

## **Energy Access and Poverty in Households of Brazil, India, Indonesia and Mexico**

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Emerging economies like India, Brazil and Indonesia are among the world's most populous and fastest growing. Despite their impressive growth record in recent years, in per capita terms, their emissions remain far below those of the OECD countries. Besides, they are home to a large proportion of the energy poor population of the world. A quarter of the globe's inhabitants still live without access to electricity many of whom live in these four countries. Similarly, of the approximately three billion people globally, still dependent on solid fuels like unprocessed biomass, charcoal and coal, about half are concentrated in these four nations. The continued dependence on inefficient energy sources among poor and rural households has a significant cost for these countries. A transition to more efficient energy sources and/or devices for these households would result in significant social, environmental and economic benefits. The most important benefits include significant positive health impacts, largely for women and children, and the additional prospects of using time freed up in more productive work or education. Social benefits are also likely to result from reduced daily drudgery, injuries and accidents involved with solid fuel collection and use, and the improved communications and lighting that would result from electrification. Both local and global environmental benefits can accrue from the reduced emissions of particulate matter, black carbon and other greenhouse gases associated with the burning of solid fuels in traditional inefficient devices. In addition, lower biomass demand would reduce the pressure for further degradation of soils and forests. Most importantly, the economic returns from providing access are also high particularly, if the policies and programs designed for this have built-in elements that encourage the productive uses of energy to create new employment and income generating activities. The role of energy in powering rural agricultural and small enterprise development is, in particular, critical to ensuring food security and has a proven impact on poverty reduction. All four countries have achieved different degrees of success in increasing access to modern energy for their poor and rural populations. Differing levels of growth and development and rates of urbanization have also resulted in differences in the choices of energy sources and demand levels among households across the four nations. This paper undertakes a comparison of the levels of energy access and consumption among households across these four nations in order to assess how energy poverty, access, and equity in energy access and use differs across the countries and why. In addition, we draw lessons from the experiences of each of these countries for other countries and for access and energy poverty reduction policies in general.