



CO₂-reduction at HKM by 2025 and 2045

„At HKM we aim to reduce our CO2 emissions by 30% by the year 2025.

With our H2KM sustainability strategy, we also strive to be as climate neutral as possible by 2045.”



Statement

The climate goals of the Paris Agreement, the European Union and the Federal government are all setting the framework for climate neutrality by 2045.

Hüttenwerke Krupp Mannesmann GmbH accepts these goals and will align its economic and sustainable actions with the specified climate goals for 2030 and 2045. In order to achieve these goals, we will proceed in two phases:

The first phase concentrates on the current plant set up, consisting of coking plant, sinter plant, blast furnace and steel plant with converter operation. By 2025 we will have taken measures to reduce CO₂ emissions by at least 30% when compared to 2014.

In view of the steel industry in Germany having to be largely climate-neutral by 2045, the second phase of our strategy aims to transform our current operational facilities towards largely CO₂-neutral steel production. This path will be developed from a socio-political, ecological and economic point of view and will constantly flow into the strategy process of HKM up to 2045.

A central component of HKM strategy is therefore the development and implementation of both phases. Under the name H2KM we have already begun to walk this path.

In so doing, we are focusing on the reorientation of energy sources, away from coal, via natural gas and coke oven gas with a high hydrogen content, towards green hydrogen produced from renewable sources, a process which has already begun.

Sustainability Strategy - Focus areas by managing directors



Dr. Erdmann

Economy & Finance

- European and German climate goals
- Economically sustainable criteria
- EU Emissions Trading System (ETS)



Grimm

Technology & Ecology

- Environmental affairs
- Technological feasibility
- Integration in the metallurgical plant



Laakmann

Work force & Social Affairs

- Responsibility for our employees and their families
- Responsibility for our neighbours
- Securing our location and jobs

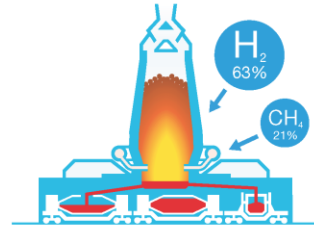
At HKM we aim to reduce our CO₂ emissions by 30% in the year 2025

2014



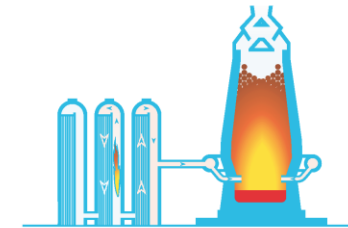
Enhancing metal recycling rate

The installation and operation of two ladle furnaces permit a recycling rate increase of 30%.



Injection of hydrogen-bearing gases in the blast furnaces

HKM is already able to partly replace fossil carbon by injecting hydrogen-bearing natural gas. In 2022 the injection of high hydrogen-bearing coke oven gas (>70 % H₂) further reduces fossil carbon and results in a significant reduction of CO₂ emission.



2025

Energy saving and efficiency enhancement

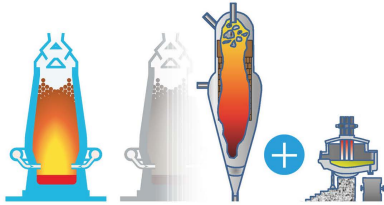
The operation of blast furnaces requires hot blast from cowper stoves. The installation of new energy-efficient cowpers with pre-heating of air and combustion gas results in efficient combustion. This effect and the additional input of climate-neutral circulating gases result in decreasing emissions.

8,71 mio. t CO₂ in 2014

-30% CO₂

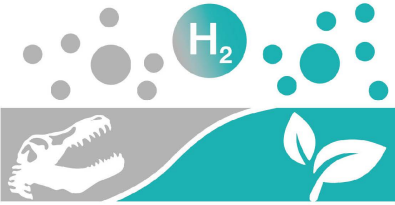
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2025

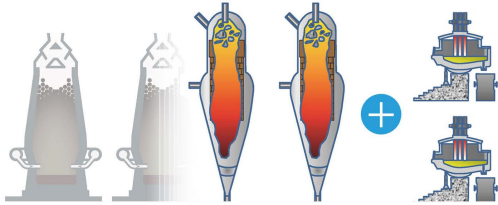


Replacing one blast furnace with alternative reduction technology

The blast furnace process will reach the maximum technically feasible CO₂-efficiency limit by 2025. To lower CO₂ further, alternative reduction technology, operating with hydrogen-bearing gases, will replace one blast furnace.



- Gradually replacing fossil gases with gases from regenerative sources stepwise
- Within the following years, the availability of regenerative green hydrogen shifts our process gas composition further into the direction of gases from regenerative sources. Fossil energy will be gradually replaced by regenerative energy.



2045

Replacing the second blast furnace with alternative reduction technology

Through the operation of a second reduction facility, HKM takes the final and great step towards the 2045 goal of being largely climate neutral. Under the premise of the complete availability of regenerative energy and green hydrogen, we will achieve this goal.

Reaching
Climate Neutrality
by 2045

2014



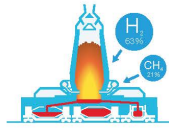
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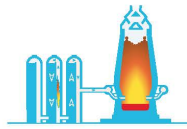
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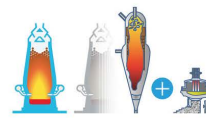
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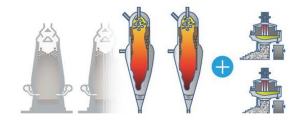
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2045

Reaching Climate Neutrality by 2045



Questions and comments to:

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