Information sheet.

Product Carbon Footprint (PCF).

Climate protection is a key part of the RATIONAL corporate strategy. Our goal is to become greenhouse gas neutral by 2050. To achieve this, it is crucial that we have transparency regarding the CO_2e emissions of our products.

Calculating the product carbon footprint (PCF) enables us to record emissions throughout the entire life cycle of our cooking systems.

We distinguish between the following terms:
- **Cradle to gate** = product cycle from manufacture to departure from the production site
- **Cradle to grave** = also includes transport to the customer, operational usage, repairs and end-of-life disposal

Emissions during the operational phase, particularly those caused by energy consumption, account for the largest share of total emissions, and thus also of the PCFs. RATIONAL has determined a global average value for a usage phase of 12 years, based on real data from over 100,000 cooking systems networked via ConnectedCooking. This data set is unique in the industry.

Ultimately, every operator can influence their own PCF through their use of the RATIONAL cooking system and their choice of energy sources. For example, the use of renewable energy sources, so-called green electricity, can significantly reduce emissions during the lifetime of the cooking system.

Below, you will find examples of the determined Product Carbon Footprint (PCF) of three RATIONAL cooking systems, as an example of the entire RATIONAL product portfolio. **(Information on other models is available on request)**

Model	PCF* Cradle to Gate	PCF* Cradle to Grave 1 (Global energy mix)	PCF* Cradle to Grave 2 (100% renewable energy)
iCombi Pro 6-1/1 E	1,398 kg CO_2e	28,290 kg CO_2e	5,004 kg CO_2e
iCombi Pro 20-1/1 E	2,634 kg CO_2e	63,894 kg CO_2e	9,445 kg CO_2e
iVario Pro L	2,448 kg CO_2e	27,340 kg CO_2e	6,302 kg CO_2e

*PCFs shown are global averages. The PCF data is calculated based on the behaviour of an average user, as determined from available real data, over a service life of 12 years. The global energy mix represents the average value for electricity generation from fossil and renewable energies in 2024. A rate of 20% was assumed for disposal and recycling. RATIONAL production sites are located in Landsberg am Lech, Germany (iCombi) and Wittenheim, France (iVario). A weighted average of all transports was used as a basis. When specific user behaviour and locations are considered, the PCF may be subject to corresponding changes. The use of 100% renewable energy was taken into account, as was the possible supply by the energy provider.

TÜV certified
The PCF method has been verified by TÜV Süd in accordance with the requirements of ISO 14067. It has been confirmed that the methodology meets all the requirements for determining a complete PCF in accordance with the aforementioned international standard.

Information sheet

PCF methodology.

Raw materials, components and packaging

- Data collection for materials is based on the bill of materials (BOM) and parts list
- Components are divided into 15 main material groups
- Evaluation of material emissions using a mass-based approach and appropriate emission factors, including processing steps
- Evaluation of transport from suppliers to RATIONAL

Production energy

- Evaluation of electricity, natural gas and water consumption
- Evaluation of energy consumption at each production site, taking into account supplier-specific information
- Consideration of 100% renewable electricity at the production plant in Landsberg am Lech
- Consideration of electricity from our own PV system at the production plant in Wittenheim
- Evaluation of upstream emissions for the entire electricity generation and supply chain

Transport

- Evaluation of internal transport
- Evaluation of transport to the customer

Use phase

- Evaluation of electricity, natural gas and water consumption at the customer
- Evaluation of upstream emissions for the entire electricity generation and supply chain
- Repair and maintenance including travel

Waste and wastewater

- Evaluation of the recycling of production waste and the disposal of products at the end of their life cycle
- Evaluation of transport to the recycle provider

Excluded emission sources

- Provision of infrastructure and machinery in production
- Use of auxiliary materials in production (lubricants and oils)
- Packaging for internal transport
- Installation of cooking systems at the customer's premises
- Checking all excluded emission sources in advance for relevance

Contact for questions on PCF calculation:
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