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Blast Furnaces CO2 mitigation: Ekofor technology (E.S.C.H. gmbh) for BLUAIR injection (Secondary Raw Material - recycled polymers)

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In the steelmaking, integral cycles will face important investments for decarbonization, that will hardly get paid in the short term due to market outlook (dumping, weak border barriers, high energy costs…). In this context, ESCH and I.Blu are cooperating in some BFs ensuring reliable and continuous injection of BLUAIR, a high quality Secondary Raw Material recycled from polyolefins feedstock of domestic household collection which allow an immediate cut of -30% CO2 reduction on the direct emissions coming from coal (PCI) injected from BF tuyeres. 12% of Hydrogen content and Lower Calorific Value of 35MJ/kg (compared to 26-28MJ/kg of PCI) are also beneficial to reduction process of BFs. BLUAIR is widely available, already spread across the market, and decreases by 20% PCI consumption in Blast Furnaces. ESCH gmbh has been the first company in Europe to engineer, in addition to traditional PCI injection plants, a tailor-made injection equipment for alternative reductants in Blast Furnaces, named Ekofor, which is able to provide a flexible and affordable injection solution with a low "time to market" approach, low payback period, which can guarantee stable KPIs on the process. PCI plant and Ekofor injection technology for polymers can be flexibly adapted to improve BF Process and OPEX costs for raw materials. Ekofor injection plant is available as follows: • Ekofor Pilot plant: is a flexible, plug and play, rental solution which is able to allow receival of BLUAIR

loose, load a special vessel distributor tailor made for BLUAIR with 3 outlets, and guarantee a low injection rate around 1,5-2ton/h depending on BF operation, allowing approximately -10kgCO2/tonHM for AVG BF • Ekofor Industrial plant: reliable, affordable and industrial solution which can guarantee a high injection rate of BLUAIR, 25 to 50 kg/tonHM, replacing 20% of PCI injected, equal to -50kgCO2/tonHM for AVG BF

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