

MKS PAMP SA

**A. ZAUFS00591 – Lady Fortuna™ 1oz
Gold Bar**

**B. ZAUFP00408 – Lady Fortuna™
45th Anniversary 1oz Gold Bar**

Qualifying Explanatory Statement in support of the Achievement of and ongoing commitment to carbon neutrality

Application Period:

1st of July 2022 – 30th June 2023 for reconciliation

1st July 2023 – 31th March 2025 for new certification

Date: December 20th 2024

1. Executive summary

This document is the Qualifying Explanatory Statement (QES) which provides collected evidence in support of the declaration that MKS PAMP SA:

1. has achieved carbon neutrality for its A. ZAUF00591 – Lady Fortuna™ 1oz Gold Bar and B. ZAUF00408 – Lady Fortuna™ 45th Anniversary 1oz Gold Bar marketed globally for the period commencing July 2022 to June 2023 and July 2023 to June 2024 respectively (see Section 3); and
2. is committed to maintaining carbon neutrality for its A. ZAUF00591 – Lady Fortuna™ 1oz Gold Bar and B. ZAUF00408 – Lady Fortuna™ 45th Anniversary 1oz Gold Bar (see section 4).

The carbon neutrality declaration has been made and the collected supporting evidence has been provided in accordance with the requirements prescribed by PAS 2060:2014 – Specification for the demonstration of carbon neutrality.

Tamara Jomaa Shakarchi
Head of ESG and Philanthropy



July 4th, 2024

2. General information

PAS 2060 Requirement	Information Relating to the Carbon Neutral Declaration
Entity making PAS 2060 declaration:	MKS PAMP SA
Subject of PAS 2060 declaration:	A. ZAUF00591 – Lady Fortuna™ 1oz Gold Bar B. ZAUF00408 – Lady Fortuna™ 45th Anniversary 1oz Gold Bar Emissions included: <ul style="list-style-type: none">- Raw materials- Inbound transportation- Manufacturing- Downstream Distribution- End of Life
Description of Subject:	A. Ingot made of 1 oz of fine gold (999.9 purity). B. Ingot made of 1 oz of fine gold (999.9 purity).
Rationale for selection of the subject:	MKS PAMP SA was the first precious metals fabricator to use an artistic design to decorate the reverse of its minted bars, also referred to as minted ingots. The Lady Fortuna™ is today considered by many bullion distributors and their retail customers to be the world's most iconic ingot motif, and as a result, the Lady Fortuna™ minted ingot design has

	been trademarked. Gold and other precious metals are commodities, traded on the world's leading futures markets, and the daily market or 'spot' price is conventionally based on the 1 troy ounce weight. The 1oz denomination is one of the most popular bullion weights with retail bullion investors because it is easy to store and is highly liquid when reselling to distributors or bullion dealers.
Boundary:	Cradle-to-Grave
Type of conformity assessment:	Independent third-party certification (see Annex 4)
Baseline date for PAS 2060 programme:	1st July 2022 – 30 th June 2023 for the Lady Fortuna™ 1oz Gold Bar 1st July 2023 – 30 th June 2024 for the Lady Fortuna™ 45th Anniversary 1oz Gold Bar
Individuals responsible for evaluation and provision of data necessary for declaration:	Tamara Jomaa-Shakarchi - Head of ESG Marco Villari – ESG Officer Emilie Panizzutti – Junior ESG Officer Paul Cambazard – Intern ESG Officer

3. Declaration of achievement of carbon neutrality

PAS 2060 Requirement	Information relating to the carbon neutral declaration
Declaration of achievement:	Carbon neutrality of A. ZAUF00591 – Lady Fortuna™ 1oz Gold Bar achieved by MKS PAMP SA in accordance with PAS 2060 in June 2024 for the period commencing 1 st of July 2022, certified by the Carbon Trust. Carbon neutrality of B. ZAUF00408 – Lady Fortuna™ 45th Anniversary 1oz Gold Bar achieved by MKS PAMP SA in accordance with PAS 2060 in June 2024 for the period commencing 1 st of July 2023, certified by the Carbon Trust.
Recorded carbon footprint of the subject during the period stated above	The previous (FY22) estimated footprint of the Fortuna gold bar was equal to 2738.5 kgCO ₂ e/kg. Numbers have increased due to the integration of LUC. <u>Product Carbon Footprint</u> A. ZAUF00591 – Lady Fortuna™ 1oz Gold Bar – 2862 kgCO ₂ e/kg – total emissions based on actual sales: 6677 tCO ₂ e. B. ZAUF00408 – Lady Fortuna™ 45th Anniversary 1oz Gold Bar – 2862 kgCO ₂ e/kg – total emissions based on estimated sales: 401 tCO ₂ e. See Annex 1 for further details.
Carbon offsets purchased	7078 credits (tCO ₂ e) from avoidance offset projects. <i>See Annex 3 for further details.</i>

3.1. Carbon footprint methodology

PAS 2060 Requirement	Information relating to the carbon neutral declaration
<p>Description of the standard and methodology used to determine GHG emissions and reductions</p>	<p>The methodology for calculating the carbon footprint was as follows: The methodology for calculating the carbon footprint was developed to be in accordance with the requirements of ISO 14067 and PAS 2060:2014.</p> <p>The methodology is as follows: The per kg footprint was calculated by the Carbon Trust, using</p> <ul style="list-style-type: none"> a) primary data provided by MKS PAMP SA for sourcing gold from 1st July 2020 to 30th June 2023 on a rolling average basis, b) data for the production emissions of the corresponding financial year. The total footprint was then applied to the mass of gold bars output for the period to yield a kgCO₂e footprint per kg. <p>The total footprint of the subject of neutrality was calculated based on actual sales volume for</p> <ul style="list-style-type: none"> A. ZAUF00591 – Lady Fortuna™ 1oz Gold Bar and based on predicted sales volume for B. ZAUF00408 – Lady Fortuna™ 45th Anniversary 1oz Gold Bar <p>MKS PAMP SA produces many products at their facility in addition to the Fortuna bars. Therefore, MKS PAMP SA allocated raw material inputs, outputs, and utility usage for each process step based on the mass output of all products manufactured at their factory.</p> <p>Inbound and outbound transportation distances and modes were provided by MKS PAMP SA, and end-of life emissions were calculated using secondary data and assumptions.</p> <p>Activity data was multiplied by emission factors to calculate emissions. For the virgin gold supply, MKS PAMP SA provided the Carbon Trust with supplier-specific emission factors based on reported figures and calculations. Since MKS PAMP SA also uses recycled gold as an input, recycled emission factors for gold were taken from literature, including academic journal articles, research¹ and EcoInvent 3.9.1, and averaged.</p> <p>The provisions of the methodology for calculating the carbon footprint were applied as detailed and the principles set out in PAS 2060 were met.</p>
<p>Justification for the selection of the methodologies chosen</p>	<p>The carbon footprint of the listed product was calculated using a recognised methodology that was based on the following document:</p> <ul style="list-style-type: none"> - ISO 14067 - an internationally recognised approach to the calculation of representative product CO₂e footprints which meets the requirement of PAS 2060 for the substitution of GHG emissions.

	<p>The GHG emissions that are accounted for in the footprint study of the product are based on the 100-year Global Warming Potential figures published in the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report, 2014 and include those required by the GHGP Product Standard.</p> <p>Further, the following assumptions were made in quantifying GHG emissions:</p> <p><u>Raw materials:</u></p> <ul style="list-style-type: none"> - The virgin emission factor for gold was provided by MKS PAMP for all its suppliers, where there were none, an emission factor taken from the world gold council study was used. - Certain EFs for chemicals were not available, proxies were used, for example trimercaptotriazine. - Black water and white water are outputs provided by PAMP. It is assumed that water consumption is the sum of these two. <p><u>Packaging:</u></p> <p>Where specific packaging disposal data could not be provided, assumptions were made based on the percentage of gold sold in each geographical region and applied to each SKU to calculate end of life emissions per country.</p> <p><u>End of Life:</u></p> <p>In terms of the PEF CFF, it is assumed that there is a 100% recycling rate of the Fortuna bars at the end of their life. Products that are large, high purity metals (such as a solid gold bar), will usually be recycled. Products with metals in small amounts, especially where combined or alloyed with other materials, are unlikely to be recycled.</p>
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3.2. Carbon footprint summary

Carbon Footprint <i>(for latest footprinting year)</i>	Information relating to the carbon neutral declaration
Total Carbon Footprint	<p>For total emissions of products based on actual and forecasted sales, please refer to section 3 '<i>Recorded carbon footprint of the subject during the period stated above</i>'.</p> <p>Actual sales for the ZAUFP00408 – Lady Fortuna™ 45th Anniversary 1oz Gold Bar will be reviewed during reconciliation at the end of the certification period and the footprint, and number off offsets required, will be adjusted.</p> <p>See Annex 1 for further details.</p>
Carbon Footprint per functional unit	<p>For total emissions per functional unit, please refer to section 3 '<i>Recorded carbon footprint of the subject during the period stated above</i>'.</p>

	See Annex 1 for further details.
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3.3. Carbon offsets

PAS 2060 Requirement	Information Relating to the Carbon Neutral Declaration
Offset methodology	<p>Carbon Credits amounting to a total of 7078 tCO2e from the previous year are allocated from the VCS programs, offsetting for Scope 1, 2, and 3 of the emissions from the fabrication of the two products.</p> <p>See Annex 3 for methodology details.</p>
Offset Confirmation	<p>The offsets generated represent genuine, additional GHG emission reductions elsewhere. Projects involved in delivering offsets meet the criteria of additionality, permanence, leakage, and double counting. Carbon offsets are verified by an independent third-party verifier.</p> <p>The credits from the selected carbon offset projects are:</p> <ul style="list-style-type: none"> • only issued after the emission reduction has taken place. • retired prior to the date of the declaration of achievement. • supported by publicly available project documentation on a registry which provides information about the offset project, quantification methodology and validation and verification procedures. • stored and retired in an independent and credible registry. <p>Full details of the carbon offsets included in making this declaration are provided in Annex 3.</p>

4. Declaration of ongoing commitment to carbon neutrality

PAS 2060 Requirement	Information Relating to the Carbon Neutral Declaration
Declaration of on-going commitment:	<p>MKS PAMP SA commits to maintain carbon neutrality for</p> <p>A. ZAUFS00591 – Lady Fortuna™ 1oz Gold Bar B. ZAUFP00408 – Lady Fortuna™ 45th Anniversary 1oz Gold Bar</p> <p>in accordance with PAS 2060 for the period July 2023 – March 2025. Actual sales for the new products will be reviewed during reconciliation at the end of the certification period and the footprint, and number of offsets required will be adjusted.</p> <p>Carbon neutrality for</p> <p>A. ZAUFS00591 – Lady Fortuna™ 1oz Gold Bar B. ZAUFP00408 – Lady Fortuna™ 45th Anniversary 1oz Gold Bar</p> <p>for the period July 2023– March 2025 will be achieved by June 2025.</p>

4.1. Carbon management plan

PAS 2060 Requirement	Information Relating to the Carbon Neutral Declaration
<p>Targets for GHG reduction for the defined subject appropriate to the timescale for achieving carbon neutrality</p>	<p>Based on the data period of baseline Year 1 for A, 1st July 2022 – 31st June 2023), MKS PAMP SA aims to reduce the GHG emissions of A and B as follows:</p> <p>Short Term: In Year 2 (July 2023 – June 2024), by at least 1.22 % from Year 1. Medium Term: In Year 5 (July 2026 – June 2027), by at least 4.88 % from Year 1. Long Term: In Year 8 (July 2029 – June 2030), by at least 8.54 % from Year 1.</p> <p>Based on the data period of baseline Year 1 for B (1st July 2023 – 31st June 2024), MKS PAMP SA aims to reduce the GHG emissions of A and B as follows:</p> <p>Short Term: In Year 2 (July 2024 – June 2025), by at least 1.22 % from Year 1. Medium Term: In Year 5 (July 2027 – June 2028), by at least 4.88 % from Year 1. Long Term: In Year 8 (July 2030 – June 2031), by at least 8.54 % from Year 1.</p> <p>Moreover, MKS PAMP SA has set SBTi-approved GHG reduction targets for their Scope 1, 2 and 3 by 2030, which demonstrates the company's wider ambitions on overall GHG emission reduction goals.</p> <p><i>Full details of reduction targets are provided in Annex 2.</i></p>
<p>Planned means of achieving avoided GHG emissions</p>	<p>MKS PAMP SA developed a strategy to minimize its GHG emission by focusing on avoidance in the manufacturing processes where the company has complete control (scope 1 and 2 of the products' emissions) and on reduction process where the company has more limited control such as the inbound of raw material (scope 3 of the products' emissions).</p> <p>The plan primarily targets the manufacturing processes at MKS PAMP SA's production site, with the following short-term actions:</p> <ol style="list-style-type: none"> Avoid using of diesel in boilers: Previously, diesel fuel was the second-largest source of emissions in our manufacturing process. In 2020, MKS PAMP SA made a significant change by switching to natural gas, thus eliminating diesel use in daily operations. Now, diesel is only used in our backup generator for emergencies, such as when the power grid fails. Avoid the use of fossil fuels for electricity: MKS PAMP SA is committed to sourcing 100% of its electricity from renewable

	<p>sources and currently purchases Swiss Hydroelectric certificates to achieve this goal. As of January 2022—and since 2017 at our production facility—MKS PAMP SA has sourced 100% of its electricity from renewable sources. The company plans to continue this practice indefinitely. Furthermore, in the latter half of 2023, we installed solar panels at our production site, which now supply 5% of our electricity needs.</p> <p>3. Avoid using an excess of energy in our manufacturing: MKS PAMP SA conducted a thorough energy analysis of its manufacturing process, identifying opportunities to significantly improve energy efficiency and enhance performance monitoring. Initiatives include reusing produced heat, upgrading to more efficient ventilation systems, and developing new interfaces for energy and environmental data monitoring.</p>
<p>Planned means of achieving and maintaining GHG emissions reduction</p>	<p>The majority of GHG emissions related to the product lay in the inbound of raw gold materials. MKS PAMP SA will take the following actions to ensure that reduction occurs:</p> <ol style="list-style-type: none"> 1. Select environmentally responsible sources: Prioritize suppliers with established GHG reduction goals and those actively pursuing emissions reduction initiatives. 2. Revise contracts to include GHG emissions data: Update our refining contracts and supplier onboarding documents to mandate the inclusion of GHG emissions information. 3. Governance and Strategic Integration: Embedding GHG Reduction Goals Firmly Within Our Operations <p>1. <u>Source selection</u></p> <p>The general sourcing of gold bars includes a mix of mined and recycled sources. The sourcing mix usually depends on market fluctuation regarding the pricing of the material and availability of different sources, and the end consumer's demand. MKS PAMP SA plans to set specific mechanisms to ensure that GHG emissions are considered while making decisions on our sourcing mix.</p> <p>Short-term focus: Conduct a thorough market analysis to identify suppliers with lower GHG emissions or those committed to reducing their emissions footprint.</p> <p>Medium-term focus: Establish internal controls for sourcing carbon emission management. MKS PAMP SA plans to continuously monitor its supply flow to ensure no significant discrepancies in the sourcing mix. Intake in sources is done daily at the production site once each shipment is received. MKS PAMP SA will put in place a process led by the ESG team that estimates monthly the overall and per kg GHG footprint for precious metals input and compare it to targets.</p>

Adjustments will be sought to address excesses. When that process is in place, the effective vs. targets figures will be reported to strategic teams within MKS PAMP SA on a quarterly basis.

Long-term focus: MKS PAMP SA is committed to providing the most stable sourcing balance ahead of 2030. It is primordial to MKS PAMP SA that GHG emission reduction occurs across mining and recycling suppliers.

- **Adjusting our relationship based on supplier performance.** MKS PAMP SA will collaborate with its mining partners to ensure GHG reductions in their activities and will offer varying financial incentives to sources depending on their reduction performance.
- **Increase recycled materials.** GHG emission reduction plans at mining sites take time to implement. As such, MKS PAMP SA commits to making choices in the balance of the overall mix (mined vs. recycled) of our general feed which is used to produce the Carbon Neutral bars. MKS PAMP SA intends to maximize secondary recycled materials when mines have not yet adopted actions to ensure necessary GHG emission reduction in their activities.
- **Improve our refining capacity and sourcing of recycled materials.** Improving our refining capacity and sourcing of recycled materials. MKS PAMP SA plans to expand its refining process to include infrastructure and technology better suited to processing recycled materials, increasing its capacity for recycled sources. This strategy aims to provide with the capabilities to onboarding a greater number of recycled sources.

2. Client-relation documents

MKS PAMP SA starts working with clients only after the compliance department approves the clients' onboarding process. To ensure that new clients' emission reduction pathways align with MKS PAMP SA strategy, we will require mining clients to disclose their GHG reduction ambition during this process. Accordingly, we will not take on new mining clients who do not present any pathway for reduction. For existing clients, MKS PAMP SA will revise their refining contract to ensure disclosure of their GHG emissions and allow MKS PAMP SA to act accordingly.

Short-term focus: Amend existing refining contract within mining sources. MKS PAMP SA includes a clause that requires clients to disclose their names to MKS PAMP SA and Scope 1, 2 and 3 GHG current and prospective data only for our internal evaluation purpose by

3rd party consultants or auditors mandated by MKS PAMP SA and bound by strict confidentiality clauses. This information will not be disclosed to any other external party, without the consent of the client.

Medium-term focus: Incorporate carbon measurement and reduction requirements in clients' onboarding forms and compliance reviews. MKS PAMP SA will ensure clients disclose their GHG data, intention to reduce carbon emissions, ambitions, and action plans. Clients will be reviewed and onboarded based on their commitment to GHG reductions and their capacity to act.

Long-term focus: Formalize clients' carbon reduction targets. MKS PAMP SA plans to set, in their contractual agreements, formal carbon reduction targets in partnership with our clients, reinforcing our mutual commitment to sustainability.

3. Governance and strategy

MKS PAMP SA sales team is the primary interface with our precious metal supplier. They meet with suppliers regularly (including through on-site visits) and have the most in-depth understanding of the applicability of GHG emissions reduction targets. MKS PAMP SA intends to adapt its governance documents (bylaws) to ensure that its sales strategy includes GHG emissions consideration while engaging with current precious metal suppliers and target new suppliers.

Short-term focus:

- **Embed ESG considerations into our corporate decision-making process.** MKS PAMP SA has modified the objectives and the duties of the company purpose to mention the necessity for it to strive for a material positive impact on society and the environment. In line with the Swiss Board Alliance 2030 initiative, these amendments have allowed for greater internal enforceability and a clear message to all our stakeholders on our GHG reduction commitments.
- **Conduct market analysis.** MKS PAMP SA will analyse mines based on their GHG emissions and will focus on starting or increasing working relationships with those who emit less GHG or have plans to reduce their GHG emissions in the coming years.

Medium-term focus:

- **Meet with precious metals suppliers regularly.** MKS PAMP SA will meet with mines regularly and allocate a part of their plan to GHG emission reduction. The aim would be to:
 - Sensitize mines with MKS PAMP SA reduction actions.

	<ul style="list-style-type: none"> ○ Acquire firsthand yearly carbon emission data from our mining sources. ○ To collaborate with the mine to set a pathway for GHG reduction (MKS PAMP SA would then include this pathway in refining contracts). <ul style="list-style-type: none"> ● Incorporate GHG reduction metrics into budgeting, KPIs, and risk management to anchor sustainability within our core business strategies and decision-making processes. Starting in FY26, we will commit to TCFD disclosures and embed GHG emissions considerations into the budgets and KPIs of all departments. <p>Long-term focus: Onboard new clients. MKS PAMP SA will work towards establishing business relationships with new clients that have GHG emissions in line with our GHG emissions goals.</p>
<p>The offset strategy to be adopted for residual emissions</p>	<p>In FY23, we sold:</p> <ul style="list-style-type: none"> - 2332.85 kg of A. ZAUFS00591 – Lady Fortuna™ 1oz Gold Bar, which emitted 6,676.62 tCO2e to be offset. <p>For the New product certification, we estimate to sell in FY24:</p> <ul style="list-style-type: none"> - 139.97 kg of ZAUF00408 – Lady Fortuna™ 45th Anniversary 1oz Gold Bar, which will emit 400.6 tCO2e to be offset. <p>In FY23, we bought and retired 22,152 credits to offset 22,152 tCO2e for a count of 7,740 kg total production of A.</p> <p>We used 6,677 credits for the product A and will allocate 401 credits from the leftover to B for the predictive sales of the new certified product B for a total of 7078 credits needed for both reconciliation and new certification. We still have 15,074 credits of avoidance and unused retired offset credits from last year estimation.</p> <p><i>See Annex 3 for the nature of the offsets and number of credits.</i></p>

Annex of Qualifying Explanatory Statement

Annex 1: Greenhouse gas emissions summary

A1.1 Carbon footprint details

Reconciliation

Product	Stock Keeping Unit	Geographic Area	Total Net kgCO ₂ e not rounded	kgCO ₂ per Functional Unit not rounded	kgCO ₂ per Functional Unit rounded	Functional Unit
Fortuna Bars	ZAUFS00591 – Lady Fortuna™ 1oz Gold Bar	Global	6,676,628.34	2862	2900	kg

New Certification

Product	Stock Keeping Unit	Geographic Area	Total Net kgCO ₂ e not rounded	kgCO ₂ per Functional Unit not rounded	kgCO ₂ per Functional Unit rounded	Functional Unit
Fortuna Bars	ZAUFP00408 – Lady Fortuna™ 45th Anniversary 1oz Gold Bar	Global	400,581.38	2862	2900	kg

A1.2 Methodology overview

Requirement	Information Relating to the Carbon Neutral Declaration
Boundary of the product	MKS PAMP SA is a provider of financial and physical trading services, and precious metals refinery based in Switzerland and member of the MKS PAMP GROUP. The products are MKS PAMP SA Lady Fortuna 1oz Gold Bars (standard and special edition), part of a range of precious metal Fortuna bars produced at MKS PAMP SA. The listed products are manufactured at the MKS PAMP SA refinery in Ticino, Switzerland to the highest

	<p>industry standards. The Fortuna bars are primarily used by clients for collection purposes and sold to including but not limited to collectors and wholesalers.</p>
<p>Boundary of carbon footprint (the greenhouse gas emissions system considered)</p>	<p>Carbon Trust Assurance Limited certified that MKS PAMP SA has calculated the carbon footprint representing selected Fortuna Bars Cradle-to Grave Business-to-Consumer and marketed globally in accordance with PAS 2060:2014. Fortuna bars are finished products manufactured at MKS PAMP SA's refinery in Ticino, Switzerland and shipped to customers globally. The products are sold through our sales teams based in our MKS PAMP SA group offices.</p> <p>The cradle-to-grave product carbon footprint includes all emissions from raw material extraction to the end-of-life storage of the product. The cradle-to-gate product carbon footprint includes all emissions from raw material extraction to outbound distribution. Both include Land Use Change and Biogenic Emissions.</p> <p>Raw materials</p> <p>Gold inputs come from both virgin and recycled sources. The short-term mix of both being dependent on market fluctuation regarding the pricing of the material and availability, and the end consumers' demand. The carbon neutral product is based on MKS PAMP SA's general feed using a 3-year rolling average from FY21 to FY23 and includes approximately 50% mined and 50% recycled sources. Land use change calculation tool follows the 2019 IPCC Guidelines for National Greenhouse Gas Inventories. Equations and default constants used in the methodology are revised for specific land and biomes.</p> <p>Inbound Transportation</p> <p>Raw materials are systematically transported from suppliers based globally to MKS PAMP SA's manufacturing facility in Ticino, Switzerland. This is done by air or sea, and road.</p> <p>Manufacturing</p> <p>Once the raw material is received, it is sampled and analysed for purity to ensure the composition follows approved norms and agreements. The material is then processed through the refinery's value chain, including but not limited to the foundry, refinery and minting. Under manufacturing, the main source of energy, being renewable, is electricity derived from hydroelectric power. Other energy sources used at the plant were natural gas and propane.</p>

	<p>The following waste streams were identified: black water, white water, non-precious metal waste, used crucibles. Waste activity data was derived from input data provided by MKS PAMP and BEIS 2022 was used for waste treatment emission factors.</p> <p>Packaging The products are packaged in an ABS gp35 mould, which is a specific grade of ABS plastic commonly used for packaging, with a cardboard backing. The packaging also includes a carbon neutral certificate and assay card, which is similar to a safety seal and confirms that the product has not been tampered with.</p> <p>Downstream distribution Finished products are transported by road from MKS PAMP in Switzerland to Zurich airport or to the final customers located globally.</p> <p>End-of-life Clients traditionally keep purchased bars in vaulting facilities or for personal collection. For the bars, it is assumed 100% of the metal is recycled. It is only the packaging that would be disposed of.</p>
Functional unit	Per kg

A1.3 Lifecycle Overview

Life cycle stage	Description	Excluded emissions & Justification	Primary data sources	Secondary data sources	Data quality and uncertainties
Raw Materials	Gold, other inputs and packaging	<p>Any process that constituted less than 1% of total emissions was excluded from the assessment.</p> <p>This includes upstream packaging of the raw</p>	The total mass of the raw material inputs for each footprinted product over the reporting year. Type of provenance (mined vs recycled), amount in gr and in oz,	<p>Recycled emission factors for gold were taken from literature, including academic journal articles, research¹ and EcoInvent 3.9.1, and averaged.</p> <p>The emission factor applied to the input gold material was calculated using two formulae which have been</p>	<p><u>Raw Materials</u> Activity Data Quality Indicator: Good</p> <p>Emission Factor Data Quality Indicator: Good</p>

		material inputs, namely the chemicals and gold, and land use change for 2% of procured gold where the mining source could not be verified and accurately calculated.	sourced from the supplier, weighted coefficient and origin of the source. The virgin emission factor for gold was calculated for specific suppliers provided by MKS PAMP.	derived from PEF CFF. An adaptation has been made in multiplying it with EvLUC to account for land use change from mining. For other chemical inputs, emission factors were taken from the FPX v4.7 database, BEIS 2022 and Ecolnvent 3.9.1. In the cases when the emission factors were not available in either database, an emission factor of a similar chemical was applied from Ecolnvent.	<p>Application Data Quality Indicator: Good</p> <p><u>Land Use Change</u></p> <p>Activity Data Quality Indicator: Medium</p> <p>Emission Factor Data Quality Indicator: Medium</p> <p>Application Data Quality Indicator: Medium</p>
Inbound transport	Transport of raw materials from supplier to MKS PAMP SA	N/A	Suppliers' location, the distance and mode of transport (air, sea, road), and the distance used by each of the mode of transport.	Emission factors were applied to these activity data which derive from Carbon Trust FPX v4.7 transportation calculator.	<p><u>Land Use Change</u></p> <p>Activity Data Quality Indicator: Good</p> <p>Emission Factor Data Quality Indicator: Medium</p> <p>Application Data Quality Indicator: Medium</p>
Manufacturing	Fuels (Gas, Propane), Electricity, and waste	N/A	Based on invoice of suppliers of MKS PAMP SA. Electricity: MWh / year for electricity Natural gas and propane: m3 / year for each process step.	IEA 2023 emission factor was used for electricity (only Well-To-Tank and Transport and Distribution emissions included in the EF) as they use renewable energy. Emission factors from BEIS 2022 were used for natural gas and propane. For each process step a specific amount of kgCO2e emissions were associated with	<p>Activity Data Quality Indicator: Good</p> <p>Emission Factor Data Quality Indicator: Good</p> <p>Application Data Quality Indicator: Good</p>

			Waste: data in percentage of mass of product (kg) is waste per year.	them, namely for example the first melting or the anode casting.	
Downstream Distribution	Transport of Gold Bars from MKS PAMP SA to global markets	N/A	Locations (country) the product was transported to, the distance and mode of transport (air, sea, road), and the distance used by each of the mode of transport.	Emission factors were applied to these activity data which derive from Carbon Trust FPX v4.7 transportation calculator.	Activity Data Quality Indicator: Good Emission Factor Data Quality Indicator: Good Application Data Quality Indicator: Good
End of life	Disposal of Gold and Packaging	Gold, as it is considered infinitely recycled.	Packaging: mass of materials for one box was provided by MKS PAMP SA.	Packaging: The masses were scaled up to account for the total production output for each product. Emission factors applied to these packaging materials came from the Carbon Trust's FPX v4.7 database. The End-of-Life profile for packaging was calculated using BEIS 2022 disposal emission factors and the disposal method percentages of the different countries of the sold products.	Activity Data Quality Indicator: Medium Emission Factor Data Quality Indicator: Medium Application Data Quality Indicator: Medium

A1.4 Geographical Areas of Emissions Overview:

Geographical Area	Relevant Emissions				
	Upstream transport	Raw Materials	Manufacturing (Utilities, Waste & Packaging)	Downstream Distribution	End of life
Global	7.32 kgCO2e / kg	2711 kgCO2e / kg + 134 kgCO2e / kg	2.5 kgCO2 / kg	7.18 kgCO2 / kg	0.00 kgCO2e / kg

Annex 3: Offsets

The below information relates to the compensation of residual emissions (i.e. offsetting):

The volume of emissions reduced or sequestered via carbon offsetting corresponds to the residual emissions of the products in question. As per the requirements of PAS2060, it has been confirmed the offsets have been retired on a public registry to avoid double accounting. The internal process for ensuring there is no double accounting of offsets is as follows:

The internal process for ensuring there is no double accounting of offsets is as follows: MKS PAMP SA has designated an officer within the ESG team to oversee that all purchased offsets are correctly accounted for. MKS PAMP SA has set up a manual accounting system (in line with its financial accounting system) to track offset allocation supported by our data system (Power Bi). Once offsets are retired, they are assigned to the corresponding SKU within the system, MKS PAMP SA calculates the total amount of offsets available per product. After every purchase of a Carbon Neutral Gold Bar, the ESG officer will make a report to the product management team with the amount (in kg) of product sold, the associated carbon offsets, and the remaining amount of Carbon Neutral gold and offsets available. Our offsetting team, sales team, and the head of ESG will then control these amounts for accuracy. The offset selected are from the projects listed below. Details on which project has been used to offset the GHG emission of the product is described on the QR code associated with the specific product.

Project name	Country	Project type	Standard	Type of credits	Total credits	Generation period	Retirement date	Reference No. & link to registry	Offset volume (tCO _{2e})	Offset Price	Justification for choice of offset
100 MW SOLAR PROJECT IN BHADLAIN RAJASTHAN	India	Energy industries (renewable/non-renewable sources)	VCS	VCU	7078 used out of 22,152 credits retired from the previous QES.	01.10.2020 to 31.12.2020	August 16 th 2022	https://registry.terra.org/ Reference: 1842	7078	below \$10/t CO ₂	Based on its global footprint, MKS PAMP SA decided to focus on avoidance projects. Carbon avoidance projects contribute to climate action by preventing carbon that would have been released into the atmosphere. MKS PAMP SA selected projects that generate renewable energy: with three different technologies in three different geographies. Identifying offset projects had three key criteria for MKS PAMP

Annex 4: Independent third-party assurance



Carbon Neutral Label

MKS PAMP SA

has achieved carbon neutrality and is committed to on-going carbon neutrality of the total carbon footprint of its

Lady Fortuna™ Gold Bars

Carbon Trust Assurance has certified that this project has met all of the requirements for using the Carbon Trust Carbon Neutral Label.



A full description of the scope of certification and a detailed list of certified results can be found in the associated Certification Letter CERT-13702 v3.

Valid from: [1st September 2023](#)

Valid Until (Lady Fortuna™ 45th Anniversary Gold Bars): [31st August 2024](#)

Valid Until (Lady Fortuna™ Gold Bars): [31st March 2025](#)

for and on behalf of Carbon Trust Assurance Ltd,

A handwritten signature in black ink, appearing to read "M Hockaday".

Martin Hockaday,
Head of Assurance

This certificate is for presentation purposes only. Please do not copy or circulate this certificate without the Certification Letter and associated Annexes where full details on the scope of the certification are documented. This certificate remains the property of Carbon Trust Assurance Limited and is bound by the conditions of the contract. Information and Contact: Carbon Trust Assurance Limited is registered in England and Wales under Company number 06547658 with its Registered Office at Level 5, Arbor, 255 Blackfriars Road, London SE1 9AX, UK. Telephone: +44 (0) 20 7 170 7000. Carbon Trust Assurance Limited is a fully owned subsidiary of the Carbon Trust.

Annex 5: Additional supporting information for interested parties

Figure 1. PAS 2060 certification process

Source: Carbon Trust. Adapted from "BSI - PAS 2060:2014: Specification for the demonstration of carbon neutrality: Figure 1 – Illustration of the cyclical process for demonstrating carbon neutrality, taking into account permitted baseline period exceptions". [Simplified version]

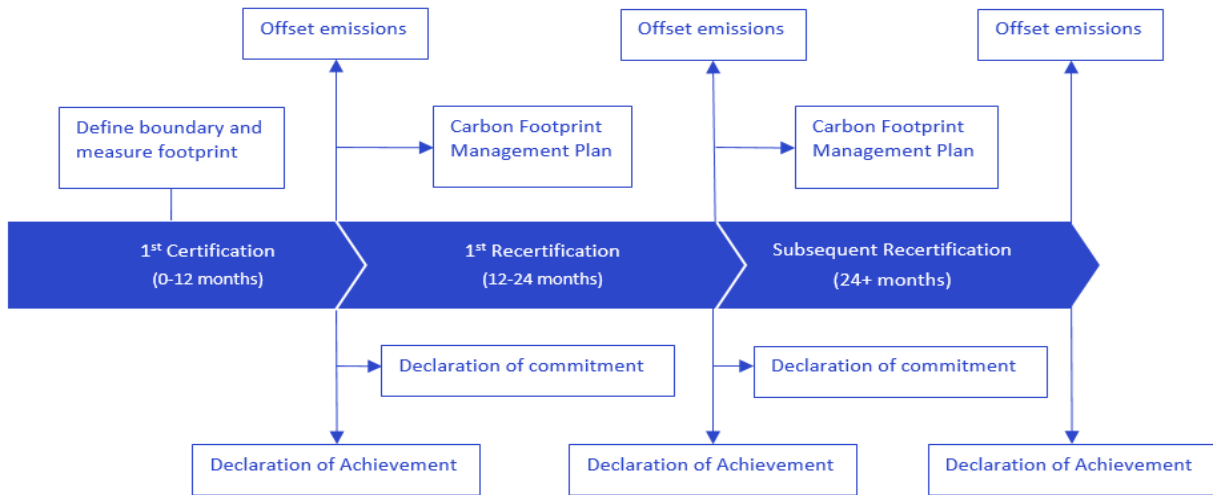


Figure 2. Organisational carbon footprinting

Source: Greenhouse Gas Protocol: <http://ghgprotocol.org/>

