Annual treatment with FlexTouch®

incl. drug and needles

Carbon Footprint Report

March 2025 (version 1.0)

Contents

1. Background

Novo Nordisk's environmental strategy, Circular for Zero, and the certified ISO14001 Environmental Management System, drive continuous improvements in our environmental performance by setting high ambitions and integrating environmental considerations into daily business activities. Here, life cycle assessment/product carbon footprint is an integrated part of our product development process.

This document presents the Product Carbon Footprint of one year treatment with FlexTouch® in combination with a range of drug substances (API), including the use of NovoFine® needles, hereafter referred to as the [drug product's brand name] FlexTouch® carbon footprint[1], e.g. Tresiba® FlexTouch® carbon footprint.

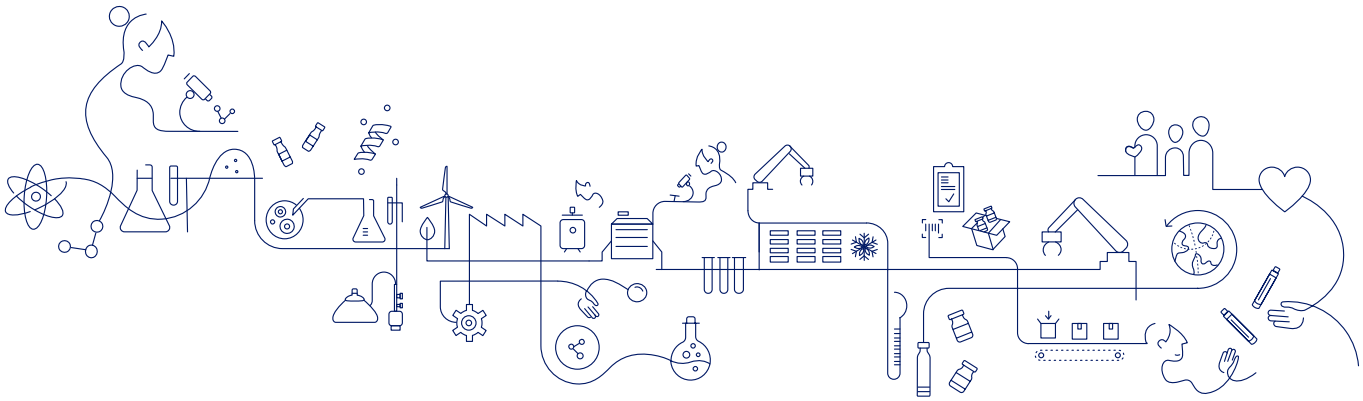
The carbon footprint for the yearly treatment is based on full third-party verified carbon footprint reports for the different drug substances, delivery solutions (device or oral) and needles included in this report.

The data presented in this document supports marketing claims and Q&As about the product carbon footprint. The data should not be used for comparison with competitor products or for claims related to 'green' or 'environmentally friendly' products.

[1] In the case of Xultophy®, Saxenda® and Ozempic®, the drug product brand name covers both the drug and the delivery system.

2. Methodology

The carbon footprint of a product is calculated by adding the greenhouse gas emissions (in kg CO_2 equivalents) from different stages of the product life cycle. The product carbon footprint of one year of treatment is calculated by adding the contributions from the drug substance, the delivery system and the needle[2].



The Novo Nordisk carbon footprint calculations follow the Greenhouse Gas Accounting Sector Guidance for Pharmaceutical Products and Medical Devices[3], which is built on international life cycle assessment standards. The reports are third-party reviewed by PricewaterhouseCoopers Advisory.

The carbon footprint calculations are based on production data from 2022 and cover relevant drug substances, delivery system and needles as shown in Table 1. For each brand, the carbon footprints are calculated for the use in three major markets: Europe, the US and Japan. The calculations are made using Excel and the life cycle assessment tool *LCA for Experts*[4].

Table 1. Products involved in the calculations for one year of treatment with FlexTouch®.

Drug substance	Delivery system**	Needle**
• Insulin analogues • GLP-1 analogues	• FlexTouch® • Excipients* (incl. WFI)	• NovoFine® • NovoFine® Plus

Notes:

* Excluded due to proven low impact on carbon emissions, except for water for injection.

** Including both secondary & tertiary packaging.

[2] Including the packaging for delivery systems and needles.

[3] Greenhouse Gas Accounting Sector Guidance for Pharmaceutical Products and Medical Devices, GHG Protocol Product Life Cycle Accounting and Reporting Standard, November 2012. At: http://ghgprotocol.org/sites/default/files/ghgp/Summary-Document_Pharmaceutical-Product-and-Medical-Device-GHG-Accounting_November-2012_0.pdf.

[4] Formerly GaBi.

2.1 Drug substance

The Defined Daily Dose (DDD) is the assumed average maintenance dose per day for a drug used for its main indication in adults. The DDD for insulin analogues (aspart, degludec, detemir, human insulin or icodec) is 40 international units (IU), corresponding to a weekly dose of 280 units, according to the WHO[5].

For the remaining products, the defined dose is reflecting the actual products on the market and not an official DDD, see Table 2. Some products contain more than one drug substance in the cartridge (no additional device/materials used).

Table 2 Overview of defined dose of drug substance for the different products.

Brand name	Frequency	Drug substance 1	Drug substance 2
Insulin analogue: Awiqly®, Fiasp®, Levemir®, NovoRapid®, Ryzodeg®[6] and Tresiba®.	Daily	40 IU aspart, degludec, detemir, human insulin or icodec	
Awiqly®	Weekly	280 IU icodec	
Xultophy®	Daily	40 IU degludec	1.44 mg liraglutide
Saxenda®	Daily	3 mg liraglutide	
Ozempic®	Weekly	0.5 mg semaglutide	
	Weekly	1.0 mg semaglutide	
Wegovy®	Weekly	2.4 mg semaglutidce	
IcoSema[7]	Weekly	280 IU icodec	0.8 mg semaglutide

2.2 Delivery system

FlexTouch® is compatible with a variety of Novo Nordisk's drug products, available in a range of strengths tailored to the specific therapy area, see Table 3. For insulin analogue products the standard strength is U100. Only Tresiba is also delivered in a U200 version.

Table 3 Overview of drug product strength based on substance concentration and primary packaging size.

Brand name	Drug substance content	Cartridge [mL]	Strength
[Insulin analogue] U100 FlexTouch®	300 IU	3	100 IU/mL
[Insulin analogue] U200 FlexTouch®	600 IU	3	200 IU/mL
Awiqli® FlexTouch®	700 IU	1	700 IU/mL
	1050 IU	1.5	700 IU/mL
	2100 IU	3	700 IU/mL

[5] WHO Collaborating Centre for Drug Statistics Methodology (WHOCC): DDD Definition and general considerations. http://www.whocc.no/ddd/definition_and_general_considera/. Accessed Sep 2021.

[6] 40 IU with the distribution of 70% degludec, 30% aspart

[7] IcoSema is planned to be launched in 2026. The defined dose for IcoSema is reflecting the Maximum Recommended Therapeutic Dose (MRTD). The relevant defined dose may therefore change. The brand name may also change before launch.

Brand name	Drug substance content	Cartridge [mL]	Strength
Xultophy	300 IU degludec + 10.8 mg liraglutide	3	100 IU/mL 3.6 mg/mL
Saxenda® FlexTouch®	18 mg	3	6 IU/mL
Ozempic® 0.5 mg	2 mg	1.5	1.33 mg/mL
Ozempic® 1.0 mg	4 mg	3	1.33 mg/mL
	8 mg [a]	3	2.66 mg/mL
Wegovy® FlexTouch®	9.6 mg	3	3.2 mg/mL
IcoSema 700 IU FlexTouch®	700 IU icodec + 2 mg semaglutide	1.5[b]	700 IU/mL 2 mg/mL
IcoSema 1050 IU FlexTouch®	1050 IU icodec + 3 mg semaglutide	1.5	700 IU/mL 2 mg/mL

[a] 8 weeks treatment (product not yet on the market)

[b] Containing 1 mL only.

Due to the physical design of the cartridge, a small volume of drug product is lost between the neck and the shoulders of the cartridge. The filling volume is adjusted to account for this loss with an additional 2.4% drug product volume. This has been considered as well for the estimation of the carbon footprint.

2.3 Needles

Novo Nordisk offers a series of needles for combination with our delivery systems. In this assessment, three different needles, namely, NovoFine®, NovoFine® Plus, and NovoFine® Plus (co-pack), are included for the EU and US markets. For the Japanese market only NovoFine® Plus is available.

NovoFine® Plus needles are sold in packs of 100 pcs in EU and US markets and packs of 70 pcs in JP market. NovoFine® Plus (co-pack) are assumed co-packed with one FlexTouch® and 4 needles as a representative for a co-pack.

Novo Nordisk recommends discarding the needle after use. However, market research shows that many patients use the needle several times[8]. To reflect an average patient, the one-year treatment scenario is based on the use of one needle per day, which can be considered a conservative estimate.

[8] Roper U.S. Diabetes 2014 Patient Study. Insulin devices market. GFK, November 2014

3. Carbon footprint

This section presents the carbon footprints for specific treatments (assumptions described in Section 2) with FlexTouch® in combinations with a range on drug substances and needles in the three representative markets, Europe, US and Japan. The contribution to the carbon footprints from drug substance, delivery system and needles are shown as well as the total carbon footprint per patient per year.

To put the results into perspective, the resulting carbon footprints has been recalculated into the distance driven by an average car (see Section 3.4).

The carbon footprint has inherent uncertainties and should be regarded as an indicative level and not as a precise measure. The uncertainties relate to the data collected from Novo Nordisk production, the data on carbon footprint for of each of the processes (e.g. plastic granulate production), carbon footprint impact factors and the key assumptions (e.g. distribution patterns). Moreover, the calculations consider that Novo Nordisk sources renewable energy through certificates, which results in a lower carbon footprint than if average electricity was used.

3.1 European market

Table 4. Carbon footprint of one year's treatment of one patient in the **European** market with FlexTouch® and NovoFine®.

Brand name	Drug substance [kg CO_2-eq./year]	FlexTouch® incl. Cartridge [kg CO_2-eq./year]		NovoFine® [kg CO_2-eq./year]		One year treatment [kg CO2-eq./year]	
		Delivery system	Packaging	Needle	Packaging	Excl. packaging	Incl. packaging
Awiqli® 1050 IU FlexTouch®	2.1	2.2	0.27	0.4	0.0	4.6	4.9
Awiqli® 2100 IU FlexTouch®	2.1	1.1	0.13	0.4	0.0	3.5	3.7
Awiqli® 700 IU FlexTouch®	2.1	3.3	0.40	0.4	0.0	5.7	6.1
Fiasp® FlexTouch®	1.1	7.7	0.94	2.6	0.2	11.3	12.4
Levemir® FlexTouch®	6.9	7.7	0.94	2.6	0.2	17.1	18.2
NovoRapid® FlexTouch®	1.1	7.7	0.94	2.6	0.2	11.3	12.4
Ryzodeg® FlexTouch®	1.8	7.7	0.94	2.6	0.2	12.0	13.1
Tresiba® U100 FlexTouch®	2.1	7.7	0.94	2.6	0.2	12.3	13.4
Tresiba® U200 FlexTouch®	2.1	3.8	0.47	2.6	0.2	8.5	9.1
Xultophy®	7.2	7.7	0.9	2.6	0.2	17.4	18.5
Saxenda®	10.5	9.6	1.2	2.6	0.2	22.7	24.0
Ozempic® 0.5 mg	0.4	2.0	0.3	0.4	0.0	2.8	3.1

Brand name	Drug substance [kg CO_2-eq./year]	FlexTouch® incl. Cartridge [kg CO_2-eq./year]		NovoFine® [kg CO_2-eq./year]		One year treatment [kg CO2-eq./year]	
		Delivery system	Packaging	Needle	Packaging	Excl. packaging	Incl. packaging
Ozempic® 1.0 mg	0.8	2.0	0.3	0.4	0.0	3.2	3.5
Ozempic® 1.0 mg (8 weeks)	0.8	1.0	0.1	0.4	0.0	2.2	2.4
Wegovy® FlexTouch®	2.0	2.1	0.3	0.4	0.0	4.4	4.7
IcoSema 700 IU FlexTouch®*	2.7	3.3	0.4	0.4	0.0	6.4	6.8
IcoSema 1050 IU FlexTouch®*	2.7	2.2	0.3	0.4	0.0	5.3	5.6

**) Reflecting the Maximum Recommended Therapeutic Dose (MRTD)*

Table 5. Carbon footprint of one year's treatment of one patient in the **European** market with FlexTouch® and NovoFine® Plus.

Brand name	Drug substance [kg CO_2-eq./year]	FlexTouch® incl. Cartridge [kg CO_2-eq./year]		NovoFine® Plus [kg CO_2-eq./year]		One year treatment [kg CO_2-eq./year]	
		Delivery system	Packaging	Needle	Packaging	Excl. packaging	Incl. packaging
Awiqli® 1050 IU FlexTouch®	2.1	2.2	0.27	0.3	0.0	4.5	4.8
Awiqli® 2100 IU FlexTouch®	2.1	1.1	0.13	0.3	0.0	3.4	3.6
Awiqli® 700 IU FlexTouch®	2.1	3.3	0.40	0.3	0.0	5.6	6.1
Fiasp® FlexTouch®	1.1	7.7	0.94	2.0	0.2	10.8	11.9
Levemir® FlexTouch®	6.9	7.7	0.94	2.0	0.2	16.6	17.7
NovoRapid® FlexTouch®	1.1	7.7	0.94	2.0	0.2	10.8	11.9
Ryzodeg® FlexTouch®	1.8	7.7	0.94	2.0	0.2	11.5	12.6
Tresiba® U100 FlexTouch®	2.1	7.7	0.94	2.0	0.2	11.8	12.9
Tresiba® U200 FlexTouch®	2.1	3.8	0.47	2.0	0.2	8.0	8.6
Xultophy®	7.2	7.7	0.9	2.0	0.2	16.9	18.0
Saxenda®	10.5	9.6	1.2	2.0	0.2	22.2	23.5
Ozempic® 0.5 mg	0.4	2.0	0.3	0.3	0.0	2.7	3.0
Ozempic® 1.0 mg	0.8	2.0	0.3	0.3	0.0	3.2	3.4
Ozempic® 1.0 mg (8 weeks)	0.8	1.0	0.1	0.3	0.0	2.1	2.3
Wegovy® FlexTouch®	2.0	2.1	0.3	0.3	0.0	4.3	4.6
IcoSema 700 IU FlexTouch®*	2.7	3.3	0.4	0.3	0.0	6.3	6.7

Brand name	Drug substance [kg CO_2-eq./year]	FlexTouch® incl. Cartridge [kg CO_2-eq./year]		NovoFine® Plus [kg CO_2-eq./year]		One year treatment [kg CO_2-eq./year]	
		Delivery system	Packaging	Needle	Packaging	Excl. packaging	Incl. packaging
IcoSema 1050 IU FlexTouch®*	2.7	2.2	0.3	0.3	0.0	5.2	5.5

**) Reflecting the Maximum Recommended Therapeutic Dose (MRTD)*

Table 6. Carbon footprint of one year's treatment of one patient in the **European** market with FlexTouch® and NovoFine® Plus (co-pack).

Brand name	Drug substance [kg CO_2-eq./year]	FlexTouch® incl. Cartridge [kg CO_2-eq./year]		NovoFine® Plus (co-pack) [kg CO2-eq./year]		One year treatment [kg CO_2-eq./year]	
		Delivery system	Packaging	Needle	Packaging	Excl. packaging	Incl. packaging
Awiqli® 1050 IU FlexTouch®	2.1	2.2	0.27	0.3	0.4	4.6	5.3
Awiqli® 2100 IU FlexTouch®	2.1	1.1	0.13	0.3	0.4	3.5	4.0
Awiqli® 700 IU FlexTouch®	2.1	3.3	0.40	0.3	0.4	5.6	6.5
Fiasp® FlexTouch®	1.1	7.7	0.94	2.1	3.0	10.8	14.8
Levemir® FlexTouch®	6.9	7.7	0.94	2.1	3.0	16.7	20.6
NovoRapid® FlexTouch®	1.1	7.7	0.94	2.1	3.0	10.8	14.8
Ryzodeg® FlexTouch®	1.8	7.7	0.94	2.1	3.0	11.6	15.5
Tresiba® U100 FlexTouch®	2.1	7.7	0.94	2.1	3.0	11.9	15.8
Tresiba® U200 FlexTouch®	2.1	3.8	0.47	2.1	3.0	8.0	11.5
Xultophy®	7.2	7.7	0.9	2.1	3.0	16.9	20.9
Saxenda®	10.5	9.6	1.2	2.1	3.0	22.2	26.4
Ozempic® 0.5 mg	0.4	2.0	0.3	0.3	0.4	2.8	3.4
Ozempic® 1.0 mg	0.8	2.0	0.3	0.3	0.4	3.2	3.9
Ozempic® 1.0 mg (8 weeks)	0.8	1.0	0.1	0.3	0.4	2.2	2.7
Wegovy® FlexTouch®	2.0	2.1	0.3	0.3	0.4	4.3	5.0
IcoSema 700 IU FlexTouch®*	2.7	3.3	0.4	0.3	0.4	6.3	7.1
IcoSema 1050 IU FlexTouch®*	2.7	2.2	0.3	0.3	0.4	5.2	5.9

**) Reflecting the Maximum Recommended Therapeutic Dose (MRTD)*

3.2 US market

Table 7. Carbon footprint of one year's treatment of one patient in the **US** market with FlexTouch® and NovoFine®.

Brand name	Drug substance [kg CO_2-eq./year]	FlexTouch® incl. Cartridge [kg CO_2-eq./year]		NovoFine® [kg CO_2-eq./year]		One year treatment [kg CO_2-eq./year]	
		Delivery system	Packaging	Needle	Packaging	Excl. packaging	Incl. packaging
Awiqli® 1050 IU FlexTouch®	2.1	2.6	0.29	0.8	0.0	5.4	5.7
Awiqli® 2100 IU FlexTouch®	2.1	1.3	0.14	0.8	0.0	4.1	4.3
Awiqli® 700 IU FlexTouch®	2.1	3.9	0.43	0.8	0.0	6.7	7.1
Fiasp® FlexTouch®	1.1	9.0	1.00	5.3	0.2	15.3	16.6
Levemir® FlexTouch®	6.9	9.0	1.00	5.3	0.2	21.2	22.4
NovoRapid® FlexTouch®	1.1	9.0	1.00	5.3	0.2	15.3	16.6
Ryzodeg® FlexTouch®	1.8	9.0	1.00	5.3	0.2	16.1	17.3
Tresiba® U100 FlexTouch®	2.1	9.0	1.00	5.3	0.2	16.4	17.6
Tresiba® U200 FlexTouch®	2.1	4.5	0.50	5.3	0.2	11.9	12.6
Xultophy®	7.2	9.0	1.0	5.3	0.2	21.4	22.7
Saxenda®	10.5	11.3	1.3	5.3	0.2	27.1	28.6
Ozempic® 0.5 mg	0.4	2.4	0.3	0.8	0.0	3.6	3.9
Ozempic® 1.0 mg	0.8	2.4	0.3	0.8	0.0	4.0	4.3
Ozempic® 1.0 mg (8 weeks)	0.8	1.2	0.1	0.8	0.0	2.8	2.9
Wegovy® FlexTouch®	2.0	2.4	0.3	0.8	0.0	5.2	5.5
IcoSema 700 IU FlexTouch®*	2.7	3.9	0.4	0.8	0.0	7.3	7.8
IcoSema 1050 IU FlexTouch®*	2.7	2.6	0.3	0.8	0.0	6.1	6.4

**) Reflecting the Maximum Recommended Therapeutic Dose (MRTD)*

Table 8. Carbon footprint of one year's treatment of one patient in the **US** market with FlexTouch® and NovoFine® Plus

Brand name	Drug substance [kg CO_2-eq./year]	FlexTouch® incl. Cartridge [kg CO2-eq./year]		NovoFine® Plus [kg CO_2-eq./year]		One year treatment [kg CO_2-eq./year]	
		Delivery system	Packaging	Needle	Packaging	Excl. packaging	Incl. packaging
Awiqli® 1050 IU FlexTouch®	2.1	2.6	0.29	0.4	0.0	5.0	5.4
Awiqli® 2100 IU FlexTouch®	2.1	1.3	0.14	0.4	0.0	3.7	3.9
Awiqli® 700 IU FlexTouch®	2.1	3.9	0.43	0.4	0.0	6.3	6.8
Fiasp® FlexTouch®	1.1	9.0	1.00	2.8	0.2	12.9	14.1
Levemir® FlexTouch®	6.9	9.0	1.00	2.8	0.2	18.7	19.9
NovoRapid® FlexTouch®	1.1	9.0	1.00	2.8	0.2	12.9	14.1
Ryzodeg® FlexTouch®	1.8	9.0	1.00	2.8	0.2	13.6	14.8
Tresiba® U100 FlexTouch®	2.1	9.0	1.00	2.8	0.2	13.9	15.1
Tresiba® U200 FlexTouch®	2.1	4.5	0.50	2.8	0.2	9.4	10.1
Xultophy®	7.2	9.0	1.0	2.8	0.2	19.0	20.2
Saxenda®	10.5	11.3	1.3	2.8	0.2	24.6	26.1
Ozempic® 0.5 mg	0.4	2.4	0.3	0.4	0.0	3.2	3.5
Ozempic® 1.0 mg	0.8	2.4	0.3	0.4	0.0	3.6	3.9
Ozempic® 1.0 mg (8 weeks)	0.8	1.2	0.1	0.4	0.0	2.4	2.6
Wegovy® FlexTouch®	2.0	2.4	0.3	0.4	0.0	4.8	5.1
IcoSema 700 IU FlexTouch®*	2.7	3.9	0.4	0.4	0.0	7.0	7.5
IcoSema 1050 IU FlexTouch®*	2.7	2.6	0.3	0.4	0.0	5.7	6.0

**) Reflecting the Maximum Recommended Therapeutic Dose (MRTD)*

Table 9. Carbon footprint of one year's treatment of one patient in the **US** market with FlexTouch® and NovoFine® Plus (co-pack).

Brand name	Drug substance [kg CO_2-eq./year]	FlexTouch® incl. Cartridge [kg CO_2-eq./year]		NovoFine® Plus (co-pack) [kg CO_2-eq./year]		One year treatment (all) [kg CO_2-eq./year]	
		Delivery system	Packaging	Needle	Packaging	Excl. packaging	Incl. packaging
Awiqli® 1050 IU FlexTouch®	2.1	2.6	0.29	1.0	0.4	5.6	6.3
Awiqli® 2100 IU FlexTouch®	2.1	1.3	0.14	1.0	0.4	4.3	4.9

Brand name	Drug substance [kg CO_2-eq./year]	FlexTouch® incl. Cartridge [kg CO_2-eq./year]		NovoFine® Plus (co-pack) [kg CO_2-eq./year]		One year treatment (all) [kg CO_2-eq./year]	
		Delivery system	Packaging	Needle	Packaging	Excl. packaging	Incl. packaging
Awiqli® 700 IU FlexTouch®	2.1	3.9	0.43	1.0	0.4	6.9	7.8
Fiasp® FlexTouch®	1.1	9.0	1.00	6.8	3.0	16.9	20.9
Levemir® FlexTouch®	6.9	9.0	1.00	6.8	3.0	22.7	26.7
NovoRapid® FlexTouch®	1.1	9.0	1.00	6.8	3.0	16.9	20.9
Ryzodeg® FlexTouch®	1.8	9.0	1.00	6.8	3.0	17.6	21.6
Tresiba® U100 FlexTouch®	2.1	9.0	1.00	6.8	3.0	17.9	21.9
Tresiba® U200 FlexTouch®	2.1	4.5	0.50	6.8	3.0	13.4	16.9
Xultophy®	7.2	9.0	1.0	6.8	3.0	23.0	27.0
Saxenda®	10.5	11.3	1.3	6.8	3.0	28.6	32.9
Ozempic® 0.5 mg	0.4	2.4	0.3	1.0	0.4	3.8	4.5
Ozempic® 1.0 mg	0.8	2.4	0.3	1.0	0.4	4.2	4.9
Ozempic® 1.0 mg (8 weeks)	0.8	1.2	0.1	1.0	0.4	3.0	3.6
Wegovy® FlexTouch®	2.0	2.4	0.3	1.0	0.4	5.4	6.1
IcoSema 700 IU FlexTouch®*	2.7	3.9	0.4	1.0	0.4	7.6	8.4
IcoSema 1050 IU FlexTouch®*	2.7	2.6	0.3	1.0	0.4	6.3	7.0

**) Reflecting the Maximum Recommended Therapeutic Dose (MRTD)*

3.3 Japanese market

Table 10. Carbon footprint of one year's treatment of one patient in the **Japanese** market (NovoFine plus 70pcs).

Brand name	Drug substance [kg CO_2-eq./year]	FlexTouch® incl. Cartridge [kg CO_2-eq./year]		NovoFine® Plus [kg CO2-eq./year]		One year treatment (all) [kg CO_2-eq./year]	
		Delivery system	Packaging	Needle	Packaging	Excl. packaging	Incl. packaging
Awiqli® 1050 IU FlexTouch®	2.1	5.0	0.62	0.4	0.0	7.5	8.2
Awiqli® 2100 IU FlexTouch®	2.1	2.5	0.31	0.4	0.0	5.0	5.4
Awiqli® 700 IU FlexTouch®	2.1	7.5	0.93	0.4	0.0	10.0	11.0
Fiasp® FlexTouch®	1.1	17.6	2.18	3.1	0.3	21.8	24.2

Brand name	Drug substance [kg CO_2-eq./year]	FlexTouch® incl. Cartridge [kg CO_2-eq./year]		NovoFine® Plus [kg CO2-eq./year]		One year treatment (all) [kg CO_2-eq./year]	
		Delivery system	Packaging	Needle	Packaging	Excl. packaging	Incl. packaging
Levemir® FlexTouch®	6.9	17.6	2.18	3.1	0.3	27.6	30.0
NovoRapid® FlexTouch®	1.1	17.6	2.18	3.1	0.3	21.8	24.2
Ryzodeg® FlexTouch®	1.8	17.6	2.18	3.1	0.3	22.5	24.9
Tresiba® U100 FlexTouch®	2.1	17.6	2.18	3.1	0.3	22.8	25.3
Tresiba® U200 FlexTouch®	2.1	8.8	1.09	3.1	0.3	14.0	15.4
Xultophy®	7.2	17.6	2.2	3.1	0.3	27.9	30.3
Saxenda®	10.5	22.0	2.7	3.1	0.3	35.6	38.6
Ozempic® 0.5 mg	0.4	4.7	0.6	0.4	0.0	5.5	6.2
Ozempic® 1.0 mg	0.8	4.7	0.6	0.4	0.0	6.0	6.6
Ozempic® 1.0 mg (8 weeks)	0.8	2.3	0.3	0.4	0.0	3.6	3.9
Wegovy® FlexTouch®	2.0	4.7	0.6	0.4	0.0	7.1	7.8
IcoSema 700 IU FlexTouch®*	2.7	7.5	0.9	0.4	0.0	10.7	11.7
IcoSema 1050 IU FlexTouch®*	2.7	5.0	0.6	0.4	0.0	8.2	8.9

**) Reflecting the Maximum Recommended Therapeutic Dose (MRTD)*

3.4 Comparison to other measurements

To put this into perspective for a non-expert, the carbon footprint of the yearly treatment (including API, delivery system, needle (NovoFine®Plus) and packaging) has been recalculated into a distance driven by an average new car at the European market in 2023[9].

One year of treatment with [drug substance brand name] FlexTouch® corresponds to driving 28-363 km in an average new car in Europe. For a more detailed comparison, select a specific treatment in Table 11.

[9] European Environment Agency (2023). Average carbon dioxide emissions per km from new passenger cars (106.4 g CO2 eq/km), CO2 emissions performance of new passenger cars in Europe | European Environment Agency's home page

Table 11. The distance (km) travelled in an average new car in Europe that would equal the carbon footprint of one year's treatment of a patient with the specified treatment.

Brand name	EU	US	JP
	Km travelled	*Km travelled*	*Km travelled*
Awiqli® 1050 IU FlexTouch®	45	50	77
Awiqli® 2100 IU FlexTouch®	34	37	50
Awiqli® 700 IU FlexTouch®	57	64	103
Fiasp® FlexTouch®	112	132	227
Levemir® FlexTouch®	166	187	282
NovoRapid® FlexTouch®	112	132	227
Ryzodeg® FlexTouch®	119	139	234
Tresiba® U100 FlexTouch®	122	142	237
Tresiba® U200 FlexTouch®	81	95	144
Xultophy®	169	190	285
Saxenda®	221	245	363
Ozempic® 0.5 mg	28	33	58
Ozempic® 1.0 mg	32	37	62
Ozempic® 1.0 mg (8 weeks)	22	24	37
Wegovy® FlexTouch®	43	48	73
IcoSema 700 IU FlexTouch®*	63	70	110
IcoSema 1050 IU FlexTouch®*	52	57	83

**) Reflecting the Maximum Recommended Therapeutic Dose (MRTD)*

4. Plastic footprint

The plastic footprint is defined by Novo Nordisk as the amount of plastic[10] used by a patient or an organisation during a specific treatment. The footprint includes any plastic placed on the market by Novo Nordisk, regardless of its origin (virgin, recycled, fossil or non-fossil). The footprint is calculated both with and without secondary and tertiary packaging.

This section presents the plastic footprint for specific treatments (assumptions described in Section 2) with FlexTouch® in combinations with a range on drug substances and needles in the three representative markets, Europe, US and Japan. The contribution to the plastic footprints from the delivery system, needle and packaging are shown as well as the total plastic footprint per patient per year.

Table 12 Plastic footprint for the different elements required for yearly treatment with *FlexTouch* combined with NovoFine® with and without packaging. *Note that FlexTouch® is a prefilled device and therefore the cartridge is already considered as part of the delivery solution.*

	FlexTouch® incl. Cartridge [g plastic/year]		**NovoFine®** [g plastic/year]		**One year treatment (all)** [kg plastic/year]	
	Delivery system	**Packaging**	**Needle**	**Packaging**	**Excl. packaging**	**Incl. packaging**
Brand name	**All**	**EU/US**	**All**	**EU/US**	**All**	**EU/US**
Awiqli® 1050 IU FlexTouch®	262	2	13	43	0.28	0.32
Awiqli® 2100 IU FlexTouch®	131	1	13	43	0.14	0.19
Awiqli® 700 IU FlexTouch®	393	3	13	43	0.41	0.45
Fiasp® FlexTouch®	917	6	93	303	1.01	1.32
Levemir® FlexTouch®	917	6	93	303	1.01	1.32
NovoRapid® FlexTouch®	917	6	93	303	1.01	1.32
Ryzodeg® FlexTouch®	917	6	93	303	1.01	1.32
Tresiba® U100 FlexTouch®	917	6	93	303	1.01	1.32
Tresiba® U200 FlexTouch®	459	3	93	303	0.55	0.86
Xultophy®	917	6	93	303	1.01	1.32
Saxenda®	1,147	8	93	303	1.24	1.55
Ozempic® 0.5 mg	245	2	13	43	0.26	0.30
Ozempic® 1.0 mg	245	2	13	43	0.26	0.30
Ozempic® 1.0 mg (8 weeks)	122	1	13	43	0.14	0.18

[10] Rubber not included

	FlexTouch® incl. Cartridge [g plastic/year]		NovoFine® [g plastic/year]		One year treatment (all) [kg plastic/year]	
	Delivery system	Packaging	Needle	Packaging	Excl. packaging	Incl. packaging
Brand name	**All**	**EU/US**	**All**	**EU/US**	**All**	**EU/US**
Wegovy® FlexTouch®	246	2	13	43	0.26	0.30
IcoSema 700 IU FlexTouch®*	393	3	13	43	0.41	0.45
IcoSema 1050 IU FlexTouch®*	262	2	13	43	0.28	0.32

**) Reflecting the Maximum Recommended Therapeutic Dose (MRTD)*

Table 13. Plastic footprint for the different elements required for yearly treatment with *FlexTouch®* combined with NovoFine® Plus with and without packaging. *Note that FlexTouch® is a prefilled device and therefore the cartridge is already considered as part of the delivery solution.*

	FlexTouch® incl. cartridge [g plastic/year]			NovoFine® Plus [g plastic/year]			One year treatment (all) [kg plastic/year]		
	Delivery system	Packaging		Needle	Packaging		Excl. packaging	Incl. packaging	
Brand Name	**All**	**EU/US**	**JP**	**All**	**EU/US**	**JP**	**All**	**EU/US**	**JP**
Awiqli® 1050 IU FlexTouch®	262	2	8	20	37	41	0.28	0.32	0.33
Awiqli® 2100 IU FlexTouch®	131	1	4	20	37	41	0.15	0.19	0.20
Awiqli® 700 IU FlexTouch®	393	3	12	20	37	41	0.41	0.45	0.47
Fiasp® FlexTouch®	917	6	28	143	261	288	1.06	1.33	1.38
Levemir® FlexTouch®	917	6	28	143	261	288	1.06	1.33	1.38
NovoRapid® FlexTouch®	917	6	28	143	261	288	1.06	1.33	1.38
Ryzodeg® FlexTouch®	917	6	28	143	261	288	1.06	1.33	1.38
Tresiba® U100 FlexTouch®	917	6	28	143	261	288	1.06	1.33	1.38
Tresiba® U200 FlexTouch®	459	3	14	143	261	288	0.60	0.87	0.90
Xultophy®	917	6	28	143	261	288	1.06	1.33	1.38
Saxenda®	1,147	8	35	143	261	288	1.29	1.56	1.61
Ozempic® 0.5 mg	245	2	8	20	37	41	0.26	0.30	0.31
Ozempic® 1.0 mg	245	2	8	20	37	41	0.26	0.30	0.31
Ozempic® 1.0 mg (8 weeks)	122	1	4	20	37	41	0.14	0.18	0.19

	FlexTouch® incl. cartridge [g plastic/year]			NovoFine® Plus [g plastic/year]			One year treatment (all) [kg plastic/year]		
	Delivery system	Packaging		Needle	Packaging		Excl. packaging	Incl. packaging	
Brand Name	**All**	**EU/US**	**JP**	**All**	**EU/US**	**JP**	**All**	**EU/US**	**JP**
Wegovy® FlexTouch®	246	2	8	20	37	41	0.27	0.31	0.31
IcoSema 700 IU FlexTouch®*	393	3	12	20	37	41	0.41	0.45	0.47
IcoSema 1050 IU FlexTouch®*	262	2	8	20	37	41	0.28	0.32	0.33

**) Reflecting the Maximum Recommended Therapeutic Dose (MRTD)*

Table 14. Plastic footprint for the different elements required for yearly treatment with *FlexTouch* combined with NovoFine® Plus (co-pack) with and without packaging. *Note that FlexTouch® is a prefilled device and therefore the cartridge is already considered as part of the delivery solution.*

	FlexTouch® incl. cartridge [g plastic/year]		NovoFine® Plus (co-pack) [g plastic/year]		One year treatment (all) [kg plastic/year]	
	Delivery system	Packaging	Needle	Packaging	Excl. packaging	Incl. packaging
Brand name	**All**	**EU/US**	**All**	**EU/US**	**All**	**EU/US**
Awiqli® 1050 IU FlexTouch®	262	2	20	40	0.28	0.32
Awiqli® 2100 IU FlexTouch®	131	1	20	40	0.15	0.19
Awiqli® 700 IU FlexTouch®	393	3	20	40	0.41	0.46
Fiasp® FlexTouch®	917	6	143	279	1.06	1.35
Levemir® FlexTouch®	917	6	143	279	1.06	1.35
NovoRapid® FlexTouch®	917	6	143	279	1.06	1.35
Ryzodeg® FlexTouch®	917	6	143	279	1.06	1.35
Tresiba® U100 FlexTouch®	917	6	143	279	1.06	1.35
Tresiba® U200 FlexTouch®	459	3	143	279	0.60	0.88
Xultophy®	917	6	143	279	1.06	1.35
Saxenda®	1147	8	143	279	1.29	1.58
Ozempic® 0.5 mg	245	2	20	40	0.26	0.31
Ozempic® 1.0 mg	245	2	20	40	0.26	0.31
Ozempic® 1.0 mg (8 weeks)	122	1	20	40	0.14	0.18

	FlexTouch® incl. cartridge [g plastic/year]		NovoFine® Plus (co-pack) [g plastic/year]		One year treatment (all) [kg plastic/year]	
	Delivery system	Packaging	Needle	Packaging	Excl. packaging	Incl. packaging
Brand name	**All**	**EU/US**	**All**	**EU/US**	**All**	**EU/US**
Wegovy® FlexTouch®	246	2	20	40	0.27	0.31
IcoSema 700 IU FlexTouch®*	393	3	20	40	0.41	0.46
IcoSema 1050 IU FlexTouch®*	262	2	20	40	0.28	0.32

**) Reflecting the Maximum Recommended Therapeutic Dose (MRTD)*

References

GLP-1 analogues carbon footprint, Novo Nordisk, Apr 2024

Insulin analogues carbon footprint, Novo Nordisk, Mar 2024

Insulin icodec carbon footprint, Novo Nordisk, Jul 2023

FlexTouch® carbon footprint, Novo Nordisk, Jul 2024

NovoFine® carbon footprint, Novo Nordisk, Dec 2024

Assumptions and background for carbon footprint assessments, Novo Nordisk, Apr 2025

Novo Nordisk A/S
Novo Allé
DK-2880 Bagsværd
Denmark
Telephone +45 4444 8888
www.novonordisk.com

Novo Nordisk

Third party verification of Novo Nordisk's carbon footprint report on the annual treatment with FlexTouch® incl. drug and needles

Third party verification of Novo Nordisk's carbon footprint report on the annual treatment with FlexTouch® incl. drug and needles

May 5th, 2025

Novo Nordisk A/S
Novo Allé 1
DK-2880 Bagsværd
Denmark

Novo Nordisk has commissioned PricewaterhouseCoopers Advisory (PwC) to review the carbon footprint report on the annual treatment with FlexTouch® incl. drug and needles. The critical review (CR) was done according to the ISO/TS 14 071[1], ISO 14 040[2], ISO 14 044[3] recommendations and also according to the "Greenhouse Gas Accounting Sector Guidance for Pharmaceutical Products and Medical Devices" recommendations. The CR expert is independent from Novo Nordisk and was not involved in the making of the study. To ensure consistency with the principles and requirements of the standards and guidance (ISO/TS 14 071, ISO 14 040, ISO 14 044, and Greenhouse Gas Accounting Sector Guidance for Pharmaceutical Products and Medical Devices) on life cycle assessment, the CR was performed by the following LCA experts of PwC: Olivier Muller and Clara Tromelin. The conclusions have been provided to Novo Nordisk.

Nature of the CR work, CR process and limitations

The CR has worked according to the requirements of ISO 14 040:2006, ISO 14 044:2006 and of Greenhouse Gas Accounting Sector Guidance for Pharmaceutical Products and Medical Devices. The work was conducted in April 2025.

[1] ISO/TS 14071 (2014): Environmental management – Life cycle assessment – Critical review processes and reviewer competencies: Additional requirements and guidelines to ISO 14044 (2006)
[2] ISO 14040 (2006): Environmental management – Life cycle assessment – Principles and framework
[3] ISO 14044 (2006): Environmental management – Life cycle assessment – Requirements and guidelines

PricewaterhouseCoopers Audit, 63, rue de Villiers, 92208 Neuilly-sur-Seine Cedex
Téléphone: +33 (0)1 56 57 58 59, Fax: +33 (0)1 56 57 58 60, www.pwc.fr

The CR of the study appraises the following:

- the methods used are consistent with the standards ISO 14040 and 14044 and Greenhouse Gas Accounting Sector Guidance for Pharmaceutical Products and Medical Devices;
- the methods used are scientifically and technically valid;
- the data used are appropriate and reasonable in relation to the goal and scope of the study;
- the interpretation reflects the limitations identified and the goal of the study;
- the report is transparent and consistent.

During this period, different oral and written exchanges have been held between PwC and Novo Nordisk, including clarification exchanges regarding the CR comments, and the production of new versions of the carbon footprint reports by Novo Nordisk. Novo Nordisk has taken into account all the comments and has modified and improved its report.

The CR concerns the CR of the following report:

- Annual treatment with FlexTouch® incl. drug and needles, carbon footprint, March 2025

This report is based on the following reports that have already been subject to a review by PwC that included an assessment of the LCA model and an analysis of a few key individual datasets (relevance, consistency, completeness):

- GLP-1 analogues carbon footprint, Novo Nordisk, Apr 2024
- Insulin analogues carbon footprint, Novo Nordisk, Mar 2024
- Insulin icodec carbon footprint, Novo Nordisk, Jul 2023
- FlexTouch® carbon footprint, Novo Nordisk, Jul 2024
- NovoFine® carbon footprint, Novo Nordisk, Dec 2024
- Assumptions and background for carbon footprint assessments, Novo Nordisk, Apr 2025

The present CR report is the synthesis of the final comments.

The present CR report was prepared by PricewaterhouseCoopers Advisory SA (PwC) for Novo Nordisk. We do not accept or assume any liability or duty of care for any other purpose or to any other person to whom the CR report is shown or into whose hands they may come. The use of their report is the sole responsibility of Novo Nordisk.

We remind you that this CR is only based on facts, circumstances and assumptions which have been submitted to us and which are specified in the CR report. Should these facts, circumstances or assumptions be different, our conclusions might be different.

Moreover, the results of the CR should be considered in the aggregate with regard to the assumptions made and not taken individually.

For all matters of interpretation, the original paper copy of the report takes precedence over any other version.

Conclusions of the critical review

The 2025 carbon footprint report on the annual treatment with FlexTouch® incl. drug and needles study is in conformity with the standards ISO 14040 and 14044 and Greenhouse Gas Accounting Sector Guidance for Pharmaceutical Products and Medical Devices.

The models of the production systems are understandable, and an important work of updates was done by Novo Nordisk. Cut-off is in line with general cut-off criteria. The allocation principles and allocation procedures are sufficiently described and are justified.

A specific report, which contains all assumptions and choices, helps to reference and to document understandably.

The collected primary data (measurements) is comprehensive. The used data is suitable and in accordance with the goal of the study.

The interpretation of results is neutral and detailed; the gained insights are understandably presented and are in accordance with the goal of the study. The evaluation, interpretation and taken conclusions are valid in the context of the study.

Neuilly-sur-Seine (France), May 5th, 2025

Olivier Muller
Partner of Sustainable Development Department