



# **ECC – Review and new developments**

Leipzig, 9 June 2011

# AGENDA

1 X-Margining Improvements

2 Improvements of ECC's invoicing process

# X-Margining Improvements

## Rationale of Change

Current margin methodology is not yet fully optimized for commodity clearing:

- insufficiently consideration of spread positions and of near risk free positions
- Options only include Delta Risk. Vega Risk in Options was incorporated with EUREX 13.1
- No margin offsetting between different commodities (e.g. no offsetting between gas and power)

## Requirements of ECC

- The new system must be easy to understand.
- The system should easily integrate itself in the EUREX infrastructure.
- Improve the margin calculation but also sufficiently cover the risk.

# X-Margining Improvements

## Future Margin Logic

### **Level 1:** Offsetting Futures and corresponding Options

### **Level 2:** Offsetting of (nearly) risk free combinations e.g.:

- Year vs 4 Quarters
- Year vs Season + 2 Quarters
- Quarter vs Months
- Peak + Offpeak vs Base

### **Level 3:** Spreading for contracts

- Time Spread
- Location Spread
- Cross Commodity Spread
- Term Spread
- Profile Spread
- To be evaluated: Clean Dark Spread, Clean Spark Spread



# X-Margining Improvements

## Introduction of SPAN<sup>®</sup>

SPAN<sup>1</sup> is an off the shelf margin system that is used by 50 exchanges, clearing houses and other entities worldwide.

SPAN<sup>®</sup> enables ECC to implement an improved cross commodity margining

- More flexibility in the spreading functionality: SPAN<sup>®</sup> allows more flexible definition of spreads between different asset classes, commodities and maturities. For these spreads margin credits can be calculated. Analysis has shown that most trading participants will benefit from the spreading functionality.
- Margin Parameters in SPAN<sup>®</sup> standard format: By using SPAN<sup>®</sup> ECC will provide standard SPAN<sup>®</sup> files containing the margin parameters.

Launch planned for **November, 2011**

<sup>1</sup> Standard Portfolio Analysis of Risk; SPAN<sup>®</sup> is a registered trademark of Chicago Mercantile Exchange Inc. Chicago Mercantile Exchange Inc. assumes no liability in connection with the use of SPAN<sup>®</sup> by any person or entity.

# X-Margining Improvements

## Simplified example existing Risk Based Margining

<b>Portfolio</b>	<b>1 L F1BY Cal 12</b> Phelix baseload year contract	<b>1 S F2BY Cal 12</b> French baseload year contract
<b>Volume</b>	$24 \times 366 = 8784 \text{ MWh}$	$24 \times 366 = 8784 \text{ MWh}$
<b>Additional Margin Parameter</b>	2.7 EUR / MWh	3.4 EUR / MWh
<b>Margin Requirement</b>	$\max\{2.7 \cdot 8784 \cdot 1; 3.4 \cdot 8784 \cdot 1\} = \mathbf{29,865.6 \text{ EUR}}$	
<b>Margin Group</b>	ECQY	

# X-Margining Improvements Behaviour of the Futures



# X-Margining Improvements

## Simplified example in SPAN® (1/2)

SPAN considers the high correlation of the futures by applying a Margin Credit  $\beta$ .

$$SPAN_{\beta} = M_1 + M_2 - 2\beta \min(M_1, M_2)$$

The portfolio considered:

Product	AMP	p	M
F1BY	2.56	8784	= 2.56 x 8784 = 22,487.04 EUR
F2BY	2.66	8784	= 2.66 x 8784 = 23,365.44 EUR

# X-Margining Improvements

Simplified example in SPAN® (2/2)

$$\begin{aligned}SPAN_{\beta} &= M_1 + M_2 - 2\beta \min(M_1, M_2) \\ &= 22,487.04 + 23,365.44 - 2 \cdot 0.78502 \cdot 22,487.04 \\ &= 10,546.93 \text{ EUR}\end{aligned}$$

In the old system this portfolio would require margins of 29,865.60 EUR

# X-Margining Examples

## Risk Free Spreads

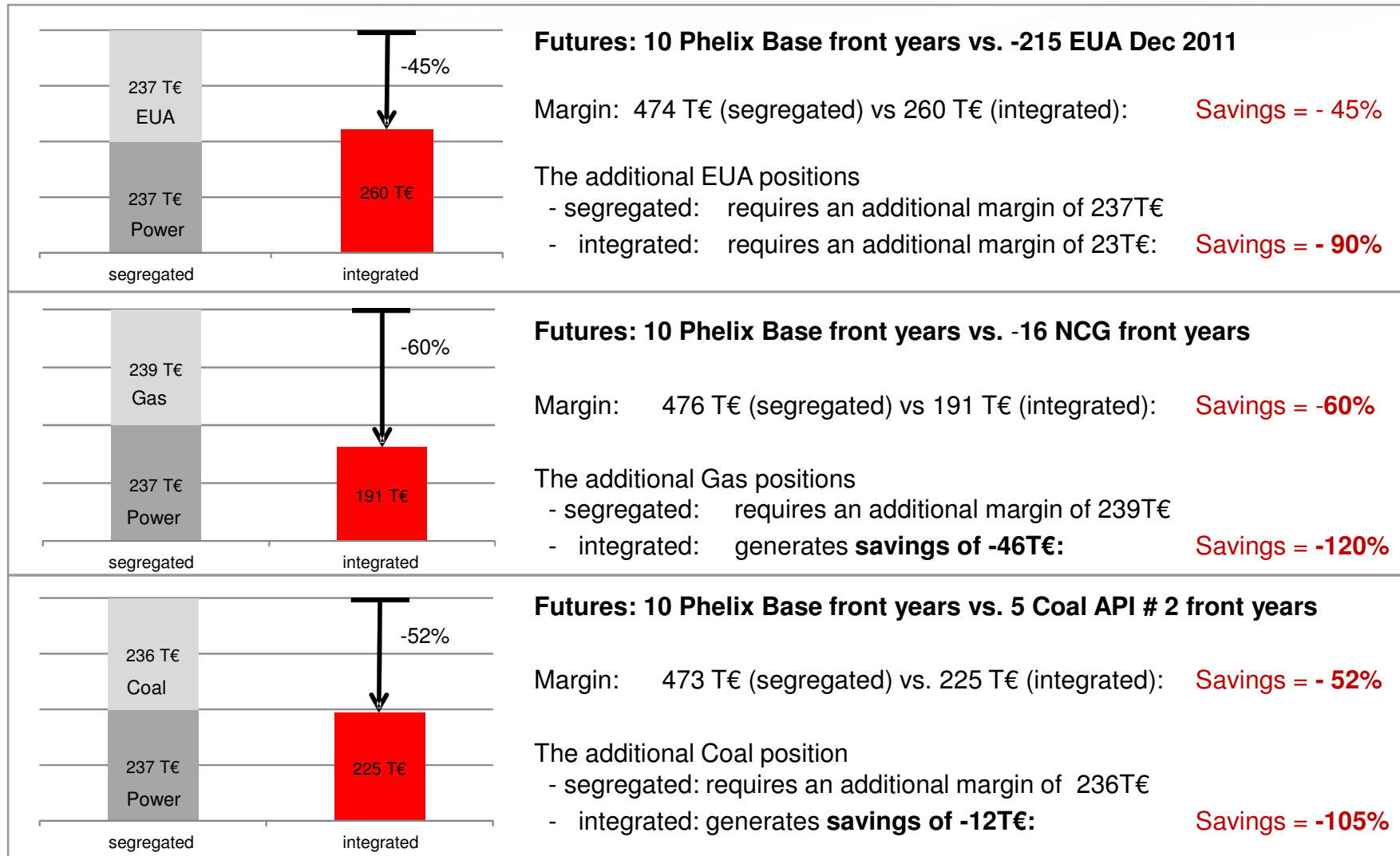
Contract	Net Position in Contracts	Contract Size in MWh	Net Position in MWh	Margin Parameter (AMP) in €/MWh	Margin-Requirement in €
F1BY012012	+1	366d·24h/d = 8784	+8784	2.56	2.56·8784 = 22,487€
F1BQ012012	-1	91d·24h/d = 2184	-2184	2.78	2.78·2184 = 6,072€
F1BQ042012	-1	91d·24h/d = 2184	-2184	2.89	2.89·2184 = 6,312€
F1BQ072012	-1	92d·24h/d = 2208	-2208	2.72	2.72·2208 = 6,006€
F1BQ102012	-1	92d·24h/d = 2208	-2208	2.84	2.84·2208 = <u>6,271€</u>
					Total = <u>47,148€</u>

A year contract can be split into 4 quarters leaving a risk free position. To adjust for possible rounding differences the remaining risk is assumed with 1%; i.e. the Spread Credit for risk free spreads is 99%. The calculation of the margin requirement after spreading is:

$$Margin_{Spreading} = 47,148 \text{ €} \cdot 0.01 = 471.48 \text{ €}$$

# X-Margining Improvements

## Margin savings examples



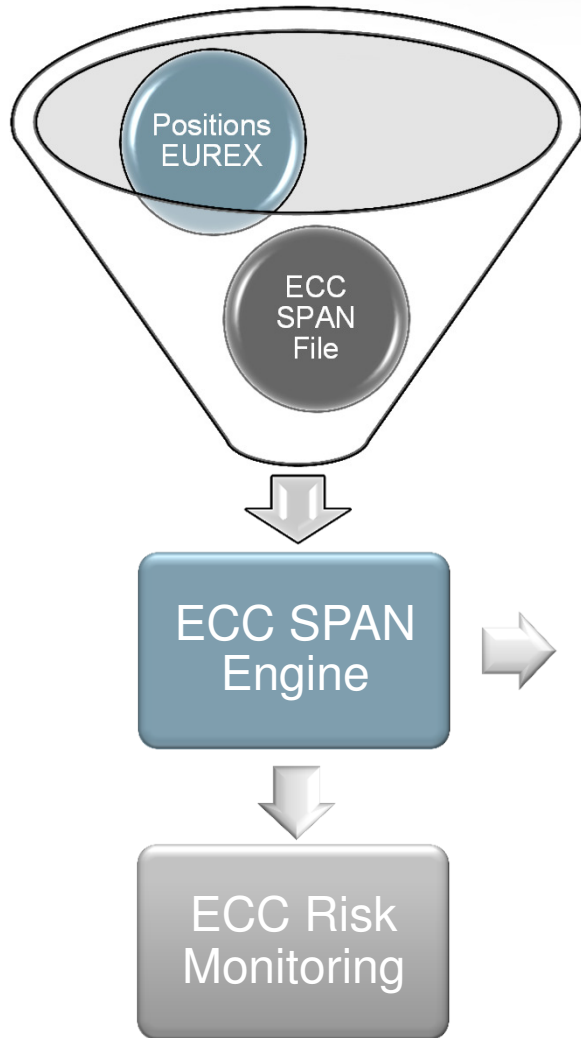
# X-Margining Improvements

## Expected margin savings from spread positions

	German Power	French Power	Belgian Power	Dutch Power	UK Power	NCG/ GPL Gas	TTF Gas	PEG Gas	EUAs	CERs	Coal
German Power	55% (100%) 100%	35% (80%) 80%	55% (80%) 80%	55% (85%) 85%	45% (55%) 60%	40% (60%) 60%	45% (60%) 60%	40% (55%) 55%	40% (50%) 55%	40% (45%) 45%	30% (55%) 55%
French Power	35% (80%) 80%	40% (100%) 100%	50% (75%) 75%	40% (75%) 75%	35% (55%) 55%	35% (60%) 60%	40% (60%) 60%	40% (55%) 55%	35% (50%) 55%	35% (40%) 45%	30% (50%) 50%
Belgian Power	55% (80%) 80%	50% (75%) 75%	55% (100%) 100%	60% (80%) 80%	45% (55%) 55%	40% (60%) 60%	45% (60%) 60%	40% (60%) 60%	40% (50%) 55%	40% (40%) 45%	35% (55%) 55%
Dutch Power	55% (85%) 85%	40% (75%) 75%	60% (80%) 80%	40% (100%) 100%	45% (60%) 60%	40% (60%) 60%	45% (60%) 60%	45% (60%) 60%	40% (50%) 55%	40% (45%) 45%	35% (55%) 55%
UK Power	45% (55%) 60%	35% (55%) 55%	45% (55%) 55%	45% (60%) 60%	75% (100%) 100%	50% (65%) 70%	65% (75%) 75%	65% (75%) 75%	35% (40%) 40%	35% (35%) 40%	40% (55%) 55%
NCG/ GPL Gas	40% (60%) 60%	35% (60%) 60%	40% (60%) 60%	40% (60%) 60%	50% (65%) 70%	55% (100%) 100%	55% (80%) 80%	60% (70%) 75%	30% (40%) 45%	35% (40%) 40%	30% (50%) 50%
TTF Gas	45% (60%) 60%	40% (60%) 60%	45% (60%) 60%	45% (60%) 60%	65% (75%) 75%	55% (80%) 80%	80% (100%) 100%	70% (80%) 85%	35% (40%) 45%	35% (35%) 40%	35% (50%) 50%
PEG Gas	40% (55%) 55%	40% (55%) 55%	40% (60%) 60%	45% (60%) 60%	65% (75%) 75%	60% (70%) 75%	70% (80%) 85%	65% (100%) 100%	35% (35%) 45%	35% (35%) 40%	35% (50%) 50%
EUAs	40% (50%) 55%	35% (50%) 55%	40% (50%) 55%	40% (50%) 55%	35% (40%) 40%	30% (40%) 45%	35% (40%) 45%	35% (35%) 45%	85% (100%) 100%	70% (75%) 80%	30% (30%) 35%
CERs	40% (45%) 45%	35% (40%) 45%	40% (40%) 45%	40% (45%) 45%	35% (35%) 40%	35% (40%) 40%	35% (35%) 40%	35% (35%) 40%	70% (75%) 80%	85% (100%) 100%	30% (35%) 35%
Coal	30% (55%) 55%	30% (50%) 50%	35% (55%) 55%	35% (55%) 55%	40% (55%) 55%	30% (50%) 50%	35% (50%) 50%	35% (50%) 50%	30% (30%) 35%	30% (35%) 35%	55% (100%) 100%

# X-Margining Improvements

## Process flow



ECC calculates the margin requirements every 10 minutes

Margin Class: SPAN

# X-Margining Improvements

## Needed files

## Required Files if you want to calculate on your own

### SPN File

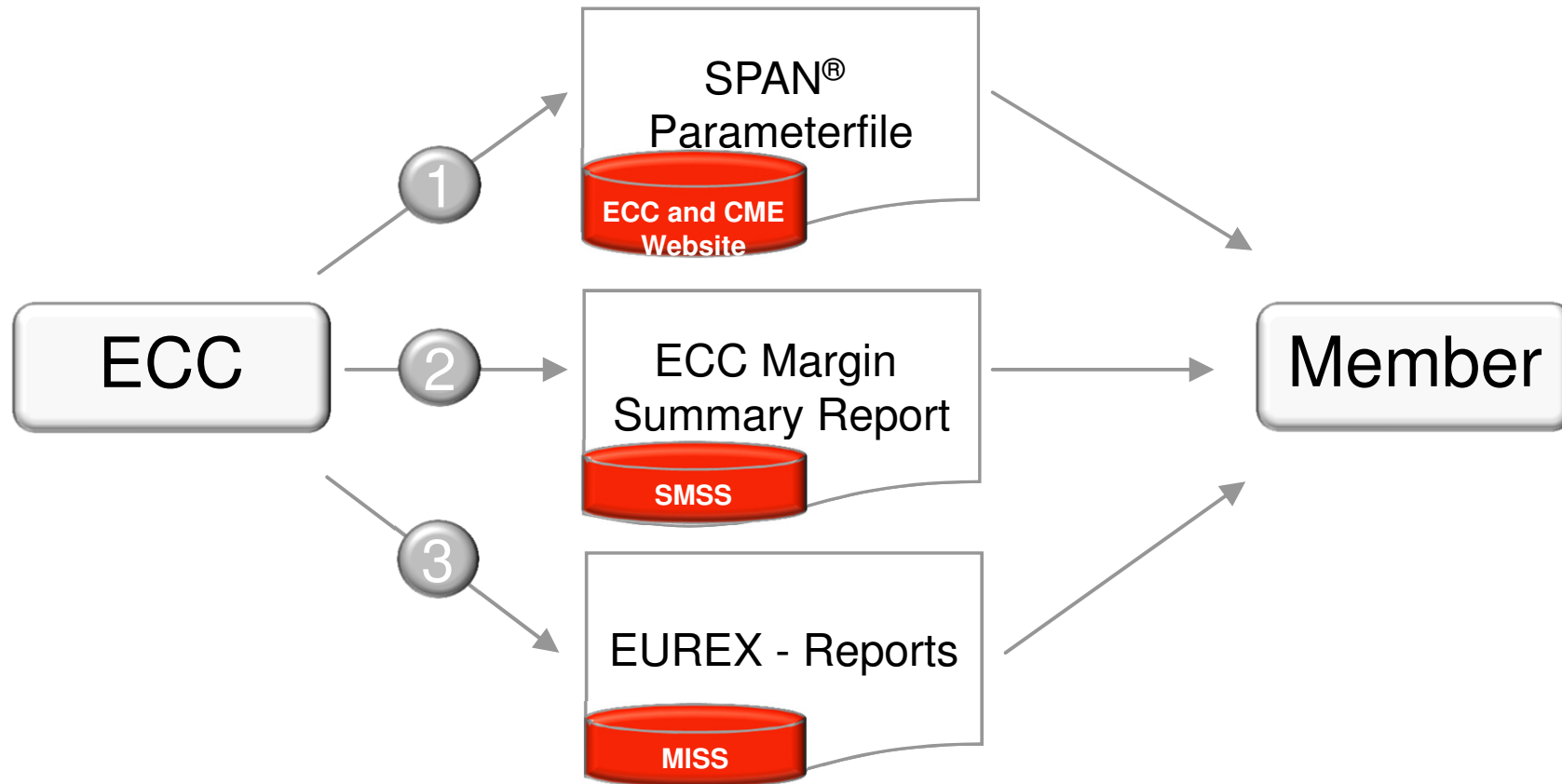
ECC will provide a SPN File on a daily basis. This file includes all parameters and definitions that SPAN<sup>®</sup> needs to operate.

### POS File

The POS File includes the positions in a special format that you want to calculate margins for. If you want to calculate your own margin requirements you need to generate a POS file on your own. A specification can be requested from ECC if required.

# X-Margining Improvements Infrastructure

## Offered Infrastructure



# X-Margining Improvements Infrastructure

- Offered Infrastructure

1

The SPAN<sup>®</sup> Parameter File will be provided daily on ECC's website / CME's ftp. Files can be downloaded as required.

2

ECC will provide a dedicated margin report with all margins ECC is demanding.

3

SPAN<sup>®</sup> will be integrated in the EUREX environment. You find the margin requirements in a dedicated Margin Class ("SPAN") in the respective EUREX reports (e.g. CC050 Report)

- Reporting

- The SPAN<sup>®</sup> margin requirement will be available in the EUREX Reporting and ECC's own reporting.



# AGENDA

**1** X-Margining Improvements

**2** Improvements of ECC's invoicing process

# Improvements of ECC's invoicing process

## Current situation (1/2)

- Current situation:
  - ECC issues only clearing-related invoices
  - ECC provides additional services for partner exchanges (debit of exchange-related fees by using ECC's infrastructure for APX-ENDEX, EEX, EPEX Spot, PWX)



# Improvements of ECC's invoicing process

## Current situation (2/2)

- All partner exchanges issue their invoices by themselves
- Subscription of monthly invoice reports via ECC Member Area only possible for ECC invoices

### REPORT SUBSCRIPTION

#### VALID SUBSCRIPTIONS

Type	Scope	Format	Frequency	Channel	Action
Invoice	Summary	Pdf	Monthly	E-mail	<a href="#">Edit</a> <a href="#">Delete</a>

## Improvements of ECC's invoicing process






### Planned situation

- To provide further services to their trading participants and to profit from ECC's infrastructure EEX AG, EPD GmbH and EPEX Spot SE have decided to mandate ECC with generation of the invoices of their transaction fees
- starting **Autumn 2011**.
- This results in several **improvements** for Clearing Members and Trading Participants:
  - EEX, EPD and EPEX transaction fees are stated in ECC's standard reports (e.g. daily Trade Report)
  - Harmonised invoice layouts based on the current ECC invoice layout for EEX, EPD and EPEX invoices
  - Subscription to EEX, EPD and EPEX Invoice Reports via ECC's Member Area possible
- ECC will create separate invoices for each exchange. Therefore the respective reporting can be ordered separately as well.

# Improvements of ECC's invoicing process

## Planned situation

In future ECC will create invoices for the following companies:

Company	Fee type
ECC AG 	Clearing fees for transactions without physical delivery
ECC Luxembourg S.á.r.l. 	Clearing fees for transactions with physical delivery
EEX AG 	Exchange fees for transactions concluded at EEX (Emissions, Gas)
EPD GmbH 	Exchange fees for transactions concluded at EPD
EPEX Spot SE 	Exchange fees for transactions concluded at EPEX Spot

## Improvements of ECC's invoicing process

### Planned situation

Further improvements are planned in connection with this project:

- Possibility to chose different invoicing addresses per invoice type
- Possibility to state invoicing address and the company's main address on the invoices
- NCM03 form (“Placing of a Debit Order”) no longer necessary, as all invoiced amounts are settled via the respective Clearing Member (see next slides)
- Consecutive invoice number system was introduced per company and year for ECC invoices and will be adopted to invoices of exchanges

# Improvements of ECC's invoicing process Set-up

## New “Payment Groups”

- All through ECC debited amounts will be integrated in the following Payment Groups:
  - EUR\_FEE
  - GBP\_FEE

## New “Invoice-Product-Groups”

- Set-up of separate product groups for amounts debited on behalf of ECC's partner exchanges APX-ENDEX and POWERNEXT:
  - EXCHANGE\_TradeType\_FeeType\_FEE*
    - EDX\_FS\_EXCHANGE\_FEE  
(Debit of fees on behalf of APX-ENDEX)
    - PWX\_FS\_EXCHANGE\_FEE  
(Debit of fees on behalf of POWERNEXT)
- Standard Payment Reports available (Scope: Summary and Detail, format: XML and PDF)

# Improvements of ECC's invoicing process

## Sample Reports

Payment Group: EUR\_FEE

**PAYMENT REPORT SUMMARY – SIMU\_C\_ABCEX\_VC\_PRS\_EUR\_EUR\_2011-03-08**

Report frequency: DAILY      Report from: 2011-03-08 to 2011-03-08      Report generated on: 2011-03-08      Page 1/1

Clearing Member	Trading Participant	Debit/Credit	Payment Amount	Payment Date	Payment Group	ECC Payment ID	External Payment ID
ABCEX	DEFEX	Debit	36,952.65 €	2011-03-08	EUR_FEE	17272	123ZYX
<b>Totals:</b>		Debit	36,952.65 €	2011-03-08	EUR_FEE	17272	123ZYX

**PAYMENT REPORT DETAIL – SIMU\_C\_ABCEX\_VC\_PRD\_EUR\_FEE\_2011-03-08**


Report frequency: DAILY      Report from: 2011-03-08 to 2011-03-08      Report generated on: 2011-03-08

Exchange Trade ID / Sub-ID	Transaction Timestamp	ECC Product ID	Exchange Product ID	Exchange/OTC	Buy/Sell	Total Quantity	Delivery Start	Delivery End	Price
Exchange	Trading Participant	Clearing Member	Payment Amount Commodity	Payment Amount Domestic VAT	Payment Amount Foreign VAT	Payment Date	ECC Fee	ECC Fee Domestic VAT	ECC Fee Foreign VAT
Exchange Fee	Exchange Fee Domestic VAT	Exchange Fee Foreign VAT	Exchange Trader ID	Exchange Trading Account	Exchange Text Field	Delivery Account	ECC Transaction ID	ECC Payment ID	ECC Delivery ID
GAS-12-TEST / 0	2011-03-07 00:00	PWX_FS_EXCHANGE_FEE	EXCHANGE	X	B	36,952.6 EUR	2011-02-28 00:00	2011-02-28 00:00	1.00 €
PWX	DEFEX	ABCEX	36,952.65 €	0.00 €	0.00	2011-03-08	0.00 €	0.00 €	0.00 €
0.00 €	0.00 €	0.00 €		INV	—	No physical delivery	24204336	17272	—

Product Group:  
PWX\_FS\_EXCHANGE\_FEE

# Improvements of ECC's invoicing process

## Sample invoice for European Energy Exchange



European Energy Exchange AG  
Augustusplatz 9, 04109 Leipzig

ABC GmbH Wesensstrasse 1 11111 Berlin Germany	Accounting & Tax Tel.: +49 (0) 341 2156-412 Fax: +49 (0) 341 2156-449 E-Mail: finances@eex.com
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2011-01-31

Invoice/Credit Note, No. 2011-  
For the period of service from 2011-01-01 to 2011-01-31

Tax ID:  
VAT ID: DE 123 456 789

**Invoice / Self-Bill Invoice Summary**

Invoice Item	Fees	Domestic VAT 19%	Gross
Purchases	420.00	47.50	467.50
Sales	375.00	47.50	422.50
<b>Total Gross</b>			<b>890.00</b>

The total fee amount of 890.00 € (including VAT) will be debited on Mon, January 31, 2011 via your Clearing Member.

**Attachments:**

- Invoice /Self-Bill Invoice Details

European Energy Exchange AG Augustusplatz 9 04109 Leipzig HRB 18 409 Leipzig VAT-ID: DE 222 118 427 Tax-No.: 231 / 100 / 03900	Management Board Dr. Christian Mira Iris Weidinger Supervisory Board Dr. Jirgen Krosenberg (Chairman)	Contact Phone: +49 (0) 341 2156-0 Fax: +49 (0) 341 2156-109 E-Mail: info@eex.com Web: www.eex.com
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1/1

- Invoices contain general information regarding the invoice period, product, quantity and the exchange fee
- More detailed information is shown in the Invoice Report Detail (e.g. which contract was traded, number of contracts, trading accounts, mistrades etc.)

Invoice /Self-Bill Invoice Number 2011

**Invoice Details**

1. Trading of Future Transactions

1.1. Purchases

Product	Quantity Mwh	Exchange Fee	Domestic VAT 19%	Gross
EEX_FT_NATGAS_NCG	100,000.0	250.00	47.50	297.50
EEX_FT_NATGAS_GPL	50,000.0	125.00	23.75	148.75
<b>Total over all products</b>		<b>375.00</b>	<b>71.25</b>	<b>446.25</b>

Product	Quantity t	Exchange Fee	Domestic VAT 19%	Gross
EEX_FT_EUA_DMS	25,000.0	45.00	8.55	53.55
<b>Total over all products</b>		<b>45.00</b>	<b>8.55</b>	<b>53.55</b>

1.2 Sales

Product	Quantity Mwh	Exchange Fee	Domestic VAT 19%	Gross
EEX_FT_NATGAS_NCG	100,000.0	250.00	47.50	297.50
EEX_FT_NATGAS_GPL	50,000.0	125.00	23.75	148.75
<b>Total over all products</b>		<b>375.00</b>	<b>71.25</b>	<b>446.25</b>

Invoice /Self-Bill Invoice Number 2011-      Invoice Details      Invoice Date 2011-01-31

# Improvements of ECC's invoicing process

## ECC Settlement via CM's

### Current situation

- The Trading Participant needs to decide if he wants ECC to debit the invoiced amounts via
  - direct debit authorisation from a German bank account or
  - via its Clearing Member

Please note: This applies for amounts invoiced through ECC and amounts ECC debits on behalf of their partner exchanges!

### Planned changes

- ECC will set-up an additional payment group for debiting of various fees and therefore have the possibility to integrate the settlement of invoicing amounts into the standard ECC payment procedures.
- Separate Payment Reports available (Scope: Summary and Detail, format: XML and PDF)



Thank you for your attention!

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