



weatherXchange

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**weatherXchange<sup>®</sup>** - a platform which facilitates index-based  
weather risk transfer

The question: **Weather Risk?**

The answer: weatherXchange

Front to back office work-flow for weather risk management



# Introduction

The index-based weather risk market has grown substantially especially over the last two years.

weatherXchange® is designed to make the market for weather risk protection even more accessible to users who need it for their business.

As an independent platform, weatherXchange streamlines the process of placing and then monitoring / reporting risk and final settlement.

This introduction is directed at Protection Sellers and Broker-Advisors

Please contact us to request an introduction for Hedgers

# Platform, Data and Software Integration

weatherXchange facilitates use of index-based weather hedging by:

- Providing access to **free, high quality and ubiquitous data** worldwide to new Hedgers
- Providing **free structuring tools and optional assistance** to help new Hedgers through the process of designing a hedge including access to Instant Indicative Pricing
- Making the process of structuring, requesting firm prices and following a trade **more efficient** for existing users of weather risk hedging
- **Introducing new Hedgers** to Protection Sellers and / or Broker-Advisors
- Facilitating **communication** between Hedgers and risk takers through technology
- **Reducing frictional costs** allowing smaller trades to be attractive
- Providing access to Settlement Data (provided by Speedwell Settlement Services Ltd, chargeable)
- Providing access to Calculation Services for mark-to-model, risk and P&L (provided by Speedwell Calculation Services Ltd, chargeable)

Our goal is to increase the use of index-based weather hedging and thus grow the market.

# weatherXchange changes everything

- Makes index-based weather hedging accessible to a **new class of potential user type**, including retail and construction sectors, by de-skilling the structuring process, making weather data freely available and providing Hedgers with direct access to Protection Sellers.
- **Reduces the “frictional forces” of accessing the market for existing Hedgers** by allowing them to quickly seek prices from multiple Protection Sellers and then manage the transaction post-trade. In this way processes are streamlined and the costs of trading are reduced.
- Allows **energy companies** access to index-based weather hedging which my have hitherto been prevented from using the product due to lack of systems relating to middle office (valuations, VaR, daily P&L reporting).
- By making weather data freely available – including gridded data – to potential Hedgers in the **renewable energy** industry, weatherXchange helps expand the use of index-based hedging in this key sector.
- By making weather data in key crop growing areas freely available to potential Hedgers in agriculture, and by offering easy price comparison, weatherXchange increases the attraction of index-based weather risk protection over traditional indemnity-based contracts.

# How weatherXchange changes everything

The weatherXchange Platform provides

- **Weather data** for thousands of sites and basket-indices as well as **gridded** data
- **Free structuring tools**
- **Free user help**
- **Free RFP service** allowing buyers of weather risk protection to easily request a price in weatherML form from multiple Protection Sellers
- Integrated **Settlement Data** (provided by Speedwell Settlement Services Ltd, chargeable)
- Integrated **Calculation Services** for mark-to-model, risk and P&L (provided by Speedwell Calculation Services Ltd, chargeable)
- For Protection Sellers: automatic integration of RFPs into the Speedwell Weather System and *direct* access via API to the required weather data for immediate pricing

## Front to back office work-flow for weather risk management

weatherXchange Limited is regulated by the Financial Conduct Authority in the United Kingdom and is an Introducing Broker regulated by the NFA in the USA

weatherXchange is compliant with or outside of regulations for non-retail users based in the EU/EEA-Switzerland-UK, Argentina, Australia, Bermuda, Brazil, Canada, Chile, Colombia, Pakistan, Turkey, USA

# The Proposition to Protection Sellers

- weatherXchange functions as a free salesforce by providing free introductions to new buyers of weather risk protection
- No brokerage or transaction fees
- weatherXchange provides potential Hedgers with your contact details allowing you to respond by sending a price or opening bi-lateral discussions
- weatherXchange links to your web site providing information about your services
- Seamless on-platform access to other services that are required for new Hedgers to be able to trade: independent settlement services, provision of pre-period and in-period contract valuation data: mark-to-market, VaR (chargeable)
- Integration with Speedwell Weather System for efficient response to RFPs and instant access to historical data for pricing
- Option to join weatherXchange on our marketing campaigns: trade shows, seminars and weatherXchange events
- Option to offer Instant Indicative Pricing to selected Hedgers

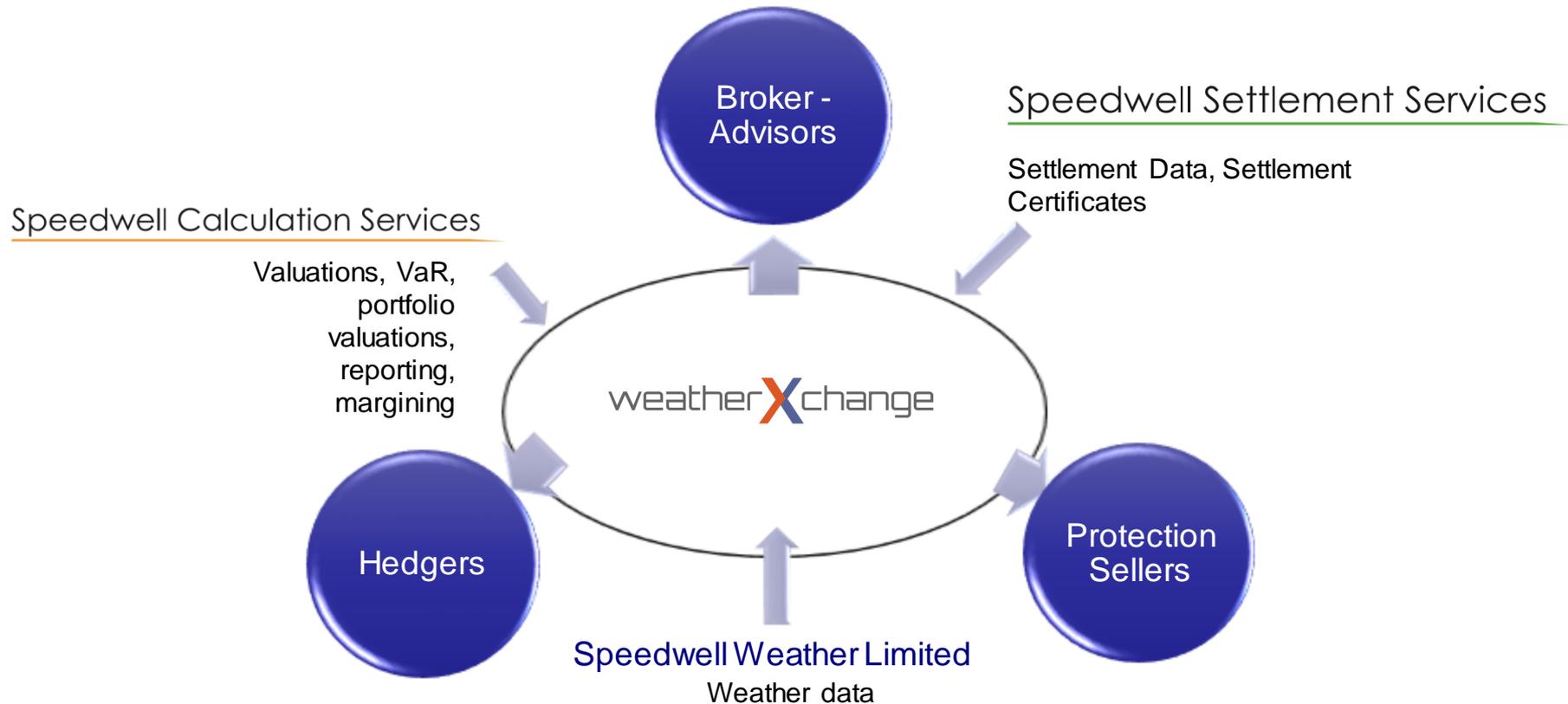
# The Proposition to Broker-Advisors

- weatherXchange introduces new Hedgers who require advice to Broker-Advisors. weatherXchange provides potential Hedgers with your contact details allowing you to establish direct dialogue
- Automated RFP process to reduce the frictional forces in requesting prices
- No brokerage fees charged by weatherXchange
- No membership fees
- weatherXchange links to your web site providing information about your services
- Option to join weatherXchange on our marketing campaigns: trade shows, seminars and weatherXchange events

## Types of Broker-Advisor

- **Full Service:** able to advise and broke in multiple jurisdictions worldwide. “Internationally based organisations with competence and regulatory permissions in multiple regions worldwide with extensive experience of structuring, advising and intermediating in the placing of weather risk in a wide range of product types”
- **Secondary Market:** allows broking of the 60+ energy-related Speedwell-Market sites with no charge for historical data or Settlement Data.
- **Local Specialist:** bringing specialist knowledge to a local market.

# An Inclusive Platform



weatherXchange is an inclusive platform

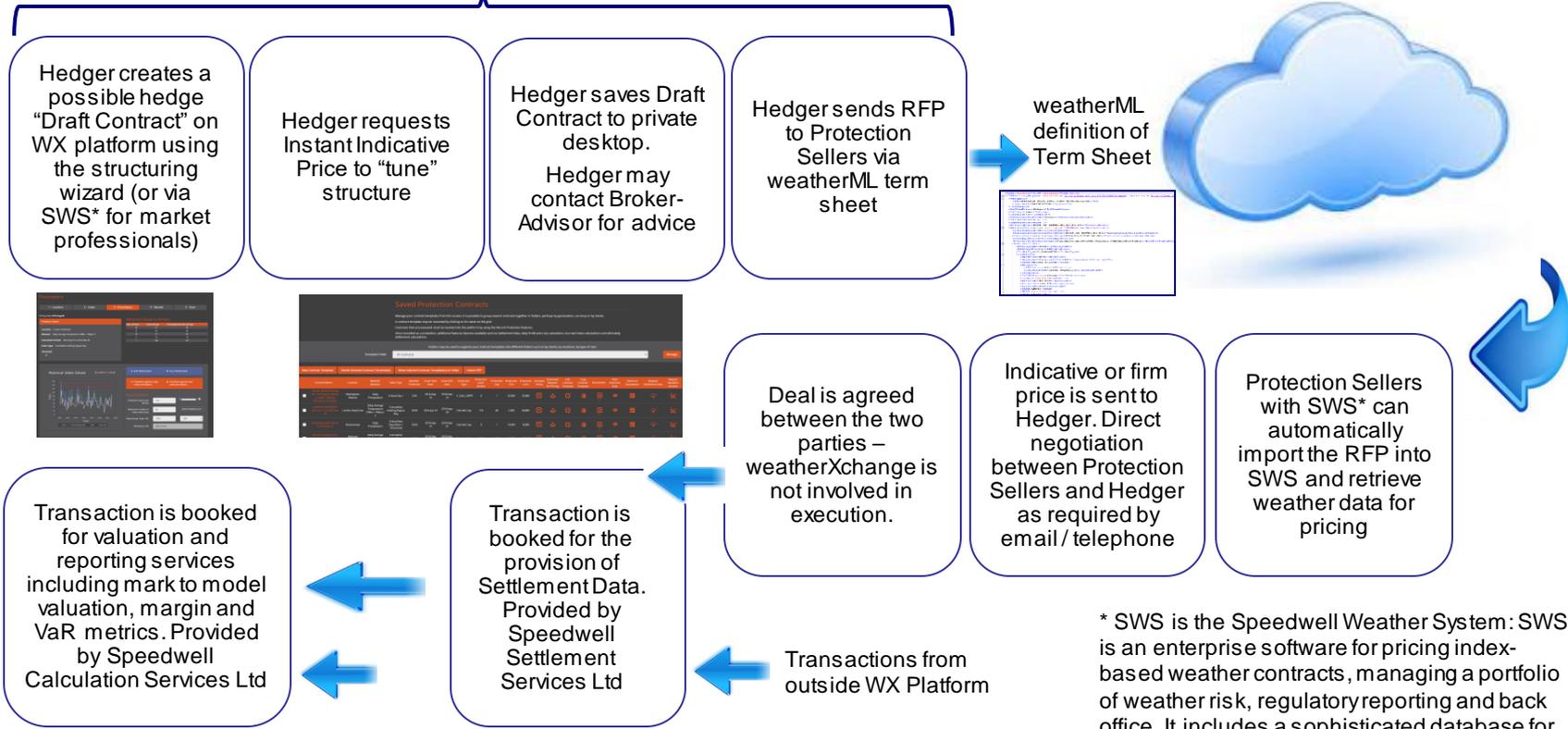
Speedwell provides the weather data and the technology

The platform puts Hedgers, Broker-Advisors and Protection Sellers together

# The platform helps Hedgers pre & post trade

weatherXchange RFP

New Hedger comes to the platform via worldwide marketing initiatives run by us



\* SWS is the Speedwell Weather System: SWS is an enterprise software for pricing index-based weather contracts, managing a portfolio of weather risk, regulatory reporting and back office. It includes a sophisticated database for storing the required weather data.

Speedwell Calculation Services

Speedwell Settlement Services



# Regulatory Matters

- FCA regulated in the United Kingdom
- Regulated as an Introducing Broker in the USA
- weatherXchange is compliant with or outside of regulations for non-retail users based in the EU/EEA-Switzerland-UK, Argentina, Australia, Bermuda, Brazil, Canada, Chile, Colombia, Pakistan, Turkey, USA
- weatherXchange will provide help in using the platform but will not provide Financial Advice. This is the role of Broker-Advisors.
- All Hedgers are required to go through Know-Your-Client (“KYC”) process before being permissioned to contact Protection Sellers.
- RFPs allow the Hedger to specify whether the required protection is to be in insurance or derivative format.



# The platform components

# Platform Component 1: Big Cleaned Data Base

Derived from our archive of 100,000+ worldwide data sets available to SuperPack® subscribers, we have created a weatherXchange data base of tradeable sites containing :

- 4,000 + weather indexes with millions of cleaned data values
- Standard indices (agriculture, population-weighted..)
- Wind Benchmarks: denominated in MWh these replicate energy output nationally/regionally

All the stations in the weatherXchange data base are tradeable immediately offering:

- Data for pricing (lengthy history, cleaned...)
- Data for marking a transaction (reliable feeds, cleaned data...)
- Sites selected as appropriate for producing Settlement Data

We are continuously growing the data available to customers through SuperPack. In a similar way, additional datasets will be added to weatherXchange.

We will also respond to reasonable requests for additional data sets. This includes single sites, additional weather elements, **baskets and gridded data** including Synthetic Wind Benchmarks.

# Platform Component 2: Automated Term Sheets

weatherXchange users can send RFPs\* using Speedwell weatherML to all Protection Sellers at a click of a button

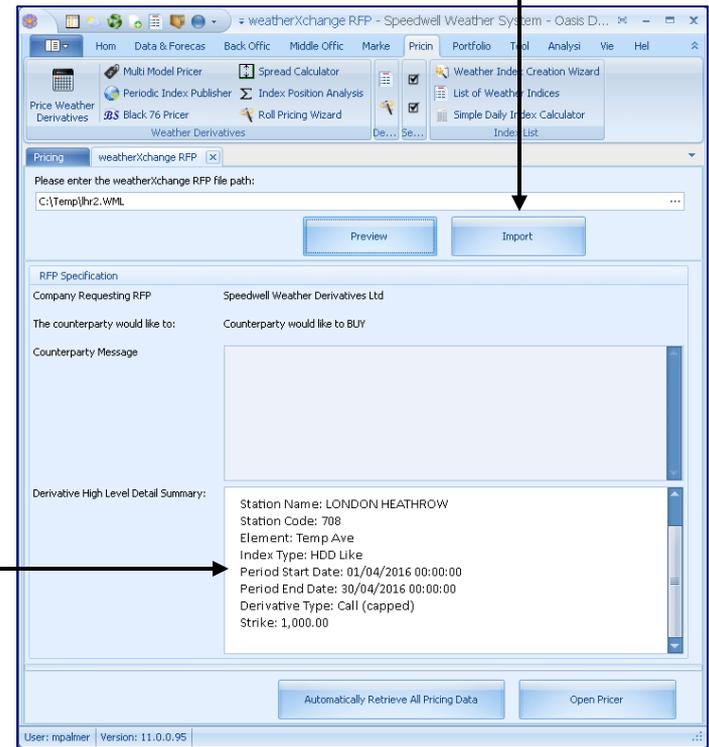
```
<?xml version="1.0" encoding="utf-16"?>
<CSWSPricingRequest xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <WebAppID>
    <ID>d4f451bb5-f125-487a-9d3f-7b72e3eece83</ID>
  </WebAppID>
  <SystemID>SWSDESKTOP</SystemID>
  <IsFirmPrice>false</IsFirmPrice>
  <IsLong>true</IsLong>
  <Cashflow>0</Cashflow>
  <IsCalculateGreeks>false</IsCalculateGreeks>
  <ValueAtRiskLevel />
  <SummaryStatYears />
  <PricingDate>2015-12-04T00:00:00</PricingDate>
  <WeatherDerivative xsi:type="CSWSWeatherDerivative">
    <SWSDOption>390</SWSDOption>
    <CalculationPeriodFirstDate>2015-12-01T00:00:00</CalculationPeriodFirstDate>
    <CalculationPeriodLastDate>2015-12-31T00:00:00</CalculationPeriodLastDate>
    <StripQuantity>1</StripQuantity>
    <WeatherIndexClassName>Speedwell.WeatherML.Classes.CSWSWeatherIndex</WeatherIndexClassName>
    <WeatherIndex>
      <SWSIDIndex>3852</SWSIDIndex>
      <IDIndexType>0</IDIndexType>
      <IndexType>C_IndexHDD</IndexType>
      <Location>
        <SWSStnID>888</SWSStnID>
        <SpeedwellExternalID>16920</SpeedwellExternalID>
        <Name>FRAGUE ROZYNE</Name>
        <Country>
          <IDCountry>64</IDCountry>
          <CountryName>Czech Republic</CountryName>
        </Country>
        <ISCMStation>false</ISCMStation>
        <COOPID xsi:nil="true" />
        <Latitude>50.099</Latitude>
        <Longitude>14.25</Longitude>
        <Altitude>360</Altitude>
        <ICAO>LKPR</ICAO>
        <WBAN xsi:nil="true" />
        <WMO>11518</WMO>
      </Location>
    </WeatherIndex>
  </WeatherDerivative>
</CSWSPricingRequest>
```

Speedwell weatherML term sheet

weatherML sent to risk capacity provider. A click here then creates the structure in SWS for easy pricing

Communication of trades between SWS users is further simplified. They are able to exchange contract details at the press of a button:

Summary of weather structure derived from Speedwell weatherML



\* Subject to regulatory "KYC" having been completed.

# Platform Component 3: Data Streaming into SWS

The screenshot shows the weatherXchange interface. On the left, there are controls for Data Source (weatherXchange selected), Select Location (Station, Coordinates, Country: Germany), and Select Element (Temperature Max). A Search button is at the bottom left. The main area features a map of Europe with red dots representing station locations. Below the map is a 'weatherXchange Stations List' table.

Town	View Data	Code WMO	Latitude	Longitude	Altitude	Data Start	Data End	weather element	%
Wuerzburg		10555	49.7670	9.9670	268	01/01/1950	23/06/2015	Temperature Max	100.00
Zugspitze		10961	47.4170	10.9830	2960	01/01/1950	23/06/2015	Temperature Max	100.00

Speedwell SuperPack<sup>®</sup> subscribers can browse, preview and import data from within SWS

The screenshot shows the VICHY-CHARMEIL station data interface. The station name is VICHY-CHARMEIL, Country: France, Speedwell SRC ID: SYNOP\_WMO\_07374, WMO: 7374, WBAN: COOPID: ICAO: LFLV. The Element is Rain. Retrieved Data Range: From: 20/10/2004 - To: 07/12/2015. There are buttons for Import and Fetch Data from Service. A table shows dates and values, and a bar chart shows rain data from 2005 to 2013.

Dates	Values
20/10/2004	0.0001
21/10/2004	0.4
22/10/2004	n ?

# Platform Component 4: weatherXchange website

The screenshot displays the weatherXchange website interface, organized into several functional sections:

- Design Weather Protection Contract (Orange Header):**
  - Create New Weather Protection Contract:** A large orange button with a shield icon.
  - Get Advice / Prices from Broker-Advisors:** A button with a dollar sign and speech bubble icon.
  - Get Prices direct from Protection Sellers:** A button with a dollar sign and arrow icon.
  - Saved Draft Contracts:** A button with a document icon.
  - weatherXchange logo:** Located at the bottom right of the section.
- Settlement Data Services (Green Header):**
  - Settlement Data Certificates:** A button with a document and gear icon.
  - Request Settlement Data Certificate:** A button with a download icon.
  - Text:** "Settlement Data Services are provided by Speedwell Settlement Services Limited. Settlement Data is scientifically and objectively quality-controlled weather data where any missing data points are filled. Settlement Data are then used to calculate the final payment, if applicable, of the Weather Protection Contract."
  - Speedwell Settlement Services Ltd:** Text at the bottom right of the section.
- Design Weather Protection (Dark Grey Panel):**
  - Icons:** Sun, cloud with rain, and snowflake.
  - Section Title:** "Design Weather Protection"
  - Description:** "Using the wizard, create the Weather Protection Contract you require. If required, contact us for assistance through the on-line chat tool. (We are unable to provide financial advice relating to matters such as suitability of a structure, but we can help with general and technical questions)."
  - Navigation:** Left and right arrow icons.
  - Progress Indicator:** A row of seven circles, with the first one filled.
- Calculation Services for Risk Reporting (Orange Header):**
  - Request End of Day Valuations:** A button with a dollar sign and vertical bar icon.
  - List of Active Valuations:** A button with a checkmark and dollar sign icon.
  - End of Day Risk Report:** A button with a warning triangle icon.
  - Portfolios:** A button with a folder icon.
  - Text:** "Valuation Services are independently provided by Speedwell Calculation Services Limited. This service offers the standard key valuation metrics throughout the life of a Weather Protection Contract as may be required by accounting standards. Settlement Data Services are included in this service."
  - Speedwell Calculations Services Ltd:** Text at the bottom right of the section.
- Data and Forecasts (Blue Header):**
  - View Historical Data:** A button with a calendar icon.
  - View Forecasts:** A button with a cloud and rain icon.
  - Speedwell Weather logo:** Located at the bottom right of the section.

# weatherXchange website: Structuring tool

## Design Your Weather Protection Contract

This tool will guide you through creating your own customized Draft Weather Protection Contract.

To start, please select your main weather risk profile from the list below:

### By Industry Sector

Energy -

Cooling Degree Day

Heating Degree Day

Energy Degree Day

Cumulative Average Temperature

Cumulative Average T24

Critical Hot Days

Critical Cold Days (TMin<=)

Energy Index Average

Energy Index Cumulative

Renewables -

Agriculture -

Construction -

Retail & Wholesale -

Tourism & Leisure -

Transport -

Marine -

Events -

### By Type of Weather

Energy Index -

Energy Index Average

Energy Index Cumulative

Average Temperature -

Average Temperature

Cumulative Average Temperature

Cumulative Average T24

Heating Degree Days

Cooling Degree Days

Max Temperature -

Critical Hot Days (TMax >=)

Consecutive Hot Days (TMax >=)

Min Temperature -

Rain -

Snowfall -

Snow Depth on Ground -

Solar Radiation Global -

The weatherXchange wizard allows new and experienced users of weather hedging to find data, structure a hedge, save, refine and then request pricing.

This starts with the Hedger choosing a standardised industry template.

# weatherXchange website: Structuring tool

The Hedger then chooses the reference site.

...or, if not available requests an additional site / basket or gridded data

**Location**

1 - Location    2 - Index    3 - Parameters    4 - Results    5 - Save

**Protection Details**

**Location:** Aberdeen Dyce

**Element:** Daily Precipitation

**Index Type:** Critical Rain Days (Rain > Threshold)

Cannot find data for your site? -

Want to cover an area, not just a single site? -

Have your own weather data? -

**Continent**

Global     Europe     North America     South America     Asia     Oceania  
 Africa

**Country**

United Kingdom

**Search Type**

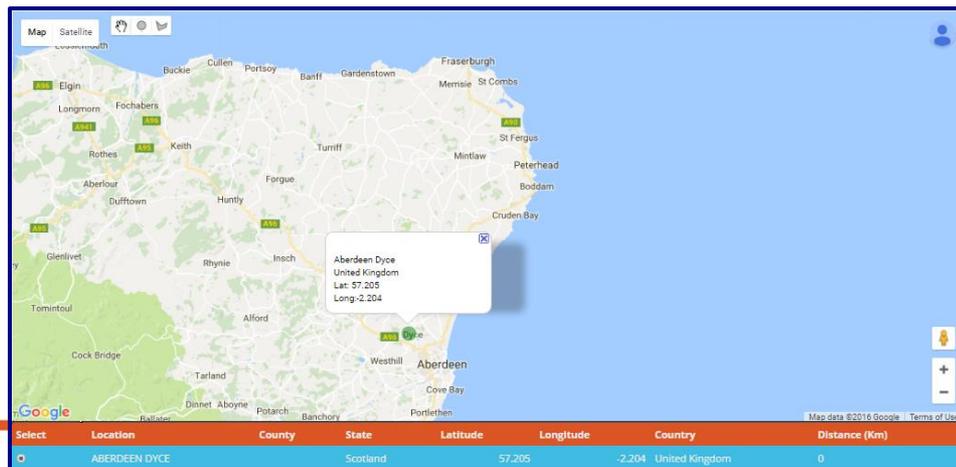
Weather Station    Postal/Station Code    Coordinates    Map

Please select a weather station

Aberdeen Dyce

Find and Locate on Map

Optional map search allowing post code entry



# weatherXchange website: Structuring tool

Index

1 - Location    2 - Index    3 - Parameters    4 - Results    5 - Save

• The cover is set to begin at the start of a month, but doesn't cease at the end of a month. Are you sure you don't want to cover whole months?

**Protection Details**

**Location:** Aberdeen Dyce

**Element:** Daily Precipitation

**Index Type:** Critical Rain Days (Rain > Threshold)

**Weather Index Specifications**

Cover Period Start Day: 01/04/2017

Cover Period End Day: 30/08/2017

Weather Threshold: 5

Days to Exclude    Daily Data Statistics    1 Measurement Convention

Back    Next

The Hedger then sets the period, and, if applicable, the daily threshold

# weatherXchange website: Structuring tool

**Parameters**

1 - Location    2 - Index    **3 - Parameters**    4 - Results    5 - Save

Calculation Date: 2016.Sep.23

**Protection Details**

**Location:** Aberdeen Dyce

**Element:** Daily Precipitation

**Protection Period:** 2017.Apr.01 to 2017.Aug.30

**Index Type:** Critical Rain Days (Rain > Threshold)

**Weather Threshold:** 5

**Days Excluded:** None

**Historical Values Summary**

Num. Of Years	Index Average	Trend-Adjusted Index Average
20	19.55	19.55
15	20.00	20.00
10	22.40	22.40
5	23.40	23.40
1	26.00	26.00

**Historical Index Values** © weatherXchange

Legend: Index (white line), Trend adjusted Index (smoother white line), Strike (green line), Index Limit (red line)

BUY PROTECTION     SELL PROTECTION

Protection against a high index (Call Option)     Protection against a low index (Put Option)

**Payout conditions**

Protection Start Level (Strike):

Maximum number of Index Units (Cap):

Protection Value per Unit (Tick):

Protection Max Payout:

The Hedger then chooses where protection starts and sets the cap to create a “Draft Contract”. Sophisticated users may find the Cumulative Probability Curve tool useful for setting strikes..

**Index Probabilities using Trend - Adjusted values**

Statistical Summary: Average: 18.80    Median: 18.00    Standard Deviation: 6.07    Min: 6.00    Max: 39.00

**Index Percentile Curve**

Percentiles %	Values
1.72%	6.00
1.88%	6.17
1.98%	6.33
2.08%	6.50
2.18%	6.66
2.28%	6.83
2.38%	6.99
2.47%	7.16
2.57%	7.32
2.67%	7.49
2.77%	7.65
2.87%	7.82
2.96%	7.98
3.06%	8.15

The percentile table and graph show the estimated probability of the Trend-Adjusted Index being less than or equal to a certain value. For example, a percentile value of 10% and a value of 5 that there is a 10% probability of the value being 5 or less based on the available historical data. It can also be read as there is a 100% - 10% = 90% probability the value is 5 or more. Use this feature to help understand how to set the Protection Start Level (Strike) from which a Weather Protection would start paying out.

# weatherXchange website: Structuring tool

1 - Location
2 - Index
3 - Parameters
4 - Results
5 - Save

**Protection Details**

**Location:** Aberdeen Dyce

**Element:** Daily Precipitation

**Protection Period:** 2017.Apr.01 to 2017.Aug.30

**Index Type:** Critical Rain Days (Rain > Threshold)

Weather Threshold	Type	Strike	Value per Unit (Tick)	Unit Limit (Cap)	Max Payout
5	Call with Cap	25.00	10,000	15	GBP 150,000

**Days Excluded:** None

BUY PROTECTION
SELL PROTECTION

**Historical Average Payout Value**

Historical Average Payout: 5,357.14

Historical Average Payout: 5,357.14  
(Based on trend adjusted Index Values)

**Historical Index Values** © weatherXchange

**Payout** © weatherXchange

**Historical Values Summary**

Num. Of Years	Index Average	Average Payout	Trend-Adjusted Index Average	Average Payout using Trend-Adjusted Index
1	26.00	10,000.00	26.00	10,000.00
5	23.40	16,000.00	23.40	16,000.00
10	22.40	11,000.00	22.40	11,000.00

..and views the historical pay outs.

weatherXchange does NOT provide an indicative price.

# weatherXchange website: Structuring tool

## Draft Contract Information

Aberdeen Dyce-2017 Apr 01 to 2017 Aug 30

### Protection Details - BUYING

**Location:** Aberdeen Dyce

**Element:** Daily Precipitation

**Protection Period:** 2017.Apr.01 to 2017.Aug.30

**Index Type:** Critical Rain Days (Rain > Threshold)

Weather Threshold	Type	Strike	Value per Unit (Tick)	Unit Limit (Cap)	Max Payout
5	Call with Cap	25.00	10,000	15	GBP 150,000

**Days Excluded:** None

- Get Advice/Prices from Broker-Advisors
- Get Prices direct from Protection Sellers
- Request Settlement Data
- Request End of Day Valuations
- Rename this Draft Contract
- Move Draft Contract to Folder
- Edit Draft Contract
- Copy Contract Template
- View Historical Payouts
- View Historical Data
- View Forecasts

### Information

There is no additional information

Edit Information

### Documents

Document Name	File Name	Type of Document	Contract Name	Info 1	Download	Info 2	FileType
---------------	-----------	------------------	---------------	--------	----------	--------	----------

Attach Delete Selected

Once the Draft Contract is saved, the Hedger can easily send an RFP or contact a Broker-Advisor.

The Hedger can also edit or copy and amend the Draft Contract. Other documents can be uploaded with a saved Contract.

Settlement Data and/or Valuation Services can be requested.

# weatherXchange website: Saved Contracts View

weatherXchange Industries ▾ How It Works ▾ Joining ▾ Participants ▾ Legal ▾ News About us Contact +44 (0)1582 280 130 Log off

Client Portal: Home Data And Forecast ▾ Contract Templates ▾ Protections ▾ Risk ▾ Welcome stephen.doherty@speedwellweather.com

## Contract Templates

Manage your contract templates from this screen. It is possible to group several contracts together, perhaps by geolocation, currency or by clients.

A contract template may be renamed by clicking on its name on the grid.

Contracts that are executed must be booked into the platform by using the Record Protection features.

Once recorded as a protection, additional features become available such as Settlement Data, daily Profit and Loss calculation, Accrued Index calculations and ultimately Settlement calculations.

Groups may be used to organize your contract templates into different folders such as by clients, by locations, by type of risks

Template Group: All Contracts Manage

New Contract Template Delete Selected Contract Template(s) Move Selected Contract Template(s) to Group Import RFP Export To Excel

Template Name	Location	Weather Element	Index Type	Weather Threshold	Cover Start Date	Cover End Date	Protection Type	Protection Level (Strike)	Protection Cap	Protection Tick	Protection Limit	Edit Contract Template	Copy Contract Template	Documents	View Historical Data	Email RFP to Risk Takers	Download Request For Pricing	Historical Calculations	Request Settlement Data	Request Valuation Services
<input type="checkbox"/> LONDON HEATHROW-2016 Jun 01 to 2016 Jun 30	LONDON HEATHROW	Daily Average Temperature (TMin + TMax) / 2	Cumulative Heating Degree Day	18.00	2016-Jun-01	2016-Jun-30		48	60	1,000	60,000									
<input type="checkbox"/> LONDON HEATHROW-2016 Jun 01 to 2016 Jun 30	LONDON HEATHROW	Daily Average Temperature (TMin + TMax) / 2	Cumulative Cooling Degree Day	18.00	2016-Jun-01	2016-Jun-30		40	100	1,000	100,000									
<input type="checkbox"/> LONDON HEATHROW-2016 Aug 01 to 2016 Aug 31	LONDON HEATHROW	Daily Precipitation	Cumulative Precipitation		2016-Aug-01	2016-Aug-31		90	50	1,000	50,000									

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Extended Grid View

The Saved Contracts desktop shows all saved Draft Contracts whether traded or not. They can be sorted into different folders. The user is able to re-open any saved Draft Contract and revise it as required, or edit it to save as a new Draft Contract with different terms. When ready, the Term Sheet can be sent to Broker-Advisors as the starting point of a “what-we-need” conversation. Or the Term Sheet can be sent to Protection Sellers at a click of a button.



# Platform Component 5: Calculation Services

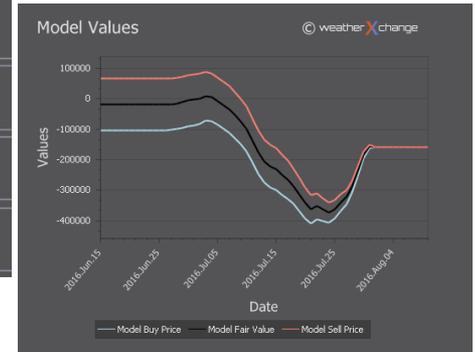
Calculation Services are provided by Speedwell Settlement Services Limited and offer the following:

- End of day automated Daily Mark-to-Model Valuation
- Daily Profit and Loss Calculations
- Access to Speedwell GFS and ECMWF 00Z bias-adjusted Ensemble Forecast, where available
- Accrued index calculations
- Marginal Value-at-Risk calculations
- Sensitivities (“Greeks”)
- Index and Payoff Final Settlement Calculations.

Calculation Services include the provision of official Settlement Data and Settlement Data Certificates.

**Calculation Services for Risk Reporting**

- Request End of Day Valuations
- List of Active Valuations
- End of Day Risk Report
- Portfolios



**End of Day Risk Reports**

End of Day Risk Reports are calculated between 2pm and 4pm UK local time and provide independent mark to model values, value at risk measures and sensitivities.

Reporting Date: 14/07/2016 [Refresh](#) [Export To Excel](#)

Executed Contract Name	Buy?	Counterparty	Model Fair Value	Model Buy Price	Model Sell Price	Expiry VaR 97.5%	Expiry VaR 99%	Expiry VaR 99.9%	Model Index Average	Model Index StDev
Miami TMax Jul-Aug-16	False		165	126	204	-350	-350	-350	2.16	3.19
long Miami	True		500	500	500	300	300	300	30.10	10.27

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**Historical Values Summary** [Export To Excel](#)

Calculation Date	Model Fair Value	Model Index Average	Model Index StDev	Partial Index With Forecast	Partial Index Date With Forecast	Model Buy Price	Model Sell Price	Delta	Gamma	Vega
2016-Jun-30	149	514.89	3.34	494.50	2016-Jun-29	142	156	10.00	0.00	0.00
2016-Jun-29	161	516.84	6.74	476.00	2016-Jun-28	148	174	161.02	0.00	0.28
2016-Jun-28	159	516.92	9.65	455.50	2016-Jun-27	141	178	159.42	0.91	1.23
2016-Jun-27	157	516.45	12.39	434.50	2016-Jun-26	135	180	157.23	0.03	2.05



# Platform Component 6: Settlement Services

For all tradeable sites available on weatherXchange, or added on request, Settlement Data and Settlement Certificates are provided by Speedwell Settlement Services.

Speedwell Settlement Services Limited (“SSS”) is the new vehicle through which all Speedwell’s existing Settlement Data will be provided from Q4 2016. SSS will provide Settlement Data whether a trade originates on the weatherXchange platform or, as currently, from traditional bi-lateral Hedger-Protection Seller relationships.

For the standard weatherXchange sites Settlement Data will be provided through an on-line interface as well as FTP delivery and will be priced on a transparent standardised calculation basis. However, small transactions and all transactions based on the 60+ Speedwell Market sites will be free of charge. Settlement Certificates formally defining the value of the underlying index will be provided.

More complex transactions such those involving non-standard data sets or weather station installations will continue to be negotiated as currently outside of the platform.

Speedwell Calculation Services to be regulated under forthcoming European Benchmark Regulations

## Settlement Data Services



Settlement Data Certificates



Request Settlement Data Certificate

Settlement Data Services are provided by Speedwell Settlement Services Limited. Settlement Data is scientifically and objectively quality-controlled weather data where any missing data points are filled. Settlement Data are then used to calculate the final payment, if applicable, of the Weather Protection Contract.

Speedwell Settlement Services Ltd

## Settlement Certificate

**Speedwell Weather Market**  Speedwell Weather Limited  
Market House, 911 Virginia Road  
Hampden, North AL5 4JG, UK  
T +44 (0)2 90200

This Settlement Certificate is the official publication of the final index for station

**Washington-Reagan National Airport** August 2016

WHO 72405 August 2016  
WIDN 13743

Issued at 1400 UTC on 05 September 2016

Information contained within this Settlement Certificate may only be used for the purposes as laid out in the accompanying Terms and Conditions

DATE	WMO	TIME	TEMP	WIND	WIND DIR	WIND GUST
2016.08.01	72405	00	74.5	8.0	0.0	18.0
2016.08.01	72405	01	74.5	8.0	0.0	18.0
2016.08.01	72405	02	74.5	8.0	0.0	18.0
2016.08.01	72405	03	74.5	8.0	0.0	18.0
2016.08.01	72405	04	74.5	8.0	0.0	18.0
2016.08.01	72405	05	74.5	8.0	0.0	18.0
2016.08.01	72405	06	74.5	8.0	0.0	18.0
2016.08.01	72405	07	74.5	8.0	0.0	18.0
2016.08.01	72405	08	74.5	8.0	0.0	18.0
2016.08.01	72405	09	74.5	8.0	0.0	18.0
2016.08.01	72405	10	74.5	8.0	0.0	18.0
2016.08.01	72405	11	74.5	8.0	0.0	18.0
2016.08.01	72405	12	74.5	8.0	0.0	18.0
2016.08.01	72405	13	74.5	8.0	0.0	18.0
2016.08.01	72405	14	74.5	8.0	0.0	18.0
2016.08.01	72405	15	74.5	8.0	0.0	18.0
2016.08.01	72405	16	74.5	8.0	0.0	18.0
2016.08.01	72405	17	74.5	8.0	0.0	18.0
2016.08.01	72405	18	74.5	8.0	0.0	18.0
2016.08.01	72405	19	74.5	8.0	0.0	18.0
2016.08.01	72405	20	74.5	8.0	0.0	18.0
2016.08.01	72405	21	74.5	8.0	0.0	18.0
2016.08.01	72405	22	74.5	8.0	0.0	18.0
2016.08.01	72405	23	74.5	8.0	0.0	18.0
2016.08.01	72405	24	74.5	8.0	0.0	18.0
2016.08.01	72405	25	74.5	8.0	0.0	18.0
2016.08.01	72405	26	74.5	8.0	0.0	18.0
2016.08.01	72405	27	74.5	8.0	0.0	18.0
2016.08.01	72405	28	74.5	8.0	0.0	18.0
2016.08.01	72405	29	74.5	8.0	0.0	18.0
2016.08.01	72405	30	74.5	8.0	0.0	18.0
2016.08.01	72405	31	74.5	8.0	0.0	18.0
2016.08.01	72405	32	74.5	8.0	0.0	18.0
2016.08.01	72405	33	74.5	8.0	0.0	18.0
2016.08.01	72405	34	74.5	8.0	0.0	18.0
2016.08.01	72405	35	74.5	8.0	0.0	18.0
2016.08.01	72405	36	74.5	8.0	0.0	18.0
2016.08.01	72405	37	74.5	8.0	0.0	18.0
2016.08.01	72405	38	74.5	8.0	0.0	18.0
2016.08.01	72405	39	74.5	8.0	0.0	18.0
2016.08.01	72405	40	74.5	8.0	0.0	18.0
2016.08.01	72405	41	74.5	8.0	0.0	18.0
2016.08.01	72405	42	74.5	8.0	0.0	18.0
2016.08.01	72405	43	74.5	8.0	0.0	18.0
2016.08.01	72405	44	74.5	8.0	0.0	18.0
2016.08.01	72405	45	74.5	8.0	0.0	18.0
2016.08.01	72405	46	74.5	8.0	0.0	18.0
2016.08.01	72405	47	74.5	8.0	0.0	18.0
2016.08.01	72405	48	74.5	8.0	0.0	18.0
2016.08.01	72405	49	74.5	8.0	0.0	18.0
2016.08.01	72405	50	74.5	8.0	0.0	18.0
2016.08.01	72405	51	74.5	8.0	0.0	18.0
2016.08.01	72405	52	74.5	8.0	0.0	18.0
2016.08.01	72405	53	74.5	8.0	0.0	18.0
2016.08.01	72405	54	74.5	8.0	0.0	18.0
2016.08.01	72405	55	74.5	8.0	0.0	18.0
2016.08.01	72405	56	74.5	8.0	0.0	18.0
2016.08.01	72405	57	74.5	8.0	0.0	18.0
2016.08.01	72405	58	74.5	8.0	0.0	18.0
2016.08.01	72405	59	74.5	8.0	0.0	18.0
2016.08.01	72405	60	74.5	8.0	0.0	18.0
2016.08.01	72405	61	74.5	8.0	0.0	18.0
2016.08.01	72405	62	74.5	8.0	0.0	18.0
2016.08.01	72405	63	74.5	8.0	0.0	18.0
2016.08.01	72405	64	74.5	8.0	0.0	18.0
2016.08.01	72405	65	74.5	8.0	0.0	18.0
2016.08.01	72405	66	74.5	8.0	0.0	18.0
2016.08.01	72405	67	74.5	8.0	0.0	18.0
2016.08.01	72405	68	74.5	8.0	0.0	18.0
2016.08.01	72405	69	74.5	8.0	0.0	18.0
2016.08.01	72405	70	74.5	8.0	0.0	18.0
2016.08.01	72405	71	74.5	8.0	0.0	18.0
2016.08.01	72405	72	74.5	8.0	0.0	18.0
2016.08.01	72405	73	74.5	8.0	0.0	18.0
2016.08.01	72405	74	74.5	8.0	0.0	18.0
2016.08.01	72405	75	74.5	8.0	0.0	18.0
2016.08.01	72405	76	74.5	8.0	0.0	18.0
2016.08.01	72405	77	74.5	8.0	0.0	18.0
2016.08.01	72405	78	74.5	8.0	0.0	18.0
2016.08.01	72405	79	74.5	8.0	0.0	18.0
2016.08.01	72405	80	74.5	8.0	0.0	18.0
2016.08.01	72405	81	74.5	8.0	0.0	18.0
2016.08.01	72405	82	74.5	8.0	0.0	18.0
2016.08.01	72405	83	74.5	8.0	0.0	18.0
2016.08.01	72405	84	74.5	8.0	0.0	18.0
2016.08.01	72405	85	74.5	8.0	0.0	18.0
2016.08.01	72405	86	74.5	8.0	0.0	18.0
2016.08.01	72405	87	74.5	8.0	0.0	18.0
2016.08.01	72405	88	74.5	8.0	0.0	18.0
2016.08.01	72405	89	74.5	8.0	0.0	18.0
2016.08.01	72405	90	74.5	8.0	0.0	18.0
2016.08.01	72405	91	74.5	8.0	0.0	18.0
2016.08.01	72405	92	74.5	8.0	0.0	18.0
2016.08.01	72405	93	74.5	8.0	0.0	18.0
2016.08.01	72405	94	74.5	8.0	0.0	18.0
2016.08.01	72405	95	74.5	8.0	0.0	18.0
2016.08.01	72405	96	74.5	8.0	0.0	18.0
2016.08.01	72405	97	74.5	8.0	0.0	18.0
2016.08.01	72405	98	74.5	8.0	0.0	18.0
2016.08.01	72405	99	74.5	8.0	0.0	18.0
2016.08.01	72405	100	74.5	8.0	0.0	18.0
2016.08.01	72405	101	74.5	8.0	0.0	18.0
2016.08.01	72405	102	74.5	8.0	0.0	18.0
2016.08.01	72405	103	74.5	8.0	0.0	18.0
2016.08.01	72405	104	74.5	8.0	0.0	18.0
2016.08.01	72405	105	74.5	8.0	0.0	18.0
2016.08.01	72405	106	74.5	8.0	0.0	18.0
2016.08.01	72405	107	74.5	8.0	0.0	18.0
2016.08.01	72405	108	74.5	8.0	0.0	18.0
2016.08.01	72405	109	74.5	8.0	0.0	18.0
2016.08.01	72405	110	74.5	8.0	0.0	18.0
2016.08.01	72405	111	74.5	8.0	0.0	18.0
2016.08.01	72405	112	74.5	8.0	0.0	18.0
2016.08.01	72405	113	74.5	8.0	0.0	18.0
2016.08.01	72405	114	74.5	8.0	0.0	18.0
2016.08.01	72405	115	74.5	8.0	0.0	18.0
2016.08.01	72405	116	74.5	8.0	0.0	18.0
2016.08.01	72405	117	74.5	8.0	0.0	18.0
2016.08.01	72405	118	74.5	8.0	0.0	18.0
2016.08.01	72405	119	74.5	8.0	0.0	18.0
2016.08.01	72405	120	74.5	8.0	0.0	18.0
2016.08.01	72405	121	74.5	8.0	0.0	18.0
2016.08.01	72405	122	74.5	8.0	0.0	18.0
2016.08.01	72405	123	74.5	8.0	0.0	18.0
2016.08.01	72405	124	74.5	8.0	0.0	18.0
2016.08.01	72405	125	74.5	8.0	0.0	18.0
2016.08.01	72405	126	74.5	8.0	0.0	18.0
2016.08.01	72405	127	74.5	8.0	0.0	18.0
2016.08.01	72405	128	74.5	8.0	0.0	18.0
2016.08.01	72405	129	74.5	8.0	0.0	18.0
2016.08.01	72405	130	74.5	8.0	0.0	18.0
2016.08.01	72405	131	74.5	8.0	0.0	18.0
2016.08.01	72405	132	74.5	8.0	0.0	18.0
2016.08.01	72405	133	74.5	8.0	0.0	18.0
2016.08.01	72405	134	74.5	8.0	0.0	18.0
2016.08.01	72405	135	74.5	8.0	0.0	18.0
2016.08.01	72405	136	74.5	8.0	0.0	18.0
2016.08.01	72405	137	74.5	8.0	0.0	18.0
2016.08.01	72405	138	74.5	8.0	0.0	18.0
2016.08.01	72405	139	74.5	8.0	0.0	18.0
2016.08.01	72405	140	74.5	8.0	0.0	18.0
2016.08.01	72405	141	74.5	8.0	0.0	18.0
2016.08.01	72405	142	74.5	8.0	0.0	18.0
2016.08.01	72405	143	74.5	8.0	0.0	18.0
2016.08.01	72405	144	74.5	8.0	0.0	18.0
2016.08.01	72405	145	74.5	8.0	0.0	18.0
2016.08.01	72405	146	74.5	8.0	0.0	18.0
2016.08.01	72405	147	74.5	8.0	0.0	18.0
2016.08.01	72405	148	74.5	8.0	0.0	18.0
2016.08.01	72405	149	74.5	8.0	0.0	18.0
2016.08.01	72405	150	74.5	8.0	0.0	18.0
2016.08.01	72405	151	74.5	8.0	0.0	18.0
2016.08.01	72405	152	74.5	8.0	0.0	18.0
2016.08.01	72405	153	74.5	8.0	0.0	18.0
2016.08.01	72405	154	74.5	8.0	0.0	18.0
2016.08.01	72405	155	74.5	8.0	0.0	18.0
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## Platform Component 7: Automated Pricing Services

- SWS Automated Pricing Service (APS) software allows Protection Sellers to automate the provision of indicative quotes.



## Platform Component 8: Participants

weatherXchange Participants include:

- New Hedgers
- Existing Hedgers and traders looking to streamline their processes
- Protection Sellers
- Broker-Advisors

There is no charge to end-users nor to risk-takers to access weather data, use the structuring tools and to use the messaging service. Broker-Advisors on the platform are free to negotiate fees for their services directly with Hedgers.

A charge is made for the provision of Settlement Data and for Speedwell Calculation Services.



# Growing weatherXchange

- We will be promoting weatherXchange directly through press releases, direct marketing, conferences, road shows, social media, interviews and seminars. We aim to include our WX partners in these initiatives
- In the normal course of our business as data providers we frequently receive enquiries relating to the placing of weather risk. These will be directed to the weatherXchange Platform



# Summary

- weatherXchange helps new and existing users of weather protection products:
  - providing access to free, high quality worldwide data to new and existing Hedgers
  - providing new Hedgers with on-line structuring tools
  - introducing new Hedgers who want advice to Broker-Advisors
  - facilitating communication between Hedgers and risk takers through technology
- Streamlining pricing with optional SWS integration
- Providing cost-free origination for Protection Sellers
- Speedwell Settlement Services formalises the provision of Settlement Data allowing simplification of Term Sheets with a robust, transparent and documented Settlement Data methodology
- Providing access to Speedwell Calculation Services for the daily risk metrics necessary to manage a weather risk hedge once traded to satisfy internal and regulatory reporting requirements
- To request a login go to [www.weatherXchange.com](http://www.weatherXchange.com)

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E: [Support@weatherXchange.com](mailto:Support@weatherXchange.com)

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