Nice, 12th June 2012 21st EGTEI Meeting

# Iron &Steel sector in GAINS model -WORK IN PROCESS-

# **Background**

The current representation of I&S Industry is incorrect in GAINS, with especially:

- Activity data (production per process) are derived through PRIMES in an unclear process with incorrect output; analysis of these data have proven wrong figures
- ❖ Unabated emission factors are very questionable with different values from one country to another
- ❖ Abatement techniques foreseen are not based on real techniques; associated emission factors are not consistent with numbers observed throughout the European I&S industry
- No possibility to evaluate TOTAL emissions from I&S processes

# New proposal for the modelling of I&S emissions

To improve the model and ease further reviews, EUROFER with the support of EGTEI and IIASA, worked on a new representation of I&S in a "stand alone box".

Input data will be:

- Country's activity data;
- Country's % of abatement technique implemented;

Thus, there will be:

- No more derivation of the activity through PRIMES;
- No distinction between *combustion* versus *process* related emissions. All emissions related to process gases would be accounted in this new representation

## How did EUROFER work?

The basis for the structure of this representation are the I&S BREF documents.

However, in some cases:

- BREF does not provide data on the emissions (particularly unabated emissions);
- The scope of the sources considered in the GAINS model is different than that one available in BREF;

The data proposed in the model are thus derived taking these specificities into account.

The data set remains a theoretical representation of I&S emissions.

#### SINTER PLANT SINTER PLANT PR\_SINT (TSP) PR\_SINT\_F (TSP) PR\_SINT (SOX) ·IND SP1 TSP IND SP2 TSP ·PR SINT (NOX) ·IND SP SOX **ENERGY** PELLET PLANT ENERGY TRANS. PELLET PLANT TRANS & USE PR\_PELL (TSP) ·IND PP TSP & USE IND PP SOXIND PP NOX CON COM COKE OVEN PLANT CON\_COM COKE OVEN PLANT SO2= natural gas ·PR\_COKE (TSP) CON\_LOSS for BFG and COG Nox=natural gas for BFG and COG ·IND COKE NOX ·PR COKE (NOX) (NEW) PP steel ·PR\_COKE (SOX) BLAST FURNACE ·IND BF TSP N\_OC ISTE CON LOSS **BLAST FURNACE** •PR\_PIGI\_F TSF PP steel SO2= natural gas for ·PR\_PIGI (TSP) BFG and COG PR\_PIGI\_F(TSP) PR\_PIGI (NOX) PR\_PIGI (SOX) Nox=natural gas for BFG and COG ·IND BOF TSP IN OCISTE BASIC OXYGEN FURNACE NEW ·PR BAOX (TSP) ELECTRIC ARC FURNACE ELECTRIC ARC FURNACE ·IND EAF TSP

### New structure defined for I&S sector

**CURRENT STRUCTURE IN GAINS I&S** 

**NEW PROPOSAL** 

### Latest achievements

- 28th February 2012 bilateral meeting EUROFER/IIASA
- March-May 2012 : Data analyse and complementary information provided by IIASA
- 4th June 2012: Data submitted to IIASA:

<u>New structure:</u> EUROFER has redefined GAINS codes for I&S sector <u>including both emissions from process and combustion</u>. From the current status of the model all codes related to I&S sector (both process and combustion) should be removed assuring no double counting. The consistency among the process must be kept, IIASA will modify the model accordantly.

<u>Abatement techniques and emissions factors:</u> Following IIASA request we have defined different levels of abatement including techniques description and emissions factors on basis of the I&S BREF 2012.

<u>Associated abatement efficiency:</u> For each technique the associated abatement efficiency has been included.

# **Next steps**

Activity data by countries and processes

(from 2005 to 2030 every 5 years)

Implementation rate of techniques by countries

(from 2005 to 2030 every 5 years)

Costs linked to each technique

### Timing:

- Data and implementation rates foreseen to be shared with IIASA by mid-July 2012
- Costs information in function of the data available is planned to be provided by next fall.