ENERGY STATISTICS

Energy Efficiency Indicators Workshop
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Welcome remarks

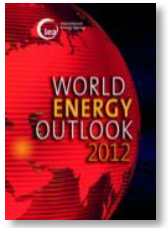
Jean-Yves Garnier
Head, Energy Data Centre

International Energy Agency

A few preliminary comments

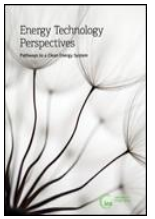
- **Energy efficiency gets every year a higher profile and higher attention from energy analysts and policy makers.**

- **Three recent examples:**



- **Energy efficiency: the current state of play**
- **A blueprint for an energy-efficient world**
- **Unlocking energy efficiency at the sectoral level**
- **Pathways to energy efficiency**

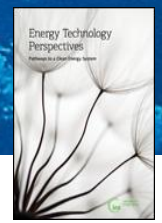
Energy Technology Perspectives 2012

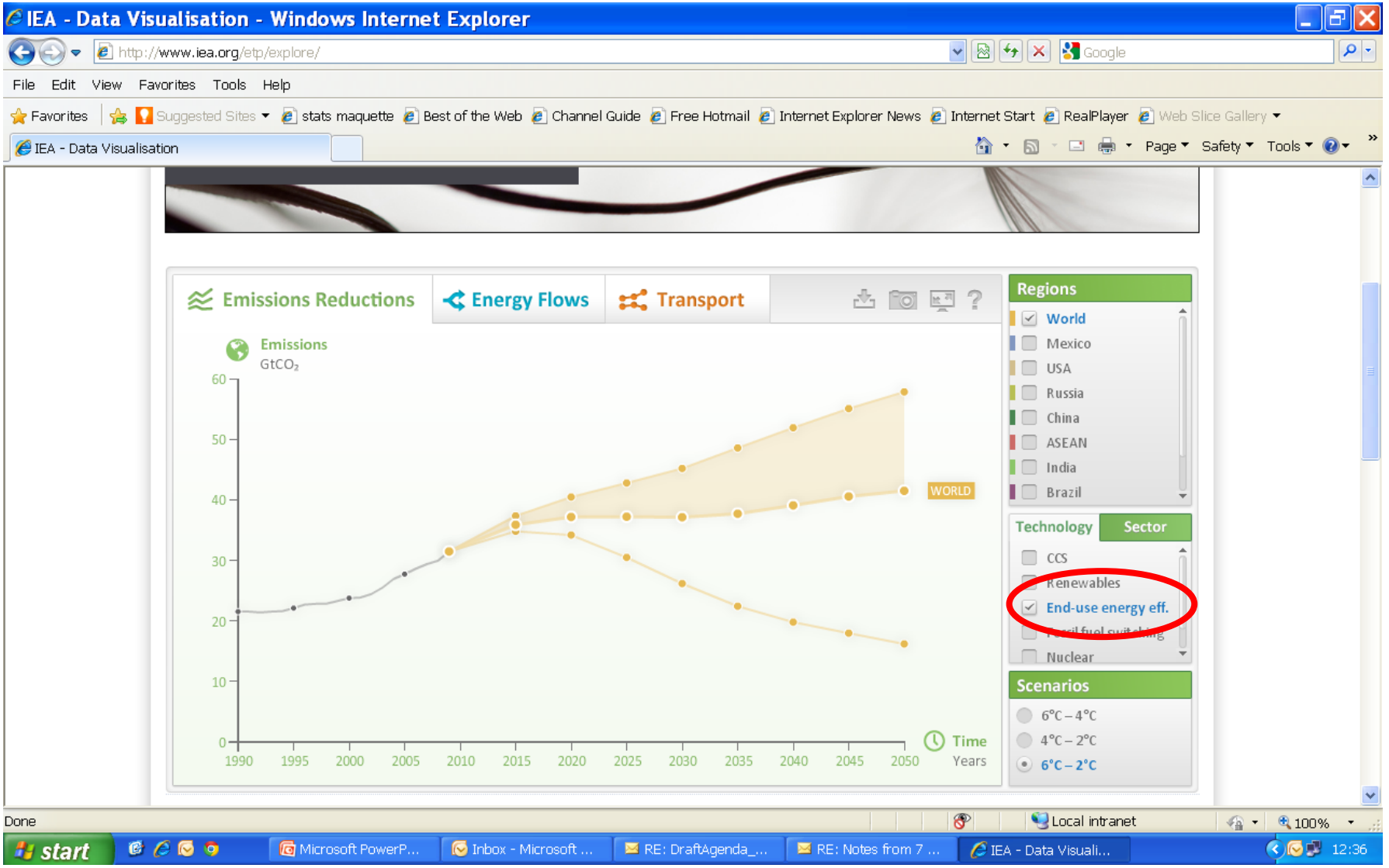


Sustainable Energy for All (SE4All)

- **There are many reasons for raising the profile of efficiency: energy savings, GHG emissions, jobs, …**

Energy Technology Perspectives





Energy Intensity vs. Efficiency Indicators

Because of detailed data, analyses are often based on energy intensity instead on "mere" energy efficiency indicators

BOX O.2 Methodological challenges in defining and measuring energy efficiency

Energy efficiency is defined as the ratio between useful outputs and associated energy inputs. Rigorous measurement of this relationship is possible only at the level of individual technologies and processes, and the data needed for such measures are available only for a handful of countries. Even where data are available, they result in hundreds of indicators that cannot be readily used to summarize the situation at the national level.

For these reasons, energy intensity (typically measured as energy consumed per dollar of gross domestic product, GDP) has traditionally been used as a proxy for energy efficiency when making international comparisons. Energy intensity is an imperfect proxy for energy efficiency because it is affected not only by changes in the efficiency of underlying processes, but also by other factors such as changes in the volume and sectoral structure of GDP. These concerns can be partially addressed by statistical decomposition methods that allow confounding effects to be stripped out. Complementing national energy intensity indicators with sectoral ones also helps to provide a more nuanced picture of the energy efficiency situation.

Calculation of energy intensity metrics requires suitable measures for GDP and energy consumption. GDP can be expressed either in terms of market exchange rate or purchasing power parity (PPP). Market exchange rate measures may undervalue output in emerging economies because of the lower prevailing domestic price levels and thereby overstate the associated energy intensity. PPP measures are not as readily available as market exchange rate measures, because the associated correction factors are updated only every five years.

Energy consumption can be measured in either primary or final energy terms. While it may make sense to use primary energy for highly aggregated energy intensity measures (relative to GDP) because it captures intensity in both the production and use of energy, it is less meaningful to use it when measuring energy intensity at the sectoral or subsectoral level, where final energy consumption is more relevant.

Based on a careful analysis of these issues and of global data constraints, the SE4ALL Global Tracking Framework for energy efficiency will:

- Rely primarily on energy intensity indicators
- Use PPP measures for GDP and sectoral value-added
- Use primary energy supply for national indicators and final energy consumption for sectoral indicators
- Complement those indicators with energy intensity of supply and of the major demand sectors
- Provide a decomposition analysis to at least partially strip out confounding effects on energy intensity
- Use a five-year moving average for energy intensity trends to smooth out extraneous fluctuations

For the purposes of global tracking, data for the period 1990–2010 have been compiled from energy balances for 181 countries published by the International Energy Agency and the United Nations. These are complemented by data on national and sectoral value-added from the World Bank's World Development Indicators.

Looking ahead, significant international efforts are needed to improve the availability of energy input and output metrics across the main sectors of the economy to allow for more meaningful measures of energy efficiency.

This could be misleading and in fact at then could lead to non-optimum decisions and policies.

Why this lack of data?

- Economic crisis leads to cuts in resources allocated to statistics: reduction in number of people, longer frequency in surveying, stop of some surveys, …
- Policy makers do not always clearly see why it is important to allocate resources into collecting basic data
- Statisticians and analysts do not always market/sale their work and results to policy makers
- *What data for what indicators for what use and purpose?* This is not always clear to statisticians, analysts and policy makers.

Doing so much more with so much less

- On the one hand, analysts and policy makers need more and more detailed and timely data for designing and proposing policies and actions, and for assessing the effectiveness of their measures

- On the other hand, statisticians have less resources for providing them with the data they need

- How to resolve the dilemma and how to reconcile the unreconcilable?

- That is one of the objectives of this meeting.

There are good news…

- The picture is not as grey as it could seem. There are progress in many places:
  - Some countries (OECD and non-OECD) have improved the data collecting on several sectors.
  - Several organisations are quite active in pushing energy efficiency data and indicators for their own member countries: ODYSSEE, APEC, Eurostat, AFREC, OLADE, ECLAC, etc.
  - There are major developments regarding basic tools to help countries: Manuals, …

A quick overview of the Agenda

Tuesday 11

Welcome remarks

Session 1: A fast growing need for more detailed indicators to understand trends: where are we? What more is required?

Session 2: Recent development and progress in international data reporting and indicators development

Session 3: Filling the gap and overcoming the barriers – Country experience

Wednesday 12

Session 4: Development of tools to support the development of energy indicators

Session 5: How to raise the profile and visibility of energy efficiency indicators

A few words to conclude

- Where do we stand
- How to better market the work done
- What are the main issues and possible ways to solve them
- How to better promote indicators
- How to further raise the attention of policy makers on indicators and data needs
- There are at least two golden opportunities to increase the visibility of indicators work:

What messages would you like to pass to Ministers and the UN SG?

Thank you