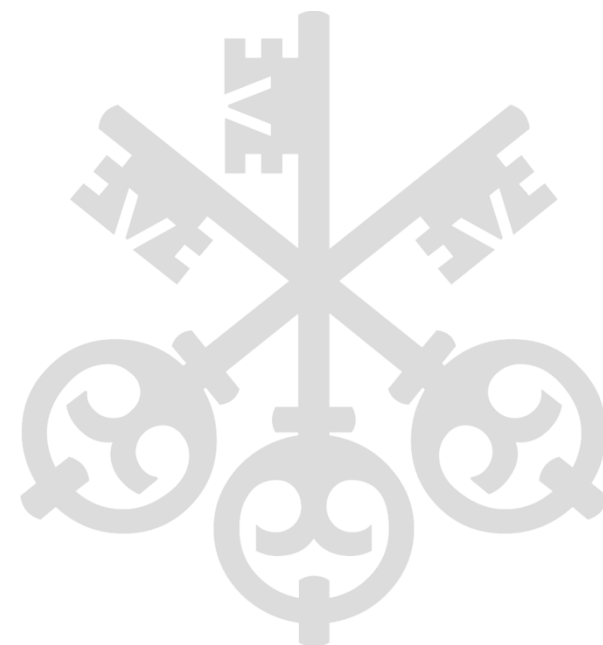


# Carbon Compensated Gold

First Gold ETF to offset carbon emissions

UBS Asset Management  
UBS Exchange Traded Funds



# Gold investment objective

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## The case for precious metals



### Asset preservation

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Precious metals usually hold their value

- The supply of gold and other precious metals is limited
- The same is valid for the reserves: precious metals are rare – and will remain rare.



### Inflation protection

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Precious metals can retain their purchasing power

- Physical precious metals are based on actual assets and therefore offer a certain degree of inflation protection
- There is often a negative correlation between the US dollar and the price of gold



### Diversification

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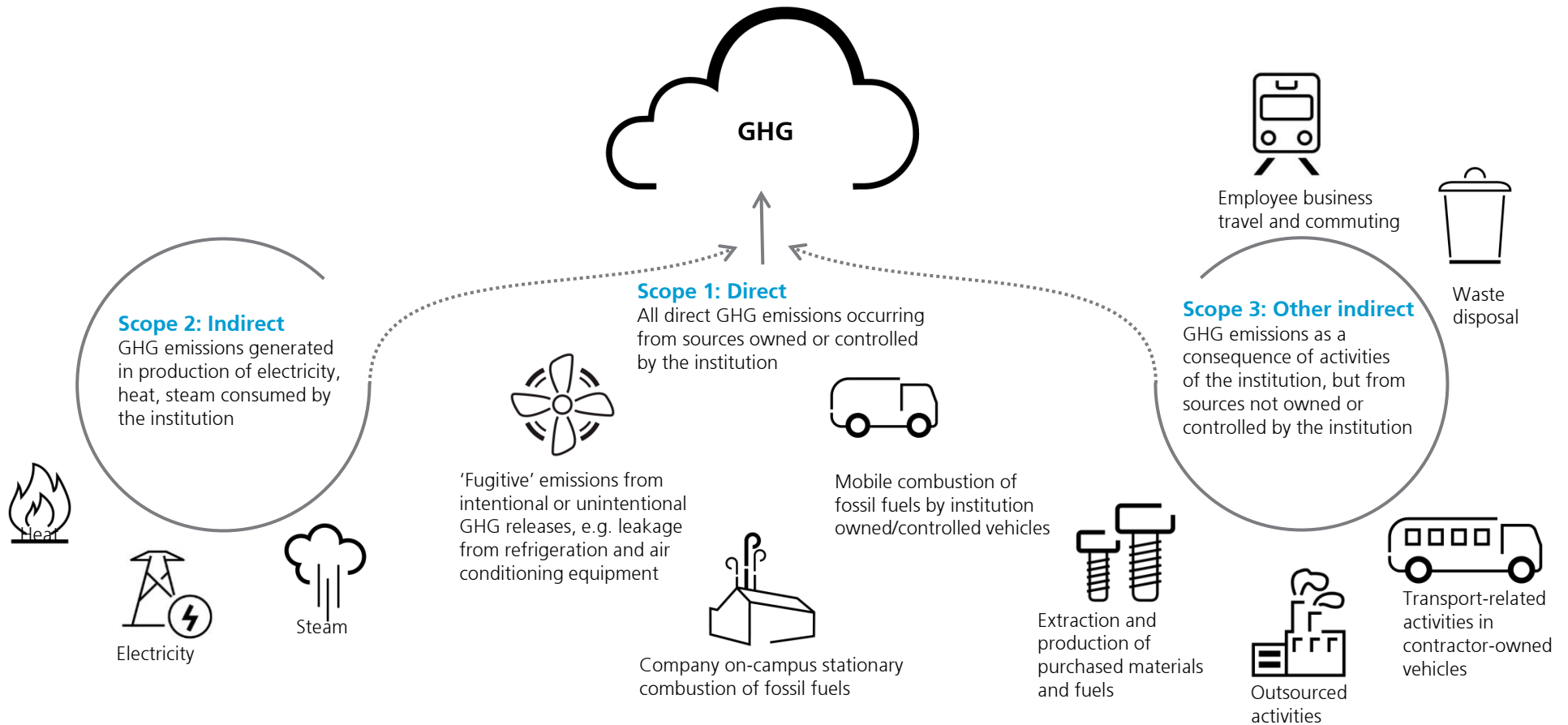
Precious metals may make a portfolio more crisis-resistant

- Physical precious metals can increase the risk diversification of a portfolio given the low correlation to other unit classes.
- Physical precious metals may therefore improve the risk/return profile
- Precious metals such as gold can enhance and stabilize a portfolio

Source: UBS Asset Management. For illustrative purposes only.

# CO<sub>2</sub> impact of Gold production

1kg gold causes 2'750kg CO<sub>2</sub> equivalent emissions

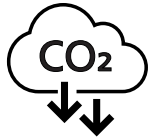


Source: World Resources Institute and World Business Council on Sustainable Development – Greenhouse Gas Protocols' categorization

Note: For illustrative purposes only

# Focus on carbon emissions

## Reduction approaches



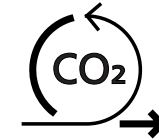
### Abatable carbon emissions

Some carbon emissions can be avoided by changing processes and habits as well as by introducing actions to reduce them.

Identify key CO2 emissions with mining sources and other suppliers and take measures to force suppliers to reduce the carbon footprints.

External audited engagements with the supply chain (including mines) on the reduction pathway.

Engagement



### Non-abatable carbon emissions

Even after all possible measures to lead a clean approach have been taken, there will always be a remaining part of non-abatable carbon emissions.

The generation of carbon emissions is often inevitable.

Investing in projects that reduce carbon emissions via certificates (voluntary or regulated).

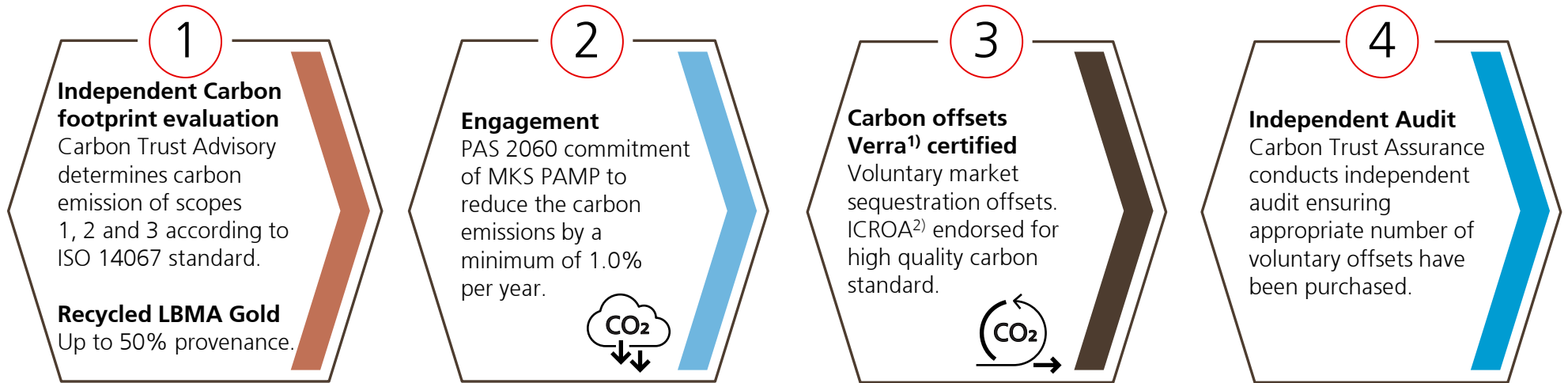
Projects must be developed under recognized standards and the carbon credits that they generate may be used to offset those unavoidable emissions.

Carbon Offsetting

Source: for illustrative purpose only

# Carbon compensated Gold - Methodology

## Engagement and carbon offsetting



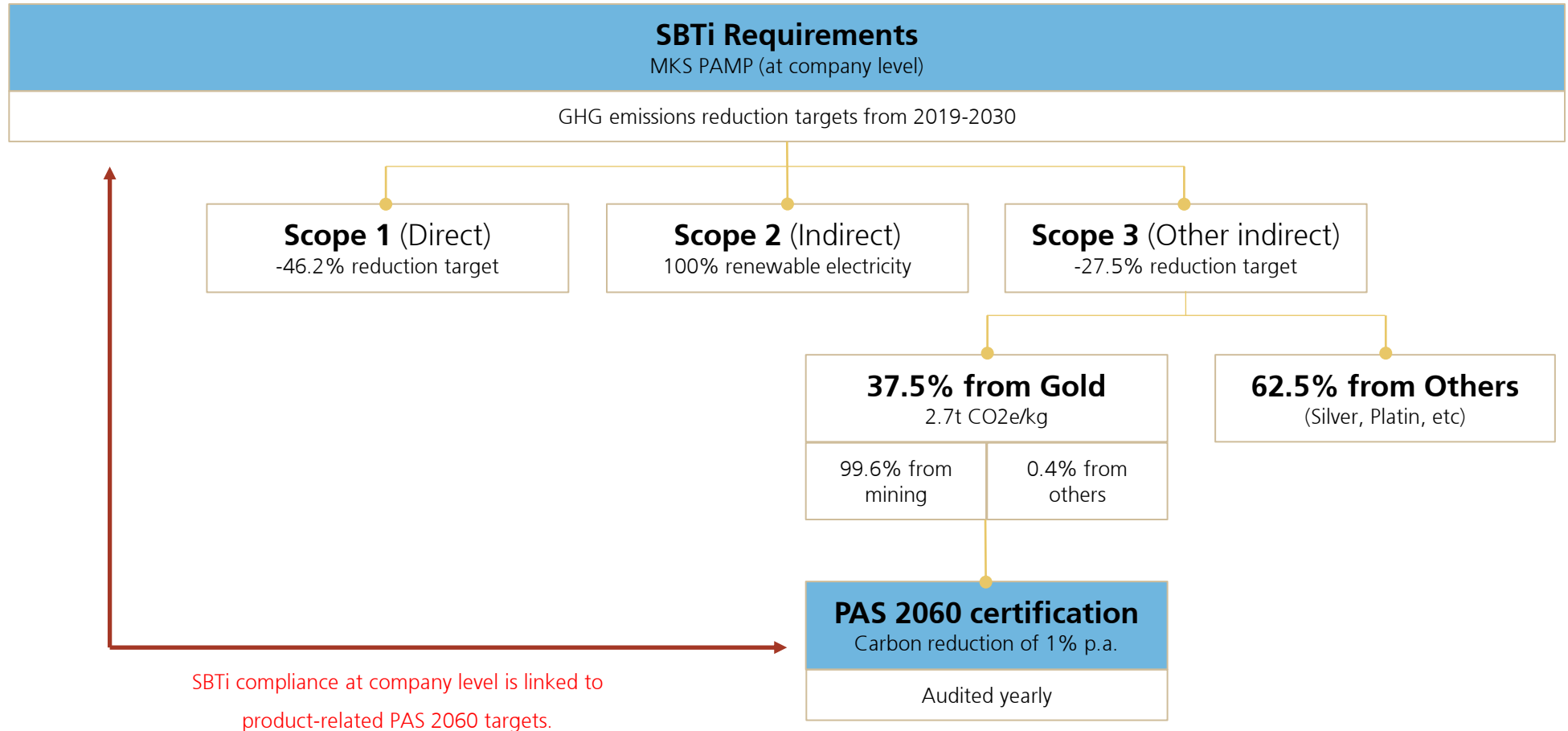
Source: MKS PAMP Working Paper, January 2023

1) Verra is a nonprofit corporation that manages the world's leading voluntary carbon markets program, the 'Verified Carbon Standard VCS' program.

2) <https://www.icroa.org/standards> - International Carbon Reduction & Offset Alliance

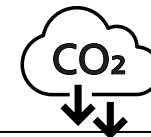
# SBTi and PAS 2060 certification

## Requirements



Source: MKS PAMP January 2023  
<https://sciencebasedtargets.org/> -

# Abatable carbon emissions - Engagement



Environmental impact and carbon reduction targets of 27.5% until 2030

## Engagement plan of MKS PAMP

1. MKS PAMP works closely together with their mines to assess realistic and feasible carbon reduction targets in line with SBTi
  - Mines need to disclose their GHG data as well as intention and action plan
  - Carbon reduction targets of mines are formalized contractually
2. Carbon emission data of MKS PAMP's mining sources is acquired yearly via Carbon Trust (ISO 14067 standard)
3. Full disclosure of mines' carbon emissions data to MKS PAMP is ensured on an on-going basis
4. Regular monitoring of the mines' degree of achievement and comparison to targets is done on a monthly as well as yearly basis to ensure compliance

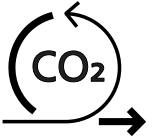
## SBTi

The Science Based Targets initiative<sup>1)</sup> defines and promotes best practice in science-based target setting. Offering a range of target-setting resources and guidance, the SBTi independently assesses and approves companies' targets in line with its strict criteria.



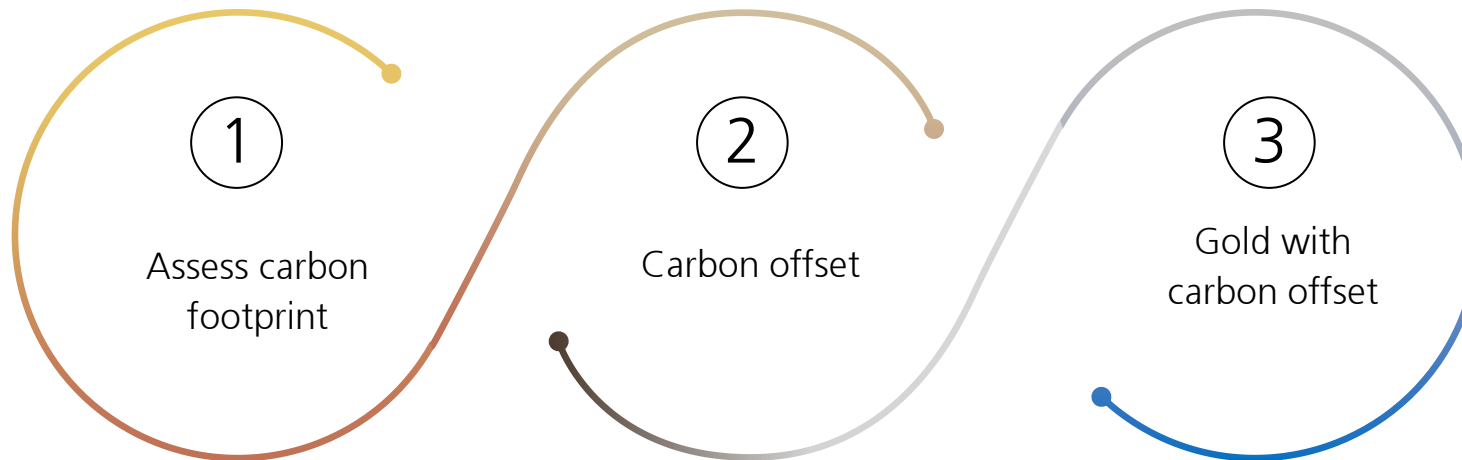
Source: MKS PAMP January 2023

1) <https://sciencebasedtargets.org/> -



# Non-abatable carbon emissions - Offsetting

Combining LBMA gold bars with a carbon offsets



- **Carbon Trust determines** scopes 1, 2 and 3 emissions attributed to LBMA Gold bars
- **Product Carbon Footprint** total emissions CO<sub>2</sub>e/kg<sup>1)</sup>: 2.7 tons of which over 99% caused in raw material sourcing

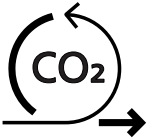
- **Voluntary Carbon Market** (not Regulated) is considered
- **Sequestration** (Nature Based) Reforestation, afforestation, soil sequestration, biochar, etc.
- **Verra Carbon Units (VCU)** represent the removal of one ton of carbon dioxide equivalent (CO<sub>2</sub>e) achieved by a project
- **VCUs are purchased** and retired by MKS PAMP

- **Carbon Compensated LBMA Good Delivery** large bars (12.5kg) sealed as by MKS PAMP via **QR-Code**



1) Source: Carbon Trust MKS Report June 2022.





# Voluntary Market: Sequestration

Offset project: Afforestation of degraded grasslands in Vichada, Colombia

<b>Project Type:</b>	Agriculture Forestry and Other Land Uses
<b>VCS Methodology:</b>	AR-ACM0003
<b>Country:</b>	Colombia
<b>Registry and Reference #:</b>	VCS (Verra) ID 2512
<b>Link:</b>	<a href="https://registry.verra.org/app/projectDetail/VCS/2512">https://registry.verra.org/app/projectDetail/VCS/2512</a>



## Environmental Impact

- **Overview:** The grouped project aim is to recover degraded grasslands in Vichada, Colombia, through the establishment of timber plantations. The first instance consists of the afforestation of 30,605 ha of low-fertility grasslands that have been degraded by livestock in the municipalities of Puerto Carreno and La Primavera. It includes the planting of Eucalyptus (*Eucalyptus pellita*) and Acacia (*Acacia mangium*) as timber species.
- **Objective:** Through afforestation activities to recover degraded lands, the project aims to promote connectivity between ecosystems. In addition, this project is expected to provide more than 200 full-time employment opportunities (with equal access to women and men) in a zone historically affected by portery. Furthermore, the increase in the forest cover and sequestration of carbon in living biomass will contribute to the reduction of GHG emissions by acting as a sink that sequesters an average of 139,489 tCO<sub>2</sub>e per year. This amount to 4,184,664 tCO<sub>2</sub>e over the 30-year crediting period.
- **Crediting period:** The project started on September 15, 2016, and will end on September 14, 2046 (30-year total period).

## Offset Characteristics



Projected carbon savings of the retired VCUs have already been fully realized.

From Vintage	To Vintage	Serial Number	Quantity of Units
01/04/2019	31/12/2019	9729-128091810-128118434-VCS-VCU-997-VER-IN-1-1786-01042019-31122019-0	26625

Source: <https://registry.verra.org/app/search/VCS/All%20Projects>, January 2023

# Why carbon compensated Gold?

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Low carbon, liquid and transparent

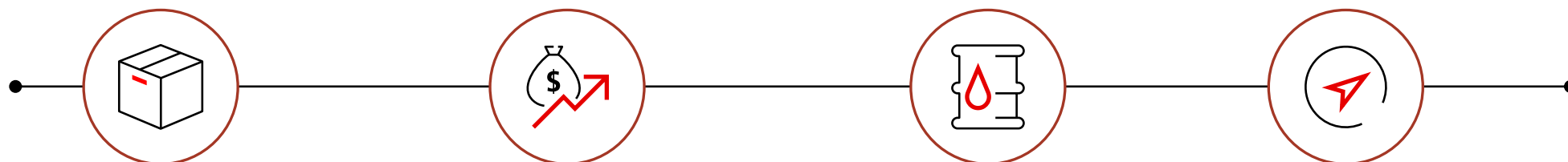
- 1. Physical replication: LBMA Good Delivery** large bars (12.5kg) sealed as Carbon Compensated by MKS PAMP via **QR-Code**.
- 2. High liquidity:** No supply limits of Carbon Compensated Gold bars.
- 3. Redemption in kind** for the standard units in Switzerland.
- 4. Broad carbon offsets** include **scope 1, 2 and 3 emissions**
- 5. High degree of transparency** in the offsetting process based on quantitative **ISO certified** assessments verified by Carbon Trust
- 6. No counterparty risk** from derivatives or lending

Carbon Compensated Gold provides a flexible exchange traded **low carbon** investment with **high liquidity** and **transparency**

Source: MKS PAMP, carbon [trhttps://www.bsigroup.com/en-GB/pas-2060-carbon-neutrality](https://www.bsigroup.com/en-GB/pas-2060-carbon-neutrality), 2023.

# Product structure and details

## Carbon Compensated Gold ETF



### Product format

- Swiss ETF, physical replication
- In-kind redemption possible
- Gold bars stored in UBS secured vaults in Zurich
- Gold bars meet LBMA 2022 standards with carbon compensated label and QR-Code
- Registration CH & LI

### Benchmark and pricing

- LBMA Gold London PM Auction + USD 1.00 per oz (cost for the carbon offset)
- Premium above LBMA price is USD 5.25 per oz when purchasing
- TER/Management fee: 30 bps p.a.
- Starting NAV set at USD10.00

### Liquidity and Capacity

- No capacity constraints
- UBS AG works in close partnership with MKS PAMP and is supportive of the initiative

### Positioning

- Carbon Gold

## Product details

Fund name	Fee	NAV Ccy.	Replication	ISIN	Bloomberg
UBS ETF (CH) Carbon Compensated Gold (USD) A-acc	0.30%	USD	Physical, full replication	CH1233056329	GLDCO2

If part or all of the total costs is to be paid in a currency different from your reference currency, the costs may increase or decrease as a result of currency fluctuations. Investors are acquiring units in a fund, and not in a given underlying asset such as building or shares of a company.

Source: UBS Asset Management, March 2023.

# ETF & Index Fund Sales Switzerland & Liechtenstein

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Raimund Müller

Head ETF & Index Fund Sales  
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[ubs.com/etf](https://ubs.com/etf)

# Appendix

# Carbon Compensated Gold - Actors

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## Overview of all involved parties

Name	Role
<b>MKS PAMP SA</b>	The developers of the product and producer of the gold bars. Precious metal refinery and trading company based in Switzerland. Family owned since 1979. Approved SBTi targets for Scope 1 and 2 in line with Paris Agreement goal to limit global warming to 1.5 degrees.
<b>The Carbon Trust</b>	The third-party consultancy mandated by MKS PAMP to conduct a verification, assurance, and certification (labeling) of the gold bars. The Carbon Trust is a global climate change consultancy that provides independent assurance and labelling that recognize real achievements in sustainability and build trust with customers and stakeholders. They have over 20 years of experience with companies and governments worldwide.
<b>ISO 14067 Certification</b>	Internationally recognised specification that outlines the principles, requirements, and guidelines for the quantification and reporting of a product carbon footprint.
<b>PAS 2060 Certification</b>	Only internationally recognised specification for carbon neutrality. It sets out requirements for quantification, reduction, and offsetting of greenhouse gas (GHG) emissions for organisations, products and events.
<b>Verra.org</b>	MKS PAMP Gold uses the Verra Registry for carbon offset purchases. The Verified Carbon Standard (VCS) is a fully-fledged carbon offset program developed and run by the non-profit Verra. It focuses on GHG reduction attributes only and does not require projects to have additional environmental or social benefits. The VCS is broadly supported by the carbon offset industry (project developers, large offset buyers, verifiers, and projects consultants) and is active globally. In 2021, Verra represented 78% of issuances and 75% of retirements and is the clear market leader.

Source: MKS PAMP SA

# MKS PAMP – product emissions report

Carbon footprint provided by Carbon Trust

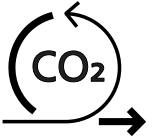
Process	Emissions Total tCO2e MKS-PAMP	Emissions Total CO2e/kg	%
Raw materials - Gold	495'652.7	2'719.0	99.6%
Raw materials - Other inputs	323.9	1.8	0.1%
Inbound transportation	1'092.2	6.0	0.2%
Manufacturing	33.7	0.2	0.0%
Downstream distribution	781.2	4.3	0.2%
End-of-life	4.4	0.0	0.0%
<b>Product Carbon Footprint</b>	<b>497'888.1</b>	<b>2'731.2</b>	<b>100.0%</b>

- The MKS PAMP general gold supply includes both mined and recycle sources.
- Approximately 50% of the source material is from recycled gold supply which substantially reduces the environmental footprint.
- As large bars are not used for other processes down the line, and are considered recyclable product, Carbon Trust applied a formula (the Circular Footprint Formula) for the product end-of-life calculation.
- The formula considers the circular nature of the product-both in the sourcing and end of life.



The emission factors average for MKS PAMP gold lifecycle is already below global average.

Source: Carbon Trust MKS Report June 2022, The total amount MKS PAMP are the total emissions for MKS PAMP gold bars according to the cradle-to-grave approach for 2020 as baseline year.



# Voluntary Market: Sequestration

Verra projects that follow minimum standards of UBS

- Exclusively Verra<sup>1)</sup> certified projects to be considered.
- Verra Carbon Units (VCU) represent the removal of one ton of carbon dioxide equivalent (CO<sub>2</sub>e) achieved by a project.
- VCU were issued in accordance to Verified Carbon Standard (VCS) protocols that lay out the rules and requirements which all projects must comply with:
  1. **Independent Auditing:** All VCS projects are subject to desk and field audits by both qualified independent third parties and Verra staff.
  2. **Accounting Methodologies:** Projects are assessed using a technically sound GHG emission reduction quantification methodology.
  3. **Registry System:** The issuance and ownership of these instruments are tracked in Verra Registry using unique serial numbers to prevent double counting or double selling.

## Offset Characteristics



Projected carbon savings of the retired VCUs have already been fully realized.

From Vintage	To Vintage	Serial Number	Quantity of Units
01/04/2019	31/12/2019	9729-128091810-128118434-VCS-VCU-997-VER-IN-1-1786-01042019-31122019-0	26625

**VCUs are purchased and retired by MKS PAMP to offset the emissions of Carbon Compensated Gold**

Source: <https://registry.verra.org/app/search/VCS/All%20Projects>, January 2023

1) Verra is a nonprofit corporation that manages the world's leading voluntary carbon markets program, the 'Verified Carbon Standard VCS' program.



# Sustainable Gold approaches

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## Currently available solutions

	<b>Approach Description</b>	<b>To be considered</b>
<b>LBMA responsible Sourcing</b>	Adheres the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals to combat abuses of human rights, avoid contributing to conflict, and to comply with high standards of anti-money laundering and combating terrorist financing practices <sup>1)</sup>	Light sustainable tilt.
<b>Provenance Gold</b>	LBMA plus a block chain tracking from the mine via refiner to the Gold bar that is kept in the vault.	<b>Liquidity:</b> insufficient supply with weekly 100kg and monthly 500kg. Not feasible for an ETF.
<b>Artisanal and Small- Scale Mining Gold</b>	Mining by individuals, groups, families or cooperatives with minimal or no mechanisation, often in the informal sector of the market (Hentschel et al. 2002). The ASM sector is usually high labour intensive and requires low investment levels. <sup>2)</sup>	<b>Liquidity:</b> insufficient supply with weekly 10kg. Not feasible for an ETF.

Source: LBMA & Swiss Better Gold Association, 6 January 2023

1) <https://www.lbma.org.uk/articles/lbma-launches-version-9-draft-of-responsible-gold-guidance>

2) <https://www.oecd.org/corporate/mne/artisanal-small-scale-miner-hub.htm>

<https://www.seco-cooperation.admin.ch/dam/secocoop/en/dokumente/themen/handel/factsheet-bgi-for-asm.pdf.download.pdf>

# Carbon footprint measurement standards

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Standards used for carbon compensated gold

## ISO 14067

International Organization for Standardization

Specifies the principles, requirements and guidelines for the quantification and reporting of the carbon footprint of a product. It is consistent with life cycle assessment Standards (ISO 14040 and ISO 14044).

This Standard contributes to the UN Sustainable Development Goal 13 on Climate Change.



**Quantification of the Carbon Footprint**

## PAS 2060

Publicly Available Specification

Publicly available specification for assessing product life cycle GHG emissions by BSI British Standards and co-sponsored by the Carbon Trust as well as the Department for Environment, Food and Rural Affairs (Defra).

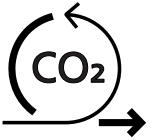
Independent standard, developed with significant input from international stakeholders and multiple technical working groups.



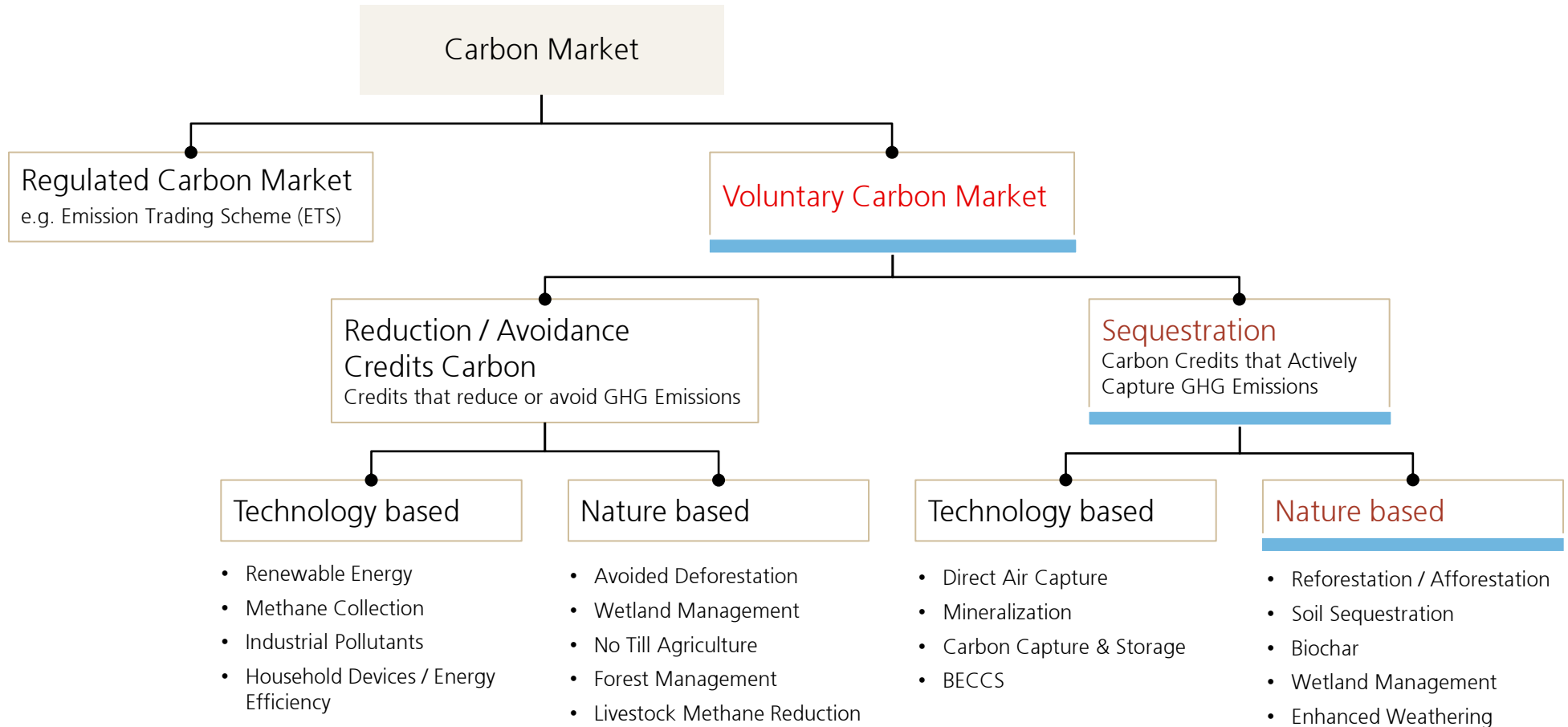
**Confirmation of Certification**

Source: MKS PAMP 6 January 2023

# Carbon markets



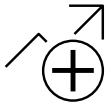
## Available solutions



Source: MKS PAMP, 2023

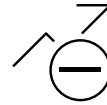
# Opportunities and risks

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## Opportunities

- The fund invests in physical commodity in the form of Carbon Compensated standard bars.
- The commodity is physically segregated and stored in a high-security vault in Switzerland.
- The investment objective is to replicate the performance of the commodity. The stock exchange price may differ from the net asset value.
- The fund is passively managed.
- Clients benefit from the flexibility of an exchange-traded investment.
- Provides access to the performance of the index with a single transaction.
- The fund offers a high degree of transparency and cost efficiency.



## Risks

- This UBS Exchange Traded Fund invests in commodities and may therefore be subject to high fluctuations in value
- For this reason, an investment horizon of at least five years and corresponding risk tolerance and capacity are required
- All investments are subject to market fluctuations
- Every fund has specific risks, which may significantly increase under unusual market conditions.
- The fund's assets are passively managed. As a result, the net asset value of the fund is directly dependent on the performance of the underlying index. Losses that could be avoided via active management will not be offset.

# Risk information

## **UBS ETFs investing in Equities**

UBS Exchange Traded Funds invest in equities and may therefore be subject to high fluctuations in value. For this reason, an investment horizon of at least five years and corresponding risk tolerance and capacity are required. All investments are subject to market fluctuations. Every fund has specific risks, which can significantly increase under unusual market conditions. The fund's assets are passively managed. As a result, the net asset value of the fund's assets is directly dependent on the performance of the underlying assets. Losses that could be avoided via active management will not be offset.

## **UBS ETFs investing in Real Estate Funds**

The funds invest in real estate funds under Swiss law that are denominated in CHF and invest exclusively in Swiss properties. The price of the underlying fund units is not determined by estimates of market value but by investor supply and demand. All investments are subject to market fluctuations. Every fund has specific risks, which may increase considerably in unusual market conditions. The fund's assets are passively managed. As result the net asset value depends on the performance of the underlying assets. Please contact your client advisor if you wish to receive further information on the investment risks associated with this product.

## **UBS ETFs investing in Metals**

The UBS Exchange Traded Fund investing in metals may be subject to considerable fluctuations in value. Investors therefore require an investment horizon of at least five years and corresponding risk tolerance and capacity. All investments are subject to market fluctuations. All funds have specific risks, which may significantly increase under unusual market conditions. The fund's assets are passively managed. As a result, the net asset value of the fund's assets is directly dependent on the performance of the underlying assets. Losses that could be avoided via active management will not be offset.

## **UBS ETFs investing in Oil and Commodities**

The Fund delivers the returns of a broadly diversified commodity index and may therefore be subject to high fluctuations in value. For this reason, an investment horizon of at least five years and corresponding risk tolerance and capacity are required. The returns payable on the Fund are dependent on payments received by the Fund from the Swap Counterparty under the terms of the Relevant Swap and, therefore, are subject to the credit risk of the Swap Counterparty. In the event that the Swap Counterparty defaults under the terms of the Relevant Swap, the Fund may suffer a loss. Assets are passively managed meaning losses that could be avoided via active management will not be offset. The net asset value of the Fund's assets are materially dependent on the performance of the underlying investments. If all or part of the total costs to be paid is different from your reference currency, the costs may increase or decrease as a result of currency and exchange rate fluctuations. Commissions and costs have a negative impact on the investment and on the expected returns. If the currency of a financial product or financial service is different from your reference currency, the return can increase or decrease as a result of currency and exchange rate fluctuations. All investments are subject to market fluctuations. Every fund has specific risks, which can significantly increase under unusual market conditions.

## **UBS ETFs investing in Fixed Income**

This UBS Exchange Traded Fund invests in government bonds of a single country and/or in corporate bonds and may therefore be subject to high fluctuations in value. For this reason, an investment horizon of at least five years and corresponding risk tolerance and capacity are required. All investments are subject to market fluctuations. Every fund has specific risks, which can significantly increase under unusual market conditions. The fund's assets are passively managed. As a result, the net asset value of the fund's assets is directly dependent on the performance of the underlying assets. Losses that could be avoided via active management will not be offset.

## **Climate-focused investments**

The Fund is subject to the risk that its climate-focused investment strategy may select or exclude securities of certain issuers for reasons other than investment performance considerations. Climate Criteria and risks are considered as part of the Index selection process.

## **ESG investments**

Sub-fund's that are classified as Article 8 or Article 9 Product are passively managed, tracking the reference of their relevant index. Sustainability characteristics and risks are considered as part of the relevant index' selection process or in case of a fund applying the Climate Awareness Overlay, in the investment decision process. The integration of these ESG characteristics and risks could have a positive or negative impact (compared to not considering ESG) on the performance of the sub-fund.

## **Retail investors**

Investors are acquiring units or shares in a fund, and not in a given underlying asset such as building or shares of a company.

## **Any decision to invest should take into account all the characteristics or objectives of the promoted fund as described in its prospectus, or similar legal documentation.**

For complete information about the fund, including the risks of investing, applicable fees (e.g. entry or exit fees) and other important information, investors prior to investing should read the Key Investor Information Document (KIID), full prospectus, the complete risk information and any applicable local offering documents. Please refer to your adviser for more information.

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For qualified investors only.

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Commissions and costs have a negative impact on the investment and on the expected returns. If the currency of a financial product or financial service is different from your reference currency, the return can increase or decrease as a result of currency and exchange rate fluctuations. This information pays no regard to the specific or future investment objectives, financial or tax situation or particular needs of any specific recipient. Future performance is subject to taxation which depends on the personal situation of each investor and which may change in the future. The details and opinions contained in this document are provided by UBS without any guarantee or warranty and are for the recipient's personal use and information purposes only. This document may not be reproduced, redistributed or republished for any purpose without the written permission of UBS Asset Management Switzerland AG or a local affiliated company. Source for all data and charts (if not indicated otherwise): UBS Asset Management

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A summary of investor rights in English can be found online at: [ubs.com/funds](https://ubs.com/funds).

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