

# CERTIFICATE

## The Climate Strategies Poland Foundation

hereby states that

**greenhouse gas emissions of**

**CONTEC S.A.**

for the following products:

**Pyrolytic oil:**

The carbon footprint of material acquisition and pre-processing and production: **399.75 kg CO<sub>2</sub>e/1t**

The carbon footprint of distribution to Customer 1: **42.01 kg CO<sub>2</sub>e/1t**

The carbon footprint of distribution to Customer 2: **119.42 kg CO<sub>2</sub>e/1t**

**Recovered Carbon Black:**

The carbon footprint of material acquisition and pre-processing and production: **439.17 kg CO<sub>2</sub>e/1t**

The carbon footprint of distribution to Customer 1: **55.98 kg CO<sub>2</sub>e/1t**

Attributable processes were included in the boundary of the product carbon footprint based on the cradle-to-gate inventory, taking into account the product life cycle stages from material acquisition and pre/processing to the distribution, i.e. delivery of the finished product to the customer's gate.

**Calculated according to the principles of the**

Greenhouse Gas Protocol. Product Life Cycle Accounting and Reporting Standard, September 2011. World Resources Institute and World Business Council for Sustainable Development



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**CLIMATE  
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**28.01.2022**

**Date: 28.01.2022**

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**Standard:** The Greenhouse Gas Protocol. Product Life Cycle Accounting and Reporting Standard, September 2011. World Resources Institute and World Business Council for Sustainable Development.

**The Carbon Footprint:** Greenhouse gas emissions of pyrolytic oil and recovered Carbon Black, manufactured by Contec S.A. The calculated product carbon footprint (PCF) considers the following product life cycle stages: material acquisition and pre-processing, production and the distribution and storage.

**The boundary of the product carbon footprint:** is determined by the cradle-to-gate method and is divided into the following stages:

- **Material acquisition and pre-processing**

Emissions connected with extraction and processing of primary products and materials prior to entering the gate of the studied production facility and also transportation of primary product and materials to the production facility.

At this stage, the emissions resulting from the extraction of raw materials and manufacturing of products used in the manufacturing process of pyrolytic oil and recovered Carbon Black as well as auxiliary processes in the production facility were calculated.

Additionally, at this stage, the emissions related to the transportation of all above-mentioned raw materials and materials for individual products were also taken into account.

Moreover, the emissions resulting from the transportation of tires to the production facility were calculated. Tires are treated and accepted by the manufacturing company as waste, not as raw material. Therefore, the emissions resulting from their transportation are included in the PCF, however, the emissions resulting from, e.g., the production of tires are not considered.

- **Production**

Emissions connected with utilities' consumption during manufacturing of products, transportation of waste created during production and treatment of waste created during production.

At the production stage, the PCF inventory takes into account the emissions related to the consumption of the following utilities: electricity consumption, consumption of pyrolytic gas, propane (LPG) consumption, gas oil consumption, diesel fuel consumption, water consumption, wastewater production.

This life cycle stage of the product also takes into account the emissions that are generated during the treatment and transportation of waste created during production.

For waste that is landfilled and contains an organic fraction, the emissions from both transportation and landfill storage were considered.

For incinerated or recycled waste, which represents an economic value and is destined for manufacturing of other products or as a source of energy, only emissions resulting from their transportation were considered.

- **Distribution and storage**

Emissions connected with transportation of the final product to the customer's gate

At the distribution stage, the PCF inventory included the emissions related to the product transportation from the manufacturing facility to the customer's gate.

For each of the products, transportation-related emissions were calculated separately, and included the following options:

**Pyrolytic oil:** customer 1 (250 km), customer 2 (800 km).

**Recovered Carbon Black:** customer 1 (375 km).

The selected boundary of the carbon footprint analysis "from cradle to the customer's gate" does not take into account the emissions resulting from transportation and treatment of waste that was not created in the production process at the Contec S.A. production facility, e.g., packaging waste at the customer's premises.

Additionally, the section "Exclusions" shows a list of materials, for which emissions resulting from their production, transportation and disposal were excluded from the PCF inventory as they were considered as not significant / not material to the production process.

**Data sources:**

1) **Activity data:** Data on the consumption of electricity, heat, LPG, water, wastewater production, the amount and type of raw materials needed for the production was supplied from the company's internal records as well as from producers and suppliers. They were provided by Contec S.A. both per e-mail correspondence and in the form of a completed data collection template.

2) **Emission factors:** NIR 2021, DEFRA 2021, Idemat 2022. (The full list of sources is available in Annex 1).

**Data quality:**

1) **Activity data:**

- Any assumptions made by Climate Strategies Poland, especially with regard to transportation and waste treatment were verified by the project team from Contec S.A.

2) **Emission factors:**

- The emission factors were selected to best reflect the state of technology, time and geographic reference. They mainly relate to data relevant for the financial year 2020. The indicators were derived from publicly available databases that are known and validated. (The complete list is provided in Annex 1.)

### The methodology:

Calculations were made in accordance with the GHG Protocol. Product Life Cycle Accounting and Reporting Standard, September 2011. World Resources Institute and World Business Council for Sustainable Development.

The basic principles of this standard can be summarized as follows:

- 1) **Relevance:** The calculation methodology of the Product Carbon Footprint (PCF) inventory serves the needs of the intended user in their decision-making. Hence, the information is presented in an understandable way.
- 2) **Completeness:** The inventory report includes all GHG emissions of the product life cycle within the system boundaries. GHG emissions that were excluded or omitted must be reported and justified.
- 3) **Consistency:** Methodology, data, and assumptions made must ensure meaningful comparability of the GHG inventory over time.
- 4) **Transparency:** All results must be documented and recorded in a factual, coherent manner. Relevant assumptions must be stated in the inventory report and appropriate references to methodology and data sources must be provided. Estimates must be explained.
- 5) **Accuracy:** Reported GHG emissions should not be systematically greater than or less than actual emissions. Furthermore, sufficient care should be taken and uncertainties reduced as far as possible to ensure reliability for the intended audience.

### EXCLUSIONS:

- Additionally, emissions from the production, transportation and disposal of the following materials were excluded from the PCF calculation as they were not considered significant, material and/or relevant to the production process:
- Disposal of mineral impurities, which are destined to be ground and treated as a recovered Carbon Black component as well as of rubber waste.
- Incineration / use as fuel of F-304A / BC filters - sludge and solid particles, Filters F-703,704,701,702 sludge and solids, Filters F-601,602,605,606 sludge and solids, Filters F-603,604 sludge and solids, Filters F-611,612 sludge and solids, Basket filter F-613 and self-cleaning F-614 sludge and solid particles, Fabric filter (changed every 2 years), Filter contamination in the form of sludge and solid particles, Filters F-202/201/204/203/210/211.
- Reclamation of Bag filter.
- Open loop recycling at CONTEC's plant of textile cord.
- Amount not significant to the production process: Plastics and rubber - produced on crushers.
- Transportation and disposal of Bag filters changed once a day (during the traffic period), Filter F-402,401, The multi-loop filter F-431.

## **ANNEX NO. 1, DATA SOURCES**

**ARCELOR MITTAL:** [ARCELORMITTAL –EUROPE FLAT PRODUCTS CO2FOOTPRINT.PDF](#)

**DEFRA 2021:** [HTTPS://WWW.GOV.UK/GOVERNMENT/PUBLICATIONS/GREENHOUSE-GAS-REPORTING-CONVERSION-FACTORS-2021](https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2021)

**GEMIS V.5.0, LUTY 2021:** [HTTP://INAS.ORG/GEMIS-DOWNLOAD.HTML](http://inas.org/gemis-download.html)

**GHGPROTOCOL.ORG:** [EMISSION FACTORS FROM CROSS SECTOR TOOLS MARCH 2017.XLSX](#)

**IDEMAT 2022:** [HTTPS://WWW.ECOCOSTSVALUE.COM/DATA/](https://www.ecocostsvalue.com/data/)

**KOBIZE 2020:** [HTTPS://WWW.KOBIZE.PL/](https://www.kobize.pl/)

**NIR 2021:** [HTTPS://UNFCCC.INT/DOCUMENTS/274762](https://unfccc.int/documents/274762)

**WINNIPEG 2012:** [HTTPS://WWW.WINNIPEG.CA/FINANCE/FINDATA/MATMGT/DOCUMENTS/2012/682-2012/682-2012\\_APPENDIX\\_H-WSTP\\_SOUTH\\_END\\_PLANT\\_PROCESS\\_SELECTION\\_REPORT/APPENDIX%207.PDF](https://www.winnipeg.ca/finance/findata/matmgt/documents/2012/682-2012/682-2012_APPENDIX_H-WSTP_SOUTH_END_PLANT_PROCESS_SELECTION_REPORT/APPENDIX%207.PDF)