Energy Efficiency - Contribution to Belém Mission to 1.5 and the Action Agenda

Accelerating Energy Efficiency: A Shared Priority

Accelerating the implementation of energy efficiency is a critical priority for the Belém mission 1.5, the Global Implementation Accelerator, and Brazil's roadmaps to turn ambition into real economy results on the road to COP31 and beyond. According to the IEA, energy efficiency can deliver more than 40% of the emissions reductions needed to meet global climate goals. Energy efficiency is the fastest and most affordable way to cut emissions, strengthen energy security, lowering energy bills, and unlock electrification at a global scale. In practical terms, this means:

1. **Fastest, lowest-cost emissions cuts:** Immediate CO_2 reductions across buildings, industry, and transport—often at lower cost than new energy supply.
2. **Energy security & resilience**: Reduced demand lessens reliance on imported fuels and shields economies from price volatility and supply disruptions.
3. **Lower bills & stronger competitiveness:** Efficiency reduces operating costs for households and businesses, boosting affordability and productivity.
4. **Grid reliability:** Lower peak demand eases pressure on electricity networks, helping avoid blackouts and costly grid expansions.
5. **Enabling renewables at scale:** Efficient systems require fewer wind/solar assets and less storage, accelerating the clean energy transition.
6. **Public health & comfort:** Improved buildings and cleaner energy use enhance indoor comfort and reduce air pollution-related illnesses.
7. **Job creation & local value:** Efficiency upgrades create skilled local jobs and drive innovation.

Why is it important?

Energy efficiency delivers immediate system benefits: lower energy bills, reduced exposure to price volatility, and faster emissions reductions, making it essential to keep global net-zero pathways within reach.

Global ambition is clear. At COP28, more than 100 countries committed to doubling the global rate of energy efficiency improvements from 2% to over 4% per year by 2030, as part of the Global Renewables and Energy Efficiency Pledge.

However, progress is off track[1]**:**

- 1% improvement in 2024
- 1.8% improvement in 2025
- 4% required annually (we are not even at base line)

Bottom line: Energy efficiency is not scaling fast enough, and this gap is now one of the biggest risks to the energy transition.

[1] **IEA –** ***Energy Efficiency 2025***

How does Energy Efficiency enable Electrification? - Energy Efficiency and the 35 by 35 target

Energy efficiency and electrification are the twin engines for energy security, affordability and competitiveness.

- **Energy efficiency makes electrification affordable at scale**
  By reducing overall energy demand, efficiency lowers both operational and system costs—making clean technologies like heat pumps and electric processes more economically viable.
- **Energy efficiency enables grid-ready electrification**
  Lower and more flexible electricity demand reduces peak loads, easing pressure on the grid and allowing electrification to expand without requiring disproportionate investment in new generation and infrastructure.
- **Energy efficiency accelerates clean technology deployment**
  More efficient systems require less energy input, meaning electrified solutions can be deployed faster, at lower cost, and with greater system stability.
- **Energy efficiency strengthens energy security in an electrified system**
  By reducing reliance on energy imports and exposure to price volatility, efficiency ensures that electrification delivers not just decarbonisation, but also resilience and stability.
- **Energy efficiency maximises the impact of clean electricity**
  Every unit of clean power goes further in an efficient system—enabling deeper decarbonisation while minimising resource use and infrastructure needs.
- **Energy efficiency turns electrification into a system solution, not just a technology shift**
  Combined with energy management and smart demand, efficiency ensures electrification is scalable, cost-effective, and aligned with grid realities.

Key barriers to Energy Efficiency implementation

- **Capability gap:** 48% of companies lack skills to implement efficiency at scale.[2]
- **Financing constraints:** High upfront CAPEX, uncertain ROI, limited access to financing.[3]
- **Structural bias:** Efficiency competes poorly with more visible energy investments (e.g. renewables – easier to communicate tangible investments like solar panels, wind mills etc..)
- **System fragmentation:** Limited sector coupling (e.g. heat reuse across industries)

Core issue: This is not a technology problem, it is a delivery and investment problem.

Where to focus (3 priorities)

1) Scale industrial action now

Industry is ready and already moving:

- Efficiency drives Energy Security, affordability, decarbonisation, competitiveness, and resilience
- The industry is ready to invest in energy efficiency technologies because there is a *business case*. The economic potential is substantial: ten mature scalable actions could generate $437 billion in annual savings by 2030 while reducing emissions by 11%. Capturing this potential requires tripling annual investments from $650 billion to $1.9 trillion per year by 2030 , across

[2] Energy Efficiency Investment Report 2026
[3] Energy Efficiency Investment Report 2026

buildings, transport, and industry sectors (Energy Efficiency Movement, The Case for Industrial Energy Efficiency, 2024)

Message: The opportunity is immediate, proven, and investable. What's missing is scale.

2) Shift to a system approach

Energy systems must be treated as integrated systems:

- Electricity, heat, and cooling must be optimized together
- Heat recovery and sector coupling are critical missing links
- Energy efficiency is a prerequisite for electrification, reducing overall energy demand and enabling faster, more cost-effective deployment of electrified solutions.

Message: Without efficiency, electrification becomes unnecessarily expensive and infrastructure-heavy.

3) Strengthen public–private alignment

Policy and finance frameworks must unlock scale:

- Stable, long-term regulation (e.g. EU Energy Efficiency Directive) supports investment certainty
- Public procurement (14% of EU GDP) is a powerful demand lever
- Mobilising private capital (up to ~80% of required investment) is essential

Message: Policy must move from ambition to execution frameworks that de-risk and accelerate deployment.

Energy Efficiency – needs to be a global priority – Africa, India & Europe example

a) Energy efficiency in Africa

Energy efficiency is fundamental to Africa's efforts to expand energy access, reduce greenhouse gas emissions, lower energy costs, and support a sustainable energy transition.
Significant potential exists for energy savings across the continent. According to the AFREC savings assessment report, African countries could save up to 175 TWh of electricity by 2040—equivalent to the output of more than 80 new 500 MW power plants—through appliance market transformation initiatives.[4] These savings can be realized by focusing on lighting, cooling appliances, motors, and transformers, contributing to both economic and environmental benefits.

Achieving these objectives will require collaboration among governments, the private sector, development partners, academia, and civil society. The establishment of the African Energy Efficiency Alliance (AEEA) aims to provide a collaborative platform for knowledge exchange, advocacy, research, and resource mobilization to advance energy efficiency programs across Africa.

The African Energy Efficiency Strategy (AfEES) provides a comprehensive framework for advancing energy-efficient practices across key sectors, including power, industry, agriculture, buildings, transport, and clean cooking. It also outlines a clear pathway toward achieving the African Union's

[4] African Union Launches the African Energy Efficiency Programme and the African Energy Efficiency Alliance at COP 29 to Advancing Energy Productivity in the Continent | African Union

energy productivity targets. These initiatives are closely aligned with Africa's commitments under the Paris Agreement and the global agenda to reduce emissions and enhance climate resilience.

b) Energy efficiency in India

India has demonstrated significant progress in energy efficiency, with the rate of improvement exceed 4% in 2025[5]—a notable recovery from the sub-2% rates observed earlier this decade. This acceleration is attributed to easing pressures on energy demand growth, as primary energy demand in 2025 is increasing at roughly half the pace seen between 2010 and 2019. India is among the countries implementing a surge of new or updated energy efficiency policies.
The industrial sector dominates India's energy consumption, accounting for nearly half of total demand, followed by buildings (28%) and transport (19%). Electricity demand is expected to rise sharply—potentially by 50% by 2030 compared to 2023—driven by rapid growth in data centres and electrification of end uses. Key challenges include policy gaps, such as the absence of mandatory energy performance standards for industrial motors and incomplete building code coverage. Addressing these gaps, alongside continued investment and policy innovation, will be critical for sustaining and accelerating India's energy efficiency gains.

Energy efficiency in India focuses on reducing energy consumption per unit of economic output and improving the performance of energy-intensive sectors. The Bureau of Energy Efficiency (BEE), established under the Energy Conservation Act, 2001, is the primary agency responsible for promoting energy efficiency across industries, buildings, and appliances.

c) Energy Efficiency in Europe Fact points[6]

- Without the efficiency gains made over recent decades, the EU's energy consumption today would be 27% - equivalent to the energy use of France, Netherlands, Austria, and Finland combined.
- Every 1% of improvement in energy efficiency translates into a 2.6% reduction in gas imports, while energy in a smarter way, for example, not during peak hours, could lower future electricity grid investment needs by up to 35%.
- The EU's fossil fuel import bill is projected to drop by 33 billion EUR by 2030 and 70 billion EUR by 2040 thanks to energy efficiency gains alone.
- Every year, over 250 000 public authorities in the EU alone spend around 14% of GDP (around €2 trillion per year) on the purchase of services, works and supplies. The public sector can use procurement to boost jobs, growth and investment, and to create an economy that is more innovative, resource and energy efficient, and socially inclusive.

Energy Efficiency – Solutions exists, time to implement at speed and scale

Industry energy efficiency is a major lever for decarbonization, with industry accounting for about 40% of global energy use and one-third of CO2 emissions. Significant gains can be made through upgrading equipment, such as switching to plate heat exchangers and efficient motors, which can cut emissions and energy costs. Energy Efficiency Movement has identified

[5] Energy Efficiency 2025

[6] Source: EU Commission

10 practical actions that, taken together, could save more than 4 billion metric tons per year by 2030, the equivalent of taking three-fifths of the world's combustion-engine vehicles off the road, while saving around $437 billion[7]. Leading industrial sites have demonstrated substantial energy and water savings, improved reliability, and reduced emissions through energy efficiency upgrades and heat recovery.

In buildings, heat pumps and district energy systems are transforming heating and cooling. Heat pumps use 3–4 times less electricity than conventional systems and have the potential to reduce global CO2 emissions by at least 500 million tonnes by 2030, according to IEA. District cooling, using sources like deep lake water or seawater, can reduce electricity use by up to 80% and CO2 emissions by 35–40% compared to traditional systems. These solutions are already delivering large-scale benefits in cities like Toronto, Barcelona, and Paris.

Sector coupling is energy efficiency on a system level. It maximizes efficiency by reusing excess heat from data centers and industries. Up to 90% of data center energy becomes waste heat, which can be captured and used for district heating, significantly reducing emissions and energy costs. Industrial waste heat is also integrated into district energy systems, providing reliable, low-carbon heating for communities and supporting regional economic growth. For real-life cases se Appendix 1. *Energy Efficiency in Action: Proven Examples for Immediate, Large-Scale Deployment*

[77] Industrial efficiency – Energy Efficiency Movement

Appendix 1

Energy Efficiency in Action: Proven Examples for Immediate, Large-Scale Deployment

About Alfa Laval

Alfa Laval brings over 100 years of expertise in energy efficiency, delivering advanced solutions for industries, cities, buildings and beyond. Our high-performance heat exchangers and energy optimization technologies are proven, scalable, and ready for rapid deployment—empowering partners to achieve ambitious climate goals and accelerate the energy transition at speed and scale. Every year Alfa Laval supports its customers through the millions heat exchanger we install and service to **save 100 GW of energy capacity needs worldwide**. Cleaning and maintenance of heat exchangers also have a significant impact. For instance, we could prevent 2.5 percent of the world's CO2 emissions simply through proper cleaning and maintenance. Alfa Laval's total installed base of heat exchangers, just in chemical plants, saves 19 TWh of energy annually, while reducing CO2 emissions by 4.1 million tonnes. That's the equivalent of eliminating 13,300 flights between London and Shanghai.

Energy Efficiency - Proven Examples for Immediate, Large-Scale Deployment

1. Recovering excess heat from data centers (Odense Denmark)
2. Recovering excess heat from industry
    - Kemira Kemi, Sweden
    - Aurubis Group, Germany
3. Recovering excess heat from light industries (Alfa Laval HQ Sweden)
4. District cooling - offloading grids with free cooling (Toronto, Barcelona and Paris)
5. Affordable heating made easy by heat pumps (WOLF, Germany)
6. 2.5% CO2 emission reduction through service (Boliden, Sweden)
7. Decarbonizing Heavy Industry (Dow Chemicals, Netherlands)
8. Enabling efficient data center cooling (Boyd, USA)
9. Decarbonizing the steel value chains - A strong demand for fossil-free steel
10. Optimize energy management: Control of usage data reduces energy consumption
11. Further solutions by Energy Efficiency Movement

Description of the examples:

1) Recovering excess heat from data centers

The industry

- The data center sector is predicted to grow at a very high pace in the coming years due to AI and digitalization.
- Data centers globally consumed an estimated 460 terawatt-hours (TWh) in 2022. Data center's total electricity consumption could reach more than 1,000 TWh in 2026.
- In large economies, data centers account for 2-4 percent of electricity consumption but can, in concentrated areas like Ireland, reach 20 percent of the electricity consumption.

The potential

- An estimated 90 percent of the energy data centers consume ends up as waste heat.
- The reuse of heat from data centers can significantly impact carbon emissions, energy security, and energy affordability.

- For context, a town of 80,000 people would typically require similar energy to a 100 MW data center. Large data centers can have a power demand equivalent to that of a nuclear power plant.

In action: Odense, Denmark

- Waste heat from a large data center operator in Odense is recovered and repurposed, making a significant contribution to the local district heating network.
- The result is an annual saving of 100,000 MWh, enough to heat 7,000 European homes.
- For this heat recovery system, Alfa Laval supplies evaporators, condensers, subcoolers, and oil coolers.

2) Recovering excess heat from industries

The industry

- Industries account for 40 percent of the world's energy consumption.
- There is a big potential with waste heat, which amounts to over 2,800 TWh/y in the EU alone, almost corresponding to the EU's total energy demand for heat and hot water in the residential and service sectors.
- About one third of the energy consumption in the EU is used for space heating and hot water generation. Today, more than 75 percent of this heat comes from burning fossil fuels.

The potential

- Industrial waste heat can be reused in the plant or transferred to other users.
- Integrating industrial heat into district energy systems through sector coupling offers significant benefits, e.g. higher energy security, lower energy costs, and reduced carbon emissions.

In action: Kemira Kemi, Sweden

- Kemira Kemi has been delivering heat to the city of Helsingborg since 1974.
- 40 percent of the energy distributed in Helsingborg's district heating network is recycled heat from Kemira's chemical manufacturing processes.
- Without district heating, the annual CO2 emissions would be 131,000 tonnes larger, equivalent to the emissions from 55,000 cars driving per year.
- Delivering heat to the city has become an important income stream for Kemira Kemi.
- The positive effects of the district heating system for the region can be seen from different perspectives. In socio-economic terms, it was estimated that almost 1 400 people would be employed, resulting in significant tax revenues and increased purchasing power in the region.

In action: Aurubis Group, Germany

- Hamburg's HafenCity East is the first city neighborhood to be supplied solely with CO2-free industrial heat in Hamburg and is one of Germany's largest heat recovery project. Aurubis extracts CO2-free heat from a chemical subprocess of copper production.
- This provides hot water for around 28,000 homes and buildings, and saves 120,000 tons of CO2 per year. This is equivalent to the emissions of 60,000 mid-range cars driving 12,000 km per year.
- The adjustment to the acid cooling facility saves more than 12 million m^3 of cooling water and Elbe River water annually. This is equivalent to the volume of around 4,800 Olympic-size swimming pools.

3) Recovering excess heat from light industries

The industry

- Light industry often describes a sector with lower absolute energy use than heavy industries, but this wide-ranging sector accounts for 8 percent of all industrial emissions.

- Examples of light industry with energy savings potential include food (30 percent of light-industry emissions), machinery (16 percent), textiles (7 percent), and vehicles (6 percent).

The potential

- Emissions from light industry are generally easier to abate from a technological point of view than those from heavier industry, due to lower temperature requirements.
- Light industry can enhance energy efficiency through heat reuse and efficient heating and cooling systems with smart controls.
- Waste heat recovery captures excess heat from processes and repurposes it for preheating materials, space heating, or even electricity generation, thereby reducing energy needs.
- High-efficiency heat pumps offer a sustainable alternative, providing both heating and cooling with less energy.

In action: Alfa Laval, Sweden

- Since 2013, the low-temperature waste heat generated in component production has been recovered via an innovative ammonia-based heat pump system.
- The system covers nearly the entire heating and hot water requirements for the factory and Alfa Laval's corporate headquarters. This not only avoids roughly 146 tonnes of CO2 emissions per year, but it also just makes great business sense.
- The investment paid for itself in under three years.
- The coefficient of performance or COP is 7.

4) District cooling offloading grids with free cooling

The industry

- Cities across the globe are expanding to accommodate growing populations, requiring energy services to be extended to new consumers.
- Increasing global temperatures due to climate change are leading to more frequent and intense heat waves, increasing the demand for cooling.
- Energy demand for space cooling is expected to more than triple by 2050 – consuming as much electricity as all of China and India today.

The potential

- District cooling offers a sustainable solution, providing efficient cooling with lower environmental impact compared to traditional air-conditioning systems.
- District cooling systems can use free cooling (e.g., the sea or rivers), renewable energy, etc., making them a key component in energy-efficient, urban energy systems.
- By leveraging clean energy and waste energy sources, district cooling grids can reduce carbon emissions by up to 35-40 percent.

In action: Free cooling in Toronto, Barcelona, and Paris

- The deep lake water cooling system of Toronto serves over 180 connected buildings in downtown Toronto. Compared to conventional cooling solutions, the system reduces electricity consumption by 80 percent, equivalent to 90,000 MWh per year—enough electricity to power a city with 25,000 residents.
- In Barcelona, the district cooling grid using seawater has achieved a 35-40 percent reduction in CO2 emissions compared to traditional cooling methods.
- In Paris, the district cooling network abstracts 50 percent of its cooling needs from the river Seine, consumes 35 percent less electricity, emits 50 percent less CO2, improves energy efficiency by 50 percent, and reduces water consumption by 65 percent compared to traditional air conditioning systems.

5) Affordable heating made easy by heat pumps (WOLF, Germany)

The industry

- Heat pumps powered by low-emission electricity are a central technology in the global transition to secure sustainable heating.
- In 2021, heat pumps met around 10 percent of global space heating needs, but the pace of installation is growing rapidly.
- Government policy support is needed, though, to help consumers overcome heat pumps' higher upfront costs relative to alternatives.

The potential

- Heat pumps use 3-4 times less electricity than conven tional heating systems.
- The International Energy Agency (IEA) estimates that heat pumps have the potential to reduce global CO2 emissions by at least 500 million tonnes by 2030 – equivalent to the annual CO2 emissions from all cars in Europe today.
- According to the IEA, the number of heat pumps must triple by 2030 to stay on track with climate goals.

In action: WOLF, Germany

- The German heat pump manufacturer Wolf partnered with Alfa Laval to develop its residential propane heat pump.
- The Wolf CHA Monoblock, equipped with the Alfa Laval CB65 brazed plate heat exchanger, is a highly efficient heat pump that uses less energy than traditional fossil fuel-based furnaces and less refrigerant than conventional heat pumps.
- By using the Alfa Laval CB65 with the natural, non-toxic refrigerant propane, the CHA Monoblock is paving the way for more sustainable heating and cooling.

6) 2.5 percent CO2 emission reduction through service

The industry

- Today, the industry sector accounts for about one-third of the global energy consumption. Since 2000, the industrial sector's energy consumption has risen by almost 70 percent.
- Studies have shown that as much as 11 percent of the world's total emissions could be saved through energy efficiency measures, with maintenance of heat exchangers being one of the main recommendations.

The potential

- Several studies have shown that up to 2.5 percent of the world's CO2 emissions could be prevented if all plate heat exchangers in industrial processes were cleaned and maintained properly.
- Around 15 percent of all factory maintenance costs are credited to heat exchangers, with half of that figure due to fouling heat exchangers.
- Machine downtime is costing manufacturers more than £180 billion each year.

In action: Boliden, Sweden

- The Boliden-owned Rönnskär copper smelting plant is one of the world's most efficient. A service agreement with Alfa Laval, signed in 2006, covering all plate heat exchangers (PHEs), has greatly impacted cooling processes, resulting in significant water and energy savings.
- Water consumption has been almost halved, from 110 to 60 million tonnes of water per year. This has also lowered the energy costs for water pumping by 15-20 percent since 2006.
- For more than 30 years, the Rönnskär plant has supplied district heating in the region, including the municipality of Skellefteå.

7) Decarbonizing heavy industry

The industry

- Cement, iron and steel, and chemicals are the largest industrial emitters and the hardest to decarbonize because of process emissions.
- The chemical sector is the largest industrial energy consumer and the third largest industry subsector in terms of direct CO2 emissions. This is largely because around half of the chemical subsector's energy input is consumed as feedstock.
- The sector faces major challenges: pressure to decarbonize, volatile energy prices, regulatory changes, and the need to adopt cleaner technologies to remain competitive and sustainable.

The potential

- Today the world's industries can produce 20 percent more value added with a given amount of energy than they could two decades ago.
- In IEA countries, if all firms matched the energy consumption of the best performers in their subsectors, energy costs could be reduced by up to an estimated USD 600 billion.
- Around 80 percent of firms indicated that energy efficiency is key to maintaining their competitive edge.

In action: Dow Chemical, Netherlands

- The Dow Terneuzen plant aims to cut emissions by over 40 percent by 2030, supported by investments in energy efficiency, hydrogen, and CO_2 capture infrastructure.
- An award-winning heat recovery upgrade at the ethylene oxide plant in Terneuzen significantly improved energy performance by capturing and reusing waste heat.
- Collaboration with Alfa Laval has delivered major benefits—reduced emissions, improved reliability, and lower CAPEX. Switching to plate heat exchangers could cut scope 3 emissions by ~50 percent, based on steel-related emissions alone.

8) Enabling efficient data center cooling

The industry

- Liquid cooling efficiently manages heat in data centers, supporting higher server density, lower energy consumption, and improved system reliability compared to air cooling.
- It accelerates decarbonization by reducing HVAC energy use, improving Power Usage Effectiveness (PUE), lowering noise, and extending hardware lifespan.
- By enabling heat reuse, such as warming nearby buildings, liquid cooling contributes to circular energy models and modern, high-efficiency operations.

The potential

- Switching to liquid cooling can cut cooling-related energy use nearly in half, especially in high-density environments like AI and HPC workloads.
- Liquid cooling can reduce cooling energy use by up to 48 percent.

In action: Boyd, USA

- Boyd partnered with Alfa Laval to develop the ROL2300 Coolant Distribution Unit (CDU)—a compact, high-capacity system delivering up to 2.3 MW of cooling for AI-driven data centers.
- At its core, Alfa Laval's custom brazed plate heat exchanger ensures exceptional heat transfer efficiency, optimized pressure drop, and reliable thermal performance in minimal space.
- The partnership enabled fast validation, efficient design, and scalable, energy-saving cooling solutions.

9) Decarbonizing the steel value chains - A strong demand for fossil-free steel

The industry

- On average, every tonne of steel produced leads to the emission of 1.89 tonnes of CO2 into the atmosphere.
- In 2020, 1,860 million tonnes of steel were produced, and total direct emissions from the steel sector were approximately 2.6 billion tonnes, representing between 7 percent and 9 percent of global CO2 emissions.

The potential

- In 2021, Swedish steel company SSAB produced the world's first fossil-free steel as a proof of concept using the HYBRIT® technology.
- This revolutionary steelmaking technology, which uses hydrogen-reduced sponge iron, eliminates the primary source of CO2 emissions by producing water as a byproduct instead of CO2.
- SSAB Zero™ is made of recycled steel and produced with fossil-free electricity and biogas.

In action: Alfa Laval, Sweden

- In Alfa Laval's carbon neutrality journey, collaboration with SSAB marks an important step towards reducing Scope 3 emissions, as steel is one of the main materials used in heat exchangers.
- From autumn 2024, T21 gasketed plate heat exchangers from Alfa Laval's manufacturing facility in Lund will be made using recycled SSAB Zero™ steel for the heat exchanger frames.
- By using SSAB Zero™ in the frames, these unique heat exchangers are produced with up to 39 percent lower CO2 emissions.

10) Optimize energy management: Control of usage data reduces energy consumption

The industry

- By 2050, energy demand will grow by 50 percent.
- The global rate of energy efficiency improvements must double by 2030.
- The industry sector will be the largest energy consumer globally by 2050.

In action: Alfa Laval

- Increase energy efficiency is a continuous work at all Alfa Laval sites. The target until 2030 is to improve energy efficiency by 4 percent (energy consumption/net sales) yearly compared to the previous year.
- Alfa Laval Energy Management, ALEM, presents data, patterns, and trends for sites to analyze energy efficiency and cost-saving opportunities within electricity, gas, district heating, and water.
- Every 15 minutes, energy meters automatically measure energy-consuming assets. Approximately 80 percent of the electricity volumes consumed at Alfa Laval's factories, services, and offices are measured.

11) Energy Efficiency Movement – accelerate energy efficiency in the broad industry

The two global industrial companies, Alfa Laval and ABB, have founded Energy Efficiency Movement, a non-profit association with the aim to accelerate energy efficiency in the broad industry. Today, organizing 630+ organisations, in 56 countries and in total 69 industries. Solutions form Energy Efficiency Movement: Solutions – Energy Efficiency Movement

The industry

- Today the Industry accounts for about 40 percent of global energy use and 1/3 of global carbon dioxide (CO2) emissions.
- In the industrial sector, which accounts for 21 percent of world GDP (worth over USD 20 trillion, 2024), growing energy demand and rising trade pressures are placing energy – and the role of energy efficiency – at the heart of discussions on competitiveness.[8]
- 50 percent of todays potential for energy savings comes from the industrial sector according to IEA, and increased energy efficiency could account for more than ⅓ of emission reduction in the next 25 years.

The potential

- Today the world's industries can produce 20 percent more value added with a given amount of energy than they could two decades ago [9]
- In IEA countries, if all firms matched the energy consumption of the best performers in their subsectors, energy costs could be reduced by up to an estimated USD 600 billion
- In 2025, the IEA carried out a survey of 1 000 industrial firms across 14 countries to find out more about private sector perspectives on the role of efficiency in competitiveness. Around 80 percent of firms indicated that energy efficiency is key to maintaining their competitive edge.

[8] Gaining an Edge – Analysis - IEA

[9] Gaining an Edge – Analysis - IEA