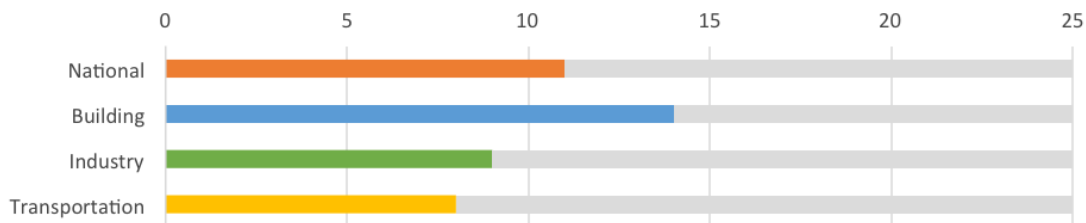


13 United States



Across most metrics analyzed, the United States has made limited or little progress toward the goal of using energy more efficiently in recent years. In the 2012 International Scorecard the United States ranked ninth out of 12 countries evaluated, near the bottom of the pack. Unfortunately, the United States did not perform better in this second edition of the Scorecard. Overall, the United States did not move up and was ranked toward the bottom of the pack, 13th out of 16 countries. The overall U.S. score of 42 is less than half of the possible points and 23 points away from the top position, occupied by Germany. Further, the United States currently falls behind Japan, the EU, China, Canada, Australia and India.

In the national efforts section the United States ranked 11 out of 16 countries, behind Australia, China, and Spain, and ahead of South Korea. There are a few metrics in this section where the United States is performing well or in the middle of the pack. The United States received full points for its energy efficiency tax credit and loan programs, has a middle-of-the-pack level of investment in energy efficiency, and has a middle-of-the-pack level of efficiency in thermal power plants. However, the United States is one of only two countries with no national energy-savings plan or national greenhouse gas reduction plan. In addition, since the last *International Scorecard* the United States has seen a drop in its investment in energy efficiency R&D.

The United States performed the best in the buildings section, tying at eighth place with the UK. Compared to the 2012 *International Scorecard*, the United States' score in this category did not change much. The United States' EnergyGuide appliance label and ENERGY STAR® labels demonstrate best practices for developing voluntary appliance and equipment standards around the world, but would garner higher points if converted from a continuous to a categorical design. The United States also received credit for residential and commercial building codes in place

despite lacking a national mandate, because a large number of states have stringent and technical standards in place. The overall energy intensity of the United States' residential and commercial buildings is high relative to other countries.

There is room to improve in the industrial sector, where the United States ranked 13th. The United States has not yet employed mandatory energy audits or required on-site energy managers at manufacturing sites. The United States also has a relatively low level of CHP compared to other countries evaluated. One area where the United States is performing well is its relatively high level of investment in industrial R&D, second only to Japan.

The lowest-scoring section for the United States is the transportation sector, where the United States ranks second to lowest. The number of vehicle miles traveled (VMT) per person in the United States far exceeds the VMT by people anywhere else in the world, and use of public transit is very low. Current fuel economy standards are the bottom half of the countries with standards in place, and average fuel economy also remains lowest here. The United States should look to other countries that have implemented effective transportation policies to improve its performance in this sector, such as Italy, Japan, or the UK.

The low U.S. scores suggest that these other economically developed countries may have an economic advantage over the United States in that using less energy to produce and transport the same economic output costs less. This raises a critical question: how can the United States compete in a global economy if it continues to waste more money and energy than other developed economies?

The United States must turn the ship around and move in a direction that ensures that it retains a leadership role in the global economy. Here are potential components of such a sea change.

NATIONAL EFFORTS

National energy-savings target. Congress should pass a national energy-savings target to complement existing state policies and raise the bar for all states. Most of the countries analyzed in this *International Scorecard* have such targets. In the interim, the states without mandatory targets for utility energy savings should adopt such targets.

Environmental regulation. As the Environmental Protection Agency moves forward on its regulation of carbon dioxide from automobiles, power plants, and other emitting sectors, it should develop regulations that maximize cost-effective energy efficiency as a mechanism to reduce pollution.

Energy efficiency programs. Overall investment should be increased by utilities and governments (federal, state, and local) in energy efficiency programs to lower consumers' energy bills and speed the transformation of markets for energy efficiency technologies and services.

R&D investment. Increased investment is needed in R&D in energy efficiency to develop new technologies and practices.

Federal and state-level financial incentives. The federal government should extend and improve federal tax credits and other financial incentives to encourage investment in energy efficiency. States should complement federal efforts, particularly in the areas of loans, loan guarantees, and loan-loss reserves.

More efficient electricity generation. Government policies should be adopted that encourage utilities to retire old, inefficient power plants and ensure that any new power plants will be highly efficient.

More efficient power distribution. Electric grid infrastructure should be modernized to reduce line losses. Utilities should deploy high-efficiency distribution transformers, advanced "smart grid" techniques, and increased utilization of distributed energy sources to reduce transmission and distribution losses.

BUILDINGS

Building codes. The federal government should strengthen national model building codes. National model codes should be updated, and the federal government should provide technical assistance to states implementing and adopting energy efficiency building codes.

Appliance standards. Governments and regulators should follow through on the implementation and enforcement of existing appliance standards, should regularly update standards, and should consider standards on additional products (e.g., pumps).

Appliance labels. The current EnergyGuide appliance label should be switched from a continuous to a categorical, five-star label.

Disclosure of energy use before the sale of buildings. State and local requirements should be implemented that require the disclosure of energy use and costs of residential and commercial buildings before the sale or lease of the property.

Federal assistance for building owners. The federal government should provide assistance for building owners that upgrade their buildings and participate in programs such as ENERGY STAR.

INDUSTRY

Energy management systems. Manufacturers should commit to continual improvement in reducing energy intensity of industrial

facilities using Superior Energy Performance (SEP 2014), ISO 50001 (ISO 2011), and other voluntary platforms.

Reasonable electricity buy-back rates for CHP. Governments and regulators should adopt policies that allow CHP systems to obtain reasonable electricity buy-back rates.

On-site, expert energy managers. Industrial and manufacturing facilities should employ energy managers to find cost-effective ways of reducing energy use and energy intensity.

Regular energy audits. Industrial and manufacturing facilities should undergo periodic energy audits.

Partnerships between industry and government. Voluntary energy-saving partnerships between the government and industrial sector should be expanded.

Industrial assessment centers. The federal government should support education and training in the manufacturing and industrial sectors. Government should support the manufacturing and industry sector to reduce the energy intensity of facilities by providing education, outreach, and training that will facilitate greater investment in energy efficiency and quicker adoption of systematic energy management practices.

TRANSPORTATION

Fuel economy for light-duty vehicles. The federal government should determine the maximum feasible improvement for light-duty vehicle fuel economy for 2021-2025 in the upcoming midterm review of the corporate average fuel economy (CAFE) standards, and in particular set standards at least as stringent as the current provisional standards for that period.

Fuel efficiency for heavy-duty vehicles. The federal government should adopt standards for heavy-duty vehicle fuel efficiency that would bring average new-vehicle fuel consumption to 40% or more below 2010 levels in model year 2025.

Investment priority. The U.S. Congress should prioritize energy efficiency in transportation spending. Federal government budgets should apply energy efficiency performance metrics in prioritizing federal transportation investments and increase funding levels for energy-efficient modes of passenger and freight transport.

Innovative technologies. Advances in fuel-efficient technologies should be continued, and investment in R&D for motor vehicles should be increased.

Vehicle miles traveled. The United States should reconsider the pricing of transportation and should facilitate the adoption of policies such as pay-as-you-drive insurance, in which the cost of insurance is determined primarily by the number of miles traveled.

Urban development. Incentives should be created to encourage more compact, transit-oriented development of cities and suburbs.

Non-highway modes. Federal support should be increased for public transit, freight rail, and non-motorized modes of transportation.

More efficient modes of freight transport. Policies should be adopted that increase intermodal freight transport and that shift freight from heavy-duty trucks to rail and waterway transit wherever possible.