EEX Group Webinar
Cascading

02 Sep 2020
Steffen Riediger, Director European Power Derivatives
Agenda

- Introduction of Bob Takai
- Update on EEX trading activity
- Cascading
- EEX Japan Power Data Package
- Q&A
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The first 100 days of EEX Japanese Power Futures
A successful start into a new era

- EEX successfully launched the clearing service for Japanese Power Futures on 18th May 2020.

- Despite the challenges caused by the global COVID-19 crisis, various market participants from Japan and overseas were ready on Day 1 and first trades were able to be cleared.

- On behalf of the entire EEX team, we would like to thank all market participants for your support in the 18 months prior to the launch of the Japanese market.

- This launch would not have been possible without your support and your constructive feedback.
The first 100 days of EEX Japanese Power Futures
The trading volume is growing

- Over the last three months, since our launch in May 2020, the trading volume has achieved 175 GWh.
  - May: 11.8 GWh
  - Jun: 104.5 GWh
  - Jul: 0.04 GWh
  - Aug: 58.5 GWh

- We had trades along the entire curve, Weekly, Monthly, Quarterly, Seasonally, and Yearly for Tokyo Area Baseload. Also Weekly, Monthly, and Seasonally were traded for Tokyo Area Peakload.

- According to brokers, there has been more market activity. However, bid/ask spreads tend to be wide and trades could not always be matched.
Readiness Status
Trading participants, Brokers, Clearing banks

Trading participants
- **Ready:** at least 10 firms, both from Japan and overseas, are ready and active in the market.
- **In the process of getting ready:** About 10 additional firms, both from Japan and overseas, expected to start within the next 4-6 weeks. 70+ potential firms in the pipeline.

Brokers
- **Ready:** 12 brokerage firms

Clearing banks
- **Ready:** 5 clearing banks
  - BNP Paribas, Mizuho Securities, Societe Generale, Macquarie, ED&F Man
- **In the process of getting ready:** ABN Amro
Initiatives to further develop liquidity
Zero EEX and ECC fees until 31st October 2020

To support the development of initial liquidity in Japanese Power Futures, EEX will not charge trading and clearing fees for registration of Japanese Power contracts until 31st October 2020.

Starting in November 2020, EEX will also offer **Volume-based rebate schemes**.

**Note**: Clients should note that brokerage (“matching”) fees are payable directly to broker(s) by the end client according to their individual service agreement(s) with brokers.

**Note**: Trading and clearing fees are charged by EEX and ECC through the respective Clearing Member, who will recoup these fees from its clients.
**Initiatives to further develop liquidity**
Continuous communication with all stakeholders

- Online meetings and webinars
- Monthly newsletter with updates on volumes and liquidity
- Series of podcasts (on Spotify and Apple)
- Frequent meetings with regulators in Japan and Germany

Although we cannot meet physically at the moment, we will continue to stay in touch with you and the entire market.
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Product Specifications
Japan Power Futures

Kansai Area

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Base / Peak</th>
<th>Minimum</th>
<th>Number of Periods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week</td>
<td>up to 5 weeks</td>
<td></td>
<td>up to 5 weeks</td>
</tr>
<tr>
<td>Month</td>
<td>up to 7 months</td>
<td></td>
<td>up to 7 months</td>
</tr>
<tr>
<td>Quarter</td>
<td>up to 7 quarters</td>
<td></td>
<td>up to 7 quarters</td>
</tr>
<tr>
<td>Season</td>
<td>up to 4 seasons</td>
<td></td>
<td>up to 4 seasons</td>
</tr>
<tr>
<td>Years</td>
<td>up to 6 years</td>
<td></td>
<td>up to 6 years</td>
</tr>
</tbody>
</table>

Tokyo Area

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Base / Peak</th>
<th>Minimum</th>
<th>Number of Periods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week</td>
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<tr>
<td>Month</td>
<td>up to 7 months</td>
<td></td>
<td>up to 7 months</td>
</tr>
<tr>
<td>Quarter</td>
<td>up to 7 quarters</td>
<td></td>
<td>up to 7 quarters</td>
</tr>
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<td>Season</td>
<td>up to 4 seasons</td>
<td></td>
<td>up to 4 seasons</td>
</tr>
<tr>
<td>Years</td>
<td>up to 6 years</td>
<td></td>
<td>up to 6 years</td>
</tr>
</tbody>
</table>

Product Specifications:
- Currency: Japanese Yen
- Pricing: in Yen/kWh
- Underlying: Average price of JEPX Day Ahead Kansai/Tokyo during the full delivery period
- Minimum price fluctuation: Yen 0.01 per kWh
- Contract Size: 1 MW (1,000kW) * number of hours in delivery period
- Minimum lot size: 1 contract

- Peak definition: Monday - Friday 08:00am – 08:00pm (excluding Japanese holiday)
Cascading - Overview

- Futures contracts with longer contract maturities will be replaced by equivalent positions with shorter contract maturities (Monthly contract for Japan power) after the trading hour of the third to last (3) ECC AG business day before start of the original delivery period.
- All contracts resulting from the cascading will be treated as new contracts independently and follow the same rules, such as expiry and final settlement.
- Cascading applies to year, season and quarter futures in EEX power and gas markets.

Advantages:
- Better handling of contracts as main positions are still tradable and only the front contract maturity goes into delivery. Risk management is able to cover the risk of positions in delivery more accurately and can use standard risk-parameters for the remaining positions.
Cascading vs Strip

In the **Strip clearing** process, trades are split immediately into month futures from year, season and quarter futures, and will be booked in the corresponding position accounts. This process is used for freight and iron ore futures.

- **Advantages:** Simple to understand with less administration efforts.
- **Disadvantage:** For months further ahead, the settlement price is a single value for all of the monthly contracts; therefore, it cannot timely reflect the market price and each month’s risk accurately.
Cascading – Example

Example: Purchase 1 MW of Tokyo Baseload for Winter Season (October 2020 – March 2021) at 7.00 yen/ kWh on 1st September 2020.

- **The last trading day & Expiry**: The Winter contract is tradable until 28th Sep and will expire on the 3rd ECC business day prior to delivery (Delivery starts on 1st Oct).
- **Cascading**: The winter contract will be cascaded (two times).
  - 1st Cascading will be after the trading hour of 28th Sep. The seasonal contract will be cascaded into three monthly contracts (Oct, Nov, Dec) + one Quarterly contract (Q1 2021).
  - 2nd Cascading will be after the trading hour of 29th Dec. The quarterly contract will be cascaded into three monthly contracts (Jan, Feb, Mar).
**1\textsuperscript{st} Cascading with new position and new price**

Example: Purchase 1 MW of Tokyo Baseload for Winter Season (October 2020 – March 2021) at 7.00 yen/ kWh on 1\textsuperscript{st} September 2020.

1\textsuperscript{st} cascading on 28\textsuperscript{th} Sep.

- New pricing for the new position will be the settlement price on the cascading day.
- Variation margin on cascading day will be calculated by netting of existing and new positions.
- Settlement prices of Pre-cascading and Post-cascading contracts (weighted average of new prices) will be same.

<table>
<thead>
<tr>
<th>Contract</th>
<th>Delivery</th>
<th>Position</th>
<th>Transaction Type</th>
<th>Transaction price (JPY/kWh)</th>
<th>Settlement price on 28\textsuperscript{th} Sep</th>
<th>Contract size (MWh)</th>
<th>Variation Margin (K JPY)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Winter 2021</td>
<td>Season</td>
<td>1</td>
<td>Existing position</td>
<td>Previous settlement price at 7.38</td>
<td>7.40</td>
<td>4,368</td>
<td>+87.36</td>
</tr>
<tr>
<td>Winter 2021</td>
<td>Season</td>
<td>-1</td>
<td>Expiry</td>
<td></td>
<td></td>
<td></td>
<td>-4,368</td>
</tr>
<tr>
<td>Oct20</td>
<td>Month</td>
<td>1</td>
<td>New position 1</td>
<td>Cascade price 7.40</td>
<td>6.25</td>
<td>744</td>
<td>-855.6</td>
</tr>
<tr>
<td>Nov20</td>
<td>Month</td>
<td>1</td>
<td>New position 1</td>
<td>Cascade price 7.40</td>
<td>6.40</td>
<td>720</td>
<td>-720</td>
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<tr>
<td>Dec20</td>
<td>Month</td>
<td>1</td>
<td>New position 1</td>
<td>Cascade price 7.40</td>
<td>7.75</td>
<td>744</td>
<td>+260.4</td>
</tr>
<tr>
<td>Q1 21</td>
<td>Quarter</td>
<td>1</td>
<td>New position 1</td>
<td>Cascade price 7.40</td>
<td>8.00</td>
<td>2,160</td>
<td>+1,296</td>
</tr>
</tbody>
</table>

New position after cascading 1

<table>
<thead>
<tr>
<th>Total size</th>
<th>Total VM</th>
</tr>
</thead>
<tbody>
<tr>
<td>4,368</td>
<td>+68.16</td>
</tr>
</tbody>
</table>
2\textsuperscript{nd} Cascading with new position and new price

Example: Purchase 1 MW of Tokyo Baseload for Winter Season (October 2020 – March 2021) at 7.00 yen/kWh on 1\textsuperscript{st} September 2020.

2\textsuperscript{nd} cascading on 29\textsuperscript{th} Dec.

<table>
<thead>
<tr>
<th>Contract</th>
<th>Delivery</th>
<th>Position</th>
<th>Transaction Type</th>
<th>Transaction price (JPY/kWh)</th>
<th>Settlement price on 29\textsuperscript{th} Dec</th>
<th>Contract size (MWh)</th>
<th>Variation Margin (K JPY)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Winter 2021</td>
<td>Season</td>
<td>1</td>
<td>Existing position</td>
<td></td>
<td>Expired</td>
<td>4,368</td>
<td></td>
</tr>
<tr>
<td>Winter 2021</td>
<td>Season</td>
<td>-1</td>
<td>Expiry</td>
<td></td>
<td>Expired</td>
<td>-4,368</td>
<td></td>
</tr>
<tr>
<td>Oct20</td>
<td>Month</td>
<td>1</td>
<td>New position 1</td>
<td></td>
<td>Expired</td>
<td>744</td>
<td></td>
</tr>
<tr>
<td>Nov20</td>
<td>Month</td>
<td>1</td>
<td>New position 1</td>
<td></td>
<td>Expired</td>
<td>720</td>
<td></td>
</tr>
<tr>
<td>Dec20</td>
<td>Month</td>
<td>1</td>
<td>New position 1</td>
<td>Previous settlement price at 7.88</td>
<td>7.90</td>
<td>744</td>
<td>+14.88</td>
</tr>
<tr>
<td>Q1 21</td>
<td>Quarter</td>
<td>1</td>
<td>Existing position</td>
<td>Previous settlement price at 8.48</td>
<td>8.50</td>
<td>2,160</td>
<td>+43.2</td>
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<tr>
<td>Q1 21</td>
<td>Quarter</td>
<td>-1</td>
<td>Expiry</td>
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<td></td>
<td>-2,160</td>
<td></td>
</tr>
<tr>
<td>Jan21</td>
<td>Month</td>
<td>1</td>
<td>New position 2</td>
<td>Cascade price 8.50</td>
<td>8.45</td>
<td>744</td>
<td>-37.2</td>
</tr>
<tr>
<td>Feb21</td>
<td>Month</td>
<td>1</td>
<td>New position 2</td>
<td>Cascade price 8.50</td>
<td>9.00</td>
<td>672</td>
<td>+336</td>
</tr>
<tr>
<td>Mar21</td>
<td>Month</td>
<td>1</td>
<td>New position 2</td>
<td>Cascade price 8.50</td>
<td>8.10</td>
<td>744</td>
<td>-297.6</td>
</tr>
</tbody>
</table>

New position after cascading 2

Total size 4,368
Total VM +59.28
Cascading – Fulfillment/ Final settlement

- After cascading, new contracts are tradable independently until the expiry of each monthly contract and fulfilment will also be done separately per month.
- Each final settlement price follows monthly contracts, and the cash settlement will be done separately on 2nd ECC business days after the expiry.

<table>
<thead>
<tr>
<th></th>
<th>20-Sep</th>
<th>20-Oct</th>
<th>20-Nov</th>
<th>20-Dec</th>
<th>21-Jan</th>
<th>21-Feb</th>
<th>21-Mar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade price for Winter 20 (JPY/kWh)</td>
<td></td>
<td>7.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Final Settlement Price (JPY/kWh)</td>
<td>6.35</td>
<td>6.80</td>
<td>7.90</td>
<td>8.50</td>
<td>9.00</td>
<td>7.80</td>
<td></td>
</tr>
<tr>
<td>Contract volume (MWh)</td>
<td>744</td>
<td>720</td>
<td>744</td>
<td>744</td>
<td>672</td>
<td>744</td>
<td></td>
</tr>
<tr>
<td>Difference (JPY/kWh)</td>
<td>-0.65</td>
<td>-0.20</td>
<td>0.90</td>
<td>1.50</td>
<td>2.00</td>
<td>0.80</td>
<td></td>
</tr>
<tr>
<td>Profit and Loss (K JPY)</td>
<td>-483.6</td>
<td>-144</td>
<td>669.6</td>
<td>1116</td>
<td>1344</td>
<td>595.2</td>
<td></td>
</tr>
<tr>
<td>Cash settlement day</td>
<td>Nov 3rd</td>
<td>Dec 2nd</td>
<td>Jan 5th</td>
<td>Feb 2nd</td>
<td>Mar 2nd</td>
<td>Apr 1st</td>
<td></td>
</tr>
</tbody>
</table>

Total Profit from this transaction is 3,097.2 (K JPY)
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EEX Group DataSource Services: Overview

EEX offers four data packages;

- sFTP
- API
- Excel Tool
- Desktop App

Advantages:
- are tailored to customers’ needs
- follow market standards
- offer highspeed data connection
- are easy to access

Find out more about EEX Group DataSource.

Information Services
Phone: +49 341 2156-288
E-mail: datasource@eex-group.com

www.eex.com > Market Data > EEX Group DataSource
EEX Group DataSource Services: Details

sFTP
- **Service Description**
  - Aggregated trade data including settlement prices
  - Standardized csv & xlsx files
  - Frequency: end-of-day
- **How to connect**
  - Easy access via ftp client
  - Automatic and manual access downloads

API
- **Service Description**
  - Tick trade data including settlement prices
  - Standardized xml or json response
  - Frequency: real-time
- **How to connect**
  - Easy webservice access through the internet
  - Automatic access

Excel Tool
- **Service Description**
  - Tick trade data including settlement prices
  - Automatable data import
  - Support of Excel analytical capabilities
  - Frequency: real-time
- **How to connect**
  - Direct download of plug-in from EEX Website
  - Accessible online and offline

Desktop App
- **Service Description**
  - Tick trade data including settlement prices
  - Customisable views for quotes, charts and curves
  - Automatic data updates
  - Frequency: real-time
- **How to connect**
  - Easy access via App download from eex.com

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Subscription for Japan power is free of charge until end of 2020

Subscription is required. Included in EEX derivative data.
EEX Group DataSource Services: access

https://webshop.eex-group.com/

Free-of-charge promotion for sFTP and Excel Tool will be automatically considered in the subscription process. For beta API version, contact datasource@eex-group.com
EEX Japan Power Futures
Questions & Answers