Institute for Industrial Productivity

FACT SHEET
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The United States' GHG emissions reductions policies

The United States has a unique energy profile for a developed country. It has a large manufacturing industry, low economy-wide energy efficiency, and GHG emissions reductions policies that are primarily based around voluntary programs. Recent changes to existing regulations may positively impact its overall energy use and emissions.

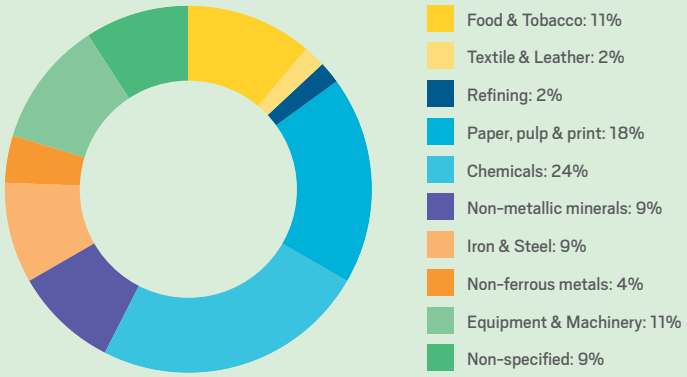
ENERGY PROFILE

The industrial sector accounts for about one-third of the United States' total GHG emissions.

While overall energy efficiency is lower in the US compared to other OECD countries, the energy intensity of the industry sector has been falling.

Industrial energy efficiency has improved substantially over the past 30 years. However, there are still significant opportunities to further reduce energy consumption.

FIGURE 1: The US manufacturing industry's final energy consumption (2010). *Source IEA*



National targets

The US has pledged to reduce greenhouse gas emissions to 17 percent below 2005 levels by 2020. Additional economy-wide climate legislation has been proposed but no bill has yet made it into law. Aspirational goals to achieve an 83 percent reduction by 2050 have also been proposed.

Policy structure

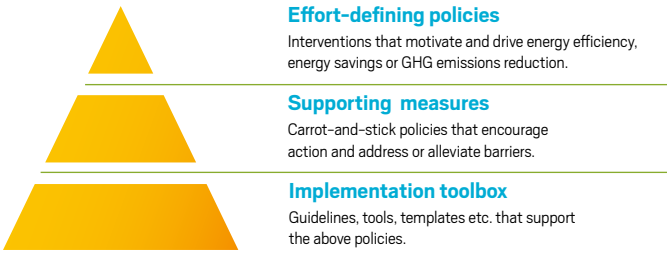
Voluntary programs have dominated the energy efficiency policy mix in the US, with targeted mandatory measures only being introduced in recent years. Until 2011, there was a very limited focus on mandatory greenhouse gas (GHG) emissions reduction and energy efficiency. Today, the Clean Air Act (CAA) works on the bottom-end of the market to limit GHG emission levels, while voluntary targets encourage companies to aim higher.

At the federal level, only a small number of supporting measures are linked to energy efficiency and/or emission reductions, and that in turn acts as an incentive to increase the uptake of voluntary programs. Supporting policies have tended to be implemented at the state level. However, to counteract the lack of supporting measures at the federal level, the US government provides an extensive range of implementation tools – such as free tools for calculating energy-use and assisting in the decision-making process, and energy management support.

Policy types

The Institute for Industrial Productivity offers a framework for industrial energy efficiency policy packages. The pyramid below goes beyond just listing policies and instead illustrates a layered analysis according to a "policy pyramid", which connects various policies, measures and implementation tools.

IIP POLICY PYRAMID



Effort-defining policies

The effort-defining policies in the US mainly cover government regulations and voluntary programs, with the latter having a broader reach across the sector.

Mandatory policies to reduce GHG emissions have been enacted in the US under the authority of the Clean Air Act (CAA). Large industrial installations must obtain preconstruction and operating GHG permits. They are also required to implement Best Available Control Technology (BACT), a pollution control standard to control emissions. The CAA paved the way for the 2012 introduction of new standards governing industrial boilers and process heaters known as the "Boiler MACT". The Electric Motor Efficiency Standard for manufacturers is also mandatory, and requires minimum motor energy efficiency values.

Voluntary programs in the US drive energy efficiency improvements and GHG reductions primarily by encouraging the adoption of energy efficient technologies and energy management practices. Participants are given priority access to subsidized energy efficiency assessments and other resources. The main voluntary programs are the Better Buildings, Better Plants (BBBP) program, the Superior Energy Performance Program (SEP) and the Energy Star Program for Industry – all of which are based on agreed energy intensity reductions. The SEP program also has a focus on the implementation of the ISO 50,001 energy management system standard.

The Executive Order 3624, which was introduced in 2012, directs federal government agencies to support the national goal of having 40 gigawatts of new industrial combined heat and power (CHP) deployed by 2020. Agencies are required to provide technical assistance and use existing federal authorities, programs and policies to support investments in CHP. The Executive Order builds on the existing CHP partnership, whose participants assist the Environmental Protection Agency (EPA) by providing annual data on existing CHP projects and new project development.

Supporting measures

Supporting measures in the US are provided most comprehensively at a state level. The measures available at a federal level cover two primary areas: technical assistance and financial incentives.

Technical assistance programs provide guidance directly to companies and small and medium-sized enterprises (SMEs), connecting them with experts in energy management, control technologies, and energy-saving best practices. The E3 program (Economy – Energy – Environment) and the Industrial Assessment Centers (IACs) focus on SMEs and provide expert coordination and free energy assessments. The State and Local Energy Efficiency Action Network provides information resources and technical assistance to state and local decision-makers through eight working groups.

The financial measures available to US companies include tax relief and loan guarantees that encourage the deployment of energy-efficient and low-carbon technologies. The Business Energy Investment Tax Credit provides federal income tax relief for the development and deployment of renewable energy technologies and CHP, while the Loan Guarantee Program encourages the implementation of certain clean energy and energy efficient technologies.

Implementation toolbox

US federal agencies provide a very comprehensive range of tools and guidance to support voluntary energy efficiency policy.

Resources – such as technical reports, market analyses, and best practice documents and guidance – are available to companies that need help in identifying and implementing energy-savings measures at the project, facility and corporate level. Software tools, such as the Quick Plant Energy Profiler, help companies establish energy-use baselines, which are required under the BBBP Program. Training is also provided to support the implementation of many programs, including compliance with the Boiler MACT Rule, and participation in the BBBP Program, SEP, CHP Partnership, GHG Reporting Program, and the IACs.

This factsheet is based on data from IIP as well as other sources. For more information about industrial energy efficiency and GHG policies in the US, and a full list of references, please visit the IIP Industrial Efficiency Policy Database: **www.iipnetwork.org/databases/policy**

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