

## GREENHOUSE GAS EMISSIONS – STATEMENT

### Introduction and objectives of work

BUREAU VERITAS Polska Sp. z o.o. (Bureau Veritas) has been engaged by ORLEN S.A. (ORLEN) to verify the greenhouse gas emissions calculations of the ORLEN Group for the period 01.01.2023 - 31.12.2023. The hereby statement is the second party declaration.

### Boundaries of greenhouse gas emissions - consolidation of results according to operational control:

- ORLEN S.A. Capital Group – companies under operational control
- Rafineria Gdańska Sp. z o.o., for which ORLEN S.A. is not the operating control entity, but which is included in ORLEN's S.A. financial books and reports (70% of emissions).
- GRUPA LOTOS S.A., which carried out raw material purchase and product sales transactions used and produced for the Rafineria Gdańska in 2019-2021; after the merger these tasks were taken over by ORLEN S.A. Data on raw materials purchased (S3C1) and product sales transactions (S3C10/S3C11) were included (70% of emissions).

A recalculation of the base year (2019) and intermediate years was performed. The reasons for the recalculation were:

- Change in calculation boundaries - Structural changes in the Organization – inclusion of new companies, mergers and liquidations of companies.
- Change in the included emission volume of Rafineria Gdańska and GRUPA LOTOS S.A. in connection with the sale of 30% of shares in Rafineria Gdańska – recognition of 70% of the companies' emissions (in accordance with the share in the capital of Rafineria Gdańska), as well as in relation to ORLEN S.A. in the case of streams for the processing refinery in Gdańsk.
- Detection of calculation errors – data errors, errors from reported units, calculation errors.
- Change in methodology regarding the inclusion of emissions covered by Emissions Trading Systems and the conversion of values to individual greenhouse gases.

### Organization carbon footprint in 2023 and 2019-2022 (after recalculation):

GHG emissions – scopes and categories	GHG emissions 2019 [t CO <sub>2</sub> e]	GHG emissions 2020 [t CO <sub>2</sub> e]	GHG emissions 2021 [t CO <sub>2</sub> e]	GHG emissions 2022 [t CO <sub>2</sub> e]	GHG emissions 2023 [t CO <sub>2</sub> e]
<b>Scope 1</b>	<b>28 207 295</b>	<b>27 038 676</b>	<b>27 869 712</b>	<b>27 623 586</b>	<b>25 356 356</b>
Direct emissions	19 527 113	18 840 599	18 988 014	19 474 226	17 618 109
Direct fugitive emissions	1 103 388	1 084 848	1 193 311	1 083 008	1 018 321
Technological emissions	2 537	2 506	2 519	476	426
Fuels	7 557 522	7 102 201	7 676 260	7 062 656	6 713 257
Refrigerants	16 475	8 203	9 609	3 219	6 243
Technical gases	260	319	0	0	0
<b>Scope 2</b>					
Market-based	2 206 950	1 823 826	1 679 353	1 653 796	1 337 792
Location-based	1 984 947	1 646 122	1 627 546	1 676 806	1 628 445
<b>Scope 3</b>	<b>178 227 273</b>	<b>169 550 003</b>	<b>175 151 264</b>	<b>175 629 578</b>	<b>169 307 443</b>
Category 11. Use of sold products	151 491 917	144 045 339	149 030 307	150 703 193	148 770 627
Category 1. Purchased raw materials and services	17 753 827	17 003 741	16 579 211	14 687 442	10 342 178

Category 3. Fuel and energy related activities not covered by Scope 1 and 2	5 464 854	4 855 304	6 290 946	5 541 350	4 786 142
Category 10. Processing of sold products	2 618 086	2 952 738	2 434 540	3 793 646	4 658 262
Category 4. Upstream transportation and distribution	581 583	433 782	552 784	608 398	477 720
Category 9. Downstream transportation and distribution	283 773	235 750	246 594	274 851	261 567
Category 5. Waste generated in operations	31 038	22 006	14 699	19 039	10 256
Category 6. Business travel	2 195	1 343	2 185	1 658	691
<b>Outside the Scope</b>					
Biogenic emissions	553 038	553 424	639 174	616 256	599 093

**Organization carbon footprint in 2019-2022 (before recalculation):**

<b>GHG emissions – scopes and categories</b>	<b>GHG emissions 2019 [t CO<sub>2</sub>e]</b>	<b>GHG emissions 2020 [t CO<sub>2</sub>e]</b>	<b>GHG emissions 2021 [t CO<sub>2</sub>e]</b>	<b>GHG emissions 2022 [t CO<sub>2</sub>e]</b>
<b>Scope 1</b>	<b>27 750 219</b>	<b>26 458 961</b>	<b>27 279 480</b>	<b>28 304 582</b>
Direct emissions	20 014 927	19 280 718	19 363 985	19 999 923
Direct fugitive emissions	1 098 300	1 080 445	1 188 903	1 077 380
Technological emissions	14	10	15	5
Fuels	6 621 242	6 091 227	6 718 490	7 223 259
Refrigerants	15 475	6 243	8 088	4 014
Technical gases	260	319	0	0
<b>Scope 2</b>				
Market-based	2 315 852	1 938 215	1 538 054	1 690 165
Location-based	2 075 744	1 739 035	1 495 611	1 724 179
<b>Scope 3</b>	<b>168 273 809</b>	<b>158 744 441</b>	<b>163 793 164</b>	<b>157 040 748</b>
Category 11. Use of sold products	140 786 626	132 311 281	136 558 869	132 629 450
Category 1. Purchased raw materials and services	19 444 215	18 941 664	18 476 765	15 895 110
Category 3. Fuel and energy related activities not covered by Scope 1 and 2	5 097 552	4 596 034	5 954 991	5 432 191
Category 10. Processing of sold products	2 048 387	2 206 298	1 990 510	2 184 405
Category 4. Upstream transportation and distribution	580 631	431 846	551 025	603 848
Category 9. Downstream transportation and distribution	283 904	235 775	246 535	275 089
Category 5. Waste generated in operations	30 335	20 352	12 529	19 052
Category 6. Business travel	2 158	1 192	1 938	1 604
<b>Outside the Scope</b>				
Biogenic emissions	555 576	556 083	636 888	616 863

Data and information supporting the Scope 1, 2 and 3 GHG emissions' assertion were historical in nature and in some cases estimated.

**Calculation standards:**

- *World Resources Institute and World Business Council for Sustainable Development, Greenhouse Gas Protocol. A Corporate Accounting and Reporting Standard REVISED EDITION, Marzec 2004;*
- *World Resources Institute and World Business Council for Sustainable Development, GHG Protocol Scope 2 Guidance. An amendment to the GHG Protocol Corporate Standard, 2015;*
- *World Resources Institute and World Business Council for Sustainable Development, Corporate Value Chain (Scope 3) Accounting and Reporting Standard, Supplement to the GHG Protocol Corporate Accounting and Reporting Standard.*

**Standard used for the verification process:**

ISO 14064-3: Greenhouse gases — Part 3: Specification with guidance for the verification and validation of greenhouse gas statements.

**Level of assurance:**

- Limited

**Conclusions:**

Based on the results of the verification process, we did not identify any signs that the greenhouse gas emissions specified above:

- are not content-wise correct;
- do not reliably represent the data and information related to greenhouse gas emissions; and
- were not prepared in accordance with the WRI/WBCSD GHG Protocol Corporate Accounting and Reporting Standard.

Our responsibility was to verify the calculation methodology and emission factors. Bureau Veritas was not responsible for the verification of the input data.

**BUREAU VERITAS POLSKA Sp. z o.o.**

Warsaw, 19 August 2024

Witold Dżugan

Manging Director

