

I.A.3. Co2 Emissions Reduction Strategies and Economic Development of India

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This paper examines the consequences of alternative CO₂ emission reduction strategies on economic development and, in particular, the implications for the poor by empirically implementing an economy-wide model for India over a 35-years time horizon. A multi-sectoral, inter-temporal model in the activity analysis framework is used for this purpose. The model with specific technological alternatives, endogenous income distribution, truly dynamic behaviour and covering the whole economy is an integrated top-down bottom-up model. The results show that CO₂ emission reduction imposes costs in terms of lower GDP and higher poverty. Cumulative emission reduction targets are, however, preferable to annual reduction targets and that a dynamically optimum strategy can help reduce the burden of emission reductions. The scenarios involving compensation for the loss in welfare are not very encouraging, as they require large capital inflows. Contrasted with these scenarios involving tradable emission quota give India an incentive to be carbon efficient. It becomes a net seller for the first 25 years and because of reduction in carbon intensity it would demand less in later years when it becomes a net buyer. The results suggest that for India, and other developing countries, the window of opportunity to sell carbon quotas is the next two decades or so.