[redacted] (GROW)

From: [redacted]@eurometaux.be>
Sent: 22 November 2013 14:12
To: [redacted] (GROW)
Cc: [redacted] (GROW); [redacted] (GROW)
Subject: NFM cost estimations compared to IIASA - Air quality package

Importance: High

Dear [redacted]

Many thanks for the link to the GP Guidelines. I can assure you that we were not consulted in their elaboration.

Regarding figures for our sector, as I mentioned yesterday, contesting the proposal's estimations for our sector seems impossible simply because we do not know what the assumptions made behind that model are: is it technically feasible? What would be the impacts of the BREF BAT AELs implementation? How does the energy scenario look like by 2025?

And as [redacted] rightly pointed out, what about the time needed for developing/implementing/being compliant with a a technique? And so many other question marks I feel unable to reply to at this stage.

We could, however, provide you with a brief reflection on the figures provided by IIASA from a Non Ferrous Metals perspective.

The IIASA estimated costs for the different emission reduction scenarios for NFM production in Europe would be (as showed yesterday):

2025- M€/y		
CLE	A5 (75% Gap closure)	MTFR
60	77	93

We compiled some cost examples, one for primary aluminium, primary copper and another for a secondary plant that processes Ni-Pb-Cu, etc

PRIMARY:
The colleagues at the European Aluminium Association have kindly shared an estimation of the economic impact of the extra abatement techniques requested in the current NFM BREF draft (D3):

Considering a typical modern 260 000 t/yr smelter - forced to comply with this draft – it would need to consider the following extra costs:

- SO2 seawater scrubbers on potline gas: 70 M€, operating cost: 125 to 130 €/t Al (ref D3, §4.3)
- If no access to the sea, the installation of a double alkali water treatment facility would significantly increase those figures and create an environmental hazard with the slurries to dispose of
- Boosted Suction System to potline gas, i.e. pot gas oversuction: 12 M€ (new plant) or 24 M€ (retrofitted plant) - (ref D3, §4.3)
- SO2 seawater scrubber on an anode baking furnace associated to a smelter: in the vicinity of 10 to 15 M€
- Possibly an RTO or CTO at the anode paste plant, up to 2 M€

Such a cumulated investment cost, **well over 100 M€,** associated to an operating cost increase over 10% of the current OPEX, would be enough to force the closure of a significant number of existing struggling plants in Europe.

On a bigger size stand-alone anode plant manufacturing anodes for many smelters, the cost of SO2 scrubbers would be much higher than the indicative figure above, putting this activity at danger as well. A ballpark figure for such an equipment would be 40 – 50 M€ or more.

It is to be noted that these are only the direct impacts. One can also envisage indirect or knock-on effects related to a possible disappearing of the industrial production base, e.g. reduction if not closure of all aluminium-related R&D activities in Southern Europe. For more information on this case, please feel free to contact [redacted] (EHS Director at European Aluminium Association)

For primary copper, in order to be compliant with that same NFM BREF document, and making a link to the NEC pollutants, a single plant needs to make an investment of:

- Installation of wets scrubber for SO2 reduction from 500 to 200 mg/Nm3 (200.000Nm3/h) . Capex: 6 MM€
- Installation of wet Electro filter for PM removal <5mg/Nm3 . Capex 3.4 MM€.

If we consider that only for primary production of Aluminium, Lead, Copper, Zinc and Nickel there are 200 plants in EU 27, we "suspect" that these figures are clearly underestimating impacts or the IED-BAT impact/investments were not integrated at all, which would be a contradiction with the aim of the report: making realistic assumptions.

SECONDARY:
New investment regarding scrubber for reduction of SO2 emissions on converter in NFM for a off-gas flow of 70 000 Nm^3/hour to be in compliance with BREF.
This is an investment of **€ 3,25 million.** (approx. € 21.000/ton SO2 reduction).The yearly OPEX for this installation only is +/- € 145.000. The cost of this investment could also be kept reasonable because they have their own engineering department that can help building the installation. If this would not be the case, costs could even be double.

The goal for this project is to be compliant with the BAT Conclusions as they stand in our draft NFM BREF. This investment would allow them reducing 151 ton SO2 yearly (for 1 stack) will cost € 3.25 Mio (CAPEX only) for an SME (as normally secondary producers doing recovery are much smaller companies).

This is just to provide you with a first reaction on the IIASA figures of costs for the NFM sector. We also have figures on Medium Combustion Plants for BE and FR, but will perhaps not mix topics and conveyed them through Europia.
Hope it's helpful!

Kind regards,

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