

**Seminar on Mainstreaming Energy SDGs, Targets and
Indicators into national statistical programmes of select
African countries
Addis Ababa, Ethiopia
27 – 29 June 2016**

***Energy Indicators for Sustainable
Development***

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A Multi-agency Publication

Energy Indicators for Sustainable Development

30 Energy Indicators

Dimensions

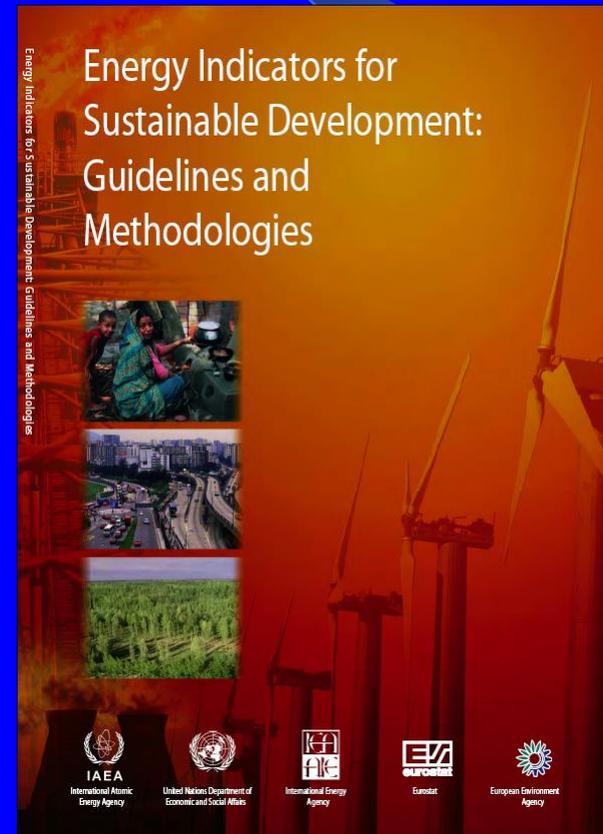
Themes

Sub-themes

Methodologies

References

Guidelines



Energy Indicators for Sustainable Development

Interagency effort

- United Nations Department of Economic and Social Affairs
- International Atomic Energy Agency
- Eurostat
- International Energy Agency
- European Environmental Agency

Energy Indicators for Sustainable Development

- Focus on presenting an integrated look at energy within the framework of sustainable development.
- Applying the entire set of indicators, can provide an overall picture of the state of energy and sustainable development in a given country
- Indicators can be used to measure progress in achieving sustainable development over time.

Energy Indicators for Sustainable Development

30 indicators

- 3 major dimensions of sustainable development -- social, economic and environmental
 - 7 themes and 19 sub-themes
 - 4 indicators in the social dimension
 - 16 in the economic dimension and
 - 10 in the environmental dimension

Dimensions of Sustainable Development

- Social
- Economic
- Environmental

Energy Themes or Major Issues

Dimensions of Sustainable Development

□ Social dimension:

➤ Equity

- Energy accessibility
- Energy affordability
- Energy disparities

➤ Health

- Safety

Energy Indicators for Sustainable Development

SOCIAL

Accessibility

SOC1. Share of households (population) without electricity or commercial energy

Affordability

SOC2. Share of household income spent on fuel and electricity

Disparity

SOC3. Household energy use for each income group and corresponding fuel mix

Health

SOC4. Accident fatalities per energy produced by fuel chain

Energy Themes & Sub-themes in the Economic Dimension

➤ Use and Production Patterns

- Overall Use
- Overall Productivity
- Supply Efficiency
- Production
- End Use
- Diversification (Fuel Mix)
- Prices

➤ Security

- Imports
- Strategic Fuel Stocks

Energy Indicators for Sustainable Development

ECONOMIC

Intensities

ECO6-10. Energy intensities by sector (agriculture, industrial, service, transportation and household)

Diversity

ECO11. Fuel shares in energy and electricity

ECO12. Non-carbon energy share in energy and electricity

ECO13. Renewable energy share in energy and electricity

Prices

ECO14. End use energy prices

Security

ECO15. Net energy import dependence

ECO16. Stocks of critical fuels per corresponding fuel consumption

Environmental Dimensions of Sustainable Development

Environmental dimension:

- Global climate change
- Air pollution
- Water pollution
- Wastes
- Energy resource depletion
- Land use
- Accident risks
- Deforestation

Energy Indicators for Sustainable Development

ENVIRONMENTAL

Climate Change

ENV1. Greenhouse gases per unit of energy produced per capita, per GDP and by fuel

Air

ENV2. Ambient concentrations of pollutants in urban areas

ENV3. Air pollutant emissions from energy systems total & urban areas

Water

ENV4. Contaminant discharges in liquid effluents from energy systems

Energy Indicators for Sustainable Development

ENVIRONMENTAL

Land

ENV5. **Soil** area where acidification exceeds critical load

ENV6. Rate of deforestation attributed to energy use

Waste Generation and Management

ENV7. Ratio of solid waste to units of energy produced

ENV8. Ratio of solid waste properly disposed of to total generated solid waste

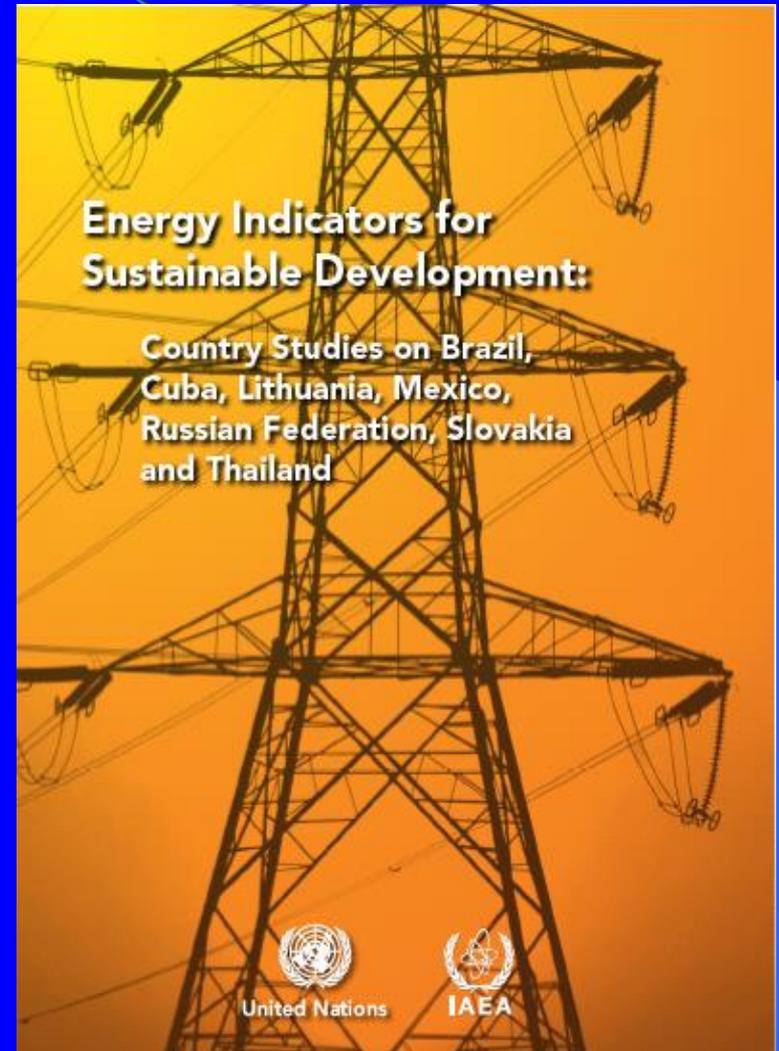
ENV9. Ratio of solid radioactive waste to units of energy produced

ENV10. Ratio of solid radioactive waste awaiting disposal to total generated solid radioactive waste

Energy Indicators for Sustainable Development

Applied and tested
in 7 countries:

- **Brazil**
- **Cuba**
- **Lithuania**
- **Mexico**
- **Russian Federation**
- **Slovakia**
- **Thailand**



Energy Indicators for Sustainable Development

- EISD represent an integrated approach to energy and policy analysis at the national level.
- The indicators can assist efforts to assess progress made achieving sustainable development goals in the area of energy
- Application at national level help in identifying specific areas for targeted measures and policies
- The indicators designed to be utilized with least-cost data available, but more concerted efforts at data collection and coordination are needed at the national level

Country Profiles on Energy for Sustainable Development

In three countries:

- Brazil
- Cuba
- South Africa
- Utilized energy indicators in a holistic assessment and analysis of energy within the context of national sustainable development goals, policies and strategies

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THANK YOU

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