

## Chapter 27

# Greenhouse Gas Mitigation through Energy Efficiency: Perform, Achieve, and Trade (PAT) – India's Emission Trading Scheme

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### ABSTRACT

*Pursuant to the Thirteenth Conference of Parties to the UNFCCC held at Bali in 2007, based on Nationally Appropriate Mitigation Action plan, India has introduced its very own Emission Trading Scheme (ETS) called Perform, Achieve and Trade (PAT) market mechanism. The country has already achieved remarkable success in the renewable energy front. This chapter studied the existing policy regime of renewable energy and energy efficiency, and tried to understand how far the country practically can achieve the objective enshrined by PAT mechanism. This paper highlighted the background of the market based ETS, where various policies and legislation were put in place to provide energy efficient service and energy efficient system to the large energy intensive sectors of Indian economy. However it is not conducive to come to a conclusion regarding PAT's success or failure unless the First PAT cycle is completed, i.e. 2012-13 to 2014-15 compliance period is over.*

### INTRODUCTION

*A technological society has two choices. First, it can wait until catastrophic failures expose systemic deficiencies, distortion and self-deceptions... Second; a culture can provide social checks and balances to correct for systemic distortion prior to catastrophic failures. - Mahatma Gandhi*

In 1980s, with increasing scientific evidence of human interference in the global climate system raised public concern. Climate change has mounted as a political agenda around the globe. As an effort by the United Nation to provide the governments and policymakers with a clear scientific view of what is happening to world climate, in 1989 the Intergovernmental Panel on Climate

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Change (IPCC) was set up by the World Meteorological Organization and the United Nations Environment Programme. The IPCC in its first report in 1990, concluded that the growing accumulation of greenhouse gases (GHGs) in the atmosphere would '*enhance the greenhouse effect, resulting in an additional warming of the earth's surface*' by the next century, unless measures were taken to limit emissions. Responding to this report the United Nations General Assembly in December 1990, launched negotiations to formulate an International treaty on global climate protection, which later became United Nations Framework Convention on Climate Change (UNFCCC). The negotiation started on February 1991, lasted for 15 months and the convention was adopted on May 1992 (UNFCCC, 1992).

India signed the UNFCCC on 10<sup>th</sup> June 1992 and ratified it on 01<sup>st</sup> Nov 1993 and it has been enforced in March 1994, after being ratified by 50 other countries. On 11<sup>th</sup> December 1997, at the third Conference of Parties (COP) to UNFCCC, held at Kyoto, Japan, adopted a Protocol, which came in to force on 16<sup>th</sup> February 2005. The Protocol set binding targets for 37 industrialized countries and the European community for reducing GHG emissions by of 5% against 1990 levels over the five-year period of 2008-2012. Although there were no such target set for any of the developing country, but to engage developing countries in mitigation action, in 2007 during the thirteenth COP, which held at Bali, Indonesia, for the first time the concept of Nationally Appropriate Mitigation Action (NAMA) has been adopted (Sharma & Desgain, 2013, p. 8).

Following the resolution adopted at Bali, to fulfil its commitment towards environment at the international level India launched eight priorities as national action plan to counter climate change based on NAMA principle. The National Mission for Enhanced Energy Efficiency (NMEEE) is one of the eight priority action plan to increase

efficiency in the energy sector with an objective to reduce overall GHGs emission in the country.

This chapter comprises of five sections. After the introductory discussion, Section-1 provides a brief insight by describing the key question of the study and provides an outline of the following sections. The Section-2 describes the overall economic scenario of the country and contribution of various sectors in the GDP of the nation, their respective level of energy consumption and emissions. Depending on the intensity or quantity of energy consumed and the amount of investment required for switching over to energy efficient equipments *The Energy Conservation Act, 2001* (hereinafter The EC Act.), identified 15 large energy intensive sectors of the economy. However, out of 15 energy intensive sectors only 8 were included in the 1<sup>st</sup> PAT cycle i.e. 2012-13 to 2014-15. These sectors have significant scope and potential for improvement in their energy consumption.

The Section-3 highlights the taxonomy of the policies, enactments and institutional establishment. India is one of the top emitting nations of the world and to fulfil its commitment under the UNFCCC to take NAMA Plan for sustainable development and also considering the level of energy consumption and sectorial emission, adopted various policies and measures regarding promotion of Renewable Energy and Renewable Purchase Obligations, Energy Efficiency, Energy Self-sufficiency measures with an objective to make India an energy secure nation.

The Section-4 contextualises the concept and evolution of Emission Trading/Tradable Allowances as an economic instrument to mitigate climate change. This chapter shall also focus on India's very own ETS, i.e. Perform Achieve and Trade (PAT) market mechanism, how the mechanism had been adopted and the amendments made to The EC Act, 2001 for its smooth functioning.

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