

Istanbul Pre-Conference Workshop on “Clean Cooking Fuels” 16-17 June 2008

Organised in conjunction with the 31st IAEE International Conference

Background

(See the International Energy Agency's *World Energy Outlook, 2006*)

In developing countries, especially in rural areas, 2.5 billion people rely on biomass, such as fuelwood, charcoal, agricultural waste and animal dung, to meet their energy needs for cooking. Approximately three-fourths of these live in Asia. In many countries, these traditional fuels account for over 90% of household energy consumption. .

In the absence of new policies, the number of people relying on biomass will increase to over 2.6 billion by 2015 and to 2.7 billion by 2030 because of population growth. This means one-third of the world's population will still be relying on these fuels. Use of biomass is not in itself a cause for concern. However, when resources are harvested unsustainably and energy conversion technologies are inefficient, there are serious adverse consequences for health, the environment as well as social and economic development.

Approximately 1.3 million people – mostly women and children – die prematurely every year because of exposure to indoor air pollution from biomass. Indoor air pollution associated with biomass is directly responsible for more deaths than malaria, almost as many as tuberculosis, and approximately half as many as HIV/AIDS. In addition, much valuable household time and effort is devoted to fuel collection instead of education or income generation. Significant environmental damage can also result, such as land degradation and regional air pollution.

Two complementary approaches can improve this situation: promoting more efficient and sustainable use of traditional biomass; and encouraging people to switch to modern cooking fuels and technologies. The appropriate mix depends on local circumstances such as per-capita incomes and the availability of a sustainable biomass supply.

Halving the number of households using traditional biomass for cooking by 2015 – a recommendation of the United Nations Millennium Project – would involve 1.3 billion people switching to other fuels. Alternative fuels and technologies are already available at reasonable cost. ***To achieve this target, vigorous and concerted government action is needed, together with increased funding from both public and private sources. Policies to promote cleaner, more efficient fuels and technologies for cooking need to address barriers to energy access, affordability and supply, and to form a central component of broader development strategies.***

Aims of the workshop

The workshop pursues the goal of promoting energy economic research of the transition toward cleaner cooking fuels, by presenting the challenges and carving-out possible research questions and research avenues. In particular we will

- encourage students (from economics and related disciplines) in any country to submit papers on the subject and give grants to students from developing countries, who have submitted good papers (possible number of students: 20)
- invite people from industry, international organizations, NGOs and governments as well as researchers to give their view of the problems and of possible ways forward (possible number

- attendees, other than students: 12) and
- allow enough workshop-time to the formulation of a research agenda related to the challenge at hand.

Issues to be addressed

(These include research, field projects, policy analysis and development)

- Needed policy actions at government, business, international levels
- Strategies of suppliers of modern fuels; substitution, market creation
- Role of financial leveraging, venture capital
- Creation of strategic energy scenarios to reduce energy poverty
- Role of conflicts/distributional issues at local, regional and national levels
- Possibility of energy system transitions through technical/institutional innovations
 - Application of socio-technical scenario methodology
- Interdisciplinary social-science analysis
 - Mapping paths of development with regard to sustainability
 - Energy poverty within the overall context of individual and family livelihood
 - Attitudes and behavioral influences on reduction of energy poverty
 - Needs and experiences in knowledge transfer in impoverished societies
- Possibility of integration of energy policies into broader development strategies
 - Health, education, poverty, agricultural and labor policies
- Analysis of successes/failures of past policies to improve access to modern fuels:
 - Micro-finance programs
 - LPG “Rural Energy Challenge”
 - Subsidies of modern fuels (e.g., LPG in Brazil, new LPG program in Indonesia)
 - Experiments in distributed energy systems
 - Energy-service suppliers
 - Experiments in regimes of energy self-sufficiency
- Capacity building, training and development of improved decision making through the use of “*analytic-deliberative*” approaches, carried out at various levels of the energy system.
- Identify key areas for international donor programs in this area.

Structure of the two-day workshop (indicative)

DAY 1:

I. Morning: Overview and status of the problems, for e.g.

- Magnitude of the problem and relation to Millennium Development Goals¹
- Socio-economic and health² impacts of use of traditional fuel use by the impoverished (environmental aspects, although important, will probably be given less space)
- Problems with modern supply systems to the poor, issues of access to modern fuels (access and development, obstacles to access, ...)

II. Afternoon: Institutions and programs³

There are a number of experiences in widely divergent developing economies around the world that

¹ Includes statistical analysis, such as the work done at ETH Zurich and now IIASA

² Here the core team has done some work and has some additional work in progress which may be presented at the workshop

³ Various financial/technical/marketing programs. These include micro-finance, marketing innovations, and perhaps lessons to be learned from other fields such as health care, sanitation facilities, etc.

could be examined for lessons learned.⁴ The afternoon might be organized in the following sections:

- Industry views and programs⁵
- Programs of governments (such as subsidies)⁶, NGOs, international organizations (microfinance, etc.)
- Institutional/economic analysis of programs⁷

Commissioned presentations (invited speakers and member of organizing group) will introduce the various subjects, submitted papers will follow and in-depth discussions will round up the six one-and-a-half-hour sessions.

DAY 2:

III. Morning: Four breakout sessions. e.g.,

- role of appropriate technology,
- role of culture-specific values,
- supply systems-incentives and constraints,
- micro- and macro-economics, financing

Presentations of research agendas developed in breakout sessions

IV. Afternoon: Review, evaluation and conclusions of resultant recommendations and research agendas

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⁴ Brazil's already completed program to increase LPG use seems quite relevant for discussion in a broader arena as is Indonesia's current efforts to promote LPG substitution for kerosene (so far mostly in urban areas). India has long struggled with the issue. UNDP and the World LPG Association have been carrying out the "UNDP/WLPGA LP Gas Challenge" program, and there are several others which might be relevant for closer examination.

⁵ Here we encourage applications from speakers, who could present success/failure experiences in various countries, and also the increasing interest in "business models".

⁶ Of course, subsumed within almost all of the above topics are among others, the persistent and crucial issues of

- fuel pricing,
- investment incentives and costs,
- government subsidies and regulation.

A comprehensive set of case studies of fuel subsidies in developing economics was carried out by UNDP several years ago. It might be appropriate for another look at this topic, within the framework of the traditional fuel issue.

⁷ Hisham Zerriffi at UBC deals with business models, including work on rural development. Deepak Sharma of UTS in Sidney is exploring the issue for India.