Fact Sheet on
Energy Modelling and Capacity Building

Our focus: building analytical capacity in MS for energy-environmental-economic assessments and for the elaboration of sustainable energy strategies.

What we offer:

- **A variety of analytical models** specifically designed for use in developing countries for:
  1. evaluating alternative energy strategies;
  2. assessing environmental, economic and financial impacts of energy options;
  3. assessing infrastructure needs;
  4. evaluating regional development possibilities and energy trade;
  5. assessing the role of nuclear power in addressing priority issues (climate change, energy security, etc.).

   These models can be used for analysing energy or electricity systems, and to assess possible implications of different energy, environmental or financial policies that affect the energy sector and energy systems. The models vary in complexity and data requirements, and so can be adapted to the available data, statistics and analytical needs of different countries.

   These models are constantly updated to reflect changes in the real world and in the concerns that drive energy system choices. They can provide thoughtfully informed choices for policy makers over a broader range of circumstances and interests. For example, they can readily reflect the workings of competitive energy and electricity markets, and cover such topics as external costs.

- **Training** in the use of these models and –just as important- in the interpretation and critical evaluation of results. Training of national teams to develop national competence over the full spectrum of models, is a high priority.

- A broad spectrum of **databanks** relevant to energy, economic and environmental analysis in MS, and make these data available to analysts in MS for use in their own analytical work. The Reference Technology Data Base (RTDB) and the Reference Data Series (RDS-1) are the major vehicles by which we provide MS with such up to date and coherent statistics. Training/capacity building in data collection includes assuring data consistency, statistical analysis and interpretation of results.

- Several sets of **indicators** relevant to current topics of interest: energy for sustainable development, technological innovation including nuclear fuel cycle characteristics, and corporate social responsibility as it relates to questions of public acceptance. Several capacity building projects marry scenarios modelling with indicator analysis to provide comprehensive assessments of different policy and energy or electricity sector development options.

Sample Studies:

- **Strategic scenarios for energy system development**:

  Long term national energy plans, electricity system expansion options, and implementation strategies.
Country profiles that use both scenario modelling and indicators to assess the sustainability of energy system development plans and policies.

- **Comparative assessment of techno-economic and environmental aspects of various technologies or energy chains:**

  Assessment of technology options related to implementation of the Kyoto Protocol, comparing nuclear power vs. carbon capture and disposal, renewables, or other mitigation options for cost effective compliance with Kyoto obligations.

  Comparison of the external costs of different plant siting options or electricity system expansion choices (nuclear, fossil renewables, hydro)

  National and regional analyses of grid integration, including the effect on nuclear power plant introduction or closings.

**For more information please contact your IAEA TC Country Officer or**

Mr. A.I. Jalal  
Planning and Economic Studies Section  
Nuclear Energy Department  
IAEA  
Wagramer Strasse 5 P.O. Box 100  
A-1400  
Vienna, Austria

Tel.: + 43 1 2600 22842/1  
Fax: + 43 1 2600 29882  
E mail: a.jalal@iaea.org

Further information is available on the Departmental website,