



Aperam

Reducing emissions to air: a roadmap 2005 – 2015

Award: Sustainability
Category: Emissions

Challenge

As our plant in Genk (Aperam Belgium) is located near to the city of 65,000 inhabitants, we faced the challenge of significantly minimising dust emissions so we did not affect air quality in the local area. The plant is located between a residential area (the nearest houses are just 300 metres from our plant) and an industrial zone.

Our goal was to become a leader in low dust emissions. We also saw a need to start a dialogue with local residents and authorities about our activities and the health, safety and environmental precautions we take. Our goal was to ensure our neighbours understand the progress we are making in reducing dust emissions.

The environmental permit of the plant was also due for renewal. The plant includes a melt shop, a cold rolling mill, de-dusting plants and exhaust systems which capture emissions to air from our processes. As part of our application to renew the permit, we wanted to demonstrate our commitment to the environment.

Our Genk facility includes two electric arc furnaces, vacuum and argon-oxygen decarburising facilities, ladle refining metallurgy, a continuous slab caster and slab grinders. It also includes a cold rolling mill with

annealing and pickling lines, cold rolling mills, bright annealing lines, temper mill, and finishing equipment.

We also have de-dusting plants and exhaust systems which capture emissions to air from our processes. The equipment is designed to contain a de-dusting and gas exhaust system.



Aperam Genk de-dusting plant

Action

Following the EU's Industrial Emissions Directive, Flemish authorities have set the dust emission limit at 10 mg/Nm³.

While we achieve this target, we understood from dialogue with local stakeholders that this is not enough. As a result, our vision has evolved from 'meeting the standard' to becoming a leader in low-level air emissions.

To reach this ambitious goal, we have implemented an extensive action plan at three levels: operational; managerial; and communications.

Operationally, our engineers and environmental specialists analysed how we could further reduce dust emissions inside and outside our plant. Various actions were identified which cover all parts of the plant including:

- Increased continuous monitoring of the most sensitive chimneys
- Intensified maintenance using Best Available Technology (BAT) filtering installations
- Drastic decrease in internal intervention thresholds (to < 3 mg/Nm³ dust)
- Replacing air cooling with water cooling on the annealing line

- Optimization of continuous caster off-gas guiding and filtering
- Enclosing the slag treatment and oxy-cutting areas
- Systematic covering of by-products during handling and transport
- Water spraying and road cleaning
- Implementation of a dedicated truck washing area.

At the managerial level we added a specific 'g/t guided emission' KPI. All managers and workers are incentivised to meet and maintain our ambitious objectives.

At the communication level, we started a dynamic and open dialogue with our stakeholders, especially with the local neighbourhood. For example, we created the newsletter 'Beste Buren' (Good Neighbours) which keeps the local community informed about the advances we have made on health, safety and the environment.

We also organised an Environment Day to kick-off the open exchange with all stakeholders. This allowed us to share our test results (data measurements) in a transparent way.

Outcome

Firstly, we managed to significantly reduce our emissions to air. Compared to 2006, we reduced emissions to air by 72% in 2014. Total emissions were 13 grams of dust per tonne of steel produced.

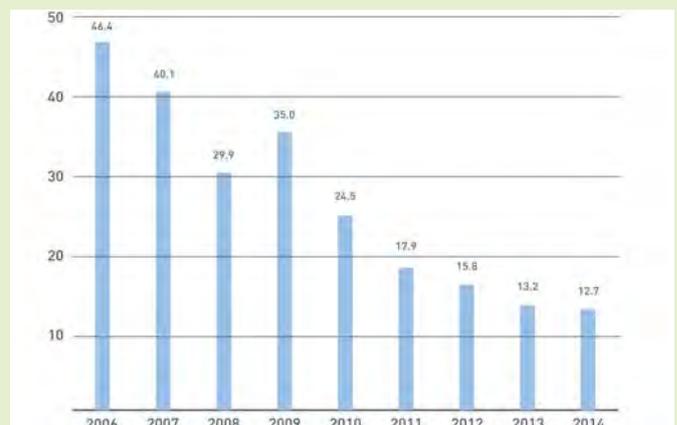
The various actions we have taken have reduced dust emissions and allowed us to build expert knowledge of the topic. We have formalised the outcomes and learning from the broad action plan we implemented and shared best practices with other entities and plants within Aperam.

Due to the lower dust emissions, we have received only two complaints from the neighbourhood in the last four years. This is both proof of the good results we have achieved, and also shows that we have built a positive and strong relationship with local residents. We have managed to convince the various stakeholders of our commitment, continued progress and ambition to communicate in a transparent manner.

Lastly, our efforts have resulted in Aperam obtaining a new environmental permit for its Genk plant. The permit is valid for another 20 years.



Stakeholder meeting in Genk



Specific emissions (grams/tonne) for the Genk steelplant and cold rolling mill