A CRITICAL LITERATURE REVIEW ON EMISSION TRADING SCHEME

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ABSTRACT

Mankind is facing problems of Climate Change, but the real problem is what to do to mitigate Climate Change and its effects. A world temperature is increase a two degree Celsius in past century, if it exceed more than it is a sever risk for mankind. Now it's time to take certain steps to decelerate or stop. A key issue for policy formulation and legislation is how to couple greenhouse gas (GHG) emission mitigation with economic growth. To encourage 'Sustainable Development' and to achieve target of 20-25% emissions intensity reduction relative to 2005 levels by 2020, world has to adopt Emission Trading Scheme. This study aims to provide introduction of Emission Trading Scheme and give suggestions to who adopt ETS first time. Emission Trading Scheme is the most useful and economical way to reduce air pollution emission. It can improve environmental quality at a lower overall cost without damaging industrial growth.

Keyword: - *Climate Change, Emission Trading Scheme, Green House Gas*

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1. INTRODUCTION

Emissions Trading Scheme (ETS) is a market-based glide path used to control pollution. Emission trading provides economical incentives to reduce pollution.

The ETS works on the 'Cap and Trade' principle. An Authority sets a cap or limit to a certain amount of Green house gases that can be emitted. The cap or limit will be sold to the firms in the form of emission permit which shows the specific amount of volume that can be emitted by the firm. The total number of permits will not be more than the cap. The cap is continuously reduced so total emission is also reduced. The companies have to reduce green house gases emission by following the technology. The cap must be neither so high that the system does not achieve reductions nor so low as to be prohibitively costly to firms. The companies which emit excessive amount of Green House Gases (GHG) will have to buy permits from international emission saving projects around the world.

If companies exceed heavy penalty would be imposed; while if company reduce emission, the emission would be utilize by them or may be sold. The transfer of permits is refers to as trade. Here, buyer has to pay money to pollute environment and seller is rewarded for less emission. The companies covered by the scheme are no longer free to pollute. By giving financial value to the carbon this influences the economics of burning fossil fuels. The price of emissions makes pollution costly and gives polluters an incentive to cut back.

For example coal emits more carbon so coal plant operator needs more permits. The higher cost of permits, it is more expensive to use coal so the coal plant operator has to use gas, which is less pollutant than coal.

Emission Trading is a central element of the Kyoto protocol in the form of the Clean Development Mechanism (CDM) and is the cornerstone policy of the EU, who's Emissions Trading System (ETS), is the largest in the world.

The scheme, originating from the Acid Rain crisis of the US in the 1980s, has been credited with not only allowing the US to successfully overcome it, but is also finding favour in addressing the issue of global warming. Emission trading is one of the effective mechanisms for developed country to achieve their emission reduction targets.

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2. CRITICAL LITERATURE REVIEW

Climate change negotiations started more than two decades ago and the first formal step in this direction was signing of a global Framework Convention on Climate Change (FCCC) under the auspice of United Nations. The United Nations Framework Convention on Climate Change (UNFCCC or FCCC) is an international environmental treaty on climate change produced at the United Nations Conference on Environment and Development (UNCED), informally known as Earth Summit, held in Rio de Janeiro in 1992. The treaty as originally framed did not set any mandatory limits on greenhouse gas emissions for individual nations and contained no enforcement provisions; it is therefore considered legally non-binding.[9]

However, it included provisions for updates (called "protocols") that would set mandatory emission limits. The principal update is Kyoto Protocol, which has become much better known than the UNFCCC itself.

Following are some critical literature reviews on various national and international papers on Emission Trading Scheme for reduction of greenhouse gases. This all reviews are on Emission Trading Scheme which runs around the world by various countries.

Solomon et al. (1991) said that emission rights for all countries would be allocated according to emissions per purchasing power adjusted GDP index and it could be used to help channel flows of development capital in a global emissions trading programme or from the World Bank's Global Environmental Facility(GEF). Emission allocation display economic activities. [2]

Corfee Morlot et al. (2003) stated that Long term climate policy requires integrating scientific information, socio-economic assessments and ethical judgments. Taking short-term decisions that create political, economic, and social constituencies will ensure a better climate future and will enhance our chances to reach the pinnacle of success in attaining the long term goals. [6]

Tang Ling et al. (2015) studied that Carbon Emissions Trading (CET) would effectively reduce carbon emissions, Higher carbon price has negative impact on GDP and impact on carbon emissions follows an inverted U-shape, which suggests that the carbon price should be set carefully, penalty rate should also hinder the economy it should not be too high. [7]

Ellerman et al. (2008) State that The European Commission cannot perform the same role on a global scale, some problems for global level are developing a central coordinating organization, devising side benefits to encourage participation, Require more time to put the regulatory infrastructure, Most of the allowances were surrendered in the same country and international transfers were a small percentage of the total.[5]

Xu Zhang et al. (2015) concluded that The establishment of multi-region emissions trading system can optimize the allocation of emissions space and reduce the carbon abatement cost regionally. The multi-region linked emissions trading system has substantially adverse impact on energy intensive industries in China. once China participates in the multi-region emissions trading system, the emission allowance will become more limited, resulting in the promotion of energy efficiency, the decline of fossil energy consumption and the development of clean energy in China. [8]

Kumar Rajesh et al.(2013) Concluded that PAT (Perform,Achive,Trade) Energy Savings Certificates (ESCerts) and Renewable Energy Certificate (REC) can be trade to other designated consumers on special trading platforms, Power exchange India(PXIL) and Indian energy Exchange(IEX) with different controlling institutions in the interactive mode with international programmes like Clean Development Mechanism(CDM), United Nations Framework Convention on Climate Change (UNFCCC) and World Bank. The PAT mechanism focuses on large industries which has the major impact on the energy consumption and economic growth of developing country like India. [1]

Bhimani Chirag et al. (2015) stated that the implementation of ETS for Particulate Matter in India has lot of challenges and issues to be addressed right from baseline inventory to market trading and crimes related to it. In India it would be a step forward for betterment of environment for the days and generations to come.[3]

3. MAJOR FINDINGS FROM CRITICAL LITERATURE REVIEWS ON EMISSION TRADING SCHEME:

After completion of critical literature review, Following are the various major findings from critical literature reviews as follows:

1. Innovation and Investment depends on Carbon price in ETS.
2. Emission Trading requires highly accurate monitoring verification of industrial emissions.
3. ETS has been successful in simulating moderate technological change.
4. Combination of rigorous monitoring and awareness with positive carbon price there is abatement in pollution.
5. Countries which adopt ETS first time should take EU-ETS for their standard.
6. In starting phase Permits should be allocated grandfathering.

4. CONCLUSIONS

The Scheme is a pioneering initiative. Innovation in policy-making carries risks, and the issues. A scheme is improved by 'learning-by-doing' and it is important that the ETS can be making perfect by taking experience of the Scheme from other countries. The first step of ETS is to get everyone in and then to deal with the tensions between stringency, differentiation, and harmonization. ETS has problem of political or public opposition to the financial flows that accompany international trading. Most of the allowances issued by individual member states were surrendered in the same country and international transfers were a small percentage of the total, though they were larger than what might have been expected assuming a national preference for avoiding cross-border trades unless absolutely necessary. Beside this problems and difficulties of ETS, it is the only one option to mitigate Climate Change.

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