part of eex group

ecc

IOSCO - Principles for financial market infrastructures (PFMI)

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Introduction

European Commodity Clearing AG (ECC) is the central clearing house for energy and related products such as power, natural gas, environmental markets (e.g. emission allowances, guarantees of origin), freight, agricultural products (potatoes, dairy, fertiliser) and pulp.

Currently, ECC provides clearing services for several partner exchanges:

- European Energy Exchange (EEX)
- EPEX SPOT
- EEX Asia
- Hungarian Power Exchange (HUPX)
- Hungarian Derivative Energy Exchange (HUDEX)
- Norexeco
- POWER EXCHANGE CENTRAL EUROPE (PXE)
- SEEPEX a.d. Beograd (SEEPEX)
- SEMOpx.

A short description of the markets can be found on the ECC website: https://www.ecc.de/en/clearing/partner-exchanges-and-products.

ECC was established in 2006 as a wholly owned subsidiary of EEX. All clearing activities of EEX have been transferred to ECC as a central counterparty (hereinafter CCP).

EEX holds 100 percent of the shares of ECC. ECC has a wholly owned subsidiary in Luxembourg. European Commodity Clearing S.á.r.l. (ECC Lux) started operations in 2009. It steps into the delivery process as an additional contractual partner in respect to settlement of deliveries of commodities from transactions in power and natural gas, which are settled by ECC.

EEX is a member of Group Deutsche Börse, Europe's main exchange and clearing house operator. Detailed information can be found using this link:

https://deutsche-boerse.com/dbg-de/ueber-uns/gruppe-deutsche-boerse/organisation/organisation

ECC has established integrated processes and highly efficient operations for clearing and settlement services. Its range of clearing and settlement services comprises physical settlement, financial settlement and invoicing for transactions.

ECC has a strong footprint in the settlement of physically delivered energy contracts and therefore works together with a broad network of more than 20 transmission system operators (TSOs) and hub operators, Market Area Managers and is linked to several Registries for various registry-based products such as Emission Allowances or Guarantees of Origin.

ECC connects European commodity markets through integrated and automated clearing processes. One clear connection enables Trading Participants to benefit from a broad network of partners and maximum cross-commodity effects.

Currently, ECC provides clearing services for the partner exchanges BSP, EEX, EEX Asia, EPEX SPOT, HUDEX, HUPX, Norexeco, SEEPEX and SEMOpx.The physical settlement with the nomination includes scheduling of local markets of ECC's partner exchanges and the nomination of cross-border power deliveries in course of the European market coupling and the coupling between UK and Ireland. In this context, ECC assumes the role of the cross-border shipping entity, thus contributing to the further integration of the European electricity markets. Physical settlement of all power and gas transactions for which ECC has assumed clearing is provided through European Commodity Clearing Luxembourg S.à.r.l. (ECC Lux), which is directly bound by ECC's Clearing Conditions in its relationship with ECC and the trading participants.

As a CCP, ECC guarantees financial fulfilment and carries out financial settlement for transactions concluded on ECC's partner exchanges. Additionally, ECC provides fee settlement and invoicing services for its partner exchanges.

In this regard, managing risk is an essential function of ECC. The purpose is to reduce the risk of the buyer or seller failing to fulfil his/her trade settlement obligations. A CCP reduces risk by netting offsetting positions by monitoring the creditworthiness of the Clearing Members (CMs) and by requiring collateral (margin) and maintaining a Default Fund.

Current Regulatory Framework

ECC is a CCP according to Section 1 Paragraph 31 of the German Banking Act (Kreditwesengesetz, KWG).

As of 11 June 2014, ECC has been granted a CCP license according to Article 14 Paragraph 1 of the Regulation (EU) 648/2012 on OTC derivatives, central counterparties, and trade repositories (EMIR). The license is valid for the European Union. It covers commodity transactions or transactions with commodities as the underlying. ECC is supervised by the German Federal Financial Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht - BaFin), the German Central Bank (Deutsche Bundesbank) and the European Securities and Markets Authority (ESMA).

With effect from 26 March 2018 ECC is recognised by the Monetary Authority of Singapore (MAS) as a recognised Clearing House (RCH) in Singapore according to section 51 (2) of the Securities and Futures Act (SFA). ECC's recognition is restricted to its operation of a clearing facility for the clearing of specified derivative contracts only.

ECC is a member of the European Association of Clearing Houses (EACH) and complies with the risk standards promoted by EACH, namely the CPMI-IOSCO principles for Financial Market Infrastructures.

CPMI-IOSCO Principles for Financial Market Infrastructures

Principle 1: Legal Basis

A CCP[1] should have a well-founded, clear, transparent, and enforceable legal basis for each material aspect of its activities in all relevant jurisdictions.

Key considerations

1. The legal basis should provide a high degree of certainty for each material aspect of a CCP's activities in all relevant jurisdictions[2].

Although ECC has partners in various countries, its operations are governed by the German legal framework of ECC (cf. Clearing Conditions). ECC activities are governed and regulated by the following major laws and regulations:

- Regulation (EU) No 648/2012 of the European Parliament and of the Council of 04 July on OTC derivatives, central counterparties and trade repositories (EMIR)
- Commission Delegated Regulation (EU) No 153/2013 of 19 December 2012 supplementing Regulation (EU) No 648/2012 of the European Parliament and of the Council with regard to regulatory technical standards on requirements for central counterparties
- Commission Delegated Regulation (EU) No 152/2013 of 19 December 2012 supplementing Regulation (EU) No 648/2012 of the European Parliament and of the Council with regard to regulatory technical standards on capital requirements for central counterparties
- Commission Delegated Regulation (EU) 2022/1855 of 10 June 2022 supplementing Regulation (EU) No 648/2012 of the European Parliament and of the Council with regard to regulatory technical standards specifying the minimum details of the data to be reported to trade repositories and the type of reports to be used
- Regulation (EU) 2021/23 of the European Parliament and of the Council of 16 December 2020 on a framework for the recovery and resolution of central counterparties and amending Regulations (EU) No 1095/2010, (EU) No 648/2012, (EU) No 600/2014, (EU) No 806/2014 and (EU) 2015/2365 and Directives 2002/47/EC, 2004/25/EC, 2007/36/EC, 2014/59/EU and (EU) 2017/1132 (CCPRRR)
- Aktiengesetz (AktG) – Stock Companies Act
- Kreditwesengesetz (KWG) – Banking Act
- Bürgerliches Gesetzbuch (BGB) – Civil Code
- Insolvenzordnung (InsO) – Insolvency Statute
- Handelsgesetzbuch (HGB) – Commercial Code
- Sanierungs- und Abwicklungsgesetz (SAG) – Recovery and Resolution Act

[1] The legal text refers to Financial Market Infrastructures (FMIs).
[2] The relevant German jurisdiction does not contain "zero-hour rules".

ECC is a central counterparty in accordance with EMIR as approved by the German Federal Financial Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht, BaFin) on 11 June 2014. ECC is listed in the ESMA register of central counterparties authorized to offer services and activities in the European Union in accordance with EMIR (https://www.esma.europa.eu/policy-rules/post-trading/central-counterparties). Furthermore, ECC is a credit institution with the exclusive permission as a CCP within the meaning of Section 1 Paragraph 1 Figure 12 KWG in conjunction with Section 1 Paragraph 31 KWG.

The rights and obligations of ECC and its Members are laid down in the following documents to which the members of ECC are bound by their respective membership agreements:

- Clearing Conditions of ECC AG which are binding for all CMs and Non-Clearing Members (NCMs) in the respectively valid version
- CM Clearing Agreement (agreement between ECC and a CM) and/or the NCM Agreement (agreement between ECC, CM and NCM)

(a) ECC as a regulated credit institution

According to the German legal framework, ECC is currently regulated and supervised as a credit institution and subject to the German Banking Act. Section 1 Paragraph 31 of the German Banking Act also provides the legal basis for ECC to act as a CCP. According to its current license, ECC can only provide CCP functions according to the rules stipulated in EMIR. In order to provide other services or activities, ECC needs to receive approval according to EMIR Article 15.

(b) The exact timing of liability as a CCP

According to its rules, ECC becomes the legal counterparty as soon as an order entered into the system of one of ECC's markets is matched with another order in the system of one of ECC's markets or in case of an OTC transaction registered in the system of the market (cf. open offer or matching model).

(c) Netting arrangements

Netting procedures are included in the Clearing Conditions. Effectiveness and enforceability have been ensured by external legal opinions.

(d) Collateral arrangements

The Clearing Conditions contain the rules for collateral provision. In order to secure all obligations which a CM has towards ECC or in connection with its participation in clearing at ECC, every CM has to furnish collateral at least in the amount determined by ECC. Where collateral is provided by the CM in form of securities and book-entry securities, ECC concludes dedicated collateral agreements with the CM to this end.

The CCP's position with regard to collateral is legally protected by the implementation of Directive 98/26/EC of the European Parliament and of the Council on Settlement Finality in Payment and Securities Settlement Systems ("Settlement Finality Directive" - SFD) and the Directive 2002/47/EC of the European Parliament and of the Council on Financial Collateral Arrangements ("Collateral Directive") – amended by Directive 2009/44/EC.

(e) Default procedures

The German Insolvency Act including an implementation regulation of EMIR requirements in Section 102b of the Introductory Act to the German Insolvency Act (EGInsO), as well as EMIR, provide a sound legal basis for

ECC's default rules. The ECC Clearing Conditions stipulate details on how to handle defaults (Section 3.8 et seq.). ECC has an internal default procedure, which provides detailed operational rules on how to handle a default. ECC's default procedures comply with requirements set out by Articles 42 (Default fund), 45 (Default waterfall) and 48 (Default procedures) of EMIR. Since ECC is designated as a Payment System according to Article 10 SFD in case of a default of one of its participants (CM), German insolvency law will apply in accordance with Section 340 Paragraph 3 of the German Insolvency Act (which is an implementation of Section 8 of the SFD). For CMs from outside the EU, where the SFD does not apply, ECC confirms the enforceability of its clearing rules with legal opinions from law firms from the relevant jurisdictions.

(f) Finality of transfers of securities or cash

ECC is designated as a Payment System according to Article 10 SFD as published on the website of the European Commission. For cash transfers, finality is achieved at the time at which ECC identifies or records the respective transfer orders in ECC´s Clearing System. The transfer in EUR is done via the robust and reliable T2 infrastructure, which ECC has access to. Payments in foreign currencies are settled with the help of Commercial Banks as private settlement agents.

For securities, ECC uses Clearstream Banking AG, which is a designated security settlement system according to Article 10 SFD. Finality with regard to securities transactions is achieved with conclusion of a transaction (e.g., transfer to a pledged account).

***2.** A CCP should have rules, procedures, and contracts that are clear, understandable, and consistent with relevant laws and regulations.*

ECC ensures that its rules, procedures and contractual provisions are clear, comprehensive, and internally coherent, in writing and in compliance with EMIR as well as all other applicable regulatory and supervisory requirements. ECC has set up a policy management function that coordinates the process of creating and updating internal rules and procedures. The Management Board and all departments are required to create their policies according to uniform standards. All new or materially updated policies have to be reviewed by all departments affected and by the departments Legal, Compliance and Internal Audit before they are approved by the Management Board. ECC's compliance function checks compliance of the rules with the obligations under EMIR regularly.

Before changes to the Clearing Conditions come into force, ECC informs all its participants via a clearing circular about the upcoming changes. Major changes to the Clearing Conditions have to be communicated to ECC's supervisor BaFin. Certain aspects of the Clearing Conditions (e.g., the close-out netting provisions, or the rules on segregation and portability) have been created with the help of external legal advisors and are supported by external legal opinions.

All documents providing the contractual framework for the relationship between ECC, and its participants are available on ECC's website where they may be downloaded. Others, like manuals or specifications, are available for participants only and can be found in the member section on the website.

***3.** A CCP should be able to articulate the legal basis for its activities to relevant authorities, participants, and, where relevant, participants' customers, in a clear and understandable way.*

ECC has established its documentation in a clear and understandable way. Certain documents, applicable to all parties are published and available on ECC's website. Others can be found in the member section on the website. The competent authority has access to all documents.

Relevant changes to the legal basis are communicated in advance and if required discussed with relevant authorities as well as members. All relevant information is published on ECC's website.

***4.** A CCP should have rules, procedures, and contracts that are enforceable in all relevant jurisdictions. There should be a high degree of certainty that actions taken by the CCP under such rules and procedures will not be voided, reversed, or subject to stays.*

The agreements between ECC and its participants are governed by German law due to a choice of law clause, which will avoid conflict of laws issues with any of ECC's members. Regarding the clearing services used, all CMs submit themselves to German law once they sign the CM Agreement. Legal analysis – including opinions by external law firms for specific items such as validity and enforceability of netting arrangements or German Insolvency Law for non-German CMs – has been conducted to ensure applicability of the Clearing Conditions and procedures for CMs in all jurisdictions outside of Germany also in case of insolvency, when the choice of law clause in the relevant agreements is disabled.

Additional legal analysis is undertaken as part of the internal due diligence if an applicant is the first applicant from another jurisdiction outside the EU. The choice of law is clearly articulated to ECC's participants via the Clearing Conditions and all agreements that must be concluded in order to establish membership. The choice of law clause is valid in accordance with Regulation EC No 593/2008 on the law applicable to contractual obligations (Rome I) or in line with the local law of ECC's non-EU CMs which is confirmed by a respective legal opinion.

Proprietary aspects of ECC mainly concern the provision of collateral to meet margin requirements by ECC's CMs.

EUR cash collateral is transferred to ECC's account at the German Central Bank and therefore falls under German law. Foreign currency cash collateral must be credited or paid into the settlement account of ECC at the Payment Bank. Transactions of cash collateral cannot be voided, reversed, or be subject to stays because ECC is a payment system under the SFD. Therefore the law that has been chosen by the system is applicable, including in case of a default of a system participant. In case of ECC this would be German law according to Section 340 Paragraph 3 of the German Insolvency Act (also see explanations below regarding security collateral).

The pledge agreements in respect of security collateral are enforceable under German law due to a respective choice of law. ECC uses Clearstream Banking AG as its Securities Settlement System and only accepts ECB eligible bonds as security collateral. The availability of such collateral is governed by the SFD and the Directive 2002/47/EC of the European Parliament and of the Council on Financial Collateral Arrangements ("Collateral Directive"), amended by Directive 2009/44/EC, which provides a safe legal framework to ECC as a central counterparty and payment system under the SFD.

If insolvency proceedings are opened regarding a CM from an EU member state, such proceedings will be governed by German insolvency law since ECC is designated as a Payment System according to Article 10 SFD, which ensures that the effects of the insolvency proceedings on the rights and duties of participants in such a system shall be subject to the law of the state which applies to this system, see Section 340 Paragraph 3 of the German Insolvency Act. For non-EU CMs, the enforceability of the clearing rules of ECC is confirmed by a legal opinion from a law firm in the relevant jurisdiction.

5. *A CCP conducting business in multiple jurisdictions should identify and mitigate the risks arising from any potential conflict of laws across jurisdictions.*

ECC's main jurisdiction where it conducts its clearing business is Germany. The application of German law is ensured via choice of law clauses. The enforceability of the choice of law clause has been confirmed by respective legal opinions. The enforceability of ECC's rules on – for example – netting, usage of cash and security collateral in a default situation where the applicability of choice of law clause ends is ensured by ECC's status as a Payment System according to the SFD. The SFD and its respective implementation into German law in Section 340 Paragraph 3 of the German Insolvency Act stipulate that if insolvency proceedings are opened regarding a CM from an EU member state, such proceedings will be governed by German insolvency law. For non-EU CMs, the enforceability of the clearing rules of ECC is confirmed by a legal opinion from a law firm in the relevant jurisdiction.

Principle 2: Governance

A CCP should have governance arrangements that are clear and transparent, promote the safety and efficiency of the CCP, and support the stability of the broader financial system, other relevant public interest considerations, and the objectives of relevant stakeholders.

Key considerations

***1.** *A CCP should have objectives that place a high priority on the safety and efficiency of the CCP and explicitly support financial stability and other relevant public interest considerations.*

In accordance with its statutes, ECC's only objective is to serve as a CCP for commodity markets according to the provisions in EMIR and the EMIR RTS

The commitment to stability and safety is supported by ECC's Business and Risk Strategy that is regularly reviewed and approved by the Management Board and consequently presented to the Supervisory Board and in addition, through ECC's commitment to adhere to the German Banking and EMIR Regulation that puts high requirements on a CCP and by ECC clearly committing to adhering to the standards set by the CPMI-IOSCO Principles for financial market infrastructures (PFMI). This is also documented through ECC's membership in the European Association of Clearing Houses (EACH; www.eachccp.eu), which requires adherence to its Rules of Conduct which promote safety in the clearing business as its primary objective.

***2.** *A CCP should have documented governance arrangements that provide clear and direct lines of responsibility and accountability. These arrangements should be disclosed to owners, relevant authorities, participants, and, at a more general level, the public.*

ECC operates under a two-tiered board structure as prescribed under the German Stock Corporation Act (Aktiengesetz). ECC is characterized by a clear separation between the Supervisory Board and the Management Board. The ECC Management Board is in charge of managing the day-to-day operations of the company and establishes the objectives and strategies for ECC. The ECC Supervisory Board and its committees predominantly approve those objectives and strategies, perform control functions and are accountable for the election and appointment of the Management Board members as well as the setting of individual targets for the Management Board members and their remuneration. The company's Articles of Association (Statutes) and other governance arrangements are made available to all owners, regulatory or other relevant authorities, participants and, at a more general level, to the public on request.

The governance arrangements are described in the company's Articles of Association (Statutes) and the Rules of Procedure (Bylaws) for the Management Board and Supervisory Board of ECC. Reporting lines between the Supervisory Board and the Management Board are clearly defined in the basic governance arrangements of ECC. In particular, matters and decisions proposed by the Management Board whose resolutions require the involvement of the Supervisory Boards of EEX and ECC are precisely determined.

With particular reference to ECC, a clear definition of the different roles, functions and duties of the management and all other persons primarily responsible, is also enclosed in the company's organizational chart. The management roles are available to the public on the internet site of ECC. In this context, the reporting lines have been precisely determined within the ECC and each department. All heads report to their respective superior director (if available) or directly to the competent member of the ECC Management Board. Directors report directly to the respective member of the ECC Management Board.

3. *The roles and responsibilities of a CCP's board of directors (or equivalent) should be clearly specified, and there should be documented procedures for its functioning, including procedures to identify, address, and manage member conflicts of interest. The board should review both its overall performance and the performance of its individual board members regularly.*

ECC is managed under a two-tiered governance structure with a Management Board and a Supervisory Board.

ECC has clearly outlined the rules of procedure for the Management and Supervisory Board. The German Stock Corporation Act (Aktiengesetz), the Articles of Association as well as the Rules of Procedure for the Management Board serve as the primary legal bases for the Management Board.

These documents govern in detail the formal requirements for the effectiveness of resolutions, the quorum and required majorities as well as the drafting of minutes. Furthermore, the procedure and structure of such meetings as regards chronology, organization, participants, and content is precisely defined. The meetings in general take place every two weeks and also cover certain standard subjects such as the presentation of risk reports or a discussion of the current project portfolio.

The Supervisory Board is responsible for supervising the Management Board. The composition roles and responsibilities of the Supervisory Board can be found in ECC's Articles of Association (Statutes) and in the Bylaws of the Supervisory Board. The Supervisory Board consists of non-executive members only, who are elected at the Shareholders General Meeting.

The Management Board is responsible for setting and implementing the company's strategy including overall responsibility for risk management and implementing adequate policies and procedures of the CCP. The roles and responsibilities of the Management Board can be found in ECC's Articles of Association (Statutes) and in the Bylaws of the Management Board.

Management Board Members are appointed by the Supervisory Board according to the process stipulated in the Articles of Association (Statutes) of ECC and in accordance with the German Stock Corporation Act.

Reporting lines between the Management Board and the Supervisory Board are stipulated in the Bylaws of the Management Board. The main information line is the quarterly meeting of the Supervisory Board where the Management Board reports, among other things, on the financial situation and performance as well as major developments.

The performance of the Management Board Members is judged by the Supervisory Board against clearly communicated targets and the result of this assessment is linked to compensation.

In order to ensure the fulfilment of open items and compliance with the discussed issues, the Management Board meetings end with the preparation of a to-do-list including specified tasks, responsibilities and due dates.

All members of the Boards are requested to avoid any conflicts of interest.

The Statutes and Bylaws of the Management Board and the Supervisory Board and the "Guideline on the Avoidance of Conflict of Interest" describe the provisions for addressing potential conflicts of interest.

Board members are obliged to report potential conflicts of interest to the Management Board or the Supervisory Board without undue delay.

If conflicts of interest occur on the Management Board level, the Bylaws request the respective board member to disclose this conflict of interest to the Supervisory Board without delay and to inform the other members of the Management Board. Additionally, the Compliance Function will be consulted by the Boards & Committees Department if potential conflicts of interest issues are on the agenda of the Management Board.

For the members of the Management Board, the non-disclosure obligation is twofold. First, according to Section 93 of the German Stock Corporation Act, members of the Management Board of a stock corporation are obliged not to disclose confidential information, namely company and business secrets, which they have become acquainted with due to their membership in the Management Board. Secondly, their employment contract provides for a strict confidentiality provision with regard to all business activities of the company.

For the Supervisory Board, the Bylaws stipulate that the members of the Supervisory Board must avoid conflicts of interest during the course of their work. In the interest of independent advice and supervision of the Management Board, members of the Supervisory Board should not exercise any functions on boards or consulting functions for major competitors. Every member of the Supervisory Board should disclose conflicts of interest (in particular those conflicts of interest arising on account of a consulting function or membership on boards of customers, suppliers, lenders or other business partners) to the Supervisory Board. Members of the Supervisory Board who have considerable conflicts of interest which are not only temporary in nature should resign from this office in accordance with the provisions of the Statutes.

The members of the Supervisory Board are obliged to maintain confidentiality on all confidential information and data of the company, in particular, on business and trade secrets which they are informed of in the context of their work on the Supervisory Board of ECC. This obligation remains valid even after termination of their position as a member of the Supervisory Board. Upon leaving the Supervisory Board, members shall return all confidential documents to the chairperson of the Supervisory Board or in the event that he/she is prevented from receiving these, to a deputy chairperson of the Supervisory Board or such documents shall be destroyed.

Risk Committee members shall report potential conflicts of interest to the chairperson. Where the chairperson of the Risk Committee determines that a member has an actual or potential conflict of interest on a particular matter, that member shall not be allowed to vote on that matter.

4. *The board should contain suitable members with the appropriate skills and incentives to fulfil its multiple roles. This typically requires the inclusion of non-executive board member(s).*

The Supervisory Board and the Management Board contain suitable members with high personal and professional skills and incentives to fulfil their multiple roles. The Supervisory Board is composed of members who have considerable professional expertise and high qualifications in the energy and financial sector. All members have gained multiple years of professional working experience at renowned international and national energy companies, consultancies, banks, exchanges and clearing houses.

For the Management Board, members have been selected who have obtained the necessary high level of qualifications and who have acquired strong skills in the areas of finance, energy and clearing services, allowing for a proper fulfilment of their responsibilities and duties.

All Management Board members have several years of professional working experience and have exercised leading positions in the energy and energy-related industries, in the finance and consultancy sector as well as in the field of risk management. Members have sufficiently good repute and the integrity necessary to discharge their responsibilities for the strategic management, business operations and the risk management of a clearing house.

The evidence of adequate professional skills and qualifications of the Management Board is considered in the selection, appointment, and terms for each of its boards. With regard to this, ECC fully complies with strict requirements as required during the board nomination process.

The composition and selection of members of the ECC Supervisory Board can be found in ECC's Articles of Association (Statutes). Due to the two-tiered structure, ECC's Supervisory Board consists of non-executive members only. The ECC Supervisory Board members are elected during the Shareholder's Meeting.

As ECC is supervised by the Federal Financial Supervisory Authority (BaFin), the members of the Management Board as well as the members of the Supervisory Board have to meet standards as prescribed by the German Banking Act (Kreditwesengesetz). In particular, according to Section 36 Paragraph 3 of the German Banking Act, each Management and Supervisory Board member must prove that he/she is trustworthy and has the professional qualifications necessary for managing financial institutions. Proof must be established by the future board member submitting a detailed CV and a so-called "Declaration of good Conduct".

Members of ECC's Supervisory Board also form an Audit Committee and a Remuneration Committee. The Audit Committee and the Remuneration Committee are governed by the Bylaws of the Supervisory Board.

The Risk Committee is an advisory function to the Management Board required to be established by a CCP in accordance with EMIR.

***5.** The roles and responsibilities of management should be clearly specified. A CCP's management should have the appropriate experience, a mix of skills, and the integrity necessary to discharge their responsibilities for the operation and risk management of the CCP.*

Similar to the ECC Supervisory Board, the members of the ECC Management Board have to fulfil high personal and professional requirements as described in Section 32 Paragraph 1 No. 8 of the German Banking Act: Each Management Board member must prove that he/she is trustworthy and has the professional qualifications necessary for managing financial institutions. Proof must be established by the future Management Board member submitting a detailed CV and a so-called "Declaration of good Conduct".

The responsibilities are described in the schedule of responsibilities and are detailed in the organizational chart. Furthermore, through ECC's internal policies and through adherence to the banking rules, responsibilities are aligned in such a way as to avoid potential conflicts of interest.

***6.** The board of directors should establish a clear, documented risk-management framework that includes the CCP's risk-tolerance policy, assigns responsibilities and accountability for risk decisions, and addresses decision making in crises and emergencies. Governance arrangements should ensure that the risk-management and* *internal control functions have sufficient authority, independence, resources, and access to the board of directors.*

As a CCP authorized under EMIR, ECC has established a written framework for the comprehensive management of all risks (risk management framework) that is composed of documented guidelines, policies, procedures, work instructions and systems/tools to identify, monitor and manage these risks according to the three lines of defense model.

The risk strategy defines the risk tolerance and is set by the Management Board and discussed with the Risk Committee and the Supervisory Board. All material risk decisions (such as limits on risk exposures) need to be taken by the Management Board and be documented in the strategy or policies. ECC's Management Board assumes final responsibility and accountability for decision-making in crises and emergencies, which is documented in the respective policies.

All components of the framework have to be reviewed at least annually and are audited (at least) annually by internal and external auditors.

The roles and reporting lines are defined in organizational charts. Authorities are defined in the internal policy "Authorization Policy". Decision-making procedures in crisis and emergencies are described in the Crisis Management Policy and Business Continuity Management Policy and Procedures.

The organizational structure follows the principle of segregation of duties between departments: Risk management departments ("CCP Risk Models & Analytics", "Regulatory Reporting & Bank Risk") are segregated from "Model Validation" and are in the CRO area. "Internal Audit" and "Compliance" are in the CEO area. Both the Risk Management function and the Internal Audit function report directly to the Management Board.

Model changes are governed by the Model Change Procedure, which is set by the Management Board. ECC regularly reviews and validates its risk models, a task area for which the "Model Validation" department is responsible. The model risk management policy and model validation procedure stipulate processes, roles and responsibilities, metrics, thresholds, and actions for model validation. Significant changes of the models have to be reviewed with the Risk Committee. Furthermore, approval from the Management Board is necessary for such changes.

7. *The board should ensure that the CCP's design, rules, overall strategy, and major decisions reflect appropriately the legitimate interests of its direct and indirect participants and other relevant stakeholders. Major decisions should be clearly disclosed to relevant stakeholders and, where there is a broad market impact, the public.*

ECC's design, rules, overall strategy, and major decisions consider the interests of participants and other stakeholders through

- the inclusion of independent board members[3] in the Supervisory Board,
- the working group clearing which discusses 4 times per year major changes to systems, product scope, policies, and procedures and
- the announcement of changes through public circulars
- the Risk Committee.

Changes to the rules (especially the Clearing Conditions) are published on ECC's website.

[3] The independence definition is derived from EMIR, which states that independent means a member of the board who has no business, family or other relationship that raises a conflict of interests regarding the CCP concerned or its controlling shareholders, its management or its Clearing Members, and who has had no such relationship during the five years preceding his membership of the board.

Principle 3: Framework for the comprehensive Management of Risk

A CCP should have a sound risk-management framework for comprehensively managing legal, credit, liquidity, operational, and other risks.

Key considerations

1. *A CCP should have risk-management policies, procedures, and systems that enable it to identify, measure, monitor, and manage the range of risks that arise in or are borne by the CCP. Risk-management frameworks should be subject to periodic review.*

ECC has a comprehensive risk management framework, which is documented in ECC's Risk Strategy and various policies and procedures and process descriptions.

The Management Board of ECC holds overall responsibility for the wording and implementation of the Risk Strategy. This provides the framework for the design of the ECC risk management system.

The risk framework and all its components are reviewed by the responsible operational unit at least annually with the risk inventory or in case of substantial changes in the risk environment. The risk framework is reviewed and approved by the Management Board as part of the annual review.

The risk strategy differentiates between several risk types, which are controlled in accordance with specific risk management principles.

On account of the ECC business model, the operational risks and the credit / default risks constitute the essential risk type/cluster for ECC.

ECC has an internal audit function which is independent from the operational units und their processes and reports directly to the Management Board. All areas of ECC are subject to regular audits that review the adequacy of its internal controls. The Internal Auditing Department checks the adequacy and operability of the individual elements of the risk management system at regular intervals in accordance with the risk-oriented test schedule adopted by the Management Board. In this respect, essential departments are checked at least once a year and, if required, more frequently.

2. *A CCP should provide incentives to participants and, where relevant, their customers to manage and contain the risks they pose to the CCP.*

ECC's CMs are financial institutions and are supervised by their financial regulators. Risk management is one of their core functions.

ECC's Direct Clearing Participant (DCP) CMs are Clearing Members that have a DCP clearing license and are exclusively entitled to clear own spot market transactions. They are subject to pre-trade limits linked to the collateral they place with the CCP.

To adequately manage credit risk, ECC provides near-to-real time information on exposures and margin requirements. ECC also gives comprehensive disclosure on the Risk Management Framework, including the methodology of calculating initial margins or the Default Fund and all parameters required to replicate the calculation. ECC provides margin calculators to replicate the margin calculations.

ECC calculates margin requirements on a gross basis, which considers the risk of a participant's customer portfolio. Participants are required to charge at least the margin requirements calculated by ECC from their customers. The markets ECC clears offer pre-trade risk management facilities (e.g., pre-trade limits) and ECC offers post-trade risk management tools (i.e. the possibility to stop clearing if a specific margin limit is reached) that members can use to manage their risk or the risk of their clients. ECC also offers an emergency member stop that can be used by members to immediately stop their clients from trading. Details are described in the risk manual (https://www.ecc.de/en/risk-management/trading-limits).

ECC has rules that allow it to charge supplementary margins in case members do not comply with the requirements of the Clearing Conditions. In case of default ECC performs voluntary and mandatory default auctions. ECC has put in place incentives for the participation in the mandatory auction, i.e., the right to juniorize members in the forced allocation in case they do not participate according to the rules of the default auction.

ECC actively integrates members into the development of the Risk Management Framework via Risk Committee and Clearing Working Group and regularly meets with members to ensure policies and procedures are effective to allow them to manage risk.

***3.** A CCP should regularly review the material risks it bears from and poses to other entities (such as other CCPs, settlement banks, liquidity providers, and service providers) as a result of interdependencies and develop appropriate risk-management tools to address these risks.*

ECC performs an Annual Risk Assessment (e.g., as part of the Business Impact Analysis, Outsourcing Risk Analysis, Credit Risk Reviews, Liquidity Plan review, Operational Risk Self-Assessment etc.) to review risks it bears from and poses to other entities. Material risks it bears result mainly from settlement systems, settlement banks and external service providers for material ECC functions, and from cyber security.

Risks from settlement systems and settlement banks are managed by requiring settlement systems and settlement banks to fulfill high standards and by having contingency plans in place for a potential default (i.e., multiple settlement alternatives, e.g. performing settlements in different currencies or via backup settlement infrastructures or settlement banks).

External service providers are selected according to the strict criteria of the Outsourcing Policy and are required to fulfill highest standards. ECC has implemented regular risk reporting for material outsourcings and performance of service providers is monitored and reported according to the Outsourcing Policy. For each material outsourcing involved in the operation of time-critical processes, adequate contingency procedures are prepared as part of the BCM planning. In addition, exit plans are prepared (e.g., dual vendor strategy or resources to complete insourcing on short notice if required). Furthermore, there are precise standards for supplier security in the context of information security, which are also assured by means of corresponding risk assessments and a contract annex.

The effectiveness of the risk management tools is reviewed annually by internal and external audit. BCM plans are regularly (at least annually) tested.

4. *A CCP should identify scenarios that may potentially prevent it from being able to provide its critical operations and services as a going concern and assess the effectiveness of a full range of options for recovery or orderly wind-down. A CCP should prepare appropriate plans for its recovery or orderly wind-down based on the results of that assessment. Where applicable, a CCP should also provide relevant authorities with the information needed for purposes of resolution planning.*

According to the European Framework for the Recovery and Resolution of Central Counterparties ECC maintains a Recovery and a Resolution Plan. Those are based on a comprehensive set of scenarios that could potentially prevent ECC from providing critical operations and services as a going concern. The plan includes a full range of options for recovery or orderly wind down. According to the European Framework for the Recovery and Resolution of Central Counterparties the Plan is shared with ECCs responsible recovery & resolution authority as well as with the EMIR Regulatory College and the Resolution College.

ECC's cyber resilience strategy provides another proactive building block to avoid potential disruptions to regular operations from cyber-attacks.

Principle 4: Credit Risk

A CCP should effectively measure, monitor, and manage its credit exposures to participants and those arising from its payment, clearing, and settlement processes. A CCP should maintain sufficient financial resources to cover its credit exposure to each participant fully with a high degree of confidence. In addition, a CCP that is involved in activities with a more-complex risk profile or that is systemically important in multiple jurisdictions should maintain additional financial resources sufficient to cover a wide range of potential stress scenarios that should include, but not be limited to, the default of the two participants and their affiliates that would potentially cause the largest aggregate credit exposure to the CCP in extreme but plausible market conditions. All other CCPs should maintain additional financial resources sufficient to cover a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would potentially cause the largest aggregate credit exposure to the CCP in extreme but plausible market conditions.

Key considerations

1. *A CCP should establish a robust framework to manage its credit exposures to its participants and the credit risks arising from its payment, clearing, and settlement processes. Credit exposure may arise from current exposures, potential future exposures, or both.*

ECC has a comprehensive credit risk management framework that ensures all credit exposures are measured, monitored and managed according to their relevance and in line with regulatory requirements and the risk strategy. The risk management framework considers current and potential future exposure. The framework is documented in the Risk Strategy and the Risk Management Policies and Procedures.

2. *A CCP should identify sources of credit risk, routinely measure and monitor credit exposures, and use appropriate risk-management tools to control these risks.*

Sources of credit risk are identified in the comprehensive inventory of risk which is updated at least annually or after significant events or when implementing significant new services or process changes. Credit exposures are managed according to the respective type of counterparty and risk. Credit exposure from cleared transactions are covered with resources of the default waterfall and are monitored on a near to real time basis during ECC's business hours.

Credit exposures from other activities are limited and depend on the counterparties credit strength. The credit risk-influencing factors for counterparties are monitored regularly at least on a weekly basis. Counterparty credit limits and concentration limits are set according to the risk appetite of ECC. All limits are approved by the Management Board and are reviewed at least annually.

3. *A payment system or SSS should cover its current and, where they exist, potential future exposures to each participant fully with a high degree of confidence using collateral and other equivalent financial resources (see Principle 5 on collateral). In the case of a DNS payment system or DNS SSS in which there is no settlement guarantee but where its participants face credit exposures arising from its payment, clearing, and settlement* *processes, such an FMI should maintain, at a minimum, sufficient resources to cover the exposures of the two participants and their affiliates that would create the largest aggregate credit exposure in the system.*

This Key Consideration applies to entities that are only payment systems or SSS; ECC is a payment system but also a CCP and the relevant explanations are given in the next Key Consideration.

4*. A CCP should cover its current and potential future exposures to each participant fully with a high degree of confidence using margin and other prefunded financial resources (see Principle 5 on collateral and Principle 6 on margin). In addition, a CCP that is involved in activities with a more-complex risk profile or that is systemically important in multiple jurisdictions should maintain additional financial resources to cover a wide range of potential stress scenarios that should include, but not be limited to, the default of the two participants and their affiliates that would potentially cause the largest aggregate credit exposure for the CCP in extreme but plausible market conditions. All other CCPs should maintain additional financial resources sufficient to cover a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would potentially cause the largest aggregate credit exposure for the CCP in extreme but plausible market conditions. In all cases, a CCP should document its supporting rationale for, and should have appropriate governance arrangements relating to, the amount of total financial resources it maintains.*

All credit exposures from cleared contracts (including current and potential future exposure) are fully collateralized with a high level of confidence by Resources of the Default Waterfall (see Principle 6 for details).

, ECC maintains pre-funded financial resources that cover a wide range of potential stress scenarios that include the default of the two CMs and their affiliates that would potentially cause the largest aggregate credit exposure in extreme but plausible market conditions (not taking into account the right to call for an assessment of the Default Fund from the non-defaulting CMs).

The supporting rationale for the maintained amount of financial resources is documented in the Stress Test Framework.

5. *A CCP should determine the amount and regularly test the sufficiency of its total financial resources available in the event of a default or multiple defaults in extreme but plausible market conditions through rigorous stress testing. A CCP should have clear procedures to report the results of its stress tests to appropriate decision makers at the CCP and to use these results to evaluate the adequacy of and adjust its total financial resources. Stress tests should be performed daily using standard and predetermined parameters and assumptions. On at least a monthly basis, a CCP should perform a comprehensive and thorough analysis of stress testing scenarios, models, and underlying parameters and assumptions used to ensure they are appropriate for determining the CCP’s required level of default protection in light of current and evolving market conditions. A CCP should perform this analysis of stress testing more frequently when the products cleared or markets served display high volatility, become less liquid, or when the size or concentration of positions held by a CCP’s participant increases significantly. A full validation of a CCP’s risk-management model should be performed at least annually.*

ECC performs daily stress tests for the adequacy of the resources in the Default Waterfall by simulating the default of the largest two members in extreme but plausible market conditions using standard and predetermined parameters, assumptions and scenarios. On monthly basis ECC performs a detailed analysis of the stress testing scenarios, models and underlying parameters and assumptions. This analysis is performed more frequently during times of high market volatility.

ECC also performs monthly stress tests for the adequacy of resources for credit risk not covered by the Default Waterfall (i.e., operational risk, market risk and business risk). Those stress tests are performed by assuming different default scenarios of counterparts in uncovered activities, the realization of financial losses from the operational risk scenarios, assuming different scenarios for exchange rates as well as assuming a worst-case development in the turnover in ECC's main markets and their negative effect on ECC's profit.

The results of the stress tests are reported to the Management Board in the Monthly Risk Report. The Risk Committee as well as the Supervisory Board are informed on a quarterly basis. Main results of ECC's stress tests are disclosed on the website in the quarterly PFMI-IOSCO public quantitative disclosure report.

The Stress Test Framework is subject to an annual review or ad-hoc review in case of significant events or significant changes (e.g. introduction of significant new services or process changes).

The Stress Test Framework is validated annually by the independent Model Validation as well as by internal and external auditors. The results of this review of the Stress Test Model are also discussed with the ECCs Risk Committee.

Details can be found on ECCs Website: Stress Testing (ecc.de)

6. *In conducting stress testing, a CCP should consider the effect of a wide range of relevant stress scenarios in terms of both defaulters' positions and possible price changes in liquidation periods. Scenarios should include relevant peak historic price volatilities, shifts in other market factors such as price determinants and yield curves, multiple defaults over various time horizons, simultaneous pressures in funding and asset markets, and a spectrum of forward-looking stress scenarios in a variety of extreme but plausible market conditions.*

In stress testing ECC considers a wide range of relevant price changes in the liquidation period by using both historical and a range of potential future scenarios.

Historical scenarios replicate as closely as possible historical stress events observed in the past 30 years, or as long as reliable data has been available, that would have exposed ECC to greatest financial risk (peak historic price volatilities).

Forward-looking stress scenarios complement the historical scenarios and aim to capture stress events that are plausible but have not been observed in the historic data or where historical observations are not considered extreme under current conditions or where the available prices history is not long enough / not reliable to determine stress scenarios.

ECC considers the impact of the default of the biggest, the second- and third biggest and the two biggest clearing members considering the segregation requirements of EMIR.

7. *A CCP should establish explicit rules and procedures that address fully any credit losses it may face as a result of any individual or combined default among its participants with respect to any of their obligations to the CCP.*

These rules and procedures should address how potentially uncovered credit losses would be allocated, including the repayment of any funds a CCP may borrow from liquidity providers. These rules and procedures should also indicate the CCP's process to replenish any financial resources that the CCP may employ during a stress event, so that the CCP can continue to operate in a safe and sound manner.

ECC's Clearing Conditions and default management as well as recovery management policies and procedures regulate the measures to allocate uncovered credit losses.

To ensure limited exposures of CMs to ECC, the assessment amount is capped to 1x the default fund contribution for a single default event over 30 days and a maximum of 3 times the Default Fund contribution within a cool of period of 90 days. ECC is obliged to replenish its dedicated own resources (aka "Skin-in-the-Game" and "Second-Skin-in-the-Game").

Details can be found on ECC website: Lines of Defence (ecc.de)

Principle 5: Collateral

A CCP that requires collateral to manage its or its participants' credit exposure should accept collateral with low credit, liquidity, and market risks. A CCP should also set and enforce appropriately conservative haircuts and concentration limits.

Key considerations

***1.** *A CCP should generally limit the assets it (routinely) accepts as collateral to those with low credit, liquidity, and market risks.*

ECC only accepts collateral with minimal credit, liquidity and market risks. The acceptable collateral is approved by the Management Board upon advice by the Risk Committee of ECC. ECC does not allow accepting collateral on exceptional basis.

ECC accepts Cash, certain types of bonds, Emission Allowances (only to cover exposures from spot markets and short positions in EUA emissions futures) and Guarantees (for spot market transactions only).

The detailed requirements are listed on ECCs Website Acceptable Collateral (ecc.de)

ECC imposes concentration limits on certain issuers, countries and currencies depending on their credit rating. Concentration limits are applied on CM level and the Default Fund as a whole.

Wrong-way risks are limited by not accepting collateral from the posting entity or an entity with close links to the posting entity and by a system of concentration limits.

***2.** *A CCP should establish prudent valuation practices and develop haircuts that are regularly tested and take into account stressed market conditions.*

ECC's Risk Management Framework includes prudent valuation practices and haircuts that are regularly tested and, if deemed necessary, are adjusted, taking into account stressed market conditions.

Collateral is valued on a daily basis using reliable price data from exchanges or acknowledged data providers. Where no market prices are available mark-to-model pricing, theoretical pricing, is used.

***3.** *In order to reduce the need for procyclical adjustments, a CCP should establish stable and conservative haircuts that are calibrated to include periods of stressed market conditions, to the extent practicable and prudent.*

Haircuts reflect potential changes of the market value in stressed market conditions over an adequate liquidation period. Haircuts are updated on daily basis. Minimum haircuts ensure that the level of the haircuts does not fall below a pre-defined level.

Haircut backtesting is performed on monthly basis. Results on the haircut tests performed are disclosed in the quarterly PFMI-IOSCO Public Quantitative Disclosure Report.

Haircuts applied by ECC recognize the fact that collateral may need to be liquidated in stressed market conditions and are calibrated to include periods of stressed market conditions. This reduces procyclicality to the extent practicable and prudent.

***4.** A CCP should avoid concentrated holdings of certain assets where this would significantly impair the ability to liquidate such assets quickly without significant adverse price effects.*

ECC has well-defined, clear and transparent policies, procedures and practices in place, ensuring that collateral is adequately diversified to avoid significant restrictions related to the ability to liquidate collateral quickly and without significant adverse price effects. When monitoring concentration limits, the overall exposure to an entity is taken into account, including exposures arising from its different roles for ECC and including entities to which close links exist.

Concentration limits are applied towards CMs and Default Fund contributions. The concentration limit is calculated both on an individual issuer/group level as well as on a country level. Bond collateral is limited to 25% of the volume of an emission.

Adequacy of concentration risk-related policies and limits is reviewed and evaluated at least annually.

Details are published on ECCs Website: Bond Collateral & Concentration Limits (ecc.de)

***5.** A CCP that accepts cross-border collateral should mitigate the risks associated with its use and ensure that the collateral can be used in a timely manner.*

ECC does not accept cross-border collateral.

***6.** A CCP should use a collateral management system that is well-designed and operationally flexible.*

ECC uses the well-designed and operationally flexible collateral management system provided by Eurex Clearing AG. Operational stability is ensured as automated links to ECC’s CSDs and Clearing System are used.

Principle 6: Margin

A CCP should cover its credit exposures to its participants for all products through an effective margin system that is risk-based and regularly reviewed.

Key considerations

***1**. A CCP should have a margin system that establishes margin levels commensurate with the risks and particular attributes of each product, portfolio, and market it serves.*

ECC calculates margins based on a margin system that is compliant with regulatory requirements and commensurate with the risks and attributes of the participant's portfolios while considering the attributes of each product from the different markets and market segments.

ECC has established different types of margins to cover current and potential future exposures. ECC's margin methodology is fully documented and disclosed to participants for their individual risk management efforts. Relevant documents (tools, descriptions, methodology, parameters) are available on ECC's website so that participants are able to understand and follow their own margin requirement as well as to simulate the impact of different portfolios, portfolio structures and trading behavior on the margin requirement. This approach allows for full transparency and predictability of the margin model.

Details are published on the ECC website Margining (ecc.de).

***2.** A CCP should have a reliable source of timely price data for its margin system. A CCP should also have procedures and sound valuation models for addressing circumstances in which pricing data are not readily available or reliable.*

ECC uses prices received from the markets it clears as reliable source of timely data. Valid prices for all classes of instruments are available for all products from ECC's markets.

Foreign exchange rates for the derivative contracts that are not quoted in Euro are obtained from external data providers.

The validity of the diverse sources of prices and rates is subject to the independent annual validation and furthermore subject to internal and external audits.

***3.** A CCP should adopt initial margin models and parameters that are risk-based and generate margin requirements sufficient to cover its potential future exposure to participants in the interval between the last margin collection and the close out of positions following a participant default. Initial margin should meet an established single-tailed confidence level of at least 99 percent with respect to the estimated distribution of future exposure. For a CCP that calculates margin at the portfolio level, this requirement applies to each portfolio's distribution of future exposure. For a CCP that calculates margin at more-granular levels, such as at the sub portfolio level or by product, the requirement must be met for the corresponding distributions of future exposure. The model should (a) use a conservative estimate of the time horizons for the effective hedging or close out of the particular types of products cleared by the CCP (including in stressed market conditions), (b) have an appropriate method for measuring credit exposure that accounts for relevant product risk factors and* *portfolio effects across products, and (c) to the extent practicable and prudent, limit the need for destabilizing, procyclical changes.*

The models and parameters that are used to calculate the initial margin for spot and derivative markets are risk-based and generate requirements that are appropriate to cover the potential future exposure to CMs based on the assumed liquidation periods and with that in the interval between the last margin collection and the close out of positions following a CM default. For that, ECC uses conservative estimates of the time horizon defined considering stressed market conditions. ECCs default management process is designed to liquidate and close-out positions of a defaulting Clearing Member within two days in extreme market conditions.

ECC uses a confidence interval of 99% to calculate the initial margins to cover the exposures arising from market movements over the assumed liquidation period, which is deemed adequate as ECC only clears non-complex spot products, futures and plain vanilla options on futures. This calculation approach is compliant with regulatory requirements according to EMIR and-related CDR 153/2013, Article 24 Paragraph 1b).

With regards to prevention of procyclical margining, ECC has adopted the buffer-method according to RTS 153/2013 Article 28.

Details are published on the ECC website Margining (ecc.de).

***4.** A CCP should mark participant positions to market and collect variation margin at least daily to limit the build-up of current exposures. A CCP should have the authority and operational capacity to make intraday margin calls and payments, both scheduled and unscheduled, to participants.*

ECC marks-to-market all positions on a daily basis and collects changes in exposures through variation margin for futures and future style options.

For premium style options, ECC uses the premium style method, i.e., the current value of an option is calculated using option price models and is considered as a premium margin.

According to the Clearing Conditions, ECC has the authority and ensures the operational capability to perform intraday margin calls on a near to real time basis if CM specific thresholds are exceeded or if deemed necessary by ECC while the regular adjustment process is performed daily.

The intraday margin call considers all exposures from changes in initial and variation/premium margin. An intraday margin call is issued if the shortfall (i.e., difference between collateral and current and potential futures exposure) exceeds certain thresholds. The calculation considers the segregation structure of the CM and its clients.

***5.** In calculating margin requirements, a CCP may allow offsets or reductions in required margin across products that it clears or between products that it and another CCP clear, if the risk of one product is significantly and reliably correlated with the risk of the other product. Where two or more CCPs are authorized to offer cross-margining, they must have appropriate safeguards and harmonized overall risk-management systems.*

ECC calculates portfolio-based margin requirements using the SPAN® industry standard, thus allowing for offsets/reductions (margin credits) in required margins across products for a broad range of inter-commodity spreads. Offsets are only granted within defined groups of products where there is an economic rationale, e.g. energy products that can be used for production of power.

ECC does not have cross-margin arrangements with other CCPs.

Inter-Commodity Margin Credits are calculated for combinations of opposite positions for different products according to the correlation between the two products and on different levels of netting, which helps to improve collateral efficiency and increases economies of scale in diversified portfolios. ECC limits margin credits in line with regulatory requirement (as defined in CDR 153/2013 article 27 paragraph 4).

Stability and robustness of portfolio margining, including methods and parameters, is subject to a sound stress test framework and also related back tests are conducted continuously to ensure that the calculated margin requirement meets the applicable confidence level. All of the above-mentioned approaches are furthermore reviewed as part of the independent annual model validation.

Details are published on the ECC website Margining (ecc.de).

6. *A CCP should analyse and monitor its model performance and overall margin coverage by conducting rigorous daily back testing and at least monthly, and more-frequent where appropriate, sensitivity analysis. A CCP should regularly conduct an assessment of the theoretical and empirical properties of its margin model for all products it clears. In conducting sensitivity analysis of the model's coverage, a CCP should take into account a wide range of parameters and assumptions that reflect possible market conditions, including the most-volatile periods that have been experienced by the markets it serves and extreme changes in the correlations between prices.*

Margin model performance and margin coverage are continuously monitored and analyzed in daily back testing. Back tests are performed and analyzed for the spot and derivative models. The results are categorized using the Basel Traffic Light Approach and reported to the Management Board on a regular basis.

Stress tests and reverse stress tests covering a wider range of potential scenarios and sensitivity tests are completed daily. Results are reported to the management on a regular basis.

Comprehensive analysis, conducted by varying major parameters, as well as theoretical and empirical properties of the margin model are furthermore assessed ad-hoc, if deemed necessary (e.g. after major stress events) and regularly by means of the annual independent model validation.

Shortcomings in the model performance are addressed according to the back testing procedure. If the model would not perform as expected, model parameters are recalibrated.

Back testing performance is disclosed in the quarterly "Back and Stress Testing Disclosure" and the quarterly CPMI IOSCO Quantitative Disclosure.

7. *A CCP should regularly review and validate its margin system.*

The Model Risk Management (MRM) framework covers the maintenance of the margin system. ECC AG performs a regular and trigger-based validation of all margin and risk models defined within the Model Risk Management framework.

The framework reflects the three lines of defence model. The model owner, user and developer (as first line) are responsible for quality tests of all models in scope. The independent model validation as a second line ensures the quality of all models shown in the model inventory. The second line runs a separate set of tests to ensure the model quality of the risk and margin system.

Validation results are reported regularly to the Risk Committee and the Management Board. The Annual Validation Report to the Management Board covers all risk and margin models within the model inventory.

Principle 7: Liquidity Risk

A CCP should effectively measure, monitor, and manage its liquidity risk. A CCP should maintain sufficient liquid resources in all relevant currencies to effect same-day and, where appropriate, intraday and multiday settlement of payment obligations with a high degree of confidence under a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would generate the largest aggregate liquidity obligation for the CCP in extreme but plausible market conditions.

Key considerations

1. *A CCP should have a robust framework to manage its liquidity risks from its participants, settlement banks, nostro agents, custodian banks, liquidity providers, and other entities.*

ECC measures, monitors, and manages liquidity risk on daily basis according to its Liquidity Risk Management Framework, which was established considering the regulatory requirements as defined in EMIR. The Liquidity Risk Management Framework is constituted by the Risk Strategy, Liquidity Management Policy, the Liquidity Plan, the Liquidity Stress Test Methodology and the Investment Policy.

The Liquidity Risk Management Framework addresses potential sources of liquidity risk including relations to members, participants, custodian banks, settlement banks, liquidity providers and other entities. In addition, requirements for monitoring, managing and reporting are outlined and describe the coverage of liquidity shortage in contingency events. All settlement and funding flows are analyzed, and all relevant currencies are covered.

The Liquidity Risk Management Framework is reviewed at least annually and amended if deemed necessary - after discussion with the Risk Committee and approval by the Management Board.

2. *A CCP should have effective operational and analytical tools to identify, measure, and monitor its settlement and funding flows on an ongoing and timely basis, including its use of intraday liquidity.*

ECC has effective operational and analytical tools to identify, measure and monitor its settlement and funding flows on ongoing and timely basis.

Main analytical tools are daily liquidity reports that show available liquid resources and liquidity needs including the liquidity needs under a wide range of stressed conditions.

Daily monitoring, reconciliation and documentation of cash flows including monitoring of limits in reconciliation files is carried out.

3. *A payment system or SSS, including one employing a DNS mechanism, should maintain sufficient liquid resources in all relevant currencies to effect same-day settlement, and where appropriate intraday or multiday settlement, of payment obligations with a high degree of confidence under a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would generate the largest aggregate payment obligation in extreme but plausible market conditions.*

This key consideration applies to entities that are only payment systems or SSS; ECC is payment system but also CCP and the relevant explanations are given in the next Key Consideration.

***4.** A CCP should maintain sufficient liquid resources in all relevant currencies to settle securities-related payments, make required variation margin payments, and meet other payment obligations on time with a high degree of confidence under a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would generate the largest aggregate payment obligation to the CCP in extreme but plausible market conditions. In addition, a CCP that is involved in activities with a more-complex risk profile or that is systemically important in multiple jurisdictions should consider maintaining additional liquidity resources sufficient to cover a wider range of potential stress scenarios that should include, but not be limited to, the default of the two participants and their affiliates that would generate the largest aggregate payment obligation to the CCP in extreme but plausible market conditions.*

As outlined in the Liquidity Risk Management Framework, ECC has established measures and processes for monitoring, managing and reporting of liquidity risk related figures/indicators in order to maintain sufficient liquid resources to meet all payment obligations on time with a high degree of confidence under a wide range of stress scenarios, covering also extreme but plausible market conditions (see principle 4).

ECC is not involved in activities with a more-complex risk profile nor is ECC classified to be systemically important in Germany or any other jurisdiction. However, the financial resources are recalibrated daily to be sufficient to cover a wide range of scenarios including the default of the two participants and its affiliates that would generate the largest aggregate payment obligation to the CCP in extreme but plausible market conditions. Sufficient liquidity is required to be able to cover all described liquidity stress test scenarios. This covers all material currencies. Liquidity risks in non-material currencies can be covered with liquid resources in other currencies.

***5.** For the purpose of meeting its minimum liquid resource requirement, qualifying liquid resources in each currency include cash at the central bank of issue and at creditworthy commercial banks, committed lines of credit, committed foreign exchange swaps, and committed repos, as well as highly marketable collateral held in custody and investments that are readily available and convertible into cash with prearranged and highly reliable funding arrangements, even in extreme but plausible market conditions. If a CCP has access to routine credit at the central bank of issue, the CCP may count such access as part of the minimum requirement to the extent it has collateral that is eligible for pledging to (or for conducting other appropriate forms of transactions with) the relevant central bank. All such resources should be available when needed.*

ECC considers only pre-funded and immediately available resources as liquid resources to cover the liquidity risk form cleared transactions. This includes cash collateral and own cash deposited with the ECB or authorized credit institutions or placed overnight as reverse repo.

ECC does not use central bank credit as source of liquidity.

For liquidity requirements from business activities also committed credit lines are used as liquid resources.

ECC does not use credit or equivalent arrangements with CMs as liquidity providers. As of today, minor liquidity needs in FX are managed within limits.

The size of qualifying resources and related coverage is regularly disclosed in the Quantitative Financial Disclosure report, which is provided on ECC's website:

https://www.ecc.de/en/about-ecc/company/reports

***6.** A CCP may supplement its qualifying liquid resources with other forms of liquid resources. If the CCP does so, then these liquid resources should be in the form of assets that are likely to be saleable or acceptable as collateral for lines of credit, swaps, or repos on an ad hoc basis following a default, even if this cannot be reliably prearranged or guaranteed in extreme market conditions. Even if a CCP does not have access to routine central bank credit, it should still take account of what collateral is typically accepted by the relevant central bank, as such assets may be more likely to be liquid in stressed circumstances. A CCP should not assume the availability of emergency central bank credit as a part of its liquidity plan.*

ECC does not supplement its qualifying liquid resources with other forms of liquid resources and does not assume the availability of emergency central bank credit as a part of its Liquidity Plan.

***7.** A CCP should obtain a high degree of confidence, through rigorous due diligence, that each provider of its minimum required qualifying liquid resources, whether a participant of the CCP or an external party, has sufficient information to understand and to manage its associated liquidity risks, and that it has the capacity to perform as required under its commitment. Where relevant to assessing a liquidity provider's performance reliability with respect to a particular currency, a liquidity provider's potential access to credit from the central bank of issue may be taken into account. A CCP should regularly test its procedures for accessing its liquid resources at a liquidity provider.*

ECC does not use liquidity provider to meet its minimum required qualifying liquidity resources but holds sufficient liquidity in the form of highly liquid assets to cover its liquidity needs, including stressed conditions.

ECC uses committed credit lines from commercial banks only to cover liquidity needs arising from business operations. The respective liquidity needs are minor compared to the overall liquidity requirements and the credit arrangements follow standard agreements. Access to the liquidity is tested daily in business as usual.

***8.** A CCP with access to central bank accounts, payment services, or securities services should use these services, where practical, to enhance its management of liquidity risk.*

ECC uses central bank accounts and payment services (Target2) offered by the central bank for payments in Euro, which is the main currency.

For securities services, ECC uses regulated CSD Clearstream Banking that are assessed according to the PFMI-IOSCO.

***9.** A CCP should determine the amount and regularly test the sufficiency of its liquid resources through rigorous stress testing. A CCP should have clear procedures to report the results of its stress tests to appropriate decision makers at the CCP and to use these results to evaluate the adequacy of and adjust its liquidity risk-management framework. In conducting stress testing, a CCP should consider a wide range of relevant scenarios. Scenarios should include relevant peak historic price volatilities, shifts in other market factors such as price determinants* *and yield curves, multiple defaults over various time horizons, simultaneous pressures in funding and asset markets, and a spectrum of forward-looking stress scenarios in a variety of extreme but plausible market conditions. Scenarios should also take into account the design and operation of the CCP, include all entities that might pose material liquidity risks to the CCP (such as settlement banks, nostro agents, custodian banks, liquidity providers, and linked CCPs), and where appropriate, cover a multiday period. In all cases, a CCP should document its supporting rationale for, and should have appropriate governance arrangements relating to, the amount and form of total liquid resources it maintains.*

ECC performs daily stress tests for the adequacy of the liquid resources in the Default Waterfall by simulating the default of the largest two members in extreme but plausible market conditions using standard and predetermined parameters, assumptions and scenarios. On monthly basis ECC performs a detailed analysis of the stress testing scenarios, models and underlying parameters and assumptions. This analysis is performed more frequently during times of high market volatility. The scenarios cover all entities that might pose material liquidity risk to ECC (including settlement banks and custodians) and all potential risk factors are considered in the scenarios of the stress test considering that a counterpart might have multiple roles.

In stress testing ECC considers a wide range of relevant price changes in the liquidation period by using both historical and a range of potential future scenarios. Historical scenarios replicate as closely as possible historical stress events observed in the past 30 years, or as long as reliable data has been available, that would have exposed ECC to greatest financial risk (peak historic price volatilities). Forward-looking stress scenarios complement the historical scenarios and aim to capture stress events that are plausible but have not been observed in the historic data or where historical observations are not considered extreme under current conditions or where the available prices history is not long enough / not reliable to determine stress scenarios.

ECC also performs monthly stress tests for the adequacy of resources for credit risk not covered by the Default Waterfall (i.e., operational risk, market risk and business risk). Those stress tests are performed by assuming different default scenarios of counterparts in uncovered activities, the realization of financial losses from the operational risk scenarios, assuming different scenarios for exchange rates as well as assuming a worst-case development in the turnover in ECC's main markets and their negative effect on ECC's profit.

The results of the stress tests are reported to the Management Board in the Monthly Risk Report. The Risk Committee as well as the Supervisory Board are informed on a quarterly basis. Main results of ECC's stress tests are disclosed on the website in the quarterly PFMI-IOSCO public quantitative disclosure report.

The Stress Test Framework is subject to an annual review or ad-hoc review in case of significant events or significant changes (e.g., introduction of significant new services or process changes).

The Stress Test Framework is validated annually by the independent Model Validation as well as by internal and external auditors. The results of this review of the Stress Test Model are also discussed with the ECCs Risk Committee.

Details can be found on ECCs Website: Stress Testing (ecc.de)

***10.** A CCP should establish explicit rules and procedures that enable the CCP to affect same-day and, where appropriate, intraday and multiday settlement of payment obligations on time following any individual or combined default among its participants. These rules and procedures should address unforeseen and potentially* *uncovered liquidity shortfalls and should aim to avoid unwinding, revoking, or delaying the same-day settlement of payment obligations. These rules and procedures should also indicate the CCP's process to replenish any liquidity resources it may employ during a stress event, so that it can continue to operate in a safe and sound manner.*

Rules and procedures established by ECC to ensure and enable appropriate settlement of payment obligations are documented in the Clearing Conditions and disclosed on the website, including information about the Default Management process.

The main exchange of payments takes place in ECC's routine morning payment settlement. Defaults at this point in time will result in exercise of the Default Process and the Default Waterfall, which is designed to ensure timely payment to non-defaulting members (see Principle 13).

The rules for replenishing liquid resources are included in the ECC Clearing Conditions and are disclosed on the ECC Website Lines of Defence (ecc.de)

Principle 8: Settlement Finality

A CCP should provide clear and certain final settlement, at a minimum by the end of the value date. Where necessary or preferable, a CCP should provide final settlement intraday or in real time.

Key considerations

1. *A CCP's rules and procedures should clearly define the point at which settlement is final.*

The operational rules state the timing and finality for settlement.

2. *A CCP should complete final settlement no later than the end of the value date, and preferably intraday or in real time, to reduce settlement risk. An LVPS or SSS should consider adopting RTGS or multiple-batch processing during the settlement day.*

Settlement takes place on each Business Day after the time specified for each product (accounting cut-off) as published on the ECC website as part of Batch Processing. Transactions concluded or registered after the accounting cut-off will be settled on the Business Day after the next Business Day. In detail, the following applies beyond the provisions for the accounting cut-off: (a) For Spot Market Transactions the settlement takes place on the later of the following dates: - on the current Trading Day, if this is a Business Day, - on the following Business Day, if the Trading Day is no Business Day. (b) For futures (except Registry Based Products futures) with physical settlement (BoM-Settlement), the settlement takes place on the later of the following dates: - on the Delivery Day, if this is a Business Day, - on the following Business Day, if the Delivery Day is no Business Day. (c) Registry Based Products futures managed in the Eurex Clearing System are settled two (2) Business Days before commencement of delivery.

3. *A CCP should clearly define the point after which unsettled payments, transfer instructions, or other obligations may not be revoked by a participant.*

Unsettled transactions can only be reversed under exceptional circumstances according to the rules and regulations of the markets where they have been concluded. In that case, the complete transaction including settlement is reversed and does not result in any payment or delivery obligation of any party. Beyond that, participants have no right to revoke any unsettled payments, transfer instructions, or other obligations.

The rules on settlement finality are stated in ECC's Clearing Conditions.

Principle 9: Money Settlements

A CCP should conduct its money settlements in central bank money where practical and available. If central bank money is not used, a CCP should minimize and strictly control the credit and liquidity risk arising from the use of commercial bank money.

Key considerations

1. *A CCP should conduct its money settlements in central bank money, where practical and available, to avoid credit and liquidity risks.*

Currently, ECC settles products denominated in EUR, USD, GBP, and JPY. The cash settlement in EUR (variation margin, margin calls and settlement of spot market transactions) represents about 99% of ECC's daily payments.

For Euro money settlements, ECC uses central bank money. Daily Euro cash amounts are settled via the TARGET2 infrastructure. ECC has been recognized by the Deutsche Bundesbank as Ancillary System of the TARGET2 system and has also been approved as the designated Payment System according to Article 10 of the Settlement Finality Directive 98/26/EC. ECC CMs have authorized ECC either to debit their own TARGET2 account or a TARGET2 account of a third party. Those accounts can be held at any central bank within the European Union, which takes part in the TARGET2 settlement system.

For Clearing Members that are not allowed to participate in TARGET2 and that demonstrably find no other form of access to TARGET2, an alternative EUR settlement chain (EUR Commercial Bank Settlement – ECBS) may be used as an alternative with limited functionality to financially interact with ECC.

All payments in Euro take place on the TARGET2 operating days around 8:00 CET before market opening. All intraday cash calls are processed real-time via the TARGET2 infrastructure at the time they are affected. TARGET2 payments are considered as final according to the TARGET2 Terms and Conditions.

Non-Euro and non TARGET2 payments are settled through a private settlement agent model (Settlement Banks). ECC uses Clearstream Banking Luxemburg (Clearstream) as a private settlement agent and the multi-currency payment banks J.P. Morgan Chase Bank N.A. London and Deutsche Bank AG London.

2. *If central bank money is not used, a CCP should conduct its money settlements using a settlement asset with little or no credit or liquidity risk.*

The Settlement Banks as designated settlement agents of ECC for all non-EUR currencies and EUR payments via alternative EUR settlement chain (EUR Commercial Bank Settlement – ECBS) have been selected because of their high creditworthiness but also because of the low operational risk. The stated banks are linked by electronic interfaces to the EUREX System that ECC uses for money settlement. In addition, where EUR is collected to the Settlement Bank (ECBS model), payments are immediately forwarded to ECC TARGET2 account.

3. *If a CCP settles in commercial bank money, it should monitor, manage, and limit its credit and liquidity risks arising from the commercial settlement banks. In particular, a CCP should establish and monitor adherence to strict criteria for its settlement banks that take account of, among other things, their regulation and supervision,* *creditworthiness, capitalization, access to liquidity, and operational reliability. A CCP should also monitor and manage the concentration of credit and liquidity exposures to its commercial settlement banks.*

The credit exposure from Settlement Banks as settlement agents is managed according to the Principle 6 (Credit Risk Management). The liquidity risk is managed according to the Principle 7 (Liquidity Risk Management). Foreign currency payments are low compared to ECC's total daily payments in EUR. The risk is monitored and reported in the Monthly Risk Report to the Management Board.

The development of the USD, GBP, and JPY-variation margin and GBP settlement amount is monitored daily.

4. *If a CCP conducts money settlements on its own books, it should minimize and strictly control its credit and liquidity risks.*

ECC does not conduct money settlements on its own books in general. ECC will only pay money to its CMs once it has received the due amounts on its accounts before. ECC has to conduct such transactions on rare occasions. In case of non-fulfilment of a CM in currency A, ECC will debit currency B from the CM and convert this into currency A. These transactions are heavily restricted and only used in order to safeguard the clearing system. Additionally, ECC might bridge payments towards it's clearing members by using the available liquidity in the form of margin collateral if he relevant preconditions are met for such transactions. Please note that in case of a default event such actions are additionally safeguarded.

5. *A CCP's legal agreements with any settlement banks should state clearly when transfers on the books of individual settlement banks are expected to occur, that transfers are to be final when effected, and that funds received should be transferable as soon as possible, at a minimum by the end of the day and ideally intraday, in order to enable the CCP and its participants to manage credit and liquidity risks.*

The legal agreement between ECC and Settlement Banks is governed by their Terms and Conditions and subject to ECC's designation as a payment system according to the Settlement Finality Directive 98/26/EC) reflected in the chapter on finality within ECC's clearing conditions, which have been accepted by ECC and its CMs. Those Terms and Conditions state clearly that when transactions are expected to occur that they are final and cannot be reversed.

The Terms and Conditions also state that standard payments in USD, GBP, and JPY via the settlement bank take place at fixed settlement times during the payment day on all currency-specific payment days (e. g. no USD payments on USD bank holidays). Urgent payments can also be completed real-time.

In case of payment delays/technical issues, the Settlement Banks will process pending payments if the CM has a credit line in place. ECC monitors daily payments and has established operational procedures in case of non-performance of its settlement agent or CMs. In case of default of the Settlement Bank, all payments would be converted and re-processed in Euro.

Principle 10: Physical Deliveries

A CCP should clearly state its obligations with respect to the delivery of physical instruments or commodities and should identify, monitor, and manage the risks associated with such physical deliveries.

Key considerations

1. *A CCP's rules should clearly state its obligations with respect to the delivery of physical instruments or commodities.*

Currently, ECC performs physical deliveries in power, natural gas and emissions, capacity certificates and guarantees of origin (EUAs, EUAAs, CGFRs, GoOs) within the networks of different transmission system operators (TSOs) and within Registries. Obligations and responsibilities with respect to the physical delivery of commodities are laid down in the ECC Clearing Conditions, in the product-specific admission forms and in the terms and conditions of the different TSOs/Registries. ECC-related documents are available to the public on the ECC website.

Due to the fact that ECC operates the settlement of physical deliveries in power and natural gas since the liberalization of the Continental European energy markets, most of the delivery procedures applied by ECC are common market practice to settle exchange transactions and therefore well known by the market participants. Other delivery procedures have been designed similar to common procedures in the OTC market (e.g. emissions). Trading participants have to sign product-specific admission form that clearly states the respective delivery procedures.

Despite "physical delivery" usually means a real transmission of good from one place to another, this is not the case in power and gas markets, physical delivery means allocation of possession rights. The transmission of registry-based products is anyway only transfer of possession rights.

Grid stability and general operation of the power and gas grid are the main responsibility of the Transmission System Operators (TSO). ECCs delivery instructions (nominations) are only on Cross boarder products (transmission between balancing zones) effective on the grid itself and therefor time critical. Any other nominations (meaning the majority of the trades) are so called local nominations, which are purely commercial bookings without any physical effect, those nominations only determine the party that has to pay for the energy.

The Clearing Conditions state the principles that apply for ECC towards the TSOs and the expectation of ECC towards the NCMs in terms of delivery processes. Any remaining risks are addressed by a delivery margin which is explained in our margin documentation.

2. *A CCP should identify, monitor, and manage the risks and costs associated with the storage and delivery of physical instruments or commodities.*

Deliveries in natural gas or power are completed by sending electronic notification messages to the respective transmission system operator (TSO). As power and gas are traded 24/7, the delivery status is monitored 24/7 by ECC. The remaining risks are mitigated by having special arrangements with the TSOs in place whereby ECC's nominations have preferential status or by calling margins (e.g., delivery margin). In cases where ECC is required by the TSOs to post collateral, ECC monitors the collateral requirements and completes forecasts of the potential changes. ECC manages the liquidity risk by ascertaining sufficient free credit capacity to fulfil collateral calls. For TSO specific rights regarding adaptions to schedules (e.g., curtailments) ECC has rules in place to manage imbalances within TSO areas.

To participate in the physical delivery of power and natural gas, the trading participants must have a valid balancing agreement with the respective TSO or can appoint service provider for the purpose of delivery. This is constantly monitored by ECC and there is an obligation by the participant and the TSO to report changes in balancing agreements in a timely manner to ECC.

With regards to the delivery of power and natural gas only ECC only bears the operational risk to transfer the nominations to the TSOs in a correct manner and to ensure that no unmatched positions exist. Therefore, ECC has established highly reliable and stable delivery procedures (including backup procedures) with different transmission system operators and registries across Europe. Any nomination will be automatically checked by ECC’s settlement systems before forwarding to the transmission system operators and the acceptances/matching of the nominations are constantly monitored.

Certificates are held at electronic registries, for example, the EU register. The register has a high level of access protection to block unauthorized access to the certificates. ECC monitors and reconciles the balances on its account on daily basis and will either call delivery margins in case an open delivery position exists or request the closing of open positions.

The delivery of emission certificates as part of clearing transactions takes place by debiting/crediting internal delivery accounts. ECC monitors the account holdings and will either call delivery margins in case an open delivery position exists or request the closing of open positions. In case ECC is required to hold delivery margins those margins will be released after the delivery obligation has been fulfilled by the trading participants.

On the internal delivery accounts ECC keeps record of physical assets of the trading participant. Information on those holdings is available via the ECC Member area or in daily account statements. Trading participants can use this information for their reconciliation process. In addition, the total amount of the participant holdings on the internal delivery accounts equals the holdings on the ECC’s trusted account on registry level. ECC monitors those figures on an ongoing basis to ensure the correctness of its system.

Principle 11: Central Securities Depositories

A CSD should have appropriate rules and procedures to help ensure the integrity of securities issues and minimize and manage the risks associated with the safekeeping and transfer of securities. A CSD should maintain securities in an immobilized or dematerialized form for their transfer by book entry.

As outlined in Key Consideration 1 of Principle 1, ECC is an authorized CCP under EMIR and not a CSD. Therefore, ECC deems Principle 11 as not applicable.

Principle 12: Exchange-of-Value Settlement Systems

If a CCP settles transactions that involve the settlement of two linked obligations (for example, securities or foreign exchange transactions), it should eliminate principal risk by conditioning the final settlement of one obligation upon the final settlement of the other.

ECC is not an exchange-of-value settlement system and thus the settlement of two linked obligations is not part of the offered clearing services. ECC enters into the trade and becomes the buyer for the seller and the seller to the buyer. For spot market transactions e.g., in power and natural gas, the deliveries take place typically before payment. This risk of non-payment is subject to margin (the so-called Current Exposure Spot Market - CESM for existing transaction and the Initial Margin Spot Market for expected future transactions). Additionally, ECC requests Margin in case the Transmissions System Operator has the specific right to reject the delivery from power or natural gas to ECC. For physically settled futures on natural gas, the due commodity value will be debited before delivery from the buyer. In case of Emission Allowances (storable commodity,) it is required that sellers fulfil their delivery obligations before trading/settlement; buyers will receive the Emission Allowances only after successful cash settlement.

Principle 13: Participant-Default Rules and Procedures

A CCP should have effective and clearly defined rules and procedures to manage a participant default. These rules and procedures should be designed to ensure that the CCP can take timely action to contain losses and liquidity pressures and continue to meet its obligations.

Key considerations

1. *A CCP should have default rules and procedures that enable the CCP to continue to meet its obligations in the event of a participant default and that address the replenishment of resources following a default.*

ECC has established a comprehensive set of measures to ensure that ECC is able to meet all obligations in the event of a participant's default. These measures address also the replenishment of resources following such an event. The related rules, procedures and responsibilities are clearly defined. Obligations of members and measures by ECC are part of ECC's Clearing Conditions (e.g., Rulebook). Internal processes and responsibilities are determined in ECC's default and close-out processes. These are an integral part of ECC's Risk Management Framework and subject to regular review, testing, controls and audits.

All actions to be taken in case of a default are subject to the rules laid down in ECC's Rulebook. ECC's actions are decided by the Default Management Team after careful evaluation of all risks and options available, depending on the individual situation.

ECC's default processes do not foresee any changes to settlement practices as a direct result of the management of a default. All transactions of other CMs and participants are managed and cleared without changes to the general business processes.

Losses from the close-out process will be covered by pre-funded financial resources according to EMIR. In cases where losses exceed such pre-funded financial resources, additional resources according to Art. 43(3) EMIR can be called. These are also recovery measures according to Art. 9 No. 20 CCPRRR[4]. recovery options can be used. In accordance with the CCPRRR, ECC maintains recovery tools in line with CPMI-IOSCO Principles for Recovery of Financial Market Infrastructures (e.g., partial tear-up, recovery cash calls). Before such tools are applied, ECC provides an additional dedicated, pre-funded financial resource ("Second Skin-in-the-Game) according to Article 9 para 14 CCPRRR. In addition, ECC provides an additional voluntary contribution on a pro-rata basis in case of recovery cash calls to the remaining Clearing Members.

ECC's Clearing Conditions and default processes foresee the replenishment of financial resources to the Default Fund. Liquid financial resources are replenished from the liquidation proceeds of collateral posted by the defaulting CM or its clients. ECC's Dedicated Own Resources (skin-in-the-game and second-skin-in-the-game) are replenished as well.

2. *A CCP should be well prepared to implement its default rules and procedures, including any appropriate discretionary procedures provided for in its rules.*

Any default measures that can be taken by ECC with an impact on rights and obligations of CMs or trading participants are part of ECC's Clearing Conditions. Processes, roles and responsibilities are clearly defined in

[4] Regulation (EU) 2021/23 on a framework for the recovery and resolution of central counterparties (CCPRRR)

binding internal policies and procedures, which are part of ECC's fixed written rules and risk management framework.

Default measures include appropriate discretionary procedures to ensure sufficient flexibility to react and adapt to a specific default situation. This is evidenced by the results of the default simulations, performed at least annually with monitoring and supervision by the supervisory authority (including on-site observers) – and the application of the processes in dealing with past default events.

The default management processes have been designed based on the requirements of EMIR Article 48 and regulatory recommendations and best practices. The regulatory requirements from the CCPRRR and the respective RTS are also considered. All processes in place are targeted towards limiting losses of ECC and its CMs and continuing the normal clearing and settlement processes in the event of one or more CMs defaulting.

ECC's communication procedures are designed to fulfill information requirements of stakeholders and reach out to them in time in case of default. They are based on a general communication strategy and implemented in processes and communication templates at the operational level and form an integral part of ECC's default management.

The default processes are part of ECC's risk management framework and are reviewed at least annually. Furthermore, lessons learned from the annual default tests (details can be found under 13.4), new products or changed processes and legislation can trigger adjustments. Changes are subject to a comprehensive governance approach: First, all adjustments are subject to ECC's default management governance, involving multiple quality gates. Second, relevant changes are presented for opinion and approval to the EMIR Risk Committee and offered for consultation to ECC's members. Third, material changes to ECCs risk management including default processes, need to be approved by the Board.

***3.** A CCP should publicly disclose key aspects of its default rules and procedures.*

All actions that ECC might take in case of a CM default with an effect on CMs and trading participant's rights or obligations, their conditions and boundaries, are part of ECC's Clearing Conditions. This includes treatment of proprietary and customers' positions, funds and assets.

Further details of default processes are disclosed on ECC's website under Default Management (ecc.de).

***4.** A CCP should involve its participants and other stakeholders in the testing and review of the CCP's default procedures, including any close-out procedures. Such testing and review should be conducted at least annually or following material changes to the rules and procedures to ensure that they are practical and effective.*

ECC involves members, participants, partner exchanges and regulators in testing and simulation of its default procedures. Changes to the default processes are subject to ECC's governance approach, which includes consultation of CMs and trading participants and members of the EMIR Risk Committee. Furthermore, changes to default processes are presented in ECC's Clearing Working Group, which are regular open discussion rounds where all ECC members can participate.

Default processes and their various elements are tested frequently and regularly but at least four times a year and in line with process changes or introduction of new products. A comprehensive simulation of the default management processes takes place annually and includes active external participants, e.g., CMs, trading participants and partner exchanges. Performing these simulations under varying assumptions and scenarios ensures that envisaged measures are effective within the planned time frames. Such simulations are accompanied on-site by representatives of the supervisory authorities and ECCs resolution authority (Deutsche Bundesbank and/or BaFin).

The results or lessons learned are communicated to the Management Board, EMIR Risk Committee and ECC's regulators. Improvements are deducted from lessons learned and incorporated into the review and update of default management processes at ECC.

Principle 14: Segregation and Portability

A CCP should have rules and procedures that enable the segregation and portability of positions of a participant's customers and the collateral provided to the CCP with respect to those positions.

Key considerations

1. *A CCP should, at a minimum, have segregation and portability arrangements that effectively protect a participant's customers' positions and related collateral from the default or insolvency of that participant. If the CCP additionally offers protection of such customer positions and collateral against the concurrent default of the participant and a fellow customer, the CCP should take steps to ensure that such protection is effective.*

ECC established a comprehensive framework enabling segregation and portability of positions and collaterals of Clients of CMs according to EMIR Article 39. The segregation and portability arrangements offered by ECC effectively allow to protect a Customer's (Client of a CM) positions and related collateral from the default or insolvency of his CM/NCM or fellow Customers.

ECC currently offers two segregation models:

1. ISA: Individual Segregation for a single NCM
    - Own collateral pool
    - Collateral passed to ECC
    - Only possible for collateral accepted by ECC
2. GOS/SOS: General/Simple Omnibus Segregation for multiple Clients and NCMs in an CMs A-Account
    - Shared collateral pool for all clients and NCMs in the GOS/SOS
    - By Value Segregation within the pool
    - Collateral posted by the CM

The minimum and default level is the establishment of a General Omnibus Segregation, other collateral segregation models are optional. Positions are segregated by clear assignment to individual collateral accounts on an NCM and CM level.

With regards to the regulatory requirements on portability, ECC (in line with EMIR Article 48) offers arrangements that relate to the segregation model the client has chosen (see description above) and the Client status:

1. **ISA Clients with a (known and fully setup) Backup-CM**:
    - Positions and assets will be transferred immediately without any notice required
    - Pending payments might be deducted from the transferred assets
2. **ISA Clients without a Backup-CM**:
    - If client finds a new CM in the transfer window positions and assets are transferred to this new CM
    - Pending payments might be deducted from the transferred assets

3. **Other (not ISA segregated) NCM**:
    - If client finds new CM in the transfer window positions are transferred to this new CM
    - Assets cannot be transferred (funding by new CM), only collateral accepted by ECC

All remaining positions are liquidated, and the collateral pools are used according to the specific segregation model. Remaining collateral in ISA collateral pools is returned to the known clients. Collateral in SOS/GOS pool can be (re)claimed by the known clients of the CM to a certain extent. The remainder is distributed to the CM on account of his clients.

The offered protection is deemed effective as the required regulatory and legal preconditions have been implemented by the legislator in the European (EMIR) and German law (InsO) have been introduced.

2. *A CCP should employ an account structure that enables it readily to identify positions of a participant's customers and to segregate related collateral. A CCP should maintain customer positions and collateral in individual customer accounts or in omnibus customer accounts.*

ECC records positions separately for NCMs, for CM proprietary positions and for the Clients of a CM on the agency position accounts. Assets are segregated in segregated collateral pools at the level of ECC for individually segregated NCMs, for the CMs proprietary pool and for omnibus clients per client requests. All other collaterals are segregated by value as standard if they are not included in an aforementioned collateral pool.

3. *A CCP should structure its portability arrangements in a way that makes it highly likely that the positions and collateral of a defaulting participant's customers will be transferred to one or more other participants.*

The portability arrangements offered by ECC are structured in a way that relate to the chosen segregation model and related to that, positively influences the probability that the positions and collateral of the client of a defaulting CM will be transferred to another CM.

ECC will consider transferring all individually segregated positions within the timeline defined during the Default Management Process. To allow timely transfer, ECC offers the possibility to establish contractual relations to a Backup-CM in advance. For ISA segregated accounts which already have a Backup-CM in place, ECC will initiate a transfer after the decision of the default management team.

Transfer of one or several GOS/SOS Position Accounts together with the respective collateral can only be undertaken for the entire Omnibus Account upon a risk-based ad-hoc decision of the ECC Default Management Team, provided that the known client has appoint a new Clearing Member that has approved of the transfer.

In case of a transfer of collateral, ECC will transfer either assets or the proceeds of the realization of the CM collateral to the new CM. In all other cases, collateral must be reclaimed according to the Reclaim Procedure.

Under the ISA Model, a transfer of positions to a new CM is possible for all accounts and will be facilitated if a corresponding Backup-CM Agreement has been signed. For other Clients, the likelihood of transfers might be limited.

***4.** A CCP should disclose its rules, policies, and procedures relating to the segregation and portability of a participant's customers' positions and related collateral. In particular, the CCP should disclose whether customer collateral is protected on an individual or omnibus basis. In addition, a CCP should disclose any constraints, such as legal or operational constraints, that may impair its ability to segregate or port a participant's customers' positions and related collateral.*

The different segregation models and related portability arrangements are described in ECC's Clearing Conditions, which are publicly available on ECC's website:

https://www.ecc.de/en/about-ecc/rules

ECC has published a separate document on Segregation and Portability on this page:

https://www.ecc.de/fileadmin/ECC/Downloads/Risk_Management/Risk_Management/Trade_Reporting/Emir/segregation-and-portability-data.pdf https://www.ecc.de/en/clearing/emir/segregation-and-portability

Furthermore, details can be obtained from a FAQ document on this page:

https://www.ecc.de/en/clearing/emir/segregation-and-portability

Principle 15: General Business Risk

A CCP should identify, monitor, and manage its general business risk and hold sufficient liquid net assets funded by equity to cover potential general business losses so that it can continue operations and services as a going concern if those losses materialize. Further, liquid net assets should at all times be sufficient to ensure a recovery or orderly wind-down of critical operations and services.

Key considerations

1. *A CCP should have robust management and control systems to identify, monitor, and manage general business risks, including losses from poor execution of business strategy, negative cash flows, or unexpected and excessively large operating expenses.*

ECC has a Business and a Risk Strategy. The Risk Strategy is based upon ECC's Business Strategy and regulates the extent of risk taken within the various business activities carried out by ECC. The Risk Strategy determines conditions for risk management, control and limitation. ECC pays considerable attention to its risk mitigation process and ensures that appropriate measures are taken to avoid, reduce and transfer or intentionally accept risk.

ECC identifies and monitors business risk and risk resulting from changes in the regulatory or legal environment. Business risk is identified in at least the annual risk inventory or when market conditions change. Main business risks are losses in market share in ECC's main products by increasing competition or the loss of market volume through regulatory intervention.

Those risks are monitored through competitor analysis (e.g., new products, development of volumes) that is reported on a monthly basis to the Management Board. The financial performance including development of cash flows and deviations from the budget is monitored monthly with ECC's Financial Report.

The regulatory environment is monitored through regular meetings with key decision makers and through participation in industry associations (European Association of Clearing Houses; EACH).

2. *A CCP should hold liquid net assets funded by equity (such as common stock, disclosed reserves, or other retained earnings) so that it can continue operations and services as a going concern if it incurs general business losses. The amount of liquid net assets funded by equity a CCP should hold should be determined by its general business risk profile and the length of time required achieving a recovery or orderly wind-down, as appropriate, of its critical operations and services if such action is taken.*

The resources are sufficient to cover regulatory capital requirements and economic capital requirements respectively:

- regulatory capital requirements for winding down or restructuring according to EMIR RTS 152/2013 Article 3
- expected and potential losses from operational incidents which are derived from operational risk scenarios and the regulatory capital requirements for operational risk according to EMIR RTS 152/2013 Article 3 (equivalent to the Basel capital requirements for operational risk under the standardized approach)

- expected and unexpected losses from credit risk from uncovered activities and the regulatory capital requirements for credit risk according to EMIR RTS 152/2013 Article 4 (equivalent to the Basel capital requirements for credit risk under the standard approach)
- the amount of financial resources needed to cover business risk is determined based on the above stated scenario analysis as far as not covered by P&L planning and according to EMIR RTS 152/2013, Article 5: Main business risks are losses in market share or clearing fees in ECC's main products by increasing competition or the loss of market volume through regulatory intervention. The amount of financial resources needed to cover business risk is determined by scenario analysis

Additionally, Stress Testing is used for management information purposes. The approach of calculating capital requirements takes into account the general business risk profile.

3. *A CCP should maintain a viable recovery or orderly wind-down plan and should hold sufficient liquid net assets funded by equity to implement this plan. At a minimum, a CCP should hold liquid net assets funded by equity equal to at least six months of current operating expenses. These assets are in addition to resources held to cover participant defaults or other risks covered under the financial resources principles. However, equity held under international risk-based capital standards can be included where relevant and appropriate to avoid duplicate capital requirements.*

ECC wind-down analysis is governed by the Article 2 Paragraph 2 of EMIR RTS 152/2013. As a result, ECC's estimated wind-down period is considered to be below the minimum of 6 months defined in EMIR RTS 152/2013, Article 2 Paragraph 2. ECC therefore uses the 6-month wind-down period when calculating the capital requirement. The required capital is calculated based on the most recent audited financial statement according to EMIR RTS 152/2013, Article 2 Paragraph 4.

ECC maintains also a recovery plan following the requirements of EU-Regulation 2021/23 (CCPRRR). The recovery plan contains a set of governance structures, indicators, tools and extreme but plausible scenarios covering multiple default and non-default events. The recovery plan is submitted to ECCs competent authority, the EMIR College and the Resolution College. As a result, ECC shows that its overall recovery capacity is sufficient to reinstate ECCs financial and operational viability in all recovery scenarios.

4. *Assets held to cover general business risk should be of high quality and sufficiently liquid in order to allow the CCP to meet its current and projected operating expenses under a range of scenarios, including in adverse market conditions.*

ECC's only invests in assets that are highly liquid according to its investment policy (see Principle 16) as required by EMIR Article 47. The calculation of uncovered liquidity considers projected expenses under a set of adverse market conditions as described in the Key Consideration above.

5. *A CCP should maintain a viable plan for raising additional equity should its equity fall close to or below the amount needed. This plan should be approved by the board of directors and updated regularly.*

The main objective of ECC is to avoid the need to raise additional equity and that the equity does not fall close to or below the amount required. For this, provision is made accordingly in the context of the capital planning. In addition to the base case scenario provided as expectation by Controlling, various adverse scenarios are also determined. The corresponding capital strengthening measures of the ECC are calculated in such a way that adverse developments are covered.Nevertheless, a plan that defines the measures for raising additional equity should the equity fall close to or below the amount needed is maintained as part of the Risk Management Framework and related policies (e.g., the Liquidity Plan and the Default Management Policy as well as the Recovery Plan). These are approved by the Management Board and are updated at least annually.

Principle 16: Custody and Investment Risks

A CCP should safeguard its own and its participants' assets and minimize the risk of loss on and delay in access to these assets. A CCP's investments should be in instruments with minimal credit, market, and liquidity risks.

Key considerations

1. *A CCP should hold its own and its participants' assets at supervised and regulated entities that have robust accounting practices, safekeeping procedures, and internal controls that fully protect these assets.*

ECC currently uses the major CSDs "Clearstream Banking AG" (CBF, Frankfurt/Germany). CBL accounts are Nostro-accounts of CBF held at CBL.

Both CSDs are assessed according to the CPMI-IOSCO Principles for Financial Market Infrastructures itself and are part of the same group (Group Deutsche Börse AG, GDB) as ECC. Therefore, ECC has transparency that the same risk management principles are applied that ECC would use as there are similar risk management requirements across the group.

2. *A CCP should have prompt access to its assets and the assets provided by participants, when required.*

ECC has prompt access to its assets and assets provided by participants if required which has been verified through legal analysis and is tested regularly. With regards to the sound legal basis to support enforcement of interest or ownership rights for assets held in custody please refer to Principle 1 related details.

3. *A CCP should evaluate and understand its exposures to its custodian banks, taking into account the full scope of its relationships with each.*

Members use pledge accounts for providing collateral, however, this is not ECC's exposure. ECC does not use custodian banks but has accounts directly at CSDs (see Key Consideration 1) for all its securities (e.g., securities received in its reverse-repo investments). ECC considers the exposure towards custodians in its risk management.

4. *A CCP's investment strategy should be consistent with its overall risk-management strategy and fully disclosed to its participants, and investments should be secured by, or be claims on, high-quality obligors. These investments should allow for quick liquidation with little, if any, adverse price effect.*

Consistent with the overall risk strategy, ECC maintains a strict investment policy that determines the re-investment of cash collateral provided. The policy needs Management Board approval and only allows for investments bearing a minimum level of risk, allowing only investments secured by or claims on high-quality obligors (see Key Consideration 1 for details).

Only admissible types of instruments/investments are ones with minimal credit, market and liquidity risks:

1. Current account/Overnight cash investment
2. Repurchase/Reverse repurchase agreements that are fully collateralized (after haircuts) with highly liquid securities

The total credit risk from cash investments and other relationships is monitored and reported monthly.

Essential aspects of the Investment Policy is disclosed on ECC's website https://www.ecc.de/en/risk-management/investment-policy.

Principle 17: Operational Risk

A CCP should identify the plausible sources of operational risk, both internal and external, and mitigate their impact through the use of appropriate systems, policies, procedures, and controls. Systems should be designed to ensure a high degree of security and operational reliability and should have adequate, scalable capacity. Business continuity management should aim for timely recovery of operations and fulfilment of the CCP's obligations, including in the event of a wide-scale or major disruption.

Key considerations

1. *A CCP should establish a robust operational risk-management framework with appropriate systems, policies, procedures, and controls to identify, monitor, and manage operational risks.*

ECC's Management Board sets the risk strategy including the operational risk strategy and the operational risk framework. The risk strategy is presented to the Supervisory Board. As result of this strategy, the roles for managing operational risk are mainly documented in ECC's Operational Risk Policy, and the other applicable second line of defense Policies like Business Continuity Management System (BCMS), the Information Security Management framework and other Policies. Those are mandated and endorsed by the management. Processes are regularly assessed, identified risks are to be covered by adequate management controls in line with the companies defined risk appetite. This also includes outsourced operations.

The Business Continuity Management System Policy provides guidelines on the implementation of preventative measures to maintain or timely restore mission critical processes after a failure or malfunction. ECC has conducted a Business Impact Analysis to identify the mission critical processes for ECC and consequently the units which operate these. The Business Impact Analysis is presented to and approved by the Management Board. The Business Impact Analysis has to be completed at least once a year by the head of each unit in consultation with the ECC Continuity Management Function, which is provided by the ECC Continuity Management unit. The analysis includes various scenarios that take into account external links and interdependencies and outsourced functions. Appropriate organizational arrangements have been put in place to manage the risk.

The BCMS Policy defines procedures and responsibilities to ensure business continuity in the event of an incident or crisis, such as the disruption of mission critical processes, as defined in the Business Impact Analysis.

The BCM-relevant aspects of the Business and Risk Strategy is reviewed at least annually and approved by the Management Board at least with the annual review of the Business Impact Analysis. Results of the testing are included in the review. The BCMS Policy is also reviewed and, if necessary, updated following a major incident or organizational change.

The results are the basis for the continuous improvement of internal processes. ECC operates an operational event database where operational incidents are recorded. Operational incidents are reviewed in regular meetings with senior management and measures are discussed and agreed upon. This meeting is coordinated by Compliance and the function responsible for Operational Risk Controlling, which are units independent from the relevant operations. Relevant incidents are reported to the Supervisory Board on a quarterly basis.

Identified actions to minimize the operational risks as well as major operational events are reported to the Management Board on a regular basis and are analyzed in the regular Operational Risk meeting to identify weaknesses that could lead to disruptions (via the Incident Management Process). Any identified weaknesses are addressed, and actions are tracked on an open issue list with set target dates as well as fed into a Known Error Database to ensure appropriate action on occurrence. Pending actions are reported to the Management Board on a regular basis.

The information systems are regularly reviewed by Internal Audit; selected areas are additionally reviewed by external IT experts if deemed necessary.

***2.** A CCP's board of directors should clearly define the roles and responsibilities for addressing operational risk and should endorse the CCP's operational risk-management framework. Systems, operational policies, procedures, and controls should be reviewed, audited, and tested periodically and after significant changes.*

ECC's Management Board sets the Business and Risk Strategy, including the Operational Risk Strategy. The strategy is presented to ECC's Risk Committee and to the Supervisory Board. As a result of this strategy, the roles for managing operational risk are mainly documented in ECC's Operational Risk Policy, and other applicable Policies. Those are mandated and endorsed by the management.

Procedures for testing as part of periodic new releases and new versions implementing significant changes are in place.

Unannounced emergency drills – including relocation to the backup office – are initiated at least once a year. The results of these inter-divisional emergency drills are collected and analyzed by the Continuity Management function. Any resulting measures are reported to the local Management Board. For ECC, the emergency drills for clearing processes must include CMs, external service providers and important institutions of the financial infrastructure with which ECC has critical dependencies.

Switchover tests between the two data centres of a data center cluster as part of the disaster recovery measures are conducted regularly by the IT Department. Switchover between the two data centres must be possible within the defined Recovery Time Objective (RTO-targeted timeframe for the recovery of a failed business-critical process) or before the critical deadline.

Internal audit reviews operational policies, procedures, and controls as part of the regular audit plan. As part of the Project Management Framework, the necessity of inclusion of second lines of defense and internal audit is determined as part of the Corporate Change Management Process.

External audit performs an annual review of the internal control systems as part of the statutory review of financial accounts.

***3.** A CCP should have clearly defined operational reliability objectives and should have policies in place that are designed to achieve those objectives.*

ECC's Continuity Management framework including policies, guidelines, and procedures and the respective objective setting ensure ECC's ability to plan for and respond to events and business disruptions in order to continue business operations at an acceptable predefined level. The BCMS addresses the unavailability of processes as well as all those resources required to operate these processes: IT services, workspace, staff, and service providers.

4. *A CCP should ensure that it has scalable capacity adequate to handle increasing stress volumes and to achieve its service-level objectives.*

Information technology systems used by ECC are secure and reliable. The systems are capable of processing the necessary information to perform the activities and operations in a safe and efficient manner. System documentation of the relevant information technology architecture is available and redundant system architecture with failover functions are placed to ensure ECC is scalable and can deal with upcoming operational needs. ECC's infrastructure is mainly operated on virtual servers, which facilitates scalability. The clearing applications and required infrastructure with a very high market availability demand are designed with sufficient capacity to allow processing of additional information within an expected range. All systems are designed to guarantee processing of transactions until the end of day.

ECC IT monitors changes in the requirements and constantly readjusts system capacity to the changing business volume. Load tests to secure stable operations of key systems are performed regularly and done in collaboration with the IT service provider and software vendors as part of regression testing with new releases.

5. *A CCP should have comprehensive physical and information security policies that address all potential vulnerabilities and threats.*

ECC maintains an information security framework (among others with Information Security Policy, Information Security Standards & Guidelines and Information Security Best Practices), which is based on internationally accepted standards (ISO 27001/27002/27005) and aligned with Deutsche Börse AG Information Security Framework if applicable.

ECC has a dedicated role of an "Information Security Officer", who is part of the Information Security Department and therefore independent of operational processes and independent of core IT functions. The information security officer and his team develop and maintain policies and standards in close collaboration with Deutsche Börse AG, advise projects on information security topics and assess compliance with the requirements through various assurance activities (internal control framework, deep dives, continuous monitoring, ad hoc assurance).

The Physical Security Policy of ECC defines the framework (consisting of standard, procedures and work instructions) to be adopted to manage, develop, improve, and assure physical security at ECC. It is critical for ECC to conduct business operations in an environment where risks to physical assets – including those from natural and human-made hazards, crime, civil unrest, terrorism, etc. – have been identified, risk assessed and appropriately mitigated to prevent financial, human, regulatory and reputational loss events. Physical Security Policy and Standard of Deutsche Börse AG were adopted by ECC. The frameworks of information security and physical security has been approved by the Management Board and is reviewed at least annually.

Part of every material change project is a formal risk analysis and tracking of risk mitigation measures to ensure that changes do not adversely affect the operational risk.

Information security and physical security are part of the Annual Audit Plan of Internal Audit and External Audit. Results are reported to the Management Board and, in case of major findings, to the Supervisory Board. Results are made available to the supervisor on request; results of the external auditor are always reported to the supervisor.

***6.** A CCP should have a business continuity plan that addresses events posing a significant risk of disrupting operations, including events that could cause a wide-scale or major disruption. The plan should incorporate the use of a secondary site and should be designed to ensure that critical information technology (IT) systems can resume operations within two hours following disruptive events. The plan should be designed to enable the CCP to complete settlement by the end of the day of the disruption, even in case of extreme circumstances. The CCP should regularly test these arrangements.*

ECC maintains a Continuity Management framework and a dedicated Continuity Management coordination function to ensure:

- critical processes are identified and assessed (Business Impact Analysis), including scenario-based and process-based risk assessment aimed at the identification of underlying root-causes and the development of mitigation strategies
- Business Continuity Plans (BCP) are developed and regularly tested to ensure the timely recovery of critical business functions, processes, and resources, in respective consideration of all critical support functions and interdependencies
- gaps in the design and/or implementation of BCP are identified, classified and managed until mitigation
- decision takers, management functions and staff are aware of the importance of BCM, their individual role and contribution in the BCM framework and general good practices
- ECC's BCM readiness is regularly assessed and reported to decision makers for resource allocation
- the Continuity Management framework itself is regularly assessed and aligned against developing industry standards and good practices as well as evolving regulatory requirements

ECC's contingency plans for both technology components as well as business processes and services are designed to meet the regulatory defined thresholds, including the two-hour Recovery Time Objective as well as the assurance of same-day settlements.

ECC operates a fully functional secondary site for both business operations (office space, home working solutions) as well as for IT operations (data centers, cloud regions), that are physically separated and regularly tested.

***7.** A CCP should identify, monitor, and manage the risks that key participants, other CCPs, and service and utility providers might pose to its operations. In addition, a CCP should identify, monitor, and manage the risks its operations might pose to other CCPs.*

ECC identifies the operational risks that participants or other CCPs may pose to ECC in the annual risk assessment. Business owners constantly review the performance of providers. Major operational events are reported and reviewed and ECC receives, if available, internal audit reports from the service provider. ECC has extensive inspection rights.

Principle 18: Access and Participation Requirements

A CCP should have objective, risk-based, and publicly disclosed criteria for participation, which permit fair and open access.

Key considerations

***1.** *A CCP should allow for fair and open access to its services, including by direct and, where relevant, indirect participants and other CCPs, based on reasonable risk-related participation requirements.*

Institution Clearing Members

A company applying as a CM at ECC needs to provide the information requested by ECC to assess whether participation requirements are met. This includes:

- Latest commercial registry extract (no older than 3 months)
- Latest audited annual financial statement of the company and the Ultimate Parent (incl. audit report)
- License to offer banking transactions or financial services by its national regulatory authority
- Documentation of its risk framework and compliance policies
- Regulatory Disclosure according to Basel, Pillar III for the company and the Ultimate Parent (if applicable)
- Information about the organization and company structure (incl. all companies along the chain between the company and its Ultimate Parent)
- Evidence about profit transfer agreement, parental guarantee, letter of comfort (if applicable)
- Completed and signed Clearing Member Questionnaire

The information is complemented by information from other reliable sources of information for example online available official registers (national transparency registers, ESMA official databases, registers of national regulatory agencies, national/regional company registers etc.), commercial data providers acting itself as data collectors and aggregators from official registries, (e.g., Bureau van Dijk, Reuters etc.) and a group internal rating provided by Clearstream under an SLA. Based on the information received, ECC assigns a risk category to every applicant using standardized scoring criteria, which considers:

- General information and regulatory status
- Country of domiciliation and respective country rating
- Ultimate parent company
- Key financial statistics
- Risk management, compliance and organization

The criteria are used on a non-discriminatory basis and are designed to control ECC's risk.

The risk category assigned to the CM forms the basis for determining whether to accept the application, defines the review cycle and any additional conditions (e.g., position limits or additional margin requirements). The application must be approved by the ECC Management. ECC also requires several preconditions for CM approval:

- Institutions based in a member state of the European Union, in Switzerland, Norway, the UK or the US, need to be appropriately licensed by the authorities within their countries of incorporation.
- For subsidiaries or branch offices, a parent company guarantee for obligations arising from clearing is necessary
- Minimum liable equity capital of € 30 million (general clearing license) or € 7.5 million (direct clearing license and EMIR CCPs) respectively
- Contribution to the Clearing Fund (general clearing license € 3.0 million; direct clearing license € 0.5 million)

In the event that liable equity funds of the institution filing the application are not sufficient for granting a clearing license, ECC shall be entitled to determine that the amount needed can be balanced by means of bank or parental guarantees or collateral in cash or collateral in securities or loan stock rights.

In addition, certain operational requirements need to be fulfilled (e.g., pledged-securities account at Clearstream Banking Frankfurt for the deposit of collaterals, settlement account in the TARGET2 system and technical access to the settlement system of ECC).

ECC only denies access to CMs if they are not able to fulfil the participation requirements as stated above. Additional obligations on the CMs will only be placed if required to control risk for ECC; currently, there are no such measures in place.

DCP Clearing Members

A company applying as a DCP Clearing Member (DCP CM) at ECC needs to be recognized as a Trading Participant in Spot Markets for which ECC provides clearing services and which are approved for DCP clearing. A DCP CM is exclusively entitled to clear own spot market transactions within pre-trade limits that are based on provided collateral and subject to further limitation. The applicant for DCP Clearing Membership needs to provide the information requested by ECC to assess whether participation requirements are met. This will include:

- Financial statements from the last fiscal year or alternatively, if no fiscal statement is available, a business plan including at least the upcoming next three years
- Information about the organization and company structure
- Completed and signed KYC Questionnaire

The information is complemented with information from other reliable sources of information (e. g. online available official registers, commercial data providers acting itself as data collectors and aggregators from official registries). Based on the information received, ECC assigns a risk category to every applicant using standardized scoring criteria. The following information is taken into account:

- General information and regulatory status

- Country of domiciliation and respective country rating
- Ultimate parent company
- Key financial statistics
- Risk management, compliance and organization

The criteria are used on a non-discriminatory basis and are designed to control ECC's risk.

The risk category assigned to the DCP CM forms the basis for determining whether to accept the application, defines the review cycle and any additional conditions (e.g., additional margin requirements).

ECC also requires several preconditions towards a DCP CM approval:

- Company is based in a state for which ECC approves DCP CMs in principle (in accordance with the publication on the ECC website www.ecc.de)
- Liable equity fund of € 50,000, ECC may decide to accept the proof of capital in full or partly by means of bank or parental guarantees or collateral in cash
- Contribution to the Clearing Fund, the minimum Default Fund contribution of a DCP CM is defined as a percentage of its total trading limit (limit calculation method is published at www.ecc.de)

In addition, certain operational requirements need to be fulfilled (e. g. provision of a connected bank or settlement account, conclusion of a balance group agreement with the respective TSO and technical access to the settlement system of ECC).

ECC only denies access to DCP CMs if they are not able to fulfil the participation requirements as stated above. Additional obligations on the DCP CMs will only be placed if required to control risk for ECC.

Non-Clearing Members

A company applying as an NCM at ECC needs to provide information requested by ECC to assess whether participation requirements are met. This will include:

- Latest audited annual financial statement
- License (only for regulated bank or financial service provider)
- Completed and signed KYC questionnaire
- Company House Act (Proof of Registration)
- Organizational Chart and company ownership

For applicants meeting specific eligibility criteria, ECC may choose to waive certain documentation requirements. The information is complemented by information from other reliable sources (e.g., online available official registers, commercial data providers acting itself as data collectors and aggregators from official registries).

Based on the information received, ECC assigns a risk category to every applicant using standardized scoring criteria. The risk category assigned to the NCM forms the basis for determining whether to accept the application.

***2.** A CCP's participation requirements should be justified in terms of the safety and efficiency of the CCP and the markets it serves, be tailored to and commensurate with the CCP's specific risks, and be publicly disclosed. Subject to maintaining acceptable risk control standards, a CCP should endeavour to set requirements that have the least-restrictive impact on access that circumstances permit.*

The participation requirements are published on ECC's website (https://www.ecc.de/ecc-en/access-to-ecc) and in the admission forms. They are designed to control the risk for ECC and permit fair access.

***3.** A CCP should monitor compliance with its participation requirements on an ongoing basis and have clearly defined and publicly disclosed procedures for facilitating the suspension and orderly exit of a participant that breaches, or no longer meets, the participation requirements.*

ECC has a review process in place that monitors – depending on the assigned risk category – if the CM meets its obligations. ECC has the right to perform on-site visits or request an audit by a third party in order to check if the admission requirements are met.

ECC checks the compliance of its CMs as set out in the Clearing Conditions on an annual basis. Audited annual statements and regulatory documents are required from the CMs. In addition, the rating of the CMs has to be reviewed periodically – at least once per year. CMs are required to inform ECC about major changes in its organisation (e.g. change in ownership, sale of major assets) or other circumstances that are relevant to evaluate the risk they pose to ECC. ECC reserves the right to act when significant issues arise that lead to the assumption that the requirements from the Clearing Conditions are likely not to be met.

ECC has clear and transparent rules for suspension and orderly exit of a CM, which are stipulated in the Clearing Conditions and has detailed procedures for the orderly processing of the exit. Accordingly, ECC can suspend and terminate CMs if the members no longer satisfy the requirements as stated in the Clearing Conditions or can no longer comply with its obligations as a CM. The ECC Clearing Conditions describe the circumstances and procedures by which a participant may be suspended or terminated.

The requirements are based on financial, regulatory, legal and operational risk. ECC requires that even if a CM meets all quantitative requirements of membership, it is also able to meet qualitative requirements covering matters such as management capability and staffing levels. The participation requirements are clearly stated in the ECC Clearing Conditions. The reasons for denying or withdrawing participation are clearly stipulated in Section 2.1.8 and are based on risk grounds. The denial or termination has to be in writing and the reasons have to be communicated to the participant. All membership criteria are published on ECC's website. This includes arrangements for the orderly exit of participants, which are stated in Section 2.1.8 of the ECC Clearing Conditions.

Principle 19: Tiered Participation Arrangements

A CCP should identify, monitor, and manage the material risks to the CCP arising from tiered participation arrangements.

Key considerations

1. *A CCP should ensure that its rules, procedures, and agreements allow it to gather basic information about indirect participation in order to identify, monitor, and manage any material risks to the CCP arising from such tiered participation arrangements.*

ECC enters into derivatives transactions only with its CMs. ECC does not enter into derivatives transactions directly with clients of a CM. There are two types of clients of a CM: NCMs which are known to ECC, and agency clients of the CM not known to ECC. ECC has rules and procedures in place to monitor basic information about clients of CMs: According to Section 2.1.6. Paragraph 5 of the ECC Clearing Conditions, a CM can be requested to provide information about clients not known to ECC including potential links to the CM. The CMs can also be requested according to Section 2.1.6. Paragraph 4 to provide information how they manage the risk resulting from cleared transactions. For NCMs there are requirements to provide KYC information according to Section 2.2.1.

ECC has processes in place to regularly monitor the largest clients per CM, as well as to monitor client concentration risk, and offsetting effects between clients.

2. *A CCP should identify material dependencies between direct and indirect participants that might affect the CCP.*

The information requested as described in Principle 19 Key Consideration 1 includes information about group structures which allows conclusions on potential dependencies between CMs and NCMs.

3. *A CCP should identify indirect participants responsible for a significant proportion of transactions processed by the CCP and indirect participants whose transaction volumes or values are large relative to the capacity of the direct participants through which they access the CCP in order to manage the risks arising from these transactions.*

As described in Principle 19 Key Consideration 1, ECC is in the position to identify which NCMs are responsible for a large share of a CM's business. To manage the resulting risk, ECC has implemented limits that restrict the risk (measures such as Initial Margin) of a CM depending on an assessment of its financial strength, and to monitor client concentration.

4. *A CCP should regularly review risks arising from tiered participation arrangements and should take mitigating action when appropriate.*

As described in Principle 19 Key Consideration 1, ECC monitors the risk from client concentration at least on a monthly basis. Should a risk be identified, ECC will apply adequate mitigation actions after consulting with the Risk Committee.

Principle 20: FMI Links

A CCP that establishes a link with one or more CCPs should identify, monitor, and manage link-related risks.

Key considerations

1. *Before entering into a link arrangement and on an ongoing basis once the link is established, a CCP should identify, monitor, and manage all potential sources of risk arising from the link arrangement. Link arrangements should be designed such that each CCP is able to observe the other principles in this report.*

ECC has no links in place with other CCPs within the meaning of CPMI-IOSCO.

2. *A link should have a well-founded legal basis, in all relevant jurisdictions, that supports its design and provides adequate protection to the CCPs involved in the link.*

Not applicable for ECC.

3. *Linked CSDs should measure, monitor, and manage the credit and liquidity risks arising from each other. Any credit extensions between CSDs should be covered fully with high-quality collateral and be subject to limits.*

Not applicable for ECC.

4. *Provisional transfers of securities between linked CSDs should be prohibited or, at a minimum, the retransfer of provisionally transferred securities should be prohibited prior to the transfer becoming final.*

Not applicable for ECC.

5. *An investor CSD should only establish a link with an issuer CSD if the arrangement provides a high level of protection for the rights of the investor CSD's participants.*

Not applicable for ECC.

6. *An investor CSD that uses an intermediary to operate a link with an issuer CSD should measure, monitor, and manage the additional risks (including custody, credit, legal, and operational risks) arising from the use of the intermediary.*

Not applicable for ECC.

7. *Before entering into a link with another CCP, a CCP should identify and manage the potential spillover effects from the default of the linked CCP. If a link has three or more CCPs, each CCP should identify, assess, and manage the risks of the collective link arrangement.*

ECC has no links with other CCPs in place within the meaning of CPMI-IOSCO.

***8.** Each CCP in a CCP link arrangement should be able to cover, at least on a daily basis, its current and potential future exposures to the linked CCP and its participants, if any, fully with a high degree of confidence without reducing the CCP's ability to fulfil its obligations to its own participants at any time.*

ECC has no links with other CCPs in place within the meaning of CPMI-IOSCO.

Principle 21: Efficiency and effectiveness

An FMI should be efficient and effective in meeting the requirements of its participants and the markets it serves.

Key consideration

1. *An FMI should be designed to meet the needs of its participants and the markets it serves, in particular, with regard to choice of a clearing and settlement arrangement; operating structure; scope of products cleared, settled, or recorded; and use of technology and procedures.*

ECC has in place adequate processes for taking into account the needs of its participants and the markets it serves.

ECC is in continuous dialogue with its customers. ECC hosts a number of specialist committees to inform and integrate participants from all its markets served into the consultation process. ECC's design, rules, overall strategy and major decisions consider the interests of participants and other stakeholders through

- the inclusion of independent board members in the Supervisory Board,
- the working group clearing which discusses 4 times per year major changes to systems, product scope, policies and procedures and
- the announcement of changes through public circulars
- the Risk Committee.

The Risk Committee is composed of representatives of ECC's CMs, independent members and representatives of ECC's clients as stipulated by EMIR. The Risk Committee acts as an advisory body to ECC's Management Board and is independent from any direct influence by the ECC Management Board. More detailed information regarding the Board and the Committees can be found in Principle 2.

Changes to the rules (especially the Clearing Conditions) are announced by circular and published on ECC's website.

In order to provide clearing and settlement services for the partner exchanges, ECC maintains standardized interfaces and procedures to connect existing and new partners. This reduces technical complexity and costs. This means participants benefit from standard processes, standardized product specifications which meet customer needs and support product launches, payment and delivery netting minimizes operational and liquidity costs, cross-asset and cross-exchange margining reduces the cost of clearing and straight-through processes avoid manual interaction and improve the accuracy and firmness of trades.

In order to provide its members with innovative and cost-efficient technologies, ECC uses for derivative transactions the clearing system of Group Deutsche Börse and provides clearing interfaces using industry standards such as FIXML, which lets its members benefit from increased customisation. This reduction in programming complexity allows further cost savings and operational efficiencies. Further information on the use of internationally accepted communication procedures and standards in order to facilitate efficient payment, clearing, settlement, and recording can be found in Principle 22. Clearing and Settlement of Spot-

Market transactions is based on an in-house developed tailor-made system providing client interfaces and reporting facilities.

2. *An FMI should have clearly defined goals and objectives that are measurable and achievable, such as in the areas of minimum service levels, risk-management expectations, and business priorities.*

ECC has a two-tiered board structure comprising a Management Board and Supervisory Board. The objectives and strategies for ECC are established by the Management Board in accordance with Section 76 of the German Stock Corporation Act (Aktiengesetz) and acknowledged by the Supervisory Board. Consistent with Section 111 of the German Stock Corporation Act, the Supervisory Board oversees the work of the Management Board. The ECC Management Board members are in charge of managing the day-to-day operations of the company and establish the objectives and strategies for ECC.

The Business and Risk Strategy of ECC and the EEX Group Strategy provide the framework for more detailed goals and objective on costs, volume, financial and risk level. The achievements of these goals and objectives are monitored and recorded on a continuous basis.

The Business Continuity Management approach of ECC aims to provide products and services with utmost reliability. The aim of BCM for the business-critical processes is to reduce the probability and size of data loss, financial loss, significant under-collateralization, reputational damage and to minimize their impact. Therefore, backup and emergency procedures should be designed to re-activate a business-critical process within the MAD and to minimize its overall downtime.

Also, ECC has clear objectives of its technology development in order to assure the safety and integrity of markets within the IT-Strategy. The ECC systems are capable of processing the necessary information to perform the activities and operations in a safe and efficient manner.

3. *An FMI should have established mechanisms for the regular review of its efficiency and effectiveness.*

ECC applies the three lines of defense model of COSO which is designed as a key management instrument to achieve the corporate objectives, in particular

- to ensure the effectiveness and efficiency of the operating business, including asset protection as well as prevention and identification of asset losses
- to ensure correctness and reliability of internal and external accounting and
- to comply with laws and other regulations that apply to the company

Measures comprise on the one hand process-integrated measures, e.g., safeguards and controls implemented in the business processes, and on the other hand process-independent measures, e.g., monitoring conducted by supportive functions that are neither integrated in the business processes nor responsible for the result of the monitored business processes.

Additionally, ECC's internal auditing reviews the effectiveness of measures taken in the business areas and evaluates the adequacy and effectiveness of the internal control system. Internal Audit uses a risk-based approach in defining specific areas of the organization to audit. The detailed Annual Audit Plan is based on a risk assessment and is approved by the Management Board.

Principle 22: Communication Procedures and Standards

A CCP should use, or at a minimum accommodate, relevant internationally accepted communication procedures and standards in order to facilitate efficient payment, clearing, settlement, and recording.

Key consideration

1. *A CCP should use, or at a minimum accommodate, internationally accepted communication procedures and standards.*

To enable connectivity with its CMs, ECC uses existing and recognized standards as far as possible: The clearing system for derivatives is the Eurex Clearing System C7 operated by Group Deutsche Börse, which is used by a large number of clearing banks facilitating a swift integration of new members based on well-established interfaces and communication protocols. ECC uses the widely used SPAN® system for derivatives margin calculation. For spot market operations, ECC uses its own clearing application SMSS (Spot Market Settlement System) as well as an own developed margin calculation methodology IMSM (Initial Margin Spot Market).

ECC uses internationally accepted standard communication protocols (e.g., FTP and SFTP) and standard data formats (e.g. XML and csv). The communication protocols are published on the website. FIX is used by the vast majority of the CMs as well as to obtain on-book and off-book trades from the trading and clearing system for listed derivatives. FIX is an internationally accepted standard that supports a number of syntaxes. Based on the XML Standard, FIXML is a globally preferred syntax for listed derivatives. Deutsche Börse Group actively supports the development of the FIX Family of Standards. The FIXML Interface provides members with a highly flexible, standards compliant and cost-effective way to use ECC services. The FIXML interface uses AMQP, an open standard to allow secure connections and a standardized transport.

Payments are instructed and reported via the Eurex Clearing system C7 using SWIFT ISO 15022 and ISO 20022 format. ECC uses ISO standards where applicable to identify financial instruments and counterparties. These are ISINs (ISO 6166) for products and underlyings, currency codes (ISO 4217), MICs (ISO 10383) for exchanges and clearing houses as well as LEIs (ISO 17442) for member firms.

Participants could either connect to the Eurex System C7 via leased lines or a VPN-based internet connection to receive data directly via electronic interfaces (API) or to a dedicated FTP to retrieve end-of-day and intraday reports. Other information is available via the ECC FTP server and its website for communication, which can both be accessed using standard and freely available tools.

Nominations are initiated to the transmission system operators by using industry standards (e.g., ESS for power or EDIG@S for natural gas) and standard transmission protocols (e.g. AS4, ECP, SFTP, HTTPS) with security levels given by national regulation.

Principle 23: Disclosure of Rules, Key Procedures and Market Data

A CCP should have clear and comprehensive rules and procedures and should provide sufficient information to enable participants to have an accurate understanding of the risks, fees, and other material costs they incur by participating in the CCP. All relevant rules and key procedures should be publicly disclosed.

Key considerations

***1.** A CCP should adopt clear and comprehensive rules and procedures that are fully disclosed to participants. Relevant rules and key procedures should also be publicly disclosed.*

ECC participants are subject to the Clearing Conditions in the conduct of their clearing business. The Clearing Conditions are clearly stated and structured as general terms and conditions. ECC publicly discloses rules and procedures governing the relation between ECC (Clearing Conditions, Clearing Agreement, Risk Management Documentation) and its counterparties on the ECC website. The Clearing Conditions make clear when ECC assumes counterparty risk. Qualitative information on clearing, netting and settlement activities as well as default procedure is available on ECC's website. In addition, relevant information and announcement of changes will be disclosed via public circulars.

***2.** A CCP should disclose clear descriptions of the system's design and operations, as well as the CCP's and participants' rights and obligations, so that participants can assess the risks they would incur by participating in the CCP.*

The design and operation of the risk management framework is disclosed as part of the CPMI Disclosure Report of ECC (https://www.ecc.de/en/about-ecc/company/reports). The website of ECC gives an extensive view on the ECC Risk Management Framework, thereby providing CMs and clients with information about both all benefits and potential risks when choosing ECC as a CCP. The rights and obligations of the participants are stated in the Clearing Conditions.

System design (e.g., Eurex® System, SMSS), reports specification, sample reports and static data are available at the ECC website.

Information in the public commercial register is available in German, on ECC's website in English. Clearing members can receive additional information on request if this is not available on the website. ECC has established a hotline for that purpose.

***3.** A CCP should provide all necessary and appropriate documentation and training to facilitate participants' understanding of the CCP's rules and procedures and the risks they face from participating in the CCP.*

ECC applies strict admission criteria for CMs, which are necessary to ensure that CMs have the necessary financial and technical resources and the know-how. Consequently, the CMs must have qualified personnel works in the CM's back-office to fulfil the clearing obligations during the business day and to be available as a reliable contact person via telephone.

In order to facilitate participants' understanding of ECC's Rules and Procedures and the risks, adequate documentation is available on ECC's website. Individual training is provided on request.

4. *A CCP should publicly disclose its fees at the level of individual services it offers as well as its policies on any available discounts. The CCP should provide clear descriptions of priced services for comparability purposes.*

ECC's price list (including the fees) is published on the website https://www.ecc.de/en/about-ecc/rules/price-list. The price list includes all fees which could be charged, and a description of the services provided by ECC.

5. *A CCP should complete regularly and disclose publicly responses to the CPMI-IOSCO* Disclosure framework for financial market infrastructures*. A CCP also should, at a minimum, disclose basic data on transaction volumes and values.*

Volumes of cleared transactions for each class of instruments cleared by ECC are published on an ftp server https://public.eex-group.com/ecc/. ECC discloses data in line with the CPMI-IOSCO quantitative disclosure standard for CCPs (see https://www.ecc.de/en/about-ecc/company/reports)

Principle 24: Disclosure of market data by trade repositories

A TR should provide timely and accurate data to relevant authorities and the public in line with their respective needs.

As outlined in Key Consideration 1 of Principle 1, ECC is an authorized CCP under EMIR and not a trade repository. Therefore Principle 24 is not applicable.