STATISTICS AUSTRIA
The Information Manager

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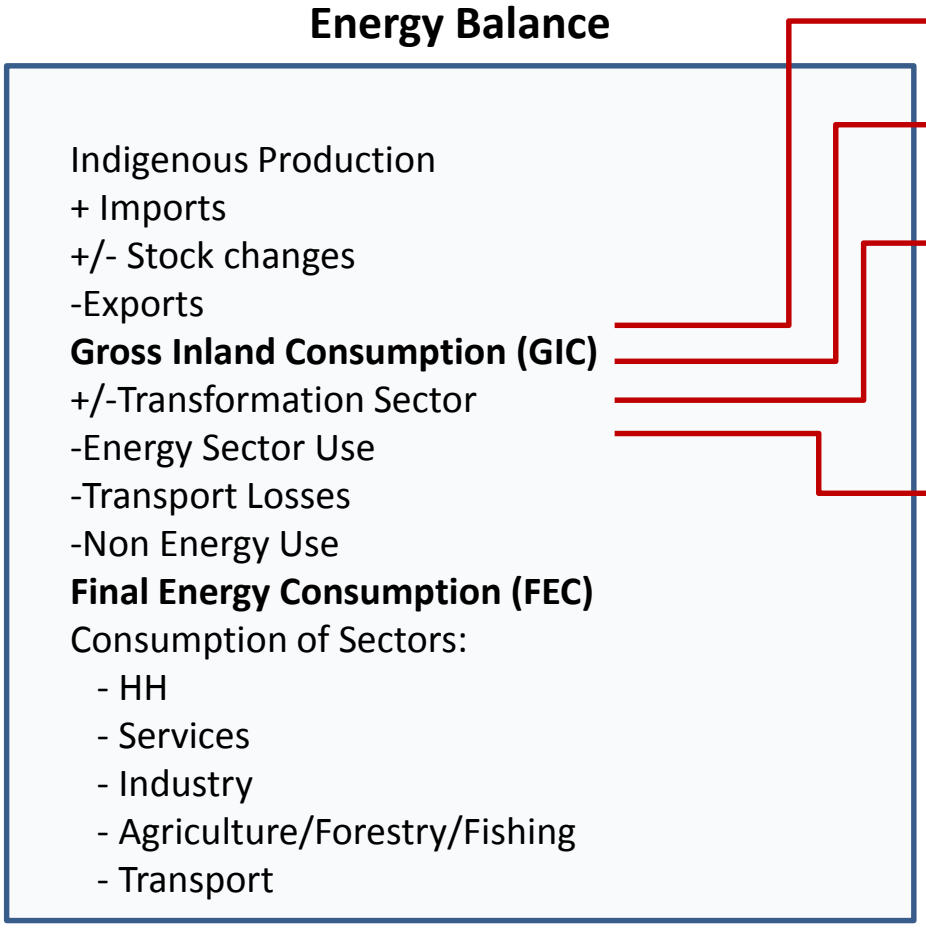
Alignment of the four main data sources for energy use in industry

Why and how…

Why....

- To improve data quality
- Energy balances require a specific data breakdown that is difficult to meet …….



STS: Heat production

MIS: Total consumption

CHP: Transformation sector

→ Sectoral final energy consumption

ETS: detailed fuel breakdown, practical calorific value for each energy source but only on plant level

→ Amounts of industrial waste, wood waste and other solid biomass.

→ Regional specific CV by economic sector.

→ Distinguish between lignite and sub-bituminous coal.

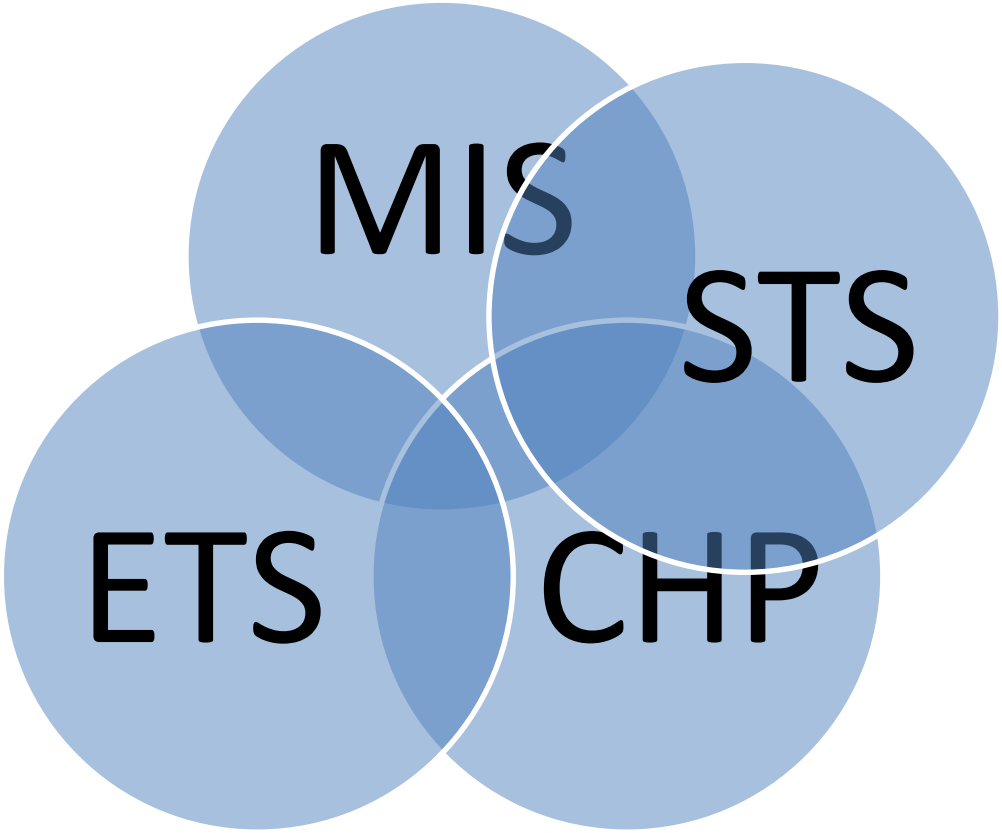
Energy Balance Relevant Surveys in Austria - an Overview

<table>
<tr><th>Supply orientated</th><th>Fuel orientated</th><th>Transformation orientated</th><th colspan="2">Consumption orientated</th><th>Other</th></tr>
<tr><td>Intrastat
(m, n, lb)</td><td>Natural Gas
(m, n, lb)</td><td>CHP & Electricity Statistics (a, r, s, lb)</td><td colspan="2">Material Input Statistics
(a, r, s, lb)</td><td>Capacity of biomass fired heating plants
(a, r)</td></tr>
<tr><td>Extrastat
(m, n, lb)</td><td>Oil (MOS)
(m, n, lb)</td><td rowspan="2">Biomass fired district heating plants
(a, r, vs)</td><td>Industry census
(b, r, s, vs)</td><td>Service census
(a, r, s, vs)</td><td>Solar market and Heat pumps
(a, r)</td></tr>
<tr><td>Short term statistics
(m, r, s, lb)</td><td>Coal
(m, r, s)</td><td colspan="2">Household census
(b, r, s, vs)</td><td></td></tr>
<tr><td></td><td></td><td rowspan="2">a=annual, b=biannual, i=irregular, m=monthly, n=national, r=regional, s=sectoral, lb=legal base, vs=voluntary survey</td><td colspan="2">Useful energy survey
(i, r, s, vs)</td><td></td></tr>
<tr><td></td><td></td><td colspan="2">ETS survey
(a, r, s, lb)</td><td></td></tr>
</table>

How…..

MIS: overall consumption only physical

STS: only heat production



ETS: extremely detailed fuels physical & energy and **calorific values**

CHP: physical & energy and **calorific values**

The procedure step 1

- ✓ Statistics about the EU Emission Trading System (ETS) provided by the Austrian Environment Agency (UBA)
- ✓ Material input statistics (MIS) provided by Statistics Austria (ST AT)
  - → the information in the ETS about the **renewable share** of each energy source is used to calculate amounts of **industrial waste** (non-renewable), **wood waste** and **other solid biomass** (both renewable) and to apply this information to the MIS and CHP where applicable
  - → the ETS contains practical **calorific values** (CV) for biofuels and wastes, which are used to calculate **specific CVs by economic sector and regions** and to distinguish between **lignite** and **subbituminous coal**
  - → Fuel consumption of plants reporting in ETS but not in MIS are added to MIS

The procedure step 2

- ✓ Statistics about the EU Emission Trading System (ETS) provided by the Austrian Environment Agency (UBA)
- ✓ Statistics on electricity and combined heat and power (CHP) plants provided by E-Control
  - → the information in the ETS about the **renewable share** of each energy source is used to calculate amounts of **industrial waste** (non-renewable), **wood waste** and **other solid biomass** (both renewable) and to apply this information to the CHP where applicable
  - → **Calorific values** (CV) and fuel consumption in CHP and thermal electricity plants from ETS and CHP are compared and if necessary adjusted

The procedure step 3

- ✓ Statistics on electricity and combined heat and power (CHP) plants provided by E-Control
- ✓ Material input statistics (MIS)
  - → the information of CHP is used to separate **sectoral final energy consumption** from **transformation inputs** for electricity and CHP production
  - → More detailed fuel specification in CHP is used to adjust MIS and vice versa
  - → Final energy consumption from CHP (consumption for heat unsold by autoproducers) are added to MIS if missing

The procedure step 4

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- ✓ Short term statistics (STS) provided by ST AT
- ✓ Statistics electricity and CHP plants

  → District heat reported in CHP statistics is amended by the generation of district heat in the STS

  Process:

  1. District heat output in **CHP > STS** → district heat output in STS = 0, CHP is used for the energy balance
  2. District heat output in **CHP < STS** → district heat output of CHP is subtracted from district heat output of STS, the rest is treated as non-CHP district heat

- ✓ Material input statistics

  Process:

  1. Transformation input for the non-CHP district heat is calculated for energy sources from the MIS with calorific values from the CHP statistics
  2. To avoid double counting, the transformation input of each fuel for the non-CHP district heat is subtracted from the material input statistics

Results

- Synchronized material input statistics (SMIS)
  - ✓ All establishments of the ETS and CHP statistics **are included** in the SMIS
  - ✓ The total input of each energy source per establishment in the SMIS ≥ ETS and/or CHP
  - ✓ The final energy consumption in the SMIS is reduced by the CHP transformation input for electricity and district heating
  - ✓ The final energy consumption in the SMIS is reduced by the transformation input into district heat plants reporting in STS
- More complete picture on District heat (heat sold) production
  - ✓ Double counting of District heat production is eliminated
  - ✓ Missing transformation inputs for heat only production are added

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Thank you for your attention