Deutsche Bank Investment Bank
Ex-Ante Cost Disclosure

This document provides you with key information about Investment Bank Products. It is not marketing material. The purpose of this document is to break down and illustrate the Costs and Charges associated with a Class of Products. This document provides examples of particular products within an ESMA Asset Class[1] and the Costs and Charges associated with them. It does not include examples of all available Products within an Asset Class. The Costs and Charges figures provided in this document are illustrative of the Costs and Charges associated with particular Products, but may not reflect the Costs and Charges associated with any actual transaction. If you have any questions in relation to the Costs and Charges associated with any particular Product, please raise these with your usual Deutsche Bank Representative. We will provide to you Annual information in relation to the Costs and Charges associated with transactions actually carried out with you.

What are the Costs?

The Costs and Charges associated with the relevant class of Products are set out in the illustrations below.

Costs of manufacturing the Product:

Entry Cost is calculated as the difference between the execution, purchase or sale price, inclusive of any applicable margin determined by Deutsche Bank AG (DB) N1, and the component of such price which DB has determined relates to the underlying market risk associated with the relevant product. If a financial instrument is held to maturity, exit costs will not be incurred. However, if the financial instrument is terminated or unwound prior to maturity and that results in further costs and charges, exit costs will occur.

Note 1: The price of a product is not solely based on the theoretical value of the product, but also includes an additional margin that reflects, DB's profit, the costs for conception, structuring, sales, distribution, any applicable credit risk, settlement of the product and balance sheet and capital usage as well as expenditure for the hedging of market risks. DB determines the margin in relation to each transaction, taking into account the market situation, the complexity of the product's structure, the size of the transaction and liquidity of the product.

Where applicable such costs may include compensation for the credit risk that Deutsche Bank AG is taking vis-à-vis its client. For DB the inclusion of the additional margin in the Price of the Product results in an initial negative market value. In general, the market risk from financial instruments of this type does not remain with DB, but will be partially or completely transferred to the market. To the extent such transfer takes place, DB realizes the profit that is, amongst other factors, reflected by the additional margin regardless of the further performance of the product provided that the credit risk to the client that is taken by DB does not occur. The provision of any collateral required in connection with the product may result in funding costs for the client depending on its resources and its overall position with DB. Foreign exchange costs may also be incurred in respect of certain products.

The costs incurred in relation to these examples would all be product costs and no service costs would be applicable. Accordingly, the aggregated product costs represent the total costs of the product.

What is the effect of Costs on the return of the Products?

Entry costs are a one off charge and presented as an upfront cost based on the assumption that the product will be held to maturity. This amount frequently does not have to be paid separately; it is factored into the terms and conditions of the product and therefore reduces the market value of the product accordingly.

When there are on-going costs for a product, the total cost amount throughout the product lifetime may diverge from the illustrated examples. Where applicable the on-going costs and associated cost calculation methodology are pre-defined in each product's specific documentation.

If the product will be held to maturity, exit costs will not be incurred. However, if the product is terminated or unwound prior to maturity exit costs may occur. In such a case, we assume that the exit costs will be equal to the total entry costs.

Total entry costs plus the on-going costs (if any) for the first year will incurred in the first year of the product lifetime. In the subsequent years, only on-going costs (if any) will be incurred. If the product is terminated or unwound prior to maturity, in the final year of the product lifetime the proportionate on-going costs (if any) plus the exit costs will be incurred. If costs are incurred in a year of the product lifetime, such costs will reduce the market value of the product for such period accordingly.

[1] http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32017R0583&rid=1

ESMA Asset Class: Commodity Derivatives

The Manufacturer is the product issuer. Contact your Deutsche Bank representative for more information.

Regulatory Status Disclosure:
Deutsche Bank AG is authorised and regulated by the European Central Bank and the German Federal Financial Supervisory Authority (BaFin). Deutsche Bank AG is authorised by the Prudential Regulation Authority. It is subject to regulation by the Financial Conduct Authority and limited regulation by the Prudential Regulation Authority. Details about the extent of Deutsche Bank AG's authorisation and regulation by the Prudential Regulation Authority are available from Deutsche Bank AG on request.

Commodity Derivatives are instruments whose current valuation is determined through movements in an underlying commodity or set of differing commodities and whose Fair Value is derived from either:

The Price Volatility and Forward Price of the underlying referenced Instrument with the option to convert into a notional amount over a specified duration based on the conditions of the contract; or

Swapping existing payments to an underlying referenced Instrument, Index or Benchmark rate based on the duration specified and conditions of the contract.

Cost is the difference between the *Mid-Price / Fair Value and the Ask Price*.

If you have any questions in relation to the Costs and Charges associated with Commodity Derivatives, please raise these with your usual Deutsche Bank Representative.

Sub Asset Class: Metal Commodity Swaps

A Metal Commodity Swap is a derivative contract where a set of future cash flows are exchanged between two counterparties at predetermined future payment intervals. Most Metal Commodity Swaps involve a notional principal and a specified duration. The two cash flows are referred to as 'legs' of the swap:

- **One of the legs is pegged to an agreed set amount. This leg is commonly referred to as the fixed leg**
- **The other leg of the swap is based on the performance of an underlying precious or non-precious metal, derived by reference to an agreed pricing source or mechanism**

The Costs and Charges figures provided in the tables below are illustrative of the Costs and Charges associated with particular Products but (to the extent indicated in this document) may not reflect the Costs and Charges associated with any actual transaction.

Product Name: OTC Copper Commodity Fixed-Float Swap

Unit(s): EURO per Metric Tonnes (MT)

Commodity Reference Price: Copper EUR – LME CASH

Pricing Dates: Each LME Commodity Business Day

Floating Price: The arithmetic mean of the Specified Price calculated over the Calculation Period

Specified Price: LME Cash Settlement Price

Costs	%	Notional 30 Metric Tonnes
Entry Cost:	0.75%	€20/MT
Ask Price	N/A	€5350/MT
Mid-Price / Fair Value	N/A	€5330/MT
Total Entry Costs	0.75 %	€600
On Going Costs:	N/A	N/A
Exit Costs:	N/A	N/A
Incidental Costs:	N/A	N/A
Total Costs	0.75 %	€600
Traded Price	N/A	€5350/MT
Inducements:	N/A	N/A

Sub Asset Class: Energy Commodity Swaps

An Energy Commodity Swap is a derivative contract where a set of future cash flows are exchanged between two counterparties at predetermined future payment intervals. Most Energy Commodity Swaps involve a notional principal and a specified duration. The two cash flows are referred to as 'legs' of the swap:

- **One of the legs is pegged to an agreed set amount. This leg is commonly referred to as the fixed leg**
- **The other leg of the swap is based on the performance of an underlying oil instrument, derived by reference to an agreed pricing source or mechanism**

The Costs and Charges figures provided in the tables below are illustrative of the Costs and Charges associated with particular Products but (to the extent indicated in this document) may not reflect the Costs and Charges associated with any actual transaction.

Product Name: OTC Commodity Fixed-Float Swap

Unit(s): USD per Barrel (bbl)

Commodity Reference Price: Brent - ICE Settlement

Pricing Dates: Each ICE Commodity Business Day

Floating Price: The arithmetic mean of the Specified Price calculated over the Calculation Period

Specified Price: The prompt future settlement price unless the Pricing Date is a futures expiry day, in which case the second prompt future settlement price

Costs	%	Notional 100,000 Barrels
Entry Cost:	0.28%	$0.20/bbl
Ask Price	N/A	$72.20/bbl
Mid-Price / Fair Value	N/A	$72.00/bbl
Total Entry Costs	0.28%	$20,000
On Going Costs:	N/A	N/A
Exit Costs:	N/A	N/A
Incidental Costs:	N/A	N/A
Total Costs	0.28%	$20,000
Traded Price	N/A	$72.20/bbl
Inducements:	N/A	N/A