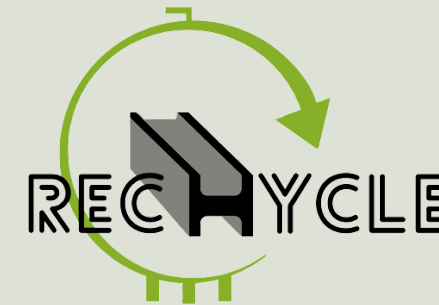


Presentation Deck

Overview



01.

PROJECT OVERVIEW

02.

PROBLEM

03.

CURRENT STEELMAKING
PROCESS

04.

SOLUTION

05.

THE PATH

06.

CONSORTIUM
PARTNERS

07.

TIMELINE



Project Overview

RecHycle investigates the use of green hydrogen and recycled metallurgical gases in steelmaking to replace coke and pulverised coal. This will help avoid carbon dioxide emissions from the blast furnace process.



Funded by
the European Union

RecHycle is funded under the call HORIZON-CL4-2021-TWIN-TRANSITION-01-22 within Horizon Europe, the European Union's framework programme for research and innovation (grant agreement no.: 101058692)

Problem

The steel industry is a major CO₂ emitter, accounting for **7%** of  emissions

About



60%

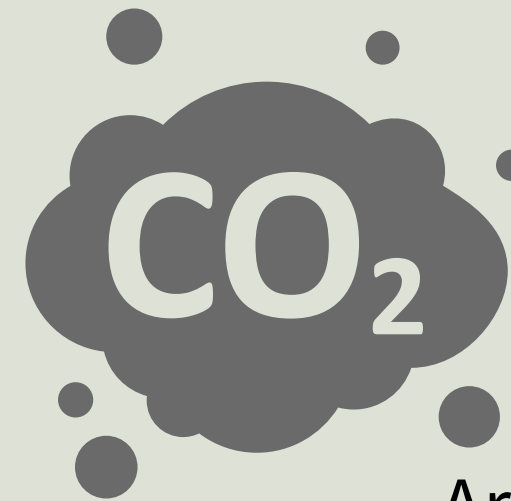
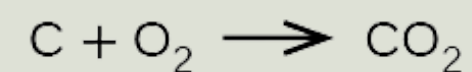
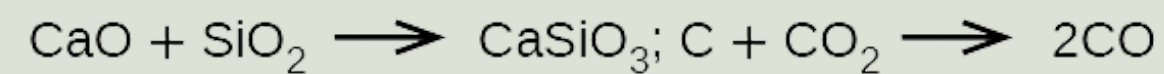
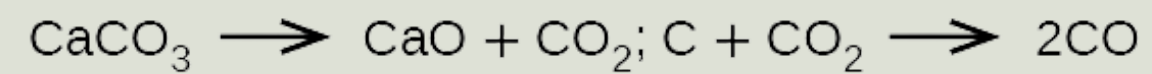
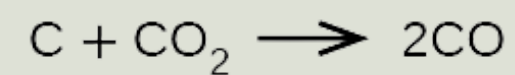
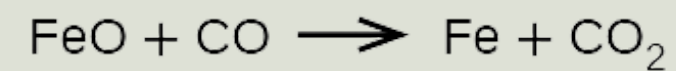
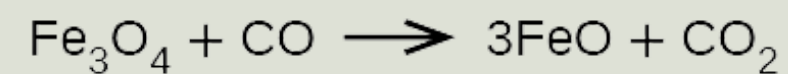
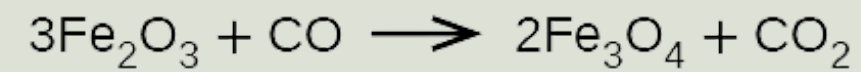
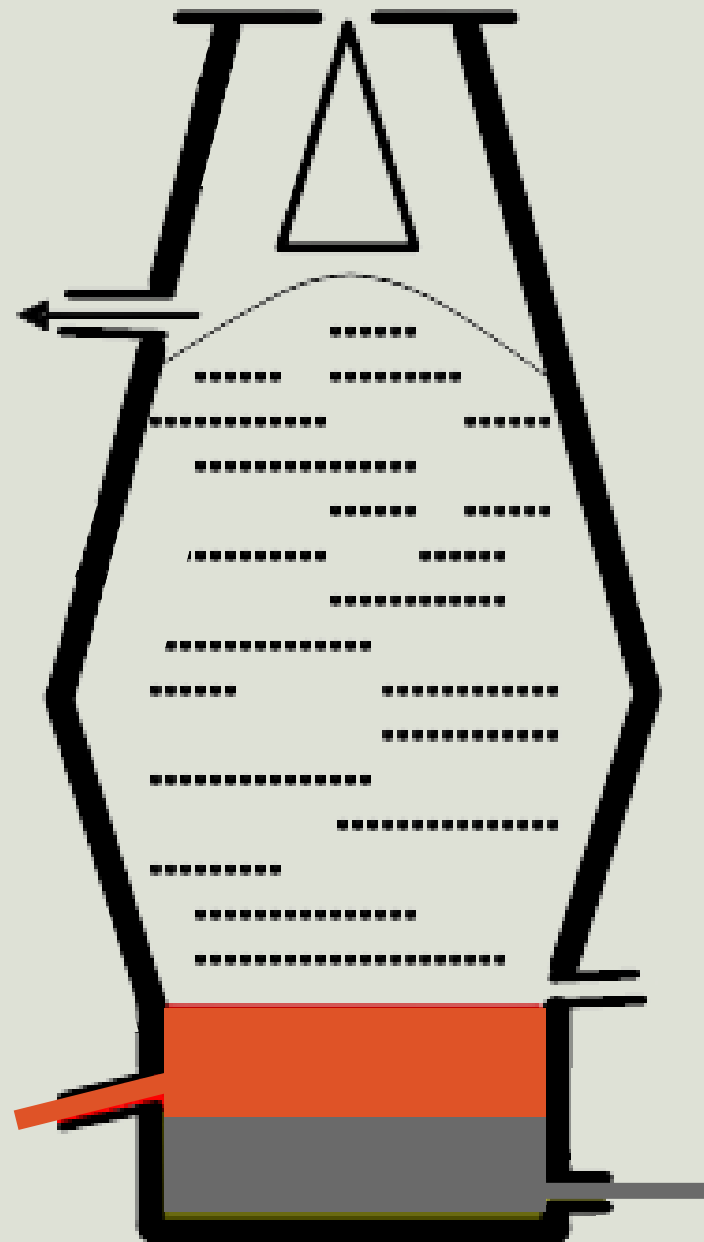
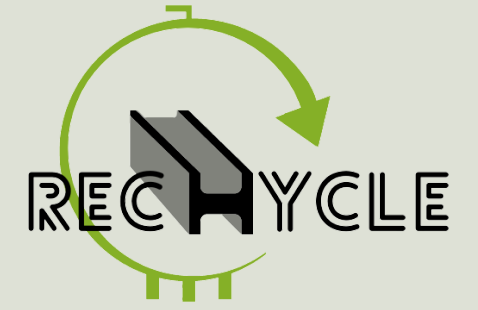
of steel production in

the world is produced via the Blast Furnace-Basic Oxygen Furnace (BF-BOF) route

where fossil fuel coal is used as the main carbon-rich material to produce steel



Current Steelmaking Process



9.6 Mt per year

Are produced at ArcelorMittal Ghent Mill

This represents  10% of the CO₂ emissions of Flanders, Belgium

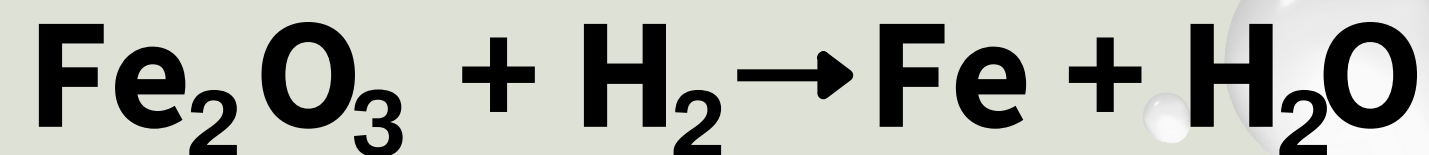


Solution

Replace coking coal and pulverised coal with green hydrogen and other hydrogen-rich gases in the blast furnace

To  **CO₂**
production

The New Chemical Reaction

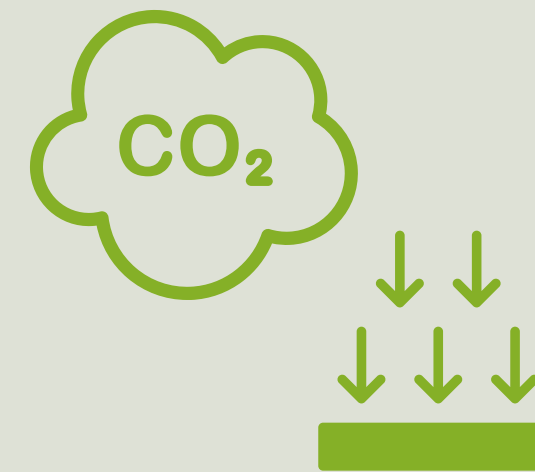


The Path



**Vision: Making Arcelor Mittal
Belgium Ghent site an
integrated carbon-neutral
steel plant**

2030 GOAL



**35% CO₂ reduction
compared to 2018**

**RecHycle sums to ArcelorMittal's decarbonisation efforts
by investigating the use of green hydrogen to replace
coking coal and pulverised coal**

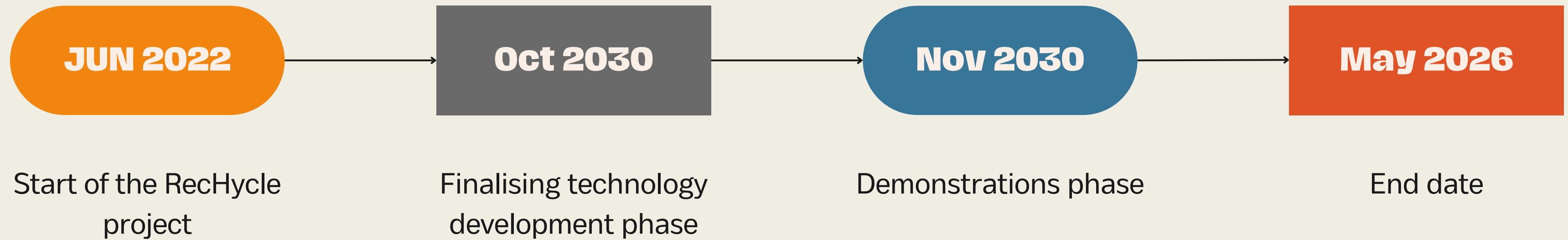


Partners



Centre National
de la Recherche
Scientifique

Timeline





RECHYCLE

WITH THE SUPPORT OF THE EUROPEAN COMMISSION



VIA THE HORIZON EUROPE PROGRAM, A SUBSIDY OF 14 MILLION EUROS HAS BEEN DESTINATED FOR THE MODIFICATION OF EXISTING STEEL PRODUCTION FACILITIES TO REPLACE FOSSIL CARBON WITH NEW NET-ZERO SOURCES. THE PROJECT WAS NAMED 'RECHYCLE'. THE OBJECTIVES OF RECHYCLE ARE FULLY IN LINE WITH THE HORIZON-CL4-2021-TWIN-TRANSITION-01-22 CHALLENGES.

RECHYCLE HAS RECEIVED FUNDING FROM THE EUROPEAN UNION'S HORIZON EUROPE - CLEAN STEEL PARTNERSHIP PROGRAMME (ADJUSTMENT OF STEEL PROCESS PRODUCTION TO PREPARE FOR THE TRANSITION TOWARDS CLIMATE NEUTRALITY). PROJECT NO: 101058692.