

Main material input and output

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P2 Opportunities in the Metallurgical Industry This paper briefly describes the main material inputs and outputs associated with the metallurgical industry. It is important to be aware of input as well as output production information. This is because “...the total of what goes into a process must equal the total of what comes out...” (Cheremisinoff, 2001, 185). This is in order to be able to balance the production material and output material, especially in relation to emissions. If waste can be reused in the production process, it may not count as an output and can, therefore, assist in controlling emissions (Cheremisinoff, 2001, 179).

As well, this paper names and discusses three potential P2 opportunities for the industry. In the metallurgical industry particles are emitted in production that “...may contain lead, mercury, and other heavy metals” (Cheremisinoff, 2001, 33). For example, coke production involves volatile components. In the US, in the iron and steel industry, coke is used in what is termed the byproduct coke process, that is, byproduct coke ovens are used and the high heat releases compounds such as benzene, butane, hydrogen cyanide, and propane. The P2 opportunity that this presents is by use of the Maximum Achievable Control Technology (MACT) Standard will help in the reduction of charging and leaking emissions by some two-thirds and bypass/bleeder stacks by ninety-eight percent (Marsosudiro, 2014, 2-3). Another potential P2 opportunity is also in the use of ironmaking technology, that is, direct reduction ironmaking (DRI) as well as pulverized coal injection (PCI). These two processes can reduce the use of coal in ironmaking (Marsosudiro, 2014, 5). Other processes that can assist in pollution prevention are natural gas injection, which can replace up to 25% of coal use, as well as oil injection

(Marsosudiro, 2014, 6).

Bibliography

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