Nasdaq Calypso

Setting up Electricity Commodities

Version 18

Revision 2.0

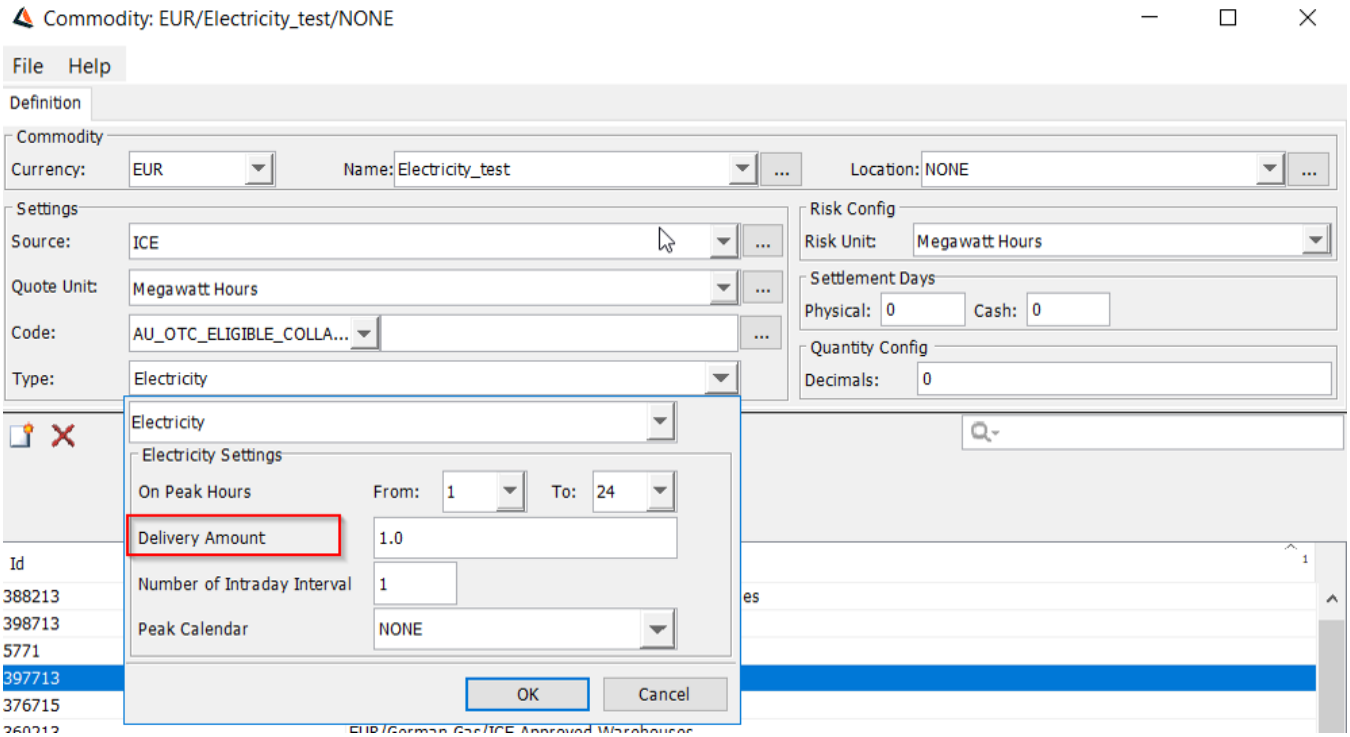
December 2024

Approved

1. Setting up Electricity Commodities

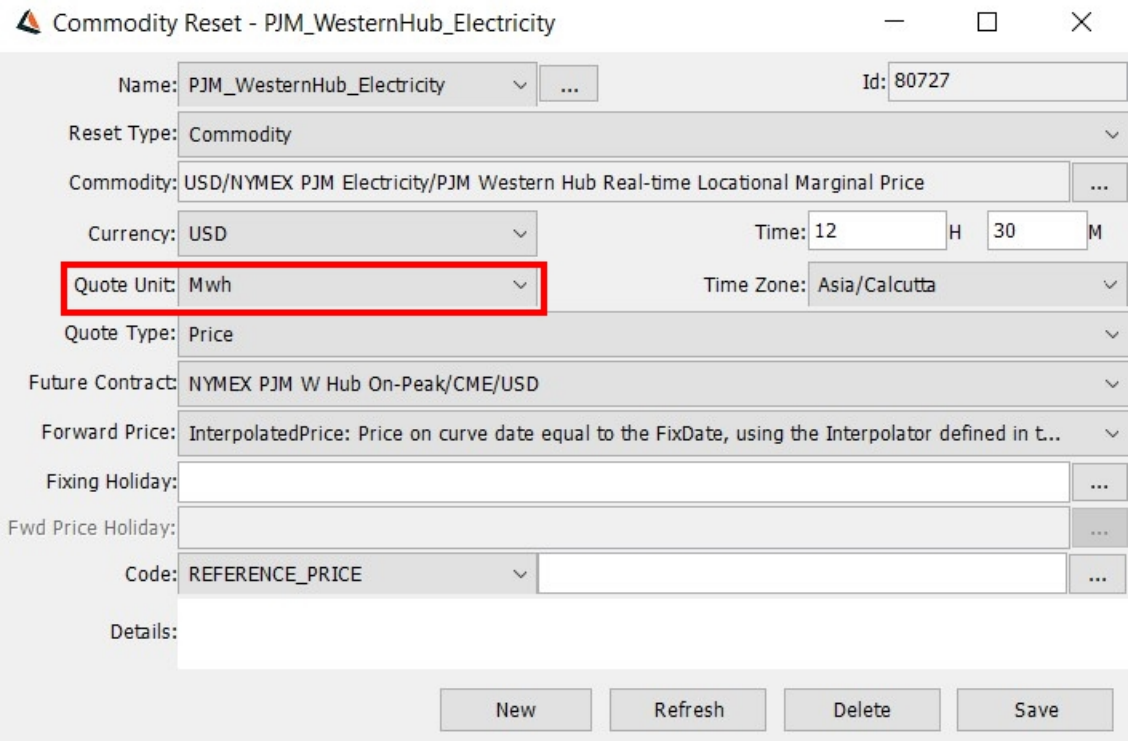
The Electricity commodity product is for electricity futures. The drop-down menu displays additional details that you can specify for the electricity contract. You can specify the on-peak details for the contract, which are the business days in the region of the contract's physical delivery.

1.1 Commodity Definition



- Select Type = Electricity
- Specify the following:
  - On Peak Hours starting time
  - On Peak Hours ending time
  - Delivery Amount
  - Number of Intraday Interval
  - Peak Calendar

1.2 Commodity Reset



» Existing commodity reset definitions are loaded by default. Select a reset to view the details. You can modify the details and click **Save** as needed.

NOTE: The quote unit should be selected as Mwh.

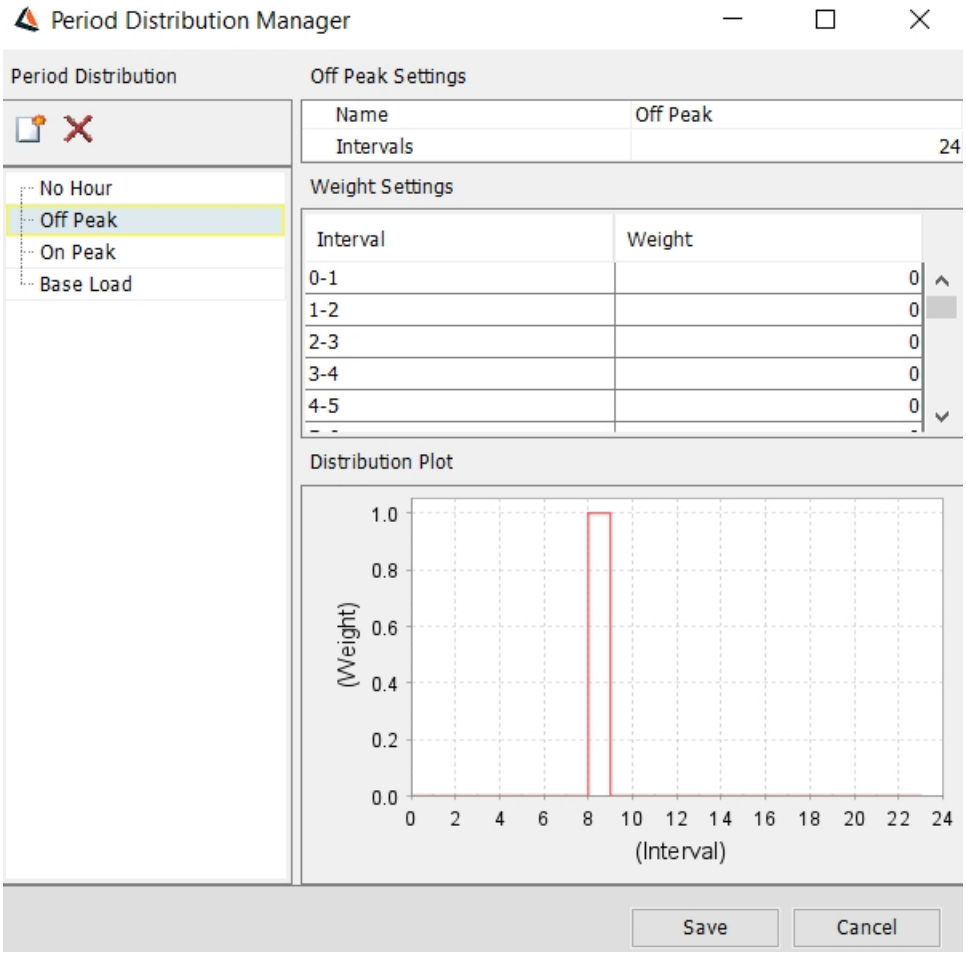
▶ For information regarding Commodity Reset, refer to Commodity Reset Definition.

1.3 Period Distribution

Define period distributions to be used in building intraday policies.

For example, for electricity derivatives trading, define period distributions for on-peak and off-peak settings. Define an interval of 24 and assign weights to build the hourly reset support.

From Calypso Navigator, choose **Configuration > Commodities > Period Distribution** (`configuration.split.SplitConfigurationWindow$perioddistribution.PeriodDistributionConfigurableObjectLoader`).



- Click  and enter a name for the period distribution.
- Define the number of intervals.
- Enter a weight for each interval.
- Click **Save**.

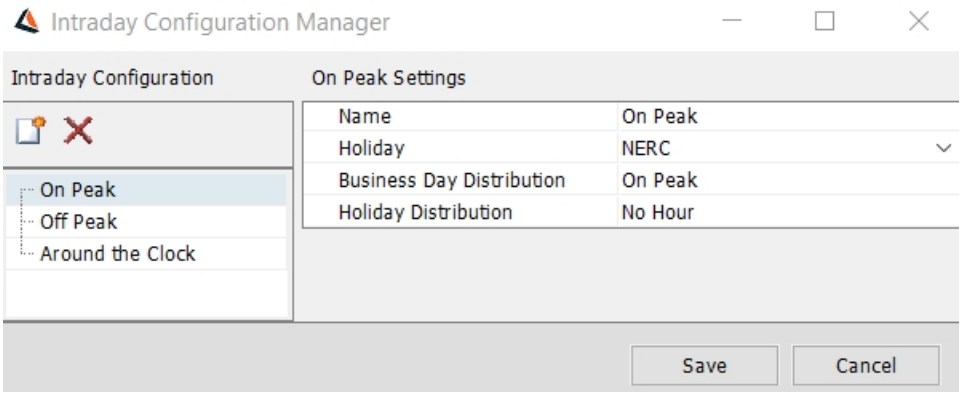
  Note that if the Authorization mode is enabled, an authorized user must approve your entry.

1.4 Intraday Configuration

Define the intraday policies to be used in derivatives trading.

For example, for electricity derivatives trading, define the Electricity intraday policy.

From Calypso Navigator, choose **Configuration > Commodities > Intraday Configuration** (`configuration.split.SplitConfigurationWindow$intradayconfiguration.IntradayConfigurationconfigurableObjectLoader`).



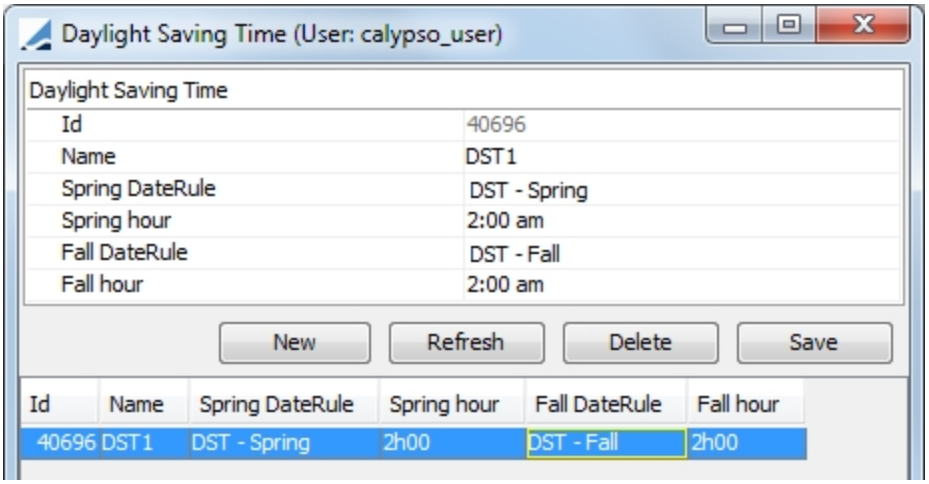
- Click  and enter a name for the Intraday Configuration.
- Click the Holiday field to select a calendar to use in defining the business days and the holidays.
- Click the Business Day Distribution field to select a period distribution for business days. Period distributions are created in the Period Distribution window. From Calypso Navigator, choose **Commodities > Period Distribution**.
- Click the Holiday Distribution field to select a period distribution for holidays. Period distributions are created in the Period Distribution window. From Calypso Navigator, choose **Commodities > Period Distribution**.
- Click **Save**.

  Note that if the Authorization mode is enabled, an authorized user must approve your entry.

1.5 Daylight Savings Time

For electricity swaps and futures, you have the option to create a daylight savings time rule. The purpose of this rule is to compensate for the hour that is gained or lost during spring and fall on an electricity swap that has hourly resets.

To create a daylight savings time rule, from Calypso Navigator, select **Configuration > Commodities > Daylight Savings Time**.



» Click **New** to create a new configuration and enter the fields describe below.

» Then click **Save** to save the configuration.

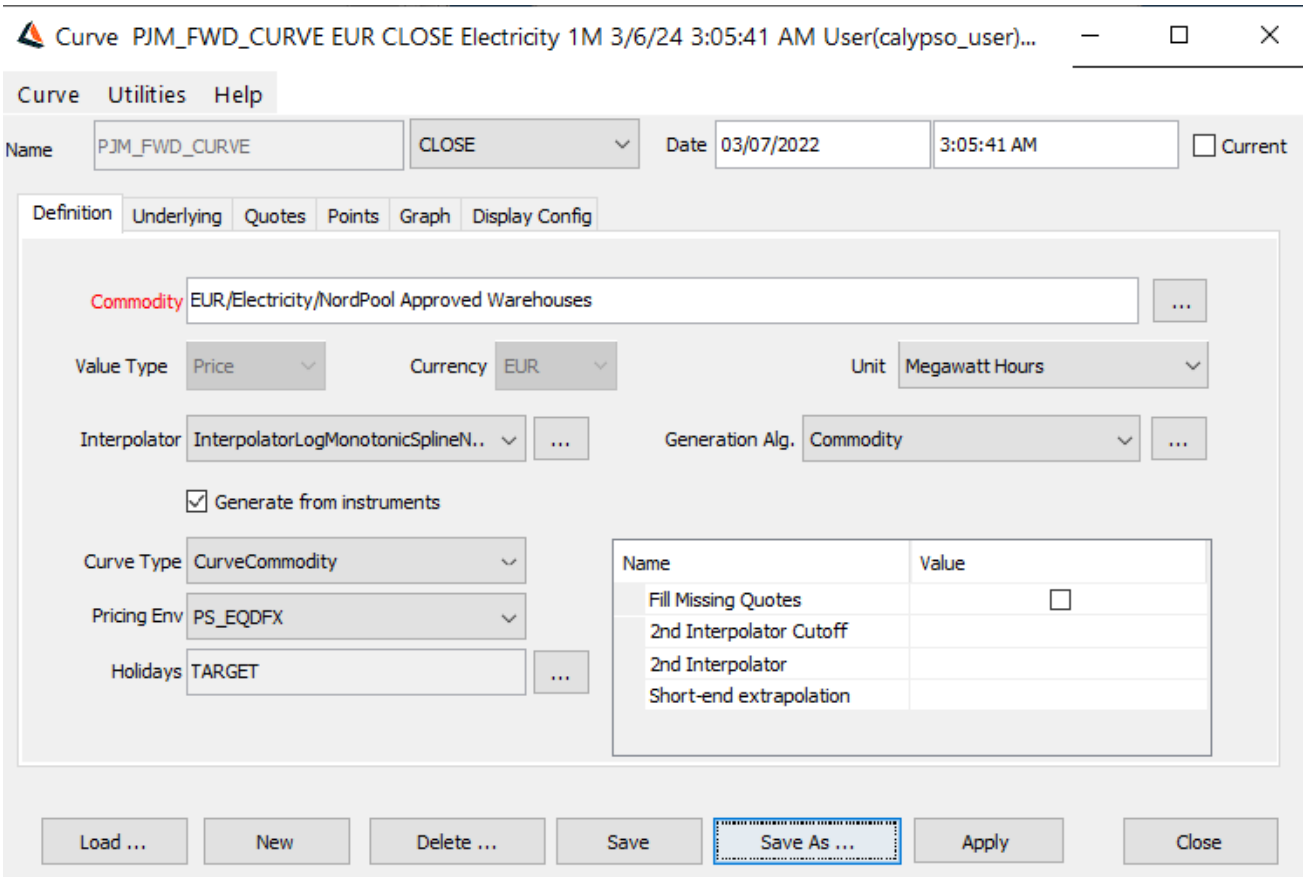
Field	Description
Id	System assigned id for the daylight savings time rule
Name	Enter a name for the rule
Spring DateRule	Enter a name for the date rule that applies to spring daylight savings time
Spring hour	Select the hour at which the spring date rule is to take effect
Fall DateRule	Enter a name for the date rule that applies to fall standard time
Fall hour	Select the hour at which the fall date rule is to take effect

1.6 Electricity Curve

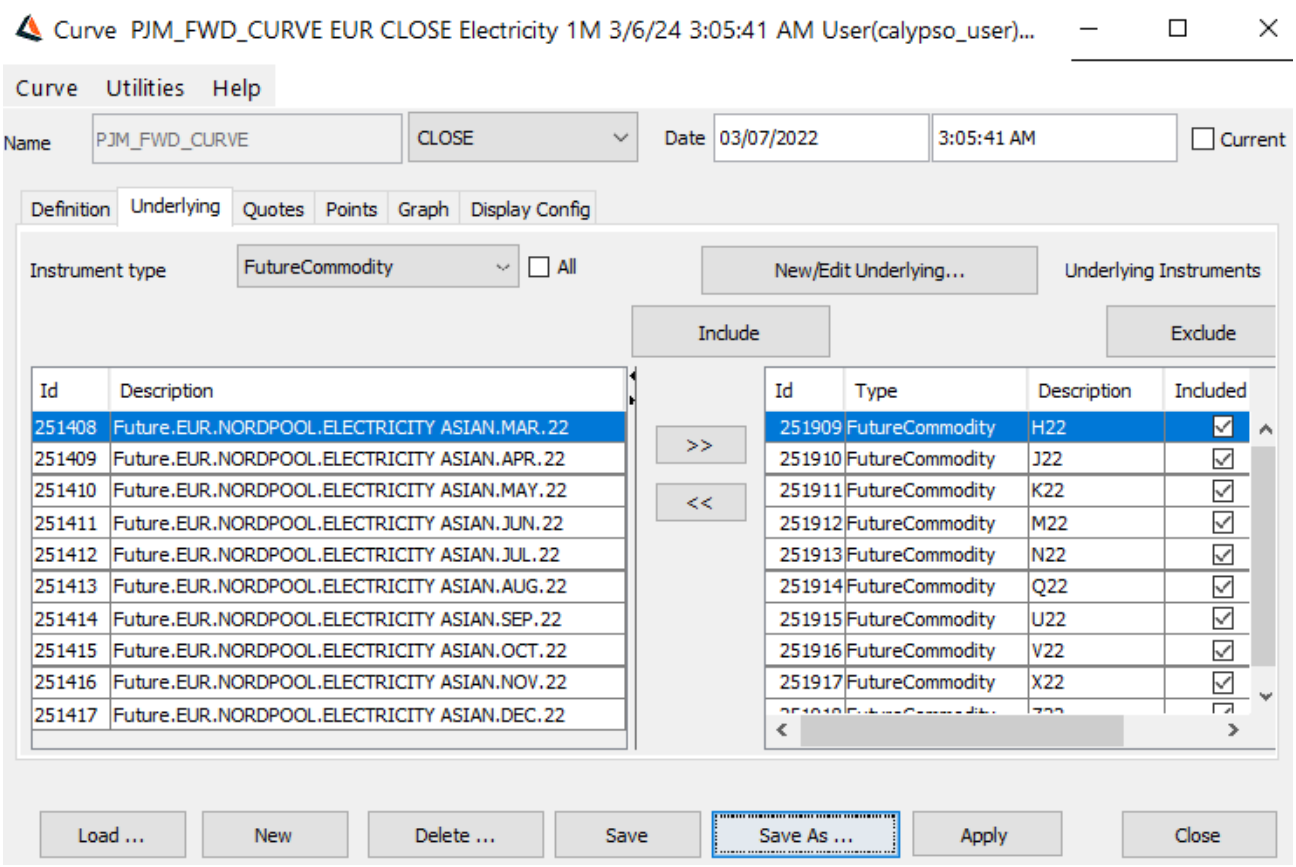
Commodity Forward Curves can be created using an underlying instrument.(**Market Data > Commodity Curves > Forward Curve**)

In the following figures, an example of Electricity Forward Curve is displayed-

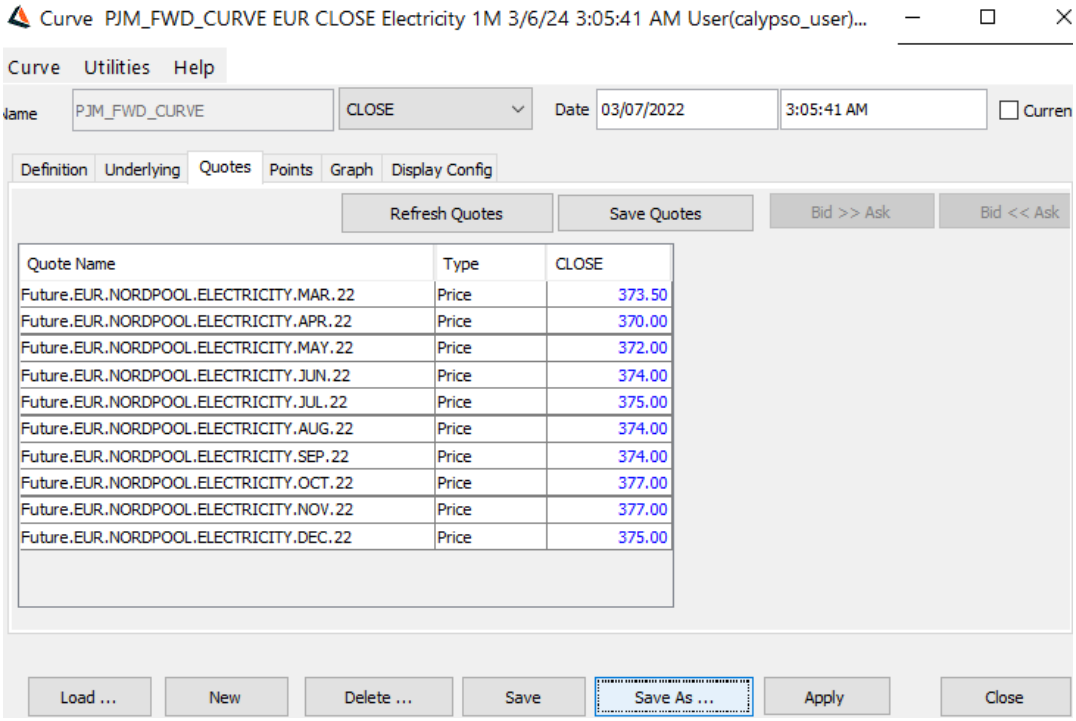
Definition


Curve PJM_FWD_CURVE EUR CLOSE Electricity 1M 3/6/24 3:05:41 AM User(calypso_user)...
Curve Utilities Help
Name PJM_FWD_CURVE CLOSE Date 03/07/2022 3:05:41 AM Current
Definition Underlying Quotes Points Graph Display Config
Commodity EUR/Electricity/NordPool Approved Warehouses
Value Type Price Currency EUR Unit Megawatt Hours
Interpolator InterpolatorLogMonotonicSplineN.. Generation Alg. Commodity
Generate from instruments
Curve Type CurveCommodity
Pricing Env PS_EQDFX
Holidays TARGET
Name Value
Fill Missing Quotes
2nd Interpolator Cutoff
2nd Interpolator
Short-end extrapolation
Load ... New Delete ... Save Save As ... Apply Close

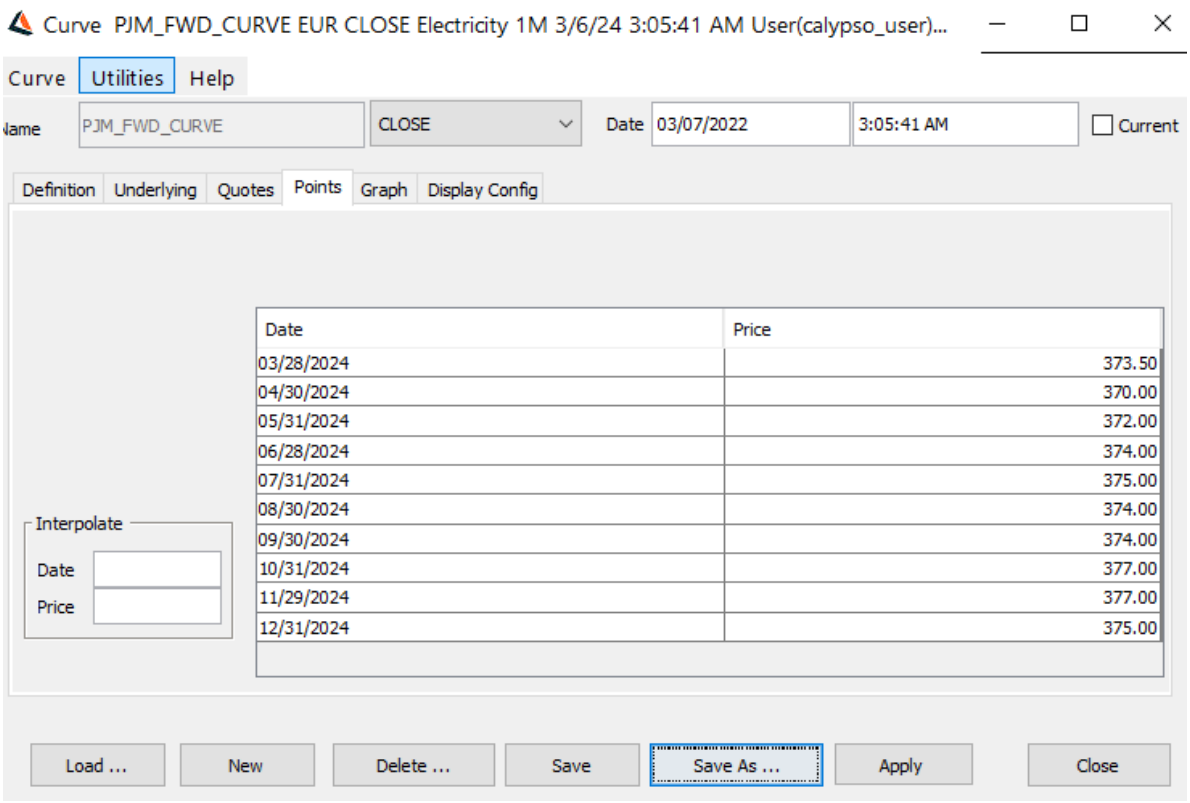
Underlying


Curve PJM_FWD_CURVE EUR CLOSE Electricity 1M 3/6/24 3:05:41 AM User(calypso_user)...
Curve Utilities Help
Name PJM_FWD_CURVE
CLOSE
Date 03/07/2022
3:05:41 AM
Current
Definition Underlying Quotes Points Graph Display Config
Instrument type FutureCommodity
All
New/Edit Underlying...
Underlying Instruments
Include
Exclude
Id Description
251408 Future.EUR.NORDPOOL.ELECTRICITY ASIAN.MAR.22
251409 Future.EUR.NORDPOOL.ELECTRICITY ASIAN.APR.22
251410 Future.EUR.NORDPOOL.ELECTRICITY ASIAN.MAY.22
251411 Future.EUR.NORDPOOL.ELECTRICITY ASIAN.JUN.22
251412 Future.EUR.NORDPOOL.ELECTRICITY ASIAN.JUL.22
251413 Future.EUR.NORDPOOL.ELECTRICITY ASIAN.AUG.22
251414 Future.EUR.NORDPOOL.ELECTRICITY ASIAN.SEP.22
251415 Future.EUR.NORDPOOL.ELECTRICITY ASIAN.OCT.22
251416 Future.EUR.NORDPOOL.ELECTRICITY ASIAN.NOV.22
251417 Future.EUR.NORDPOOL.ELECTRICITY ASIAN.DEC.22
>>
<<
Id Type Description Included
251909 FutureCommodity H22
251910 FutureCommodity J22
251911 FutureCommodity K22
251912 FutureCommodity M22
251913 FutureCommodity N22
251914 FutureCommodity Q22
251915 FutureCommodity U22
251916 FutureCommodity V22
251917 FutureCommodity X22
Load ...
New
Delete ...
Save
Save As ...
Apply
Close

Quotes


Curve PJM_FWD_CURVE EUR CLOSE Electricity 1M 3/6/24 3:05:41 AM User(calypso_user)...
Curve Utilities Help
PJM_FWD_CURVE
CLOSE
Date 03/07/2022
3:05:41 AM
Definition Underlying Quotes Points Graph Display Config
Refresh Quotes
Save Quotes
Bid >> Ask
Bid << Ask
Quote Name Type CLOSE
Future.EUR.NORDPOOL.ELECTRICITY.MAR.22 Price 373.50
Future.EUR.NORDPOOL.ELECTRICITY.APR.22 Price 370.00
Future.EUR.NORDPOOL.ELECTRICITY.MAY.22 Price 372.00
Future.EUR.NORDPOOL.ELECTRICITY.JUN.22 Price 374.00
Future.EUR.NORDPOOL.ELECTRICITY.JUL.22 Price 375.00
Future.EUR.NORDPOOL.ELECTRICITY.AUG.22 Price 374.00
Future.EUR.NORDPOOL.ELECTRICITY.SEP.22 Price 374.00
Future.EUR.NORDPOOL.ELECTRICITY.OCT.22 Price 377.00
Future.EUR.NORDPOOL.ELECTRICITY.NOV.22 Price 377.00
Future.EUR.NORDPOOL.ELECTRICITY.DEC.22 Price 375.00
Load ...
New
Delete ...
Save
Save As ...
Apply
Close

Points



For detailed information on setting up a forward curve, refer to Commodity Curves.

1.7 Sample Futures Trade

In the following figure, an Electricity future trade is booked using Pricing Sheet.

(To access the Pricing Sheet from the Calypso Navigator, select **Pricing > Pricing Sheet**).

Strategy Name	Future Commod...
Price	Price
Save	Save
Solve	Don't Solve
Trade Id	406569
Trade Version	1
Template	
Trade Comment	
Action	FO_AMEND
Status	VERIFIED
Counterparty	CP
Counterpart Role	CounterParty
Book	
Rate Side	Closing Price
Underlying	EUR/Electricity/N...
Exchange	ICE
Contract	Dutch_TTF_Gas_...
Contract Size	672
Product ID	
Bundle ID	
Notional	6,720
Quantity	10
Buy/Sell	Buy
Settle Type	Cash
Strike	130.0000
Settle Ccy	EUR
Product Type	FutureCommodity
Product Subtype	Dutch_TTF_Gas_...
Notional Ccy	EUR
Ccy Pair	
Trade Date	03/03/2020
Trade Time	08:00:00.000 AM
Settlement Date	03/03/2020
PRICE	EUR 131.00000
CA_QUANTITY	EUR 10.00
CA_NOTIONAL	EUR 6,720.00
NPV	EUR 6,720.00
PV	EUR 880,320.00
CA_PV	EUR 880,320.00
CA_COST	EUR -873,600.00
UNDERLYING_SPOT	0
INSTRUMENT_SPREAD	-240000.00

▶ For more information on booking Commodity Products using Pricing Sheet, refer Pricing Sheet Usage - Capturing Commodities Trade.