



European Securities and
Markets Authority

Response Form to the Call for Evidence

Approach to climate risk stress testing for CCPs



Responding to this paper

ESMA invites comments on all matters in this consultation paper and in particular on the specific questions summarised at the end of this form. Comments are most helpful if they:

- respond to the question stated;
- indicate the specific question to which the comment relates;
- contain a clear rationale; and
- describe any alternatives ESMA should consider.

ESMA will consider all comments received by **21 April 2022**.

All contributions should be submitted online at www.esma.europa.eu under the heading 'Your input - Consultations'.

Instructions

In order to facilitate analysis of responses to the Call for Evidence, respondents are requested to follow the below steps when preparing and submitting their response:

1. Insert your responses to the questions in the Call for Evidence in the present response form.
2. Please do not remove tags of the type <ESMA_QUESTION_ST_1>. Your response to each question has to be framed by the two tags corresponding to the question.
3. If you do not wish to respond to a given question, please do not delete it but simply leave the text "TYPE YOUR TEXT HERE" between the tags.
4. When you have drafted your response, name your response form according to the following convention: ESMA_ST_nameofrespondent_REPLYFORM. For example, for a respondent named ABCD, the response form would be entitled ESMA_ST_ABCD_REPLYFORM.
5. Upload the form containing your responses, in Word format, to ESMA's website (www.esma.europa.eu under the heading "Your input – Open consultations" → "Consultation on climate risk stress testing for CCPs").

Publication of responses

All contributions received will be published following the close of the consultation, unless you request otherwise. Please clearly and prominently indicate in your submission any part you do not wish to be publicly disclosed. A standard confidentiality statement in an email message will not be treated as a request for non-disclosure. A confidential response may be requested from us in accordance with ESMA's rules on access to documents. We may consult you if we receive such a request. Any decision we make not to disclose the response is reviewable by ESMA's Board of Appeal and the European Ombudsman.

Data protection

Information on data protection can be found at www.esma.europa.eu under the heading [Legal Notice](#).

Who should read this paper?

All interested stakeholders are invited to respond to this consultation. In particular, this paper may be specifically of interest for EU central counterparties, clearing members and clients of clearing members.

General information about respondent

Name of the company / organisation	Deutsche Börse Group, including Eurex Clearing AG and European Commodity Clearing AG
Activity	Central Counterparty
Are you representing an association?	<input type="checkbox"/>
Country/Region	Germany

Introduction

Please make your introductory comments below, if any

<ESMA_COMMENT_ST_00>

Deutsche Börse Group (DBG), in particular its CCPs Eurex Clearing and European Commodity Clearing (ECC), appreciates the opportunity to provide feedback to ESMA's call for evidence on finding an EU approach on climate risk stress testing for central counterparties (CCPs).

EU and international regulators have recently started to look into the financial industry's efforts to manage risks resulting from climate change. As reflected in ESMA's call for evidence, financial market infrastructures in the EU are at an early stage in this regard and there is no specific approach yet for climate risk management by CCPs.

Nevertheless, one of CCPs' key functions is to process and integrate market information transparently and efficiently, which includes the "pricing in" of climate risks. While CCPs generally already include physical risks in stress testing (and transitional risks in other parts of CCP risk management), both of DBG's CCPs have already started to undertake climate risk assessments and include climate risk scenarios in their internal stress testing frameworks. In line with the proportionality principle, the comprehensiveness of existing practices in relation to climate risks varies within our group since our CCPs have quite different climate risk profiles (for details, see responses to Question 8a and below). Eurex Clearing is an EMIR-authorized CCP which provides clearing services for cash and derivatives markets in listed and over-the-counter (OTC) financial instruments. ECC is an EMIR-authorized CCP providing clearing services for spot and derivative commodity contracts.

Climate change is by nature a global challenge which impacts CCPs in multiple jurisdictions. While we appreciate ESMA's work, we therefore believe it is important that regulators prioritize international alignment with a view to developing consistent global guidance for regulatory climate risk stress testing for CCPs. It would be most effective, if a potential approach for CCP climate risk stress testing were developed at a global level and implemented locally. Such an approach would also avoid the risk of regulatory fragmentation or overlapping efforts by multiple CCP regulators which could result in an unlevel playing field or unnecessary burdens for CCPs.

Generally, stress testing as outlined in EMIR has a short-term perspective. Where climate risks materialize within up to five days, they should be covered under EMIR stress testing. With regards to the approach proposed by ESMA, we would therefore advocate for a clear differentiation and separation between the mid-to-long-term risk perspective (e.g. impacts on the CCP's business or collateral posted by the CCP's members) and the short-term risk perspective covered by EMIR stress testing provisions and based on the margin period of risk (MPOR). We would therefore encourage ESMA to use a more targeted classification of climate risks for a potential EU-wide CCP climate risk stress testing exercise, focussing on physical and rapid transition risks out of the four pillar classification explored in the call for evidence (for detail, see responses to Questions 1, 5a, 6a, and 7a).

We would also advise not to conflate some types of scenarios, categorized under transition risks in the call for evidence, with more traditional risk drivers already covered in CCP stress testing that are only marginally related to climate risk.

We trust that our comments are seen as a useful contribution to ESMA's further work around climate risk assessment by financial market infrastructures and remain at ESMA's proposal for any questions or further feedback.

<ESMA_COMMENT_ST_00>

Questions

Q1. Do you agree with this classification of relevant climate risks for CCPs in these four pillars? Do you see one or several other climate risks that need to be added to this mapping (if so, please provide a definition, relevant time horizon, an approach to its measurement approach)?

<ESMA_QUESTION_ST_01>

We consider two pillars, namely physical and transitional risks, to be most appropriate for a classification of climate risks for CCPs, whereas impacts on business and collateral are rather corollary to or impacts of transitional risks. Considering these climate risks as a subset of the types of risks that are already part of CCPs' stress testing or risk management framework would also be consistent with other EU regulations and guidelines for financial market participants.

With respect to "rapid" transition risk scenarios and their integration into stress testing, we should avoid conflating these types of scenarios with more traditional risk drivers already covered by EMIR CCP Stress Testing that are only marginally related to climate risk, e.g. discovery of new large oil reserves or improvements in extraction technology. In addition, by categorising these "rapid" transition scenarios separately, there is the added risk that gaps in the coverage of the stress test would appear.

<ESMA_QUESTION_ST_01>

Q2a : Is there a way to avoid having to specify the weather event (be agnostic on whether this is a flood or a landslide or a wildfire...)? Please describe.

<ESMA_QUESTION_ST_02a>

Yes. It would be sensible and also practical to use one rather generic weather scenario.

<ESMA_QUESTION_ST_02a>

Q2b : Which past events would you point out as relevant, and how relevant is empirical evidence in general in building a relevant scenario?

<ESMA_QUESTION_ST_02b>

The Fukushima nuclear accident primarily caused by an earthquake and tsunami could serve as an example for a relevant past event due to its policy ramifications and impact on asset prices.

However, adverse weather events are likely to increase both in frequency and intensity over time. A purely empirical approach based on a predefined lookback period may thus be of limited relevance. Therefore, it may also be useful to build hypothetical scenarios for which historical observations can serve as a basis.

<ESMA_QUESTION_ST_02b>

Q2c: To your knowledge, what are the available data resources to identify past or potential events (such as geographical maps of flood-paths or historical databases of past extreme weather events)?

<ESMA_QUESTION_ST_02c>

In addition to the data resources referred to in the call for evidence, one could use e.g. ISS Climate Analytics, Google Earth and similar providers to identify past or potential events.

<ESMA_QUESTION_ST_02c>

Q3a: How should the assessment of the impact of physical risk on entities to which the CCP is exposed be conducted? (e.g. a questionnaire sent by the CCP to these entities? Any other approach?)

<ESMA_QUESTION_ST_03a>

TYPE YOUR TEXT HERE

<ESMA_QUESTION_ST_03a>

Q3b: How would you calibrate market moves corresponding to a given scenario of physical risk? In particular, would you use past events that had an impact on financial markets?

<ESMA_QUESTION_ST_03b>

For commodity products, for example, several historical observations could serve as basis for calibration. However, regarding future climate risk, the design of relevant extreme, but plausible scenarios is not an easy task. It needs to be taken into account that the magnitude and frequency of those events is likely to increase, however, we are facing significant limitations on modelling and predictability in this regard.

<ESMA_QUESTION_ST_03b>

Q3c: Would this only affect energy/commodity prices, or would other asset classes be impacted? Please elaborate.

<ESMA_QUESTION_ST_03c>

While commodity instruments may be more prone to immediate market reaction, virtually all other asset classes could be impacted to varying degrees, too, e.g. bonds and equity issued by insurance companies.

<ESMA_QUESTION_ST_03c>

Q4a: Do you agree that the process presented above would address the confidentiality issue related to the location of CCP facilities?

<ESMA_QUESTION_ST_04a>

We broadly agree that the proposed process would address the confidentiality issue.

<ESMA_QUESTION_ST_04a>

Q4b: In particular, what challenges would you expect for step iii (*of process described the CP document*).?

<ESMA_QUESTION_ST_04b>

It may be challenging for CCPs to obtain any consistent and comparable impact assessments on the operational impact of a physical event from their counterparties (particularly clearing participants) which could then feed into assessment of the direct impact on the CCP. The potential benefits of such an exercise should be proportionate to the efforts involved (e.g. requesting, aggregating and integrating potential disclosures by counterparties into CCP's assessment).

<ESMA_QUESTION_ST_04b>

Q4c: Would you include in step iii a question from the CCP to the participants of how the market moves of the scenario would affect them, or would the question focus on the operational disruption? (please justify)

<ESMA_QUESTION_ST_04c>

TYPE YOUR TEXT HERE

<ESMA_QUESTION_ST_04c>

Q4d: Is there an alternative process that would avoid disclosing sensitive proprietary information? Please describe.

<ESMA_QUESTION_ST_04d>

TYPE YOUR TEXT HERE

<ESMA_QUESTION_ST_04d>

Q4e: How would the market moves associated with the physical event be reported in this framework (while ensuring anonymity and confidentiality needs)?

<ESMA_QUESTION_ST_04e>

TYPE YOUR TEXT HERE

<ESMA_QUESTION_ST_04e>

Q5a: What is your view on the plausibility of sharp market moves materialising in a time frame commensurate with the liquidation horizon of a CCP, as the sole result of transition risk? (if needed, please distinguish between types of market moves, e.g. first order price move affecting a large set of contracts vs. specific changes in a basis risk between two related contracts).

<ESMA_QUESTION_ST_05a>

We should avoid conflating these types of scenarios with more traditional risk drivers already covered in CCP stress testing that are only tangentially related to climate risk, e.g. discovery of new large oil reserves or improvements in extraction technology. In addition, as mentioned in our response to Question 1 above, by categorising such "rapid" transition risks separately, there is the added risk that gaps in the coverage of the stress test would appear.

Change in policy is indeed a rather new risk driver introduced by the expanded role of the state and international bodies in shaping various aspects of climate policy. Policy decisions

generally take a relatively long time to formulate meaning that they tend to be gradually priced-in before a formalised decision is taken. Hence, potential market moves should not be overly extreme. We see market moves of reasonable magnitude as plausible. The observation of past market responses to policy decisions indicates that the moves tend to be characterized by moderate size of the move (compared to historical extremes) on the one hand and asymmetric impact on different entities or sectors on the other hand. Nevertheless, we have also seen rare short-term “surprise policy changes” with tremendous market impacts developing within a matter of days (e.g. German climate policy change resulting from the Fukushima accident or the most recent energy policy developments due to the Russian invasion of Ukraine). It is therefore important to clearly differentiate sudden/short-term surprise policy scenarios within the scope of CCP climate risk stress testing from other policy-related risk scenarios which would not develop within five days.

<ESMA_QUESTION_ST_05a>

Q5b: Should the stress test use scenarios with a narrative on a possible change of policy and/or technology in order to identify the root cause for the transition risk?

<ESMA_QUESTION_ST_05b>

We would recommend using a narrative of possible change of policy. Importantly, it should be a surprise change of policy so that the impact is not priced in. Please also refer to our comments to the previous question in this context.

<ESMA_QUESTION_ST_05b>

Q5c: If so, how would these be crafted? Please provide one or a few examples.

<ESMA_QUESTION_ST_05c>

One possible scenario could involve a surprise change in policy with strong incentives for green companies while providing strong disincentives for polluting companies. The classification could use the environmental rating of those companies to translate the move into direction and severity of impact on such company. ESMA could also consider the 'policy reversal' scenario where policymakers are forced to adjust their ambitious climate policy agendas due to e.g. societal discontent or international conflicts (as mentioned in Question Q5a above).

As another example, with respect to energy markets (power, gas, emissions), a sudden tightening or relaxation of ambitions by the EU (“Green Deal”) could lead also to direct price jumps / surges of related contracts.

<ESMA_QUESTION_ST_05c>

Q5d: If not, should the analysis consist of a list of potential areas of vulnerability? How would this be done? (e.g. should there be a list of assets exposed to a given technology, should this be based on a survey of all technologies currently under development and the assessment of what they could replace if they suddenly became viable?). Please elaborate.

<ESMA_QUESTION_ST_05d>

We would suggest focussing transition risk on the exposure to policy decisions rather than to individual technologies. The latter are less likely to have large, CCP-wide impacts beyond a single asset and the spectrum of technologies that may affect asset prices is very wide. Rather, technological improvements will not impact most contracts in the short-term since the wide-spread application of a new technology will require a prolonged implementation period (several years).

<ESMA_QUESTION_ST_05d>

Q5e: If no explicit root cause is modelled, how would you select and calibrate the market moves resulting from transition risk?

<ESMA_QUESTION_ST_05e>

Lacking a root cause or narrative would make calibration of the moves very difficult and is discouraged. The provision of a scenario narrative, including a root cause, allows for extrapolation of prior similar events in calibrating both the direction and magnitude.

<ESMA_QUESTION_ST_05e>

Q6a: Which sectors should be considered: only energy, all commodities, or all asset classes (for example by considering that some securities are issued with an ESG rating different from others)?

<ESMA_QUESTION_ST_06a>

While business risk may be very relevant for certain CCPs (depending on the products cleared) in the medium to long-term, we would not incorporate such risk in a stress testing framework as it is expected to develop more gradually and not within the MPOR (see response to Question 1). Combining long-term business risk scenarios with CCP stress testing could lead to methodological inconsistencies.

<ESMA_QUESTION_ST_06a>

Q6b: Should the business risk be assessed across CCPs by using a common scenario for the reduction in activity for a given type of asset (e.g. a decrease in the use of oil futures contracts)?

<ESMA_QUESTION_ST_06b>

As stated under Question 6a, we do not deem business risk scenarios suitable for stress testing due to the different timeframe.

<ESMA_QUESTION_ST_06b>

Q6c: If so, how would the scenario be calibrated (e.g. if a given path is assumed for the consumption of a commodity, how would this be turned into a decrease in the activity for the future contracts referencing this commodity)?

<ESMA_QUESTION_ST_06c>

As stated under Question 6a, we do not deem business risk scenarios suitable for stress testing due to the different timeframe.

<ESMA_QUESTION_ST_06c>

Q6d: What should the time horizon of this analysis be?

<ESMA_QUESTION_ST_06d>

As stated under Question 6a, we do not deem business risk scenarios suitable for stress testing due to the different timeframe.

<ESMA_QUESTION_ST_06d>

Q6e: What confidentiality constraints would you see for the publication of results?

<ESMA_QUESTION_ST_06e>

As stated under Question 6a, we do not deem business risk scenarios suitable for stress testing due to the different timeframe.

<ESMA_QUESTION_ST_06e>

Q7a: In your view, are there any other climate-related events that could force clearing members to post new collateral to a CCP?

<ESMA_QUESTION_ST_07a>

While it is not unlikely that climate events could require participants to post new collateral to a CCP due to a reduced market valuation of existing collateral or changes to the collateral eligibility requirements, we believe that these scenarios will materialize over a longer time horizon as the MPOR. In this context, it should also be noted that CCPs are required under EMIR to put in place appropriate safeguards, e.g. concentration limits, to mitigate short-term collateral risk.

Therefore, in order to achieve a clear separation of mid-to long-term climate risk assessments by CCPs from stress testing, climate-related collateral risk scenarios should remain out of scope of a stress testing framework.

<ESMA_QUESTION_ST_07a>

Q7b: Should this type of climate risk only be applied to collateral or would the CCP's investments be subject to the same type of risk?

<ESMA_QUESTION_ST_07b>

We refer to our comments under Question 7a regarding the applicability of collateral risk scenarios to stress testing. In addition, it should be noted that the eligibility requirements for CCP investments are more stringent than for margin collateral.

<ESMA_QUESTION_ST_07b>

Q7c: Should the loss of value and/or the increased market volatility of the securities be taken into account? If not, please justify.

<ESMA_QUESTION_ST_07c>

We refer to our comments under Question 7a regarding the applicability of collateral risk scenarios to stress testing. CCP risk models already take these factors into account regardless of the underlying drivers and foresee e.g. liquidity/concentration add-ons under certain conditions.

<ESMA_QUESTION_ST_07c>

Q7d: What would be relevant climate-related information to use in order to identify which assets may need to be replaced?

<ESMA_QUESTION_ST_07d>

We refer to our comments under Question 7a regarding the applicability of collateral risk scenarios to stress testing. For climate-related collateral risk assessments, information could be obtained from ESG research and rating providers.

<ESMA_QUESTION_ST_07d>

Q7e: What types of assets would be concerned and how would you identify an asset as being potentially affected by climate-related changes in investor preferences in the future?

<ESMA_QUESTION_ST_07e>

We refer to our comments under Question 7a regarding the applicability of collateral risk scenarios to stress testing.

<ESMA_QUESTION_ST_07e>

Q7f: Should the outcome be just a disclosure of the concerned assets by CCP; or is there a quantitative impact (e.g. “XX bn of bonds and YY bn of equities would need to be replaced in the next ZZ years”)?

<ESMA_QUESTION_ST_07f>

As suggested by the example citing a need for collateral replacement within several years, we reiterate that collateral risk scenarios are not applicable to stress testing due to their longer timeframe.

<ESMA_QUESTION_ST_07f>

Q7g: What should be the time horizon of this analysis?

<ESMA_QUESTION_ST_07g>

We refer to our comments under Question 7a regarding the applicability of collateral risk scenarios to stress testing

<ESMA_QUESTION_ST_07g>

Q8a: Did your CCP carry out any assessment of climate risk?

<ESMA_QUESTION_ST_08a>

We have started to investigate or to integrate the impact of climate risk for the two CCPs that are part of DBG. By way of example, an assessment of ESG risks is carried out for Eurex Clearing on the one hand as part of the internal capital adequacy assessment process (ICAAP) required under prudential regulation. This assessment follows two steps. In step one, the ESG factors of the existing Risk Inventory are identified, and in step two the materiality of the risks are assessed, explicitly considering ESG factors.

ECC on the other hand clears products like energy contracts (power, gas, emissions) which are directly impacted by climate risk. Therefore, physical and “rapid” transitional risk like extreme weather events (cold snaps, heatwaves) as well as sudden political decisions to tighten the European climate policy are considered in ECC’s current stress testing framework to calculate credit and liquidity risks. An internal risk map considers possible ESG risks with impact on business (e.g. changes in EU ETS or energy market design).

<ESMA_QUESTION_ST_08a>

Q8b: Did this assessment concern all clearing services or only some of them?

<ESMA_QUESTION_ST_08b>

For Eurex Clearing, the assessment of the impact of climate risk concerns some clearing services while the scope will be expanded over time. For our commodity CCP ECC whose contracts are more directly impacted by climate risk, all clearing services are concerned (detailed in the questions further below).

Therefore, unless specified otherwise, the answers further below refer to the extensive assessment conducted by our commodity CCP ECC.

<ESMA_QUESTION_ST_08b>

Q8c: Did the assessment concern only clearing exposures or did it include other areas (please provide a short description)?

<ESMA_QUESTION_ST_08c>

At our commodity CCP ECC, the assessment concerns the impact on market prices of cleared contracts as well as business impacts with connection to ESG.

<ESMA_QUESTION_ST_08c>

Q8d: Was this assessment a one-off or is it (will it be) a recurring topic?

<ESMA_QUESTION_ST_08d>

The stress scenarios that are applied at ECC (also the ones considering climate risks) are reviewed on a regular basis (at least yearly). The ECC risk map is updated and discussed on a regular basis.

<ESMA_QUESTION_ST_08d>

Q8e: To which internal governance bodies was this assessment communicated (Risk Committee, Board...)?

<ESMA_QUESTION_ST_08e>

At ECC, the assessment was communicated to the Risk Committee and the Management Board.

<ESMA_QUESTION_ST_08e>

Q8f: Did it lead to an action plan (please describe shortly)?

<ESMA_QUESTION_ST_08f>

TYPE YOUR TEXT HERE

<ESMA_QUESTION_ST_08f>

Q8g: Was the assessment communicated to the NCA?

<ESMA_QUESTION_ST_08g>

The applied stress scenarios at ECC, including the ones considering climate risks, are communicated to the NCA.

<ESMA_QUESTION_ST_08g>

Q9a: Does the assessment of climate risk feed into an existing mapping of risks, such as credit/liquidity/operational/business... or did you create one or several new risk categories (possibly along the lines of the four pillars described in this paper)?

<ESMA_QUESTION_ST_09a>

Climate risk feeds into an existing mapping of risks to avoid unnecessary complexities. We thereby also take into account related regulatory guidance which discourages from creating a separate risk category because segregation is considered extremely difficult (e.g. BaFin Guidance Notice on Dealing with Sustainability Risks).

<ESMA_QUESTION_ST_09a>

Q9b: If new categories of risk are identified, please list them with a short description

<ESMA_QUESTION_ST_09b>

TYPE YOUR TEXT HERE

<ESMA_QUESTION_ST_09b>

Q9c: Does the assessment cover the activities of the CCP's members?

<ESMA_QUESTION_ST_09c>

Yes.

<ESMA_QUESTION_ST_09c>

Q9d: Does the assessment cover the activities of the CCP's other counterparties and some of all service providers? (please state which categories)

<ESMA_QUESTION_ST_09d>

TYPE YOUR TEXT HERE

<ESMA_QUESTION_ST_09d>

Q9e: What is the starting point of the scenarios built? (CO2 path, GDP path, specific theoretical or historical events?)

<ESMA_QUESTION_ST_09e>

TYPE YOUR TEXT HERE

<ESMA_QUESTION_ST_09e>

Q9f: Please list the historical events that are used and considered as relevant to the CCP's climate risk assessment.

<ESMA_QUESTION_ST_09f>

TYPE YOUR TEXT HERE

<ESMA_QUESTION_ST_09f>

Q10a: Is physical risk part of the assessment?

<ESMA_QUESTION_ST_10a>

Yes.

<ESMA_QUESTION_ST_10a>

Q10b: What types of physical events are taken into account? How were they selected?

<ESMA_QUESTION_ST_10b>

ECC considers e.g. cold snaps and heat waves leading to higher demand and prices. In addition we cover typhoons, flooding and hurricanes, leading to failure of infrastructure having consequences on the supply of gas, electricity etc. They are selected based on historical observations, where the occurrence of such an event led to stressed conditions in the energy market.

<ESMA_QUESTION_ST_10b>

Q10c: Do the scenarios considered include market movements? operational disruptions? Any other aspect? Please provide a short description

<ESMA_QUESTION_ST_10c>

The scenarios consider market movements at ECC.

<ESMA_QUESTION_ST_10c>

Q10d: If the scenarios include market moves, are they integrated in the regular stress testing (or other regular risk assessment) or a separate assessment?

<ESMA_QUESTION_ST_10d>

The scenarios are integrated in the regular stress testing at ECC.

<ESMA_QUESTION_ST_10d>

Q10e: If market moves are included in the scenario, please describe shortly the calibration method, and whether consistency with specific climate change scenarios were considered.

<ESMA_QUESTION_ST_10e>

The scenarios used at ECC are calibrated based on historical observations. However, there is the challenge that the use of past observations is not a good predictor for the future. Climate change is already leading and will lead even further to increased frequency and severity of such extreme weather events. With respect to the relevant period of processing a default by a CCP, increased frequency would be irrelevant, and the observed shifts are consistent with climate change scenarios. Since the severity of extreme weather events will not increase immediately but evolve gradually over time, the regular review process of the stress test scenarios would consider this development to be also consistent with climate change scenarios.

<ESMA_QUESTION_ST_10e>

Q10f: Is the format of the assessment a set of scenarios and their outcome (operational, financial or other)? please describe if this is another format.

<ESMA_QUESTION_ST_10f>

It is a set of scenarios used in the regular stress testing at ECC to calculate financial losses.

<ESMA_QUESTION_ST_10f>

Q11a: Is transition risk part of the assessment?

<ESMA_QUESTION_ST_11a>

At ECC, transition risks are part of the assessment.

On Eurex Clearing's end, there are several historical scenarios where climate risks played an important part of the narrative. At present there are no dedicated transition risk hypothetical scenarios but Eurex Clearing is planning to prepare a candidate scenario or scenarios in 2022 as part of its annual Credit Stress Testing review.

<ESMA_QUESTION_ST_11a>

Q11b: Is it based on a set of scenarios? If so, please indicate the number of scenarios, and whether they are integrated to the regular stress test scenarios or separate

<ESMA_QUESTION_ST_11b>

While this is not applicable to Eurex Clearing at the moment (please refer to our previous answers in this context), for ECC, as highlighted above, three scenarios are in place for the regular stress testing which would cover the meaning of rapid transition risks. The risk map contains potential risk such as changes in EU ETS or energy market design.

<ESMA_QUESTION_ST_11b>

Q11c: What is the basis for the scenarios (NGFS or other, please elaborate)?

<ESMA_QUESTION_ST_11c>

While work is still ongoing at Eurex Clearing on dedicated climate risk scenario(s) in CCP Credit Stress Testing which may require custom made-scenarios due to the very short time horizon, historical observations (sudden German decision to exit from nuclear power) and expert judgments (e.g. sudden decision to tighten the cornerstones of the European emissions market) are the basis for the scenarios used by ECC.

<ESMA_QUESTION_ST_11c>

Q11d: What is the time horizon of the scenario?

<ESMA_QUESTION_ST_11d>

The applied climate risk scenarios in CCP Credit Stress Testing already have (at ECC) or respectively will have (at Eurex Clearing) the same time horizon as the liquidation horizon for a given asset class.

<ESMA_QUESTION_ST_11d>

Q11e: Is the output a mapping of risks, a sensitivity test, or a classical stress test with a loss computed for the various margin accounts?

<ESMA_QUESTION_ST_11e>

Where climate risks are already integrated at ECC's stress testing, the output is also a classical stress test with a loss computed for the various margin accounts which is complemented by a risk map with an assessment about likelihood and financial impact.

For the future inclusion of a climate risk transition scenario into CCP Credit Stress Testing at Eurex Clearing, it is envisaged to work as well like any other Credit Stress Testing scenario, i.e. loss computed for the various margin accounts and will be aggregated in a standard way as part of cover-2 calculation.

<ESMA_QUESTION_ST_11e>

Q12a: Is Business risk part of the assessment?

<ESMA_QUESTION_ST_12a>

The risk map that has been implemented at ECC as mentioned in our previous answers contains ESG risks with an assessment about potential financial impacts.

<ESMA_QUESTION_ST_12a>

Q12b: Is the output a projection of revenues/profitability, a mapping of "brown" vs "green" assets, or another form or output (please specify)?

<ESMA_QUESTION_ST_12b>

As mentioned in the previous answer, at ECC where a risk map has been implemented, it assesses the potential financial impact of ESG risks.

<ESMA_QUESTION_ST_12b>

Q12c: What is the time horizon contemplated?

<ESMA_QUESTION_ST_12c>

ECC's risk map contains a 5-year likelihood.

<ESMA_QUESTION_ST_12c>

Q13a: Do you assess the collateral and/or investment assets in terms of their environmental impact? If so, how do you assess a given asset/issuer/sector?

<ESMA_QUESTION_ST_13a>

Currently, collateral is not assessed based on environmental impact at neither of DBG's CCPs. However, we have started to investigate incorporating sustainable labels and/or standards into the assessment of admissible non-cash collateral at Eurex Clearing.

Additionally, we are assessing options to enhance transparency by delivering climate metrics for the universe of Eurex Clearing's admissible non-cash collateral. Initially, such data would be provided on a portfolio level. The basis for the assessment is climate data from established data providers.

<ESMA_QUESTION_ST_13a>

Q13b: What are the conclusions of this assessment?

<ESMA_QUESTION_ST_13b>

Our assessment is ongoing. Therefore, we cannot share any conclusion at this stage.

<ESMA_QUESTION_ST_13b>

Q13c: To whom are the results communicated outside the CCP?

<ESMA_QUESTION_ST_13c>

Client-specific data would be available to the respective client. Data regarding the universe of admissible non-cash collateral is intended to be available to the public.

<ESMA_QUESTION_ST_13c>

Q13d: What is the time horizon of any projection in this respect?

<ESMA_QUESTION_ST_13d>

Implementation is dependent on client demand with an intention to provide data in 2022.

<ESMA_QUESTION_ST_13d>

Q14: Are there other risks in your assessment or planned assessment? Please describe.

<ESMA_QUESTION_ST_14>

TYPE YOUR TEXT HERE

<ESMA_QUESTION_ST_14>

Q15a: Does the CCP have in place (or is working on the establishment of) remedial actions as a result of the assessment of climate risk?

<ESMA_QUESTION_ST_15a>

TYPE YOUR TEXT HERE

<ESMA_QUESTION_ST_15a>

Q15b: In particular, has there been, or will there be a change to the BCP?

<ESMA_QUESTION_ST_15b>

TYPE YOUR TEXT HERE

<ESMA_QUESTION_ST_15b>

Q15c: For each type of risk identified, does the assessment of climate risk take into account remedial actions (for example: if a business line is at risk due to transition of the market out of certain assets, does the assessment make the assumption that a new business line will replace it as a source of revenue; are back-up facilities taken into account when assessing the impact of a flood at the location of the headquarters...)?

<ESMA_QUESTION_ST_15c>

TYPE YOUR TEXT HERE

<ESMA_QUESTION_ST_15c>

Q15d: Does the CCP have environmental disclosures in place, does it have a plan to introduce or change environmental disclosures?

<ESMA_QUESTION_ST_15d>

TYPE YOUR TEXT HERE

<ESMA_QUESTION_ST_15d>