



IAEA

International Atomic Energy Agency

Atoms for Peace

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Assisting ARASIA Member States with comparative assessment of electricity generation options

The challenge...

Many countries in the Middle East and North Africa are building interconnections to integrate their electric grids. These interconnected grids will help to improve the electricity supply in the collaborating countries of the Cooperative Agreement for Arab States in Asia for Research, Development and Training Related to Nuclear Science and Technology (ARASIA) by resource pooling. The market sizing of the regional grids will also open up possibilities for accommodating nuclear power and desalination technologies. Attention is increasingly focused on the environmental and human health impacts of various energy options within the region. In light of all this, comparative studies for electricity options, covering technical, economic and environmental aspects in the participating Member States, were needed.

The project...

During the 2003–2004 phase of the project, the organizational structure for project implementation was established in each participating country (Iraq, Jordan, Lebanon, Saudi Arabia, Syrian Arab Republic, United Arab Emirates and Yemen). During the second project phase, training, workshops and expert missions were provided to assist with the transfer of methodologies and tools for energy system analysis. The project also helped Member States to prepare future policies and plans for the development of the energy sector, as well as sustainable energy strategies.

The impact...

The project has established teams of local experts, trained to conduct comprehensive energy studies, including MESSAGE (Model of Energy Supply Systems and their General Environmental Impacts), for national planners.

Participating countries have been helped to optimize their long term energy systems and to develop sustainable energy supply strategies at national and regional levels that consider economic, social and environmental constraints.

Health damage costs for power sectors have been estimated and the possible role of renewable and nuclear options in the future supply mix of ARASIA countries has been identified.

In continuation, a further project is underway to support the development of sustainable energy strategies, emphasizing the evaluation of the role of cleaner energy technologies (renewable, nuclear and cleaner fossil fuels technologies) and assessing their potential contribution to future energy needs, as well as water supply requirements.

