

The Industrial Efficiency and Decarbonization Office

Overview

The Industrial Efficiency and Decarbonization Office (IEDO) supports innovation technologies and the adoption of practices to enable the industrial sector to cost-effectively reduce greenhouse gas (GHG) emissions. IEDO and its programs are critical to putting the Nation on a pathway to reduce CO₂ emissions by 50% by 2030 when compared to 2005 levels, and to achieve net-zero carbon emissions by 2050. With 30% of primary energy-related emissions attributable to the industrial sector, IEDO builds upon a foundation of energy efficiency as a decarbonization pathway to include process electrification, use of low carbon fuels and feedstocks, and carbon capture to meet industrial emissions reductions targets. IEDO provides planning, management, and direction necessary for a balanced national program of research, development, demonstration, technical assistance, and workforce development to drive energy, materials and production efficiency, and decarbonization across the industrial sector.

Vision

An efficient and competitive industrial sector with net-zero greenhouse gas emissions by 2050.

Mission

IEDO accelerates the innovation and adoption of cost-effective technologies that eliminate industrial GHG emissions.



An engineer monitors a feed control system for a new, energy efficient pilot process for producing ethylene, one of the most energy-intensive and commonly manufactured chemicals.

IEDO resides in the Office of Energy Efficiency and Renewable Energy with the following program teams:

Energy-Intensive Industries

The team manages and plans technology investment strategies reducing emissions in energy intensive and emissions-intensive industrial subsectors based on analysis and stakeholder engagement to inform priorities. Industrial subsectors of focus initially include chemicals; iron and steel; food and beverage; cement; and forest products.

Cross-Sector Technologies

The team develops technologies that address emissions across a broad range of industries will be researched, developed, and demonstrated. Electrification of process heat and technologies that utilize waste heat; hydrogen and other low carbon fuels and feedstocks; direct electrification of reaction processes; and combined heat

and power will be investigated as cost effective approaches to decarbonize multiple industrial subsectors. This portfolio also includes energy and emissions reductions from water and wastewater treatment.

Technical Assistance and Workforce Development

The IEDO team delivers technical assistance and develops partnerships with industry to increase the adoption of energy efficiency, decarbonization technologies, energy management programs, and water/waste reduction technologies and practices across the industrial sector. The team engages manufacturers with tools, best practices, assessments, and training resources to help overcome barriers to technology implementation and reach targets. The IEDO team also supports workforce training and upskilling activities that prepare existing workers and attract a diverse mix of workers to the industrial jobs of the future. ■