Going beyond the current reporting: How difficult can it be?

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Introduction to Energy Indicators Workshop

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Overview

- Objective
- Monitoring the Energy Market:
  - The demand side of the “Supply & Demand” energy energy equation;
  - Relevance of the energy balance
- Drilling down into the details
- Data collection vs. the end-use mapping of energy of energy and activity
- Conclusion

Objective

- Overview of some challenges to go from monitoring monitoring aggregate energy intensities to to reporting detailed energy indicators

Monitoring the Energy Market:

- **The demand side of the "Supply & Demand" energy equation;**
  - **For long, and for many people, monitoring the energy energy market was a supply issue;**
  - **Monitoring of demand was often limited to an aggregate aggregate energy intensity (e.g. E/Total GDP);**
  - **Now the more in-depth analysis of demand highlights its highlights its importance toward defining solutions to key solutions to key energy related issues:**
    - **Energy security,**
    - **Economic and technological development,**
    - **Sustainable development,**
    - **Mitigating environmental impact…**

Monitoring the Energy Market:

- **Relevance of the energy balance;**
  - **A first step toward an energy supply & demand statistical equilibrium;**
    - **An "accounting" framework to validate energy flows from from supply to consumption by economic sectors;**
    - **Provides for the reconciliation of supply/disposition vs. vs. consumption data**
  - **Defines boundaries of the economic sectors and the and the starting point for the end-use mapping of energy of energy and activities in those sectors**

Monitoring the Energy Market:

Developing an end-use mapping is more or less a "drilling down into the details" exercise…

For example:

Household E = space heating + space cooling + water heating + lighting + cooking + appliances…

Space heating = function (floor space, temperature, dwelling types, vintages, fuel mix, heating systems, cross-effect with other end-uses…)

Floor space = function (number of dwellings, average floor area by dwelling type…)

…as you can see, it is all about the data

Drilling down into the details

Building a data collection strategy:

- **Define the data requirements by setting your objective – objective – desired of level details**
- **Assess readily available data**
  - **Energy related (Statistical agency, utilities, programs…)**
  - **From other agendas (fuel tax data, census, O/D surveys…)**
- **Define priorities on data gaps, and the required effort level effort level to fill these gaps**
  - **Assess opportunities from existing data collection activities: activities:**
    - **Expanding an existing energy data collection activity,**
    - **Building on other policy agendas (e.g. Tax data)**
  - **New data collection activities**
- **Resources availability**

Data collection vs. the end-use mapping mapping of energy and activity

So what happens once you have data?

- **Time to put the pieces of the puzzle together, but not but not necessarily a perfect match**
  - **Data coverage may be partial,**
  - **Error terms may create distortion,**
  - **Differences in definitions …**
- **Adjust the pieces to fit the big picture**
  - **Secure the main drivers**
  - **Focus on time series trends**
  - **Be consistent**
- **Data vs. targeted end-use mapping**
  - **A bit like a Sudoku puzzle**
  - **A "bottom - up" accounting model will secure the consistency of the consistency of the end-use mapping and energy balance**

Why make the data effort?

"To measure is to know"

Lord Kelvin

Conclusion

- The first challenge is collecting data and building-up building-up the end-use mapping
- Then you can enjoy the reward of energy indicators indicators