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New report ahead of COP28 highlights the essential role of energy efficiency in meeting net zero targets

- 10 mature, scalable energy efficiency actions can deliver 4 gigatons of carbon savings annually (11% of total emissions) by decade's end
- Actions also show energy efficiency's financial upside: annual cost savings of $437 billion by 2030
- Published by the Energy Efficiency Movement and supported by leading global industrial players including ABB, Alfa Laval and Microsoft

The International Energy Agency (IEA) has made clear that renewables alone will not be enough to meet the aims of the Paris Agreement. Improving energy efficiency, particularly within industry, will play a huge role under the IEA's 1.5°C-aligned net zero scenario. Indeed, the IEA refers to energy efficiency as the "first fuel" of the energy transition.

Doubling efficiency by 2030 could cut greenhouse gas emissions by almost a third compared to today's levels, according to the IEA.[1] Therefore, there is an urgent need for industry to make more and better use of the mature, scalable technologies at hand.

The Energy Efficiency Movement (EEM) is a global forum consisting of more than 400 organizations, from 36 countries, that shares ideas, best practices, and commitments to create a more energy-efficient world. Published today, the EEM's new report, "The Case for Industrial Energy Efficiency," sets out the potential economic and emissions gains associated with smarter use of energy by industry.

"This is our contribution to the upcoming COP28 discussions that will be looking at solutions on net zero targets. The IEA has said that net zero will require a doubling of the rate of progress on efficiency and a tripling in annual efficiency-related investment. To that end, we are furnishing executives with data and insights to help build their companies' business cases for energy efficiency improvements," said Mike Umiker, managing director, Energy Efficiency Movement. "The report demonstrates how investments in efficiency can serve as a valuable hedge against energy and carbon price volatility, while making a true, needle-moving impact on emissions. Energy efficiency is industry's biggest emissions ally this decade."

[1] https://www.iea.org/reports/energy-efficiency-the-decade-for-action

Ten key energy efficiency actions

The new guide builds on the EEM's 2022 publication, "The Industrial Energy Efficiency Playbook," which established 10 key actions industrial and commercial organizations could put into practice quickly to lower energy bills and reduce carbon emissions. The new guide groups the 10 actions in a strategic framework divided into three pillars:

1. **Building an efficiency foundation** by carrying out an energy audit, ensuring assets are dimensioned correctly for the tasks they need to carry out, and bringing connectivity to industrial infrastructure
2. **Driving efficiency returns** through activities such as installing high-efficiency motors, using variable speed drives, electrifying industrial vehicle fleets, maintaining efficient heat exchangers, and replacing fossil fuel heating with heat pumps
3. **Gaining efficiency insights** by deploying smart building management systems and making data management itself more efficient by using cloud technologies

For each action, the carbon savings, and where applicable, the financial benefits, are quantified. Total carbon savings from the 10 actions amount to roughly 1.5 gigatons in 2024, rising to 4 gigatons by 2030. These estimates are based on midpoint scenarios, yet still equate to an 11% reduction in annual global carbon forecasts by 2030 (using the IEA's "Stated Policies Scenario" as the business-as-usual baseline). Using the report's more ambitious scenario, the 2030 savings could reach 5.3 gigatons, or around 15% of total emissions that year. For the five of the 10 actions where financial savings can be meaningfully calculated, industry could be saving $172 billion a year in 2024, and $437 billion annually by 2030 (mid-range scenario).

The three actions with biggest impacts are connecting physical assets through the Internet of Things (33% of total emission savings), smart buildings (19%), and industrial heat pumps (18%). In addition to the new guide for executives, more detailed, downloadable economic and climate models are available for the individual actions.

The results for emissions reduction, cost savings, and gross domestic product (GDP) growth presented in the report are based on modeling commissioned by the EEM from Development Economics, an independent economic impact assessment provider. From May to October 2023, Development Economics undertook rigorous modeling of the economic and emissions outlook for each action in the guide. The modeling incorporated the best available data and included input from subject matter experts at leading industrial players including ABB, Alfa Laval and Microsoft. Expert advice was also provided by the IEA.

The **Energy Efficiency Movement** is a forum that brings together like-minded stakeholders to innovate and act for a more energy-efficient world. Through innovation, the sharing of knowledge and insights, adoption of available energy-efficient technologies, smart investments and the right regulations and incentives, we can optimize energy efficiency and accelerate progress toward a decarbonized future for all. The Movement was launched by ABB in 2021 and has received a positive reaction throughout industry, with more than 400 companies joining as of 2023. www.energyefficiencymovement.com

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