Annual financial statements as at 31 December 2018 and management report

TRANSLATION - AUDITOR'S REPORT

European Commodity Clearing AG
Leipzig

KPMG AG Wirtschaftsprüfungsgesellschaft

European Commodity Clearing AG, Leipzig

Balance sheet as of 31st December 2018

Assets

	€	31.12.2018 €	31.12.2017 €
1. Cash reserve			
Central bank balances	5.583.227.233	5.583.227.233	2.340.697.895
2. Accounts receivable from credit institutions			
a) Due every day	35.409.573		8.698.446
b) Other accounts receivable	1.293.235	36.702.808	680.162
3. Accounts receivable from customers	40.451.806	40.451.806	23.970.353
4. Shares in affiliated companies	18.500	18.500	18.500
5. Trust assets	1.348.573.291	1.348.573.291	344.095.572
6. Intangible assets			
a) Acquired concessions, commercial trademarks and similar rights and values, Licenses	15.419.006		16.234.841
b) Goodwill	-	15.419.006	-
7. Property, plant and equipment	15.627	15.627	16.938
8. Other assets	23.251.114	23.251.114	14.987.319
9. Deferred expenses and accrued income	1.537.952	1.537.952	1.900.723
10. Excess of plan assets over pension liabilities	7.329	7.329	9.451
Total assets		**7.049.204.666**	**2.751.310.200**

Liabilities

	€	31.12.2018 €	31.12.2017 €
1. Liabilities to credit institutions			
due every day	1.777.585.402	1.777.585.402	753.999.504
2. Liabilities to customers	3.755.396.898	3.755.396.898	1.539.472.202
3. Trust liabilities	1.348.573.291	1.348.573.291	344.095.572
4. Other liabilities	47.783.909	47.783.909	20.272.778
5. Accruals and deferrals	-	-	-
6. Deferred tax liabilities	-	-	-
7. Provisions			
a) Provisions for pensions and similar commitments	-		-
b) Tax provisions	-		-
c) Other provisions	10.930.315	10.930.315	4.535.293
8. Equity			
a) Subscribed capital	1.015.227		1.015.227
b) Capital reserve	74.300.495		54.300.495
c) Retained earnings			
Other retained earnings	33.619.129		33.619.129
d) Balance sheet profit	-	108.934.851	
Total liabilities		**7.049.204.666**	**2.751.310.200**
1. Contingent liabilities			
Liabilities from guarantees and guarantee contracts	521.466.862	521.466.862	324.387.644

European Commodity Clearing AG, Leipzig

Profit and Loss Account
for the Period from 1st January 2018 to 31st December 2018

		2018 €	2018 €	2018 €	2017 €
1.	Interest income from				
	a) Credit and money market transactions		17.297.764		10.461.096
2.	Negative interest from financial investments		14.270.475	3.027.289	9.938.112
3.	Current income from investments in affiliated companies			0	68.273
4.	Income from commission fees		81.369.149		68.880.430
5.	Expenses from commission fees		4.848.153	76.520.996	4.482.026
6.	Other operating income			7.425.256	3.808.114
7.	General administrative expenses				
	a) Human resources expenses				
	aa) Wages and salaries	6.614.420			4.741.277
	ab) Social insurance contributions and expenses	1.313.772	7.928.192		1.094.916
	b) Other administrative expenses		24.829.144	32.757.337	19.136.130
8.	Depreciation, Amortization and value adjustment of intangible assets and property, plant and equipment			2.199.864	1.681.752
9.	Other operating expenses			2.127.321	928.420
10.	**Result of ordinary operations**			**49.889.018**	**41.215.280**
11.	Extraordinary expenses				
12.	Taxes on income and profit			-41.152	-
13.	Profit transfer			-49.930.170	- 41.215.280
14.	**Annual profit**			**0**	**0**
15.	Profit carried forward from the previous year				
16.	Additions to retained income				
17.	a) to other retained income				
18.	**Balance sheet profit**			**0**	**0**

KPMG

Annual Financial Statement as of 31st December 2018 and Management Report

AUDIT OPINION

European Commodity Clearing AG
Leipzig

KMPG AG Wirtschaftsprüfungsgesellschaft

European Commodity Clearing AG, Leipzig
2018 N O T E S

The annual financial statement of European Commodity Clearing AG (ECC) for the financial year 2018 was prepared in accordance with the provisions of the German Commercial Code and of the German Companies Act as well as the Ordinance Regulating the Accounting Requirements for Financial Institutions and Financial Service Providers (RechKredV). The income statement according to RechKredV has a graded structure (form 3). The development of the individual items of the fixed assets is shown separately.

ECC is a subsidiary of European Energy Exchange AG (EEX), Leipzig. It is included in the consolidated financial statement of EEX and of Deutsche Börse AG (Deutsche Börse), Frankfurt am Main. Both are available at the German electronic gazette (www.bundesanzeiger.de). ECC is registered in the commercial register of Leipzig Local Court in section B under no. 22362.

ECC is the sole shareholder of European Commodity Clearing Luxembourg S.à r.l. (ECC Luxembourg). ECC Luxembourg is included in the commodity delivery chain (power and gas). The exemption from the requirement to prepare a subgroup financial statement is used in accordance with Art. 291 Paragraph 1 HGB.

A profit-and-loss transfer agreement has been concluded by and between ECC and EEX.

1. Accounting and valuation principles

General principles

Accounting and valuations are effected in accordance with the general accounting and invoicing provisions for capital companies according to HGB in compliance with the supplementary provisions of AktG and the Ordinance Regulating the Accounting Requirements for Financial Institutions and Financial Service Providers (RechKredV). The provisions regarding large public corporations contained in Art. 340a Paragraph 1 HGB were used. The going concern principle was applied; assets and liabilities were assessed individually. A cautious assessment was effected, i.e. all foreseeable risks and losses which were incurred up until the balance sheet date were taken into account.

Cash in foreign currencies has been valued with an effect on income on the basis of the exchange rate on the balance sheet date.

Central bank balances

The balances were assessed at the nominal value.

Accounts receivable and other assets

The accounts receivable and other assets were assessed at the nominal value less required single value adjustments.

The trade accounts payable and receivable with regard to ECC Luxembourg existing on the balance sheet date were netted out since the preconditions for an offsetting situation are fulfilled. The actual offsetting situation towards ECC Luxembourg corresponds to the ECC Clearing Conditions at the time of the settlement and fulfilment of the corresponding transactions to the respective trading participants. Netted-out reporting serves to improve the clarity and comprehensibility of the annual financial statement.

Shares in affiliated companies

Affiliated companies were assessed at their acquisition costs.

Trust assets and liabilities

ECC has an account for inventory management of emission allowances at the Union registry. In accordance with the Clearing Conditions, participants in exchange trading in EU allowances (EUA) or Certified Emission Reductions (CER) submit emission allowances to the ECC account at the Union registry. The inventories of these emission allowances are booked in the registry account kept by ECC and held in custody. As the fulfilling company, ECC holds all allowances for the trading participants involved. The above situation fulfils the criteria of holding in one's own name for third-party account and, as a result, requires balance sheet reporting of the trust relationships according to Art. 6 Paragraph 1 RechKredV. On 31st December 2018, these emission allowances held in trust accounted for an inventory of 55,491,589 allowances having a market value of € 1,348,573,291. ECC is required to return these emission allowances held in trust at any time and without any conditions.

Intangible assets and property, plant and equipment

Intangible assets and property, plant and equipment were assessed at costs of acquisition less scheduled depreciations. Fixed assets were depreciated in accordance with the usual period of use for the company and under consideration of the period of use which is permissible from a tax perspective. The straight-line method of depreciation was used.

Minor assets (with costs of acquisition of up to € 800 (net)) acquired during the financial year were recorded as expenditure at the full amount in the year of acquisition.

Liabilities

Liabilities were shown at the amount to be paid.

Provisions

Provisions are defined for all risks, doubtful liabilities and contingent losses discernible up until the preparation of the annual financial statement. They are reported at the probable settlement amount.

Liabilities and other commitments

On the balance sheet date, there was a letter of comfort between ECC and ECC Luxembourg. More detailed information on this is provided under "Contingent liabilities".

Deferred taxes

In principle, deferred taxes are determined for the temporary differences between the commercial law and the tax law assessment of assets, liabilities as well as accruals and deferrals.

Deferred taxes are established on the basis of the combined income tax rate of 32 percent. Deferred taxes are not reported in the balance sheet by exercising the right of option according to Art. 274 HGB because of the asset surplus.

2. Notes and explanations regarding the balance sheet

Accounts receivable from credit institutions and customers

The accounts receivable from credit institutions and customers had a remaining term of less than one year.

Shares in affiliated companies

On 31st December 2018, the shareholdings according to HGB were as follows:

Name	Registered office	Share in %
European Commodity Clearing Luxembourg S.à r.l.	Luxembourg (Luxembourg)	100.00

Trust assets

On 31st December 2018, trust assets were k€ 1,348,573.

Intangible assets

Intangible assets are reported in the balance sheet at k€ 15,419 (previous year: k€ 16,235) as of 31st December 2018.

Property, plant and equipment

Property, plant and equipment had a book value of k€ 16 (previous year: k€ 17) on 31st December 2018. This position solely comprises business and office equipment.

Other assets

As of the balance sheet date, the other assets amounted to k€ 23,251 (previous year: k€ 14,987). This amount essentially consists of accounts receivable from affiliated companies for clearing services (k€ 6,101) and outstanding accounts receivable from nomination and delivery (k€ 12,753).

Deferred expenses and accrued income

Expenses before the balance sheet date which constitute expenses for a certain period after this date are, in principle, reported as “deferred expenses and accrued income” (ARAP).

On 31st December 2018, there were deferred expenses and accrued income of k€ 1,538 (previous year: k€ 1,901).

Excess of plan assets over pension liabilities

The excess of plan assets over pension liabilities of k€ 7 (previous year: k€ 9) results from offsetting of pension provisions with corresponding covering assets.

On 31st December 2018, the commercial law settlement amount of the underlying pension provision was k€ 141 (previous year: k€ 127). This resulted in interest expenses of k€ 5 for the 2018 financial year under consideration of the payments made in the amount of € 0. For disclosure under commercial law, an interest rate with a residual term of 15 years was selected. As a result, the actuarial interest is 3.21% (average interest rate for 10 years; previous year: 3.68%) and 2.32% (average interest rate 7 years; previous year: 2.80%) for the commercial balance sheet assessment.

The balance which is calculated as the difference between the recognition of provisions discounted by the average market interest rate of the past ten years and the recognition of provisions discounted by the average market interest rate of the past seven years is k€ 15. According to Art. 253 Paragraph 6 HGB, this amount is excluded from distribution.

The asset value of the reinsurance policy was compounded by interest of k€ 3 in the 2018 financial year and was k€ 140 on the balance sheet date (previous year: k€ 137). The costs of acquisition of the cover assets were in line with the fair value.

Liabilities to credit institutions

The existing liabilities to banks are due on a daily basis.

Liabilities to customers

The liabilities to customers are due on a daily basis.

Trust liabilities

In parallel with the trust assets, there were trust liabilities of k€ 1,348,573 on 31st December 2018.

Other liabilities

On the balance sheet date, there were other liabilities of k€ 47,784 (previous year: k€ 20,273). These essentially comprise accounts payable to shareholders of k€ 24,796 (previous year: k€ 13,575) from profit-and-loss transfer as well as from service level agreements (SLAs), liabilities to affiliated companies of k€ 20,575 (previous year: k€ 5,561), e.g., for open items from nomination and delivery and VAT liabilities.

There were no liabilities with a remaining term of more than one year.

Provisions

	31/12/2018 k€	31/12/2017 k€
Outstanding invoices	8,339	3,045
Personnel liabilities	2,354	1,326
Supervisory Board emoluments	109	92
Legal risks and auditing costs	104	53
Other provisions	25	20
Total	**10,930**	**4,536**

The personnel provisions essentially comprise bonus payments for the past financial year.

Interest rates of 2.28% (6-year period of retention of documents) and of 2.81% (10-year period of retention of documents) were used for the calculation of the provision regarding the obligation to retain business documents.

Equity

On the balance sheet date, the equity of ECC was unchanged and amounted to € 1,015,227. It was divided into 1,015,227 bearer share certificates.

On 31st December 2018, the capital reserve amounted to k€ 74,300 (previous year: k€ 54,300). In December 2018, the capital reserve was increased by k€ 20,000.

The other retained income amounted to k€ 33,619 (previous year: k€ 33,619). This included the provision according to EMIR article 45. This provision was increased by k€ 1,500 as a result of reclassifications from other retained income in 2018. As a result, it was k€ 11,500 on the balance sheet date (previous year: k€ 10,000).

3. Notes and Explanations regarding the Profit-and-Loss Account

The interest income as well as the income from commission fees and the other operating income were generated exclusively in Germany, so that a breakdown according to geographical markets is dispensed with in accordance with Art. 34 Paragraph 2 Figure 1 of the Ordinance Regulating the Accounting Requirements for Financial Institutions and Financial Service Providers (RechKredV).

In 2018, interest income of k€ 17,298 (previous year: k€ 10,461) was generated. This comprised administration fees charged to the clearing banks in the amount of k€ 17,129 (previous year: k€ 10.285) that were included in the other operating income in the past. The cash collateral deposited resulted in interest expenses of k€ 14,270 (previous year: k€ 9,938), which were offset by the administration fees charged to the clearing banks.

Income from commission fees

The commission fees of k€ 81,369 (previous year: k€ 68,880) concerned fees for clearing services by ECC. According to material criteria, the commission fees have the following structure:

Income from commission fees	**2018**	**2017**
	k€	**k€**
Derivatives Market clearing fees	40,378	34,412
Spot Market clearing fees	39,981	33,799
Annual fees and other income from clearing	1,010	669
Total	**81,369**	**68,880**

Expenses from commission fees

The commission expenses of k€ 4,848 (previous year: k€ 4,482) essentially comprised volume-dependent expenses.

Other operating income

The other operating income of k€ 7,425 (previous year: k€ 3,808) essentially resulted from the provision of services for affiliated companies and shareholders and from charging-on of material costs to these (k€ 5,468). In addition, there was revenue unrelated to the accounting period of k€ 180, which largely resulted from the release of provisions. Compared to previous year the administration fees of k€ 17,129 (2017: 10,285 k€) charged to the clearing banks were shown as interest income.

General administrative expenses

The general administrative expenses of k€ 32,757 (previous year: k€ 24,972) include the following items:

General administrative expenses	**2018**	**2017**
	k€	**k€**
Personnel expenses	7,928	5,836
Wages and salaries	6,614	4,741
Social insurance contributions	1,314	1,095
Other administrative expenses	24,829	19,136
Expenses for services for affiliated companies	11,647	9,505
Overhead & marketing	4,058	3,572
System expenses	4,289	3,660
Consultancy services	4,836	2,399
Total	**32,757**	**24,972**

The increase in personnel expenses resulted from the increased number of employees and income dependent rewards. The increase in other expenses results from the settlement of the increased business volume and increased project expenses.

Other operating expenses

The other operating expenses of k€ 2,127 (previous year: k€ 928) essentially comprise expenses from input tax corrections, which are due to sales that are exempt from sales tax, and exchange rate losses have not been realised as at 31.12.2018.

4. Other Notes

Foreign Currency Valuation

As at 31.12.2018 costs of -226 k€ (previous year: -20 k€) resulted from the foreign currency valuation of assets and liabilities.

Structure of collaterals

In order to cover ECC's risk in the event of the default of a Clearing Member, the Clearing Members undertake to provide the daily or intra-day collateral in cash or securities to the amount specified by ECC in accordance with the Clearing Conditions. On the balance sheet date, these were as follows:

Collateral	31/12/2018	31/12/2017
	m€	m€
Cash funds	5,500	2,269
Securities and book-entry securities (after haircut)	448	229
Total	**5,948**	**2,498**

On 31st December 2018, the ECC clearing fund amounted to € 622 million (previous year: € 252 million).

Other financial obligations

The other obligations are listed in the table below:

Financial obligation	Total	2019	2020 to 2023	2024 to 2028
	k€	k€	k€	k€
Services from affiliated companies*	9,460	9,454	6	0
System expenses/maintenance*	2,868	2,699	169	0
Buildings (rent)*	3,737	374	1,495	1,868
Vehicles	28	17	11	0
Other	530	530	0	0
Total	**16,623**	**13,074**	**1,681**	**1,868**

*These financial liabilities were liabilities to affiliated companies.

Contingent liabilities

ECC guarantees the trade accounts payable of ECC Luxembourg amounting to k€ 521,467 (previous year: k€ 324,388) as of the balance sheet date. These liabilities concern liabilities from power and gas deliveries existing as of the balance sheet date. These liabilities are covered by a part of the above-mentioned collateral and are subject to a low probability of occurrence.

Amounts excluded from distribution

On the balance sheet date, there were no amounts excluded from distribution according to Art. 268 Paragraph 8 HGB. According to Art. 253 Paragraph 6 HGB, there were amounts excluded from distribution on the balance sheet date in the amount of the difference of k€ 15.

Human resources development

In the financial year under review, on average 78 employees (previous year: 67 employees) were employed by the company.

Management Board

Peter Reitz, Leipzig	Chief Executive Officer (CEO)
Steffen Köhler, Oberursel	Member of the Board (COO)
Dr. Thomas Siegl, Eschborn	Member of the Board (CRO)
Iris Weidinger, Markkleeberg	Member of the Board (CFO)

On December 11, 2018 the supervisory board additionally appointed Dr. Götz Dittrich as a ECC board member in the function of Chief Operating Officer as at January 1, 2019. The former COO and CFO subsequently retired from the ECC board as at 31.12.2018.

In the 2018 financial year, the total emoluments of the Management Board were k€ 1,558 (previous year: k€ 845). In addition, pension expenses accounted for k€ 148 (previous year: k€ 128).

Transactions with related parties in accordance with Art. 285 Fig. 21 HGB

During the financial year under review, no transactions with related parties which were concluded subject to conditions that are not common on the market were concluded.

Fee for the auditor of the annual accounts according to Art. 285 Fig. 17 HGB

The fee for the auditor of the annual accounts was disclosed in the EEX consolidated financial statement.

Supervisory Board

The Supervisory Board has the following members:

Dr. Jürgen Kroneberg (Chairman)	Lawyer, Kampen (Sylt) (deceased on 09.02.2019)
Hans E. Schweickardt (Deputy Chairman)	Chairman of the Supervisory Board, Polenergia S.á.r.l., Warsaw/Poland
Jürg Spillmann (Deputy Chairman)	Member of the Management Board, Eurex Global Derivatives AG, Zug/Switzerland
Heike Eckert	Member of the Management Board, Eurex Clearing AG, Eschborn
Prof. Harald R. Pfab	Managing Director, HHP Beratung GmbH, Fronreute
Vincent van Lith	Executive Director, ABN AMRO Bank N.V., Frankfurt/Main

On the balance sheet date, the ECC Supervisory Board had an auditing committee comprising all Supervisory Board members and a human resources and compensation committee consisting of the following members: Dr. Jürgen Kroneberg, Hans Schweickardt and Jürg Spillmann.

In the past financial year, the members of the Supervisory Board received emoluments of k€ 109 (previous year: k€ 92).

Leipzig, 12nd March 2019

Peter Reitz
Chief Executive Officer (CEO)

Dr. Götz Dittrich
Member of the Board (COO)

Dr. Thomas Siegl
Member of the Board (CRO)

Development of Fixed Assets in the 2018 Financial Year

	Costs of acquisition and production					Depreciation / Amortization				Residual book values	
	01.01.2018	Additions	Disposals	Transfers	31.12.2018	01.01.2018	Additions	Disposals	31.12.2018	01.01.2018	31.12.2018
	€	€	€	€	€	€	€	€	€	€	€
1. Intangible assets	**30.744.622,65**	**1.375.350,12**	**2.367,10**	**-840,25**	**32.116.765,42**	**14.509.781,39**	**2.188.444,73**	**467,10**	**16.697.759,02**	**16.234.841,26**	**15.419.006,40**
20500000 Costs of acquisition of concessions and commercial property rights	14.824.038,73	0,00	0,00	0,00	14.824.038,73	1.729.471,73	988.269,00	0,00	2.717.740,73	13.094.567,00	12.106.298,00
20500020 IT software	8.821.401,52	1.375.350,12	2.367,10	-840,25	10.193.544,29	5.681.127,26	1.200.175,73	467,10	6.880.835,89	3.140.274,26	3.312.708,40
20700000 Goodwill	7.099.182,40	0,00	0,00	0,00	7.099.182,40	7.099.182,40	0,00	0,00	7.099.182,40	0,00	0,00
2. Property, plan and equipment	**108.679,88**	**9.422,31**	**554,54**	**840,25**	**118.387,90**	**91.741,88**	**11.419,56**	**400,54**	**102.760,90**	**16.938,00**	**15.627,00**
21810000 Business and office equipment	41.970,12	1.848,57	554,54	0,00	43.264,15	40.525,12	841,57	400,54	40.966,15	1.445,00	2.298,00
21830000 Office furnishings	43.389,35	0,00	0,00	0,00	43.389,35	27.896,35	2.164,00	0,00	30.060,35	15.493,00	13.329,00
21811000 Minor assets	14.638,54	7.573,74	0,00	840,25	23.052,53	14.638,54	8.413,99	0,00	23.052,53	0,00	0,00
21812000 Compound item - minor assets	8.681,87	0,00	0,00	0,00	8.681,87	8.681,87	0,00	0,00	8.681,87	0,00	0,00
3. Shares in affiliated companies	**18.500,00**	**0,00**	**0,00**	**0,00**	**18.500,00**	**0,00**	**0,00**	**0,00**	**0,00**	**18.500,00**	**18.500,00**
26100000 Shares	18.500,00	0,00	0,00	0,00	18.500,00	0,00	0,00	0,00	0,00	18.500,00	18.500,00
	30.871.802,53	**1.384.772,43**	**2.921,64**	**0,00**	**32.253.653,32**	**14.601.523,27**	**2.199.864,29**	**867,64**	**16.800.519,92**	**16.270.279,26**	**15.453.133,40**

Management Report of European Commodity Clearing AG, Leipzig, for the 2018 Financial Year

1. About the Company

1.1 Business operations and corporate structure

European Commodity Clearing AG (ECC), with registered offices in Leipzig, Germany, was established in 2006 through a spin-off of the services of European Energy Exchange AG (EEX) in the field of clearing and settlement, and has evolved into the leading clearing house for energy and related products in Europe. On 31 December 2018, the company employed a staff of 84.

ECC is a credit institution and has a banking licence as a central counterparty within the meaning of Art. 1 Paragraph 1 No. 12 KWG (German Banking Act), in conjunction with Art. 1 Paragraph 31 KWG. In addition, since 2014, ECC has had a licence to act as a central counterparty, within the meaning of the European Regulation (648/2012) on OTC derivatives, central counterparties and trade repositories (EMIR). In this function, ECC settles the trades concluded between the trading participants on the affiliated markets or registered for clearing and guarantees their fulfilment even if a counterparty defaults. Physical deliveries are settled by the European Commodity Clearing Luxembourg S.à.r.l. (ECC Lux), a wholly-owned subsidiary of ECC.

In addition to the reliable settlement of the trading transactions in line with the contracts, the company's objective as a clearing house is to increase the efficiency of clearing and risk management through the integration of different market platforms, products and commodities into a uniform system. ECC provides clearing services for all markets of the European Energy Exchange (EEX), EPEX SPOT (EPEX), Powernext and Power Exchange Central Europe (PXE). In addition to this, co-operations with other exchanges outside EEX Group have been entered into since 2006. In this context, the focus is on the creation of clearing offers across markets and products in the field of commodity derivatives and spot trading. At present, ECC co-operates with HUPX Hungarian Power Exchange Ltd. (HUPX), SEMOpx, NOREXECO and SEEPEX.

ECC is wholly owned by EEX. In 2015, a profit-and-loss transfer agreement was concluded between ECC and EEX.

<u>Corporate management</u>

As a German public limited company, ECC comprises the following corporate bodies: the general meeting, the Supervisory Board and the Management Board, each of which has its own competences. In addition, there is a risk committee as an advisory body for the corporate management (as stipulated by EMIR).

The general meeting appoints the members of the Supervisory Board and approves the activities of the Management Board as well as of the Supervisory Board.

The Supervisory Board appoints, monitors and advises the Management Board and is directly involved in decisions which are of fundamental importance to the Company. Moreover, it adopts the annual financial statement prepared by the Management Board. At present, the Supervisory Board has six members.

The Management Board (which is in charge of managing the company's operations) represents the company to the outside world. On 31 December 2018, the Management Board consists of the Chief Executive Officer (CEO), the Chief Operating Officer (COO), the Chief Risk Officer (CRO) and the Chief Financial Officer (CFO). The members of the ECC Management Board also act as members of the EEX Management Board.

In addition, at its meeting on 11 December 2018, the Supervisory Board appointed Dr Götz Dittrich a member of the ECC Management Board having the function of a Chief Operating Officer with effect as of 1 January 2019. In this process, the current COO and the CFO left the ECC Management Board with effect as of 31 December 2018 in order to fully focus their activities on the parent company, EEX.

1.2 Strategy and control

Strategy

The strategic alignment of ECC is very much based on customer and market requirements as well as on regulatory requirements for the operation of a central counterparty. Its leading position as a clearing house for energy and related products in Europe, confirms the success of this model, which is characterised by the far-reaching international network of Clearing Members as well as the close interconnection with the partners relevant for the physical settlement of the value of goods (e.g. transmission system operators). In the current year, essential steps towards the aim of providing a global service offering were reached, e.g., with the recognition of ECC by MAS in Singapore and the introduction of a new payment infrastructure for foreign currencies (GBP and USD). Integrated clearing, i.e. integrating several market platforms, products and commodities in a uniform risk management and settlement system, forms an element in the corporate strategy for the further development of business. In this context, ECC primarily focuses on the following fields of subjects:

- Maximising the benefit of clearing for the participants across partner exchanges, markets and products,
- Expansion of the diversification of the business model for the clearing house,
- Establishment of clearing services as an important market element in connection with the physical settlement of energy trading transactions,

- Optimisation of own processes and systems (e.g. redundant process chains or transmission channels in 24x7 operation / migration to the current clearing systems of Deutsche Börse Group).

ECC operates within a highly regulated environment. Because of its increased size and the aim of establishing a global position, ECC has to cover specific expectations of customers, markets, connected transmission system operators and registries as well as those of regulators regarding compliance with regulatory and statutory framework conditions. In order to fulfil these requirements, ECC has taken numerous measures and further expanded its compliance organisation.

Through the close support for and contributions to the regulatory debate, ECC can take measures to safeguard its competitiveness but also to address and implement customer requirements early on.

ECC pursues the long-term aim of becoming a leading global clearing house for clearing and settlement of exchange and over-the-counter spot and derivatives transactions in the commodity segment in order to provide customers with one-stop-shop services, hence enabling them to benefit from uniform processes, one set of contracts as well as cross-commodity margining. The focus is, in particular, on risk strategy: In addition to adequate collateralisation of the default risk and compliance with the regulatory requirements, clearing efficiency and, in particular, margin efficiency are especially important.

Corporate management

ECC essentially uses the parameters of commission income, costs, EBT, and liquidity to manage the Company. Moreover, the risk parameters according to EMIR are also essential control parameters for the clearing house.

The revenue generated by ECC is influenced, in particular, by income from commission fees (transaction and annual fees) and other operating income. As regards expenses, we differentiate between commission expenses, general administrative expenses, other operating expenses and depreciations. While provision expenses are variable in character, i.e. they correlate with the amount of the transaction fees, the further expense items have the character of fixed costs (cf. “Earnings situation” for details).

Approximately 91 percent of the ECC expenses are independent of turnover. As a result, ECC can settle additional business volumes without a significant increase in costs because of economies of scale and scope. Nonetheless, a decline in business volumes would have a direct impact on the profitability of ECC.

1.3 Research and development

As a service company, ECC does not engage in any research and development activities, which are, e.g., carried out by manufacturing companies. New developments of products and services for the year 2018 are addressed under “Development of business” and with a view to the future in the “Risk and opportunity report”.

2. Economic development

2.1 Macro-economic, industry-specific and regulatory framework conditions

The macro-economic and industry-specific framework conditions which are decisive for the business activities of the companies within EEX Group and, in particular, for the development of the clearing volumes resulting from these are briefly outlined below.

Essential factors influencing the transaction fees

The amount of the transaction fees is determined by three essential influencing factors: Apart from the size of the overall market, the transaction revenue also depends on the market share achieved and on the fee structure. The market share and the fee structure are monitored in the framework of the implementation of the group strategy and of corporate management with a focus on strengthening the competitive position of EEX Group and positioning the group as a global energy and commodities trading platform. By contrast, the size of the overall market cannot be influenced by ECC and essentially depends on the following factors:

- Physical energy consumption and market maturity (churn rate)
- Price development and volatility on the energy markets
- Regulatory framework conditions

Physical energy consumption and market maturity

According to a joint analysis of Agora Energiewende from Germany and Sandbag from the United Kingdom, physical energy consumption in Germany has grown the fourth year in a row and, in 2018, it was around 0.2 percent higher than in the previous year. This relatively stable development of consumption continued to be driven, essentially, by the lasting positive economic development in Europe, which was, however, less driven by manufacturing industries than formerly. Moreover, the switch towards the electrification of heating and transport also played an increasingly important role. In this process, the share of power generated from wind, solar power and biomass continued to grow in 2018. As a result, the energy mix in the European Union consisted of 42 percent fossil fuels, 32 percent renewable energies and 26 percent nuclear energy. In Germany, energy consumption decreased significantly by 5 percent in 2018 as against the previous year according to calculations by the Working Group on Energy Balances. This was due to higher prices, the mild weather as well as improvements in energy efficiency and the population growth more than compensating the development of the economy which would otherwise lead to an increase in consumption.

During the past financial year, the Europe-wide consumption of natural gas decreased with the reduction being driven, in particular, by the decline in consumption in energy-intense industries as well as the unusually mild weather. According to the quarterly report of the EU Commission on the European gas markets, gas consumption within the European Union rose by 4 percent in the first quarter of 2018. However, in the following two quarters, it declined by 8 percent and 5 percent respectively as against the same quarters in the previous year. Figures for the fourth quarter were not yet available at the time at which this management report was prepared.

Compared with the first ten months of the previous year, total energy consumption in the United States rose for the first time in two years and was 4.1 percent higher than in the 2017 reference period. The US energy mix comprised 79 percent fossil fuels, 9 percent nuclear power and 12 percent renewable energies.

The maturity of the individual energy markets is measured with the help of the so-called churn rate. This parameter indicates how often a mega-watt hour of power or natural gas is traded on the markets before it is actually physically delivered. This means it corresponds to the proportion between the total trading volume and energy consumption. The higher the churn rate is, the higher the total trading volume and the liquidity of the market and, hence, its market maturity are.

According to the quarterly report of the EU Commission, the churn rate of the German power derivatives market has risen significantly and reached a level of 13.7 in the third quarter of 2018 making Germany the most mature market in the power sector. All other European power derivatives market areas have a churn rate of, at a maximum, 5. In addition to Germany, liquidity and market maturity increased, in particular, in Belgium, Spain, the Nordic markets and Italy. By contrast, the churn rates of the Dutch, French and Eastern European markets declined in the third quarter compared to the previous year. In the gas market sector, the Dutch TTF (Title Transfer Facility) market had the highest churn rate followed by the British NBP (National Balancing Point) market area. Until 2016, these two hubs were the only ones with a churn rate of more than 10.

Price development and volatility on the energy markets

The price increase observed in the commodities markets in the previous year continued in the 2018 financial year. While, in the 2017 financial year, the European ELIX power price index was € 40.00 per MWh, the market price for electricity in the integrated European single market rose to EUR 43.62 per MWh in 2018. On average, market participants who purchased base-load power for 2019 on the derivatives market in 2018 (Phelix Baseload Year Future) paid EUR 44.12 per MWh (2017: EUR 32.05 per MWh). The monthly EGIX gas price index had an average price level of EUR 21.98 per MWh and was, hence, 28 percent higher than in the previous year (EUR 17.11 per MWh).

In the United States of America, the average power price is usually EUR 15 per MWh lower than in the EU.

In general, the 2018 financial year was shaped by higher volatility, i.e. more severe price fluctuations, in particular, on the power derivatives market compared with the previous year. High volatility usually has a positive effect on trading activities since, with a higher range of fluctuation in commodity prices, there is an increased need for the adjustment of hedging positions.

Regulatory framework conditions

In 2018, there were adjustments of existing framework conditions and discussions regarding the introduction of new regulatory measures in the fields of energy and financial market legislation. The most important projects for energy and commodity trading are or were

- the design and national implementation of the revised EU Markets in Financial Instruments Directive (abbreviated: MiFID II) and the appertaining EU MiFIR regulation,
- the further development of the power market design at a European level in the framework of the “Clean Energy Package”,
- the further development of the gas market in the framework of the discussion regarding a new European regulation package from 2020,
- the execution of the split of the German-Austrian power bidding zone into two market areas as well as the lasting discussions regarding possible further divisions,
- the political debate regarding the further grid expansion and the start of the social debate regarding the coal phase-out in Germany
- the agreement to reform the European Emissions Trading Scheme (ETS),
- the institutionalisation of the role of the exchanges in market coupling with a guideline on capacity allocation and congestion management (CACM),
- the change in the gas market design at a national level,
- strengthening the role of the euro as a global leading currency as against the US dollar, in particular, in the fields of commodity and energy trading.

The revised **EU Markets in Financial Instruments Directive (MiFID II)**, which took effect on 3 January 2018, significantly changes the rules for trading in commodity derivatives. The general exception for commodity derivatives, which has applied so far, was cancelled and, hence, replaced by a so-called “ancillary activity exemption”. As a result, only trading participants with relatively low trading activities will be exempt from the MiFID II requirements. Furthermore, position limits regarding the commodities derivatives traded on energy markets now apply. As a result, certain caps for holding of derivatives must not be exceeded either by individual companies or by corporate groups cumulatively. In addition, there are new requirements in the framework of what is referred to as “pre-trade transparency”. As a result, bids regarding exchange and over-the-counter transactions which are submitted to an exchange for clearing must be reported to the competent regulator.

As planned, at the end of 2018, the member states, the EU Parliament and the EU Commission agreed on the final version of the so-called "**Clean Energy Package**". In addition to fundamental questions regarding market design, such as e.g. safeguarding free and unhampered pricing, this also includes aspects of border-crossing trading, the promotion and integration of renewable energies, the design of capacity markets as well as the competences of the European Agency for the Cooperation of Energy Regulators (ACER).

With the Clean Energy Package about to be completed and the initiation of comprehensive reforms in power market design, **gas market reforms** are now also expected **at a European level**. In this process, the political discourse has shifted from the debate regarding the micro-optimisation of European gas market design to a discussion of the future role of natural gas as a commodity in the energy mix ("future role of gas"). A fourth energy package for the gas market is expected when the new EU commission takes office in 2020. In this respect, the EU commission is of the opinion that the future will not be based on 100-percent electrification of the energy system and that gas constitutes an important bridge technology for the energy transition. Moreover, the commission also emphasised that the gas sector also has to become "greener" with a view to the climate target for 2050. Therefore, the results of the "quo vadis" study, which was published in 2018 and discussed possible reform scenarios of the regulatory framework (such as e.g. reforms of tariff structures, changes to the design of the gas market areas and reforms of capacity structures with the aim of increased flexibility), only constitute one of several components of the expected gas package. First and foremost, the focus should be on a regulatory framework for the feed-in of renewable gases into the existing gas grid and the further design of sector coupling (gas-to-power, power-to-gas). Various funding instruments, such as e.g. *feed-in-tariff* structures, and market-based instruments, such as a guarantee-of-origin scheme (which we are already familiar with from the power sector), are being discussed.

After several years of discussion and a two-year preparation period, congestion management was introduced at the German-Austrian border on 1 October 2018 resulting in the split of the previous German-Austrian power bidding zone. Nonetheless, it has to be expected that the debate regarding the correct **design of bidding zones** on the power market will continue in coming years because of grid congestion and insufficient grid expansion.

This makes the reinforced political focus on **grid expansion**, in particular, in Germany all the more important. Federal Minister of Economics Altmaier made this subject one of the energy-policy priorities of the current legislative period and presented a corresponding action plan for grid expansion in the summer of 2018. The subject of the **coal phase-out** is another priority. Even though it is not directly relevant for trading, it indirectly touches upon a number of energy-policy issues in this context, such as e.g. effects on the power price, security of supply and the need for capacity mechanisms.

Moreover, in 2018, the focus was also on the **European Emissions Trading Scheme (EU ETS)**. As early as in February, a political agreement was reached on the reform of European emissions trading. Essentially, this concerns the design of the market stability reserve to reduce the number of excess certificates and the significant reduction of the annual permitted emissions budget (cap) in the fourth trading period from 2021 to 2030.

The **EU Regulation establishing a Guideline on Capacity Allocation and Congestion Management ("CACM")** aims to facilitate stronger border-crossing cooperation between the respective transmission system operators and the spot exchanges and to provide a technical and operating guideline for capacity allocation and congestion management. In 2015, it took effect in the form of a regulation and essentially pursues three aims:

- Introduction of uniform day-ahead and intraday market coupling with the help of harmonised provisions for capacity calculation, congestion management and power trading
- Promoting the competition at all levels of value creation and creating the necessary framework conditions
- Optimum use of the transmission infrastructure

The CACM Regulation (CACM) is of outstanding importance, in particular, for the spot exchanges because it introduces the concept of the Nominated Electricity Market Operator (NEMO). As a result, the role of the exchanges in market coupling, which has only been carried out de facto so far, becomes institutionalised and their roles and tasks are specified in legal terms and recognised. In this process, the specific rules are reviewed regularly and, if necessary, developed further. This establishes new rules of cooperation between NEMOs and transmission system operators and creates a system enabling the NEMOs to operate in further member states. In future, the exchanges, in particular, will be regulated in the fields of activities concerned by the national authorities in the context of CACM. This has had a lasting impact on the relationship between EPEX and the regulators ever since the regulation took effect.

The **modifications of the gas market design at a national level** comprise changes to the layout of the national gas market areas. After the merger of the PEG Nord and TRS market areas in France on 1 November 2018, the two Gaspool and NCG gas market areas in Germany are to be merged, at the latest, by 1 April 2022 in accordance with the amendment of the Gas Grid Access Ordinance (section 21 (1)). The market area managers have announced that the legislative change is to be implemented as early as at the beginning of the 2021 gas business year (1 October). The decision by the Federal Ministry for Economic Affairs and Energy (BMWi) regarding the merger of the two German gas market areas aims to promote competition and strengthen the price signal of an overall German market area. Moreover, any discrimination between final consumers within Germany – in particular, with a view to any further border-crossing market area mergers, e.g. with the Dutch TTF market – is to be prevented by standardising the wholesale price. The German gas market is now facing the challenge of coordinating the implementation and concrete design of the joint gas market area between the 16 gas transmission system operators and the two market area managers. In France, the market area merger was implemented step by step after detailed preparations within a consultation procedure headed by the Commission de Régulation de l'Énergie (CRE). A more comprehensive and expensive grid expansion in France was avoided through the introduction of a hybrid model, which constitutes a mix between physical grid expansion and corresponding market mechanisms.

In late 2018, the European Commission presented plans as to how **the global role of the euro** can be further strengthened – in particular in comparison with the US Dollar. In this context, the focus is, first and foremost, on the energy markets and, in particular, the international oil and natural gas markets which are largely denominated in US Dollar. Consultations regarding these plans, which are to be specified in more detail, will be held in 2019. As seen from the perspective of EEX Group, this provides the opportunity to improve regulation, in particular, in the financial sector, to reduce over-regulation and to strengthen the euro zone overall.

While, in general, trading markets are subject to the respective market-specific political framework conditions, **uncertainty regarding the stability of the political framework conditions** increased. This, e.g., includes the Brexit process which raises complex regulatory questions. As seen from the perspective of the market, we have to wait and see which effects these political developments will have on the energy markets, in addition to changes in energy and climate policy as well as international trade relations.

2.2 Development of business

The development of business of ECC as a service provider for clearing and settlement is connected to the success of the partner exchanges affiliated with it. ECC, in return, has a positive effect on its partner exchanges by connecting new exchanges in the framework of the multi-exchange approach and by expanding its service portfolio. The development of the corresponding markets is outlined briefly below.

European Energy Exchange AG (EEX)

EEX operates in the power derivatives, environmentals, agriculturals and freight business segments. The companies of EEX Power Derivatives GmbH (EPD), Global Environmental Exchange GmbH (GEEX) and Agricultural Commodity Exchange GmbH (ACEX), which were still operated for the individual business segments at the end of the 2017 financial year, were transferred to EEX in the course of the 2018 financial year.

In the 2018 financial year, the power derivatives business segment developed very positively. In spite of significantly tighter regulatory requirements, the split of the German-Austrian bidding zone as well as the continued strong competitive environment, EEX was able to significantly increase the trading volume in this business segment. The Phelix-DE-Futures launched on the German main market in 2017 in response to the planned split of the German-Austrian pricing zone were finally established as the new benchmark products for German power in 2018 and have bundled liquidity in this market since the beginning of 2018.

Furthermore, in the market areas in Italy, France, Spain and in the Eastern European region, EEX recorded a significant increase in trading volumes and new records in terms of their market shares in 2018. While, in Italy and in France, significantly higher prices for CO2 emission allowances and the unusually hot and dry weather led to increased volatility, in Spain, EEX benefitted, in particular, from the increasing demand for the offer of exchange hedging of long-term power purchase agreements (also referred to as “PPA”).

Overall, a volume of 3,347 TWh was traded on the power derivatives market (2017: 2,822 TWh), which corresponds to a 19-percent increase.

In 2018, a volume of 2,200 TWh (2017: 2,003 TWh) was traded on the German power derivatives market. This corresponds to a 10-percent increased as against the previous year. During the financial year, the EEX market share rose from 29 to 31 percent.

Based on the overall volume of the market, the French power market is one of the four biggest European markets after Germany, the United Kingdom and Scandinavia. The volume traded on the power derivatives market in France also rose and reached a level of 329 TWh during the year under review (2017: 283 TWh). This corresponds to a 16-percent increase. In the 2018 financial year, the EEX market share rose from 28 to 38 percent, while the overall market shrank.

On the Italian power derivatives market, a volume of 563 TWh overall was traded in 2018. This corresponds to a 17-percent increase in the overall EEX power derivatives market volume (2017: 396 TWh, 14 percent). With a growing overall market in 2018, the market share was increased yet again from 74 to 84 percent during the year under review.

In the Spanish market area, EEX also recorded a significant increase in trading volumes and new record levels in the market share in 2018. The trading volume grew to 107 TWh and, as a result, recorded growth of 59 percent compared with 2017 (previous year: 67 TWh). During the year under review, market share rose from 40 to 60 percent.

In 2018, the EEX again boosted growth in the power derivatives segment by introducing new products. For example, further short-term products were launched for the market areas in the Netherlands, the Czech Republic, the Slovak Republic and Romania. This continued the EEX strategy of expanding the product portfolio for all market areas offered and rounding out the offering in European energy trading. At the same time, it contributes to strengthening liquidity in these market areas.

EEX still faces strong competition on the power derivatives market in Europe without any changes. More than one half of trading still takes place via over-the-counter broker platforms and, as a result, is not cleared, even if this market share declined slightly in 2018. The remaining trading volume is distributed among several energy exchanges. Apart from EEX, these essentially comprise the global exchange operators NASDAQ Commodities (NASDAQ) and Intercontinental Exchange (ICE) as well as smaller national energy exchanges. In the competition among these exchanges, EEX Group was able to prevail, in particular, as regards the main competitor NASDAQ and expanded its leading position. In spite of their continued aggressive pricing policy, the competitor exchanges were not able to significantly improve their market position.

Thanks to growing trading volumes of emission allowances on the secondary market and the positive development in the field of options, EEX was able to significantly expand its growth strategy. While the primary auction volumes are determined by the EU, EEX benefits from a growing overall market on the secondary market and in options trading combined with increasing market shares.

On behalf of the EU commission, new emission allowances for all member states are introduced to the market via auctions (primary auctions). The volumes are determined in advance and auctioned separately for Germany, the United Kingdom and Poland, while the auctions for the remaining 25 member states are carried out together. The auctions for the United Kingdom are carried out by ICE, while EEX provides the auctions for all other EU member states. The respective contracts on which this is based were extended by up to another five years in 2016.

On the secondary market for emission allowances, the market is dominated by the strong position of ICE, which, in spite of a slight drop in market share, still settles 83 percent of the market. EEX essentially accounts for the remaining trading volumes because it was able strengthen its position on the market and, as a result, further expand its market share at the expense of the uncleared market in 2018. In 2018, EEX expanded its market share in options trading to 29 percent and, as result, ended the leading market position of ICE, which still dominated in 2017. Overall, the positive development on the secondary market and in the options segment reflected the successful cooperation between EEX and IncubEx in business development and sales activities for environmental markets.

In the agriculturals segment, EEX recorded a slight decline in 2018. In the year under review, trading in futures on both processing potatoes (-10 percent) and dairy products (-6 percent) recorded fewer transactions than in the previous year. The EEX product portfolio was expanded with new liquid milk futures the settlement of which is based on the newly introduced “EEX European Liquid Milk Index”. Overall, 60,251 contracts were cleared by ECC during the year under review (2017: 65,453 contracts).

In the freight segment, 35,715 contracts were cleared in 2018, which corresponded to a slight increase as against the previous year (2017: 35,435 contracts).

EPEX SPOT SE (EPEX)

In the 2018 financial year, the EPEX power spot exchange was able to reach a new volume record. At 568 TWh, the volume settled by ECC in 2018 increased by 6 percent as against the previous year (535 TWh).

The 2018 financial year was shaped by the implementation of large regulatory projects, such as e.g. the introduction of the European border-crossing XBID platform for intraday trading and the implementation of congestion management at the German-Austrian border. In this process, EPEX was able to reinforce its position as a strong market platform and to significantly increase its volumes in this business segment, in addition to the implementation of these complex projects.

The introduction of congestion management at the German-Austrian border and the split of the joint price zone into two market areas which is connected with it have led to fundamental changes in the power markets in Germany and Austria. However, the introduction of separate power spot contracts with corresponding underlying price indices enabled EPEX to keep the trading volumes on the German day-ahead markets stable in the 2018 financial year.

Overall, the intraday markets within the power spot business segment further gained in importance in 2018 and accounted for 14 percent of the absolute volumes on the power spot markets. This trend was primarily due to the increasing importance of digitalisation and the fluctuating renewable energies for the power supply which resulted in an increased demand for flexibility and short-term balancing options at the market area managers. In order to enable them to respond to short-term developments in the generation and consumption of power, the lead time between trading and the delivery of French and Austrian power contracts was reduced from 30 to 5 minutes, while the lead time for Swiss power contracts was reduced from 60 to 30 minutes in the 2018 financial year. Moreover, block contracts for the German 15-minute auction, 15-minute trading in power contracts in Belgium and the Netherlands and two new intraday auctions for the United Kingdom, which are coupled with the Irish power market, were introduced.

In June 2018, the introduction of the European border-crossing XBID platform in 14 European countries constituted an important step for the creation of a pan-European intraday solution for the power spot market. Based on a joint IT system, the XBID records the entire continuous European trading activities in a joint order book and forms the interface between the local trading systems of the power exchanges and transmission system operators providing border-crossing capacities. This means that bids by a market participant in one country can be matched with bids by traders in another country taking part provided there is sufficient border-crossing transmission capacity between the countries. As a result, the XBID solution supports explicit and implicit continuous trading and is in line with the EU target model for an integrated border-crossing intraday market. Moreover, there are plans to roll out the XBID solution to other European countries in 2019.

With regard to the system landscape, two system migrations were carried out in the 2018 financial year finalising the integration of the former APX Group into EEX Group. The migration of the day-ahead markets in the Netherlands and in Belgium to the EPEX ETS trading system in the first quarter of 2017 was followed by the day-ahead market in the United Kingdom in April 2018. After the migration of the remaining continuous intraday trading in Great Britain to the M7 trading system in the 4th quarter of the past business year, the customers can now trade all power spot markets via one system access.

Within the power spot business field, EPEX directly competes with other spot exchanges. In the United Kingdom, short-term trading of power is also offered by N2EX, a subsidiary of the second biggest European power spot exchange, the Norwegian Nord Pool Spot, in addition to EPEX. In 2018, N2EX had a market share of 71 percent, while EPEX had a market share of 29 percent. Moreover, Nord Pool Spot also operates in the German market area with an offering for the intraday market, even though, at 2 percent, the market share is fairly low. Generally, competition has intensified significantly because of changes in regulation (CACM) and the resulting split in liquidity between the participating spot exchanges in the framework of the XBID solution. A further intensification has to be expected for 2019.

Powernext SA (Powernext)

The partner exchange Powernext, which operates the PEGAS gas trading platform, developed positively in the 2018 financial year and, as a result, maintained its position as the third mainstay of revenue, in addition to the power spot and derivatives markets. On the gas spot market, growing market shares within a stagnating overall market led to significant growth in trading volumes as well as new volume records. On the derivatives markets, on the other hand, the effects of the EU Markets in Financial Instruments Directive (MiFID II), which took effect at the beginning of the 2018 financial year, and of the shifts in volumes from regulated exchange trading to unregulated trading via brokers were observed. For example, Powernext recorded declining markets shares on the derivatives markets in the Netherlands, Germany and France resulting in a decline in volumes on the derivatives market overall.

Overall, in the year under review, eleven market areas (GPL - Germany, NCG - Germany, TTF – The Netherlands, PEG - France, NBP – United Kingdom, ZEE - Belgium, ZTP - Belgium, PSV – Italy, CEGH – Austria, GPN – Denmark, OTE – Czech Republic) were offered for trading on the PEGAS platform, which is operated by Powernext.

On the spot market, a volume of 1,111 TWh of natural gas was traded at Powernext and settled by ECC in 2018. This corresponds to 34-percent growth as against the previous year (828 TWh). The cleared volume on the derivatives market was 852 TWh. During the reference period in 2017, a volume of 1,154 TWh was cleared (-26 percent).

The range of gas products which can be traded via the PEGAS trading platform was again expanded and supplemented with Trade Registration Services for options on the Dutch TTF Gas Derivatives Contracts. Moreover, in cooperation with the Dutch transmission system operator Gasunie Transport Services (GTS), the calculation and provision of the so-called "Neutral Gas Price" for the Dutch TTF Hub were implemented on the PEGAS trading platform.

In the natural gas business, regulatory changes have led to the introduction of new products in response to changed framework conditions. For example, Powernext launched new spot contracts to take account of the merger of the French PEG Nord and TRS market areas. Moreover, PEGAS actively supports the market area merger by implementing so-called "congestion management products".

The competitive environment in the European natural gas markets resembles that in the power derivatives markets. The major part of natural gas trading takes place via over-the-counter broker platforms. Powernext, the CME Group and ICE exchanges as well as smaller national energy exchanges account for the remaining share of trading. On the spot markets, Powernext is the exchange with, by far, the highest trading volumes. Moreover, there is also growth potential for Powernext since the overall market has grown significantly.

Hungarian Power Exchange Ltd. (HUPX) / Hungarian Derivative Energy Exchange (HUDEX)

In 2018, the Hungarian power derivatives market was slightly below the level of the previous year (-3 percent). HUPX responded to the trading participants' needs and the changed regulatory framework conditions by extending its trading hours in November 2017 and switching the futures with physical settlement to financial contracts, which have been traded on the regulated Hungarian HUDEX market since 2 January 2018. At the same time, it also offers trading participants the option of having financial futures positions settled via the Hungarian spot market.

Volumes on the Hungarian power spot market developed positively as against the previous year (7 percent) with trading volumes increasing continuously in the course of the financial year.

Power Exchange Central Europe a.s. (PXE)

The PXE power derivatives products have been covered by the EEX rules and regulations since 15 June 2017. In December of the 2017 financial year, the gas products were migrated to the PEGAS platform subject to the Powernext rules and regulations. Only the power spot market was still organised by PXE in 2018 and recorded a slight decline in volume by 11 percent.

NOREXECO AS (NOREXECO)

With the Norwegian NOREXECO, ECC cooperates with an exchange partner offering commodity derivatives for pulp and paper (recycling paper) for trading. Compared with the previous year, the clearing volumes slumped and fell to 54 t in pulp and paper contracts, which corresponds to a 72-percent decline compared with the previous year. Apart from this, trading activities were only recorded on the exchange in two months of the 2018 financial year.

South Eastern European Power Exchange (SEEPEX)

As against the previous year, SEEPEX was able to achieve an increase in traded volumes, essentially, supported by record results in 2018 (174 percent). The positive development was essentially supported by the acquisition of additional trading participants.

Further developments

2.2.1.1 New services

In 2018, ECC built a network of six international commercial banks which will be available for the ECC Clearing Members as settlement banks for foreign currency payments in future. After the successful launch with two pilot clients in the fourth quarter of 2018, the migration of all Clearing Members to the new correspondent bank service will be continued in 2019 with completion expected to be achieved in the first half of the year.

Another step towards the harmonisation and optimisation of financial payment streams was successfully completed in November 2018. The settlement of payments resulting from the fulfilment of derivatives contracts was transferred to the ECC spot market settlement system. As a result of coordinated payment cycles, payment streams from spot and derivatives market transactions can now be netted out.

In the framework of the planned switch of the EUREX Clearing derivatives market clearing system to C7 in 2019, an important milestone was reached in December with the migration of risk management functions. The post-trade risk management function (Advanced Risk Protection (ARP)) for Clearing Members and Non-Clearing Members permits monitoring of risks in the clearing system. The stop button triggers corresponding emergency procedures and can be independently activated and deactivated by the Clearing Member.

2.2.1.2 New cooperations and product categories

On 30 September 2018, the Irish SEMOpx power exchange was launched for trading transactions with delivery on 1 October 2018 in cooperation with the Irish transmission system operator EirGrid, the Northern Irish transmission system operator SONI and EPEX SPOT.

The Irish day-ahead market is integrated into the European multi-regional market coupling and offers both hourly contracts and complex orders for trading. In addition, two intraday auctions connected to Great Britain were established, while another intraday auction is exclusively offered locally within the I-SEM market area. As a supplement to three intra-day auctions, SEMOpx operates local continuous trading.

All auctions are available via the ETS EPEX trading system and continuous intraday trading is accessible via the M7 system. All transactions are cleared and settled by ECC.

In March 2018, ECC was granted the status of a Recognised Clearing House (RCH) by the Monetary Authority of Singapore (MAS). This enables ECC to admit Clearing Members from Singapore to all derivatives market products. Moreover, in April 2018, Cleartrade Exchange, as a further exchange partner, began registering transactions directly for clearing at ECC. The Dry Bulk Freight contract was the first CLTX product available for clearing at ECC.

In 2018, ECC made a significant contribution to the further development of the power market segment by reducing the lead times on the local EPEX SPOT intraday market for Austria and France to 5 minutes before delivery and 30 minutes before the start of delivery for local Swiss contracts as well by providing clearing services for XBID, the Europe-wide intraday trading, and by cooperating in the implementation of the split of the German-Austrian bidding zone.

In the context of the merger between EPEX SPOT Belgium and EPEX SPOT SE, at the end of the year 2018, the supply chain for Belgian spot market products was optimised and harmonised in line with the common ECC standard. As a result of this, ECC Lux alone will step into the contractual supply chain from 1 January 2019.

In the energy sector, with the help of ECC Lux, ECC now provides physical settlement of gas and power contracts for 30 transmission system and hub operators in 17 countries. Moreover, with regard to the settlement of emission allowances, guarantees of origin and French capacity guarantees, ECC is connected to the corresponding registries for safekeeping and transferring these certificates. This forms an important USP in the competition with other clearing houses.

2.2.1.3 Trading participants

On the balance sheet date (31 December 2018), there were 25 System Clearing Members (21 General Clearing Members and four Direct Clearing Members). In the course of the financial year, two new System Clearing Members were admitted. Moreover, 28 participants were admitted to the Direct Clearing Model (DCPM) (2017: 11). This model which was launched in September 2016 provides trading participants with direct access to trading and clearing on the spot market without the requirement of connection to a System Clearing Member. As of the end of the year, the number of clearing participants (including Non-Clearing Members) rose to 535 (2017: 516).

2.3 Earnings situation

For ECC the development of the individual markets on the partner exchanges plays an important role and governs the earnings situation of the clearing house. This section covers the profit and loss account of ECC.

In the 2018 financial year, the interest result was k€ 3,027 and, hence, significantly higher than in the previous year (2017: k€ 523)[1]. The ECC interest result is governed by the negative interest on central bank deposits exceeding the minimum reserve. Combined with the stringent regulatory investment guidelines, the current interest rate situation prevented alternative investment options for ECC in 2018. However, the negative interest result was more than compensated by administrative fees for cash collateral. While these administrative fees for cash collateral were still reported under other operating income, they have now been transferred to the interest result.

At k€ 81,369, the commission income consisting of transaction and annual fees (share of annual fees in commission fees: 0.6 percent) was k€ 12,489 or 18 percent higher than in the previous year (k€ 68,880).

[1] In 2018, interest income of k€ 17,298 was generated (2017: k€ 10,461). Compared with the amount reported in 2017, the administrative fee of k€ 17,129 (2017: k€ 10,285) charged from the clearing banks was reported under interest income. Interest expenses primarily resulted from negative interest charged on the cash collateral provided of k€ 14,270 (2017: k€ 9,938), which was compensated by the administrative fee charged from the clearing banks.

In 2018, the power derivatives market again proved to be the mainstay of revenue and accounted for a 39-percent share in commission income. After 2017, which was weaker for the power derivatives markets, the turnover from the settlement of power derivatives instructions grew by 21 percent to k€ 31,645 (2017: k€ 26,048).

The commission income generated on the natural gas spot and derivatives market increased significantly in 2018. This was due, last not least, to the integration of the PXE natural gas spot and derivatives markets, which were migrated to the PEGAS platform in December 2017. Including the PXE segment, commission income rose from k€ 22,426 to k€ 26,268 (+17 percent). The share in clearing revenue remained stable at 32 percent. As a result, the natural gas spot and derivatives market forms the second-biggest ECC revenue component.

The commission income from clearing of the power spot market rose from k€ 17,757 to k€ 18,826 by 6 percent and, at 23 percent, it formed the third-biggest revenue component of ECC.

In the 2018 financial year, the revenue from clearing of emission allowances rose to k€ 2,406. This corresponds to a 157-percent increase as against the previous year (k€ 934). As a result, this revenue component contributes 3 percent to the ECC commission income (previous year: 1 percent).

During the year under review, the clearing revenue from the agriculturals market increased by 10 percent to k€ 181 (2017: k€ 171).

Clearing on the Hungarian power spot and derivatives market of HUPX and HUDEX declined slightly. In total, provision income of k€ 665 was generated (2017: k€ 677).

The SEMOpx (k€ 145), SEEPEX (k€ 93) and NOREXECO (k€ 11) as well as the EEX Global Commodities segments (k€ 84) generated further commission income. The markets and products of the former cooperation with PXE were divided in late 2017. Only the power spot segment originally remains within PXE. Overall, ECC generated k€ 35 from clearing this market in 2018.

In 2018, commission expenses rose from k€ 4,482 to k€ 4,848 as against the previous year. Commission expenses include, in particular, market maker reimbursements to Powernext and, in 2018, they were higher than in the previous year because of higher provision income. The increase in market maker reimbursements is due to increased reimbursement rates and new incentive programmes.

At k€ 76,521, the ECC commission income (provision revenue less provision expenses) rose by 19 percent compared with the previous year. Because of the partly significant growth in all important business fields, ECC was able to significantly improve its results in the 2018 financial year compared with the previous year.

The other operating income increased during the year under review and, at k€ 7,425, it was 95 percent higher than in the previous year (k€ 3,808). Among other aspects, in 2018, this position included internal transfer pricing and securities management fees as well as the refunding of project costs of the partner exchanges.

Compared with 2017, general administrative expenses rose significantly by 31 percent to k€ 32,757 (2017: k€ 24,972). Personnel expenses also increased considerably from k€ 5,836 in 2017 to k€ 7,928 in 2018. On the one hand, this increase reflects the increase in staff (2018: 84; 2017: 70 employees) and, on the other hand, it is due to higher expenses for profit shares for employees and the Management Board because of the higher result as against the previous year. Other operating expenses rose by 30 percent to k€ 24,829 as against the previous year (2017: k€ 19,136) and were driven by increased expenses, e.g. for adjustments to clearing and risk management systems, for advice and for internal transfer pricing.

At k€ 2,200, depreciations were 31 percent higher than in 2017 (k€ 1,682). This increase is primarily due to the continued investments in the further development of the business applications for financial settlement and risk management and, to a lesser degree, to the reduction of the planned service life of an IT system for the operation of a ”Non-MTF” against the background of licensing of an “Organised Trading Facility” (OTF) in 2018.

At k€ 2,127, other operating expenses more than doubled in 2018 as against the previous year (2017: k€ 928). This is essentially due to the monthly assessment of collateral furnished by the trading participants in foreign currency (GBP) which rose because increased trading activities in foreign currency as against the previous year.

Year on year, the EBT reflects the positive development during the business year and, at k€ 49,889, it was 21 percent higher than in the previous year (2017: k€ 41,215). The annual profit does not remain with ECC because of the profit-and-loss transfer agreement which ECC has concluded with EEX. According to this, return on equity does not have to be calculated.

Comparison of the earnings situation with the forecast for 2018

The ambitious target assumed for provision income in 2018 (k€ 90,065) could not be reached. The expected growth rates were not reached, in particular, on the gas derivatives market. Moreover, significantly lower revenue was generated from clearing of the EEX Global Commodities markets.

In line with this, the forecast result for 2018 was also not reached in spite of the stabilisation of the power derivatives market and the positive development of the commission income compared with the previous year. The planned value for the 2018 result from normal operations was k€ 52,266 and, therefore, it was missed narrowly by 5 percent.

2.4 Asset situation

The asset situation of ECC is shaped by its business operations as a central counterparty in trading on commodity exchanges.

On the balance sheet date, the balance sheet total was k€ 7,049,205 and, hence, k€ 4,297,894 higher than the 2017 balance sheet total (k€ 2,751,310).

The assets side of the balance sheet is essentially shaped by balances at credit institutions and central banks. These mainly result from the investment of the cash collateral deposited in the amount of k€ 5,502,328 (2017: k€ 2,268,785) as security for transactions which were offset by liabilities to the Clearing Members of the same amount. On 31 December 2018, the cash reserve was k€ 5,583,227 (2017: k€ 2,340,698). This increase in the cash reserve was due to the fact that the cash collateral deposited on the balance sheet date also increased because of the development in business in 2018.

The trust asset item concerns CO2 allowances held in trust by ECC since 2017. This item has a value of k€ 1,348,573, which constitutes an increase as against the previous year (2017: k€ 344,096). This is due to the positive development of business and the price increase in the emissions sector as well the effect of allowances management over the full year. There is a liabilities item under liabilities in the same amount.

Intangible assets added up to k€ 15,419 and were, hence, k€ 816 lower than in the previous year (k€ 16,235). On the balance sheet date, other assets were k€ 23,251 and essentially include lendings to as well as receivables from shareholders and affiliated companies, ECC input tax receivables from the competent tax office in Belgium as well as receivables regarding transaction fees of ECC Lux and EPEX Belgium for physical settlement of the transactions registered for clearing.

At k€ 1,538, accruals and deferred income were k€ 363 lower than in the previous year. Essentially, these largely concerned adjustments to software and systems of Deutsche Börse AG.

Liabilities to banks are based on cash collateral received by Clearing Members that are banks and totalled k€ 1,777,585 (2017: k€ 754,000).

The liabilities to customers include the cash collateral submitted to ECC by Clearing Members (in as far as such are not banking institutions) in the amount of k€ 3,755,397 (2017: k€ 1,539,472).

There is a letter of comfort for the liabilities of the subsidiary ECC Lux. Moreover, ECC guarantees the fulfilment of the obligations of ECC Lux towards the trading participants on the spot markets for which ECC Lux has taken over the delivery or acceptance of products.

2.5 Financial situation

In accordance with the requirements of the European Regulation (648/2012) on OTC derivatives, central counterparties and trade repositories, ECC is obliged to provide sufficient liquid equity at all times in order to comply with the capital requirements according to Article 16 of the European regulation. If the ratio of equity and capital requirements falls below a threshold of 110 percent, the competent supervisory authority has to be notified forthwith. On the monthly reporting deadlines (01/2018 to 12/2018), the ratio of equity and capital requirements was between 121 and 186 percent and, hence, significantly above the reporting threshold of 110 percent at all times.

Furthermore, according to Article 43 of the European Regulation (648/2012) on OTC derivatives, central counterparties and trade repositories, ECC has to provide sufficient liquid financial resources in order to cover the default of the two Clearing Members which cause the biggest liquidity requirement. In accordance with Article 44 of this regulation, ECC compares the existing liquid resources with the liquidity requirement on a daily basis. If the ratio between liquid resources and the liquidity requirement falls below the reporting threshold of 1.1 (which is established internally), the Management Board, on the one hand, has to be informed forthwith and, on the other hand, measures have to be taken to strengthen the liquid resources in accordance with the liquidity plan. The daily ratios were between 1.51 and 2.43 and, as a result, they exceeded the minimum value of 1 required under supervisory legislation at all times.

At the end of the financial year, ECC had balance sheet equity of k€ 108,935 (2017: k€ 88,935). This difference is explained by the capital increase at ECC by EEX of k€ 20,000. As in the past, subscribed capital and retained income were k€ 1,015 or k€ 33,619. Since a profit-and-loss transfer agreement has been concluded with EEX, the balance sheet profit does not remain in the company. There are external credit lines which can cover additional liquidity requirements arising at short notice. As of the balance sheet date (31 December 2018), these had not been used.

The funds paid for the investing activities of ECC during the reporting year comprise, on the one hand, investments in intangible assets and, primarily, in the IT infrastructure of ECC as well as investments in property, plant and equipment. All in all, investments were k€ 1,385 (2017: k€ 1,505).

Summary

The business results confirm the success of ECC. In spite of the, in part, somewhat difficult situation on the market as described above, the Company was able to increase its commission income compared with the previous year. Only the results of the clearing cooperations HUPX/HUDEX and NOREXECO declined during the year under review. The result is achieved the best so far and, as a result, the Company's sound capital base was preserved.

The ECC Management Board is very pleased with the diversification of its revenue structures with regard to which progress was made in 2018. Compared with the previous year, the company significantly outperformed the sales and revenue achieved in almost all business fields – which was particularly positive in view of the challenging market environment and the lasting uncertainties on the market.

2.6 Employees

At the end of the year, the company had 84 employees compared to a staff of 70 employed at ECC at the end of 2017. This increase is due to the continued expansion of staff which is necessary, in particular, to ensure compliance with higher regulatory requirements.

The age structure is as follows:

ECC employees			
	2018	**2017**	**Change**
< 30 years	12	12	0%
30-39 years	38	37	3%
40-49 years	25	17	47%
>/= 50 years	9	4	125%
Total	**84**	**70**	**20%**

Rounding differences of ± one unit (TWh, €, %, etc.) may occur in the tables - for arithmetical reasons.

At 88 percent, the share of employees with an academic degree was unchanged. This share refers to employees with a degree from a university, a technical university or a university of co-operative education. On the balance sheet date, the share of female employees declined to 40 percent of the staff (2017: 47 percent). As of the balance sheet date, EEX had nine executive positions (2017: 11), one of which was occupied by a woman (2017: 3).

3. Risk and opportunity report

3.1 Risk management

Organisational structure

Competence for the operational design of the risk management system rests with the Chief Risk Officer (CRO) of ECC.

The risk management system is integrated into all planning, controlling and reporting systems. Moreover, the internal auditing department and the compliance departments are also part of the risk management system. The risk management system is based on the systematic identification, evaluation, documentation and communication of risks. Corresponding principles, processes and responsibilities are established in the guidelines.

A risk report for ECC is prepared across all risk categories every month and communicated to the ECC Management Board. In addition, CRO reports to the Supervisory Board and the risk committee on a quarterly basis. The risk committee is staffed with representatives of Clearing Members, Non-Clearing Members as well as independent representatives. It advises the ECC Management Board with regard to questions of risk control.

In addition, there is an ad-hoc reporting requirement in the event of material changes in the risk situation.

Risk management system and objectives

ECC is a central counterparty according to the European Regulation on OTC derivatives, central counterparties and trade repositories (Regulation (EU) No. 648/2012). The corresponding permit was issued by the German Federal Financial Supervisory Authority on 11 June 2014. Furthermore, ECC is also a credit institution with the exclusive permission as a central counterparty within the meaning of Art. 1 Paragraph 1 No. 12 KWG [German Banking Act] in conjunction with Art. 1 Paragraph 31 KWG.

The Management Board of ECC holds overall responsibility for the wording and implementation of the business and risk strategy. This provides the framework for the design of the ECC risk management system. Its detailed design is based on the requirements of the European Regulation (648/2012) on OTC derivatives, central counterparties and trade repositories as well as the supplementary technical standards according to the Delegated Regulation 153/2013.

The margin model, the default fund and the other elements of the default waterfall (see under “Lines of Defence”) constitute essential risk control instruments for ECC as a central counterparty

(CCP). In line with the requirements of the Regulation (EU) No. 648/2012, ECC provides a detailed description of these models on its website.

Risk culture

Dealing with risks is the central business field of clearing houses. As a result, risk culture is an important element of any clearing house. And it begins with the Management Board setting values and representing these values within the company. This includes the requirement of acting with integrity, respecting laws and guidelines and reporting any observed non-compliance within the company.

On the basis of the audit, compliance, project and risk reports, the Management Board develops an impression of the company's risk culture and adjusts priorities, if required. The company's values and the approach to risk prevention and control are communicated to all employees of the company. Training courses ensure that the employees are aware of their responsibility. Within their respective fields of responsibility, the competent management board members work to ensure acceptance of risk-based targets and corresponding values, if applicable, through inclusion in the target agreements with the employees.

Transparency on risks is achieved through open communications with all departments. The heads of the essential operating departments and of risk controlling, in particular, also regularly have to directly and openly report to the Management Board on this.

The incentives and target agreements are not intended to form an incentive to take uncontrolled risks. In addition, with regard to the risk and compliance department the rule applies that no part of the incentives or of the target agreement may provide for participation in the company's profits.

Risk appetite

The risk strategy reflects the risk appetite, which is defined as the maximum loss the Management Board is willing to accept, with a certain confidence level, in one year. The risk appetite provides the framework for taking and controlling risks. It includes the specification of the ratio between available capital and risk. Moreover, for ECC, it also includes the target of the continuation of the institute and of creditor protection.

1. Compliance with regulatory capital

   ECC must comply with the capital requirements according to the EMIR (EU) No 648/2012 Article 16 in conjunction with Delegated Regulation (EU) No 152/2013 (RTS 152/2013) regarding settlement risk, operating risk, default risk and business risk. The directly available equity according to (EU) No. 648/2012 (EMIR) Article 16 constitutes the available capital. ECC aims to comply with a target value of 120% of the directly available equity regarding the total capital requirements.

2. Compliance with economic capital

As a result of the profit-and-loss transfer agreement, ECC has joint liability together with EEX. Since EEX provides far-reaching services for ECC, covering of economic risks at the level of EEX is also supported by practical aspects. This is done using the methods of Deutsche Börse Group, which measures the EEX Group risks for its own corporate control and reports these to ECC Risk Controlling. Therefore, ECC considers the economic risk-bearing capacity of EEX as forming an important element of its own risk-bearing capacity assessment. Therefore, the risks of EEX (in as far as such are determined and reported in accordance with Deutsche Börse Group methods) should be covered by EEX Group equity (stakeholder perspective); while the stand-alone value should be considered with a confidence level of 99.9% for a 1-year risk (ECC risk appetite).

3. Economic coverage by ECC capital

In addition, ECC also considers risks restricted to ECC and compares these with the ECC capital situation in its capital framework. Because of the very low number of counterparty risks outside clearing (which is completely atypical for a bank) and because of the very conservative financial investment with regard to credit and market risks (no investment portfolio, only over-night investments), ECC does not form a portfolio with regard to these risks. In addition, there is no position responsibility within the meaning of responsibility for earnings regarding these risks since the main share of the revenue/costs from investment results from the investment of the cash collateral and is passed on to the customers with fixed margins. Therefore, port-folios with separate risk capital allocations to market and credit risks outside clearing are not formed.

For this reason, separate overall risk-covering assets of ECC are allocated to credit risks from clearing (clearing fund, skin-in-the-game) are allocated separately from risks from the un-cleared ECC business (equity).

4. Equity-based risk coverage

In this context, the following are considered deductions from the economic risk-bearing capacity:

- Market risks from foreign currency balances: Interest risks and equity risks are not relevant for ECC. FX risks are considered through the net exposure multiplied by the FX haircut, which corresponds to the 99.9% confidence level. Because of the low materiality, the same value is also assessed for the 99% confidence level.

- Business risks (forecast if available or planned P&L for the respective year minus scenario-based deductions in business risk scenarios if these result in an annual loss) and
- The “expected loss” from credit and operating risks, i.e. the expected value (probability * mean default amount, if applicable, after recovery).

The remaining risk types with an impact on capital are the credit risk and the operating risk. Because of the low probability of occurrence, these risks are comparable in nature with regard to a low likelihood of event-based occurrence. Therefore, ECC pursues the aim that, on a stand-alone basis and with a 99-percent probability, events of these risk types should not lead to a violation of equity requirements under supervisory legislation and that the entire equity of ECC should be sufficient to cover these risks with a 99.9-percent probability.

One stress risk each from operating risk and credit risk scenarios is considered as forming the necessary capital requirement for the 99% and 99.9% risk-covering assets; this means the scenario sets used each include OpRisk and credit risk scenarios. In this context, the scenario with the highest loss in the quantile considered is always used with regard to the necessary capital requirement.

From this, it can be concluded that ECC:

- limits investment exposures with counterparties with a credit rating corresponding to a probability of default of >1% and scenarios for operating risks with a probability of occurrence of >1% by means of the 99% risk covering assets.
- limits investment exposures with counterparties with a credit rating corresponding to a probability of default of >0.1% and scenarios for operating risks with a probability of occurrence of >0.1% by means of the 99.9% risk covering assets.

In terms of controlling this can mean that either the potential amount of damage is reduced (e.g. diversification of the financial investment) or that the likelihood of damage is reduced (e.g. additional checks for operating risks).

Liquidity risks are controlled separately and not covered by capital. Credit risks resulting from the loss of fees largely overlap with business risks and, for this reason, they are not separately covered by risk capital.

Risk controlling

The main part of economic risk controlling is structured as follows:

1. Controlling of counterparty risks from the clearing sector

With regard to counterparty risks in the cleared segment, ECC aims to ensure that the default waterfall covers the default of the two biggest Clearing Members under extreme yet plausible market conditions (at least, 99.9% confidence level) at all times.

2. Controlling of counterparty risks from the uncleared business

With regard to counterparty risks from the uncleared business segment, ECC specifies the risk appetite through a limit tableau regarding investment risks. The limit tableau is connected with the risk-bearing capacity.

Other counterparty risks are monitored by Risk Controlling and – in as far as such become significant – they are included in the risk inventory.

3. Controlling of liquidity risks

ECC carries out stress tests for the liquidity risk. The liquidity risk for the cleared business is controlled using the same parameters as counterparty risks of the cleared business. Liquidity risks from the uncleared business are controlled so that the stressed liquidity forecast for the next 3 months does not fall to below zero.

4. Controlling of other risks

With regard to all remaining risk categories, capital requirements are provided in line with the requirements of the EU Regulation 648/2012 (EMIR) in conjunction with the Delegated Regulation 152/2013. In as far as adjustments become necessary because of provisions in other jurisdictions, a competence-based decision is taken on whether the adjustments are to be taken over in the rules and regulations as well as the strategy.

The identified risks are managed within the defined risk appetite by applying different management strategies as part of the ongoing risk management process depending on the decision of the Management Board or within the framework of competences granted:

- Risk reduction, i.e. measures designed to reduce the scale of impact in the event of occurrence or the probability of occurrence of the risk
- Risk transfer, i.e. the transfer to insurances or third parties in the framework of liability provisions
- Risk avoidance, e.g. through adjustments in the business strategy
- Risk acceptance, i.e. the conscious acceptance of risks and the permanent monitoring and control thereof

In general, ECC aims to mitigate high risks in as far as possible in this respect, while low risks which cannot be reduced commercially tend to be accepted instead.

Stress tests regarding equity and reverse stress tests

On the basis of theoretically feasible scenarios, stress tests are used to test whether, in these cases, the ECC equity would be sufficient to cover possible losses and risks. In contrast to this, reverse stress tests are based on the maximum loss threshold with the aim of identifying exactly those scenarios which might materialise until the threshold is reached.

Risk reporting

ECC Risk Controlling reports on compliance with the capital requirements, the stress test limits, the credit risk limits (the individual counterparty limits and compliance with the components of the lines of defence) to the Management Board every month and to the Supervisory Board every quarter. Moreover, the liquidity risk and the operating risk are covered in the risk report. Quantitative requirements, which are listed and monitored in the risk report, are specified for these risk categories. In addition, there is qualitative reporting regarding the other risks.

The risk report shows the utilisation of stress test and capital limits using a traffic light system as follows:

Limit utilisation	Traffic light colour
<85%	green
≥ 85% and < 95%	yellow
≥ 95%	red

In the event that limits are exceeded, the risk report includes the presentation of the facts of the matter as well as corresponding corrective measures.

3.2 Sub-risk strategies for controlling individual types of risks

During the year under review, ECC observed the relevant risks, which might have relevant adverse effects on ECC and its assets, financial and income situation, in the following categories.

Counterparty risks

Since, as the central counterparty, ECC steps into the chain between the buyer and the seller, it assumes both parties' default risks. For this reason, the counterparty risk constitutes one of the most important risks of ECC. At the same time, hedging of this risk constitutes ECC's main task.

The ECC risk strategy aims to fully cover this counterparty risk at all times by building risk coverage potential (lines of defence). These lines of defence consist of the following fundamental components:

- **Conditions for admission:** Only institutions which are based in jurisdictions accepted by ECC and have sufficient financial strength as well as the operating facilities for the settlement of the clearing business, can be admitted as ECC General and Direct Clearing Members. This is tested during the admission process and monitored continuously. Clearing Members in accepted jurisdictions which do not have a licence as an institute are admitted as Direct Clearing Members (DCP). In this context, such members must, at all times, trade within pre-trade limits which must not exceed the existing collateral.
- **Guarantees by Clearing Members:** The Clearing Member supporting the trading participant guarantees all obligations of the trading participant that is not a Clearing Member, e.g. from the provision of collateral, the delivery of commodities or the daily profit-and-loss settlement. Only the clearing fees owed are exempt from this guarantee. All payments are always collected directly by the Clearing Member. In the event of participation in the context of a Direct Clearing Membership, trading is only possible in the framework of limits established by ECC.
- **Daily profit-and-loss settlement:** Accrued profits and losses as well as due payment amounts are offset on a daily basis and are credited to or debited from the respective Clearing Member.
- **Individual margins:** Individual margins cover the potential losses from an open position with a security level of 99 percent during a specified holding period.
- **Intraday margin calls:** During business hours, ECC monitors the risks “near to real time” and carries out intraday margin calls and requests additional collateral whenever the risk exceeds certain internal thresholds specified in advance.
- **Allocated own funds of ECC:** ECC shall keep the allocated own funds in the amount specified by supervisory legislation at all times. These allocated own funds serve to cover potential losses which are not covered by the individual margins. The allocated own funds are used before the clearing funds are used.
- **Clearing fund:** The clearing fund is a joint form of security provided by all Clearing Members. It covers potential losses which are not covered by individual margins. The amount of the clearing fund is established on the basis of stress tests which are carried out on a daily basis and fulfil the EMIR requirements. These tests simulate

the effects of the default of the biggest participant and of the two participants or of the concurrent default of a DCP and its guarantor which have the highest exposure. This is done subject to the assumption of various extreme yet plausible market price developments. In addition, an individual minimum contribution per Clearing Member is established on the basis of the maximum of the following components:

- An absolute minimum of € 3 million for General Clearing Members, € 0.5 million for Direct Clearing Members and € 2 million for EMIR CCPs admitted as Clearing Members
- Statistics regarding the individual margin calls of a Clearing Member (including its Non-Clearing Members and customer positions) over the last 12 months
- EMIR 80% netting cap: According to EMIR Article 27, the difference between the margin requirement determined at the portfolio level and the margin requirement determined at the level of the individual product should not exceed 80% of the difference of the risk determined at the level of the portfolio and of the individual product. If this is the case for a portfolio, the amount of the difference exceeding 80% is charged as the minimum contribution.
- Concentration contribution: According to RTS 153/2013 Article 24 (2), the degree of the concentration of position has to be considered in determining risk. This concentration risk component is charged as a minimum amount.

- **Power of assessment:** In the event of the default of one or several other Clearing Members, Clearing Members can be requested by ECC to replenish the clearing fund up to the amount of the original amount for the same default.
- **Forced allocation:** In the framework of default management and in the event that positions could not be assigned after a mandatory default auction, ECC can allocate these remaining positions to the trading participants and close the remaining positions in this way.
- **Obligation to replenish the clearing fund for further defaults:** The clearing fund has to be replenished to the original amount within a period of 10 business days after it has been used. If a Clearing Member or Direct Clearing Member is in default, clearing fund contributions are released, at the earliest, one month after all obligations of the Clearing Member or DCM that has defaulted have been settled.

- **Further own resources of ECC:** ECC's further own resources cover potential losses that are not covered by earmarked own funds of ECC, individual margins or by the clearing fund.
- **Assumption of losses by the parent company:** In the context of a profit-and-loss transfer agreement, the parent company of ECC, European Energy Exchange AG, has to compensate any net losses which occur.
- **Collateral requirements and collateral haircuts:** ECC accepts cash collateral in currencies of the cleared products provided these have sufficient liquidity in the framework of the EMIR requirements and highly liquid securities collateral by issuers with a low credit risk and emission allowances as collateral. Market price fluctuations are covered by adequate collateral haircuts. Collateral is re-assessed at market prices, at a minimum on a daily basis. Guarantees by certain issuers with a low credit risk are accepted for covering collateral requirements on spot markets. Concentration risks are controlled by assigning concentration limits. The accepted collateral as well as the minimum quality of the issuers, of concentration limits as well as the exclusion of certain issuers are specified by the ECC Management Board upon a proposal by Risk Controlling.

Own funds are only invested in investments with minimum credit risk (e.g. as a secured investment) and the highest possible liquidity.

The potential losses arising from the default of due clearing fees are relatively low and are considered in the risk coverage assets.

Based on the worst-case stress scenario which serves the calculation of the clearing fund volume, a reverse stress test is carried out in order to identify the stress scenario under which the individual margin requirements, the clearing fund (including ECC's own contribution) and the ECC risk coverage assets are used up.

Stress test scenarios are also carried out for the limits set up for investments or current accounts. Lines are also part of reverse stress testing.

<u>Operational risks</u>

At ECC, operational risks are defined as comprising all potential cases of damage resulting from:

- malfunctions of the IT systems used as well as of the risks considered in the IT strategy, e.g. information security risks (ISRisk)
- inadequate design of internal processes

- errors by employees
- errors by or default of external service providers and
- legal risks.

The ECC risk strategy pursues the fundamental aim of minimising operational risks by means of the far-reaching automation in connection with approved methods of systems development and comprehensive test procedures.

The management of information security risks considers the requirements of the business and risk strategy and of the IT strategy as such. In future, the information security risks will be evaluated within the Information Security Management Systems (ISMS) and based on a protection requirements analysis. To this end, a preparatory detailed IT structure analysis was carried out in 2018. The identified information security risks will be covered with measures by the IT Strategy & Security department and submitted to the OpRisk Management of the Risk Controlling department for aggregation. These risks are plausibilised there and considered in the framework of the risk management processes.

ECC provides core services itself, while the entire IT operations and the further development of the infrastructure are outsourced to EEX. To this end, EEX, e.g., uses external services providers to generate economies of scale (in particular as regards system operations). The quality of the service providers is examined in the framework of the selection process and continuously on the basis of the service level agreements concluded. Back-up processes are implemented for critical business processes. The quality of the internal control system is checked regularly by means of audits of the internal and external auditing organisations.

Physical delivery risks are minimised, e.g. by aiming to establish priority rules for nomination at ECC in the conclusion of balance agreements – in as far as such are negotiable – or by securing such through margins.

In addition to this, ECC also has pecuniary damage liability insurance with regard to cases of damage caused by errors in commercial operations (E&O insurance). The potential losses from operating risks remaining after the payment of insurance sums are considered at the amounts required under supervisory legislation in the risk-bearing capacity concept.

Internal processes are described in the “written rules of procedure” of ECC. These contain process descriptions and controlling activities for all essential processes. They are documented in checklists in order to reduce the likelihood of human errors or omissions.

Legal risks are minimised through the use of the standard set of rules and regulations of ECC in combination with standardised contract forms. In addition, the compliance function has the task of recording control processes and risks from potential compliance and legal violations with the help of a standardised questionnaire and through control activities and reporting ensuring that effective procedures for compliance with the legal provisions and requirements material for the institution and corresponding control measures are implemented.

The data protection function supports controlling of data protection risks by ensuring compliance with the EU GDPR requirements.

Management of availability risks is supported by the Business Continuity Management Function (BCM). The BCM is based on a standardised business impact analysis on the basis of a process map, requirements regarding the provision, documentation and testing of business-critical processes identified from these as well as a corresponding reporting system.

The model validation function provides support in controlling model risks with a model landscape, regular and specific validation activities and reporting to the Management Board and the risk committee.

A damage database is kept for the on-going monitoring and reporting of cases of damage during operations. In this database, all operating events (even if such have not led to any direct financial damage) are recorded in a decentralised form and, afterwards, analysed with the participation of the competent members of the Management Board on a monthly basis. If required, measures are adopted and implemented.

Once a year or on an ad-hoc basis, ECC carries out a top-down OpRisk self-assessment with the support of the risk controlling department in charge of monitoring OpRisk risks. The risks identified are communicated to the ECC Management Board. In this process, information security risks which are updated at regular intervals on the basis of the protection requirements of the respective data are also considered. Moreover, in line with this, risk perspectives from other 2nd-line-of-defence risk registers or findings by these functions are also reported to risk controlling.

Rik controlling brings together both risk perspectives (OpRisk self-assessment and risk registers/findings) to provide an overall risk perspective across operational risks in the risk report.

Stress test scenarios are also carried out for operational risks. Furthermore, operational risks are also part of reverse stress testing.

Liquidity risks

Liquidity risks can arise both from the settlement of the ongoing business (uncovered risk) and in the event of a default of a Clearing Member (covered risk).

On account of the ongoing business, the settlement of the ongoing business does not lead to any material differences in time periods.

The ECC risk strategy pursues the aim of avoiding differences in time periods in the balance sheet by means of an adequate investment policy. The financing requirements for current expenses (incl. profit distributions) and investments are planned and covered in the framework of medium-term planning. Any unplanned funding shortfalls (which might essentially result from taxation matters) are covered by providing liquidity reserves.

The liquidity risk is monitored and reported on the basis of the following criteria:

a) Rolling 12-month liquidity forecast,

b) Analysis of the business risks with the help of various scenarios of business development (which have an effect on liquidity as a result of the discontinuation of cash flows in the form of trade fees) as well as

c) Expected wind-down period (period for which ECC would survive in the event of the discontinuation of inflows of cash, which forms a reverse stress test).

The default of a Clearing Member and the effects on liquidity are controlled as follows in accordance with the requirements under Article 44 of EMIR in conjunction with the Delegation Regulation 153/2013:

a) High requirements put to the convertibility of collateral to be furnished into cash,

d) Adequate haircuts on collateral furnished,

e) Provision of liquid resources which, at least, cover the liquidity requirement in the event of the simultaneous default of the two Clearing Members which generate the highest liquidity requirement in extreme yet plausible market conditions (stress test) and

f) Maintenance of lines at various institutions and the parent company as well as access to Bundesbank intraday credit.

ECC daily prepares a liquidity report regarding the existing liquid resources as well as the liquidity requirement in the event of the default of the two Clearing Members which generate the highest liquidity requirement under extreme yet plausible market conditions. Moreover, the potential sources of liquidity risks are recorded in the liquidity plan which is updated on a quarterly basis and communicated to the Management Board.

A stress risk analysis is carried out with the help of scenarios for future revenue and costs in the framework of controlling liquidity risks from the uncleared business.

Compliance risks

ECC records general compliance risks in a compliance questionnaire and develops 2nd line of defence controls with the help of identified risks. ECC is exposed to compliance risks, in particular, in the field of sales tax fraud, damage to reputation resulting from the unauthorised publication of information and from abuse for money laundering purposes. Furthermore, in its capacity as a credit institution, ECC has to ensure that transactions are not carried out with either natural persons or legal entities listed in the relevant sanctions lists.

ECC settles all transactions via Clearing Members or settlement banks. Since, as banking institutions, these are subject to the rules of the German Banking Act (or of other equivalent provisions) regarding the implementation of measures to fight money laundering, financing of terrorism and other criminal acts, ECC only has a low risk of being abused for money laundering, financing of terrorism or other criminal acts. This risk is re-evaluated in a risk analysis on an annual basis.

The ECC risk strategy aims at identifying any counterparty with a higher risk profile as early as during the initial stage of the business relationship by means of a standardised know-your-customer process and a scoring procedure which were developed in cooperation with the exchanges and markets for which ECC provides clearing. In addition, all potential counterparties are checked during the admission process of the exchange and markets or Clearing Members.

During the admission process of new Clearing Members, ECC inquires whether these have implemented adequate measures to combat money laundering. In the event of justified doubt during the ECC admission process, a decision by the ECC Management Board is brought about.

Moreover, ECC automatically checks all business partners, including important associated companies of these, against known sanctions lists on an ongoing basis. Sensitive information and information which has to be protected is given special protection by ECC. Moreover, ECC has established rules to combat fraud and corruption.

Within EEX Group, the function of the data protection officer is outsourced to Deutsche Börse Group; as a result, it can also benefit from economies of scale here. Additional required local supplementary activities are initiated and controlled by the outsourcing officer. The function of IT Compliance is organised within EEX Information Security & Strategy. The requirements for the specific design of IT Compliance are, e.g., based on findings by higher-level Compliance Monitoring.

In the risk-bearing capacity analysis, the compliance risk forms part of the operating risks.

Business and settlement risks

The essential business risk consists of the company's dependence on only a few high-revenue markets and a potential decline of revenue while fixed costs remain unchanged since the ECC revenue largely depends on sales.

ECC's risk strategy aims at controlling this risk with the help of the expected overall costs under consideration of fixed and variable cost components, by including it in risk reporting, comparisons with competitors and monthly financial reporting by means of target-actual comparisons. Risk controlling in the framework of project implementation (i.e. compliance with the schedule, costs and budget) is executed in the framework of project control.

ECC monitors the regulatory changes in cooperation with the European Association of CCP Clearing Houses (EACH) and the auditors and it has developed the competence to assess and control these strategic risks.

A complete erosion of the business model is considered in the scenario analysis in the calculation of the wind-down period (reverse stress tests).

In considering the economic risk-bearing capacity, stress tests regarding revenue are carried out based on the revenue plan/forecast.

Concentration risks

In addition to the management of individual risks, monitoring and controlling of concentration risks forms an essential component designed to ensure the stability of a clearing house. The term "concentration risk" is defined as potential losses which might result from the concentration of contracts in individual portfolios at the level of the trading participants and/or Clearing Members as a result of insufficient diversification with regard to the accepted collateral or the business partners.

Concentrations with regard to counterparty risks can arise both in the actual clearing business and in the non-cleared business (e.g. treasury):

- Concentration risks which materialise in the portfolios of the trading participants or at the level of the Clearing Members (clearing business) are continuously monitored by ECC in the framework of daily stress testing which considers the sizes of the position in relation to the trading volume of the respective markets measured at the time. If required, in the event of concentrated positions, ECC will request a higher contribution to the clearing fund from the Clearing Member concerned. In addition, discussions will be held with the Risk Committee to consider alternative adequate procedures individually at the level of the trading participants concerned.

- Concentration risks by big clearing participants are mitigated and controlled by calculating the clearing fund on the basis of the default of the two biggest clearing participants within the sense of a stress test.
- With the aim of monitoring and controlling concentration risks of the accepted collateral from clearing, ECC has defined a monitoring process as well as corresponding concentration limits for individual issuers, types of issuers), for the different types of collateral and the consideration with regard to margin requirements.
- Concentration risks in the uncleared business can arise in the process of holding and investing cash collateral. In principle, balances with banks are only possible in the framework of the limit tableau; cash balances always have to be transferred to the ECC TARGET2 account. In investing cash collateral, concentration risks are avoided by collateralising the investments (e.g. reverse repo) and by distributing the investments to different counterparties. In addition, there are specifications for individual counterparties regarding credit rating and limits adopted by the Management Board.

Concentrations with regard to liquidity risks can arise in the actual clearing business and in the uncleared business (e.g. revenue/costs).

In order to control concentration risks regarding liquidity in the cleared business, liquidity scenarios based on the default of the two biggest Clearing Members are considered. In the event that insufficient liquidity is found here, e.g. since the ratio between cash collateral and other collateral (in particular securities) falls below a defined threshold value, ECC can charge cash margins or determine a cash rate.

In addition, with a view to the financial settlement via payment/correspondence banks, ECC aims to have more than one bank available per currency (e.g. one bank with an automatic payment interface + an additional bank as a back-up with the option of manual payments). Concentration risks are not perceived with regard to the financial settlement of EUR payments made via the TARGET2 system.

In order to control concentration risks from the uncleared business, ECC primarily relies on covering its structural liquidity requirement through its own liquidity rather than credit lines.

Concentrations regarding operating risks are controlled in the framework of stress test analyses. On account of the fact that market price risks are immaterial for ECC, this likewise applies to concentration risks in this field. Separate controlling is not effected.

Market price risks

On account of the positions which are closed on principle in the clearing business, there are no market price risks. The market price risks resulting from the remaining business operations (essentially foreign currency risks) are insignificant and controlled in accordance with the situation.

In case the materiality thresholds are exceeded, capital sums have to be provided for market price risks according to the Delegated Regulation 152/2013.

Risk of tighter regulation in the financial and energy sector

Regulation for capacity allocation and congestion management (CACM)

The EU regulation specifying a guideline for capacity allocation and congestion management (CACM) outlined in section 2.1 “Regulatory Framework Conditions” and the introduction of the Nominated Electricity Market Operator (NEMO) contained therein also entails risks for ECC. In future, other NEMOs can use the market depth and the development status of the order book which has been operated by EPEX alone with the aim of implementing uniform day-ahead market coupling and the uniform intraday market coupling, and benefit from the existing liquidity as a result without necessarily contributing more liquidity. For example, the XBID project which aims to establish a pan-European intraday solution and was launched in June 2018 leads to a situation in which EPEX is forced to share liquidity in all of its markets with other NEMOs. This can lead to two-digit losses in the intraday trading volumes even though this trend has not been observed since June 2018. On the other hand, the CACM regulation creates the possibility to offer (day-ahead and intraday) trading services with delivery in other member states without the need for a NEMO to be appointed in this member state or actively operating in it previously. This reciprocity creates uniform conditions for power market operators in Europe. For ECC, this means a possible market entry of competitors into the EPEX markets, on the one hand, while, on the other hand, it also entails the possibility of opening up new market areas.

The fact that refunding of the costs generated in exercising the market-coupling operator function (“MCO function”) is not guaranteed constitutes yet another risk: NEMOs should be entitled to cover the costs incurred by them provided such were efficiently incurred and are adequate and proportionate. The MCO function is EU regulated; however, the amount of the costs to be refunded is ultimately determined at a national level by the respective regulatory authority. Before the CACM regulation takes effect, the costs were contractually specified and guaranteed by the respective transmission system operators.

After the initial experience with the MCO function, on the one hand, and the further development of local products outside the regulated single day-ahead coupling and single intraday coupling (XBID), on the other, there have been frequent discussions as to whether it was a contradiction that the MCO function regulated on a EU-wide basis is operated by competing NEMOs. Moreover, there are discussions as to whether a split of the MCO function from the commercial spot exchange business might be an option to overcome this alleged contradiction. At present, there is the risk that, in the framework of an adjustment of the CACM regulation to the Clean Energy Package, such an "unbundling" of two different but de-facto complementary functions might be introduced as an option. Officially, the EU Commission does not support this, but the lobbying efforts of many NEMOs, including Nord Pool Spot and other monopolies connected with it, is very strong and might possibly aim to end the NEMO competition in Europe. This would not only affect EPEX but also ECC.

EU Markets in Financial Instruments Directive (MiFID II)

Companies which are subject to MiFID II because they exceed certain threshold values are considered "financial institutes". As a result, these companies have to fulfil a number of additional requirements, e.g. organisational and capital requirements. This can lead to a situation in which energy traders feel they are forced to scale back their trading activities (with regard to their other activities) accordingly in order to avoid these requirements. Therefore, the question of how the so-called "ancillary activity exemption" is designed is of major importance.

The details regarding the implementation of MiFID II/MiFIR are established in the so-called regulatory technical standards (RTS). The RTS, e.g., govern the threshold values for the determination of the ancillary activity exception. This is positive, in as far as the so-called "Capital Employed Test" has become a firm element of the regulation. This means that invested capital is taken into account in calculating the ancillary activity.

The fact that certain physical derivatives on natural gas and power which are traded over the counter are not classified as financial instruments is critical since it means that trading in such derivatives is not regulated via MiFID II. These less regulated products can only be traded on platforms referred to as "Organised Trading Facilities (OTFs)". Trading transactions which are concluded at an OTF are exempt from MiFID II, while similar transactions concluded on a regulated market or on an exchange are covered by the scope of application of MiFID II. As a result, OTFs have a regulatory advantage with regard to physical power and gas derivatives trading and there is the risk of a massive shift in volumes away from the exchange and towards the OTFs. This can lead to general restraint on the part of the players in trading in products on the EEX Group power and gas derivatives markets. In order to give customers a possible alternative, EEX and Powernext set up a so-called Non-MTF as a precursor of an OTF in 2016, which was converted into an OTF after the issue of a corresponding license as of 3 January 2018.

Moreover, EMIR also uses the definition of financial instruments provided in MiFID II so that these over-the-counter physical derivatives are also not regulated by EMIR. As a result, trading in such physical derivatives has significant regulatory advantages as against the products offered by EEX (e.g. no need to obtain a financial services licence along with the requirement of providing corresponding equity, no position limits, lower reporting requirements and no mandatory clearing according to EMIR). As a result, volumes which are registered for clearing using the Trade Registration channel within EEX Group – with the exception of the OTF business - are also subject to this risk since derivatives traded over the counter are converted into financial instruments in the Trade Registration process.

Nonetheless, the numerous reporting and transparency obligations are also a business model for the exchange by supporting the exchange customers with service offerings to fulfil the requirements. In spite of the high regulatory requirements, a trend towards a shift of MiFID II trading activities from the over-the-counter to the regulated exchange market to ensure compliance with the regulatory requirements can also be observed among the market participants.

Financial transaction tax

The introduction of a joint financial transaction tax in individual EU member states – including Germany – is still the subject of political negotiations, although the legislative process was not continued in 2018. Even though, at present, a proposal by the French government aimed at a type of share tax is supported by the federal ministry of finance in principle, the further process is still uncertain at the moment. Therefore, the inclusion of commodity derivatives is considered as being unlikely at the moment; however, it is not excluded until a final political decision is taken. The most negative lasting effect of a financial transaction tax would be a shift in trading activities to trading platforms in countries not affected by such a tax since this would form a clear competitive advantage for competitors.

Regulation for central counterparties

Essential initiatives which will make further progress in 2019 include the revision of the EMIR provisions (EMIR Refit), the preparation of a regulation regarding CCP settlement (Recovery and Resolution) as well as the discussion of the distribution of tasks between national supervisory authorities and the European Securities and Markets Authorities (ESMA) in the framework of EMIR.

As a financial institution under the German Banking Act, ECC is also affected by the revision of the minimum requirements for risk management (MaRisk), which were published in late 2017. In this connection, the supervisory legislation practice of the Federal Financial Supervisory Authority has evolved which is reflected, in particular, in requirements from ongoing reviews. Overall, tighter requirements regarding processes and procedures as well as the organisation of ECC result in partly higher expenses.

Further development of the power market design

Energy turnaround and power market design

The Clean Energy Package, which was adopted in late 2018, will have a significant impact on the development of the European energy markets and, in particular, of the power markets. This legislative package introduces a large number of new or revised provisions in the fields of energy efficiency, renewable energies, power market design and security of supply. In principle, this legislative package includes many provisions regarding competitive energy markets. Nonetheless, as seen from the perspective of ECC, some aspects have to be evaluated as being difficult and the concrete effects of these cannot be finally predicted and might constitute a potential risk depending on the concrete design.

One fundamental point of criticism is that, at a political level, the package focuses too much on the technical details instead of giving a clear overall vision and, as a result, leaving the route towards that target to the market and, consequently, the competition. This entails the risk of regulatory micro-management at the expense of market-based solutions. As a result, the overall importance of the wholesale market might be restricted or it might even decline – contrary to the actual political intention. The rule regarding border-crossing trading and its effects on the design of power bidding zones provide concrete examples of this. According to this, EU member states are obliged to provide 70 percent of the line capacity at the cross-border interconnectors for trading in power, at the latest, by late 2025, with 30 percent remaining for system service requirements of the transmission system operators and unplanned load flows. What is intended to promote trading and the integration of the market areas on the one hand, can, as a result, also lead to a completely different outcome, on the other hand, if the member states have to divide their existing market areas in order to achieve the additional border-crossing power flows. As a result, the discussion regarding the design of power bidding zones remains highly controversial and, therefore, the risk of uncertainty regarding potential future amendment also persists. The most recent example of the split of the German-Austrian price zone has shown that an amendment of the bidding zone configuration had a massive impact on the trading market – in particular, a significant decline in trading volumes was observed on the EEX power derivatives market. The preservation of the German bidding zone is a declared political aim in Germany; however, as a result of the new European provisions, its preservation depends on the further expansion of the transmission and distribution system in Germany to a significant degree in order to reduce congestion situations and achieve the performance targets for border-crossing trading.

Discussion regarding the coal phase-out

In Germany, an intense discussion is underway regarding the phase-out of coal-fired power generation. To this end, in June 2018, the federal government set up the commission for growth, structural change and employment. Under consideration of energy, climate, regional and structural policy, the essential tasks of this so-called ”coal commission” include, first, the development of measures for the attainment of the German 2020 and 2030 climate protection targets; second, the preparation of a plan for the gradual reduction and termination of coal-fired power generation, and, third, financial coverage of the necessary structural change in the regions concerned.

The energy-industry effect of a coal phase-out on the development of power prices and the security of supply also forms an element of the current discussion. In this connection, requests for a compensation mechanism for high power prices, on the one hand, and the introduction of a separate capacity market for guaranteed capacity, on the other hand, were repeatedly voiced. As seen from the perspective of ECC, the introduction of such additional instruments entails the risk of undermining the reference effect of the power price signal and the function of the trading market and even calling these into question in the long run.

Reform of the European Emissions Trading Scheme

In 2018, political consensus was achieved on the reform of European emissions trading scheme. Essentially, this concerns the introduction and design of the market stability reserve in order to reduce the number of excess certificates and to significantly reduce the permitted annual emissions budget in the 4th trading period from 2021 to 2030. Even if one part of the reforms only becomes fully effective from 2021, the emissions market anticipated this in 2018, which was, e.g., reflected in an increase in the price level and growth in trading activities.

In spite of these reforms, there are further political calls for reinforced CO2 pricing beyond EU-ETS, e.g. in the framework of a CO2 tax or a CO2 minimum price. As seen from the perspective of ECC, however, the EU ETS is the central climate protection instrument. More ambitious climate protection aims, such as the inclusion of additional sectors, e.g. heating and transport, should, therefore, be effected through an expansion of the ETS, if possible. Additional instruments and, first and foremost, national measures entail the risk of undermining the operation of the EU ETS and calling it into question in the long run.

Gas market

In the gas sector, change regulatory framework conditions or an adjustment of market area designs also create new challenges for the market. The measures announced at the European level can lead to fundamental changes to the current gas market design and, in particular, the tariff and capacity structures. In the framework of the “quo vadis” discussion, possible scenarios of the formation of a central European wholesale market area are being discussed. In this case, EEX Group would be forced to reduce the product range on its PEGAS trading platform and traders would lose arbitrage options from the current price difference between the different market areas.

It remains to be seen whether a market area merger will increase liquidity overall and, as a result, offset the negative effects. Since the merger of the PEG Nord and TRS market areas, a declining trend in trading activities has been observed on the French market. Even if PEGAS was able to launch new products with the congestion products, the previous market coupling mechanism between the two French areas (“BETSY”) on PEGAS had to be discontinued.

In Germany, the envisaged market area merger and the partly missing information on the design and the timeframe of the merger result in considerable uncertainty for the market. This involves the risk that market participants might resign from the market and that PEGAS might lose trading volumes. Therefore, PEGAS is making an active contribution to the discourse in Germany and offers to develop market-based instruments for congestion management for the German market, just like in France.

In the course of the “future role of gas” debate, both risks and opportunities have to be expected for ECC. Obstacles for border-crossing trading, in particular, are to be avoided in the feed-in of renewable gases (e.g. by harmonising corresponding European quality standards). There is the risk that the “lessons learnt” from the Clean Energy Package for the power sector might not be appropriately transferred to the gas market. However, the Europe-wide introduction of a guarantee-of-origin system for renewable gas and for Registry Service business segment also provides enhanced market opportunities for the Registry Services business segment.

Brexit

The United Kingdom’s withdrawal from the European Union announced as of 29 March 2019 constitutes a fundamental change for political and economic cooperation in Europe: For the first time, a member is leaving the European Union and, as a result, the single market. Regardless of the concrete exit process and various uncertainties, provisions for the transition from a member state to a future third country have to be adopted for the first time. This process is characterised by numerous uncertainties and is made even harder by the politically unstable situation in the United Kingdom.

For ECC, there are a number of Brexit-related risks, such as significant differences between the EU and the UK regulation which might lead to regulatory arbitrage regarding competitors based in the United Kingdom. Furthermore, in the event of a “no-deal” Brexit, numerous ECC Clearing Members based in Great Britain must ensure continuous market access – for example by shifting activities to the European Union. EEX Group supports this customer-based process and applies for licences for the ECC clearing house in the United Kingdom in order to ensure regulatory certainty for their customers.

General political uncertainty

While, in principle, trading markets are subject to the influence of the respective market-specific political framework conditions, the uncertainty regarding the fundamental stability of political framework conditions and the political ability to act persists.

This e.g. includes uncertainty regarding the design and the concrete consequences of the United Kingdom’s withdrawal from the European Union. In addition, positions accompanied by increasing rejection of established institutions of the political systems can increasingly be observed in some European countries. As a result, finding clear political majorities as the basis for stable governmental action is becoming increasingly difficult. This also applies to Germany after the most recent federal parliamentary elections in 2017 and the subsequent long-winded process for the formation of a government. In addition, Federal Chancellor Merkel has relinquished the CDU chairmanship, which has resulted in a discussion of her future as the head of the government. Moreover, the results of the four state parliamentary elections scheduled in Germany in 2019 might cause the government coalition to break down before the regular end of the legislative period triggering new elections.

As seen from the market’s perspective, there is the risk that these political developments might also have an effect on the energy and commodity markets as well as the business activities of ECC, e.g. in the form of political structural breakdowns and a reversal of decisions which have already been taken. Moreover, the interaction and the consistency between national and European legislation might also be affected. Finally, there is the risk that international conflicts might lead to changes in international trade relations, e.g. with regard to rules on the mutual recognition of trading platforms or clearing houses in other jurisdictions. There is the risk that licences which have already been granted might be withdrawn or that new licences applied for might be refused.

Risk parameters according to EMIR

The equity available to cover risks is established on the basis of the EMIR provisions based on the balance sheet equity of ECC. On 31 December 2018, the EMIR equity was k€ 108,935 (2017: k€ 80,612).

Potential losses from the default of ECC Clearing Members are covered by the multi-tier margin system of ECC. In order to ensure compliance with the requirements under Article 45 (4) of the Regulation (EU) 648/2012 on OTC derivatives, central counterparties and trade repositories in conjunction with Article 35 of the Delegated Regulation (EU) 153/2013, ECC has formed earmarked retained earnings, which are also referred to as “skin-in-the-game”, to fulfil the requirement regarding allocated own funds. The volume of this provision is reviewed, at least, annually and adjusted if required. In the financial year under review, k€ 1,500 from retained income were added to the provision under EMIR. As a result, it was k€ 11,500 on 31 December 2018. For this reason, this risk category is not compared as against risk coverage assets above and beyond these retained earnings.

On the balance sheet date, the necessary capital requirement with regard to the credit risk (i.e. the risk exceeding the default risks towards trading participants indicated) was k€ 3,023 (2016: k€ 1,592). The capital required for the market risk of the currency risk was k€ 765 on the balance sheet date and is reported separately for the first time.

With regard to operational risks, a capital requirement of k€ 19,400 is assessed in accordance with the requirements of the Delegated Regulation 152/2013 (2017: k€ 8,108).

The capital requirement with regard to business risks and wind-down costs is established in accordance with the specifications in the Delegated Regulation 152/2013. On the balance sheet date, capital expenditure for business risks was k€ 21,001 (2017: k€ 9,080), while it was k€ 21,001 for settlement risks (2017: k€ 18,160).

The risk coverage assets available to cover risks are considered as being sufficient to cover the expected risk at all times.

3.3 Description of the essential opportunities

For a holistic impression of the business operations of ECC, the opportunities have to be considered, in addition to the risk aspects.

Opportunities are managed in the framework of strategic management, corporate development and of the continuous improvement process. In this framework, opportunities for technological developments, new pricing strategies or potential partnerships are identified. The projects are, e.g., prioritised in the framework of the institutionalised strategy discussion and of the planning process. In this process, the added value as seen from the perspective of the customers is taken into account just like the strategic aims and the available resources. Essential opportunities are characterised by a significant impact on the assets, financial and income situation and, as a result, they are also regularly submitted to profitability assessments during the prioritisation phase.

ECC's position as a specialist clearing house for energy and related products with an integrated business model (integrated clearing) constitutes a unique selling proposition compared to the competitors. This creates opportunities for ECC to win over exchanges which have not been connected to ECC so far as cooperation partners. In this respect, identifying, developing and continuously communicating the energy market-specific advantages of the ECC settlement systems to potential new partners are of decisive importance. This model offers significant cost advantages, in particular, for trading participants operating on several market platforms, since contrary positions can be considered in the calculation of the collateral to be furnished (cross-margining) and the costs of connection decline. In addition to well-known services, such as financial and physical settlement and risk management services, the ECC service portfolio increasingly also includes reporting services in order to support the Clearing Members with regard to the tighter regulatory requirements. The offering of the clearing house significantly reduces the effort for Clearing Members to ensure compliance with the requirements under EMIR Article 9, REMIT and MiFID II/MiFIR and, as a result, increases the ECC's appeal.

The use of trade limits at partner exchanges constitutes a fundamental element for the reduction of access barriers to clearing and enables Clearing Members to effectively control the risks of their Non-Clearing Members. With central limit administration across exchanges, ECC launched an innovative tool for the efficient determination and administration of trade limits in 2016 and, as a result, it increases its attractiveness for Clearing Members. Together with the partner exchanges, ECC is continuously working to expand the limit functionalities.

In addition, the restructuring of existing process and of the technical infrastructure also provide further opportunities. For example, there are plans to replace the current EUREX Classic clearing system in mid-2019. In future, the C7 system, which constitutes the current standard for clearing systems within Deutsche Börse Group at present, is to be used instead.

Furthermore, against the backdrop of the regulatory requirements, the importance of the clearing business can increase further. The expansion of the current clearing services, e.g., to other countries and trading hours might significantly simplify access for new trading participants and further improve ECC's position in the global clearing business.

In the framework of the XBID project, coupling of bidding zones in the intraday market will again be intensively promoted in 2019. This provides ECC, as a clearing house, with the opportunity to provide its services for other market area boundaries and to establish a position for itself as the clearing service provider of choice. As a result, ECC is convinced that it will be able to further strengthen its international position.

The expansion of the collateral accepted by ECC and the extension – and, where possible, simplification – of the conditions for access to clearing constitute further possibilities for expanding the clearing business.

In addition, measures designed to lower market entry barriers for small and medium-sized companies offer further opportunities. The continuous development of the Direct Clearing Participant Clearing Member model can help to achieve this.

3.4 Overall statement on the risk and opportunity situation

Overall and under consideration of the partner exchange approach as well as of the more diversified revenue structure, its earning power and financial stability, ECC is convinced that it has established a sound position for itself to attain the targets pursued and further strengthen its position as a leading clearing house in Europe. This is based on the competitive value chain within EEX Group which is characterised by liquid trading markets and cost-effective clearing solutions. The Management Board is confident that the risk and opportunities management system established in the Company will identify risks and opportunities early on also in future and that, as a result, the risk situation as it presents itself at present can be managed successfully and that potential opportunities can be used.

4. Forecast report

The forecast report describes the probable development of ECC in the 2019 financial year. This report contains forward-looking statements. It is based on current expectations, assumptions and forecasts by the Management Board and on the information which is currently available for it. These forward-looking statements should not be considered a guarantee of the future developments and results mentioned in these. The future developments and results rather depend on a large number of factors. They comprise various risks and uncertainties and are based on assumptions which might turn out to be incorrect. We do not accept any obligation to update the forward-looking statements provided in this report.

The following assumptions were made in the framework of planning of the economic, regulatory and competitive environment in 2019.

- Potential changes in the regulatory environment (in particular, with regard to OTF) will not place regulated platforms at a disadvantage
- No impairment as a result of regulatory changes for the financial markets (e.g. higher capital requirements for Clearing Members, no introduction of a financial transaction tax)
- No fundamental change of the ECC risk profile

In the coming financial year, ECC will implement significant developments of its process and IT landscape to ensure continued compliance with the increased regulatory requirements. This will further increase the stability of its systems and help to enhance the services offered in order to promote customer satisfaction and expand the product portfolio. Moreover, there are plans to further expand the cooperation with the Irish transmission system operators EirGrid and SONI.

Income from commission fees is expected to be more than 20 percent higher than in the previous year. Apart from this, clearing of the power spot and derivatives market is again expected to be the mainstay of revenue in 2019. Moreover, the commission income in the natural gas segment is increasingly gaining in importance and, as a result, supports the ECC diversification strategy. After the relatively low volumes on the gas derivatives markets in 2018 as a result of MiFID and the high competitive pressure by the brokers, it is expected that market shares will be regained in 2019.

In 2019, ECC's fixed costs are expected to be 16 percent higher than in 2018. This increase in costs is primarily due to higher personnel expenses in the framework of planned new recruitments and to salary adjustments. Moreover, growing overheads and higher operating IT costs are expected with the latter being due to expenses for maintenance, optimisation and the further development of existing clearing systems in order to generate increases in sales and economies of scale in future.

Based on the development of the commission income outlined, ECC expects a slight increase in EBT compared with the previous year.

In the event of an unfavourable development of the framework conditions for ECC, ECC still considers itself as being able to profitably operate its business because of its successful business model. Sensitivity analyses have shown that a decline in commission income of 10 percent as against the plan would result in a drop in earnings of approximately 17 percent. In this context, it was e.g. assumed that variable costs would develop in line with the transaction revenue and that all other cost items would remain stable.

ECC is convinced that, with its integrated clearing model, it continues to have a very good position and expects its revenue to develop positively both in the coming year and in the medium term.

Leipzig, 12 March 2019

Peter Reitz
Chief Executive Officer (CEO)

Dr Götz Dittrich
Chief Operating Officer (COO)

Dr Thomas Siegl
Chief Risk Officer (CRO)

Independent Auditor's Report

To European Commodity Clearing AG, Leipzig

Opinions

We have audited the annual financial statements of European Commodity Clearing AG, Leipzig, which comprising the balance sheet as at 31 December 2018, and the statement of profit and loss for the financial year from 1 January to 31 December 2018, and notes to the financial statements, including the recognition and measurement policies presented therein. In addition, we have audited the management report of European Commodity Clearing AG, Leipzig for the financial year from 1 January to 31 December 2018.

In our opinion, on the basis of the knowledge obtained in the audit,

- the accompanying annual financial statements comply, in all material respects, with the requirements of German commercial law applicable to business corporations and give a true and fair view of the assets, liabilities and financial position of the Company as at 31 December 2018 and of its financial performance for the financial year from 1 January to 31 December 2018, in accordance with German Legally Required Accounting Principles, and
- the accompanying management report as a whole provides an appropriate view of the Company's position. In all material respects, this management report is consistent with the annual financial statements, complies with German legal requirements and appropriately presents the opportunities and risks of future development.

Pursuant to Section 322 (3) sentence 1 HGB [Handelsgesetzbuch: German Commercial Code], we declare that our audit has not led to any reservations relating to the legal compliance of the annual financial statements and of the management report.

Basis for the Opinions

We conducted our audit of the annual financial statements and of the management report in accordance with Section 317 HGB and the German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer [Institute of Public Auditors in Germany] (IDW). Our responsibilities under those requirements and principles are further described in the "Auditor's Responsibilities for the Audit of the Annual Financial Statements and of the Management Report" section of our auditor's report. We are independent of the Company in accordance with the requirements of German commercial and professional law, and we have fulfilled our other German professional responsibilities in accordance with these requirements. We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our opinions on the annual financial statements and on the management report.

Responsibilities of Management and the Supervisory Board for the Annual Financial Statements and the Management Report

Management is responsible for the preparation of the annual financial statements that comply, in all material respects, with the requirements of German commercial law applicable to business corporations, and that the annual financial statements give a true and fair view of the assets, liabilities, financial position and financial performance of the Company in compliance with German Legally Required Accounting Principles. In addition, management is responsible for such internal control as they, in accordance with German Legally Required Accounting Principles, have determined necessary to enable the preparation of annual financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the annual financial statements, management is responsible for assessing the Company's ability to continue as a going concern. They also have the responsibility for disclosing, as applicable, matters related to going concern. In addition, they are responsible for financial reporting based on the going concern basis of accounting, provided no actual or legal circumstances conflict therewith.

Furthermore, management is responsible for the preparation of the management report that as a whole provides an appropriate view of the Company's position and is, in all material respects, consistent with the annual financial statements, complies with German legal requirements, and appropriately presents the opportunities and risks of future development. In addition, management is responsible for such arrangements and measures (systems) as they have considered necessary to enable the preparation of a management report that is in accordance with the applicable German legal requirements, and to be able to provide sufficient appropriate evidence for the assertions in the management report.

The supervisory board is responsible for overseeing the Company's financial reporting process for the preparation of the annual financial statements and of the management report.

Auditor's Responsibilities for the Audit of the Annual Financial Statements and of the Management Report

Our objectives are to obtain reasonable assurance about whether the annual financial statements as a whole are free from material misstatement, whether due to fraud or error, and whether the management report as a whole provides an appropriate view of the Company's position and, in all material respects, is consistent with the annual financial statements and the knowledge obtained in the audit, complies with the German legal requirements and appropriately presents the opportunities and risks of future development, as well as to issue an auditor's report that includes our opinions on the annual financial statements and on the management report.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Section 317 HGB and in compliance with the German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer (IDW) will always detect a material misstatement. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these annual financial statements and this management report.

We exercise professional judgement and maintain professional scepticism throughout the audit. We also:

– identify and assess the risks of material misstatement of the annual financial statements and of the management report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinions. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal controls.

– obtain an understanding of internal control relevant to the audit of the annual financial statements and of arrangements and measures (systems) relevant to the audit of the management report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of these systems.

– evaluate the appropriateness of accounting policies used by management and the reasonableness of estimates made by management and related disclosures.

– conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in the auditor's report to the related disclosures in the annual financial statements and in the management report or, if such disclosures are inadequate, to modify our respective opinions. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Company to cease to be able to continue as a going concern.

– evaluate the overall presentation, structure and content of the annual financial statements, including the disclosures, and whether the annual financial statements present the underlying transactions and events in a manner that the annual financial statements give a true and fair view of the assets, liabilities, financial position and financial performance of the Company in compliance with German Legally Required Accounting Principles.

– evaluate the consistency of the management report with the annual financial statements, its conformity with [German] law, and the view of the Company's position it provides.

– perform audit procedures on the prospective information presented by management in the management report. On the basis of sufficient appropriate audit evidence we evaluate, in particular, the significant assumptions used by management as a basis for the prospective information, and evaluate the proper derivation of the prospective information from these assumptions. We do not express a separate opinion on the prospective information and on the assumptions used as a basis. There is a substantial unavoidable risk that future events will differ materially from the prospective information.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Frankfurt am Main, 12 March 2019

KPMG AG
Wirtschaftsprüfungsgesellschaft
[Original German version signed by:]

Pfeiffer Wirtschaftsprüfer [German Public Auditor]	Hommel Wirtschaftsprüfer [German Public Auditor]