

# Climate Assessment



Beckers Group 2018



## 1.Executive summary

Beckers Group has carried out a comprehensive annual assessment report of its carbon emission since 2013 according to the GHG Protocol Corporate Standard. The report for 2018 compares progress to the base year of 2013 as well as previous year. The purpose of measuring climate data is to formulate a basis for action in order to reduce emissions and to systematically work with reduction initiatives to document our journey towards our vision of being the world's most sustainable industrial coatings company.

For 2018, Beckers Group's total emission amounted to **56,066 tons of carbon dioxide equivalents from location-based emissions** and **56,759 tons CO<sub>2</sub>e from market-based emissions** which is a **2% reduction (location based) compared to base year** emissions and **practically unchanged (location based) compared to previous year emissions**.

The highlights for our results in 2018 are:

- We have maintained our total emissions compared to last year which also reflects the unchanged production output as well.
- The sum of scope 1 and scope 2 intensity emissions (normalised against production) has shown a healthy

**reduction of 21%** compared to the base year, highlighting an increased efficiency in emissions from resource handling per unit product over the years.

We measure the market-based emissions to have a complete understanding of our emission scope but we have identified certain accuracy issues for the same going through the results. For the sake of continuity and accuracy, this report will focus on and present location-based emissions results unless stated otherwise.

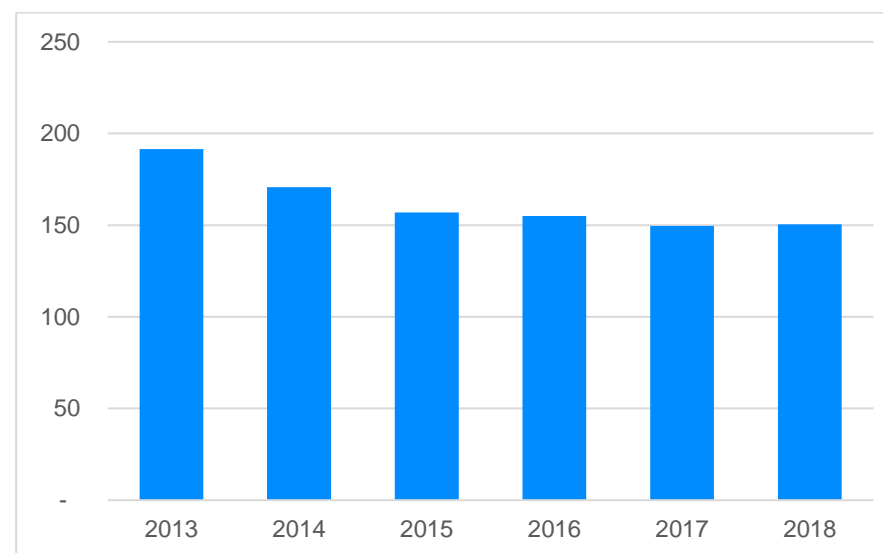


Chart 1-1 Scope 1 + scope 2 emissions per ton production

The emission results for 2018 and their comparison to the base year and previous year is depicted in the table below. There is only an increase in scope 3 emissions when compared to the base year emissions. The increase is due to the addition of 'upstream emissions' for multiple activities in 2015. This was done at an international-level in line with the GHG Protocol in order to include the climate impact of the value chain.

Beckers emission		Scope 1 (tCO <sub>2</sub> e)	Scope 2 (tCO <sub>2</sub> e)	Scope 3 (tCO <sub>2</sub> e)	Total emission (tCO <sub>2</sub> e)
2018	Location	10,081	14,269	31,716	56,066
	Market	10,081	15,055	31,623	56,759
2017	Location	10,129	14,205	31,881	56,214
	Market	10,129	14,208	31,932	56,268
2013		12,763	14,804	29,827	57,393
Reduction % (vs 2017)		0%	0%	1%	0%
Reduction % (vs 2013)		21%	4%	-6%	2%

Table 1-1 Beckers Group - scope results

In the short-term perspective, we see the 2018 results largely mirror the results of 2017, indicating the impact from our business activities for the year have remained the same with respect to the carbon dioxide emissions from Beckers Group.

Sustainability in the long perspective means no negative climate impact at all from Beckers but in order to accommodate the significant changes in the organisation, we recognise that it is important to analyse the intensity of our emissions. This means representing the data in a relevant format to compare with historical trends. This is achieved by calculating the Group scope 1 and scope 2 emissions per ton of product produced over the years.

Compared to our base year, we see encouraging results of our absolute emissions as well as our intensity emissions. The absolute emission has decreased noticeably despite our growth and the intensity emission has been reduced substantially. We have a long-term commitment and strive to continue our journey towards sustainability.

## 2. Purpose & Background

“If you can't measure it, you can't improve it.” - Peter Drucker

Quantifying our emissions enables Beckers to formulate an action plan to systematically work with reduction initiatives and assess the progress towards our goal.

To visualise the impact the company has on climate change, the unit of measurement, Carbon dioxide equivalent (CO<sub>2e</sub>), has to be made tangible.

### VISUALISING CO<sub>2</sub> EMISSIONS

#### Understanding the scope

As per United States Environmental Protection Agency (US EPA)\* the emission of 1 ton CO<sub>2e</sub> was equated to equivalent number of km driven by an average car (fuel economy was assumed to be 9.2 km/litre or 21.6 US miles/gallon). The study revealed:

**1 ton CO<sub>2e</sub> is emitted on driving an average car for 3,860 km**

#### Did you know

Approximately 1 ton of CO<sub>2e</sub> is released travelling across Europe from Liverpool, UK to Moscow, Russia!

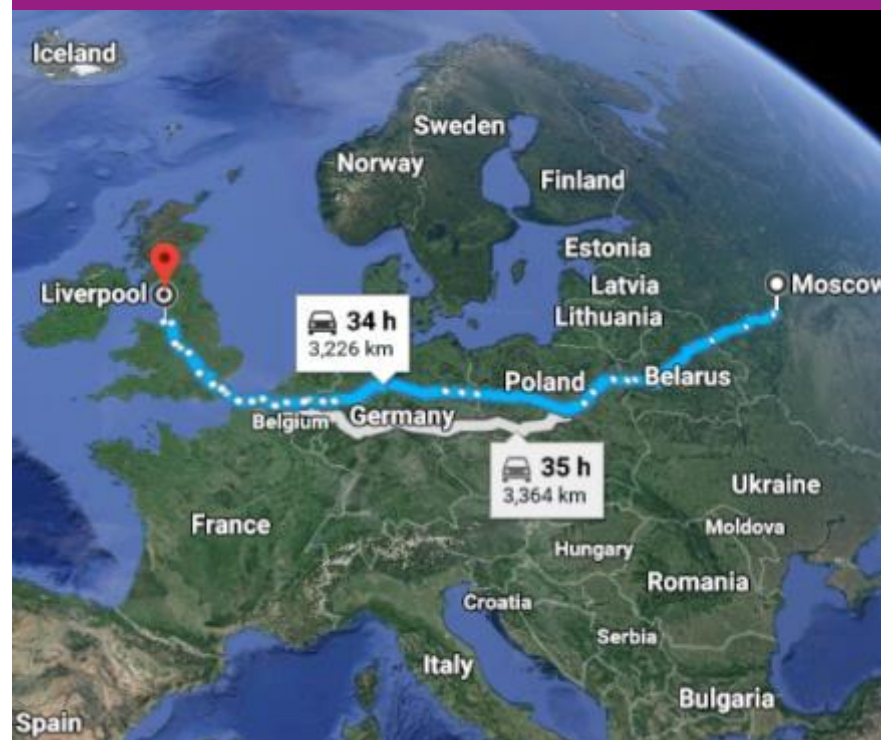


Figure 2-1 Equivalent result to 1 tCO<sub>2e</sub>\*

### 3. Methodology

According to the GHG Protocol, a company is accountable for emissions from all operations over which it has control. Control can be defined in either financial or operational terms.

Beckers is using the Greenhouse Gas (GHG) Protocol, an international standard developed by the World Resources Institute and the World Business Council for Sustainable Development. GHG Protocol divides greenhouse gases into three scopes:

- **Scope 1** – direct GHG emissions from sources that are owned by the company, for example, emissions from combustions in boilers, furnaces and vehicles.
- **Scope 2** – indirect GHG emissions from purchased or acquired electricity, heating/cooling or steam consumed by the company.
- **Scope 3** – other indirect GHG emissions (optional category) that occur as a consequence of all activities of an organization.

The report incorporates ‘The scope 2 guidance’ introduced by GHG Protocol in 2015 to portray emissions from specific contractual energy procured by the sites (see ‘scope 2 guidance’ section below).

In addition to indirect emissions from activities influenced by the company, scope 3 emissions can also emanate from upstream activities of scope 1 and scope 2 emissions. For example, emissions due to grid loss through transmission and generation of electricity purchased. The upstream emissions from various activities are periodically added onto the platform in the spirit of continuous improvement to capture the total emissions from the value chain. One major update was seen in 2015, which resulted in an increase in scope 3 emissions for the company.

Monitoring, documentation and representation of the data is done as per the ‘activities’ where the emissions occur. These activities promote easy comprehension of emission generation, which in turn will enhance decision-making while formulating reduction initiatives. The activities are independent of the classification based on scopes i.e. a particular activity may be classified under multiple scope emissions.

<b>Activities</b>	
<b>Premises</b>	The total energy consumption and water usage on site.
<b>Outbound third-party deliveries</b>	The transportation by the last third-party contractor from supplier to the sites.
<b>Inbound third-party deliveries</b>	The total transportation of our final products from a Beckers' site to the customer via multiple modes of transport.
<b>Production gases</b>	Production gases are the VOC (Volatile Organic Compounds) emissions from the site.
<b>Business travel</b>	Internal or external transportation used for business activities
<b>Company-owned vehicles</b>	Use of vehicles owned or long-leased under the company name
<b>Waste</b>	Disposal of waste
<b>Paper</b>	Office paper

Table 3-1 Beckers' activities

## Scope 2 Guidance

In 2015, the GHG Protocol presented a change in reporting methodology regarding scope 2 emissions calculations. The new approach introduced by GHG Protocol constitutes two dual reporting methods for scope 2 emissions. This was implemented in 2016 in our web platform. The two methods, location-based and market-based emissions reporting, are required in order to be fully compliant with the GHG Protocol.

### FACT BOX

#### Location-based method

Uses grid average emission factors specific to the location of consumption to calculate emissions

#### Market-based method

Conveys emissions from electricity that companies have specifically procured through contractual instruments – or, conversely, reflects a lack of procurement through the application of residual emission factors.

Contractual instruments, also known as Market-based Instruments, can be:

- Energy attribute certificates (eg. REC, GOs, iREC)
- Direct energy contracts (e.g. PPAs)
- Supplier-specific emissions rates

Historically, the emission from scope 2 was open for interpretation to follow either of the two reporting methods, thus the amendment was introduced to unify results from all reporting industries.

Since a market-based method reflects emissions from electricity that companies have purposefully chosen, evidence of such 'contractual instruments' is a prerequisite. These contractual instruments need to convey information such as emission rates, traceability, issuance, source etc. In absence of such information, the company will be allotted untracked or unclaimed emission factors (aka Residual Mix). The application of these requirements and the data availability for calculations is developing, among reporting companies and their energy suppliers, at the moment. A higher maturity in the figures will be achieved as the entire value chain unifies around the scope 2 guidance amendment.

## 4. Participants

In order to achieve a good accuracy of data for reporting, Beckers maintains at least one reporter per site for all its manufacturing sites around the world. This network of 'Climate reporters' collect and document relevant parameters into our web-based tool. This data is consolidated to form the global climate footprint of the company. The network of the reporting units is presented in the adjoining table.

### Contact

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Beckers EA&A	Beckers A&ME
Argentina, Buenos Aires	Bangladesh, Dhaka
France, Feignies	China, Guangzhou
France, Montbrison	China, Shanghai
Germany, Berlin (HQ)	China, Tianjin
Germany, Dormagen	India, Goa
Italy, Caleppio	India, Nagpur
Mexico, Monterrey	Indonesia, Jakarta
Poland, Tarnow	Malaysia, Kuala Lumpur
South Africa, Johannesburg	UAE, Ras Al Khaimah
Sweden, Maersta	Vietnam, Ho Chi Minh
Turkey, Gebze	
UK, Liverpool	
USA, Chicago	
USA, Fontana	

Table 4-1 Beckers locations



## 5. Results and analysis

### Overall analysis

For 2018, Beckers Group's total emission amounted to **56,066 tons of carbon dioxide equivalents** from [location-based emissions](#) and **56,759 tons CO<sub>2</sub>e** from [market-based emissions](#) which is a **2% reduction (location based)** compared to base year emissions and **practically unchanged (location based)** compared to previous year emissions.

We measure the market-based emissions to have a complete understanding of our emission scope but we have identified certain accuracy issues for the same going through the results. For the sake of continuity and accuracy, this report will focus on and present location-based emissions results unless stated otherwise.

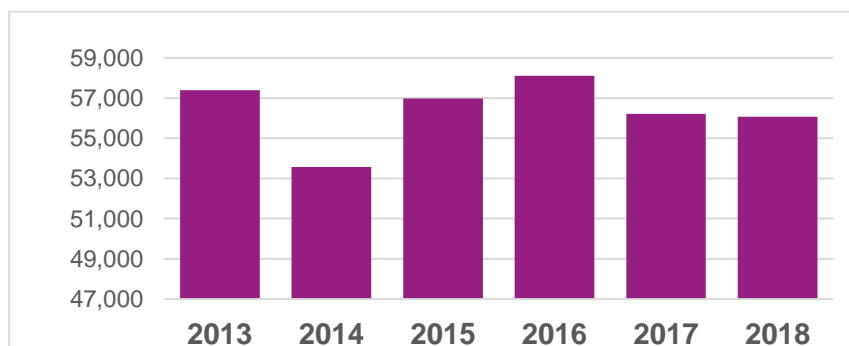


Chart 5-1 Beckers total emissions (tCO<sub>2</sub>e)

### Scope analysis

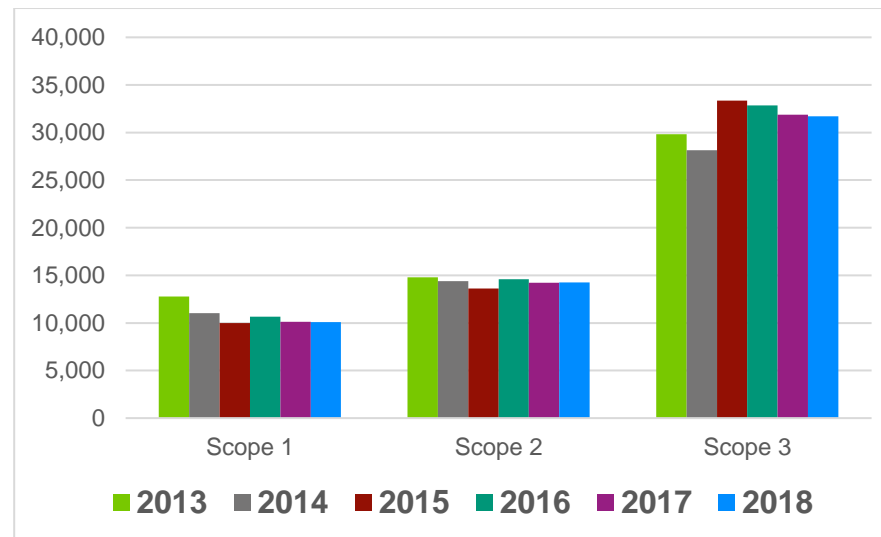


Chart 5-2 Scope-wise annual emissions (tCO<sub>2</sub>e)

A scope-wise overview of the results is covered below:

- Compared to 2017, the changes in emissions from scope 1 and scope 2 have essentially remained unchanged while emissions from scope 3 have reduced by 1%.
- Similar to 2017, when compared to the base year (2013) the emission from scope 1 has reduced by 21%, while that from scope 2 has reduced by 4%. Similarly, Scope 3 has increased by 6% due to the inclusion of additional upstream emissions in 2015 (absent in 2013).

Despite having renewable energy sourced in Märsta, Liverpool, Caleppio and Kuala Lumpur, we have the scope 2 emissions of market-based results more than the location-based results. This is due to lack of timely documentation of Guarantee of Origin (GoO) certificate from the energy supplier in Caleppio that authenticates our claim for renewably sourced energy. Additionally, this is also due to receiving ‘residual energy mix’ for sites which do not have any contractual instruments in place to source renewable energy e.g. in Dormagen, Tarnow and Caleppio.

### Activity analysis

As shown below, the activities with the highest emissions are premises (40% of total emission), inbound third-party deliveries (21%) and outbound third-party deliveries (21%).

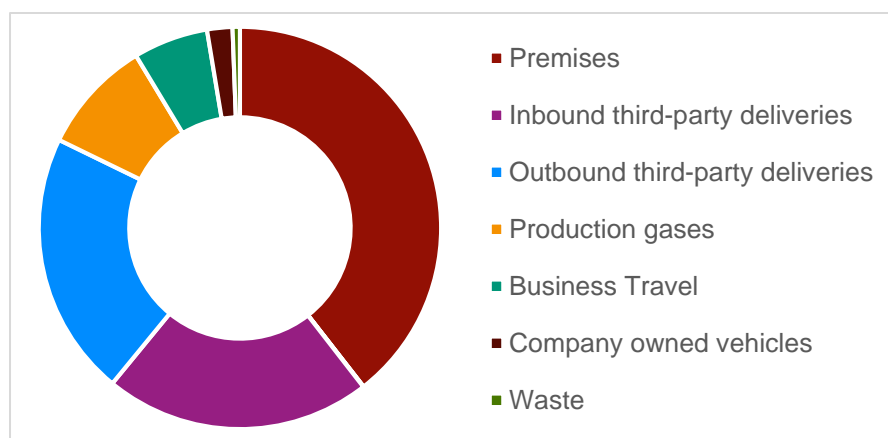


Chart 5-3 Activity-wise 2018 emissions (%)

The chart above depicts that more than 80% of Beckers’ emissions are a result of energy consumption on site and delivery logistics. Major changes in activities, compared to 2013 and 2017, are described in the following table:

By Activity	2013 tCO <sub>2</sub> e	2017 tCO <sub>2</sub> e	2018 tCO <sub>2</sub> e
Premises	20,036	22,399	22,124
Company owned vehicles	1,382	1,439	1,143
Business Travel	2,737	3,915	3,370
Inbound third-party deliveries	11,585	13,213	12,022
Outbound third-party deliveries	14,368	10,063	11,928
Paper	22	17	19
Waste	432	356	330
Production gases	6,833	4,813	5,130
<b>Total</b>	<b>57,393</b>	<b>56,214</b>	<b>56,066</b>

Table 5-1 Activity-wise historical emissions

Compared to 2017, the table above shows a 21% and 14% reduction in company vehicles and business travel respectively. This is due to better accuracy of reporting, and reducing company owned cars.

Emissions from third-party deliveries showed significant changes, where emissions from inbound third-party reduced by 9% while outbound third-party deliveries increased by 19%. The increase in emissions from outbound third-party deliveries is attributed to increase in long distance deliveries due to new business development and an increase in use of air freight. Reduction in emissions from inbound third-party deliveries is due to development of smaller sites thereby reducing the dependency on sister companies for intermediates. Other factors that influenced the reduction in emissions from inbound third-party deliveries is change in mode of transport and transfer of business to sister company. While the changes in the emissions from both delivery logistics is independent of each other, they counteract to give a combined increase of just 3% compared to the combined delivery emissions from 2017.

## 6. Emission Intensity

To estimate the emission change over the year, with regards to the growth of the company, **Key performance indicators (KPIs)**, are adopted. We have maintained our KPIs for 2018, which include: products (volume produced in metric tons), full time employees (FTE) and total sales (MSEK).

The total KPI values for the Group are as illustrated below:

<b>FTE (Number)</b>	1,788
<b>Product (tons)</b>	160,000
<b>Sales (MSEK)</b>	5,962

Table 6-1 Beckers' KPIs

An analysis of the emissions KPI over the years is depicted in the table below.

KPI	2013	2014	2015	2016	2017	2018
<b>FTE (number)</b>	32.6	29.9	32.9	33.5	32.6	31.4
<b>Sales (MSEK)</b>	12.5	10.9	10.8	10.7	10.0	9.4
<b>Product (ton)</b>	0.40	0.36	0.38	0.36	0.35	0.35

Table 6-2 Annual Beckers KPIs

To analyse an organisation's climate impact based on changes in the structure and/or business, it is important to keep track of the relevant KPI.

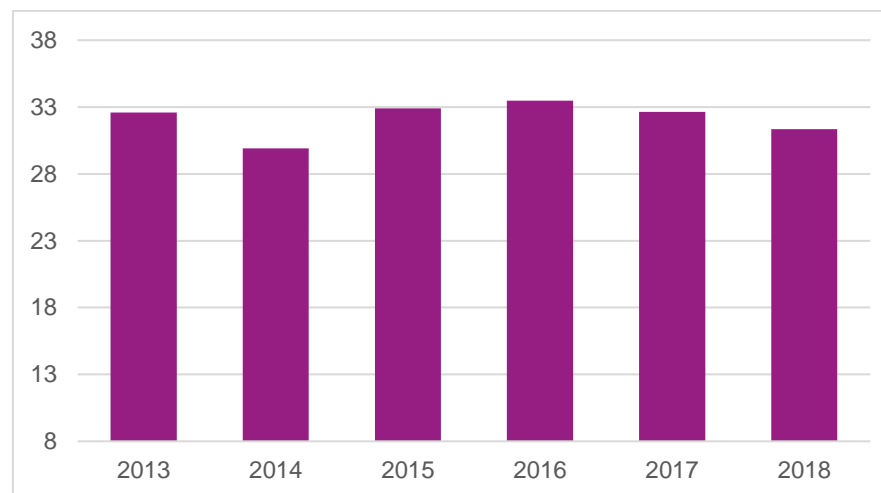


Chart 6-1 Beckers' annual full-time employee KPI

The emissions from the FTE KPI figure has reduced over the last 4 years, portraying an increased efficiency in operations by the increased business and economies of scale. The graph also depicts an increase in emissions per ton product in 2015, which can be correlated to the additional upstream emissions added to scope 3 activities as per the GHG protocol, without a significant increase in production or changes in the organisation activities.

## 7. Conclusion

Beckers Group was able to maintain its emissions and production compared to 2017.

We measure the market-based emissions to have a complete understanding of our emission scope but we have identified certain accuracy issues for the same going through the results. Despite having renewable energy sourced in Märsta, Liverpool, Caleppio and Kuala Lumpur, we have the scope 2 emissions of market-based results more than the location-based results.

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The emissions from the FTE KPI figure has reduced over the last 4 years, portraying an increased efficiency in operations by the increased business and economies of scale.

Sustainability in the long perspective means no negative climate impact at all from Beckers but in order to accommodate the significant changes in the organisation, we recognise that it is important to analyse the intensity of our emissions. This

means representing the data in a relevant format to compare with historical trends.

This is achieved by calculating the Group scope 1 and scope 2 emissions per ton of product produced over the years. The sum of scope 1 and scope 2 intensity emissions (normalised against production) has shown a healthy reduction of 21% compared to the base year, highlighting an increased efficiency in emissions from resource handling per unit product over the years.

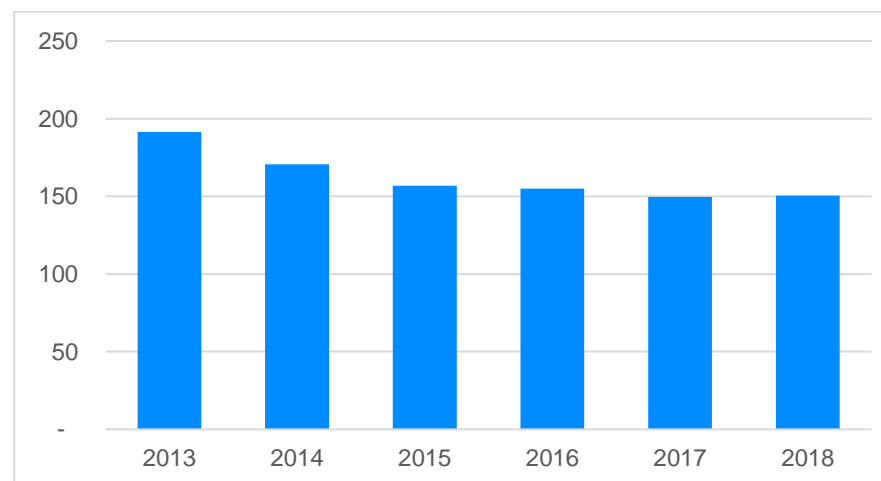


Chart 7-1 Scope 1 + scope 2 emissions per ton product (kgCO<sub>2</sub>e/ton product)

We continue to monitor our emissions and manage our impact wherever possible to hold up our vision to become the most sustainable coatings company in the world.