



# CO<sub>2</sub> reduction in the steel industry in India

Workshop

Wednesday, December 7<sup>th</sup>, 2011

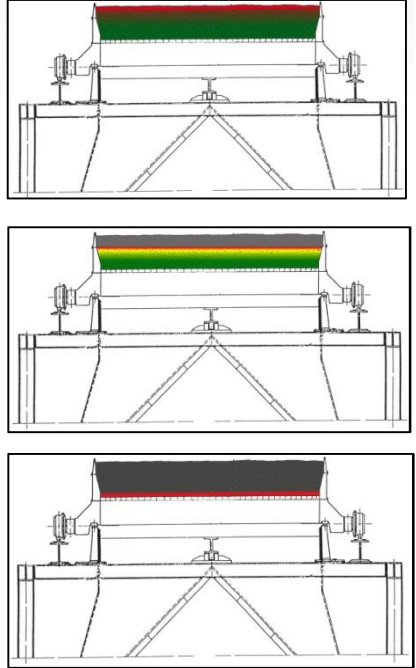
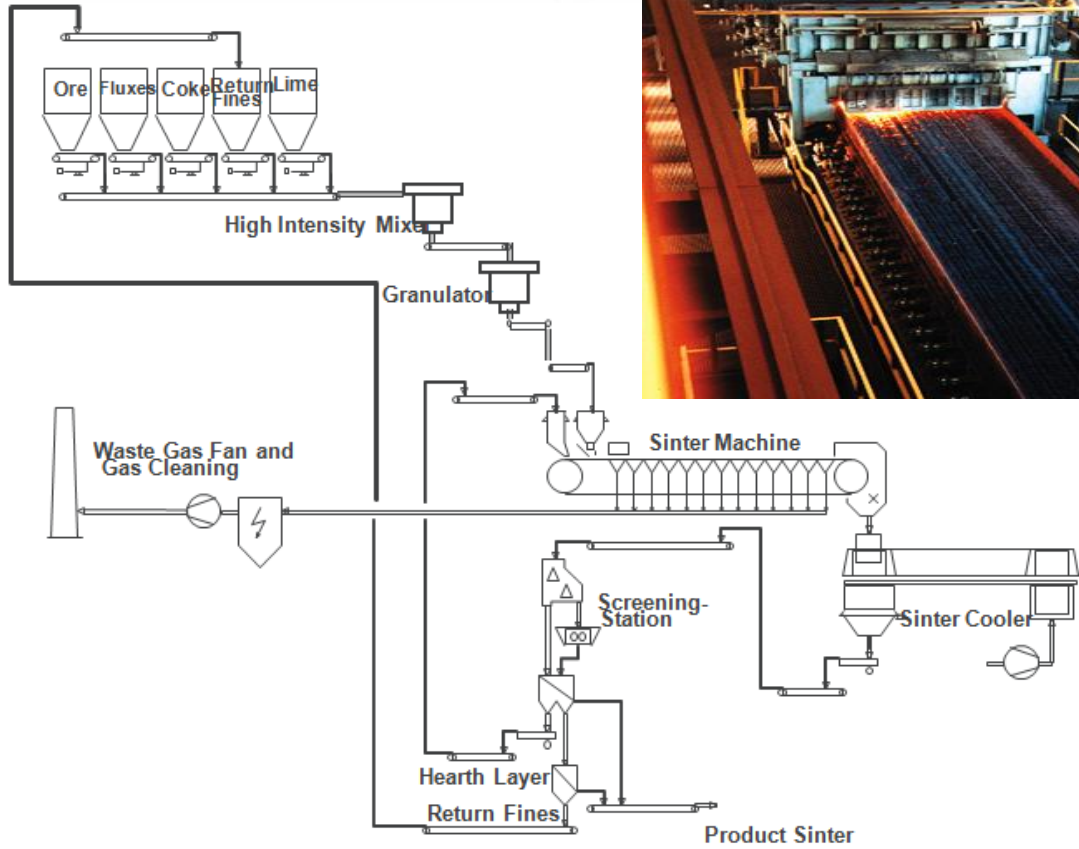
Hotel Leela Palace, New Delhi

**Outotec**

# Content

1. Current CO<sub>2</sub> Emissions from Indian Sinter Plants
2. EOS – Principle and Benefits
3. EOS - Achievements
4. EOS and Heat Recovery

# Sinter Process

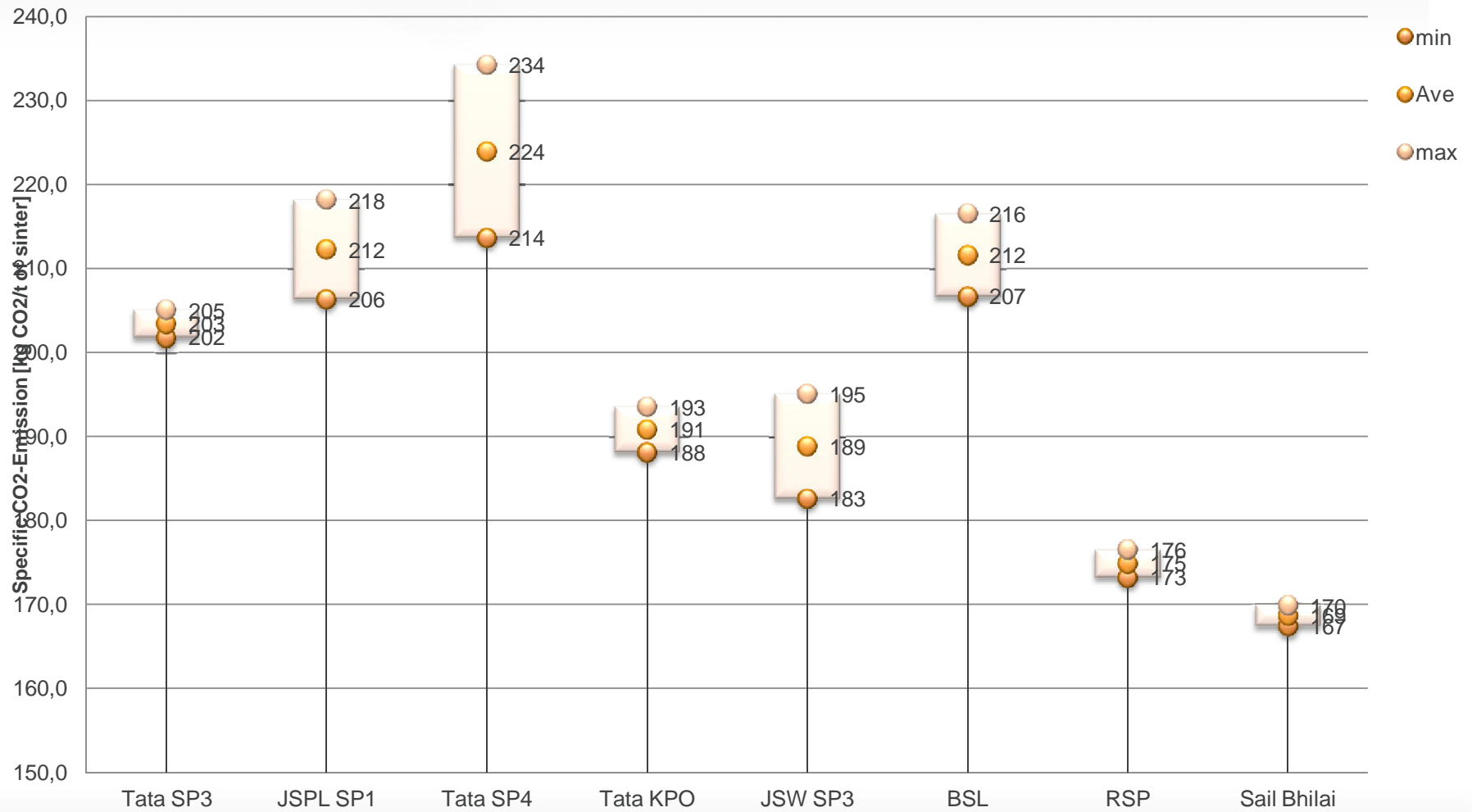


Sources of CO<sub>2</sub> generation:

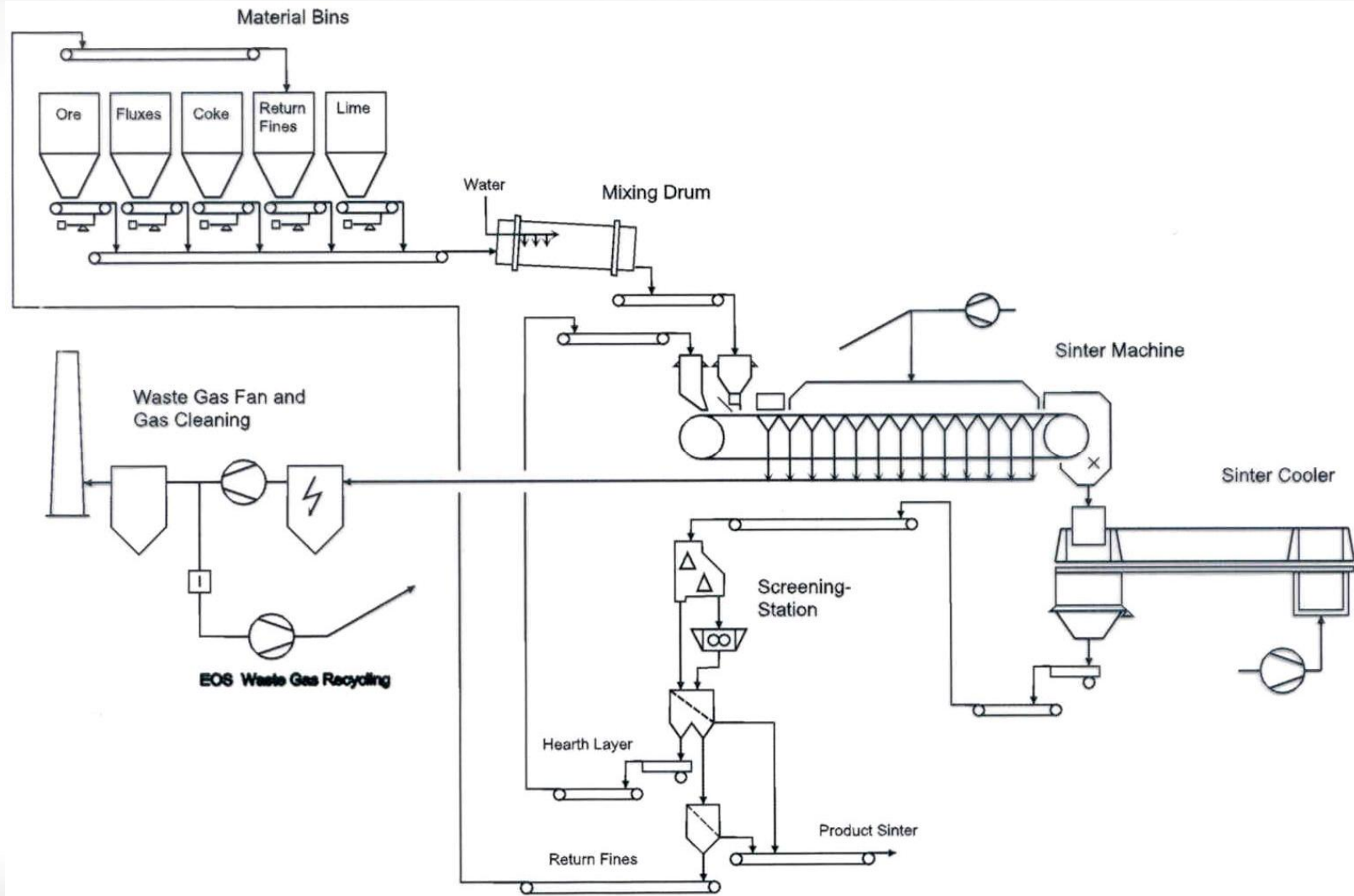
- Combustion
- Calcination



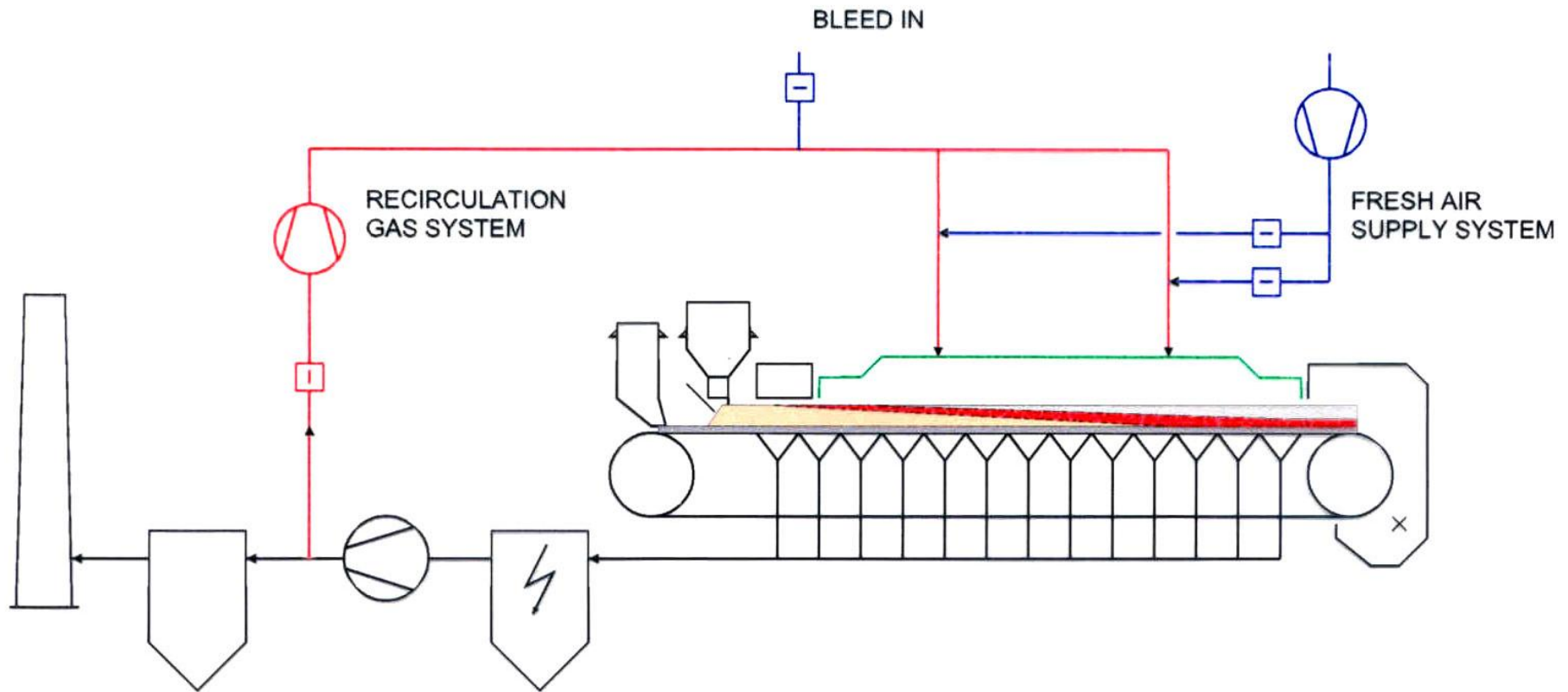
# CO<sub>2</sub> Emission Estimation for Indian Sinter Plants



# EOS (Energy/Emission Optimized Sintering) – Principle



# EOS (Energy/Emission Optimized Sintering) – Principle

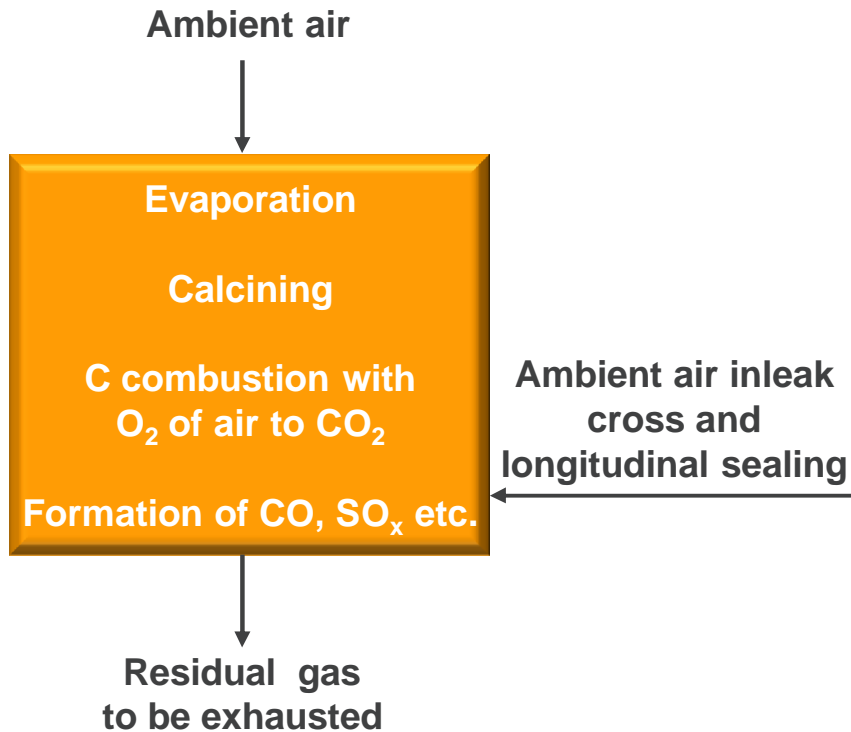


# EOS - Benefits

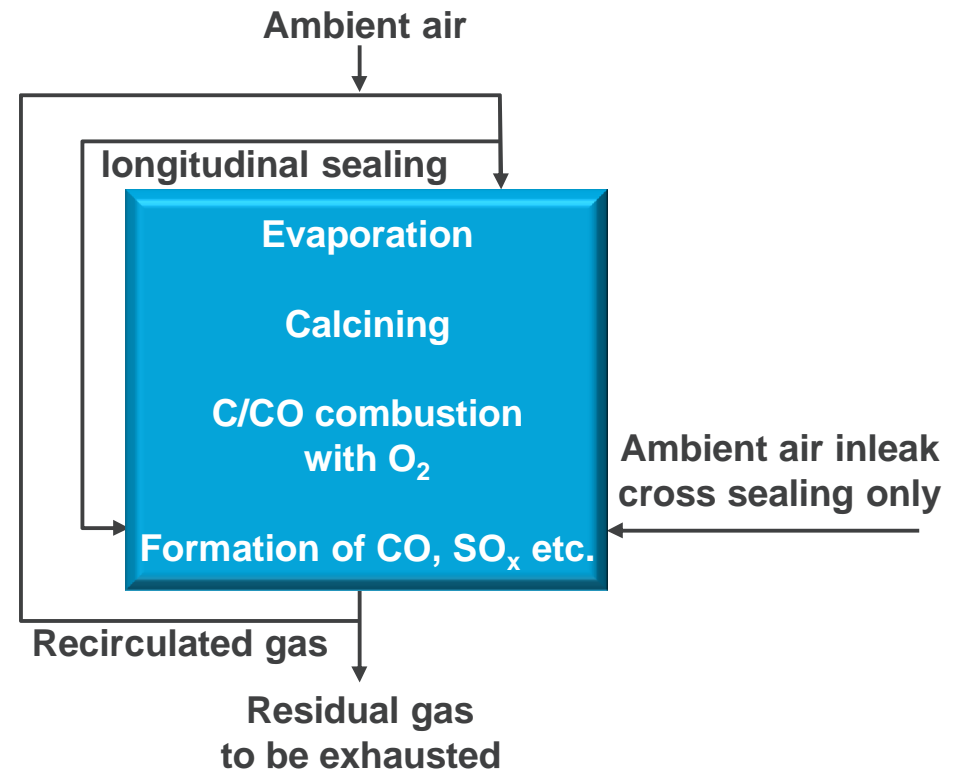
- Substantially reduces overall emissions
- Minimizes waste gas volume by 40-50% and size of waste gas cleaning equipment
- Maintains quality of sinter product
- Saves coke
- Simple retrofitting is possible for existing plants with minimum interruptions of production.

# Conventional Sintering & EOS

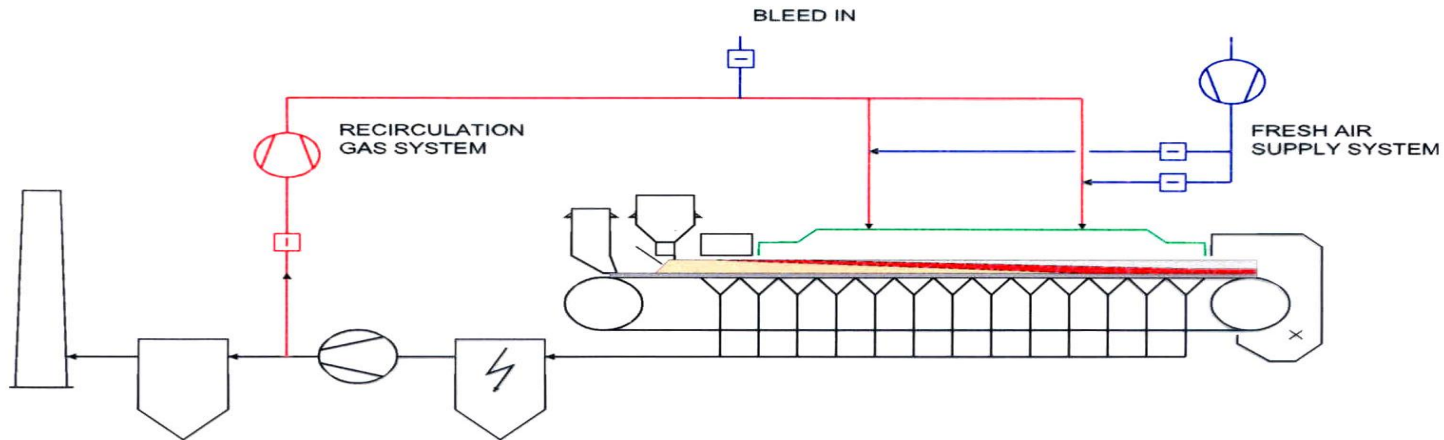
## Conventional sintering



## EOS process



# EOS - Achievements



Sinter Emissions	Low Basicity Sinter	High Basicity Sinter
Residual Gas Volume	-40%	-45%
Dust	-50%	-60%
NOx	-35%	-45%
SO2		-30%
CO	-45%	-50%
CO2	-25%	-30%
Dioxines	-70%	-65%

# Thank You



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