

# INDUSTRIAL SECTORS ARE ON A ROUTE TO CONSERVE ENERGY AND DECREASE EMISSIONS

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## ABSTRACT

*For the world's synchronised development of economic growth and environmental protection, accurately evaluating and developing the paths of energy conservation and emission reduction for industrial sectors is critical. The industrial sector contributes significantly to the country's economic growth, and it is expected to expand as the government pushes for more domestic manufacturing. However, while industries constitute an important part of a country's economic development, they also consume a lot of energy. Traditional fuels are still used to power most industrial activities, and the sector accounts for around a quarter of all greenhouse gas emissions. The balance of industrial emissions is made up of emissions from industrial processes and product use. Reducing the energy intensity of important industrial sectors can lead to significant reductions in emissions and better air quality. The majority of countries have already taken numerous significant steps to increase industrial energy efficiency. However, as the industrial sector grows, it is more necessary than ever to preserve energy and minimise emissions.*

**Keywords:** Industrial Sectors, Emissions, Domestic Manufacturing.

## INTRODUCTION

Humans are facing a big dilemma as a result of rising carbon emissions: global warming. The international community has agreed that the emission of carbon dioxide and other greenhouse gases is urgently needed to be controlled. With the growth of major growing industries, the global energy crises and environmental issues are becoming increasingly apparent. Every government will take steps to address environmental issues so that future generations of humans can continue to live on the planet. Non-renewable resources such as oil and coal must be solved promptly in order to address the issue of energy scarcity (Sims, 1980). When it comes to pollution, carbon dioxide emissions and the depletion of the ozone layer are the most significant.

Automobiles are the common denominator in each of these issues. A shift in industry development is on the horizon. In the face of global climate change, energy scarcity, and pollution, development characterised by low energy consumption and low emissions of a low-carbon economy, as well as sustainable development, is becoming the mainstream choice of economic development around the world. China now has a new option in the form of a low-carbon economy. New challenges include improving the ecological environment and promoting the evolution of a new economic development pattern.

The power industry consumes the most energy (Zhang, 2009). Carbon dioxide (CO<sub>2</sub>) emissions, as one of the most important aspects of our country's future growth route, have a direct impact on the success or failure of our country's low-carbon economy. Energy conservation and emissions reduction in the power industry under low-carbon economy theory research is practical and provides a reference for power industry planning in our country, as well as lessons learned. It is both theoretically significant and practically useful.

The endeavour to reduce energy consumption by utilising less of an energy service is known as energy conservation. Energy may be saved by reducing waste and losses while also increasing efficiency through technological advancements and better operation and maintenance (Yabe, 2004). Companies save energy by scheduling production more intelligently, using more energy-efficient equipment, or improving design. Industries must strive to enhance energy efficiency by implementing cutting-edge technologies, such as state-of-the-art machines and processes. Periodic maintenance and calibration improves the efficiency of the systems, which aids in fuel conservation and pollution reduction.

Production efficiency equals energy efficiency. Improvements in industrial energy efficiency may present significant business prospects. The cost of production per unit of output is the most dependable and consistent metric for comparing the efficiency of different units. The higher the efficiency of an industrial unit, the lower the cost per unit of output, the following are the key provisions of the EC Act on Standards and Labelling: Develop minimal energy consumption and performance guidelines for the equipment and appliances that have been notified. Prohibit the manufacturing, sale, and import of equipment that does not meet the required criteria (Del Negro & Primiceri, 2015). Reduced climate change impact, reduced air pollution, and enhanced indoor air quality are just a few of the many advantages of energy efficiency to increased energy security and cost savings. Coal, lignite, oil, and natural gas are the most common commercial energy sources. India's energy sector is extremely energy intensive, and its efficiency lags well behind that of other industrialised nations. In these countries, efforts are done on a regular basis to promote energy saving in the hopes of lowering manufacturing costs.

In industries such as iron and steel, chemicals, cement, pulp and paper, fertilisers, textiles, and so on, there is a lot of room to improve energy efficiency. If these industries can promote energy saving, they may be able to reduce their manufacturing costs significantly. Energy management is critical since all well-planned actions can assist cut an organization's energy expenses while also minimising environmental impact. Conservation and efficiency are the two basic energy management measures. This necessitates the implementation of a data gathering, analysis, and reporting system for the organization's energy usage and expenses. Energy conservation in various industrial equipment/applications such as boilers Steam, compressed air, refrigeration, and electric motors, among other things Energy conservation also necessitates the use of waste heat recovery technologies, cogeneration, and alternative energy sources (Guo et al., 2016).

To reach the full potential of energy saving in industry, technology upgrades, modernisation, and the introduction of control instrumentation are required. Energy efficiency, fuel switching, combined heat and power utilisation of renewable energy, and more effective use and recycling of materials are only a few techniques to reduce greenhouse gas emissions from the industrial sector. Many industrial processes lack a low-emission alternative, necessitating the long-term use of carbon capture and storage (Ex - HFCs Oil and Gas Production Other Industrial Sources like - SO<sub>2</sub> NO<sub>x</sub> etc.).

## CONCLUSION

The following recommendations are made as a result of the aforesaid research conclusion: First, government departments will accelerate the adjustment and optimization of industrial structure in order to reduce the economy's reliance on energy, invest more labour or capital in technological innovation, and aggressively develop strategic emerging industries such as energy

conservation and environmental protection, new energy and new materials, and clean energy exploitation and utilisation. Second, speeding the change of economic development mode by supporting environmental remediation in detail, pushing low-carbon development with reduced air pollution, and promoting green and integrated economic and social development should be considered an important goal.

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