

# CLIMATE ASSESSMENT



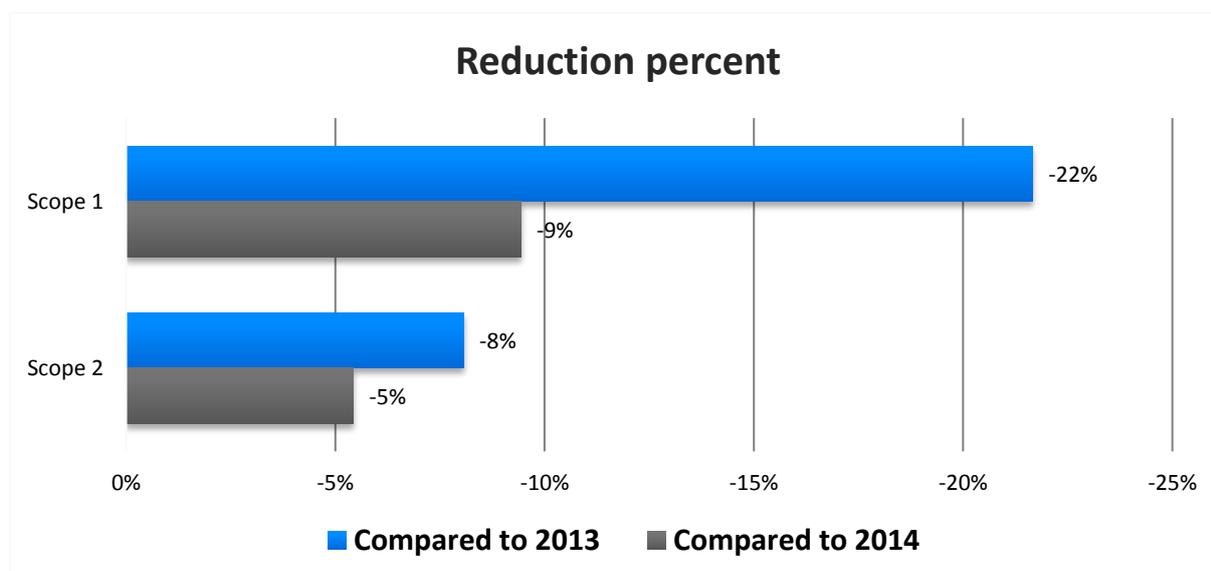
Beckers Group 2015

# 1. Summary

Our continued efforts towards sustainability have enabled us to reduce our direct carbon emission yet again! Beckers Group have performed a comprehensive assessment of its carbon emissions for 2015 with respect to the base year (2013) and previous year emissions, using the web-based tool called 'Our Impacts' and with support from U&We.

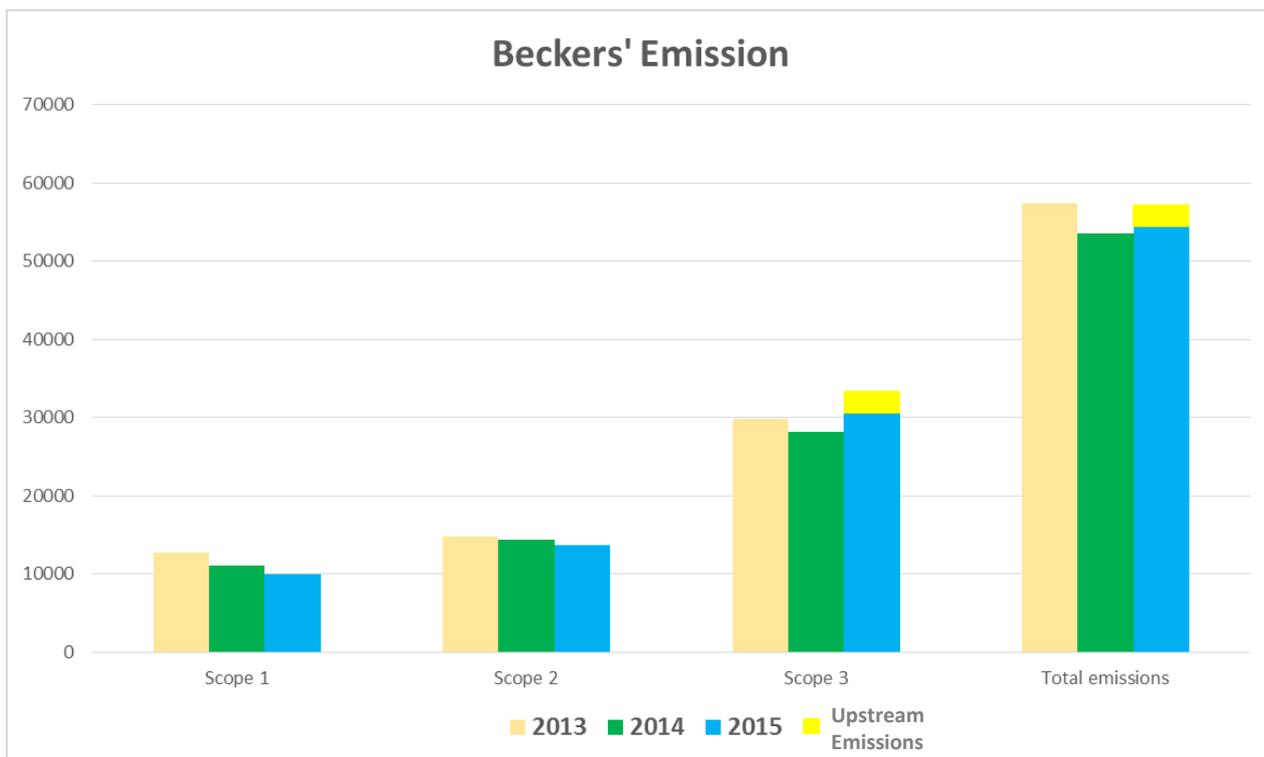
The assessment, as per the GHG protocol, is classified into 3 categories, scope 1, scope 2 and scope 3, which forms the bases for the emission source.

- **Scope 1 (Direct GHG Emissions)** – Emissions that occur from sources that are owned or controlled by the company
- **Scope 2 (Electricity Indirect GHG Emissions)** – Emissions from the generation of purchased electricity consumed by a company
- **Scope 3 (Other Indirect GHG Emissions)** – Emissions that are a consequence of the activities of the company, but occur from sources not owned or controlled by the company



- The result shows a year-over-year decrease in emissions from company controlled sources (scope 1), highlighting a **22% reduction** compared to our base year (2013).
- Emission from electricity consumption also **reduced by 8%** with respect to the base year.
- Although there has been a 12% increase in scope 3 emissions from external sources, only 2% of the increase is due to Beckers' influence (as seen below). The rest is due to the introduction of the 'upstream emission' for major activities, done as per the GHG protocol, to include the impact of the value chain.

Overall, the Total Emissions have reduced by 1% compared to the base year and would in fact represent **6% reduction if we are to exclude the upstream emissions.**



The encouraging results of our direct and scope 2 emissions continue to document our path towards Sustainability, making our journey a success story for a better future!

## 2. Purpose & Background

The purpose of measuring climate data is to formulate a basis for action to reduce emissions and to provide a possibility for comparison with a base year. A comparative analysis is a prerequisite to systematically work with reduction initiatives and the base year selected for Beckers is 2013.

To visualize the impact Beckers Group have on climate change, the unit of measurement, Carbon dioxide equivalent (CO<sub>2</sub>e), has to be tangible.

As per US EPA findings, **1 ton CO<sub>2</sub>e emissions can be offset by 3,318 sq. mtrs of US forest land in one year.** Or the emission of 1 ton CO<sub>2</sub>e was also equated to equivalent number of km driven by an average car (Fuel economy was assumed to be 9.1 km/litre), in accordance with EPA calculations. Using that example it was found that **1 ton CO<sub>2</sub>e is emitted on driving an average car for 3,831 km.**

## 3. Methodology

As described earlier, GHG (Greenhouse Gas) Protocol divides greenhouse gases into three scopes:

- **Scope 1** – direct GHG emissions from sources that are owned by the company, i.e emissions from combustions in boilers, furnaces and vehicles.
- **Scope 2** – indirect GHG emissions from purchased electricity, heating/cooling or steam consumed
- **Scope 3** – other indirect GHG emissions, which is an optional category.

We have decided to report on Scope 1 and 2 emissions and Scope 3 for Business Travel and inbound and outbound deliveries to and from our sites and the waste generated. Our scope 3 emissions can also emanate from upstream emissions for Scope 1 and 2 according to the tool used emission factors based on GHG protocol.

## 4. Participants

### Contact persons in Beckers:

Shaan Akerkar (Global Sustainability Scientist)  
Ingela Nordin (Global Sustainability Manager)

### Contact person U&We:

Katrin Dahlgren.

### Site Representatives:

#### A&ME (Asia & Middle East):

Goa India, Kuala Lumpur Malaysia, Ho Chi Minh Vietnam, RAK UAE, Jakarta Indonesia and Dhaka Bangladesh and Guangzhou, Shanghai and Tianjin China.

#### EA&A (Europe, Africa, Americas):

Headquarters in Berlin, Chicago and Fontana USA, Caleppio Italy, Dormagen Germany, Montbrison & Feignies France, Liverpool UK, Maersta Sweden, Tarnow Poland, Gebze Turkey, Johannesburg South Africa and Lagos Nigeria.

## 5. Results

Total emissions for Beckers Group during 2015 amounted to **56,972 tons of carbon dioxide equivalents (tCO<sub>2</sub>e)**, which is an increase of 3,407 tCO<sub>2</sub>e, or 6%, compared to 2014. Compared to our base year 2013 it is a 1% decrease from 57,393, as observed earlier.

The results encompass emissions from 22 sites around the world, including the corporate head office in Berlin.

By Activity	2015 tCO <sub>2</sub> e	Percentage of total
Premises	21,470	38%
Outbound deliveries	13,982	24%
Inbound deliveries	10,956	19%
Production gases	4,931	9%
Business Travel	4,041	7%
Company owned vehicles	1,201	2%
Waste	373	1%
Paper	19	0%
<b>Total</b>	<b>56,972</b>	

Emission results 2015

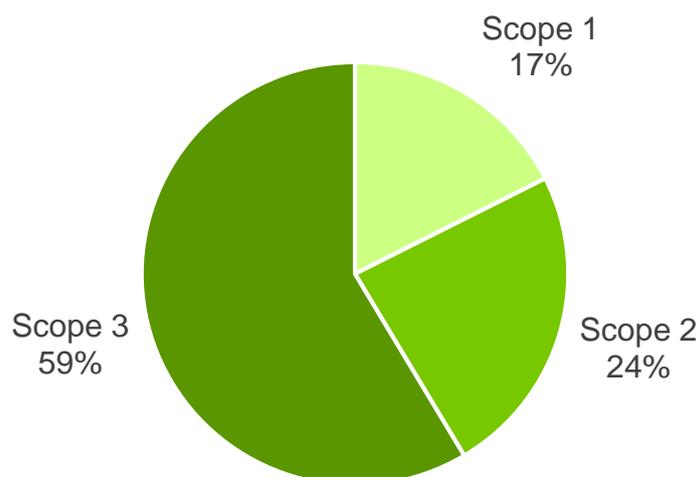
The activities with the highest emissions are Premises (38% of total emission), Outbound Third-Party Deliveries (24%) and Inbound Third-Party Deliveries (19%).

Premises involves the total energy consumption and water usage on site. The system boundary for inbound third-party deliveries is the transportation by the last third party contractor from supplier to the sites, whereas for outbound third-party deliveries it is the total distance travelled by our product to our customer via multiple modes of transport.

Major changes in activities, compared to 2013 and 2014, are described in the following table:

**Error! Reference source not found.**Waste, Production gases (VOC emissions) and Company Owned Vehicles achieved major reduction in 2015 compared to 2014, whereas, emissions due to Business travel, Premises and Inbound deliveries increased during 2015.

The emission distribution for Beckers Group by scope is outlined in the figure below.



## 6. Emission factors

As seen in the summary, total emissions are heavily influenced by the changes in emission factors from the GHG protocol. The updates for the emission factors within the tool for 2015 are as follows:

- Major changes during the year are the addition to scope 3 upstream emissions to:
  - Electricity
  - Sea and air freight
  - Air travel
- Minor changes to most other emission factors of electricity\*, fuel use and road, rail and air transportation

\* Note: Electricity grid factors from IEA vary from year to year depending on national fuel mix, etc.

### Recalculation policy

Our recalculation policy states that, if the total group result has changed over 5% due to the alterations made to emission factors, the base-year should be recalculated. According to an analysis by U&We, such a recalculation is not necessary based on the increases to the emission factors for 2015.

The significant increase in emissions for 2015 are easily explained as additions to upstream emissions (scope 3):

- Electricity – add on an average 23% to electricity emissions. 80% of the added upstream emissions are related to electricity.
- Air travel – add approx. 9% to air travel emissions.
- Third-party delivery – add 19-23% to air and sea delivery emissions.

## 7. Emission Intensity

To estimate the emission change over the year, with regards to the growth of the company, **Key performance indicators (KPIs)**, are adopted. The KPIs for 2014

include: products (volume produced in metric tons), full time employee (FTE) and total sales (KSEK).

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

<b>FTE (Number)</b>	1,731
<b>Product (tons)</b>	150,422
<b>Sales (KSEK)</b>	5,277,283

An analysis of the emissions per KPI compared to the base year is depicted in the table below. The range of reported values by site per KPI for 2015, is also illustrated in the same table.

<b>KPI</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>Lowest</b>	<b>Highest</b>
Total tCO <sub>2</sub> e/FTE	32.6	29.9	32.9	3.8	81.3
Total tCO <sub>2</sub> e/turnover (MSEK)*	12.5	10.9	10.8	2.9	21.9
Total tCO <sub>2</sub> e/ton product	0.40	0.36	0.38	0.13	1.22

Annual emissions per KPI

## 8. Conclusion

Additions to Emission Factors from scope 3 sources have led to an increase in emissions from Premises, where emissions from upstream electricity generation makes up to 6.7% of the total emissions.

The improvements in VOC Mass balance template and verification of data, coupled with Solvent Management Plan (SMP) software integrated with the ERP system, have circumvented bloated results. Proactive implementation of measures to reduce fugitive emissions, by switching to solvent-free pot cleaning, covering tanks with plastic sheets, and increased reuse of wash solvent in production have led to a 16% reduction of VOC gases compared to 2014.

The increase in Business Travel is justified by increase in global roles in HQ and increased global/regional meetings for the group.

Continuous improvement of data quality, data collection methods and reporting methods, have brought confidence and awareness of the importance of accurate monitoring the carbon emission at the sites. The resulting carbon footprint thus better reflects the total emissions from Beckers Group and improves the possibility for comparisons between sites.