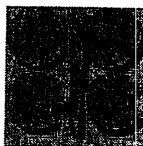




ESCWA



UNSD



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ECONOMIC AND SOCIAL COMMISSION FOR WESTERN ASIA

Expert Group Meeting on Statistics of Sectoral Energy Production,
Consumption and Related Environmental Issues, and
Workshop on Energy Data in ESCWA Member Countries
With Special Focus on Oil Statistics
Beirut, 8 - 11 July 2003

10-07-2003

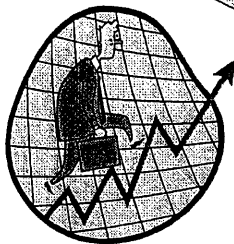
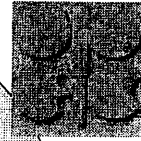
LIBRARY & DOCUMENT SECTION

**THE NEED FOR DEVELOPING A SECTORAL ENERGY
RELEVANT ENVIRONMENTAL DATABASE
IN ESCWA MEMBER COUNTRIES**

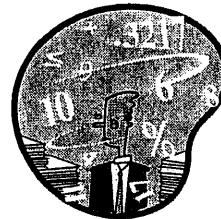
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The need for developing a sectoral energy relevant environmental database in ESCWA countries

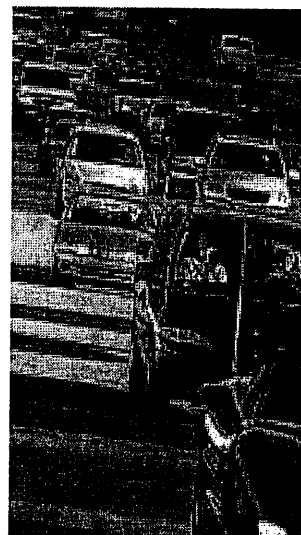


By: Lulwa Ali
Sustainable Development
and Productivity Division
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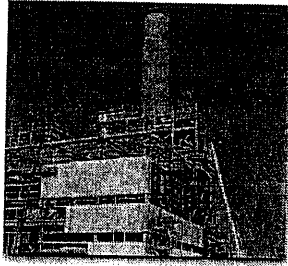


ENERGY & ENVIRONMENT

- ❖ Energy production/ consumption, particularly fossil fuel, is a major source pollution (particularly air pollution).
- ❖ Better environment and air quality demand appropriate national and regional plans and better understanding of emitted pollutants, emission sources and methods to reduce and mitigate adverse impacts of pollutants produced by the energy production/ consumption.



ENERGY & ENVIRONMENT



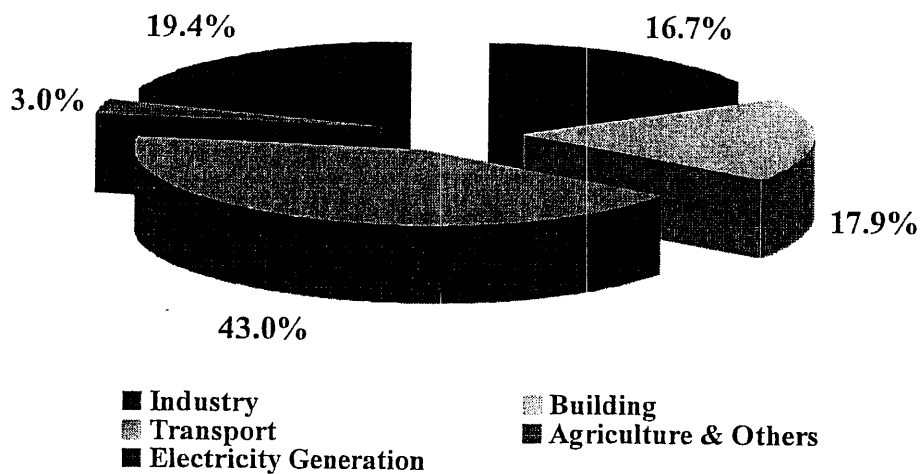
- ❖ Most ESCWA countries are signatories of United Nations Framework Convention on Climate Change (UNFCCC) and some signed the Kyoto Protocol which established initiatives to guide countries in their efforts to reduce GHG emissions.
- ❖ Despite the vital importance of energy consumption based air pollution data, the issue is not taken seriously by most ESCWA countries and hence the impacts on environment and sustainable development is under estimated.
- ❖ A need exists for developing a statistical database and information that serves the need of energy planning and pollution control.

MAJOR ENERGY CONSUMING & POLLUTION PRODUCING SECTORS

- ❖ Power Sector (Thermal Electricity Generation)
- ❖ Industrial Sector (Manufacturing industries and Construction Schemes)
- ❖ Transport Sector (Road, Domestic aviation, National Navigations)



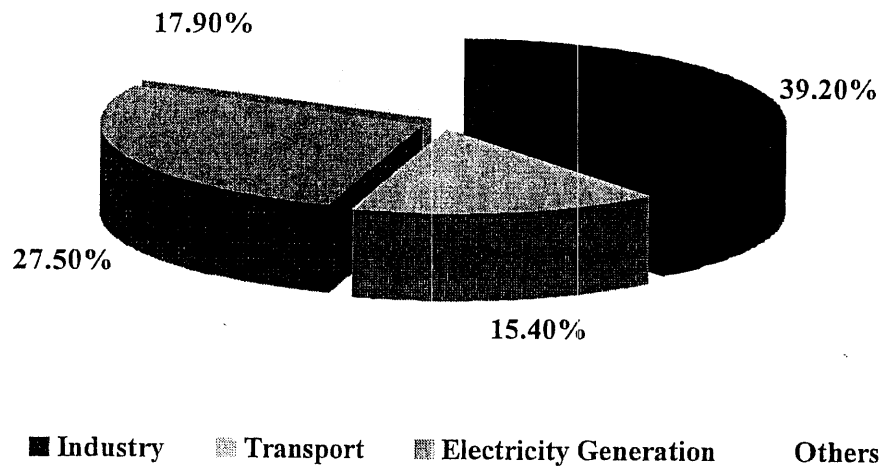
Sectoral Consumption of Petroleum Products in ESCWA Region



ENVIRONMENTAL IMPACTS OF THE ENERGY SECTOR

- Air Pollution
- Global Climate Change (GHG Emissions)
- Urban Ozone
- Impacts on Water Resources (waste effluents, Oil spillage, etc)
- Soil Pollution
- Others (Noise, solid waste, land disturbance, etc.)

Sectoral CO₂ Emissions In ESCWA Region



Data Gaps and Constrains

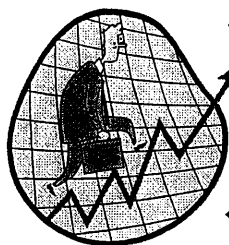
- ❖ Overall, lack of clear vision of concerned decision makers in the region on the importance of data availability and validity for planning and maintaining necessary support to ensure a sustainable energy sector;
- ❖ Insufficient and inconsistent statistical data at both sectoral and sub-sectoral levels.
- ❖ Lack of standardized data collection methodologies and tools at country and regional levels.
- ❖ Limited coordination between the data generation bodies on energy and concerned central national statistical units;

Data Gaps and Constrains

- ❖ Undefined environmental key issues and indicators & standards for monitoring and **managing energy consumption** performance in relation to environment.
- ❖ Low responses rates, incomplete information, and or outdated figures and estimates of surveys.
- ❖ Little and scattered statistical based at far spaced time interval (barely satisfy some international obligations);



Data Gaps and Constrains



- ❖ Lack of adequate regional cooperation schemes between countries on energy & environmental data reporting, exchange and management;
- ❖ Very low level of investment in basic environmental monitoring infrastructure for data gathering;
- ❖ Lack of statistical databases at the national and regional levels

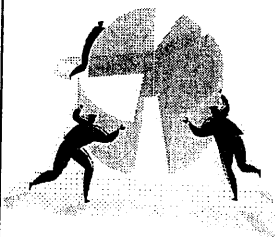
BENEFITS OF SECTORAL ENERGY RELEVANT ENVIRONMENTAL DATABASE IN ESCWA COUNTRIES



The database would serve several purposes:

- ❖ Facilitates the compilation of national greenhouse gas inventories in the Member Countries;
- ❖ Helps in developing energy relevant policies and plans that illuminate the significance of environmental change and progress towards sustainability in countries in the region;
- ❖ Assists in maintaining a framework for cooperation on energy & environmental reporting and information management between ESCWA countries;

EXAMPLES OF GHG DATABASES RECOMMENDED BY UNFCCC



- ❖ United Nations Statistics Division (common database, industrial commodity)
- ❖ IEA (Energy data e.g. energy statistics, oil and gas information and coal information)
- ❖ World Bank (GDP)
- ❖ OECD (agriculture, development, energy, environment and sustainable development, transition economies and transport, etc)

EXAMPLES OF GHG DATABASES RECOMMENDED BY UNFCCC

- ❖ European Commission, Directorate General for Energy: Annual Energy Review
- ❖ Oil and Gas Journal
- ❖ AP-42 , USEPA
- ❖ Joint EMEP/CORINAIR Atmospheric Emission Inventory Guidebook;
- ❖ Database of Phare Topic Link on Air Emissions (focuses on Eastern European countries);
- ❖ Database of the Japanese National Institute for Agro-Environmental Studies (agriculture);
- ❖ OLADE database of emission factors (Latin America)



CONCEPTUAL DATABASE FRAMEWORK/ COMPONENTS

1. *Data fields*
2. *Data sources and collection procedures*
3. *Structure*
4. *Users*
5. *Computer software selection*
6. *Hosting and sustainability*



CONCEPTUAL DATABASE FRAMEWORK/ COMPONENTS



❖ Data fields

Data fields should contain information that users would expect.

- Sectors (e.g. energy production, transport, industrial, etc...)
- Emissions to be estimated with the related parameter (Country-specific emission factors, if any, measurement unit;
- Upper and lower boundaries (confidence limits i.e. 95 % etc.
- Related Indicators for Sustainable energy development

❖ Data sources and collection procedures

- Sources: (Energy authorities, Research institutes, Scientific literature, National inventory agencies, etc....)
- Collection procedures: (national statistical authorities; measurements/ monitoring, surveys, computation,..)

CONCEPTUAL DATABASE FRAMEWORK/ COMPONENTS

❖ Structure

The structure of the database should be flexible to accommodate:

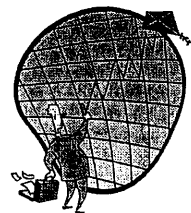
- Changing demands on the database;
- Data from other databases and link to other databases
- Different sector classifications, etc.....

❖ Users

- Inventory agencies/ Data suppliers;
- Scientists;
- Planning authorities and decision makers
- Environmental agencies, General public, NGOs, etc.



CONCEPTUAL DATABASE FRAMEWORK/ COMPONENTS



❖ Computer software selection

- Software should be user friendly and have sorting tools built in
- User can extract information and export them to widely available simple spreadsheets (e.g. Excel) and/or database formats (e.g. dBase IV), etc.

❖ Hosting and sustainability

- ESCWA could host a regional database
- Member states could have their own databases (linked to regional database).

FINAL REMARKS AND RECOMMENDATIONS

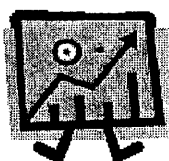
- ❖ Energy consumption based environmental air pollution data, particularly GHG emissions, is an essential component for setting adequate national environmental policies and programs.
- ❖ In ESCWA region, the availability and quality of such data suffer from serious gaps and falls far behind in this respects.
- ❖ The problem is more pronounced at the energy sectoral level where, in many cases, available data are incomplete, scattered and unreliable.



FINAL REMARKS AND RECOMMENDATIONS

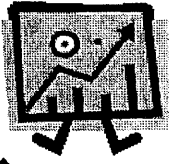


- ❖ There is also lack of institutional infrastructures that provide such data reliably and accurately.
- ❖ This calls for taking necessary steps and initiatives to promote the establishment of reliable environmental statistical databases based on sectoral energy consumption in ESCWA region, with emphasis on GHG emissions.
- ❖ Active initiatives and awareness campaigns should be carried out to promote the proposed database for all stakeholders in all ESCWA countries



Recommended Future Actions: National Levels

- ❖ Formation of country level task forces/ expert teams to support the establishment of the proposed database.
- ❖ A closer coordination with decision makers at the sectoral and national levels in all ESCWA member states should be established to facilitate the provision of needed data and to reinforce/ establish the institutional infrastructure (special units) for data collection capacities.
- ❖ Active initiatives and awareness campaigns should be carried out to promote the proposed database for all stakeholders in all ESCWA countries



Recommended Future Actions: National Levels

- ❖ Strengthen the institutional capacities of cornered authorities in member countries to develop, collect and disseminate environment statistics and indicators relevant to energy use environmental impacts, particularly air pollution. This would require the coordinated efforts of ESCWA, UNEP, and UNSD and concerned statistical institutes to design appropriate training courses and workshops.
- ❖ Seek and Secure funding sources and support at the national, regional and international levels to cover costs associated with the establishment of the database and the related activities/ function needed for the successful execution of the project.

Recommended Future Actions: Regional Levels

- ❖ Formation of regional task force / expert team to oversee future actions and to set necessary plans for future implementation of the proposed database. This team should represent all stakeholders and concern UN organizations (ESCWA, UNEP, UNSD, etc..).
- ❖ A database could be established at ESCWA as a pilot project, which could be later further developed and transferred to other member countries



THANK YOU

