

Chapter 1: Introduction

“The significance of energy for development appears to be the greatest in those countries that have the lowest aggregate levels of energy consumption and where energy use is inefficient.”

(UNDP and WEC 2000)

Energy use is crucial to human survival and development. Improvements in lifestyles have historically been associated with increases in energy consumption and the access to appropriate energy services has always been seen as a necessary precondition for development. While the developed or post-industrialised nations have seen some decoupling of energy and gross domestic product (GDP) growth in recent years at high levels of per capita energy use, recent trends reveal that energy consumption in India, and other fast growing developing countries, is increasing rapidly (IEA 2006). The growing share of developing countries like India in global energy use and greenhouse gas emissions serves as the backdrop to this work. The overall purpose is to increase insight into the underlying causes of the growing energy use in India by adopting a household perspective. The household perspective is adopted in order to shed light on the complex relationships between energy use, household consumption, lifestyles and development.

1.1 Background and Significance

The emphasis of much of the energy literature, both in the developed and developing countries, has conventionally been on energy supply and production. This supply-oriented paradigm has encouraged developing countries to follow policies that focus solely on the growth of energy supply to guarantee further economic growth. However, given the present global concern regarding serious environmental, social and macroeconomic problems associated with the more traditional approaches to energy, a number of recent publications have highlighted the need for a reorientation of

thinking towards a new focus on energy services rather than on energy supply (UNDP 2000; UNDP and WEC 2000). This new focus also highlights the need to shift the emphasis from looking not only at the demand for energy directly, but rather the demand for products and services that use energy or require energy for their delivery.

Alternative approaches to studying energy services have evolved in the last few decades, one of which assumes that all production in an economy takes place to ultimately satisfy final consumption. Thus, all production in an economy can be projected on to the end-users or the ultimate consumers. All economic activity can then be expressed in terms of energy by using the concept of embodied or grey energy (Spreng 1994). Thus, all household consumption of goods and services is expressed in terms of the energy required to domestically produce that specific good or service. In this way, total energy use in an economy is allocated to final consumption. One can then examine energy use from the perspective of individual consumers or households as they form the main consumption sector of the economy. This approach, however, does not include the energy embodied in capital formation and, exports/ imports, though the latter are still relatively small but growing for the case of large developing economies like India.

Studies that follow such a household perspective on energy consumption do exist for developed countries. Examples of such research include those examining the total (direct and indirect/embodied) energy requirements of households in the USA (Herendeen et al. 1981), in New Zealand (Peet et al. 1985) and Switzerland (Ospelt et al. 1996). A series of publications by researchers at the University of Groningen and University of Utrecht have studied household metabolic flows in the Netherlands (Noorman and Uiterkamp 1998; Vringer and Blok 1995, 2000). A more recent publication in this field that links consumption to environmental pollution reports results from an European study for Germany, France and Netherlands on “Consumer Lifestyles and Pollutant Emissions.” (Weber and Perrels 2000). The existing literature provides important insights for understanding energy use in these countries. However, little analysis of this kind has been conducted in developing countries and this is, clearly, a major lacuna (see Pachauri 2002). In addition, studies that compare trends in developing countries with those of developed countries are few and far between (see Lenzen et al. 2006). Research undertaken, as part of this study, should broaden and deepen the foundation for understanding the links between energy use, overall level of development, and well being of the people of India.