PROSPECTUS SUPPLEMENT NO. 3
TO THE BASE PROSPECTUS DATED 15 JULY 2022

GOLDMAN, SACHS & CO. WERTPAPIER GMBH
(*Incorporated with limited liability in Germany*)

as Issuer

GOLDMAN SACHS FINANCE CORP INTERNATIONAL LTD

(*Incorporated with limited liability in Jersey*)

as Issuer

GOLDMAN SACHS INTERNATIONAL
(*Incorporated with unlimited liability in England*)

as Issuer and, in respect of certain Securities only, as Guarantor

THE GOLDMAN SACHS GROUP, INC.

(*A corporation organised under the laws of the State of Delaware*)

in respect of certain Securities only, as Guarantor

SERIES P PROGRAMME FOR THE ISSUANCE OF WARRANTS, NOTES AND CERTIFICATES

This Prospectus Supplement

This prospectus supplement (the "**Prospectus Supplement**") to the base prospectus dated 15 July 2022 prepared by Goldman, Sachs & Co. Wertpapier GmbH ("**GSW**") as issuer, Goldman Sachs Finance Corp International Ltd ("**GSFCI**") as issuer, Goldman Sachs International ("**GSI**") as issuer and as guarantor in respect of certain Securities only and The Goldman Sachs Group, Inc. ("**GSG**") as guarantor in respect of certain Securities only (the "**Original Base Prospectus**") under their Series P programme for the issuance of warrants, notes and certificates with respect to the Securities (the "**Programme**"), constitutes a supplement to the Base Prospectus for the purposes of Article 23(1) of Regulation (EU) 2017/1129 (as amended, the "**EU Prospectus Regulation**") and should be read in conjunction with Prospectus Supplement No. 1 to the Original Base Prospectus dated 27 July 2022 and Prospectus Supplement No. 2 to the Original Base Prospectus dated 25 August 2022 (the Original Base Prospectus as so supplemented, the "**Base Prospectus**"). On 15 July 2022, the *Commission de Surveillance du Secteur Financier* (the "**CSSF**") approved the Base Prospectus for the purposes of Article 6 of the Luxembourg Law dated 16 July 2019 on prospectuses for securities.

Terms defined in the Base Prospectus have the same meaning when used in this Prospectus Supplement unless otherwise defined herein. This Prospectus Supplement shall form part of and be read in conjunction with the Base Prospectus.

Right of withdrawal

In accordance with Article 23(2a) of the EU Prospectus Regulation, investors in the European Economic Area who have already agreed to purchase or subscribe for Securities issued under the Programme before this Prospectus Supplement is published and where the Securities have not yet been delivered to them at the time when the significant new factor, material mistake or material inaccuracy to which this Prospectus Supplement relates, arose or was noted have the right, exercisable until 14 September 2022, which is three working days after the publication of this Prospectus Supplement, to withdraw their acceptances. Investors may contact the relevant Authorised Offeror(s) (as set out in the Final Terms of the relevant Securities) should they wish to exercise such right of withdrawal.

Responsibility

Each of GSI, GSW, GSFCI and GSG accepts responsibility for the information given in this Prospectus Supplement and confirms that, having taken all reasonable care to ensure that such is the case, the information contained in this Prospectus Supplement is, to the best of their knowledge, in accordance with the facts and does not omit anything likely to affect its import.

Purpose

The purpose of this Prospectus Supplement is to supplement the information in relation to Goldman Sachs' proprietary indices by including a description of a further Goldman Sachs proprietary index and making certain other consequential changes.

Amendments and supplements to certain information in the Base Prospectus

The Base Prospectus is amended and supplemented as follows:

1. Amendments to the section entitled "Risk Factors"

The information in section 5.5 entitled "*Risks associated with Proprietary Indices as Underlying Assets*" is amended and supplemented by inserting the following new sub-paragraph immediately after sub-paragraph (c) on pages 88 to 93:

"(d) ***Specific risks associated with the Goldman Sachs Global Diversified Multi-Asset 5% Index including its underlying and component indices and strategies***

*Risk associated with the Goldman Sachs Global Diversified Multi-Asset 5% Index (for purposes of this sub-section (d) only, the "**Index**"), the Goldman Sachs Diversified Multi-Asset Basket EUR ER Index ((for purposes of this sub-section (d) only, the "**Underlying Index**"), the Goldman Sachs US and EUR Government Bond Basket USD ER Strategy (the "**Govt Bond Strategy**"), the US Government Bond Futures Rolling Strategy Index (the "**UST Futures Index**"), the European Government Bond Futures Rolling Strategy Index (the "**Euro Bond Futures Strategy Index**" and, together with the UST Futures Index, the "**Bond Indices**"), the Goldman Sachs Commodity Focus Basket USD ER Index (for purposes of this sub-section (d) only, the "**Commodity Index**"), the Goldman Sachs EUA USD Strategy (the "**EUA USD Strategy**"), the Goldman Sachs Enhanced Strategy MOZE on S&P GSCI Carbon Emission Allowances EUA (EUR) Index (the "**EUA EUR Strategy**"), the EUR Goldman Sachs Overnight Money Market Index (the "**EUR Money Market Index**"), the EUR STR Goldman Sachs Overnight Money Market Index (the "**EUR STR Money Market Index**") and the USD Goldman Sachs Overnight Money Market Index (the "**USD Money Market Index**" and, together with the EUR Money Market Index and the EUR STR Money Market Index, each a "Money Market Index" and together the "**Money Market Indices**") are set out below. For the purposes of the risk factors below, each of the Index, the Underlying Index, the Govt Bond Strategy, the Bond Indices, the Commodity Index, the EUA USD Strategy, the EUA EUR Strategy and each Money Market Index, shall be a "**Relevant Strategy**" and any underlying index, financial instrument, asset, price, level, component or other underlying comprising, directly or indirectly, a Relevant Strategy, a "**Strategy Component**".*

(i) The weights of the Strategy Component may be less than 100%

The Index's absolute overall exposure to the Strategy Component (being the Underlying Index) may be less than 100%. If the absolute weight of the Strategy Component is less than 100% the Index will have a reduced participation to the Strategy Component and may underperform as compared to an Index where the exposure was greater.

(ii) ***Excess Return Strategies will nearly always underperform Total Return Strategies***

The Index is calculated on an excess return basis. Unlike a total return strategy, a strategy which is calculated on an excess return basis does not include the accrual of any amount in relation to a notional interest rate. Thus, the performance of an excess return strategy will nearly always be less than the performance of the equivalent total return strategy.

(iii) ***Volatility and Strategy risk***

The Index has a volatility adjustment feature which aims to provide a notional volatility-controlled exposure to the Underlying Index. This is achieved by increasing or decreasing the exposure of the Index to the Underlying Index, based on the historical realized volatility of the Underlying Index relative to a pre-determined Volatility Target. An increase in the realized volatility of the Underlying Index may decrease the exposure of the Index to the Underlying Index and vice versa. The future realized volatility of the Underlying Index may differ from the historical realized volatility of the Underlying Index and as such, the weighting of the Underlying Index and the performance of the Index may be different if it was calculated based on the future realized volatility rather than the historical realized volatility.

(iv) ***An investment in the Index may be subject to dilution, which may limit the gains in such investment***

The Index may be subject to dilution if the Reference Volatility exceeds the Volatility Target, such that investors in products linked to the Strategy may not benefit fully from increases in the value of the Underlying Index. Dilution means that the return or loss on an investment is subject to a multiplier decreasing exposure to such investment and reducing the volatility and risk of loss should the value of such investment decline, but reducing the potential gain should the value of such investment increase. Investors should be aware that if the value of the Underlying Index increases or decreases, an investment linked to the Index may not have the same magnitude of increased or decreased value as the Underlying Index.

(v) ***The value of the Index is reduced by the deduction of certain costs included in the calculation of the value of the Index and this will negatively impact the return on an investment in Securities linked to the Index***

A strategy deduction rate of one per cent. per annum will be deducted from the value of the Index on a daily basis. Such deduction has the effect of reducing the performance of the Index and consequently the return on an investment in Securities linked to the Index.

Further, the value of the Index will be reduced by the deduction of synthetic costs of establishing and unwinding transactions in respect of the Underlying Index. Such deduction has the effect of reducing the performance of the Index and consequently the return on an investment in Securities linked to the Index.

The Strategy Sponsor (or its affiliates) may benefit if the Index costs (and the component amounts thereof) embedded in the Index exceed the actual servicing costs and/or transaction costs that are incurred by the Strategy Sponsor (or its affiliates) in hedging transactions that may be entered into in respect of such Index, the Strategy Component and/ or any underlying component thereof.

(vi) ***No assurance can be given that the volatility adjustment feature will be successful in producing a realized volatility of the Index being equal to the Volatility Target which may negatively affect the performance of the Index, potentially materially so***

The volatility adjustment feature of the Index aims to provide a notional volatility-controlled exposure to the Underlying Index. However, such volatility adjustment feature may lead to a realized volatility which is lower than or exceeds the Volatility Target. Such difference may negatively affect the performance of the Index, potentially materially so.

(vii) The Reference Volatility calculation relies on assumptions as to the number of days in a calendar year over which the returns of the Underlying Index are annualised, which may negatively affect the performance of the Index, potentially materially so

The calculation of the Reference Volatility computes the realized volatility of the Underlying Index based on several assumptions, including the number of days in a calendar year over which the returns in respect of the Underlying Index are annualised. Such number may lead to a higher or lower Reference Volatility and as a result to a higher or lower exposure of the Index to the Underlying Index. An increased or lower exposure of the Index to the Underlying Index may in turn negatively affect the performance of the Index, potentially materially so.

(viii) As sponsors of Strategy Components, Goldman Sachs Group members have the authority to make determinations that could materially affect a Relevant Strategy and create conflicts of interest

Goldman Sachs Group members may be the sponsors of Strategy Component(s) of a Relevant Strategy. In that capacity, each of them has the power to make determinations that could materially affect the value of these Strategy Component(s) and, in turn, the value of such Relevant Strategy, and the exercise by such members of their discretion in their capacity as sponsors of such Strategy Components could present them with a conflict of interest.

(ix) Sponsors of Strategy Components have authority to make determinations that could materially affect a Relevant Strategy

Determinations that the sponsors of the Strategy Component(s) of a Relevant Strategy, including Goldman Sachs Group members, may make in connection with the composition, calculation and maintenance of the Strategy Component(s) may materially affect the value of the Strategy Component(s) and could, in turn, adversely affect the value of such Relevant Strategy. Those sponsors have no obligation to take the interests of the Strategy Sponsor or the holders of Securities linked to the Index into consideration for any reason in carrying out their functions and have generally disclaimed all liability to the extent permitted by law. In addition, the sponsors of the Strategy Component(s) have licensed, and may continue to license, such Strategy Component(s) for use by other market participants, for publication in newspapers and periodicals, for distribution by information and data dissemination services and for various other purposes, any of which may contribute to an increased or decreased level of investment in such Strategy Component(s), which could adversely affect the value of a Relevant Strategy.

(x) Specific risks in respect of the Underlying Index

(A) ***Excess Return Strategies will nearly always underperform Total Return Strategies***

The Underlying Index is calculated on an excess return basis. Unlike a total return strategy, a strategy which is calculated on an excess return basis does not include the accrual of any amount in relation to a notional interest rate. Thus, the performance of an excess return strategy will nearly always be less than the performance of the equivalent total return strategy.

(B) ***As some Strategy Components may not be denominated in the Strategy Currency, the Underlying Index may be subject to currency exchange rate risks***

The Underlying Index is calculated in Euro (the "**Strategy Currency**"). While some of the Strategy Components may be denominated in the Strategy Currency, the Underlying Index may also comprise Strategy Components denominated in other currencies. The Underlying Index may therefore be exposed to currency exchange rate risks. The impact on the level of the Underlying Index will depend on the extent to which these other currencies, if any, strengthen or weaken against the Strategy Currency, the relative weight of each such other currency. currency exchange rates vary over time. Changes in a particular currency exchange rate result from the interaction of many factors directly or indirectly affecting economic or political conditions, including rates of inflation, interest rate levels, balances of payment among countries, the extent of governmental surpluses or deficits and other financial, economic, military and political factors, among others.

The Underlying Strategy has an internal simulated currency hedge feature in respect of one or more of its Strategy Components denominated in another currency. Through a series of synthetic transactions, the internal simulated currency hedge feature, if applicable, seeks to offset a substantial portion of the positive or negative effects of currency exchange rate fluctuations in such other currency on the values of such Strategy Component. However, the Underlying Index's internal simulated currency hedge feature will prove ineffective if, and to the extent that, the performance of the relevant money markets and of such Strategy Component move in opposite directions or move in the same direction but to a different extent. As a result of such movements, investors in the Underlying Index will still be subject to the risk of currency fluctuations affecting the value of the Underlying Index. In addition, as the currency hedged levels of such Strategy Component are based on the performance of synthetic cash deposits, the internal simulated currency hedge Feature, if applicable, is unlikely to replicate a return exactly equal or similar to the return such Strategy Component that would be available to an investor whose investment currency is the same as that of such Strategy Component.

(xi) In respect of each of the Index, the Underlying Index and the Govt Bond Strategy only:

(A) ***Potential amendment to the methodology of a Relevant Strategy or replacement of a Relevant Strategy to enable the Strategy Sponsor and/or any affiliate to be able to effectively hedge its exposure to the Relevant Strategy and to reduce the impact of such hedging transactions on the relevant markets***

If the Strategy Sponsor determines that the aggregate notional or principal amount of financial products linked to a Relevant Strategy is above a certain threshold it may (a) change the methodology of the Relevant Strategy so that the rebalancing of the Relevant Strategy is executed over one or more additional business days or that the rebalancing of the Relevant Strategy occurs more frequently, (b) replace the Relevant Strategy with a replacement Relevant Strategy which will be identical in all material respects other than the day or days on which the Relevant Strategy is rebalanced and/or (c) make such other adjustments to the Relevant Strategy, in each case, in order to enable the Strategy Sponsor and/or any affiliate to be able to effectively hedge its exposure to such Relevant Strategy and/or to reduce the expected impact of such hedging transactions on the relevant markets. Although such amendments or such replacement would be designed to minimise potential market impact, the performance of the Relevant Strategy may be affected by such amendments or replacement, potentially materially so.

(xii) ***Specific risks in respect of the Commodity Index, the EUA USD Strategy and the EUA EUR Strategy***

(A) ***An investment in the Relevant Strategy is subject to risks associated with foreign commodities markets***

Each of the terminal components included in the Relevant Strategy tracks the performance of one or more commodities in the commodity markets. Such commodities may be represented by commodity futures which (i) trade outside the United States on international exchanges, and/or (ii) are denominated in currencies other than United States dollars. Investments linked to the value of foreign commodity futures contracts involve particular risks.

Certain terminal components included in the Relevant Strategy may be linked to commodity futures contracts on physical commodities on trading facilities located outside the United States. The regulations of the Commodity Futures Trading Commission (the "**CFTC**") do not apply to trading on foreign trading facilities, and trading on foreign trading facilities may involve different and greater risks than trading on United States trading facilities. Certain foreign markets may be more susceptible to disruption than United States trading facilities due to the lack of a government-regulated clearinghouse system. Trading on foreign trading facilities also involves certain other risks that are not applicable to trading on United States trading facilities. Those risks may include: exchange rate risk relative to the U.S. dollar, exchange controls, expropriation, burdensome or confiscatory taxation, and moratoriums, and political or diplomatic events. It will also likely be more costly and difficult for the Strategy Sponsor, as the sponsor of the Relevant Strategy, to enforce the laws or regulations of a foreign country or trading facility, and it is possible that the foreign country or trading facility may not have laws or regulations which adequately protect the rights and interests of investors in the commodity futures contracts included in the Relevant Strategy. In addition, because foreign trading facilities may be open on days when the value of the Relevant Strategy is not published, the value of the commodity futures contracts included in Relevant Strategy may change on days when the level of the Relevant Strategy is unavailable.

(B) ***Suspension or disruptions of market trading in the commodity and related options futures markets may adversely affect the value of the Relevant Strategy***

The commodity markets are subject to temporary distortions or other market disruptions due to various factors, including the lack of liquidity in the markets, the participation of speculators and government regulation and intervention. In addition, U.S. futures exchanges and some foreign exchanges have regulations that limit the amount of fluctuation in futures contract prices that may occur during a single business day. These limits are generally referred to as "daily price fluctuation limits" and the maximum or minimum price of a contract on any given day as a result of these limits is referred to as a "limit price". Once the limit price has been reached in a particular contract, no trades may be made at a different price. Limit prices have the effect of precluding trading in a particular contract or forcing the liquidation of contracts at disadvantageous times or prices. These circumstances could adversely affect the level of the terminal components in the Relevant Strategy and, therefore, the value of the Relevant Strategy and the value of any financial instruments linked to the Relevant Strategy.

(C) ***Commodity prices are characterised by high and unpredictable volatility, which could lead to high and unpredictable volatility of the Relevant Strategy***

Commodity prices, and, consequently, the prices of corresponding commodity futures contracts, are affected by various factors, including, but not limited to, supply and demand, liquidity, weather conditions and natural disasters, government programs and policies, political, military, terrorist and economic events, as set out in more detail below:

(1) Supply and demand - The planning and management of commodities supplies is very time-consuming. This means that the scope for action on the supply side is limited and it is not always possible to adjust production swiftly to take account of demand. Demand can also vary on a regional basis. Transport costs for commodities in regions where these are needed also affect their prices. The fact that some commodities take a cyclical pattern, such as agricultural products which are only produced at certain times of the year, can also result in major price fluctuations.

(2) Liquidity - Not all commodities markets are liquid and able to quickly and adequately react to changes in supply and demand. The fact that there are only a few market participants in the commodities markets means that speculative investments can have negative consequences and may distort prices.

(3) Weather conditions and natural disasters - Unfavourable weather conditions can influence the supply of certain commodities for the entire year. This kind of supply crisis can lead to severe and unpredictable price fluctuations. Diseases and epidemics can also influence the prices of agricultural commodities.

(4) Governmental programs and policies, national and international political, military and economic events and trading activities in commodities and related contracts - Commodities are often produced in emerging market countries, with demand coming principally from industrialised nations. The political and economic situation is however far less stable in many emerging market countries than in the developed world. They are generally much more susceptible to the risks of rapid political change and economic setbacks. Political crises can affect purchaser confidence, which can as a consequence affect commodity prices. Armed conflicts can also impact on the supply and demand for certain commodities. It is also possible for industrialised nations to impose embargos on imports and exports of goods and services. This can directly and indirectly impact commodity prices. Furthermore, numerous commodity producers have joined forces to establish organisations or cartels in order to regulate supply and influence prices.

These factors may adversely affect the value of the Relevant Strategy and the value of any financial instrument linked thereto in varying ways, and different factors may cause the value and volatility of different commodities to move in inconsistent directions and at inconsistent rates.

(D) ***Some of the S&P GSCI® Single Commodity Forward Indices (each, an "S&P DJI Relevant Strategy") and Goldman Sachs proprietary strategies referenced by the Relevant Strategy may be subject to pronounced risks of pricing volatility***

As a general matter, the risk of low liquidity or volatile pricing around the maturity date of a commodity futures contract is greater than in the case of other futures contracts because (among other factors) a number of market participants take physical delivery of the underlying commodities. Many commodities, like those in the energy and industrial metals sectors, have liquid futures contracts that expire every month. Therefore, these futures contracts are rolled forward every month. Futures contracts based on certain other commodities, most notably agricultural and livestock products, tend to have only a few contract months each year that trade with substantial liquidity. Thus, these commodities, with related futures contracts that expire infrequently, roll forward less frequently than every month, and can have further pronounced pricing volatility during extended periods of low liquidity. It should be noted that due to the significant level of continuous consumption, limited reserves, and oil cartel controls, energy commodities are subject to rapid price increases in the event of perceived or actual shortages. These factors (when combined or in isolation) may affect the price of commodity futures contracts and, as a consequence, the performance of the Relevant Strategy.

(E) ***Exposure to commodity futures contracts through an investment in a Relevant Strategy that references commodity indices or strategies compared to "spot" prices***

(1) Rolling - It is typical in commodity markets to take the price of the first-nearby commodity futures contract with respect to a commodity (that is, as of a given date, the commodity futures contract first to expire following such date) as a reference for the "spot" price of such commodity. Over time such "spot" price will vary for two reasons. Firstly, the price of the first-nearby commodity futures contract will vary over time due to market fluctuations. Secondly, when the commodity futures contract which is considered to be the first-nearby contract changes from contract expiration "X" to contract expiration "Y" (as contract expiration "X" is approaching expiry), there is a discrete change in the price of the "prevailing" first-nearby commodity futures contract. If contract expiration "Y" is trading at a premium to contract expiration "X" (referred to as a "contango" market, as described in further detail below), the discrete change will represent a "jump" in the "spot" price. If contract expiration "Y" is trading at a discount to contract expiration "X" (referred to as a "backwardated" market, as described in further detail below) the discrete change will represent a "drop" in price.

(2) Effect of "jump" or "drop" - Since a "jump" or "drop" does not correspond to a change in price of any given commodity futures contract, these economics cannot be captured by a futures-linked investment such as the Relevant Strategy. Therefore, all other things being equal (in particular, assuming no change in the relative price of the various contract expirations with respect to the relevant commodity futures contract), in a "contango" market a long-only futures-linked investment may be expected to underperform the "spot" price (due to not capturing the "jump" in spot price) and in a "backwardated" market a long-only futures-linked investment may be expected to outperform the "spot" price (due to not capturing the "drop" in spot price).

(3) "Backwardation" occurs when the price of a near-dated commodity futures contract is greater than the price of a longer-dated commodity futures contract, the market for such contracts is referred to as in "backwardation". "Contango" occurs when the price of the near-dated commodity futures contract is lower than the price of the longer-dated commodity futures contract, the market for such contracts is referred to as in "contango".

Accordingly, an investor in a financial instrument linked to the Relevant Strategy that references commodity indices or strategies as components may receive a lower payment upon redemption of such financial instrument than such investor would have received if he or she had invested directly in commodities underlying such commodity indices or strategies or a financial instrument whose redemption or settlement amount was based upon the spot price of physical commodities or commodity futures contracts that were scheduled to expire on the maturity date of the financial instrument.

(F) ***Commodities are subject to legal and regulatory regimes that may change in ways that could affect the level of the Relevant Strategy and/or affect the ability of the Strategy Sponsor, an issuer or other relevant entities to enter into or maintain hedging transactions***

Commodities are subject to legal and regulatory regimes in the United States and, in some cases, in other countries that may change in ways that could negatively affect the value of the Relevant Strategy and are expected to increase the cost of transacting derivatives. This could have an adverse impact on the level of the Relevant Strategy.

(xiii) Specific risks in respect of the Underlying Index, the Govt Bond Index and the Commodity Index

(A) ***The value of the Relevant Strategy is reduced by the deduction of certain costs included in the calculation of the value of the Relevant Strategy and this will negatively impact the return on an investment in Securities linked to the Relevant Strategy***

The level of the Relevant Strategy is reduced by the deduction the basket rebalancing costs and the asset servicing costs. The basket rebalancing costs reflect the synthetic costs of entering into and/or unwinding any transactions relating to the Strategy Components following changes to their quantities. The asset servicing costs reflect the synthetic costs of maintaining positions in, and replicating the performance of, the Strategy Components. The value of the Relevant Strategy is reduced by the deduction of synthetic costs of establishing and unwinding transactions in respect of the Relevant Strategy. Such deduction has the effect of reducing the performance of the Relevant Strategy and consequently the return on an investment in Securities linked to the Relevant Strategy.

The Strategy Sponsor (or its affiliates) may benefit if the Relevant Strategy costs (and the component amounts thereof) embedded in the Underlying Index exceed the actual servicing costs and/or rebalancing costs that are incurred by the Strategy Sponsor (or its affiliates) in hedging transactions that may be entered into in respect of such the Strategy Components and/ or any underlying component thereof.

(xiv) Specific risks in respect of the relating to Relevant Strategies which reference foreign exchange rates, being each of the Underlying Index, the Govt Bond Index and the EUA USD Strategy

(A) ***Changes in foreign currency exchange rates can be volatile and unpredictable***

Generally, rates of exchange between foreign currencies are volatile, and this volatility may continue in the future, in particular with regard to emerging market currencies. Fluctuations in currency exchange rates could adversely affect the performance of the Relevant Strategy. Some markets, especially emerging markets, carry significant risks for investors.

(B) ***Government policy can adversely affect foreign currency exchange rates***

Foreign currency exchange rates can either float or be fixed by sovereign governments. From time to time, governments use a variety of techniques, such as intervention by a country's central bank or imposition of regulatory controls or taxes, to affect the exchange rate of their currencies. Governments may also issue a new currency to replace an existing currency or alter the exchange rate or exchange characteristics by devaluation or revaluation of a currency. Therefore, the level of a Strategy Component (and therefore any Relevant Strategy referencing such Strategy Component) which references foreign currency exchange rates could be significantly and unpredictably affected by governmental actions. Even in the absence of governmental action directly affecting foreign currency exchange rates, political, military or economic developments in a country issuing either currency of a relevant currency pair or elsewhere could lead to significant and sudden changes in the foreign currency exchange rate between currency pairs as well as the level of any Strategy Component referencing such foreign currency exchange rate taken into account for the purposes of the calculation of the level of the Relevant Strategy.

The government or central bank that issues either currency of a relevant currency pair will have no involvement in the offer and sale of the Relevant Strategy and no obligations to the Index Sponsor. Each such government or central bank may take actions that could adversely affect the value of the Relevant Strategy.

(C) ***Foreign exchange rates are influenced by unpredictable factors***

Generally, foreign exchange rates are a result of the supply of, and demand for, a given currency both domestically and internationally. Changes in exchange rates may result from the interactions of many factors including economic, financial, social and political conditions in Europe, the United States, any other jurisdiction whose currency is either currency of a relevant currency pair. These conditions include, for example, the overall growth and performance of the economies of the United States, the European Monetary Union (and the constituent nations thereof), any other jurisdiction whose currency is either currency of the relevant currency pair, the trade and current account balance between such countries, inflation, interest rate levels, the performance of global stock markets, the stability of the United States, European or other relevant jurisdictions' governments and banking systems, wars in which such nations or regions are directly or indirectly involved or that occur anywhere in the world, major natural disasters, and other foreseeable and unforeseeable events.

Certain relevant information relating to relevant jurisdictions (in respect of any currency pair) may not be as well known or as rapidly or thoroughly reported in the United States as compared to US developments. It is possible that there would be a lack of availability of important information that can affect the value of the one currency against another in respect of the Relevant Strategy, and special efforts may be required to obtain such information on a timely basis. See also the risk factor entitled "Government policy can adversely affect foreign currency exchange rates" above.

(D) ***Foreign exchange rate information may not be readily available***

There is no systematic reporting of last-sale information for foreign currencies. Reasonable current bid and offer information is available in certain brokers' offices, in bank foreign currency trading offices, and to others who wish to subscribe for this information, but this information will not necessarily reflect the currency exchange rates relevant for determining the level of the Relevant Strategy. The absence of last-sale information and the limited availability of quotations to individual investors may make it difficult for many investors to obtain timely, accurate data about the state of the underlying foreign exchange markets.

(xv) Specific risks in respect of the EUA EUR Strategy

(A) ***Although the Relevant Strategy is based on the same commodity futures contract underlying the S&P Underlying Index, its value and returns may differ from those of the S&P Underlying Index***

The Relevant Strategy is based on the same commodity futures contract underlying the S&P Underlying Index and calculated using the same methodology as the S&P Underlying Index, but applies different rules for the "rolling" forward of the hypothetical positions in the relevant commodity futures contracts. An investor in a financial instrument linked to the Relevant Strategy should be aware that the risk factors applying to the S&P Underlying Index will also apply to such financial instrument, but that the return or amount payable under such financial instrument do not reflect the performance of the S&P Underlying Index. In particular, the different rules governing the roll period for the underlying Designated Contract may result in significant differences between the performance of the Relevant Strategy and the performance of the S&P Underlying Index. These different rules governing the roll period for the underlying Designated Contract are generally intended to enhance the performance of the Relevant Strategy over that of the S&P Underlying Index, but there can be no assurance that the different rules will have the intended effect and it is possible that they could actually result in the Relevant Strategy underperforming the S&P Underlying Index.

(B) ***Change in the composition or discontinuance of the S&P Underlying Index could affected the value of the Relevant Strategy***

The Relevant Strategy is based on the same commodity futures contracts underlying the S&P Underlying Index and calculated using the same methodology as the S&P Underlying Index, subject to certain modifications. The S&P Underlying Index is calculated and maintained by S&P Dow Jones Indices as sponsor, who is also responsible for the composition of the S&P Underlying Index. The sponsor of the S&P Underlying Index will have no involvement in the offer and sale of any financial instrument linked to the Relevant Strategy and will have no obligation to any purchaser of such instruments. The sponsor of the S&P Underlying Index may take any actions in respect of the S&P Underlying Index without regard to the interests of the Strategy Sponsor of the Relevant Strategy or any investors in financial instruments linked to Relevant Strategy, and any of these actions could adversely affect the value of the Relevant Strategy together with the market value of any financial instruments linked to the Relevant Strategy.

The sponsor of the S&P Underlying Index can substitute the commodity futures contracts underlying the S&P Underlying Index (for example, if a commodity futures contract referenced by the S&P Underlying Index were to be delisted, terminated or replaced by the relevant exchange on which such underlying commodity futures contract is traded) or make other changes to the methodology for calculating the S&P Underlying Index. The composition of the S&P Underlying Index may also change over time as additional commodity contracts satisfy the eligibility criteria or commodity contracts currently included in the S&P Underlying Index fail to satisfy such criteria. Such changes to the composition of the S&P Underlying Index (and therefore, of the Relevant Strategy) may affect the value of the Relevant Strategy as any newly added commodity contract may perform significantly worse or better than the commodity contract it replaces. The sponsor of the S&P Underlying Index may also alter, discontinue or suspend calculation or dissemination of the S&P Underlying Index. In such circumstances, the Strategy Sponsor would have the discretion to make determinations with respect to the level of the Relevant Strategy including for the purposes of calculating the amount payable on any financial instrument linked to the Relevant Strategy.

(xvi) Specific risks in respect of each Money Market Index

(A) ***The Money Market Index is not actively managed***

The value of the Money Market Index is a simple function of its previous index value and the relevant overnight interest rate option (the "Overnight Interest Rate Option"). There will be no active management of the Money Market Index so as to enhance returns beyond those embedded in the Money Market Index. Market participants often may adjust their investment promptly in view of market, political, financial or other factors. An actively managed product may potentially respond more directly and appropriately to immediate market, political, financial or other factors than a non-actively managed product.

(B) ***Historical Levels of the Money Market Index may not be indicative of future performance***

Past performance of the Money Market Index is no guide as to future performance. The Money Market Index is based on historical performance of the Overnight Interest Rate Option. However, the actual performance of the Money Market Index in the future may bear little relation to the historical value of the Money Market Index.

(C) ***The Index Sponsor Has Discretion to Make Certain Determinations Which Could Adversely Affect the Value of the Index***

The index sponsor has discretion to make determinations that could adversely affect the value of the Money Market Index. In making those determinations, the index sponsor will not be required to, and will not, take any person's interests into account or consider the effect its determinations will have on the value of the Money Market Index. The index sponsor will not be liable for their determinations. The index sponsor reserves the right to alter the methodology used to calculate the Money Market Index or the formula underlying the Money Market Index or to discontinue calculation and dissemination of such Money Market Index and an alteration may result in a decrease in the value of the Money Market Index. As such, many aspects of the Money Market Index may change in the future, including, without limitation, the formulae, methodology and third party data sources.

(D) ***Overnight Interest Rates are not Guaranteed Rates and do not Reflect Government Deposit Guarantees***

The Overnight Interest Rate Option is not a rate applicable to guaranteed deposits and will not reflect any insurance or guarantee by any governmental agency in any jurisdiction (including without limitation the United States Federal Deposit Insurance Corporation, the Deposit Insurance Fund or any other governmental agency).

(E) ***The index sponsor relies upon third party data sources which may be inaccessible and/or inaccurate***

The index sponsor relies upon third party external sources to obtain certain inputs necessary to compute a Money Market Index. The inability of the index sponsor to source necessary data to carry out the Money Market Index formula may affect the value of the Money Market Index. In addition, the index sponsor makes no warranty as to the correctness or completeness of that information and takes no responsibility for the accuracy of such data or the impact of any inaccuracy of such data on the value of the Money Market Index.

In particular, if the rate specified as the Overnight Interest Rate Option is not published (or if published, is determined by the index sponsor to be manifestly incorrect) for a period longer than three Overnight Interest Rate Business Days (as defined in the index rules of the Money Market Index), the index sponsor may substitute the Overnight Interest Rate Option with an alternative overnight interest rate option for the relevant currency. This substitution may have a negative impact on the performance of the Money Market Index and therefore on your Securities."

2. Inclusion of a new section

The Base Prospectus is amended and supplemented by inserting a new section immediately after the section entitled "*DESCRIPTION OF THE GOLDMAN SACHS GLOBAL DIVERSIFIED FUNDS VOLATILITY TARGET STRATEGY*" on pages 1139 to 1161:

"DESCRIPTION OF THE GOLDMAN SACHS GLOBAL DIVERSIFIED MULTI-ASSET 5% INDEX

*The following description (this "**Description**") of each of:*

(i) *the Goldman Sachs Global Diversified Multi-Asset 5% Index (for purposes of this section only, the "**Index**");*

(ii) *the Goldman Sachs Diversified Multi-Asset Basket EUR ER Index (for purposes of this section only, the "**Underlying Index**");*

(iii) *the Goldman Sachs US and EUR Government Bond Basket USD ER Strategy (the "**Govt Bond Strategy**");*

(iv) *the US Government Bond Futures Rolling Strategy Index (the "**UST Futures Index**");*

(v) *the European Government Bond Futures Rolling Strategy Index (the "**Euro Bond Futures Strategy Index**" and, together with the UST Futures Index, the "**Bond Indices**");*

(vi) *the Goldman Sachs Commodity Focus Basket USD ER Index (for purposes of this section only, the "**Commodity Index**");*

(vii) *the Goldman Sachs EUA USD Strategy (the "**EUA USD Strategy**");*

(viii) *the Goldman Sachs Enhanced Strategy MOZE on S&P GSCI Carbon Emission Allowances EUA (EUR) Index (the "**EUA EUR Strategy**");*

(ix) *the EUR Goldman Sachs Overnight Money Market Index (the "**EUR Money Market Index**");*

(x) *the EUR STR Goldman Sachs Overnight Money Market Index (the "**EUR STR Money Market Index**"); and*

(xi) *the USD Goldman Sachs Overnight Money Market Index (the "**USD Money Market Index**" and, together with the EUR Money Market Index and the EUR STR Money Market Index, each a "**Money Market Index**" and together the "**Money Market Indices**"),*

*(the Index, the Underlying Index, the Govt Bond Strategy, the Bond Indices, the Commodity Index, the EUA USD Strategy, the EUA EUR Strategy and each Money Market Index, a "**Relevant Strategy**"), is subject to, and qualified in its entirety by, the methodology in respect of such Relevant Strategy as published or made available by Goldman Sachs International (or any successor thereto) (the "**Strategy Sponsor**" in respect of such Relevant Strategy) from time to time.*

Any such methodology may be amended or modified from time to time at the discretion of the Strategy Sponsor in accordance with the terms set out therein. Copies of such methodologies shall be made available by the Strategy Sponsor from www.goldmansachsindices.com (or any successor page thereto).

A prospective purchaser of Index Linked Securities should also carefully review the risk factors in relation to the Index and the other Relevant Strategies set out in the section of this Base Prospectus entitled "Risk Factors" before purchasing any Index Linked Securities.

Each Relevant Strategy is a synthetic rules-based proprietary strategy created by the Strategy Sponsor. All determinations made pursuant to each Relevant Strategy are reserved for the Strategy Sponsor only, save that, in respect of:

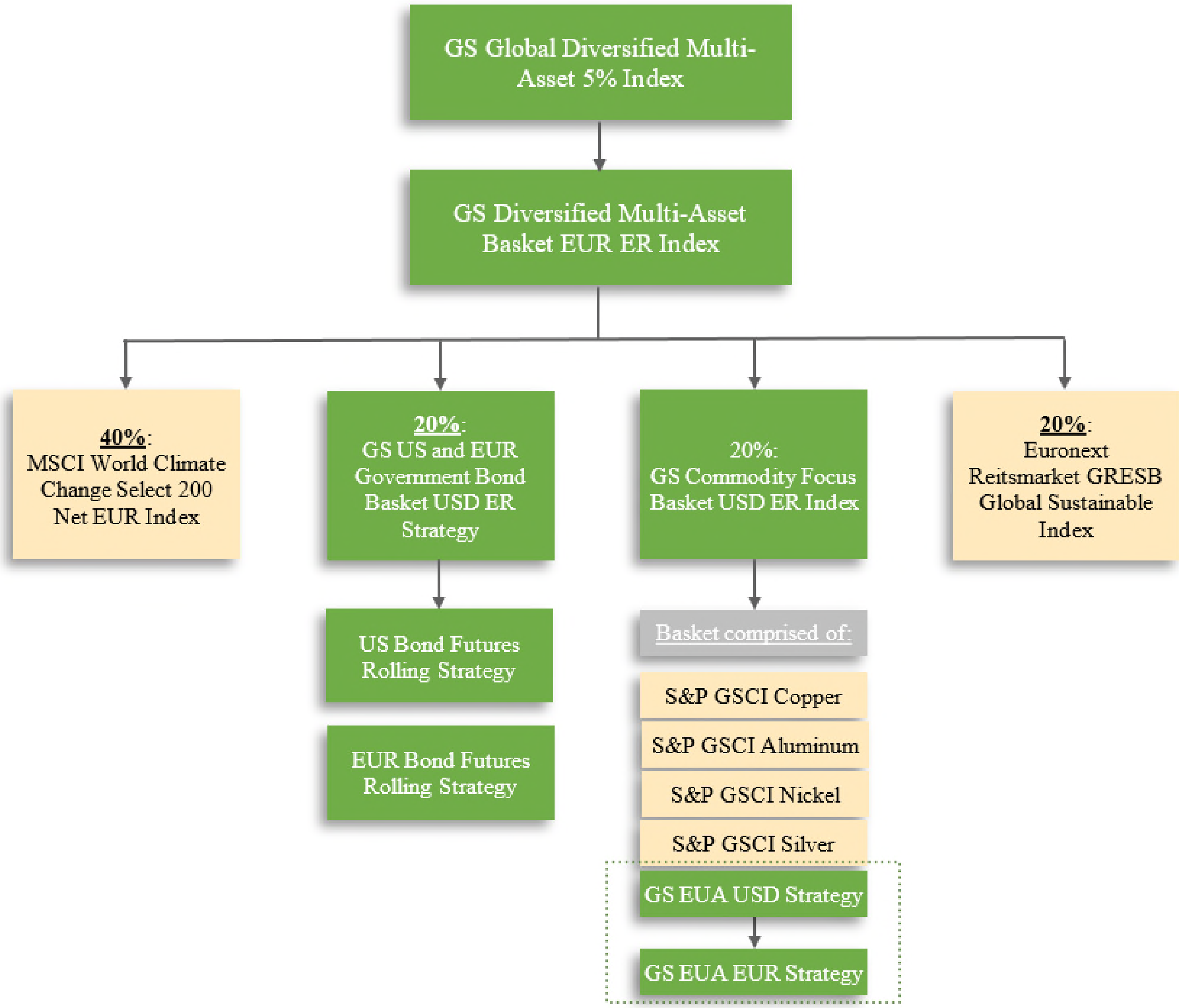
(1) each Relevant Strategy other than the Bond Indices, Goldman Sachs International; and

(2) each Bond Index, Standard & Poor's,

(acting as calculation agent, the "**Strategy Calculation Agent**" in respect of the relevant Relevant Strategy) may determine the value of the relevant Relevant Strategy from time to time in accordance with the relevant methodology.

The Strategy Sponsor owns the copyright and all other rights to each Relevant Strategy.

The structure of the Index is set out in the diagram below:



1. Description of the Index

Capitalised terms defined in this Section 1 (*Description of the Index*) (including in Section 1.8 (*Definitions in respect of the Index*)) shall have the meaning given to them solely for the purposes of this Section 1 (*Description of the Index*) unless otherwise specified or cross-referred to.

1.1 Overview of the Index

The Goldman Sachs Global Diversified Multi-Asset 5% Index (*Bloomberg Code: GSISCC5E <Index>*) (referred to in this section as the "Index") seeks to provide a volatility-targeted exposure to the performance of the Underlying Index.

The volatility adjustment feature systematically adjusts the exposure of the Index to the performance of the Underlying Index by adjusting the weight of its exposure to the Underlying Index if a specified measure of the realised volatility of the Underlying Index would otherwise deviate from a target of pre-defined volatility target of 5.00 per cent. (the "**Volatility Target**") on any Strategy Rebalancing Day (the "**Volatility Adjustment Feature**"). The notional weight assigned to the Underlying Index is rebalanced on each Scheduled Trading Day (as defined in Section 2 (*Description of the Underlying Index*) below) for the Underlying Index and is subject to a cap of 100 per cent.

The Index is an "excess return" strategy and, therefore, the value of the Index shall not include the accrual of any amount or interest in relation to any money market rate in respect of any notional cash amount.

The Index is denominated in euro ("**EUR**").

The level of the Index is reduced by the deduction of synthetic costs of establishing and unwinding transactions in respect of the Underlying Index resulting from the application of the Volatility Adjustment Feature. The value of the Index is also reduced by the deduction of an annual fixed rate of one per cent. (the "**Strategy Deduction Rate**") which has the effect of reducing the performance of the Index.

1.2 Calculation of the Value of the Index

The value of the Index (the "**Strategy Value**") on the Strategy Inception Date was equal to 100.

The Strategy Value shall be calculated by the Strategy Calculation Agent on each Strategy Business Day following the Strategy Inception Date as an amount in the Strategy Currency (subject to a floor of zero) equal to: (a) the Strategy Value immediately prior to subtracting the Asset Rebalancing Cost in respect of such Strategy Business Day minus (b) the Asset Rebalancing Cost in respect of such Strategy Business Day ("$\boldsymbol{RCV_t^V}$").

Expressed as a formula, the value of the Index on each Strategy Business Day following the Strategy Inception Date is as follows:

$$V_t^{Pre} - RC_t^V$$

The Strategy Value immediately before subtracting the Asset Rebalancing Cost in respect of each Strategy Business Day following the Strategy Inception Date ("$\boldsymbol{V_t^{Pre}}$") shall be calculated by the Strategy Calculation Agent as an amount in the Strategy Currency equal to:

(a) the value of the Index in respect of the Strategy Rebalancing Day immediately preceding such Strategy Business Day ("$\boldsymbol{V_{VRt}}$"); multiplied by

(b) an amount equal to:

(i) (1) the Asset Weight on the Strategy Rebalancing Day immediately preceding such Strategy Business Day ("$\boldsymbol{W_{VRt}^V}$"); multiplied by

(2) the quotient of (i) the Asset Value of the Underlying Index in respect of such Strategy Business Day ("$\boldsymbol{A_t}$"), as numerator; and (ii) the Asset Value of the Underlying Index on the Strategy Rebalancing Day immediately preceding such Strategy Business Day ("$\boldsymbol{A_{VRt}}$"), as denominator,

minus

(ii) (1) the actual number of days in the period commencing on (and including) the Strategy Rebalancing Day immediately preceding such Strategy Business Day and ending on (but excluding) such Strategy Business Day, divided by 360 ("$\boldsymbol{DCF_{VRt,t}}$"); multiplied by

(2) the Strategy Deduction Rate.

provided that if the value of the Index in respect of such Strategy Business Day is (or is deemed to be) zero, the value of the Index in respect of each Strategy Business Day immediately following such Strategy Business Day shall also be zero.

Expressed as a formula, the Strategy Value immediately before subtracting the Asset Rebalancing Cost in respect of each Strategy Business Day following the Strategy Inception Date is as follows:

$$V_{VRt} \times \left[W_{VRt}^{V} \times \frac{A_t}{A_{VRt}} - DCF_{VRt,t} \times 1.00\%\right]$$

Subject to the occurrence of a disruption event (in respect of which see Section 10 (*Disruption Events, Adjustment Events and consequences*) below), each Strategy Value in respect of a Strategy Business Day will be published on the Strategy Publication Data Source and the Strategy Bloomberg Ticker rounded to two decimal places (with 0.005 being rounded upwards).

1.3 **Calculation of the Asset Value in respect of the Underlying Index**

In respect of any calendar day, the Asset Value in respect of the Underlying Index shall be as calculated in accordance with Section 2.3 (*Calculation of the Underlying Index Value*) set out in Section 2 (*Description of the Underlying Index*) below.

In respect of any calendar day, if the Asset Value of the Underlying Index is not available, then such Asset Value shall be the latest available Asset Value immediately preceding such calendar day.

1.4 **Calculation of the Asset Weight**

The Asset Weight in respect of a Strategy Rebalancing Day is an amount equal to the lower of:

(a) 100 per cent.; and

(b) the quotient of (A) 5.00 per cent., as numerator; and (B) the Reference Volatility in respect of such Strategy Rebalancing Day, as denominator.

Any such Asset Weight shall be rounded to three decimal places with 0.0005 being rounded upwards.

1.5 **Calculation of the Reference Volatility and the Exponential Asset Realized Volatility**

In respect of a Strategy Business Day, the Reference Volatility shall be equal to the Exponential Asset Realized Volatility in respect of the Asset Sampling Business Day falling on or immediately before such Strategy Rebalancing Day.

The Exponential Asset Realized Volatility in respect of the Strategy Inception Date was equal to 5.00 per cent.

The Exponential Asset Realized Volatility shall be calculated by the Strategy Calculation Agent on each Asset Sampling Business Day falling after the Strategy Inception Date as an amount equal to the greater of the Short Term Exponential Asset Realized Volatility and the Long Term Exponential Asset Realized Volatility, in each case, in respect of such Asset Sampling Business Day.

The Short Term Exponential Asset Realized Volatility shall be calculated by the Strategy Calculation Agent on each Asset Sampling Day falling after the Strategy Inception Date in accordance with the following formula:

$$\sqrt{0.94 \times AssetVol_{ST,t-1}^{2} + (1-0.94) \times \frac{252}{5} \times \left[In\left(\frac{A_{t-d}}{A_{t-d-k}}\right)\right]^2}$$

The Long Term Basket Volatility shall be calculated by the Strategy Calculation Agent on each Asset Sampling Business Day falling after the Strategy Inception Date in accordance with the following formula:

$$\sqrt{0.97 \times AssetVol_{LT,t-1}^2 + (1 - 0.97) \times \frac{252}{5} \times \left[In\left(\frac{A_{t-d}}{A_{t-d-k}}\right)\right]^2}$$

Where:

$AssetVol_{ST,t-1}^2$ means, in respect of an Asset Sampling Business Day, the square of the Short Term Exponential Asset Realized Volatility in respect of the Asset Sampling Business Day immediately preceding such Strategy Business Day;

A_{t-d} means, in respect of an Asset Sampling Business Day, the Asset Value in respect of the Underlying Index in respect of the Asset Sampling Business Day that is two Asset Sampling Business Days immediately preceding such Asset Sampling Day;

A_{t-d-k} means, in respect of an Asset Sampling Business Day, the Asset Value in respect of the Underlying Index in respect of the Asset Sampling Business Day that is seven Asset Sampling Business Days immediately preceding such Asset Sampling Day;

ln means the natural logarithm function; and

$AssetVol_{LT,t-1}^2$ means, in respect of an Asset Sampling Business Day, the square of the Long Term Exponential Asset Realized Volatility in respect of the Asset Sampling Business Day immediately preceding such Strategy Business Day.

1.6 **Calculation of the Asset Rebalancing Cost in respect of the Index**

The Asset Rebalancing Cost in respect of (a) the Strategy Inception Date and (b) each Strategy Business Day following the Strategy Inception Date that is not a Strategy Rebalancing Day, is equal to zero.

The Asset Rebalancing Cost in respect of each Strategy Rebalancing Day following the Strategy Inception Date shall be calculated by the Strategy Calculation Agent in accordance with the following formula:

$$0.0005 \times \left|w_t^v - \overline{w_t^v}\right| \times V_t^{Pre}$$

Where:

w_t^v means the Asset Weight in respect of such Strategy Rebalancing Day;

$\overline{w_t^v}$ means the Asset Actual Weight in respect of such Strategy Rebalancing Day immediately prior to the rebalancing process; and

V_t^{Pre} means the Strategy Value immediately before subtracting the Asset Rebalancing Cost in respect of such Strategy Business Day.

1.7 **Calculation of the Asset Actual Weight in respect of the Index**

The Asset Actual Weight in respect of each Strategy Business Day shall be calculated by the Strategy Calculation Agent as an amount equal to:

(a) the Asset Weight in respect of the Strategy Rebalancing Day immediately preceding such Strategy Business Day; multiplied by

(b) the quotient of (A) the Asset Value in respect of such Strategy Business Day, as numerator; and (B) the Asset Value in respect of the Strategy Rebalancing Day immediately preceding such Strategy Business Day, as denominator; multiplied by

(c) the quotient of (A) the Strategy Value in respect of the Strategy Rebalancing Day immediately preceding such Strategy Business Day, as numerator; and (B) the Strategy Value in respect of such Strategy Business Day immediately before subtracting the Asset Rebalancing Cost in respect of such Strategy Business Day.

1.8 **Definitions in respect of the Index**

"**Asset Sampling Business Day**" means the Strategy Inception Date and thereafter each calendar day which is a "Strategy Business Day" (as defined in Section 2 (*Description of the Underlying Index*) below);

"**Asset Trading Day**" means each "Strategy Trading Day" (as defined in Section 2 (*Description of the Underlying Index*) below);

"**Strategy Bloomberg Ticker**" means *GSISCC5E <Index>*;

"**Strategy Business Day**" means the Strategy Inception Date and thereafter each Asset Sampling Business Day;

"**Strategy Currency**" means EUR;

"**Strategy Inception Date**" means 20 January 2022;

"**Strategy Publication Data Source**" means https://goldmansachsindices.com (or any successor page thereto);

"**Strategy Rebalancing Day**" means the Strategy Inception Date and thereafter each Asset Trading Day; and

"**Strategy Trading Day**" means the Strategy Inception Date and thereafter each Asset Trading Day.

1.9 Disruption Events, Adjustment Events, Change in Methodology and Corrections

In respect of the Index, please see Section 10.1 (*Disruption Events* **-** *In respect of each of the Index, the Underlying Index and the Govt Bond Strategy only*), Section 11 (*Corrections*) and Section 12 (*Change in Methodology*).

2. Description of the Underlying Index

Capitalised terms defined in this Section 2 (*Description of the Underlying Index*) (including in Section 2.11 (*Definitions in respect of the Underlying Index*)) shall have the meaning given to them solely for the purposes of this Section 2 (*Description of the Underlying Index*) unless otherwise specified or cross-referred to.

2.1 Overview of the Underlying Index

The Goldman Sachs Diversified Multi-Asset Basket EUR ER Index (*Bloomberg Code: GSISDMAB <Index>*) (referred to herein as the Underlying Index) seeks to provide synthetic exposure to the performance of an unequally weighted basket (the "**Basket**") of four underlying indices (the "**Basket Indices**" and each a "**Basket Index**") and which periodically (on a monthly basis) rebalances to assign a notional weight to each Basket Index by reference to certain fixed weights (the Asset Weights, as set out in Section 2.2 (*Overview of Underlying Index Basket Indices*) below).

The Basket Indices in respect of the Underlying Index are set out in Section 2.2 (*Overview of Underlying Index Basket Indices*) below.

The Underlying Index is an "excess return" strategy and, therefore, the value of the Underlying Index shall not include the accrual of any amount or interest in relation to any money market rate in respect of any notional cash amount.

The Underlying Index is denominated in euro ("**EUR**") and has, in respect of each Basket Index which is not denominated in EUR, an internal simulated currency hedge feature that seeks to offset a substantial portion of the positive or negative effects of currency exchange rate fluctuations on the level of such Basket Index.

The level of the Underlying Index is reduced by the deduction the basket rebalancing costs and the asset servicing costs. The basket rebalancing costs reflect the synthetic costs of entering into and/or unwinding any transactions relating to the Basket Indices following changes to their Asset Quantities. The asset servicing costs reflect the synthetic costs of maintaining positions in, and replicating the performance of, the Basket Indices. Overall, the deduction of such synthetic costs may have the effect of reducing the performance of the Underlying Strategy.

2.2 Overview of the Underlying Index Basket Indices

i	Basket Index	Bloomberg Page	Currency	Return Type	Asset Weight

1	MSCI World Climate Change Select 200 Net EUR Index*	*MXWOCCNE <Index>*	EUR	Total Return	40%
2	Goldman Sachs US and EUR Government Bond Basket USD ER Strategy**	*GSISFIBU <Index>*	USD	Excess Return	20%
3	GS Commodity Focus Basket USD ER Index***	*GSISCFBU <Index>*	USD	Excess Return	20%
4	Euronext Reitsmarket GRESB Global Sustainable Index****	*ERGSN <Index>*	EUR	Total Return	20%

* Further details are available from https://www.msci.com
** As described in Section 3 (*Description of the Govt Bond Strategy*) below.
*** As described in Section 6 (*Description of the Commodity Index*) below.
**** Further details are available from https://live.euronext.com

2.3 Calculation of the Underlying Index Value

The value of the Underlying Index (the "**Underlying Index Value**") on the Strategy Inception Date was equal to 100.

The Underlying Index Value shall be calculated by the Strategy Calculation Agent on each Strategy Business Day following the Strategy Inception Date as an amount in the Strategy Currency. The Underlying Index Value is calculated in t (subject to a floor of zero) equal to:

(a) the Underlying Index Value in respect of the Strategy Rebalancing Day immediately preceding such Strategy Business Day ("$\boldsymbol{V_{VRt}}$"); multiplied by

(b) the quotient of:

(A) the Basket Value in respect of such Strategy Business Day ("$\boldsymbol{B_t}$"), as numerator; and

(B) the Basket Value in respect of the Strategy Rebalancing Day immediately preceding such Strategy Business Day (or, if none, 100) ("$\boldsymbol{V_{VRt}}$"), as denominator,

provided that if the Underlying Index Value in respect of such Strategy Business Day is (or is deemed to be) zero, the Underlying Index Value in respect of each Strategy Business Day immediately following such Strategy Business Day shall also be zero.

Expressed as a formula, the Underlying Index Value on each Strategy Business Day following the Strategy Inception Date is as follows:

$$V_{VRt} \times \left(\frac{B_t}{B_{VRt}}\right)$$

Subject to the occurrence of a disruption event (in respect of which see Section 10 (*Disruption Events, Adjustment Events and Consequences*) below), each such value in respect of each Strategy Business Day will be published on the Strategy Publication Data Source and the Strategy Bloomberg Ticker rounded to two decimal places (with 0.005 being rounded upwards).

2.4 Calculation of the Basket Value

The Basket Value on the Strategy Inception Date was equal to 100.

The Basket Value shall be calculated by the Strategy Calculation Agent on each Strategy Business Day following the Strategy Inception Date as an amount (subject to a floor of zero) equal to:

(a) the summation, in respect of each Basket Index, of:

(A) the Asset Quantity; multiplied by

(B) the Asset Value,

in each case, in respect of such Basket Index and such Strategy Business Day,

plus

(b) the Cash Asset Quantity in respect of such Strategy Business Day,

provided that if the Basket Value in respect of such Strategy Business Day is (or is deemed to be) zero, the Basket Value in respect of each Strategy Business Day immediately following such Strategy Business Day shall be zero.

2.5 **Calculation of the Asset Quantity in respect of each Basket Index**

The Asset Quantity in respect of a Basket Index and each Strategy Business Day falling after the Strategy Inception Date that is not a Basket Rebalancing Day shall be equal to the Asset Quantity in respect of such Basket Index in respect of the Basket Rebalancing Day immediately preceding such Strategy Business Day.

The Asset Quantity in respect of a Basket Index and each Basket Rebalancing Day shall be calculated by the Strategy Calculation Agent as the quotient of:

(a) the Asset Weight in respect of such Basket Index multiplied by the Basket Value, in each case in respect of the Basket Observation Day relating to such Basket Rebalancing Day (or, in respect of the Basket Rebalancing Day falling on the Strategy Inception Date, 100), as numerator; and

(b) the Asset Value in respect of the Basket Observation Day relating to such Basket Rebalancing Day, as denominator.

Unless the Strategy Calculation Agent determines otherwise, in the event that the value of any component which is utilised for the calculation of an Asset Quantity is subsequently corrected, the Strategy Calculation Agent will not correct the Asset Quantity and will instead use the Asset Quantity as calculated before such correction.

2.6 **Calculation of the Asset Value in respect of each Basket Index**

The Asset Value of each Basket Index on the Asset Inception Date was equal to 100.

The calculation of the Asset Value of each Basket Index depends on the Currency and Return Type in respect of such Basket Index, as set out in Section 2.2 (*Overview of Underlying Index Basket Indices*) above.

The Asset Value of each Basket Index in respect of which the Currency is EUR and the Return Type is "Total Return" (being Basket Indices i=1 and i=4) on any given Asset Business Day following the Asset Inception Date shall be calculated by the Strategy Calculation Agent as an amount equal to:

(a) the Asset Value in respect of such Basket Index in respect of the Asset Rebalancing Day in respect of such Basket Index immediately preceding such Asset Business Day ("$\boldsymbol{A_{ARt}}$"); multiplied by

(b) an amount equal to:

(i) one (1); minus

(ii) the quotient of (I) the Reference Level of the EUR STR Money Market Index on such Asset Business Day ("$\boldsymbol{MM_t}$"), as numerator; and (II) the Reference Level of the EUR STR Money Market Index on the Asset Rebalancing Day immediately preceding such Asset Business Day ("$\boldsymbol{MM_{ARt}}$"), as denominator; plus

(iii) the quotient of (i) the Reference Level of such Basket Index on such Asset Business Day ("$\boldsymbol{L_t}$") as numerator; and (ii) the Reference Level of such Basket Index on the Asset Rebalancing Day immediately preceding such Asset Business Day ("$\boldsymbol{L_{ARt}}$"), as denominator.

Expressed as a formula, the Asset Value of each Basket Index in respect of which the Currency is EUR and the Return Type is "Total Return" on any given Asset Business Day following the Asset Inception Date is as follows:

$$A_{ARt} \times \left(1 - \frac{MM_t}{MM_{ARt}} + \frac{L_t}{L_{ARt}}\right)$$

The Asset Value of each Basket Index in respect of which the Currency is USD and the Return Type is "Excess Return" (being Basket Indices i=2 and i=3) on any given Asset Business Day following the Asset Inception Date shall be calculated by the Strategy Calculation Agent as an amount equal to:

(a) the Asset Value in respect of such Basket Index in respect of the Asset Rebalancing Day in respect of such Basket Index immediately preceding such Asset Business Day ("$\boldsymbol{A_{ARt}}$"); multiplied by

(b) an amount equal to:

(i) one (1); minus

(ii) the quotient of:

(I) the applicable Currency Exchange Rate to convert one unit of USD into EUR in respect of such Asset Business Day ("$\boldsymbol{FX_t}$"), as numerator; and

(II) the applicable Currency Exchange Rate to convert one unit of USD into EUR in respect of the Asset Rebalancing Day immediately preceding such Asset Business Day ("$\boldsymbol{FX_{ARt}}$"), as denominator; plus

(iii) the quotient of:

(I) the Reference Level of such Basket Index in respect of such Asset Business Day ("$\boldsymbol{L_t}$"), multiplied by the applicable Currency Exchange Rate to convert one unit of USD into EUR in respect of such Asset Business Day ("$\boldsymbol{FX_t}$"), as numerator; and

(II) the Reference Level of such Basket Index in respect of the Asset Rebalancing Day immediately preceding such Asset Business Day ("$\boldsymbol{L_{ARt}}$"), multiplied by the applicable Currency Exchange Rate to convert one unit of USD into EUR in respect of the Asset Rebalancing Day immediately preceding such Asset Business Day ("$\boldsymbol{FX_{ARt}}$"), as denominator.

Expressed as a formula, the Asset Value of each Basket Index in respect of which the Currency is USD and the Return Type is "Excess Return" on any given Asset Business Day following the Asset Inception Date is as follows:

$$A_{ARt} \times \left(1 - \frac{FX_t}{FX_{ARt}} + \frac{FX_t \times L_t}{FX_{ARt} \times L_{ARt}}\right)$$

2.7 **Calculation of the Cash Asset Quantity**

The Cash Asset Quantity on the Basket Inception Date was equal to the Initial Cash Asset Quantity.

The Cash Asset Quantity on each Strategy Business Day following the Basket Inception Date shall be calculated by the Strategy Calculation Agent as an amount equal to:

(a) where such Strategy Business Day does not fall on a Basket Rebalancing Day, an amount equal to:

(A) the Cash Asset Quantity in respect of the Basket Rebalancing Day immediately preceding such Strategy Business Day (or, if none, the Initial Cash Asset Quantity); minus

(B) the Asset Servicing Cost in respect of such Strategy Business Day; and

(b) where such Strategy Business Day falls on a Basket Rebalancing Day, an amount calculated by the Strategy Calculation Agent in accordance with the following formula:

$$q_{c,BRt} + 1 \times \left\{\sum_{i=1}^{n} \left[\left(q_{i,BRt} - q_{i,t}\right) \times A_{i,t}\right] - RC_t^B - SC_t\right\}$$

Where:

$q_{c,BRt}$ means the Cash Asset Quantity in respect of the Basket Rebalancing Day immediately preceding such Strategy Business Day (or, if none, the Initial Cash Asset Quantity);

i means Basket Index "i";

n means a number equal to the total number of Basket Indices;

$q_{i,BRt}$ means the Asset Quantity in respect of the relevant Basket Index in respect of the Basket Rebalancing Day immediately preceding such Strategy Business Day (or, if none, in respect of the Strategy Inception Date);

$q_{i,t}$ means the Asset Quantity in respect of the relevant Basket Index and such Strategy Business Day;

$A_{i,t}$ means the Asset Value in respect of the relevant Basket Index and such Strategy Business Day;

RC_t^B means the Basket Rebalancing Cost in respect of such Strategy Business Day; and

SC_t means the Asset Servicing Cost in respect of such Strategy Business Day.

2.8 **Calculation of the Initial Cash Asset Quantity**

The Initial Cash Asset Quantity shall be calculated by the Strategy Calculation Agent as an amount equal to the quotient of:

(A) an amount equal to:

(i) 100; minus

(ii) the summation, in respect of each Basket Index, of:

(I) the Asset Quantity; multiplied by

(II) the Asset Value,

in each case, in respect of the Strategy Inception Date,

(as numerator); and

(B) one, as denominator.

Expressed as a formula, the Initial Cash Asset Quantity is calculated in accordance with the following formula:

$$\frac{100 - \sum_{i=1}^{n} q_{i,BID} \times A_{i,BID}}{1}$$

Where:

$q_{c,BRt}$ means the Asset Quantity in respect of Basket Index "i" in respect of the Strategy Inception Date;

i means Basket Index "i";

n means a number equal to the total number of Basket Indices; and

$A_{i,t}$ means the Asset Value in respect of Basket Index "i" in respect of the Strategy Inception Date.

2.9 **Calculation of the Basket Rebalancing Cost**

The Basket Rebalancing Cost in respect of (a) the Strategy Inception Date and (b) each Strategy Business Day following the Strategy Inception Date that is not a Basket Rebalancing Day, is equal to zero.

The Basket Rebalancing Cost in respect of each Basket Rebalancing Day following the Strategy Inception Date shall be calculated by the Strategy Calculation Agent in accordance with the following formula:

$$\sum_{i=1}^{4} \left(TC_{i,t}^{A} \times \left| q_{i,BRt} - q_{i,t} \right| \right)$$

Where:

i means Basket Index "i";

$TC_{i,t}^{A}$ means the Asset Transaction Cost Rate in respect of the relevant Basket Index;

$A_{i,t}$ means the Asset Value in respect of the relevant Basket Index and such Strategy Business Day;

$q_{i,BRt}$ means the Asset Quantity in respect of the relevant Basket Index in respect of the Basket Rebalancing Day immediately preceding such Basket Rebalancing Day (or, if none, in respect of the Strategy Inception Date); and

$q_{i,t}$ means the Asset Quantity in respect of the relevant Basket Index and such Basket Rebalancing Day.

2.10 **Calculation of the Asset Servicing Cost**

The Asset Servicing Cost in respect of the Strategy Inception Date was equal to zero.

The Asset Servicing Cost in respect of each Strategy Business Day following the Strategy Inception Date shall be calculated by the Strategy Calculation Agent in accordance with the following formula:

$$\sum_{i=1}^{n}\left[q_{i,BRt} \times \sum_{s=BRt}^{t-1}\left(A_{i,s} \times DCF_{s,s+1} \times CC_{i,s}\right)\right]$$

Where:

i means Basket Index "i";

n means a number equal to the total number of Basket Indices;

$q_{i,BRt}$ means the Asset Quantity in respect of the relevant Basket Index and the Basket Rebalancing Day immediately preceding such Strategy Business Day;

t means the relevant Strategy Business Day;

s means each relevant Strategy Business Day falling in the period commencing on (and including) the Basket Rebalancing Day immediately preceding such Strategy Business Day to (and including) the Strategy Business Day immediately preceding such Strategy Business Day;

$A_{i,s}$ means the Asset Value in respect of the relevant Basket Index and such Strategy Business Day;

$DCF_{s,s+1}$ means the actual number of days in the period commencing on (and including) such Strategy Business Day and ending on (but excluding) the Strategy Business Day immediately following such Strategy Business Day, divided by 360; and

$CC_{i,s}$ means the Asset Servicing Cost Rate in respect of the relevant Basket Index.

2.11 **Definitions in respect of the Underlying Index**

"**Additional Market Disruption Event**" means, in respect of Basket Index c=3, if a hedging disruption would otherwise occur due solely to a restriction in trading in the relevant underlying futures contract of such Basket Index due to movements in price exceeding certain permitted limits, such restriction shall be deemed not to be a hedging disruption for the purposes of such Basket Index.

"**Asset Business Day**" means, in respect of each Basket Index, each day from and including the Asset Inception Date which is a business day according to the holiday calendar of such Basket Index;

"**Asset Inception Date**" means, in respect of each Basket Index, 11 January 2022;

"**Asset Rebalancing Day**" means, in respect of a Basket Index, each Asset Business Day from and including the Asset Inception Date on which both the Asset Value and the Reference Level of such Basket Index are strictly greater than zero.

"**Asset Servicing Cost Rate**" means, in respect of a Basket Index and a Strategy Business Day

(a) if the Asset Quantity in respect of such Basket Index on such Strategy Business Day (or, if such Strategy Business Day is not Basket Rebalancing Day, on the Basket Rebalancing Day immediately preceding such Strategy Business Day) was greater than or equal to zero, the Long Asset Servicing Cost Rate in respect of such Basket Index; or

(b) otherwise, the Short Asset Servicing Cost Rate in respect of such Basket Index

"**Asset Sponsor**" means, in respect of:

(a) Basket Index i=1, MSCI Inc.;

(b) each of Basket Index i=2 and i=3, Goldman Sachs International; and

(c) Basket Index i=4, Euronext N.V.,

or, in each case, any successor thereto.

"**Asset Trading Day**" means, in respect of:

(a) Basket Index i=1, each day on which each of the following exchanges is open for trading during its regular trading session (as determined by the Strategy Calculation Agent): New York Stock Exchange, London Stock Exchange, Tokyo Stock Exchange, Frankfurt Stock Exchange, Hong Kong Stock Exchange and Paris Stock Exchange;

(b) Basket Index i=2, each "Strategy Trading Day" as defined in (as defined in Section 3 (*Description of the Govt Bond Strategy*) below);

(c) Basket Index i=3, each "Strategy Trading Day" as defined in (as defined in Section 6 (*Description of the Commodity Index*) below); and

(d) Basket Index i=4, each day on which each of the following exchanges is open for trading during its regular trading session (as determined by the Strategy Calculation Agent): Singapore Stock Exchange, Tokyo Stock Exchange, New York Stock Exchange, Toronto Stock Exchange, London Stock Exchange, Brussels Stock Exchange, Mercado Continuo (SIBE), Hong Kong Stock Exchange and Paris Stock Exchange;

"**Asset Transaction Cost Rate**" means, in respect of each Basket Index, 0.0005;

"**Basket Observation Day**" means, with respect to:

(a) the Strategy Inception Date, the Strategy Inception Date; and

(b) a Basket Rebalancing Day which is not the Strategy Inception Date, the calendar day falling two Strategy Business Days before such day;

"**Basket Rebalancing Day**" means the Strategy Inception Date and thereafter the 11th calendar day of each calendar month, or the immediately following Basket Trading Day if such day is not a Basket Trading Day. If on any Strategy Business Day, the Basket Value (calculated immediately before subtracting the Basket Rebalancing Cost for such day) or the Asset Value of a Basket Index is equal to or less than zero, no further Basket Rebalancing Day will occur on or after such day.

"**Basket Trading Day**" means each Strategy Business Day which is an Asset Trading Day for each Basket Index.

"**Currency Exchange Rate**" means, in respect of an Asset Business Day, the 4 p.m. London closing spot mid rate for converting one unit of USD into EUR as published by WM Performance Services or any successor company for such day.

The days on which Currency Exchange Rates are usually fixed and published, as determined by the Strategy Calculation Agent, by WM Performance Services or any successor company are referred to herein as "**Fixing Days**". If any calendar day is not a Fixing Day, the Strategy Calculation Agent will use the level of the relevant Currency Exchange Rate published for the applicable Fixing Day immediately preceding such calendar day.

If any calendar day is a Fixing Day but the applicable Currency Exchange Rate is not available on such day at the applicable time indicated above, the Strategy Calculation Agent shall determine the Currency Exchange Rate in respect of such Fixing Day in a commercially reasonable manner;

"**Long Asset Servicing Cost Rate**" means in respect of:

(a) each of Basket Index i=1 and i=4, 0.0075; and

(b) each of Basket Index i=2 and i=3, zero.

"**Reference Level**" means, in respect of:

(a) any Basket Index, on any given calendar day, the closing level of the relevant Basket Index as determined by the relevant Asset Sponsor in respect of such calendar day; and

(b) the EUR STR Money Market Index:

(A) on any MM Index Business Day, its MM Index Value as calculated by the Strategy Sponsor in respect of the EUR STR Money Market Index and such MM Index Business Day; and

(B) on any day other than a MM Index Business Day, its MM Index Value as calculated by the Strategy Sponsor in respect of the EUR STR Money Market Index and the immediately preceding MM Index Business Day,

for the purposes of this sub-paragraph (b), in each case as such term is defined in Section 9 (*Description of the Money Market Indices*).

"**Short Asset Servicing Cost Rate**" means, in respect of each Basket Index, zero;

"**Strategy Business Day**" means each weekday (being Monday to Friday of each calendar week) starting from and including the Strategy Inception Date;

"**Strategy Currency**" means EUR;

"**Strategy Inception Date**" means 11 January 2022;

"**Strategy Publication Data Source**" means http://marquee.gs.com (or any successor page thereto);

"**Strategy Rebalancing Day**" means the Strategy Inception Date and thereafter each Strategy Business Day for which the Basket Value is strictly greater than zero;

"**Strategy Trading Day**" means each Basket Trading Day from and including the Strategy Inception Date; and

"**USD**" means United States Dollars.

2.12 Disruption Events, Adjustment Events, Change in Methodology and Corrections

In respect of the Underlying Index, please see Section 10.1 (*Disruption Events* **-** *In respect of each of the Index, the Underlying Index and the Govt Bond Strategy only*), Section 11 (*Corrections*) and Section 12 (*Change in Methodology*).

3. Description of the Govt Bond Strategy

Capitalised terms defined in this Section 3 (*Description of the Govt Bond Strategy*) (including in the Section 3.11 (*Definitions in respect of the Govt Bond Strategy*)) shall have the meaning given to them solely for the purposes of this Section 3 (*Description of the Govt Bond Strategy*) unless otherwise specified or cross-referred to.

3.1 Overview of the Govt Bond Strategy

The Goldman Sachs US and EUR Government Bond Basket USD ER Strategy (*Bloomberg Code: GSISFIBU <Index>*) (referred to herein as the Govt Bond Strategy) seeks to provide synthetic exposure to the performance of an equally weighted basket (the "**Basket**") of two underlying indices (the "**Basket Indices**" and each a "**Basket Index**") and which periodically (on a monthly basis) rebalances to assign a notional weighting to each Basket

Index by reference to certain fixed weights (the Assets Weights, as set out in Section 3.2 (*Overview of the Govt Bond Strategy Basket Indices*) below).

The Basket Indices in respect of the Govt Bond Strategy are set out in the Section 3.2 (*Overview of the Govt Bond Strategy Basket Indices*) below.

The Govt Bond Strategy is an "excess return" strategy and, therefore, the value of the Govt Bond Strategy shall not include the accrual of any amount or interest in relation to any money market rate in respect of any notional cash amount.

The Govt Bond Strategy is denominated in United States Dollars ("**USD**") and has, in respect of each Basket Index which is not denominated in USD, an internal simulated currency hedge feature that seeks to offset a substantial portion of the positive or negative effects of currency exchange rate fluctuations on the value of such Basket Index.

The value of the Govt Bond Strategy is reduced by the deduction of (i) synthetic costs of entering into and/or unwinding any transaction relating to the Basket Indices following a Rebalancing and (ii) synthetic costs of maintaining positions in, and replicating the performance of, the Basket Indices. Overall, the deduction of such synthetic costs may have the effect of reducing the performance of the Govt Bond Strategy.

3.2 **Overview of the Govt Bond Strategy Basket Indices**

i	Basket Index	Bloomberg Page	Currency	Return Type	Asset Weight
1	US Government Bond Futures Rolling Strategy Index*	*FRSIUSB <Index>*	USD	Total Return	50%
2	European Government Bond Futures Rolling Strategy Index**	*FRSIEUB <Index>*	EUR	Total Return	50%

* As described in Section 4 (*Description of the US Government Bond Futures Rolling Strategy Index*) below.
** As described in Section 5 (*Description of the European Government Bond Futures Rolling Strategy Index*) below.

3.3 **Calculation of the Value of the Govt Bond Strategy**

The value of the Govt Bond Strategy (the "**Govt Bond Strategy Value**") on the Strategy Inception Date was equal to 100.

The Govt Bond Strategy Value shall be calculated by the Strategy Calculation Agent on each Strategy Business Day following the Strategy Inception Date as an amount in the Strategy Currency (subject to a floor of zero) calculated in the same manner as the Underlying Index Value, as set out in Section 2.2 (*Calculation of the Underlying Index Value*) of Section 2 (*Description of the Underlying Index*).

3.4 **Calculation of the Basket Value**

The Basket Value on the Strategy Inception Date was equal to 100.

The Basket Value shall be calculated by the Strategy Calculation Agent on each Strategy Business Day following the Strategy Inception Date as an amount (subject to a floor of zero) calculated in the same manner as the Basket Value for the purposes of the Underlying Index, as set out in Section 2.4 (*Calculation of the Basket Value*) of Section 2 (*Description of the Underlying Index*).

3.5 **Calculation of the Asset Quantity**

The Asset Quantity in respect of a Basket Index and a Strategy Business Day shall be determined by the Strategy Calculation Agent as set out in Section 2.5 (*Calculation of the Asset Quantity in respect of each Basket Index*) of Section 2 (*Description of the Underlying Index*).

Unless the Strategy Calculation Agent determines otherwise, in the event that the value of any component which is utilised for the calculation of an Asset Quantity is subsequently corrected, the Strategy Calculation Agent will not correct the Asset Quantity and will instead use the Asset Quantity as calculated before such correction.

3.6 **Calculation of the Asset Value**

The Asset Value of each Basket Index on the Asset Inception Date was equal to 100.

The Asset Value of each Basket Index in respect of which the Currency is USD and the Return Type is "Total Return" (being Basket Index i=1) on any given Asset Business Day following the Asset Inception Date shall be calculated by the Strategy Calculation Agent as an amount equal to:

(a) the Asset Value in respect of such Basket Index in respect of the Asset Rebalancing Day in respect of such Basket Index immediately preceding such Asset Business Day ("$\boldsymbol{A_{ARt}}$"); multiplied by

(b) an amount equal to:

(i) one (1); minus

(ii) the quotient of (I) the Reference Level of the USD Money Market on such Asset Business Day ("$\boldsymbol{MM_t}$"), as numerator; and (II) the Reference Level of the USD Money Market Index on the Asset Rebalancing Day immediately preceding such Asset Business Day ("$\boldsymbol{MM_{ARt}}$"), as denominator; plus

(iii) the quotient of (i) the Reference Level of such Basket Index on such Asset Business Day ("$\boldsymbol{L_t}$") as numerator; and (ii) the Reference Level of such Basket Index on the Asset Rebalancing Day immediately preceding such Asset Business Day ("$\boldsymbol{L_{ARt}}$"), as denominator.

Expressed as a formula, the Asset Value of the Basket Index in respect of which the Currency is USD and the Return Type is "Total Return" on any given Asset Business Day following the Asset Inception Date is as follows:

$$A_{ARt} \times \left(1 - \frac{MM_t}{MM_{ARt}} + \frac{L_t}{L_{ARt}}\right)$$

The Asset Value of each Basket Index in respect of which the Currency is EUR (being Basket Index i=2) on any given Asset Business Day following the Asset Inception Date shall be calculated by the Strategy Calculation Agent as an amount equal to:

(a) the Asset Value in respect of such Basket Index in respect of the Asset Rebalancing Day in respect of such Basket Index immediately preceding such Asset Business Day ("$\boldsymbol{A_{ARt}}$"); multiplied by

(b) an amount equal to:

(i) one (1); minus

(ii) the quotient of:

(I) an amount equal to the Reference Level of the EUR Money Market Index on such Asset Business Day ("$\boldsymbol{MM_t}$"), multiplied by the applicable Currency Exchange Rate to convert one unit of EUR into USD on such Asset Business Day ("$\boldsymbol{FX_t}$"), as numerator; and

(II) an amount equal to the Reference Level of the EUR Money Market Index on the Asset Rebalancing Day immediately preceding such Asset Business Day ("$\boldsymbol{MM_{ARt}}$"), multiplied by the applicable Currency Exchange Rate to convert one unit of EUR into USD on the Asset Rebalancing Day immediately preceding such Asset Business Day ("$\boldsymbol{FX_{ARt}}$"),

plus

(iii) the quotient of:

(I) the Reference Level of such Basket Index in respect of such Asset Business Day ("$\boldsymbol{L_t}$"), multiplied by the applicable Currency Exchange Rate to convert one unit of EUR into USD in respect of such Asset Business Day ("$\boldsymbol{FX_t}$"), as numerator; and

(II) the Reference Level of such Basket Index in respect of the Asset Rebalancing Day immediately preceding such Asset Business Day ("$\boldsymbol{L_{ARt}}$"), multiplied by the applicable

Currency Exchange Rate to convert one unit of EUR into USD in respect of the Asset Rebalancing Day immediately preceding such Asset Business Day ("$\boldsymbol{FX_{ARt}}$"), as denominator.

Expressed as a formula, the Asset Value of each Basket Index in respect of which the Currency is EUR and the Return Type is "Total Return" on any given Asset Business Day following the Asset Inception Date is as follows:

$$A_{ARt} \times \left(1 - \frac{MM_t \times FX_t}{MM_{ARt} \times FX_{ARt}} + \frac{FX_t \times L_t}{FX_{ARt} \times L_{ARt}}\right)$$

In respect of an Asset and a day which is not an Asset Business Day the Asset Value shall be the Asset Value of such Asset as of the immediately preceding Asset Business Day.

3.7 **Calculation of the Cash Asset Quantity**

The Cash Asset Quantity on the Basket Inception Date was equal to the Initial Cash Asset Quantity.

The Cash Asset Quantity in respect of a Basket Index and each Strategy Business Day following the Basket Inception Date shall be calculated by the Strategy Calculation Agent as set out in Section 2.7 (*Calculation of the Cash Asset Quantity*) of Section 2 (*Description of the Underlying Index*).

3.8 **Calculation of the Initial Cash Asset Quantity**

The Initial Cash Asset Quantity shall be determined by the Strategy Calculation Agent as set out in Section 2.8 (*Calculation of the Initial Cash Asset Quantity*) of Section 2 (*Description of the Underlying Index*).

3.9 **Calculation of the Basket Rebalancing Cost**

The Basket Rebalancing Cost in respect of (a) the Strategy Inception Date and (b) each Strategy Business Day following the Strategy Inception Date that is not a Basket Rebalancing Day, is equal to zero.

The Basket Rebalancing Cost in respect of each Basket Rebalancing Day following the Strategy Inception Date shall be calculated by the Strategy Calculation Agent as set out in Section 2.9 (*Calculation of the Basket Rebalancing Cost*) of Section 2 (*Description of the Underlying Index*).

3.10 **Calculation of the Asset Servicing Cost**

The Asset Servicing Cost in respect of the Strategy Inception Date was equal to zero.

The Asset Servicing Cost in respect of each Strategy Business Day following the Strategy Inception Date shall be calculated by the Strategy Calculation Agent as set out in Section 2.10 (*Calculation of the Asset Servicing Cost*) of Section 2 (*Description of the Underlying Index*).

3.11 **Definitions in respect of the Govt Bond Strategy**

"**Asset Business Day**" means, in respect of each Basket Index, each day from and including the Asset Inception Date which is a business day according to the holiday calendar of such Basket Index;

"**Asset Inception Date**" means, in respect of each Basket Index, 10 January 2022;

"**Asset Rebalancing Day**" means, in respect of a Basket Index, each Asset Business Day from and including the Asset Inception Date on which both the Asset Value and the Reference Level of such Basket Index are strictly greater than zero;

"**Asset Servicing Cost Rate**" means, in respect of a Basket Index and a Strategy Business Day

(a) if the Asset Quantity in respect of such Basket Index on such Strategy Business Day (or, if such Strategy Business Day is not Basket Rebalancing Day, on the Basket Rebalancing Day immediately preceding such Strategy Business Day) was greater than or equal to zero, the Long Asset Servicing Cost Rate in respect of such Basket Index; or

(b) otherwise, the Short Asset Servicing Cost Rate in respect of such Basket Index;

"**Asset Sponsor**" means, in respect of each Basket Index, Goldman Sachs International, or any successor thereto;

"**Asset Trading Day**" means, in respect of:

(a) Basket Index i=1, business days according to Chicago Mercantile Exchange Globex trading calendar. The Good Friday holiday shall not be considered a business day; and

(b) Basket Index i=2, business days according to the Eurex trading calendar;

"**Asset Transaction Cost Rate**" means, in respect of each Basket Index, 0.0005;

"**Basket Observation Day**" means, with respect to:

(a) the Strategy Inception Date, the Strategy Inception Date; and

(b) a Basket Rebalancing Day which is not the Strategy Inception Date, the calendar day falling two (2) Strategy Business Days before such day;

"**Basket Rebalancing Day**" means the Strategy Inception Date and, thereafter, the 10th calendar day of each calendar month, or the immediately following Basket Trading Day if such day is not a Basket Trading Day. If on any Strategy Business Day, the Basket Value (calculated immediately before subtracting the Basket Rebalancing Cost for such day) or the Asset Value of a Basket Index is equal to or less than zero, no further Basket Rebalancing Day will occur on or after such day

"**Basket Trading Day**" means each Strategy Business Day which is an Asset Trading Day for each Basket Index.

"**Currency Exchange Rate**" means, in respect of an Asset Business Day, the 4 p.m. London closing spot mid rate for converting one unit of EUR into USD as published by WM Performance Services or any successor company for such day.

The days on which Currency Exchange Rates are usually fixed and published, as determined by the Strategy Calculation Agent, by WM Performance Services or any successor company are referred to herein as "**Fixing Days**". If any calendar day is not a Fixing Day, the Strategy Calculation Agent will use the level of the relevant Currency Exchange Rate published for the applicable Fixing Day immediately preceding such calendar day.

If any calendar day is a Fixing Day but the applicable Currency Exchange Rate is not available on such day at the applicable time indicated above, the Strategy Calculation Agent shall determine the Currency Exchange Rate in respect of such Fixing Day in a commercially reasonable manner;

"**Long Asset Servicing Cost Rate**" means in respect of each Basket Index, 0.0015.

"**Reference Level**" means, in respect of:

(a) any Basket Index, on any given calendar day, the closing level of the relevant Basket Index as determined by the relevant Asset Sponsor in respect of such calendar day; and

(b) any Money Market Index:

 (A) on any MM Index Business Day, its MM Index Value as calculated by the Strategy Sponsor in respect of such Money Market Index and such MM Index Business Day; and

 (B) on any day other than a MM Index Business Day, its MM Index Value as calculated by the Strategy Sponsor in respect of such Money Market Index and the immediately preceding MM Index Business Day,

 for the purposes of this sub-paragraph (b), in each case as such term is defined in Section 9 (*Description of the Money Market Indices*);

"**Short Asset Servicing Cost Rate**" means, in respect of each Basket Index, zero.

"**Strategy Business Day**" means each weekday (being Monday to Friday of each calendar week) starting from and including the Strategy Inception Date;

"**Strategy Currency**" means USD;

"**Strategy Inception Date**" means 10 January 2022;

"**Strategy Publication Data Source**" means http://marquee.gs.com (or any successor page thereto);

"**Strategy Rebalancing Day**" means the Strategy Inception Date and thereafter each Strategy Business Day for which the Basket Value is strictly greater than zero; and

"**Strategy Trading Day**" means each Basket Trading Day from and including the Strategy Inception Date.

3.12 Disruption Events, Adjustment Events, Change in Methodology and Corrections

In respect of the Govt Bond Strategy, please see Section 10.1 (*Disruption Events* **-** *In respect of each of the Index, the Underlying Index and the Govt Bond Strategy only*), Section 11 (*Corrections*) and Section 12 (*Change in Methodology*).

4. Description of the US Government Bond Futures Rolling Strategy Index

Capitalised terms defined in this Section 4 (*Description of the US Government Bond Futures Rolling Strategy Index*) shall have the meaning given to them solely for the purposes of this Section 4 (*Description of the US Government Bond Futures Rolling Strategy Index*) unless otherwise specified or cross-referred to.

4.1 Overview of the US Government Bond Futures Rolling Strategy Index

The US Government Bond Futures Rolling Strategy Index (Total Return USD) (*Bloomberg Code: FRSIUSB <Index>*) (referred to herein as the "**UST Futures Index**") is a proprietary index designed to provide investors with a synthetic exposure to the total return (including income from interest) of the first nearby 10-Year U.S. Treasury Note futures contracts (the "**10Y U.S. Treasury Futures Contracts**"). 10Y U.S. Treasury Futures Contracts are currently listed for trading on the Chicago Board of Trade (the "**CBOT**"). For more details on the 10Y U.S. Treasury Futures Contracts and 10-Year U.S. Treasury notes, please see below Section 4.9 (*10-Year U.S. Treasury Note Futures Contracts*).

4.2 The UST Futures Index

The UST Futures Index is sponsored by Goldman Sachs International but is calculated by Standard & Poor's, as index calculation agent. The UST Futures Index operates in accordance with a set of pre-determined rolling methodology and formulae, and Standard & Poor's, the index calculation agent, does not exercise any discretion with respect to the UST Futures Index. The UST Futures Index is, therefore, not a managed index. As the index sponsor, Goldman Sachs International is not acting as an investment adviser or performing a discretionary management role with respect to the UST Futures Index and, as a result, has no fiduciary duty to any person in respect of the UST Futures Index.

4.3 UST Futures Index Starting Value

The UST Futures Index has been given a starting value of 100 as of December 31, 1991, which is the initial calculation date of the UST Futures Index.

4.4 Daily Strategy Value Calculation

The UST Futures Index is a U.S. dollar denominated index and is calculated on each day on which the CBOT is open for trading (such day, a "**exchange business day**"). The value of the UST Futures Index on any given exchange business day will be calculated as the *product* of (i) the value of the UST Futures Index as of the immediately preceding exchange business day and (ii) the *sum* of (x) the daily return ratio of the value of the 10Y U.S. Treasury Futures Contracts on such day and (y) the overnight interest rate for the calculation period.

Daily Return Ratio of the Value of the 10Y U.S. Treasury Futures Contracts: On any given exchange business day (other than during the roll period as described below), the daily return ratio of the value of 10Y U.S. Treasury Futures Contracts is calculated as the *quotient* of (a) the 10Y U.S. Treasury Futures Contract Valuation Price on the relevant exchange business day and (b) the 10Y U.S. Treasury Futures Contract Valuation Price on the immediately preceding exchange business day. During the roll period, the calculation of the daily return ratio of

10Y U.S. Treasury Futures Contracts will reflect the price of the second nearby 10Y U.S. Treasury Futures Contracts into which the first nearby 10Y U.S. Treasury Futures Contracts are gradually rolled over.

10Y U.S. Treasury Futures Contracts Valuation Price: The 10Y U.S. Treasury Futures Contracts Valuation Price on any given exchange business day means the official daily settlement price per 10Y U.S. Treasury Futures Contract quoted by the CBOT on such exchange business day.

Overnight Interest Rate: The interest rate calculation uses the overnight interest rate as published on Global Insight DRI page USD-FEDERAL-FUNDS-H15 and the ACT/360 day count fraction, as defined in the 2006 ISDA Definitions. If the overnight interest rate is not published or is otherwise unavailable for the applicable calculation period, then the last available overnight interest rate published on such page will be used as the overnight interest rate for such calculation period.

The calculation agent will, however, not calculate the daily index value or will calculate such value pursuant to a different methodology when at any given time the 10Y U.S. Treasury Futures Contracts Valuation Prices for the first nearby 10Y U.S. Treasury Futures Contracts and/or the second nearby 10Y U.S. Treasury Futures Contracts, as applicable, are not published or are otherwise unavailable as further described below.

4.5 Roll Methodology

As 10Y U.S. Treasury Futures Contracts have a quarterly expiration period (March, June, September or December), when the first nearby 10Y U.S. Treasury Futures Contracts come to expiration, they are replaced by the second nearby 10Y U.S. Treasury Futures Contracts. For example, a 10Y U.S. Treasury Futures Contract purchased and held in May may specify a June expiration. As time passes, the contract expiring in June is replaced by a 10Y U.S. Treasury Futures Contract for delivery in September. This process is referred to as "rolling".

Roll Period: Rolling will be carried out during the three exchange business days starting from, and including, the third last exchange business day prior to the first notice date of the first nearby 10Y U.S. Treasury Futures Contracts to, and including, the last exchange business day prior to the first notice date of such 10Y U.S. Treasury Futures Contracts. Such period is referred to from time to time as the "roll period". On each exchange business day of the roll period, one third of the notional investment in the first nearby 10Y U.S. Treasury Futures Contracts will be rolled into the second nearby 10Y U.S. Treasury Futures Contracts, and the prices at which 10Y U.S. Treasury Futures Contracts are rolled will be based on the 10Y U.S. Treasury Futures Contracts Valuation Price for each of the first nearby and second nearby 10Y U.S. Treasury Futures Contracts. Rolling will, however, be carried out pursuant to a different methodology when at any time during the roll period the 10Y U.S. Treasury Futures Contracts Valuation Prices for one or both of the first nearby and second nearby 10Y U.S. Treasury Futures Contracts are not published or are otherwise unavailable as further described below.

4.6 Price of 10Y U.S. Treasury Futures Contracts Unavailable

Unavailable Outside of the Roll Period: If, on any exchange business day that does not fall within the roll period, the 10Y U.S. Treasury Futures Contracts Valuation Price for the first nearby 10Y U.S. Treasury Futures Contracts is not published or is otherwise unavailable, then the calculation agent will not calculate any value for the UST Futures Index but will publish the last available value.

If, on the immediately following exchange business day, the 10Y U.S. Treasury Futures Contracts Valuation Price for the first nearby 10Y U.S. Treasury Futures Contracts is available, the daily return ratio of the value of the 10Y U.S. Treasury Futures Contracts will be calculated as the *quotient* of (a) the 10Y U.S. Treasury Futures Contracts Valuation Price on that exchange business day and (b) the last available 10Y U.S. Treasury Futures Contracts Valuation Price (however, for the avoidance of doubt, if such exchange business day is the first day of the roll period and the 10Y U.S. Treasury Futures Contracts Valuation Price for the second nearby 10Y U.S. Treasury Futures Contracts is not published or is otherwise unavailable on that exchange business day, then, as further described below, the calculation agent will not calculate any value for the UST Futures Index but will publish the last available value).

Unavailable Within the Roll Period: If the 10Y U.S. Treasury Futures Contracts Valuation Price for one or both of the first nearby and second nearby 10Y U.S. Treasury Futures Contracts is not published or is otherwise unavailable at any time during the roll period, then rolling will be carried out pursuant to the following alternative rolling methodology:

- **Case 1**: If the 10Y U.S. Treasury Futures Contracts Valuation Price for one or both of the first nearby and second nearby 10Y U.S. Treasury Futures Contracts is not published or is otherwise unavailable on the first exchange business day of the roll period, then one half of the notional investment in the first nearby 10Y U.S. Treasury Futures Contracts will be rolled into the second nearby 10Y U.S. Treasury Futures Contracts on the second exchange business day of the roll period if the 10Y U.S. Treasury Futures Contracts Valuation Prices for both the first nearby and second nearby 10Y U.S. Treasury Futures Contracts are available on such second exchange business day, and the second half of the notional investment in the first nearby 10Y U.S. Treasury Futures Contracts will be rolled over into the second nearby 10Y U.S. Treasury Futures Contracts on the third exchange business day of the roll period if the 10Y U.S. Treasury Futures Contracts Valuation Prices for both the first nearby and second nearby 10Y U.S. Treasury Futures Contracts are available on such third exchange business day; however, if the 10Y U.S. Treasury Futures Contracts Valuation Price for one or both of the first nearby and second nearby 10Y U.S. Treasury Futures Contracts is not published or is otherwise unavailable on such third exchange business day, then rolling of any remaining portion of the notional investment in the first nearby 10Y U.S. Treasury Futures Contracts will be carried out as set out below in respect of Case 4.

- **Case 2**: If the 10Y U.S. Treasury Futures Contracts Valuation Price for one or both of the first nearby and second nearby 10Y U.S. Treasury Futures Contracts is not published or is otherwise unavailable on both of the first and second exchange business days of the roll period, then the entire notional investment in the first nearby 10Y U.S. Treasury Futures Contracts will be rolled into the second nearby 10Y U.S. Treasury Futures Contracts on the third exchange business day of the roll period; however, if the 10Y U.S. Treasury Futures Contracts Valuation Price for one or both of the first nearby and second nearby 10Y U.S. Treasury Futures Contracts is not published or is otherwise unavailable on such third exchange business day, then rolling of any remaining portion of the notional investment in the first nearby 10Y U.S. Treasury Futures Contracts will be carried out as set out below in respect of Case 4.

- **Case 3**: If the 10Y U.S. Treasury Futures Contracts Valuation Price for both of the first nearby and second nearby 10Y U.S. Treasury Futures Contracts is available on the first exchange business day of the roll period, on which one third of the notional investment in the first nearby 10Y U.S. Treasury Futures Contracts is rolled over into the second nearby 10Y U.S. Treasury Futures Contracts, but the 10Y U.S. Treasury Futures Contracts Valuation Price for one or both of the first nearby and second nearby 10Y U.S. Treasury Futures Contracts is not published or is otherwise unavailable on the second exchange business day of the roll period, then the remaining two thirds of the notional investment in the first nearby 10Y U.S. Treasury Futures Contracts will be rolled into the second nearby 10Y U.S. Treasury Futures Contracts on the third exchange business day of the roll period; however, if the 10Y U.S. Treasury Futures Contracts Valuation Price for one or both of the first nearby and second nearby 10Y U.S. Treasury Futures Contracts is not published or is otherwise unavailable on such third exchange business day, then rolling of any remaining portion of the notional investment in the first nearby 10Y U.S. Treasury Futures Contracts will be carried out as set out below in respect of Case 4.

- **Case 4**: In any situation where the 10Y U.S. Treasury Futures Contracts Valuation Price for one or both of the first nearby and second nearby 10Y U.S. Treasury Futures Contracts is not published or is otherwise unavailable on the third exchange business day of the roll period (including where such price is not published or is otherwise unavailable on both of the first and third exchange business days of the roll period only, both of the second and third exchange business days of the roll period only or all of the three exchange business days of the roll period), then any remaining amount of the notional investment in the first nearby 10Y U.S. Treasury Futures Contracts will be rolled into the second nearby 10Y U.S. Treasury Futures Contracts on the first notice date, which is the exchange business day immediately following the third exchange business day of the roll period. On such first notice date, rolling will be effected by using the first traded prices for the first nearby 10Y U.S. Treasury Futures Contracts and the second nearby 10Y U.S. Treasury Futures Contracts, provided that if, on such first notice date, the first traded price for the first nearby 10Y U.S. Treasury Futures Contracts and/or the second nearby 10Y U.S. Treasury Futures Contracts is not published or is otherwise unavailable, then the first nearby 10Y U.S. Treasury Futures Contracts will be sold at the Valuation Price for such first nearby 10Y U.S. Treasury Futures Contracts on the last reference day (as defined below) and the second nearby 10Y U.S. Treasury Futures Contracts will be bought at the Valuation Price for such second nearby 10Y U.S. Treasury Futures Contracts on the last reference day.

On any given exchange business day on which rolling does not occur because the 10Y U.S. Treasury Futures Contracts Valuation Price for one or both of the first nearby and second nearby 10Y U.S. Treasury Futures Contracts is not published or is otherwise unavailable (such day, a "no-roll exchange business day"; for the avoidance of doubt, a no-roll exchange business day may include any exchange business day of the roll period, as the case may be), the calculation agent will not calculate any value for the UST Futures Index but will publish the last available value.

If, on any exchange business day immediately following such no-roll exchange business day, the 10Y U.S. Treasury Futures Contracts are rolled over pursuant to the alternative methodology described above, then the calculation agent will apply alternative calculation methods to compute the level of the UST Futures Index on such exchange business day, which can be summarized as follows:

On such exchange business day, the level of the UST Futures Index will be computed as the *product* of:

- the value of the UST Futures Index as of the last exchange business day on which the Valuation Prices for both of the first nearby and second nearby 10Y U.S. Treasury Futures Contracts were available (such day, the "**last reference day**"); and

- the *sum* of:

  (i) the *daily return ratio* reflecting either:

    (a) if such exchange business day falls within the roll period, the weighted performance of the first nearby 10Y U.S. Treasury Futures Contracts and the weighted performance of the second nearby 10Y U.S. Treasury Futures Contracts from the last reference day to such exchange business day; or

    (b) if such exchange business day is a first notice date, the *product* of (x) the weighted performance of the first nearby 10Y U.S. Treasury Futures Contracts from the last reference day up to the rolling effected as of the opening of the market on the first notice date, (y) the weighted performance of the second nearby 10Y U.S. Treasury Futures Contracts from the last reference day up to the rolling effected as of the opening of the market on such first notice date and (z) the performance of the second nearby 10Y U.S. Treasury Futures Contracts, including the second nearby contracts into which any remaining portion of the first nearby 10Y U.S. Treasury Futures Contracts are rolled over on such first notice date, calculated based on the opening price and the official daily settlement price of the second nearby 10Y U.S. Treasury Futures Contracts on such first notice date (for the avoidance of doubt, if the official daily settlement price of the second nearby 10Y U.S. Treasury Futures Contracts is not published or is otherwise unavailable on such first notice date, then the calculation agent will not calculate any value for the UST Futures Index but will publish the last available value),

  and

  (ii) the overnight interest rate for the calculation period.

4.7 **Publication**

The value of the UST Futures Index is published on the Bloomberg page *FRSIUSB <Index>* (or any successor page).

4.8 **UST Futures Index Calculation Formulae**

The formulae for the calculation of the UST Futures Index are presented below. Investors, however, should be aware that these formulae do not reflect the alternative rolling and calculation methodologies applied when the value of 10Y U.S. Treasury Futures Contracts is not published or is otherwise unavailable (as further described above).

$$TRI_t = \left(r_t + \frac{i_{t-n}}{360}.n\right) TRI_{t-n};$$

$$r_t = \frac{cP_{1,t}}{cP_{1,t-n}},$$

when NOT in the 3-day roll period

$$r_t = \left(1 - \frac{m-1}{3}\right) \cdot \frac{cP_{1,t}}{cP_{1,t-n}} + \frac{m-1}{3} \cdot \frac{cP_{2,t}}{cP_{2,t-n}}$$

when on the m th day of the roll period, m = 1, 2, 3

Where

t = The relevant exchange business day;

TRI_t = The value of UST Futures Index as of day *t*;

i_{t-n} = Overnight interest rate as of $(t-n)$

n = The number of actual calendar days between *t* and the immediately preceding exchange business day $(t-n)$;

r_t = Daily price return of the value of the 10Y U.S. Treasury Futures Contracts on *t*;

$cP_{1,t}$ = 10Y U.S. Treasury Futures Contracts Valuation Price of the first nearby 10Y U.S. Treasury Futures Contracts on *t*; *provided* that, for the avoidance of doubt, once the rolling has been effected in accordance with the above roll methodology and there is no remaining amount to be rolled, the first nearby 10Y U.S. Treasury Futures Contracts shall mean the 10Y U.S. Treasury Futures Contracts into which the notional investment has been rolled; and

$cP_{2,t}$ = 10Y U.S. Treasury Futures Contracts Valuation Price of the second nearby 10Y U.S. Treasury Futures Contracts on *t*.

Note: All calculations are based on seven significant figures (rounded at the eighth significant figure), and the value is published up to two decimal places (rounded at the third decimal place).

4.9 **10-Year U.S. Treasury Note Futures Contracts**

The 10-Year U.S. Treasury Note futures contracts underlying the UST Futures Index are three-month contracts to buy or sell standardized trading "units". One trading unit of 10-Year U.S. Treasury Note futures contracts equals one 10-Year U.S. Treasury note with a face value of $100,000 or a multiple thereof. The 10-Year U.S. Treasury Note futures contract closest to expiration at any given time is known as the "first nearby" futures contract.

10-Year U.S. Treasury Notes: 10-Year U.S. Treasury notes are notes issued by the U.S. government with a ten-year maturity. U.S. Treasury notes are sold in increments of $100. The price and interest rate of a note are determined at auction. The price may be greater than, less than or equal to the note’s par amount.

4.10 **Adjustments to the UST Futures Index**

Investors should be aware that if the terms of the 10Y U.S. Treasury Futures Contracts are modified, Goldman Sachs International, as sponsor of the UST Futures Index, may take such steps as it considers appropriate in response to such modification.

5. **Description of the European Government Bond Futures Rolling Strategy Index**

Capitalised terms defined in this Section 5 (*Description of the European Government Bond Futures Rolling Strategy Index*) shall have the meaning given to them solely for the purposes of this Section 4 (*Description of the European Government Bond Futures Rolling Strategy Index*) unless otherwise specified or cross-referred to.

5.1 **Overview of the European Government Bond Futures Rolling Strategy Index**

The European Government Bond Futures Rolling Strategy Index (Total Return EUR) (*Bloomberg Code: FRSIEUB <Index>*) (the "**Euro Bond Futures Strategy Index**") is a Goldman Sachs International proprietary index designed to provide investors with a synthetic exposure to the total return (including income from interest accruing at the relevant overnight interest rate (as described below)) of the first nearby "Euro Bond Futures Contracts". Euro Bond Futures Contracts are futures contracts on federal bonds of the Federal Republic of Germany (such bonds, the "German Bonds") currently listed for trading on the Eurex. For further information on the Euro Bond Futures Contracts and the German Bonds, please refer to Section 5.10 (*The German Bond Futures Contracts*) and Section 5.11 (*The German Bonds*) below.

5.2 **The Euro Bond Futures Strategy Index**

The Euro Bond Futures Strategy Index is sponsored by Goldman Sachs International but is calculated by Standard & Poor's, as index calculation agent. The Euro Bond Futures Strategy Index operates in accordance with a pre-determined rolling methodology and set of formulae, and Standard & Poor's, the index calculation agent, does not exercise any discretion with respect thereto. The Euro Bond Futures Strategy Index is, therefore, not a managed index. As the index sponsor, Goldman Sachs International is not acting as an investment adviser or performing a discretionary management role with respect to the Euro Bond Futures Strategy Index and, as a result, has no fiduciary duty to any person in respect of the Euro Bond Futures Strategy Index. Goldman Sachs International may exercise discretion, however, in a limited number of exceptional circumstances, including, without limitation, where the Euro Bond Futures Contracts are modified or, as sponsor of the Strategy, where a Euro Bond Futures Contract Valuation Price is not published or otherwise unavailable or a market disruption event affects the Euro Bond Futures Strategy Index

5.3 **The Euro Bond Futures Strategy Index Starting Value**

The Euro Bond Futures Strategy Index has been given a starting value of 100 as of December 31, 1991, which was the initial calculation date of the Euro Bond Futures Strategy Index.

5.4 **Daily Strategy Value Calculation**

The Euro Bond Futures Strategy Index is a euro denominated index and is calculated on each Eurex exchange business day. The value of the Euro Bond Futures Strategy Index on each Eurex exchange business day will be calculated as the *product* of (i) the value of the Euro Bond Futures Strategy Index as of the immediately preceding Eurex exchange business day *multiplied* by (ii) the *sum* of (x) the daily return ratio of the value of the Euro Bond Futures Contracts (calculated as described below) on such Eurex exchange business day *plus* (y) the overnight interest rate for the given Eurex exchange business day *multiplied* by the applicable day count fraction based on the number of days in the calculation period.

Daily Return Ratio of the Value of the Euro Bond Futures Contracts: On each Eurex exchange business day (other than during the roll period as described below), the daily return ratio of the value of Euro Bond Futures Contracts is calculated as the *quotient* of (a) the Euro Bond Futures Contract Valuation Price on the relevant Eurex exchange business day *divided* by (b) the Euro Bond Futures Contract Valuation Price on the immediately preceding Eurex exchange business day. During each roll period, the daily return ratio of the values of the Euro Bond Futures Contracts is calculated as the *quotient* of (a) the Euro Bond Futures Contract Valuation Price of the second nearby Euro Bond Futures Contracts on such Eurex exchange business day *divided* by (b) the Euro Bond Futures Contract Valuation Price of the second nearby Euro Bond Futures Contracts on the immediately preceding Eurex exchange business day, to the extent the first nearby Euro Bond Futures Contracts have been rolled over.

Euro Bond Futures Contract Valuation Price: The Euro Bond Futures Contract Valuation Price on each Eurex exchange business day is the official daily settlement price per Euro Bond Futures Contract quoted by Eurex on such Eurex exchange business day.

Overnight Interest Rate: The overnight interest rate used for purposes of calculating the value of the Euro Bond Futures Strategy Index is, in the period:

(i) up to (and including) 20 December 2021, the overnight interest rate as published on Reuters page EUR-EONIA-OIS-COMPOUND on EONIA RSF.REC.EONIA=.NaE, which follows the ACT/360 day count fraction, as defined in the 2006 ISDA Definitions; and

(ii) from (and including) 20 December 2021, in respect of any day, the sum of (a) the euro short-term rate (€STR) administered by the European Central Bank (or any successor administrator) in respect of such day; and (b) a spread of 8.50 basis points,

in each case, if such rate is not published or is otherwise unavailable for any Eurex exchange business day, then the last available overnight interest rate published on such page will be used as the overnight interest rate for such Eurex exchange business day.

Unavailability of Euro Bond Futures Contract Valuation Price: The index calculation agent will not, however, calculate the value of the Euro Bond Futures Strategy Index, or will calculate such value pursuant to a different methodology (as described below under "*Price of Euro Bond Futures Contracts Unavailable – Unavailable Within the Roll Period*"), as the case may be, at any time where the Euro Bond Futures Contract Valuation Price for the first nearby and/or the second nearby Euro Bond Futures Contracts, as applicable, is not published or is otherwise unavailable as further described below.

5.5 **Roll Methodology**

Each Euro Bond Futures Contract has a quarterly contract month for expiration (March, June, September or December). At any given time, the Euro Bond Futures Strategy Index will include the first nearby Euro Bond Futures Contracts. As the first nearby Euro Bond Futures Contracts come to expiration, they will be replaced by the second nearby Euro Bond Futures Contracts. For example, a Euro Bond Futures Contract purchased and held in May may specify a June expiration. As time passes, the contract expiring in June is replaced by a Euro Bond Futures Contract with a September expiration during the relevant roll period. This process is referred to as "rolling".

Roll Period: Rolling will be carried out during the three Eurex exchange business days starting from, and including, the third to last Eurex exchange business day prior to the first notice date of the first nearby Euro Bond Futures Contracts to, and including, the last Eurex exchange business day prior to the first notice date of such Euro Bond Futures Contracts. Such period is referred to from time to time as the "roll period". On each Eurex exchange business day of the roll period, one third of the notional investment in the first nearby Euro Bond Futures Contracts will be rolled into the second nearby Euro Bond Futures Contracts, and the prices at which Euro Bond Futures Contracts are rolled will be based on the Euro Bond Futures Contract Valuation Prices for each of the first nearby and second nearby Euro Bond Futures Contracts. Rolling will, however, be carried out pursuant to a different methodology when at any time during the roll period the Euro Bond Futures Contract Valuation Prices for either or both of the first nearby and second nearby Euro Bond Futures Contracts are not published or are otherwise unavailable as further described below.

5.6 **Price of Euro Bond Futures Contracts Unavailable**

Unavailable Outside of the Roll Period: If, on any Eurex exchange business day that does not fall within the roll period, the Euro Bond Futures Contract Valuation Price for the first nearby Euro Bond Futures Contracts is not published or is otherwise unavailable, then the index calculation agent will not calculate any value for the Euro Bond Futures Strategy Index but will publish the last available value.

In such an instance, if, on the immediately following Eurex exchange business day, the Euro Bond Futures Contract Valuation Price for the first nearby Euro Bond Futures Contracts is available, the daily return ratio of the value of the Euro Bond Futures Contracts will be calculated as the *quotient* of (a) the Euro Bond Futures Contract Valuation Price on that immediately following Eurex exchange business day *divided* by (b) the last available Euro Bond Futures Contract Valuation Price; *provided, however*, that, for the avoidance of doubt, if such immediately following Eurex exchange business day is the first day of the roll period and the Euro Bond Futures Contract Valuation Price for the second nearby Euro Bond Futures Contracts is not published or is otherwise unavailable on that immediately following Eurex exchange business day, then, as further described below, the index calculation agent will not calculate any value for the Euro Bond Futures Strategy Index but will publish the last available value.

Unavailable Within the Roll Period: If the Euro Bond Futures Contract Valuation Price is not published or is otherwise unavailable for either or both of the first nearby and second nearby Euro Bond Futures Contracts at any time during the roll period, then that rolling will be carried out pursuant to the following alternative rolling methodology:

- **Case 1**: If (a) the Euro Bond Futures Contract Valuation Price is not published or is otherwise unavailable on <u>the first Eurex exchange business day of the roll period</u> for either or both of the first nearby and second nearby Euro Bond Futures Contracts *and* (b) the Euro Bond Futures Contract Valuation Price is available on the second Eurex exchange business day of the roll period for both the first nearby and second nearby Euro Bond Futures Contracts, then:

    - one half of the notional investment in the first nearby Euro Bond Futures Contracts will be rolled into the second nearby Euro Bond Futures Contracts on that second Eurex exchange business day of the roll period; *and*

- if the Euro Bond Futures Contract Valuation Price is also available on the third Eurex exchange business day of the roll period for both the first nearby and second nearby Euro Bond Futures Contracts, the second half of the notional investment in the first nearby Euro Bond Futures Contracts will be rolled over into the second nearby Euro Bond Futures Contracts on that third Eurex exchange business day of the roll period; *but*

- if the Euro Bond Futures Contract Valuation Price is not published or is otherwise unavailable on such third Eurex exchange business day of the roll period for either or both of the first nearby and second nearby Euro Bond Futures Contracts, then rolling of any remaining portion of the notional investment in the first nearby Euro Bond Futures Contracts will be carried out as set out below under Case 4.

- **Case 2**: If the Euro Bond Futures Contract Valuation Price is not published or is otherwise unavailable on <u>both the first and second Eurex exchange business days of the roll period</u> for either or both of the first nearby and second nearby Euro Bond Futures Contracts, then:

  - if the Euro Bond Futures Contract Valuation Price is available on the third Eurex exchange business day of the roll period for both the first nearby and second nearby Euro Bond Futures Contracts, then the entire notional investment in the first nearby Euro Bond Futures Contracts will be rolled into the second nearby Euro Bond Futures Contracts on the third Eurex exchange business day of the roll period; *but*

  - otherwise, the rolling of any remaining portion of the notional investment in the first nearby Euro Bond Futures Contracts will be carried out as set out below under Case 4.

- **Case 3**: If the Euro Bond Futures Contract Valuation Price is available on the first Eurex exchange business day of the roll period for both the first nearby and second nearby Euro Bond Futures Contracts (on which day one-third of the notional investment in the first nearby Euro Bond Futures Contracts is rolled over into the second nearby Euro Bond Futures Contracts), but the Euro Bond Futures Contract Valuation Price is not published or is otherwise unavailable on <u>the second Eurex exchange business day of the roll period</u> for either or both of the first nearby and second nearby Euro Bond Futures Contracts, then the remaining two-thirds of the notional investment in the first nearby Euro Bond Futures Contracts will be rolled into the second nearby Euro Bond Futures Contracts on the third Eurex exchange business day of the roll period, *unless* the Euro Bond Futures Contract Valuation Price is not published or is otherwise unavailable on such third Eurex exchange business day of the roll period for either or both of the first nearby and second nearby Euro Bond Futures Contracts (in which case the rolling of any remaining portion of the notional investment in the first nearby Euro Bond Futures Contracts will be carried out as set out below under Case 4).

- **Case 4**: In any situation where the Euro Bond Futures Contract Valuation Price for either or both of the first nearby and second nearby Euro Bond Futures Contracts is not published or is otherwise unavailable on <u>the third Eurex exchange business day of the roll period</u> (including where such price is not published or is otherwise unavailable on both the first and third Eurex exchange business days of the roll period only, on both the second and third Eurex exchange business days of the roll period only or on all three Eurex exchange business days of the roll period), then any remaining amount of the notional investment in the first nearby Euro Bond Futures Contracts will be rolled into the second nearby Euro Bond Futures Contracts on the first notice date, which is the Eurex exchange business day immediately following the third Eurex exchange business day of the roll period. On such first notice date, rolling will be effected by using the first traded prices for the first nearby Euro Bond Futures Contracts and the second nearby Euro Bond Futures Contracts, provided that if, on such first notice date, the first traded price for the first nearby Euro Bond Futures Contracts and/or the second nearby Euro Bond Futures Contracts is not published or is otherwise unavailable, then the first nearby Euro Bond Futures Contracts will be sold at the Euro Bond Futures Contract Valuation Price for such first nearby Euro Bond Futures Contracts on the last reference day (as defined below) the second nearby Euro Bond Futures Contracts will be bought at the Euro Bond Futures Contract Valuation Price for such second nearby Euro Bond Futures Contracts on the last reference day.

On each Eurex exchange business day on which rolling does not occur because the Euro Bond Futures Contract Valuation Price is not published or is otherwise unavailable for either or both of the first nearby and second nearby Euro Bond Futures Contracts (such day, a "Bond no-roll Eurex exchange business day"; for the avoidance of doubt, a Bond no-roll Eurex exchange business day may include any Eurex exchange business day of the roll period, as the case may be), the index calculation agent will not calculate any value for the Euro Bond Futures Strategy Index but will publish the last available value.

If, on any Eurex exchange business day immediately following such Bond no-roll Eurex exchange business day, the Euro Bond Futures Contracts are rolled over pursuant to the alternative methodology described above, then the index calculation agent will apply alternative calculation methods to compute the level of the Euro Bond Futures Strategy Index on such Eurex exchange business day, which can be summarized as follows:

On such Eurex exchange business day immediately following such Bond no-roll Eurex exchange business day, the level of the Euro Bond Futures Strategy Index will be computed as the *product* of:

- the value of the Euro Bond Futures Strategy Index as of the last Eurex exchange business day on which the Euro Bond Futures Contract Valuation Prices for both of the first nearby and second nearby Euro Bond Futures Contracts were available (such day, the "last reference day"); *multiplied* by

- the *sum* of:

  (i) the *daily return ratio* reflecting either:

    (a) if such Eurex exchange business day falls within the roll period, the weighted performance of the first nearby Euro Bond Futures Contracts and the weighted performance of the second nearby Euro Bond Futures Contracts from the last reference day to such Eurex exchange business day; or

    (b) if such Eurex exchange business day is a first notice date of the first nearby Euro Bond Futures Contracts, the *product* of (x) the weighted performance of the first nearby Euro Bond Futures Contracts from the last reference day up to the rolling effected as of the opening of the market on such first notice date, (y) the weighted performance of the second nearby Euro Bond Futures Contracts from the last reference day up to the rolling effected as of the opening of the market on such first notice date and (z) the performance of the second nearby Euro Bond Futures Contracts, including the second nearby contracts into which any remaining portion of the first nearby Euro Bond Futures Contracts are rolled over on such first notice date, calculated based on the opening price and the official daily settlement price of the second nearby Euro Bond Futures Contracts on such first notice date (for the avoidance of doubt, if the official daily settlement price of the second nearby Euro Bond Futures Contracts is not published or is otherwise unavailable on such first notice date, then the index calculation agent will not calculate any value for the Euro Bond Futures Strategy Index but will publish the last available value),

  plus

  (ii) the overnight interest rate for the calculation period.

5.7 **Publication**

The value of the Euro Bond Futures Strategy Index is published on the Bloomberg page *FRSIEUB <Index>* (or any successor page).

5.8 **Euro Bond Futures Strategy Index Calculation Formulae**

The formulae for the calculation of the Euro Bond Futures Strategy Index are presented below. Investors, however, should be aware that these formulae do not reflect the alternative rolling and calculation methodologies applied when the value of Euro Bond Futures Contracts is not published or is otherwise unavailable (as further described above).

$$TRI_t = \left(r_t + \frac{i_{t-n}}{360}.n\right) TRI_{t-n};$$

$$r_t = \frac{cP_{1,t}}{cP_{1,t-n}},$$

when NOT in the 3-day roll period

$$r_t = \left(1 - \frac{m-1}{3}\right) \cdot \frac{cP_{1,t}}{cP_{1,t-n}} + \frac{m-1}{3} \cdot \frac{cP_{2,t}}{cP_{2,t-n}}$$

when on the m th day of the roll period, m = 1, 2, 3

Where

t = The relevant Eurex exchange business day;

TRI_t = The value of Euro Bond Futures Strategy Index as of day *t*;

i_{t-n} = Overnight interest rate as of $(t-n)$;

n = The number of actual calendar days between t and the immediately preceding Eurex exchange business day $(t-n)$;

r_t = Daily price return of the value of the Euro Bond Futures Contracts on *t*;

$cP_{1,t}$ = Euro Bond Futures Contract Valuation Price of the first nearby Euro Bond Futures Contracts on *t*; provided that, for the avoidance of doubt, once the rolling has been effected in accordance with the above roll methodology and there is no remaining amount to be rolled, the first nearby Euro Bond Futures Contracts shall mean the Euro Bond Futures Contracts into which the notional investment has been rolled; and

$cP_{2,t}$ = Euro Bond Futures Contract Valuation Price of the second nearby Euro Bond Futures Contracts on *t*.

Note: All calculations are based on seven significant figures (rounded at the eighth significant figure), and the value is published up to two decimal places (rounded at the third decimal place).

5.9 Adjustments to the Euro Bond Futures Strategy Index

Investors should be aware that if the terms of the Euro Bond Futures Contracts are modified Goldman Sachs International, as sponsor of the Euro Bond Futures Strategy Index, may take such steps as it considers appropriate in response to such modification.

5.10 The German Bond Futures Contracts

The German Bond futures contracts underlying the Euro Bond Futures Strategy Index are quarterly three-month contracts to buy or sell standardized trading "units". One trading unit of German Bond futures contracts equals one federal bond issued by the Federal Republic of Germany with a par value of €100,000. The German Bond futures contract closest to expiration at any given time is known as the "first nearby" futures contract, and the German Bond futures contract that is second closest to expiration at any given time is known as the "second nearby" futures contract.

5.11 The German Bonds

The bonds on which Euro Bond Futures Contracts are based are federal bonds issued by the Federal Republic of Germany. These bonds have a term of 8.5 to 10.5 years and a coupon of 6%. Interest is paid annually.

6. Description of the Commodity Index

Capitalised terms defined in this Section 6 (*Description of the Commodity Index*) (including in Section 6.9 (*Definitions in respect of the Commodity Index*)) shall have the meaning given to them solely for the purposes of this Section 6 (*Description of the Commodity Index*) unless otherwise specified or cross-referred to.

6.1 Overview of the Commodity Index

The Goldman Sachs Commodity Focus Basket USD ER Index (*Bloomberg Code: GSISCFBU <Index>*) (referred to herein as the Commodity Index) seeks to provide synthetic exposure to the performance of a fixed and unequally weighted basket (the "**Basket**") of five underlying commodity indices (together the "**Components**" and each a "**Component**") which periodically (on a monthly basis) rebalances to assign a notional weight to each Component by reference to such fixed weights (the Component Weights, as set out in the table below).

The Components in respect of the Commodity Index are set out in the table below.

The Commodity Index is an "excess return" strategy and, therefore, the value of the Commodity Index shall not include the accrual of any amount or interest in relation to any money market rate in respect of any notional cash amount.

The Commodity Index is denominated in United States Dollars ("**USD**").

The level of the Commodity Index is reduced by the deduction the basket rebalancing costs and the asset servicing costs. The basket rebalancing costs reflect the synthetic costs of entering into and/or unwinding any transactions relating to the Components following changes to their Units. The asset servicing costs reflect the synthetic costs of maintaining positions in, and replicating the performance of, the Components. Overall, the deduction of such synthetic costs may have the effect of reducing the performance of the Commodity Index.

c	**Components**	**Bloomberg Page**	**Component Weight**	**Transaction Cost Rate**	**Servicing Cost Rate**	**Style**
1	S&P GSCI Copper (ER) Index*	*SPGCICP <Index>*	30.00%	0.0003	0.002	A
2	S&P GSCI Aluminium (ER) Index*	*SPGCIAP <Index>*	20.00%	0.0003	0.002	A
3	S&P GSCI Nickel (ER) Index*	*SPGCIKP <Index>*	12.50%	0.0003	0.002	A
4	S&P GSCI Silver (ER) Index*	*SPGCSIP <Index>*	12.50%	0.0003	0.002	A
5	Goldman Sachs EUA USD Strategy**	*AGGSMOZ <Index>*	25.00%	0.0005	0.005	B

* Further details are available from https://www.spglobal.com/

** The EUA USD Strategy, as described in Section 7 (*Description of the EUA USD Strategy*) below.

6.2 Calculation of the value of the Commodity Index

The value of the Commodity Index (the "**Strategy Tradeable Level**") in respect of each Strategy Calculation Day will depend on the daily mark-to-market change in the value of the position in each Component reference by the Commodity Index as well as the notional holding in such Component at such time.

The Strategy Tradeable Level on the on the Strategy Inception Date was equal to 100.

The Strategy Tradeable Level shall be calculated by the Strategy Calculation Agent on each Strategy Calculation Day following the Strategy Inception Date as an amount in the Strategy Currency equal to the sum of:

(i) the Strategy Tradeable Level in respect of the immediately preceding Strategy Calculation Day ("$\boldsymbol{S_{t-1}}$"); plus

(ii) the summation, in respect of each Component ("**c**"), of the sum of:

(a) the value of the position in respect of such Component in respect of the Tradeable Level of such Component and such Strategy Calculation Day and the Units of such Component in respect of the Strategy Calculation Day immediately preceding such Strategy Calculation Day ("$\boldsymbol{V_{t,t-1}(c)}$"); minus

(b) the value of the position in respect of such Component in respect of the Tradeable Level of such Component in respect of the Strategy Calculation Day immediately preceding such Strategy Calculation Day and the Units of such Component in respect of the Strategy Calculation Day immediately preceding such Strategy Calculation Day ("$\boldsymbol{V_{t-1,t-1}(c)}$"); minus

(iii) the Total Costs in respect of such Strategy Calculation Day ("$\boldsymbol{Total\ Costs_t}$").

Expressed as a formula:

$$S_{t-1} + \left[\sum_{c}\left(V_{t,t-1}(c) - V_{t-1,t-1}(c)\right)\right] - Total\ Costs_t$$

The Strategy Tradable Level may be negative on any Strategy Calculation Day. If the Strategy Tradable Level continues to be less than or equal to zero for a prolonged period of time, the value of the position in all Components will revert to zero and the Strategy Tradable Level will become static at or below zero.

If a Non-Tradable Event occurs on any Strategy Calculation Day, the Strategy Calculation Agent will not be able to calculate the Strategy Tradable Level in respect of such Strategy Calculation Day until a later date. Therefore, the Strategy Calculation Agent will also calculate a level (the "**Strategy Timely Level**") in respect of each Strategy Calculation Day.

The Strategy Calculation Agent will calculate the Strategy Timely Level of the Commodity Index on each Strategy Calculation Day as follows:

(i) if no Non-Tradable Event occurs in respect of the Commodity Index on such Strategy Calculation Day, the Strategy Timely Level shall be equal to the Strategy Tradable Level in respect of such Strategy Calculation Day; or

(ii) if a Non-Tradable Event occurs in respect of the Commodity Index on such Strategy Calculation Day, the Strategy Timely Level will be calculated using the same methodology for calculating the Strategy Tradable Level, save that the Timely Level of each Component shall be used in place of its Tradable Level.

6.3 **Calculation of the value of the position in respect of a Component**

The value of the position in respect of a Component and a Strategy Calculation Day is determined using the Tradeable Level in respect of such Component and a specified Strategy Calculation Day and the Units of such Component and a specified Strategy Calculation Day in accordance with the following formula:

$$L_t(c) \times U_s(c)$$

Where:

$L_t(c)$ means the Tradeable Level in respect of the relevant Component in respect of the relevant specified Strategy Calculation Day; and

$U_s(c)$ means the Units in respect of the relevant Component in respect of the relevant specified Strategy Calculation Day.

6.4 **Determination of the Tradeable Level in respect of a Component**

The Tradeable Level in respect of a Component and a Strategy Calculation Day, is determined by reference to the "Style" in respect of such Component.

In respect of each Component in respect of which the "Style" is "A", the Tradable Level in respect of a Strategy Calculation Day will be determined as follows:

(i) if no Non-Tradable Event occurs in respect of any relevant contract expiration included in such Component on such Strategy Calculation Day, the Tradable Level of such Component will be equal to the Timely Level on such Strategy Calculation Day; or

(ii) if a Non-Tradable Event occurs in respect of any relevant contract expiration (the "**Affected Contract Expiration**") included in such Component on such Strategy Calculation Day, the Tradable Level of such Component will be calculated on the First Tradable Date (broadly speaking being the first day on or following such Strategy Calculation Day on which the components of the Component are tradeable and not subject to a disruption) in accordance with the formula for, and method of, calculating such Component, using the Tradable Contract Price (broadly speaking, the reference price of the Affected Contract Expiration on the First Tradeable Day unless a Non-Tradeable Event occurs in which case it shall be as determined by the Strategy Sponsor) (instead of the relevant daily settlement price) for the

Affected Contract Expiration in respect of such Strategy Calculation Day, and the Strategy Sponsor may make such adjustment(s) to the formula for, and method of, calculating such Component as it determines in a commercially reasonable manner to be appropriate in order to effect such calculation.

In respect of each Component in respect of which the "Style" is "B", the Tradable Level in respect of a Strategy Calculation Day will be calculated in accordance with the definition of "Strategy Tradable Level" specified in the relevant rules in respect of such Component, provided that if such Tradable Level would be determined on a day which would fall after the First Tradable Date (broadly speaking being the first day on or following such Strategy Calculation Day on which the components of the Component are tradeable and not subject to a disruption), the Tradable Level of such Component shall be determined by the Strategy Sponsor on such First Tradable Date acting in a commercially reasonable manner.

6.5 **Calculation of the Units in respect of a Component**

The Units of a Component and a specified Strategy Calculation Day shall be an amount calculated by the Strategy Calculation Agent in accordance with the following formula in respect of the Rebalancing Date "r" falling on or prior to such Strategy Calculation Day:

$$ICW_r(c) \times \frac{S_{RefDate(r)}}{LRefDate(r)(c)}$$

Where:

$ICW_r(c)$ means the Component Weight in respect of the relevant Component;

$S_{RefDate(r)}$ means the Strategy Timely Level in respect of the Reference Date in respect of the relevant Rebalancing Date or if such Strategy Timely Level is negative, then zero; and

LRefDate(r)(c) means the Timely Level in respect of such Component and the Reference Date in respect of the relevant Rebalancing Date.

6.6 **Calculation of the Total Costs**

The Total Costs in respect of a Strategy Calculation Day shall be equal to an amount determined by the Strategy Calculation Agent in accordance with the following formula:

$$TC_t + \left[\sum_c SC_t(c)\right]$$

Where:

$SC_t(c)$ means, in respect of a Component, the Servicing Costs in respect of the relevant Component and the relevant Strategy Calculation Day; and

TC_t means, in respect of a Strategy Calculation Day, the aggregate of the transaction costs in respect of each Transaction Cost Class (being each class of Components with a common Transaction Cost Rate), as determined by the Strategy Calculation Agent in accordance with the following formula:

$$\sum_{cc} TC_t(cc)$$

Where:

cc means each Transaction Cost Class; and

$TC_t(cc)$ means the transaction costs in respect of the relevant Transaction Cost Class and the relevant Strategy Calculation Day, being an amount determined by the Strategy Calculation Agent in accordance with the following formula:

$$TCR_t(cc) \times Abs\left(\sum_c TCWM_t(c, cc) \times U_t(c) - U_{t-1}(c)\right)$$

Where:

$TCR_t(cc)$ means the Transaction Cost Rate in respect of the relevant Transaction Cost Class;

Abs(x) means the absolute value function evaluated for the number *x*;

$TCWM_t(c, cc)$ means, in respect of a Component and a Strategy Calculation Day, the Tradeable Level in respect of such Component and the relevant Strategy Calculation Day;

$U_t(c)$ means the Units of the relevant Component in respect of the relevant Strategy Calculation Day; and

$U_{t-1}(c)$ means the Units of the relevant Component in respect of the Strategy Calculation Day falling immediately prior to the relevant Strategy Calculation Day.

6.7 **Calculation of the Servicing Costs in respect of a Component**

The Servicing Costs in respect of a Component and a Strategy Calculation Day shall be equal to an amount determined by the Strategy Calculation Agent in accordance with the following formula:

$$Abs(L_{t-1}(c) \times U_{t-1}(c)) \times SCR_{t-1}(c) \times \frac{days}{365}$$

Where:

Abs(x) means the absolute value function evaluated for the number *x*;

$L_{t-1}(c)$ means the Tradeable Level of the relevant Component and the Strategy Calculation Day immediately preceding the relevant Strategy Calculation Day;

$U_{t-1}(c)$ means the Units of the relevant Component in respect of the Strategy Calculation Day falling immediately prior to the relevant Strategy Calculation Day;

$SCR_{t-1}(c)$ means the Servicing Cost Rate in respect of the relevant Component; and

days means the number of calendar days falling in the period commencing on (and including) the Strategy Calculation Date immediately preceding the relevant Strategy Calculation Day and ending on (but excluding) the relevant the relevant Strategy Calculation Day.

6.8 **Termination**

The Strategy Sponsor may, in its sole and absolute discretion, at any time, for any reason (including without limitation, because it is no longer possible or practicable to calculate the value of the Commodity Index) and without notice, terminate the calculation and publication of the Commodity Index.

6.9 **Definitions in respect of the Commodity Index**

"**GS Strategy**" means proprietary strategies which Goldman Sachs International or its successor(s) may create from time to time.

"**Instrument**" means a futures contract which is used to calculate the level of a Component.

"**Market Disruption Event**" means, in respect of a Strategy Calculation Day and:

(i) a Component any one of the following events, as determined by the Strategy Sponsor:

(a) each such event as determined in accordance with the rules of such Component; or

(b) the occurrence of a Market Disruption Event (or other analogous event) in respect of any Instrument or other asset, instrument or rate (including, but not limited to, an option, exchange rate or interest rate) included in such Component or used in the calculation of the level of, such Component; or

(ii) an Instrument that is not a Component, the occurrence of any one of the following events, as determined by the Strategy Sponsor:

(a) the daily reference price of the relevant contract expiration of such Instrument for such Strategy Calculation Day remains at a "limit price" which means that the price of such Instrument on such day has increased or decreased from the previous day's settlement price for such Instrument by the maximum amount permitted under the applicable rules of the relevant trading facility; or

(b) there is a failure by the relevant trading facility or other price source to announce or publish the daily reference price of the relevant contract expiration of such Instrument for such Strategy Calculation Day, provided that such Strategy Calculation Day is also an exchange business day in respect of such relevant contract expiration; or

(c) trading the relevant contract expiration of such Instrument on the relevant trading facility is suspended or interrupted subsequent to the opening of trading and trading in such contract expiration does not recommence at least ten (10) minutes prior to the regular scheduled close of trading in such contract expiration, or in the event trading in such contract expiration does recommence at least ten (10) minutes prior to the regular scheduled close of trading, trading does not continue until the regular scheduled close of trading in such contract expiration.

"**Non-Tradeable Event**" means, in respect of a Strategy Calculation Day and:

(i) a Component, the occurrence of any one of the following events, as determined by the Strategy Sponsor:

(a) such Strategy Calculation Day is not a Trading Day for such Component; or

(b) a Market Disruption Event is occurring or existing in respect of such Component on such Strategy Calculation Day;

(ii) an Instrument that is not a Component,

(a) such Strategy Calculation Day is not an exchange business day for such Instrument; or

(b) a Market Disruption Event is occurring or existing in respect of such the relevant Instrument on such Strategy Calculation Day; or

(c) the Strategy Sponsor, in its reasonable judgment, (I) determines that such Instrument has ceased to be a liquid, actively traded Instrument that is generally available for trading, or that such Instrument has been the subject of a Market Disruption Event for at least five consecutive Strategy Calculation Days, or (II) anticipates on the basis of publicly available information that such Instrument or any Instrument valuation data, notwithstanding that it is available for trading, will cease to be liquid and actively traded or will be terminated or delisted by the relevant price source

(d) is occurring or existing in respect of the relevant contract expiration of such Instrument on such Strategy Calculation Day.

(iii) a GS Strategy, the occurrence of a Non-Tradable Event in respect of any Component included in such GS Strategy.

"**Rebalancing Date**" means, in respect of a Reference Date, the Trading Day immediately following such Reference Date.

"**Reference Date**" means each of the Strategy Inception Date and, thereafter, the second to last Trading Day of each month.

"**Strategy Calculation Day**" means any day on which the offices of Goldman Sachs & Co. LLC in New York are open for business.

"**Strategy Currency**" means USD.

"**Strategy Inception Date**" means 10 December 2007.

"**Strategy Trading Day**" means each "Trading Day" in respect of Component c=5.

"**Timely Level**" means, in respect of a Component and a Strategy Calculation Day, if the "Style" in respect of such Component is:

(i) "A" means the "Timely Level" of a Component on any day will be determined as the official closing level of such Component as published on the relevant Bloomberg page on such day, subject to adjustment in accordance with methodology of the Commodity Index; and

(ii) "B" means the "Timely Level" of a Component on any day will be calculated in accordance with the definition of "Strategy Timely Level" specified in the relevant rules in respect of such Component.

in each case, provided that if such day is not a day on which the level of such Component is scheduled to be published, then the Timely Level of such Component for such day shall be deemed to be the Timely Level of such Component on the immediately preceding day on which such Component is scheduled to be published.

"**Trading Day**" means, in respect of a Component, that:

(i) not a GS Strategy (being c = 1, 2, 3 and 4), a day which is (I) an exchange business day for any Instruments included in or referenced by such Component, (II) a day on which any other asset, instrument or rate (including, but not limited to, an option, exchange rate or interest rate) included in such Component or used in the calculation of the level of such Component, is scheduled to be traded or published, as applicable, and (III) a day on which such Component is scheduled to be published or traded (as applicable); and

(ii) a GS Strategy (being c = 5), each day which is (a) a Trading Day for all the "Components" included in such GS Strategy, (b) a currency business day for the "Currency Conversion Component" (as defined in Section 5 (*Description of the EUA USD Strategy*) below) in respect of such Component and (c) a Strategy Calculation Day for the GS Strategy.

6.10 Disruption Events, Adjustment Events, Change in Methodology and Corrections

In respect of the Commodity Index, please see Section 10.2 (*Disruption Events - In respect of each of the Commodity Index and the EUA USD Strategy only*), Section 11 (*Corrections*) and Section 12 (*Change in Methodology*).

7. Description of the EUA USD Strategy

Capitalised terms defined in this Section 7 (*Description of the EUA USD Strategy*) (including in Section 7.7 (*Definitions in respect of the EUA USD Strategy*)) shall have the meaning given to them solely for the purposes of this Section 7 (*Description of the EUA USD Strategy*) unless otherwise specified or cross-referred to.

7.1 Overview of the EUA USD Strategy

The Goldman Sachs EUA USD Strategy (*Bloomberg Code: AGGSMOZ <Index>*) (referred to herein as the EUA USD Strategy) seeks to provide synthetic exposure to the EUA EUR Strategy (the "**Component**") hedged into the currency of the EUA USD Strategy, being United States Dollars ("**USD**").

c	Component	Bloomberg Page	Component Weight	Style
1	Enhanced Strategy MOZE on S&P GSCI Carbon Emission Allowances EUA (EUR) Index*	*AGGSMOZE <Index>*	100%	A

* As described in Section 8 (*Description of the EUA EUR Strategy*) below.

7.2 Calculation of the value of the EUA USD Strategy

The value of the EUA USD Strategy (the "**Strategy Tradeable Level**") in respect of each Strategy Calculation Day will depend on the daily mark-to-market change in the value of the position in the Component referenced by the EUA USD Strategy, the change in the foreign currency exchange rate between EUR and USD and the notional holding in such Component at such time.

The Strategy Tradeable Level on the on the Strategy Inception Date was equal to 100.

The Strategy Tradeable Level shall be calculated by the Strategy Calculation Agent on each Strategy Calculation Day following the Strategy Inception Date as an amount in the Strategy Currency equal to the sum of:

(i) the Strategy Tradeable Level in respect of the immediately preceding Strategy Calculation Day ("S_{t-1}"); plus

(ii) the product of:

  (a) the FX Rate Tradeable Level in respect of such Strategy Calculation Day ("$FX_t(c)$"); multiplied by

  (b) (1) the value of the position in respect of the Component in respect of the Tradeable Level of the Component and such Strategy Calculation Day and the Units of the Component in respect of the Strategy Calculation Day immediately preceding such Strategy Calculation Day ("$V_{t,t-1}(c)$"); minus

  (2) the value of the position in respect of such Component in respect of the Tradeable Level of such Component in respect of the Strategy Calculation Day immediately preceding such Strategy Calculation Day and the Units of such Component in respect of the Strategy Calculation Day immediately preceding such Strategy Calculation Day ("$V_{t-1,t-1}(c)$").

Expressed as a formula:

$$S_{t-1} + \left[\sum_{c} \left(FX_t(c) \times \left(V_{t,t-1}(c) - V_{t-1,t-1}(c)\right)\right)\right]$$

The Strategy Tradable Level may be negative on any Strategy Calculation Day. If the Strategy Tradable Level continues to be less than or equal to zero for a prolonged period of time, the value of the position in the Component will revert to zero and the Strategy Tradable Level will become static at or below zero.

If a Non-Tradable Event occurs on any Strategy Calculation Day, the Strategy Calculation Agent will not be able to calculate the Strategy Tradable Level in respect of such Strategy Calculation Day until a later date. Therefore, the Strategy Calculation Agent will also calculate a level (the "**Strategy Timely Level**") in respect of each Strategy Calculation Day.

The Strategy Calculation Agent will calculate the Strategy Timely Level of the EUA USD Strategy on each Strategy Calculation Day as follows:

(i) if no Non-Tradable Event occurs in respect of the EUA USD Strategy on such Strategy Calculation Day, the Strategy Timely Level shall be equal to the Strategy Tradable Level in respect of such Strategy Calculation Day; or

(ii) if a Non-Tradable Event occurs in respect of the EUA USD Strategy on such Strategy Calculation Day, the Strategy Timely Level will be calculated using the same methodology for calculating the Strategy Tradable Level, save that the Timely Level of each Component shall be used in place of its Tradable Level.

7.3 **Calculation of the value of the position in respect of the Component**

The value of the position in respect of the Component and a Strategy Calculation Day is determined using the Tradeable Level in respect of such Component and a specified Strategy Calculation Day and the Units of the Component and a specified Strategy Calculation Day in accordance with the following formula:

$$L_t(c) \times U_s(c)$$

Where:

$L_t(c)$ means the Tradeable Level in respect of the Component in respect of the relevant specified Strategy Calculation Day; and

$U_s(c)$ means the Units in respect of the Component in respect of the relevant specified Strategy Calculation Day.

7.4 **Determination of the Tradeable Level in respect of the Component**

The Tradable Level in respect of the Component and a Strategy Calculation Day will be determined as follows:

(i) if no Non-Tradable Event occurs in respect of the Component on such Strategy Calculation Day, the Tradable Level of the Component will be equal to the Timely Level on such Strategy Calculation Day; or

(ii) if a Non-Tradable Event occurs in respect of any relevant contract expiration (the "**Affected Contract Expiration**") included in the Component on such Strategy Calculation Day, the Tradable Level of the Component will be calculated on the First Tradable Date (broadly speaking being the first day on or following such Strategy Calculation Day on which the components of the Component are tradeable and not subject to a disruption) in accordance with the formula for, and method of, calculating the Component, using the Tradable Contract Price (broadly speaking, the reference price of the Affected Contract Expiration on the First Tradeable Day unless a Non-Tradeable Event occurs in which case it shall be as determined by the Strategy Sponsor) (instead of the relevant daily settlement price) for the Affected Contract Expiration in respect of such Strategy Calculation Day, and the Strategy Sponsor may make such adjustment(s) to the formula for, and method of, calculating the Component as it determines in a commercially reasonable manner to be appropriate in order to effect such calculation.

7.5 **Calculation of the Units in respect of a Component**

The Units of the Component and a specified Strategy Calculation Day shall be an amount calculated by the Strategy Calculation Agent in accordance with the following formula in respect of the Rebalancing Date "r" falling on or prior to such Strategy Calculation Day:

$$ICW_r(c) \times \frac{S_{RefDate(r)}}{LRefDate(r)(c) \times FX_{RefDate(r)}(c)}$$

Where:

$ICW_r(c)$ means the Component Weight in respect of the Component;

$FX_{RefDate(r)}(c)$ means the FX Rate Tradeable Level in respect of the Reference Date in respect of the relevant Rebalancing Date;

$S_{RefDate(r)}$ means the Strategy Timely Level in respect of the Reference Date in respect of the relevant Rebalancing Date or if such Strategy Timely Level is negative, then zero; and

$LRefDate(r)(c)$ means the Timely Level in respect of such Component and the Reference Date in respect of the relevant Rebalancing Date.

7.6 **Termination**

The Strategy Sponsor may, in its sole and absolute discretion, at any time, for any reason (including without limitation, because it is no longer possible or practicable to calculate the value of the EUA USD Strategy) and without notice, terminate the calculation and publication of the EUA USD Strategy.

7.7 **Definitions in respect of the EUA USD Strategy**

"**Currency Conversion Component**" means in respect of EUR and USD, a rate expressed as the number of units of the EUR per unit of USD.

"**Exchange Rate Disruption Event**" means, broadly speaking and as more fully described in the methodology in respect of the EUA USD Strategy as published or made available by the Strategy Sponsor, in respect of a Strategy Calculation Day, in respect of the Currency Conversion Component, any one of the following events, as determined by the Strategy Sponsor:

(i) the relevant Spot Exchange Rate has ceased to be published by the relevant Spot Exchange Rate Price Source, and has not been replaced by a successor; or

(ii) EUR or USD splits into dual or multiple currencies; or

(iii) an event has occurred in, or affecting, any jurisdiction whose currency is either EUR or USD, as the case may be, that generally makes it impossible to convert USD into EUR or, as the case may be, EUR into USD, through customary legal channels; or

(iv) it is or becomes impossible or not reasonably practicable for the Strategy Sponsor to obtain a currency exchange rate for such Currency Conversion Component from the relevant Spot Exchange Rate Price Source or any other source, or to obtain a firm quote for a currency exchange rate for such Currency Conversion Component; or

(v) (a) an event has occurred in, or affecting, any jurisdiction whose currency is EUR that generally makes it impossible to deliver (I) the USD from accounts inside such jurisdiction to accounts outside such jurisdiction or (II) EUR between accounts inside such jurisdiction or to a party that is a non-resident of such jurisdiction, or (b) an event has occurred in, or affecting, any jurisdiction whose currency is USD that generally makes it impossible to deliver (I) EUR from accounts inside such jurisdiction to accounts outside such jurisdiction or (II) USD between accounts inside such jurisdiction or to a party that is a non-resident of such jurisdiction; or

(vi) a default, event of default, or other similar condition or event (however described) with respect to any security or indebtedness for borrowed money of, or guaranteed by, any applicable governmental authority, including, but not limited to, (a) the failure of timely payment in full of any principal, interest, or other amounts due (without giving effect to any applicable grace periods) in respect of any such security, indebtedness, or guarantee, (b) a declared moratorium, standstill, waiver, deferral, repudiation, challenge of the validity, or rescheduling of any principal, interest, or other amounts due in respect of any such security, indebtedness, or guarantee, or (c) the amendment or modification of the terms and conditions of payment of any principal, interest, or other amounts due in respect of any such security, indebtedness, or guarantee without the consent of all holders of such obligation. For these purposes, the determination of the existence or occurrence of any default, event of default, or other similar condition or event shall be made without regard to any lack or alleged lack of authority or capacity of such governmental authority to issue or enter into such security, indebtedness, or guarantee; or

(vii) any expropriation, confiscation, requisition, nationalisation or other action by a relevant governmental authority which deprives any market participant of all or substantially all of its assets in any jurisdiction whose currency is USD or EUR; or

(viii) the occurrence or existence at any time, of any event or circumstance that disrupts or impairs (a) the ability of market participants in general to effect transactions in relation to EUR or USD in a notional size required in relation to any product or transaction linked to the EUA USD Strategy, (b) impairs the liquidity of transactions in relation to EUR or USD, (c) the ability to obtain market values of, EUR or USD, or (d) the ability of any market participant, after using commercially reasonable efforts, to acquire, establish, re-establish, substitute, maintain, unwind, or dispose of any hedge position relating to the EUA USD Strategy or any transaction linked to the EUA USD Strategy or to realise, recover or remit the proceeds of any such transaction; or

(ix) EUR or USD ceases to exist and is replaced by another currency.

"**FX Rate Timely Level**" means, in respect of any day, the Spot Exchange Rate in respect of such day.

"**FX Rate Tradeable Level**" means, in respect of any Strategy Calculation Day, the FX Rate Timely Level in respect of such day unless a Non-Tradable Event is occurring in respect of the Currency Conversion Component or the Component on such Strategy Calculation Day, in which case the FX Tradable Level shall be the Spot Exchange Rate on the day (the "**Resolution Day**") that is the First Tradable Date (broadly speaking being the first day on or following such Strategy Calculation Day on which the components of the Currency Conversion Component are tradeable and not subject to a disruption) in respect of such Currency Conversion Component and the Strategy Calculation Day that falls on the First Tradable Date in respect of the Component and such Strategy Calculation Day, provided that if a Non-Tradable Event in respect of such Currency Conversion Component exists on the Resolution Day, the FX Rate Tradable Level of such Currency Conversion Component shall be determined by the Strategy Sponsor on such First Tradable Date acting in a commercially reasonable manner

"**Instrument**" means a futures contract which is used to calculate the level of a Component.

"**Non-Tradeable Event**" means, in respect of a Strategy Calculation Day and:

(i) a Component, the occurrence of any one of the following events, as determined by the Strategy Sponsor:

(a) such Strategy Calculation Day is not a Trading Day for such Component; or

(b) a Market Disruption Event is occurring or existing in respect of such Component on such Strategy Calculation Day;

(ii) an Instrument that is not a Component,

(a) such Strategy Calculation Day is not an exchange business day for such Instrument; or

(b) a Market Disruption Event is occurring or existing in respect of such the relevant Instrument on such Strategy Calculation Day; or

(c) the Strategy Sponsor, in its reasonable judgment, (I) determines that such Instrument has ceased to be a liquid, actively traded Instrument that is generally available for trading, or that such Instrument has been the subject of a Market Disruption Event for at least five consecutive Strategy Calculation Days, or (II) anticipates on the basis of publicly available information that such Instrument or any Instrument valuation data, notwithstanding that it is available for trading, will cease to be liquid and actively traded or will be terminated or delisted by the relevant price source; or

(d) is occurring or existing in respect of any relevant contract expiration of such Instrument on such Strategy Calculation Day; or

(iii) the Currency Conversion Component, the occurrence of any one of the following events, as determined by the Strategy Sponsor:

(a) such Strategy Calculation Day is not a day on which the Spot Exchange Rate is scheduled to be published on the relevant Spot Exchange Rate Price Source; or

(b) a Market Disruption Event is occurring or existing in respect of the relevant Currency Conversion Component on such Strategy Calculation Day; or

(iv) a Component that is a GS Strategy, the occurrence of a Non-Tradable Event in respect of any "Component" included in such GS Strategy.

"**Market Disruption Event**" means, in respect of:

(i) in respect of a Component, any one of the following events, as determined by the Strategy Sponsor:

(a) each event determined as such in accordance with the rules of such Component; or

(b) the occurrence of a Market Disruption Event (or other analogous event) in respect of any Instrument or other asset, instrument or rate (including, but not limited to, an option, exchange rate or interest rate) included in such Component or used in the calculation of the level of, such Component; or

(ii) the Currency Conversion Component and a Strategy Calculation Day, the occurrence of any one of the following events, as determined by the Strategy Sponsor:

(a) an Exchange Rate Disruption Event in respect of such Currency Conversion Component; or

(b) the occurrence or existence, on such Strategy Calculation Day at any time, of a suspension of, or limitation imposed on, trading on the London interbank market or the interbank market of the city or cities determined by the Strategy Sponsor to be the principal financial centre(s) for EUR or USD; and

(iii) an Instrument that is not a Component and a Strategy Calculation Day, the occurrence of any one of the following events, as determined by the Strategy Sponsor:

(a) the daily reference price of the relevant contract expiration of such Instrument for such Strategy Calculation Day remains at a "limit price" which means that the price of such Instrument on such day has increased or decreased from the previous day's settlement price for such Instrument by the maximum amount permitted under the applicable rules of the relevant trading facility; or

(b) there is a failure by the relevant trading facility or other price source to announce or publish the daily reference price of the relevant contract expiration of such Instrument for such Strategy Calculation Day, provided that such Strategy Calculation Day is also an exchange business day in respect of such relevant contract expiration; or

(c) trading the relevant contract expiration of such Instrument on the relevant trading facility is suspended or interrupted subsequent to the opening of trading and trading in such contract expiration does not recommence at least ten (10) minutes prior to the regular scheduled close of trading in such contract expiration, or in the event trading in such contract expiration does recommence at least ten (10) minutes prior to the regular scheduled close of trading, trading does not continue until the regular scheduled close of trading in such contract expiration.

"**Reference Date**" means each Strategy Calculation Day.

"**Rebalancing Date**" means, in respect of a Reference Date, the Strategy Calculation Day immediately following such Reference Date.

"**Spot Exchange Rate**" means, in respect of any day, the 4 p.m. London closing spot mid rate for converting one unit of USD into EUR for such day as published by the Spot Exchange Rate Price Source. If such day is not a day on which such spot exchange rate is scheduled to be published on the relevant Spot Exchange Rate Price Source, or such spot exchange rate is otherwise unavailable for any other reason, the Spot Exchange Rate shall be deemed to be the relevant spot exchange rate as of the first preceding day on which such spot exchange rate was scheduled to be published and the relevant Spot Exchange Rate Price Source published such spot exchange rate.

"**Spot Exchange Rate Price Source**" means WM Company or any successor company.

"**Strategy Currency**" means USD.

"**Strategy Inception Date**" means 10 December 2007.

"**Timely Level**" means, in respect of the Component and a Strategy Calculation Day, the official closing level of the Component as published on the relevant Bloomberg page on such day, subject to adjustment in accordance with methodology of the EUA USD Strategy, provided that if such day is not a day on which the level of the Component is scheduled to be published, then the Timely Level of the Component for such day shall be deemed to be the Timely Level of the Component on the immediately preceding day on which the Component is scheduled to be published.

7.8 Disruption Events, Adjustment Events, Change in Methodology and Corrections

In respect of the EUA USD Strategy, please see Section 10.2 (*Disruption Events - In respect of each of the Commodity Index and the EUA USD Strategy only*), Section 11 (*Corrections*) and Section 12 (*Change in Methodology*).

8. Description of the EUA EUR Strategy

Capitalised terms defined in this Section 8 (*Description of the EUA EUR Strategy*) shall have the meaning given to them solely for the purposes of this Section 8 (*Description of the EUA USD Strategy*) unless otherwise specified or cross-referred to. Terms used but not defined herein shall have the meaning given to them in the S&P GSCI®

Index Methodology and should be read in conjunction with such methodology (further details are available from https://www.spglobal.com/).

8.1 Overview of the EUA EUR Strategy

The Goldman Sachs EUA EUR Strategy (*Bloomberg Code: AGGSMOZE <Index>*) (referred to herein as the EUA EUR Strategy) reflects the returns that are potentially available through an investment in the same commodity futures contract that is included in the S&P GSCI Carbon Emission Allowances EUA (EUR) Index (the "**Underlying S&P Index**") and is calculated in accordance with the methodology for calculating Underlying S&P Index, subject to certain modifications to the methodology for calculating the relevant Underlying S&P Index as further described in Section 8.3 (*The Adjustment of Roll Contract Expiration*) and Section 8.4 (*The Strategy Roll Period*) below.

The EUA EUR Strategy is calculated and published by the Strategy Sponsor and displayed on the relevant Bloomberg ticker. The Strategy Currency is EUR.

The EUA EUR Strategy is calculated using an "excess return" methodology and therefore reflects the returns that are potentially available through an investment in the commodity futures contract included in the Underlying S&P Index. The use of the term "excess return" refers to the changing value of the commodity futures contract included in the relevant Underlying S&P Index and the yield that results from the "rolling" forward of the hypothetical positions in such commodity futures contract as it approaches delivery (i.e., (i) selling near-dated commodity futures contracts (or the commodity futures contracts that are nearing expiration) before they expire, and (ii) buying longer-dated futures contracts (or the commodity futures contracts that have an expiration date further in the future)), and not to any expectations of return.

The Strategy Inception Date is 10 December 2007.

The Underlying S&P Index is calculated and published by S&P Dow Jones Indices LLC (the "S&P Index Sponsor").

c	Component	Underlying S&P Index	Bloomberg Page
1	European Union Carbon Emission Allowances (EUA) Futures	S&P GSCI Carbon Emission Allowances EUA (EUR) Index *	*SPGSCEE <Index>*

* Further details are available from https://www.spglobal.com/.

8.2 Calculation of the level of the EUA EUR Strategy

The EUA EUR Strategy is calculated on a similar, but not identical, basis to the Underlying S&P Index. However, the key difference between the EUA EUR Strategy and the Underlying S&P Index is that the EUA EUR Strategy applies different rules for the "rolling" forward of the hypothetical positions in the relevant commodity futures contracts to those used by the relevant Underlying S&P Index, as described in more detail in Section 8.3 (*The Adjustment of Roll Contract Expiration*) and Section 8.4 (*The Strategy Roll Period*) below.

8.3 The Adjustment of Roll Contract Expiration

In respect of the Designated Contract of each Strategy, the definition of the term "Roll Contract Expiration" in respect to such Designated Contract in the S&P GSCI® Index Methodology is modified so that, with respect to the Designated Contract to be rolled in the EUA EUR Strategy on any S&P GSCI Business Day, the Roll Contract Expiration shall be the Designated Contract Expiration following the Contract Expiration identified according to the schedule for each of the 12 months starting with January shall be "Z Z Z Z Z Z Z Z Z Z Z Z" (where "Z" denotes the December contract expiration falling in the relevant calendar year). This modified definition of the term Roll Contract Expiration will result in the relevant Designated Contract of the EUA EUR Strategy being rolled in a manner other than as set out in the S&P GSCI® Index Methodology.

8.4 The Strategy Roll Period

The EUA EUR Strategy applies a different roll period to the "Roll Period" used by the S&P GSCI® Index Methodology. The Roll Period applicable to the S&P GSCI® Index Methodology begins on the fifth S&P GSCI

Business Day of each calendar month and ends on the ninth S&P GSCI Business Day of such calendar month, subject to adjustment in accordance with the S&P GSCI® Index Methodology. In contrast, the roll period applicable to the EUA EUR Strategy (the "**Strategy Roll Period**") begins on the Roll Start Date and ends on the Roll End Date, as defined below.

"**Last Roll Date**" means the first S&P GSCI Business Day that satisfies the two conditions below:

(a) falls on or after the fifth S&P GSCI Business Day in the month immediately preceding the month in which the roll would take place for the Underlying S&P Index; and

(b) none of the circumstances described in Section 8.6 (*Adjustment of the Strategy Roll Period*) below exist.

"**Roll End Date**" means the fifth S&P GSCI Business Day in the month in which the roll would take place for the Underlying S&P Index.

"**Roll Start Date**" means the later of:

(a) the seventh S&P GSCI Business Day in the month immediately preceding the month in which the roll would take place for the Underlying S&P Index; or

(b) the first S&P GSCI Business Day that falls immediately after the Last Roll Date.

8.5 **Adjustment events in respect of the roll period**

The Strategy Sponsor may make certain adjustments to the EUA EUR Strategy that it determines to be necessary or appropriate (or may cease to calculate the EUA EUR Strategy) including (i) if the contract reference price on a day for the relevant commodity futures contract is a maximum or minimum price for such commodity futures contract on such day, (ii) if the published Daily Contract Reference Price (as defined in the S&P GSCI® Index Methodology) reflects a manifest error, (iii) if no contract reference price is published by 4:00 p.m., Eastern Standard Time or (iv) trading in the relevant commodity futures contract is terminated prior to its scheduled closing time.

8.6 **Adjustment of the Strategy Roll Period**

If on any day during a Strategy Roll Period (that would otherwise be a S&P GSCI Business Day), any of the following circumstances exist with respect to a Designated Contract included in the EUA EUR Strategy, the portion of the roll in respect of such Designated Contract that would otherwise have taken place on that day is deferred until the next Contract Business Day (provided that such day is also an S&P GSCI Business Day) on which such circumstances do not exist:

(a) if the S&P Index Sponsor announces or has announced after the start of the current Strategy Roll Period that such day is no longer an S&P GSCI Business Day;

(b) if such S&P GSCI Business Day is not a Contract Business Day with respect to the First Nearby Contract Expiration or the Roll Contract Expiration in respect of such Strategy Roll Period;

(c) the applicable Daily Contract Reference Price of the First Nearby Contract Expiration or the Roll Contract Expiration in respect of such Strategy Roll Period on such S&P GSCI Business Day is a Limit Price (i.e., the maximum or minimum price for such Contract Expiration) on such day, as determined by the rules or policies of the relevant Trading Facility;

(d) the Daily Contract Reference Price published by the relevant Trading Facility for the First Nearby Contract Expiration or the Roll Contract Expiration in respect of such Strategy Roll Period reflects manifest error and such error is not corrected, or such price is not published by 4:00 p.m., Eastern Standard Time. In that event, the S&P Strategy Sponsor may, but is not required to, determine a Daily Contract Reference Price and complete the relevant portion of the roll based on such price; *provided, that*, if the relevant Trading Facility publishes a price before the opening of trading on the next day, the S&P Strategy Sponsor will revise the portion of the roll accordingly; or

(e) trading in the First Nearby Contract Expiration or the Roll Contract Expiration in respect of such Strategy Roll Period for such S&P GSCI Business Day is terminated prior to its scheduled closing time, and trading in such First Nearby Contract Expiration or Roll Contract Expiration does not resume at least ten minutes prior to, and continue until, the scheduled closing time (or the rescheduled closing time if such closing time was rescheduled as a result of the termination).

As an example, assuming that the Strategy Roll Period is scheduled to be twenty S&P GSCI Business Days, if any of the enumerated circumstances above exist in respect of a Designated Contract included in the EUA EUR Strategy on the first S&P GSCI Business Day of such Strategy Roll Period, then no portion of the roll in respect of such Designated Contract will be performed on such day and 10 per cent. of the roll in respect of such Designated Contract will be implemented on the next S&P GSCI Business Day. If such circumstances also exist in respect of the same Designated Contract on the second S&P GSCI Business Day of such Strategy Roll Period, then 15 per cent. of the roll in respect of such Designated Contract will be performed on the third S&P GSCI Business Day, and so forth. If such circumstances exist in respect of the same Designated Contract throughout all twenty S&P GSCI Business Days initially designated as such Strategy Roll Period, then the entire roll in respect of the same Designated Contract will be performed on the next succeeding S&P GSCI Business Day on which none of these circumstances exist in respect of such Designated Contract. This procedure for adjusting the Strategy Roll Period is also applied by the S&P Index Sponsor to the Underlying S&P Index.

8.7 Disruption Events, Adjustment Events, Change in Methodology and Corrections

In respect of the EUA EUR Strategy, please see Section 10.3 (*Disruption Events* **-** *In respect of the EUA EUR Strategy only*), Section 11 (*Corrections*) and Section 12 (*Change in Methodology*).

8.8 Termination

The Strategy Sponsor may, in its sole and absolute discretion, at any time, for any reason (including without limitation, because it is no longer possible or practicable to calculate the value of the EUA EUR Strategy) and with notice, terminate the calculation and publication of the EUA EUR Strategy.

9. Description of the Money Market Indices

Capitalised terms defined in this Section 9 (*Description of the Money Market Indices*) (including in Section 9.5 (*Definitions in respect of the Money Market Indices*)) shall have the meaning given to them solely for the purposes of this Section 9 (*Description of the Money Market Indices*) unless otherwise specified or cross-referred to.

9.1 Overview of each Money Market Index

The EUR Goldman Sachs Overnight Money Market Index (*Bloomberg Code: GSMMEUR <Index>*) (referred to herein as the EUR Money Market Index) intends to express the notional returns accruing to a hypothetical investor from an investment in a notional overnight money account denominated in the Strategy Currency of EUR that accrues interest at a rate equal to, in the period:

(i) up to (and including) 20 December 2021, the Euro OverNight Index Average ("**EONIA**"); and

(ii) from (and including) 20 December 2021, the sum of (a) €STR (as defined below); and (b) a spread of 8.50 basis points.

The EUR STR Goldman Sachs Overnight Money Market Index (*Bloomberg Code: GSMMSTR <Index>*) (referred to herein as the EUR STR Money Market Index) intends to express the notional returns accruing to a hypothetical investor from an investment in a notional overnight money account denominated in the Strategy Currency of EUR that accrues interest at a rate determined by reference to €STR.

The USD Goldman Sachs Overnight Money Market Index (*Bloomberg Code: GSMMUSD <Index>*) (referred to herein as the USD Money Market Index) intends to express the notional returns accruing to a hypothetical investor from an investment in a notional overnight money account denominated in the Strategy Currency of USD that accrues interest at a rate determined by reference to the USD-Federal Funds-H.15 rate ("**Fed Funds Rate**").

9.2 Calculation of the value of each Money Market Index

The value of the Money Market Index (the "**MM Index Value**") in respect of a Money Market Index on the MM Index Inception Date in respect of such Money Market Index was equal to 100.

The MM Index Value in respect of a Money Market Index shall be calculated by the Strategy Calculation Agent on each MM Index Business Day following the MM Index Inception Date in respect of such Money Market Index as an amount equal to:

(a) the MM Index Value in respect of the Overnight Interest Rate Business Day in respect of such Money Market Index immediately preceding such MM Index Business Day (or, if none, 100); multiplied by

(b) the greater of:

(A) zero; and

(B) (i) one; plus

(ii) the Overnight Interest Rate in respect of such Money Market Index in respect of the Overnight Interest Rate Business Day in respect of such Money Market Index immediately preceding such MM Index Business Day multiplied by (I) the actual number of days in the period commencing on (and including) the Overnight Interest Rate Business Day immediately preceding such MM Index Business Day and ending on (but excluding) such MM Index Business Day, divided by (II) 360,

provided that if the MM Index Value in respect of such MM Index Business Day is equal to or less than zero, the MM Index Value in respect of such Money Market Index and such MM Index Business Day and all subsequent MM Index Business Days shall be zero.

Subject as provided under the heading "*Change in Methodology and Overnight Interest Rate and Termination*" below, the Strategy Calculation Agent will make available the MM Index Value on each MM Index Business Day. Each MM Index Value will be published on the applicable MM Index Bloomberg Ticker.

9.3 Change in methodology and overnight interest rate in respect of each Money Market Index

If any fiscal, market, regulatory, juridical, financial or other circumstances arise that would, in the view of the Strategy Sponsor, necessitate or make desirable a modification or change of the methodology in respect of the Money Market Index, the Strategy Sponsor reserves the right to make such changes to the methodology in respect of the Money Market Index to account for the occurrence of such circumstance(s).

In particular, in respect of the:

(i) EUR Money Market Index or the EUR STR Money Market Index, if €STR is not published (or, if published, is deemed to be manifestly incorrect) for a period longer than three Overnight Interest Rate Business Days, the Strategy Sponsor may substitute €STR with an alternative euro overnight interest rate option; and

(ii) USD Money Market Index, if the Fed Funds Rate is not published (or, if published, is deemed to be manifestly incorrect) for a period longer than three Overnight Interest Rate Business Days, the Strategy Sponsor may substitute the Fed Funds Rate with an alternative euro overnight interest rate option.

The Strategy Sponsor shall be entitled to make modifications to the terms of the Money Market Index in any manner it may deem necessary or desirable, including (without limitation) to correct any manifest or proven error, or to cure, correct or supplement any ambiguity or defective provision contained in the methodology for the Money Market Index.

The Strategy Sponsor may, but is not required to, establish a committee comprising of employees of the Strategy Sponsor and external members with the relevant academic or professional background to consider any proposed changes outlined above. The rules, responsibilities and powers of any such committee shall be pre-defined by the Strategy Sponsor.

9.4 **Termination in respect of a Money Market Index**

The Strategy Sponsor in respect of a Money Market Index may, in its sole discretion, at any time and without notice, terminate the calculation and publication of such Money Market Index.

9.5 **Definitions in respect of the Money Market Indices**

"**€STR**" means, with respect to any day, the euro short-term rate, expressed as a percentage, as administered by the European Central Bank (or any successor administrator) and published on the European Central Bank's website.

"**MM Index Bloomberg Ticker**" means, in respect of:

(a) the EUR Money Market Index, *GSMMEUR <Index>*;

(b) the EUR STR Money Market Index, *GSMMSTR <Index>*;

(c) the USD Money Market Index, *GSMMUSD <Index>*,

or, in each case, any successor page thereto;

"**MM Index Business Day**" means each calendar day that is not a Saturday or Sunday;

"**MM Index Inception Date**" means, in respect of:

(a) the EUR Money Market Index, 4 January 1999;

(b) the EUR STR Money Market Index, 3 January 2005; and

(c) the USD Money Market Index, 10 January 1994;

"**Overnight Interest Rate Business Day**" means, in respect of:

(a) each of the EUR Money Market Index and the EUR STR Money Market Index, a day on which the Trans-European Automated Real-time Gross settlement Express Transfer (TARGET) system is open; and

(b) the USD Money Market Index, any day which is a day on which commercial banks are open for general business (including dealings in foreign exchange and foreign currency deposits) New York.

"**Overnight Interest Rate**" means, in respect of:

(a) the EUR Money Market Index, in the period:

  (i) up to (and including) 20 December 2021, EONIA; and

  (ii) from (and including) 20 December 2021, the sum of (a) €STR; and (b) a spread of 8.50 basis points;

(b) the EUR STR Money Market Index, €STR; and

(c) the USD Money Market Index, USD-Federal Funds-H.15;

"**USD-Federal Funds-H.15**" means in respect of any day, the overnight Federal Funds Effective Rate US, referred as "USD-Federal-Funds-H15, expressed as a percentage, which is published on the Reuters Screen RSF.REC.USONFFE=NaE Page in respect of such day; and

10. **Disruption Events, Adjustment Events and Consequences**

For the purposes of this Section 10, any underlying index, financial instrument, asset, price, level, component or other underlying comprising, directly or indirectly, a Relevant Strategy, a "**Strategy Component**".

10.1 **Disruption Events - In respect of each of the Index, the Underlying Index and the Govt Bond Strategy only:**

Disruption Events applicable to a Strategy Component which is an index, as determined by the Strategy Sponsor (an "**Index Strategy Component**").

(a) If an Index Strategy Component in respect of a Relevant Strategy is either:

(i) not calculated and announced by the relevant component's sponsor or calculation agent but is calculated and announced by a successor sponsor or successor calculation agent acceptable to the Strategy Sponsor; or

(ii) replaced by a successor strategy using, in the determination of the Strategy Sponsor the same or substantially same formula for and method of calculating that Index Strategy Component,

then, in relation to (i) the Index Strategy Component shall continue to be the underlying component in respect of the Relevant Strategy, and, in relation to (ii) such successor strategy shall be deemed to become an underlying asset in respect of the Relevant Strategy and shall replace the affected Index Strategy Component and, in each case, the Strategy Sponsor may make such temporary or permanent adjustment to the Relevant Strategy as it deems appropriate in its sole discretion to account for such change.

(b) In respect of an Index Strategy Component, if:

(i) the Strategy Component's sponsor for such Index Strategy Component or the sponsor of any component of such Index Strategy Component announces that it will make a material change in the formula for calculating the relevant Index Strategy Component (or any component thereof) or in any other way materially modifies such Index Strategy Component (or any component thereof) (other than any modification prescribed in the formula for the purpose of maintaining such Index Strategy Component (or such component thereof) in the event of changes to its composition);

(ii) such Index Strategy Component (or any component thereof) is permanently cancelled by its sponsor without any successor thereto, or ceases to exist or is no longer tradeable, including as a result of any member of the Goldman Sachs Group discontinuing the relevant Index Strategy Component; or

(iii) the Strategy Sponsor (or the sponsor of any component thereof) fails to calculate and announce the level of such Index Strategy Component (or such component thereof);

(iv) in the reasonable judgment of the Strategy Sponsor, the level of such Index Strategy Component contains a manifest error;

(v) any authorisation, registration, recognition, endorsement, equivalence decision, approval or inclusion in any official register in respect of such Index Strategy Component or the administrator or sponsor of such Index Strategy Component has not been, or will not be, obtained or has been, or will be, rejected, refused, suspended or withdrawn by the relevant competent authority or other relevant official body, in each case, with the effect that the Strategy Sponsor is not, or will not be permitted under any applicable law or regulation to use such Index Strategy Component, as determined by the Strategy Sponsor,

then, the Strategy Sponsor may take actions or take no action, including, but not limited to, the following:

(A) temporarily or permanently remove the Index Strategy Component and/or select an alternative index to replace the Index Strategy Component (provided that such replacement is a similar alternative) and may such adjustments to the Relevant Strategy as may be necessary, in its commercially reasonable judgement to effect such change; or

(B) calculate the calculate the level of such Index Strategy Component., in lieu of the published level, using the same formula for, and method of, calculating the level of such Index Strategy Component last in effect prior to the occurrence of any of the circumstances described above (utilising any adjustment to such formula or method that the Strategy Sponsor determines to be commercially reasonable).

Disruption Events in respect of all Strategy Components:

If, in respect of a Strategy Component, any one or more of the following occur:

(a) the Strategy Sponsor becomes aware of the adoption of, or any change in, applicable law, it is illegal for the Strategy Sponsor or the Strategy Calculation Agent to undertake their respective roles in relation to the Relevant Strategy (or they would incur materially increased costs in doing the same) or any relevant entity would be prevented in entering into any transactions in respect of the relevant Strategy or a Strategy Component;

(b) the Strategy Sponsor determines that a hedging party would (A) be unable to undertake certain actions in relation to all or a material portion of its hedge positions relating to a relevant Strategy Component or (B) there is a temporary or prolonged suspension of trading in such Strategy Component (or its relevant hedging instrument) during regular scheduled trading sessions on the relevant reference exchange and/or a relevant reference exchange announces that there is a disruption in trading in respect of such Strategy Component (or its relevant hedging instrument), and such suspension or disruption has a material impact on the ability of market participants to enter into hedging transactions in respect of such Strategy Component (in each case, a "Material Trading Disruption");

(c) a trading disruption occurs in respect of the relevant trading venue or any other event or circumstance occurs which, in the reasonable judgement of the Strategy Sponsor, (A) affects the ability of market participants in general to enter into transactions in respect of such relevant Strategy Component in a notional size required in relation to any product or transaction linked to the relevant Strategy, (B) impairs the liquidity of any transactions in relation to such relevant Strategy Component and/or (C) affects the value of such relevant Strategy Component;

(d) an event described in the Strategy description as an "Additional Market Disruption Event" occurs;

(e) a force majeure event (including, without limitation, an act of God, an armed conflict or an act of terrorism) occurs that the Strategy Sponsor determines is likely to have a material effect on a Strategy Component or on its ability to perform its role in relation to the Relevant;

(f) (i) the official, price, level, rate or other measure in relation to a Strategy Component is unavailable or incomplete on any relevant day, (ii) an unscheduled holiday occurs in respect of a trading venue or relevant Component, (iii) a trading venue or the sponsor or provider of a Strategy Component publicly announces that a day that was previously not a scheduled business day in respect of such trading venue or Strategy Component shall be considered a scheduled business day in respect of such trading venue or Strategy Component, (iv) any relevant exchange is not open for trading during its regular trading session or closes early, or (v) the Strategy Sponsor determines that the value of the Relevant Strategy or any Strategy Component is manifestly incorrect;

(g) where required, the Strategy Sponsor ceases to have any relevant data licence in respect of a Strategy Component;

(h) any authorisation, registration, recognition, endorsement, equivalence decision, approval or inclusion in any official register in respect of such Strategy, Strategy Component or the Strategy Sponsor has not been, or will not be, obtained or has been, or will be, rejected, refused, suspended or withdrawn by the relevant competent authority or other relevant official body, in each case, with the effect that the issuer of, or one of the contracting parties in respect of, a linked product is not, or will not be permitted under any applicable law or regulation to use the Strategy or Strategy Component, as determined by the Strategy Sponsor;

(i) a material change in national or international financial, political, legal or economic conditions that would likely prejudice the calculation and publications of the value of a Strategy, as determined by the Strategy Sponsor; or

(j) the European Union membership or any member of the European Union is discontinued, suspended or terminated, or any member of the European Union disaffirms, disclaims, repudiates or rejects in whole or in part any obligation arising from its European Union membership under the relevant treaties or:

    (I) the euro ceases to be the lawful currency of any member of the European Union; or

(II) any member of the European Union takes, or indicates its intention to take, any action in furtherance of, or indicates its consent to, approval of, or acquiescence in, any of the foregoing event;

then, the Strategy Sponsor (or the Strategy Calculation Agent on the instructions of the Strategy Sponsor) may take one or more of the following actions, or take no action, in order to preserve the intended commercial purpose of the Relevant Strategy:

(i) make such determinations or adjustments to the Relevant Strategy as it deems appropriate to account for the occurrence of such event and, as applicable, to the extent necessary to calculate the value in respect of the Relevant Strategy in respect of such day (for which purpose it may use its own internal models and other market data sources as it reasonably determines is necessary and/or input date last published or made available;

(ii) postpone any applicable rebalancing in whole or part of the Relevant Strategy to the next applicable business day on which no such event is continuing and make such adjustments as necessary to account for such postponement;

(iii) determine that the value assigned to the weight or unit in respect of the Strategy Component in respect of the period from (and including) the date on which such event occurred to (but excluding) the date on which such event is no longer continuing shall remain at the value assigned immediately prior to the occurrence of such event;

(iv) suspend the publication of the value of the Relevant Strategy until such event is not continuing;

(v) publish an indicative value of the Relevant Strategy until such event is not continuing;

(vi) temporarily or permanently remove or replace any affected Strategy Component with an alternative asset where it considers that a similar alternative is available;

(vii) in the case of a Material Trading Disruption only in respect of a Strategy Component (the "**Affected Strategy Component**"), if the Strategy Sponsor or the Strategy Calculation Agent (as applicable) has determined that such Material Trading Disruption has occurred or is ongoing for five or more consecutive strategy business days, it may remove the Affected Strategy Component and/or select an alternative asset to replace such Affected Strategy Component and may make such adjustments to the terms of the Relevant Strategy as it deems appropriate to account for such removal and in order to preserve insofar as possible the preserve the intended commercial purpose of the Relevant Strategy.

When determining a replacement of such Affected Strategy Component, the Strategy Sponsor may take into consideration the following criteria:

(A) the investment objectives of such Affected Strategy Component;

(B) the asset class exposure of such Affected Strategy Component;

(C) the geographical focus of such Affected Strategy Component; and/or

(D) the realised volatility of such Affected Strategy Component.

In respect of such replacement of an Affected Strategy Component:

(1) there is no obligation for the Strategy Sponsor to select a replacement of such Affected Strategy Component that satisfied all of the above criteria;

(2) the replacement component shall not be limited to equivalent assets and might be composed of securities, indices or cash;

(3) the replacement component may not be limited to a single instrument and might be composed of several instruments; and

(4) the calculation methodology of such replacement component may refer to levels reported by the Strategy Sponsor, service provider, exchanges and/or asset sponsors.

Any removal or replacement of an Affected Strategy Component will take into consideration a review by any relevant strategy committee; or

(viii) if the Strategy Sponsor determines that (A) none of the actions listed above would be possible to take or, if possible to take, would achieve a commercially reasonable result and/or (B) it is no longer possible or practicable to calculate the Relevant Strategy, terminate the calculation and publication of the Relevant Strategy.

Disruption Events in respect of Input Data

Where "**Input Data**" means input data (including but not limited to any price or level) which is used to determine, or which constitutes, any weight(s), signal(s) or other values or parameters in relation to a Strategy Component and any other input data (other than a Strategy Component) or software package used in the calculation of a Strategy.

If the Strategy Sponsor discovers, or is notified by a party responsible for collecting, calculating, distributing or publishing Input Data (the "**Input Data Provider**", which may include a third party, the Strategy Sponsor itself or certain departments within the Goldman Sachs Group), that:

(i) an Input Data Provider has ceased to publish such Input Data (or the Input Data Provider announces that it will cease to publish such Input Data) unless the Strategy Sponsor determines, in its sole and absolute discretion, that such Input Data has been replaced by any equivalent information or data;

(ii) there is a material change in the formula for or method of calculating, or the content or frequency of publication of, such Input Data (as determined by the Strategy Sponsor); or

(iii) the Input Data Provider (A) fails to calculate or publish such Input Data, (B) does not deliver such Input Data to the Strategy Sponsor or Strategy Calculation Agent (as the case maybe) or (C) delivers incomplete Input Data to the Strategy Sponsor or Strategy Calculation Agent (as the case maybe), in each case, on or prior to the time at which the Strategy Sponsor needs to use such Input Data for calculating the value of the relevant Strategy,

(each an "**Input Data Disruption Event**"), then the Strategy Sponsor may, in its sole discretion determine to take actions or take no actions, including, but not limited to:

(I) use the Input Data last published or made available by such Input Data Provider to calculate the value of the relevant Strategy; and/or

(II) in all circumstances, (A) elect to temporarily or permanently replace or remove (or assign a zero weight to) the Strategy Component(s) affected by the unavailability or material change(s) at the earliest possible opportunity as it determines to be commercially reasonable in order for the value of such Strategy to continue to be calculated notwithstanding the relevant circumstances, (B) use information or data from an alternative data source (which may be internal data) which it determines to be comparable to such Input Data and to be appropriate in order to preserve the Strategy Purpose, (C) make such adjustment(s) to the Strategy or to the composition of such Strategy as it determines to be necessary, in its discretion and acting in a commercially reasonable manner, to reflect such unavailability or change(s) or (D) if the Strategy Sponsor determines that none of the above adjustment(s) would achieve a commercially reasonable result and/or that it is no longer possible or practicable to calculate the relevant Strategy, terminate the calculation and publication of such Strategy.

10.2 **Disruption Events - In respect of each of the Commodity Index and the EUA USD Strategy only:**

Strategy Adjustment Events in respect of a Relevant Strategy

If, in respect of a Relevant Strategy and any Strategy Calculation Day, a Strategy Adjustment Event has occurred, then the Strategy Sponsor may determine, in its discretion and acting in a commercially reasonable manner, to make such determinations or adjustments to the terms of such Relevant Strategy, including to the methodology and/or to replace the relevant data sources, as it deems appropriate to account for such Strategy Adjustment Event and, as applicable, to the extent necessary to calculate the Strategy Timely Level and the Strategy Tradable Level in respect of such Strategy Calculation Day (for which purpose it may use its own internal models and other market data sources as it reasonably determines is necessary) whilst preserving the intended commercial purpose of the Relevant Strategy.

If the Strategy Sponsor determines that no such determination(s) or adjustment(s) would be possible to take or, if possible to take, would achieve a commercially reasonable result and/or that it is no longer possible or practicable to calculate the level of the Relevant Strategy, the Strategy Sponsor may terminate the calculation and the publication of the Relevant Strategy without notice.

"**Strategy Adjustment Event**" means, in respect of a Strategy Calculation Day, the occurrence of any one of the following events, as determined by the Strategy Sponsor: (i) a force majeure event; (ii) a material change in national or international financial, political, legal or economic conditions that would likely prejudice the calculation and publication of the Strategy Tradable Level; or (iii) the European Union membership of any member of the European Union is discontinued, suspended or terminated, or any member of the European Union disaffirms, disclaims, repudiates or rejects in whole or in part any obligation arising from its European Union membership under the relevant treaties; or the Euro ceases to be the lawful currency of any member of the European Union; or any member of the European Union takes, or indicates its intention to take, any action in furtherance of, or indicates its consent to, approval of, or acquiescence in, any of the foregoing events.

Adjustment Events in respect of components of a Relevant Strategy

Each of the following events in (a) to (c) shall be an "**Adjustment Event**".

(a) If any Strategy Component is: (i) not calculated and announced by the relevant sponsor or price source, but is calculated and announced by a successor sponsor or price source, which is determined by the Strategy Sponsor as being an acceptable successor, then such successor sponsor or price source will be deemed to be the relevant sponsor or price source; or (ii) replaced by a successor instrument, strategy, index or basket, as applicable, using the same or a substantially similar specification or formula and method of calculation as used in the calculation of such Strategy Component, then such replacement instrument, strategy, index or basket, as the case may be, will be deemed to be that Strategy Component, and, in each case, the Strategy Sponsor may determine that it is necessary to make any such adjustment to the rules or to the composition of the Relevant Strategy.

(b) If the Strategy Sponsor determines that, in respect of any Strategy Component and any Strategy Calculation Day:

(i) the relevant sponsor has made a material change in the weighting or composition of, formula for, or method of calculating such Strategy Component or in any other way that has materially modified such Strategy Component (other than a modification prescribed in such formula or method relating to the weighting or composition of such Strategy Component or other routine events or modifications), effective on or after such Strategy Calculation Day;

(ii) the relevant sponsor fails or is not scheduled to calculate and announce the level of such Strategy Component on such Strategy Calculation Day, or, on or prior to such Strategy Calculation Day, such Strategy Component has ceased to be calculated by the relevant sponsor, and has not been replaced by a successor index, strategy or basket;

(iii) a Market Disruption Event (as defined in the relevant Section in respect of such Relevant Strategy) occurs in respect of any Currency Conversion Component on such Strategy Calculation Day; or

(iv) the level of such Strategy Component on such Strategy Calculation Day contains a manifest error,

then the Strategy Sponsor shall instead calculate the level of such Strategy Component, in the absence of a published level for such Strategy Component using the same formula for, and method of, calculating the level of such Strategy Component last in effect prior to the occurrence of any of the circumstances described above or in the event that the Strategy Sponsor determines that the occurrence of any of the foregoing circumstances could adversely affect the Relevant Strategy, it may elect to replace or remove (or assign a zero weight to) the relevant Strategy Component at the earliest possible opportunity as it determines and make such other changes to the Relevant Strategy as may be necessary to effect such change;

(c) If the Strategy Sponsor determines that, in respect of any Strategy Component and any Strategy Calculation Day:

(i) any Strategy Component has ceased to be published by the relevant price source, and has not been replaced by any successor;

(ii) that there has been a material change (or it has been announced that a material change will be made) to (I) the content, composition or constitution of any Strategy Component, or (II) the formula for or method of calculating any Strategy Component valuation data, or (III) the delivery, expiry or settlement terms of such Strategy Component; or

(iii) such Strategy Component has ceased to be a liquid, actively traded Strategy Component that is generally available for trading, or that such affected Strategy Component has been the subject of a Market Disruption Event (as defined in the relevant Section in respect of such Relevant Strategy) for at least five consecutive Strategy Calculation Days, or (II) anticipates on the basis of publicly available information that such Strategy Component or any Strategy Component valuation data, notwithstanding that it is available for trading, will cease to be liquid and actively traded or will be terminated or delisted by the relevant price source,

then the Strategy Sponsor may:

(A) make such determinations or adjustments to the terms of the Relevant Strategy, including to the methodology and relevant data sources, as it deems appropriate to account for such Adjustment Event to the extent necessary for the Strategy Timely Level and the Strategy Tradable Level to continue to be calculated; or

(B) elect to replace or remove (or, where applicable, assign a zero weight to) such Strategy Component to which such Strategy Component is linked from the Relevant Strategy at the earliest possible opportunity in order for the Strategy Timely Level and the Strategy Tradable Level to continue to be calculated, and in such case, the Strategy Sponsor may make such adjustment(s) to the rules of the Relevant Strategy or to the composition of the Relevant Strategy to be necessary to reflect such change; and/or

(C) if the level of a the relevant Strategy Component as published by the relevant sponsor, the Strategy Component valuation data, or the Spot Exchange Rate, each as published by the relevant price source, on any Strategy Calculation Day is subsequently corrected and the Strategy Sponsor determines that the correction is published or made available by the sponsor or price Source on a timely basis on the immediately following Strategy Calculation Day, then such corrected level, price or rate (as the case may be) shall be deemed to be the relevant level, price or rate, and the Strategy Sponsor shall use the corrected level, price or rate as the case may be, in its calculation of the Strategy Timely Level or Strategy Tradable Level, as applicable.

10.3 **Disruption Events - In respect of the EUA EUR Strategy only:**

(a) **Changes to Components of the Relevant Strategy**

If, in respect of the Component of the Relevant Strategy:

(i) the Strategy Sponsor determines that the Component has ceased to be published or listed for trading by the relevant trading facility, and has not been replaced by a successor commodity futures contract or contract expiration; or

(ii) the Strategy Sponsor determines that there has been a material change in (A) the content, composition or constitution of the relevant contract or the commodity referenced by such contract, or (B) the formula for or method of calculating such Component or the relevant contract, or (C) the delivery, expiry or settlement terms of such Component or the relevant contract; or

(iii) the Strategy Sponsor, in its discretion and acting in a commercially reasonable manner, (A) determines that such Component has ceased to be a liquid, actively traded contract expiration that is generally available for trading, or (B) anticipates on the basis of publicly available information that such Component, on or before the next roll period for the relevant contract, notwithstanding that it is available for trading, will cease to be a liquid and actively traded contract expiration or will be terminated or delisted by the relevant Trading Facility,

then the Strategy Sponsor may, in its discretion and acting in a commercially reasonable manner, make such adjustment to the formula or method for calculating the Relevant Strategy (including adjustment to the weighting or composition), at the earliest possible opportunity in order for the Relevant Strategy to continue to be calculated notwithstanding any of the foregoing circumstances or in the event that the Strategy Sponsor determines, in its reasonable judgement, that the occurrence of any of the foregoing circumstances would result in a fundamental change to the Relevant Strategy, it may (in good faith) elect to discontinue the publication of the Relevant Strategy at the earliest possible opportunity as it determines to be commercially reasonable.

For the purposes of the above, "**Component**" means: (A) any futures contract expiration in respect of the relevant commodity selected for inclusion in the Relevant Strategy; or (B) if applicable, any futures contract expiration in respect of the relevant commodity in respect of which the daily contract reference price is scheduled to be observed in accordance with the procedure (if any) for determining the composition of the Relevant Strategy.

(b) **Changes to Designated Contracts included in the Underlying S&P Index**

(i) In the event that any Designated Contract (as defined in the rules of the Underlying S&P Index) is added to the Underlying S&P Index, to the extent that such Designated Contract is relevant for the purposes of the Relevant Strategy, it shall be added to the Relevant Strategy and the Roll Contract Expiration (as defined in the rules of the Underlying S&P Index) in respect of such Designated Contract shall be the same as that determined by the S&P Index Sponsor in respect of such Designated Contract in the Underlying S&P Index.

(ii) Subject to paragraph (a) (*Changes to Components of the Relevant Strategy*) above, in the event that any Designated Contract is removed from the Underlying S&P Index, such Designated Contract shall, at the earliest opportunity that the Strategy Sponsor determines to be commercially reasonable, also be removed from the Relevant Strategy.

(c) **Adjustment Events in respect of the Underlying S&P Index**

If, in respect of the Underlying S&P Index, and a day on which the Relevant Strategy is to be calculated, the Strategy Sponsor determines, in a commercially reasonable manner, that:

(i) the S&P Index Sponsor makes a material change in the weighting or composition of, formula for, or method of calculating the Underlying S&P Index or in any other way materially modifies the Underlying S&P Index; or

(ii) the S&P Index Sponsor fails or is not scheduled to calculate and announce the closing level of the Underlying S&P Index, or, on or prior to such day, the Underlying S&P Index has ceased to be calculated by the S&P Index Sponsor, and has not been replaced by a successor index,

then the Strategy Sponsor shall calculate the value of the Relevant Strategy in accordance with the formula for and method of calculating such Relevant Strategy last in effect prior to the occurrence of any of the circumstances described above (utilising any adjustment to such formula or method for calculating the Relevant Strategy, including adjustment to the weighting or composition of the Relevant Strategy, that the Strategy Sponsor determines to be commercially reasonable) or in the event that the Strategy Sponsor determines, in a commercially reasonable manner, that the occurrence of any of the foregoing circumstances would represent a fundamental change to the Relevant Strategy, it may (in good faith) elect to discontinue the publication of the Relevant Strategy at the earliest possible opportunity as it determines to be commercially reasonable.

10.4 **In respect of each of the Commodity Index, the EUA EUR Strategy and the EUA USD Strategy only:**

If, in respect of any third-party information or data relied on or which is used to determine, or which constitutes, any weight(s), signal(s) or other input used in the calculation of the Relevant Strategy (the "**Third-Party Data**"):

(a) the Strategy Sponsor discovers, or is notified by the third party responsible for collecting, calculating, distributing or publishing such Third-Party Data (the "**Third-Party Data Source**") of, an error or discrepancy in such Third-Party Data, the Strategy Sponsor may disregard such error or discrepancy or correct or revise the value of the Relevant Strategy following the release of the corrected Third-Party Data by the Third-Party Data Source; or

(b) in respect of the Third-Party Data: (i) the Third-Party Data Source ceases to publish such Third-Party Data (or announces that it will cease to publish such Third-Party Data), and such Third-Party Data is not replaced by any equivalent information or data; (ii) there is a material change in the formula for or method of calculating, or the content or frequency of publication of, such Third-Party Data; or (iii) the Third-Party Data Source fails to calculate or publish such Third-Party Data for an extended period of time,

then the Strategy Sponsor may: (I) elect to, in respect of each of the Commodity Index and the EUA USD Strategy, replace or remove (or assign a zero weight to) the Strategy Component, or, in respect of the EUA EUR Strategy, disapply some or all modifications made by the EUA EUR Strategy to the Underlying S&P Index for any contracts, in each case affected by the unavailability or material change(s) at the earliest possible opportunity as it determines in order for the value of the Relevant Strategy to continue to be calculated notwithstanding the relevant circumstances; (II) use third-party information or data from an alternative data source which it determines to be comparable to such Third-Party Data and to be appropriate in order to preserve the original economic objective of the Strategy or the Underlying Strategy, or (III) make such adjustment(s) to the rules of the Relevant Strategy or to the composition of the Relevant Strategy as it determines to be necessary to reflect such unavailability or change; or (IV) if the Strategy Sponsor determines that none of the above adjustments would achieve a commercially reasonable result and/or that it is no longer possible or practicable to calculate the Relevant Strategy, terminate the calculation and publication of the Relevant Strategy with notice.

11. Corrections

In respect of each of the Commodity Index, the EUA EUR Strategy and the EUA USD Strategy only:

In the event that ambiguities arise in the calculation of the value of the Relevant Strategy, the Strategy Sponsor will resolve such ambiguities and, if necessary for resolution, make changes to the composition of such Relevant Strategy or the methodology of calculating such Relevant Strategy. In the event that the Index Sponsor determines that any calculation or determination in respect of any Relevant Strategy is incorrect, the Strategy Sponsor may, if practicable, correct calculations or determinations and publish or cause to be published such correct calculations or determinations.

In the event that the value of any component which is utilised for any calculation or determination in respect of a Relevant Strategy is subsequently corrected, the Strategy Calculation Agent may, if practicable, use such corrected value for the purpose of such calculation or determination, and, to the extent necessary and practicable, may adjust any prior calculation or determination or terms of such Relevant Strategy to account for such correction.

In respect of each of the Index, the Underlying Index and the Govt Bond Strategy only:

Information on the policies and procedures of the Strategy Sponsor in relation to the handing of errors, incidents and restatements can be found at the following location: https://www.goldmansachs.com/disclosures/euro-benchmark-reg-iosco-principles-for-financial-benchmarks-f/summary-of-gs-policy-on-global-benchmark-incidents.pdf (or any successor page thereto).

12. Change in Methodology

If any market, legal, regulatory, judicial, financial, fiscal or other circumstances arise that would, in the view of the Strategy Sponsor, necessitate or make desirable a modification or change of the methodology in respect of the Relevant Strategy in order to preserve the intended commercial purpose of the Relevant Strategy, the Strategy Sponsor reserves the right to make such changes to the relevant methodology to account for the occurrence of such circumstance(s).

Accordingly, the Strategy Sponsor shall be entitled to make modifications and/or changes to the methodology in respect of the Relevant Strategy or any data obtained from a third party data source which is used to calculate the Relevant Strategy without notice as it deems appropriate, necessary or desirable, including, without limitation:

(a) to correct any manifest or proven error contained in the relevant strategy methodology;

(b) to cure, correct or supplement any ambiguity or contradictory or defective provision in the relevant strategy methodology;

(c) to change the frequency of calculation of the Relevant Strategy and make corresponding changes to the relevant strategy methodology to account for such change of frequency;

(d) to permit the Strategy Calculation Agent to continue calculating and determining the value of the Relevant Strategy and determining the weights of any component thereof respectively if market, legal, regulatory, judicial, financial, fiscal or other circumstances arise which were not reasonably foreseeable by the Strategy Sponsor and which have not been deliberately caused by the Strategy Sponsor and such circumstances would prevent the Strategy Calculation Agent from calculating and determining the value of the Relevant Strategy and determining the weights of any component thereof respectively, and would necessitate a modification or change of the methodology in respect of the Relevant Strategy in order for the value of the Relevant Strategy to continue to be calculated and determined notwithstanding the relevant circumstances;

(e) to preserve the intended commercial purpose of the relevant Strategy where the change is of a formal, minor or technical nature; and/or

(f) in respect of the Index, the Underlying and the Govt Bond Strategy only:

(i) to permit the Strategy Sponsor to continue calculating and determining the value of a Strategy and determining the weight(s), signal(s) or other values or parameters in respect of any Strategy Component in anticipation of, or as a result of (A) the cessation of any benchmark (an "**Affected Benchmark**"), (B) any change or adjustment announced or implemented by clearing houses or exchanges with respect to an Affected Benchmark or (C) when such Affected Benchmark, as determined by the Strategy Sponsor, becomes no longer reliable and representative of market or economic reality that such Affected Benchmark is intended to measure;

(ii) to increase the transparency of the Strategy description; and/or

(iii) to preserve the Strategy Sponsor’s or its affiliates’ ability to hedge the relevant Strategy, Components and/or Input Data and maintain such Strategy as tradable and replicable.

Any such changes shall result in a methodology consistent with the intended commercial purpose of the Relevant Strategy. The Strategy Sponsor may, but is not required to, establish a committee comprising of employees of the Strategy Sponsor and an equal number of external members with the relevant academic or professional background to consider any proposed changes outlined above. The rules, responsibilities and powers of any such committee shall be pre-defined by the Strategy Sponsor.

In respect of each of the Index, the Underlying Index and the Govt Bond Strategy only:

In the event that an ambiguity or contradictory or defective provision comes to the attention of the Strategy Sponsor in the calculation of the value of a Strategy, the Strategy Sponsor may, in accordance with its own policies and procedures applicable at the time, resolve such ambiguity or contradictory or defective provision and, if necessary for resolution, make such changes to the composition of such Strategy or the methodology of calculating such Strategy.

In addition, if the aggregate notional amount of products or transactions linked to the Relevant Strategy (or any other similar strategy sponsored by the Strategy Sponsor) exceeds a certain threshold (as determined by the Strategy Sponsor by reference to the hedging capabilities of the Strategy Sponsor or any affiliate in respect of its exposure to the Relevant Strategy) then the Strategy Sponsor may:

(a) change the methodology of the Relevant Strategy to allow for rebalancing to occur more frequently;

(b) replace the Relevant Strategy with a replacement strategy identical in all material respects other than the days on which rebalancing occurs; and/or

(c) make such other adjustments to the Relevant Strategy in order to allow the Strategy Sponsor (or its affiliate) to effectively hedge its exposure to the Relevant Strategy or reduce expected liquidity impact of such hedging transactions,

in each case, whilst ensuring the relevant replacement or proposed changes shall result in Relevant Strategy being consistent with its intended commercial purpose.".

Interpretation

To the extent that there is any inconsistency between (a) any statement in this Prospectus Supplement and (b) any other statement in or incorporated by reference into the Base Prospectus, the statements in (a) above will prevail.

References hereafter to the Base Prospectus are to the Base Prospectus as supplemented by this Prospectus Supplement.

Availability

This Prospectus Supplement and the documents incorporated by reference into this Prospectus Supplement will be available on the website of the Luxembourg Stock Exchange at www.bourse.lu.

U.S. notice

This Prospectus Supplement is not for use in, and may not be delivered to or inside, the United States.

The date of this Prospectus Supplement is 9 September 2022.