

The background of the slide features a soft-focus image of green leaves and a globe, symbolizing environmental protection and global impact.

STEEL WORKS -AN EXAMPLE OF IPPC PERMIT-

IPPC UNIT: INTEGRATED POLLUTION CONTROL SECTION
REGIONAL MINISTRY OF ENVIRONMENT AND LAND PLANNING
REGION OF MADRID

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Area de Control Integrado de la contaminación. Consejería de medio ambiente y ordenación del territorio- Comunidad de Madrid

Activity Description

FACILITY FIGURES

Location:	Comunidad de Madrid
Starting date (aprox):	70,s
Main activity:	Steel production and hot forming
Staff:	325
Raw material:	Ferrous scrap
Source of energy:	Electricity and natural gas
End Product:	Structural steel profiles
Annual profile production	418.582 t

Activity Description



The facilities have two different areas:

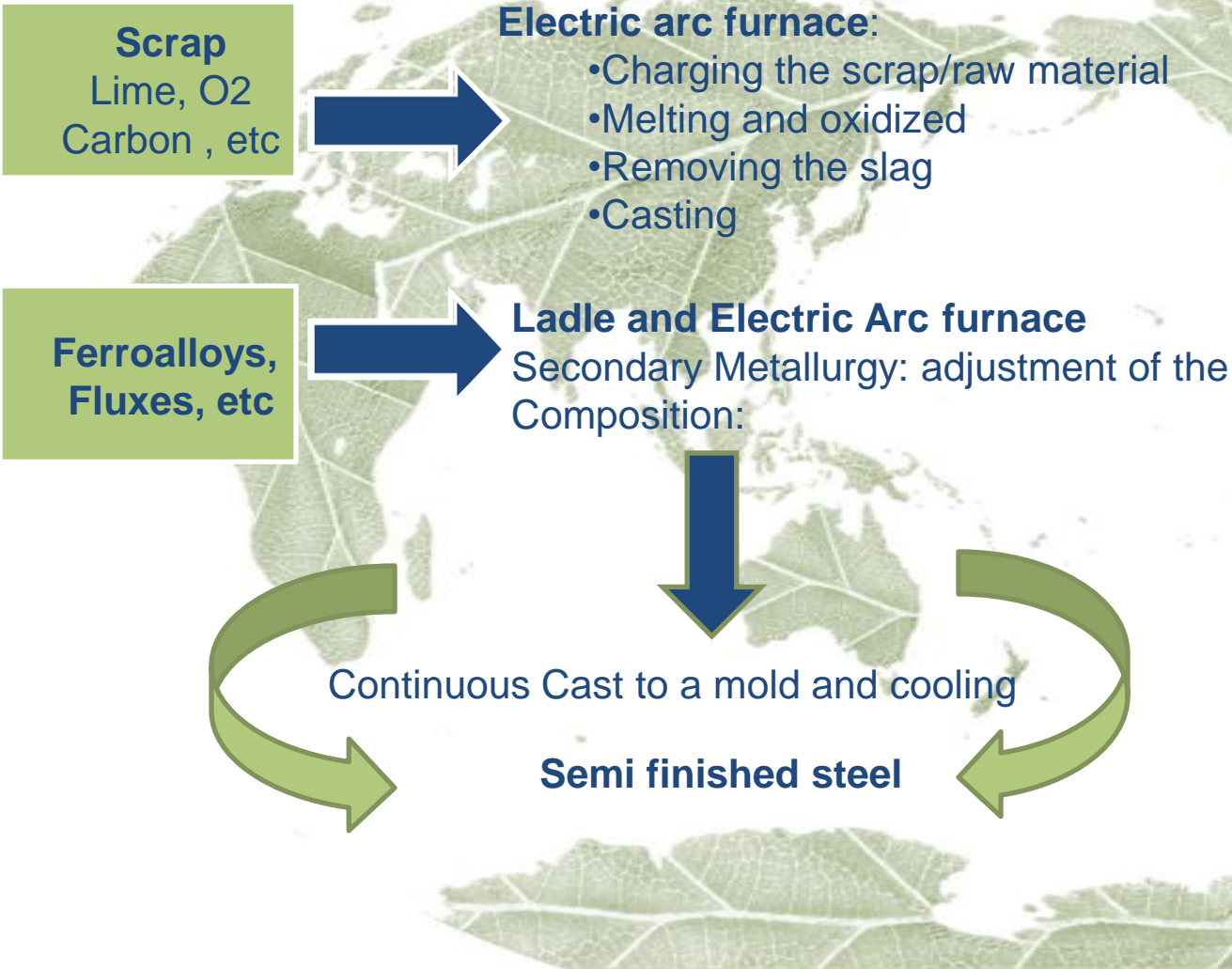
STEEL WORKS where the ferrous scrap is smelt and the composition is adjusted: (secondary metallurgy). Arc electric furnace (melting). Arc electric furnace (second metallurgy).

HOT FORMING OF STEEL

Furnace

Electrically powered rollers.

Process Description (1)- STEEL WORKS



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Process Description (2)- HOT FORMING STEEL

Semi finished steel:
Beam blank



Furnace
Optimum temperature:
1000-1100 °C



Electrically powered rollers:
Steel forming
+
Cooling system



Structural profile



Activity Description

Auxiliary Activities

Raw Material storage (SCRAP STORAGE).

Slag storage.

Cooling system in steelworks

Cooling system in steel forming activities.

Hazardous and non hazardous waste storage.



Scrap storage



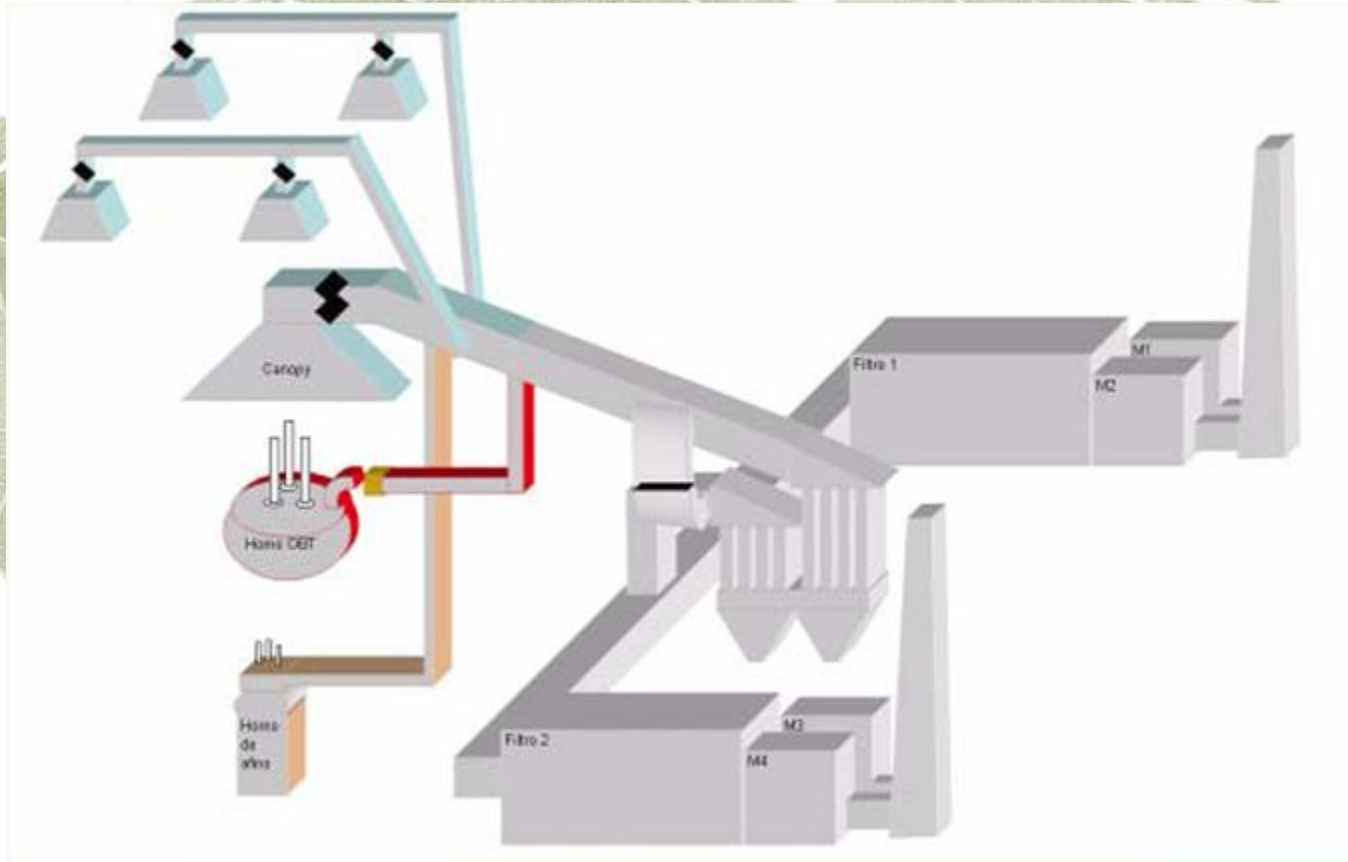
Slag storage

These activities are a source of potential impacts. For instance, handling Slag produces diffuse emissions to air and it will need actions to prevent the impact in the environment

Activity Description

	SOURCE OF EMISSION	ABATEMENT SYSTEM	EMISSION
STEEL WORKS	1. Electric arc furnace (melting); auxiliary fuel: natural gas 2. Electric arc furnace. (adjustment of composition)	Common gas collection for both furnaces connected to two fabric filters. Each one is connected to a stack	Point 1 Point 2
STEEL FORMING	3. Natural Gas furnace	-	Point 3

Air emission Sources 1 and 2. Points of emission 1 and 2



Facility s situation before IPPC permit



EMISSION TO AIR

Off gas collection system for sources 1 and 2 and fabric filters.

Dust concentration monitor in points 1 and 2.

MEASURES TO SAVE WATER

Closed loop water cooling system.

MEASURES TO PREVENT EMISSIONS TO SOIL AND GROUNDWATER

Scrap storage in a paved area

Slag storage in a paved area

IPPC Permit

REFERENCE DOCUMENT CONSULTED DURING THE ELLABORATION PROCESS OF THE PERMIT

REFERENCE DOCUMENTS	
STEEL WORKS	Best available techniques. Reference Documents on the production of Iron and Steel
HOT STEEL FORMING	Best Available Techniques. Reference Documents in the ferrous metals processing Industry

PERMIT'S CONDITIONS STRUCTURE

Annex I Technical measures and emission limit values.

Annex II Monitoring requirements and follow- up reports

IPPC permit: Annex I- AIR



1. TECHNICAL MEASURES TO PREVENT AIR POLLUTION

Steelworks building: Maintenance of the building's enclosure to prevent diffuse emissions.

Improvement of the building for the slag storage.

Improvement of the slag cooling to prevent diffuse emissions.

2. EMISSION LIMIT VALUES (ELV) (daily mean value).

Emissions limit values based on the Document reference.

IPPC permit: Annex I- WATER



1. TECHNICAL MEASURES.

Rain water drainage system: Implementation of a suspended solid precipitator and oil separator system.

2. EMISSION LIMIT VALUES.

Compliance of the autonomous Law for wastewater emission to the local sewer system.

Emission limit values for suspended solids and Zinc based on the Document reference.

IPPC permit: Annex I-WASTE

1. Closed loop water cooling system: Improvement in the decanter:

Automatic system to remove the suspended solids.

Drying system for the sludge removed.

2. Outside slag storage.

Storage in a paved area with roof and three walls to avoid diffuse emissions

3. Compliance of binding rules about hazardous and non hazardous wastes.



IPPC permit: Annex I



SOIL

Paved areas maintenance

ACCIDENTS AND INCIDENTS

Protocol of actions in case of operation's failures or accidents.

Obligation to inform to the IPPC Unit in case of accident or incident.

IPPC permit: Annex II

	Monitoring	Frequency	Parameters
Wastewater emission	Emission measurement	Every six months	All parameters with ELV
Ground water	Quality report	Yearly	Quality parameters
Emission to air	Points 1 and 2 Emission measurement	continuous	Dust, CO, NO _x
		Periodic (yearly)	All with ELV, except measured in continuous
	Point 3 Emission measurement	constant	NO _x , CO
		Periodic (yearly)	All with ELV, except measured in continuous
WASTE	Register and Report	Annual Report Half Yearly reports	Quantities and types of waste produced