expand wind power as a low-carbon energy source, our nation needs an expanded supply of strong yet lightweight wind turbine blades, most made from various lightweight plastic composites, such as carbon fiber-reinforced plastic. Engineers continue to create lighter, more efficient blades to drive down greenhouse gas emissions further, most of which involve modern polymer composites/plastic.

Solar Power – Plastic plays a growing role in improving efficiencies and cost effectiveness of solar energy, supplying essential films/sheets that help protect glass and silicon panels from the environment, plus electrical insulators, pipes, valves, and fittings. Advances in plastic solar cells could usher in more affordable, flexible, lightweight and durable solar energy panels.

Vehicles – For decades our nation's carmakers have been turning more and more to durable, lightweight plastic to decrease the weight of car parts, which improves fuel efficiency and reduces greenhouse gas emissions. Light-weighting is critical to increasing the range of low-carbon vehicles, which will help create the nationwide infrastructure for electric vehicles (EV). And EV batteries rely on plastic.

Homes and Buildings – As we build new and retrofit existing homes and buildings, modern construction practices rely heavily on energy-saving plastic building materials to drive down energy use... and in turn greenhouse gas emissions. Foam plastic insulation, house wrap, window frames, skylights, caulks, sealants – all play crucial roles in helping seal a building's envelope against heating/cooling losses and in meeting net zero-energy goals.

Agriculture/Food Infrastructure – From weed control to smart packaging, plastic helps grow and move our food from farm to fork. Plastic used in crop protection helps increase food production while reducing agriculture's environmental footprint. Plastic helps safeguard crops from pests and nasty weather, insulate young seedlings' roots and bring irrigation exactly where it's needed. Plastic packaging helps prevent food waste by providing barriers to oxygen, light, temperatures, moisture, microbes, and other factors that lead to spoilage.

In short, plastic makes our food supply more resilient.

Roads, Bridges, and Trains – As our nation looks to rebuild transportation infrastructure, innovative uses of plastic (including recycled plastic) are envisioned to help rebuild our roads, bridges and train tracks. Most endeavors focus on harnessing the durability and flexibility of various plastics, such

as adding plastic to asphalt to strengthen roads, to bridges to improve stability and to railroad ties to increase durability. These technologies are either already being deployed or in development.

Robust Research & Development, Well-Paying Jobs

To develop these modern materials, plastic makers invest heavily in ongoing research and development, enabling advances such as composite aircraft, space travel and smart food packaging. These companies support close to 635,000 well-paying jobs throughout the country.

Updating Our Nation's Recycling Infrastructure

While contributing to a more resilient and greener infrastructure, plastic makers also continue to invest in advanced recycling technologies that will enable our nation to dramatically expand the types and amount of plastic recycled, instead of burying it in landfills.

Modernizing our recycling infrastructure is vital to building a more circular economy, driving down greenhouse gas emissions... and ending plastic waste.



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