

Waste gases from steel worse for the climate than coal

The IPCC, the leading body of climate scientists, released a [report](#) this week showing that without unprecedented and rapid action, it will not be possible to avoid dangerous climate change. A major share of the efforts to keep global warming to 1.5°C will need to come from industry, which is the end-use sector responsible for the most greenhouse gas emissions. In this article, we will provide a deep-dive into waste gases that account for over 80% of the emissions from steelmaking.

The steel industry in Europe currently benefits from massive preferential treatment regarding the 'polluter-pays' principle. The overgenerous handouts of free pollution permits under the EU Emissions Trading System (ETS) has allowed the steel sector to profit from its pollution to the tune of over [€8 billion](#) (2008-2015). ArcelorMittal reported in its own annual reports that it made [over €500 million](#) from having received too many free pollution permits and selling the excess for a profit on the market (data until 2014, afterwards the steel multinational unfortunately did not publicly report this information anymore).

The [special treatment](#) of the steel industry is set to continue as the carbon intensity benchmark for hot metal, a measure for how much free pollution permits are handed out to steel companies, will be 'reduced' by a mere 0.2% per year until 2025. At this rate, it would take another 500 years before steelmaking is decarbonized, while global carbon emissions need to be phased out by 2050 at the latest according to the IPCC.

Flaring of waste gases: a harmful practice

What's worse; the steel sector is currently subsidized for burning its waste gases through flaring, thereby wasting energy that could otherwise be used in the form of heat or electricity. [Waste gases are secondary products of iron and steel activities. These gases are degraded fuels with high carbon content that can be recovered for the production of heat or electricity.] The current practice of handing out free pollution permits for flaring waste gases promotes an extremely inefficient use of these high-carbon resources. Waste gases from blast furnaces have a carbon content that is 2.5 times (!) higher than coal's carbon content, making it one of the most polluting fuels out there.

While the majority of energy from waste gases is recovered in the form of heat or electricity production in Europe, some sites still burn all of these gases in flares without any use, which is bad for the environment, energy resources and health. The annual amount of waste gases flared in European steel plants, would power the city of Paris for a year, if recovered and used to produce electricity. Flaring should hence be strongly discouraged, inter alia by not awarding free handouts of pollution permits for flared waste gases under the EU ETS anymore, unless the energy is recovered and used for heat or electricity.

Circular steel can reduce climate emissions to close to zero

In the medium-term, the burning of these high-carbon gases, that are worse for the climate than coal, cannot continue at all. If we are to stay below 1.5C, we need an unprecedented acceleration towards decarbonization, which means that steel emissions in the EU will need to go down to zero by 2040 at the latest. This requires a transformational shift towards circular steel, where the re-use of scrap metal in carbon-neutral electric arc furnaces could meet most of our demand for steel, while at the same time reducing our dependency on iron ore imports.

But this is still far from a reality: the steel industry itself thinks that it is able to reduce its CO₂ emissions by a meagre [15% by 2050](#) compared to 2010 levels. Changing the status quo in favour of sustainable steelmaking will hence require bold politicians, who dare to step up to the intense lobby of the steel multinationals and who will finally put the societal interests above the short-term profits of heavy-emitting corporations.