

EBA/CP/2023/25

08 NOVEMBER 2023

Consultation Paper

Draft Regulatory Technical Standards

to further specify the liquidity requirements of the reserve of assets
under Article 36(4) of Regulation (EU) 2023/1114

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1. Responding to this consultation

The EBA invites comments on all proposals put forward in this paper and in particular on the specific questions summarised in 5.2.

Comments are most helpful if they:

- respond to the question stated;
- indicate the specific point to which a comment relates;
- contain a clear rationale;
- provide evidence to support the views expressed/ rationale proposed; and
- describe any alternative regulatory choices the EBA should consider.

Submission of responses

To submit your comments, click on the “send your comments” button on the consultation page by 08 February 2024. Please note that comments submitted after this deadline, or submitted via other means may not be processed.

Publication of responses

Please clearly indicate in the consultation form if you wish your comments to be disclosed or to be treated as confidential. A confidential response may be requested from us in accordance with the EBA’s rules on public 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 the EBA’s Board of Appeal and the European Ombudsman.

Data protection

The protection of individuals with regard to the processing of personal data by the EBA is based on Regulation (EU) 1725/2018 of the European Parliament and of the Council of 23 October 2018. Further information on data protection can be found under the Legal notice section of the EBA website.

2. Executive Summary

Article 36(1) of MiCAR requires issuers of asset-referenced tokens, either if the asset-referenced tokens are classified as significant or not, to constitute and at all times maintain a reserve of assets. The target of the reserve of assets is to ensure a timely payment to the holders, upon redemption request of the tokens at any time, in funds by the market value of the assets referenced or via their physical delivery.

The requirement of a reserve of assets applies as well to electronic money (e-money) institutions issuing e-money tokens that are significant by virtue of Article 58(1) of MiCAR and can be expanded to e-money institutions issuing e-money tokens that are not significant if the competent authority of the home Member State requires it so following Article 58(2) of MiCAR.

With these draft Regulatory Technical Standards (RTS) the EBA is complying with its mandate in Article 36(4) of MiCAR to establish, in close cooperation with ESMA and the ECB, a percentage of the reserve of assets with a maturity of no longer than 1 working day, an additional percentage of the reserve of assets with a maturity of no longer than 5 working days and any additional percentage of the reserve of assets with any maximum maturity that can be found relevant. Furthermore, the RTS shall establish overall techniques for liquidity management to further specify the liquidity requirements of the reserve of assets. Moreover, the RTS shall also establish the specific minimum amount of deposits in each official currency referenced, which cannot be lower than 30% of the amount referenced in each official currency if the asset-referenced token is not significant¹ or 60% if the asset-referenced token is significant.

In the development of the mandate the EBA is required to take into account the size, complexity and nature of the reserve of assets and of the asset-referenced token itself. Furthermore, the EBA is mandated to take into account the concentration limits of the investment of the assets of undertakings for collective investment in transferable securities (UCITs) under its regulatory framework², for the purposes of the establishment of the overall techniques of liquidity management of the reserve of assets as well as for the percentages of the reserve of assets with maximum maturities.

Next steps

The draft regulatory technical standards will be submitted to the Commission for endorsement following which they will be subject to scrutiny by the European Parliament and the Council before being published in the Official Journal of the European Union.

¹ Article 45(7)(b), point (d), of MiCAR has a similar mandate to the EBA to specify in the relevant RTS that minimum amount of deposits where it comes to tokens referenced to official currencies that are significant.

² Article 52 of Directive 2009/65/EC

3. Background and rationale

1. Article 36 (4) Regulation (EU) 1114/2023 on markets in crypto-assets (MiCAR) mandates the EBA to develop draft regulatory technical standards (RTS) further specifying the liquidity requirements of the reserve of assets that issuers of significant assets referenced tokens (ARTs), non-significant ARTs and e-money institutions issuing significant e-money tokens (EMTs) (as well as e-money institutions issuing non-significant EMTs if required by the relevant competent authority)³ shall constitute and at all times maintain. In the development of these draft RTS the EBA shall take into account the size, complexity and nature of the reserve of assets and of the asset-referenced token itself.
2. The reserve of assets shall be composed of the assets that the issuer receives and keeps when issuing the tokens (e.g. deposits with credit institutions, commodities...) and by the highly liquid financial instruments the issuer may invest in. The deposits in credit institutions cannot be inferior to 30% (or 60% if required by the competent authority) of the amount referenced in each official currency for issuers of EMTs and ARTs, if they are not significant, or 60% in the case of issuers of significant EMTs and ARTs. Those minimum amounts in the form of deposits with credit institutions do not apply for the cases of assets referenced that are other than official currencies, for example commodities, financial instruments or crypto assets.
3. Article 36(4) MiCAR envisages that a minimum percentage of the reserve of assets shall mature within one working day, including reverse repurchase agreements that can be terminated and funds that can be withdrawn within that period of time, and that another minimum percentage of it shall do it in no later than five working days. The EBA shall specify in the draft RTS these percentages as well as any other percentage for another maturity if relevant, and overall techniques liquidity management of the reserve of assets, taking into account the concentration limits in the UCITs framework.
4. Furthermore, the EBA shall specify the minimum amount of deposits in credit institutions, which cannot be lower than 30% of the amount referenced in each official currency, for the cases of tokens that are not significant, or 60% if the tokens are significant. The mandate to specify that minimum amount for tokens that are not significant is envisaged under Article 36(4) and the mandate for such specification for the case of significant tokens is in Article 45(7)(b). For consistency reasons both are established in these draft RTS.
5. For the development of these RTS, the EBA builds on the 2022 Basel standard on the prudential treatment of crypto assets exposures from December 2022⁴, the 2023 Basel report on the definition of the reserve of assets (under work) as well as the UCITs Directive 2009/65 and the

³ As envisaged in paragraph 1 of Article 36 (on issuers of ARTs, irrespective of whether or not they are significant) in conjunction with paragraph 1 of Article 58 (on e-money institutions issuing significant EMTs) and paragraph 2 of Article 58 (on e-money institutions issuing EMTs that are not significant).

⁴ <https://www.bis.org/bcbs/publ/d545.pdf>

Commission Delegated Regulation (EU) 2015/61 (“LCR Delegated Regulation”) as envisaged in MiCAR. The EBA has also taken into account the regulatory framework of money market funds under Regulation (EU) 2017/1131 and some reports published by the relevant authorities regarding cases of crisis related to crypto activities.

6. The consultation of these RTS on the definition of liquidity requirements under Article 36(4) MiCAR is being undertaken in parallel to other two consultations on liquidity related aspects of issuers of tokens, i.e. the RTS to specify the highly liquid financial instruments in the reserve of assets envisaged in Article 38(5) MiCAR and the RTS to specify the minimum content of the liquidity management policy and procedures of issuers of tokens under Article 45(7)(b) MiCAR.

3.1 Minimum percentage of reserve assets with maximum termination periods of 1 and 5 working days and other potential maximum maturities

3.1.1 Definition of the reserve assets

7. Assets received by the issuer when issuing the EMTs or ARTs may be kept (e.g. deposits in credit institutions, commodities...) or invested in highly liquid financial instruments. All of them integrate the reserve of assets.
8. MiCAR envisages a minimum amount of deposits with credit institutions of 30% (or 60% for significant ARTs or EMTs) of the asset referenced in each official currency.
9. The EBA has proposed in the draft RTS under Article 38(5) to specify that highly liquid financial instruments will be composed of Level 1 liquid assets subject to 0% haircut in the liquidity coverage ratio, Level 1 covered bonds in the liquidity coverage ratio and financial instruments used as assets referenced or derivatives relating to them in the case of ARTs referenced to other than official currencies.
10. The percentages established in these RTS of the reserve of assets with maximum termination periods of 1 and 5 working days apply to all the relevant reserve assets together, i.e. deposits in credit institutions and highly liquid financial instruments.

3.1.2 Size, complexity and nature of the assets referenced token and of the reserve of assets under this requirement and calibration

a. Tokens referenced to official currencies

11. The mandate under Article 36(4) MiCAR requires to develop the draft RTS “taking into account the size, complexity and nature of the reserve assets and of the asset-referenced token itself”.

12. The requirements in Article 36(4)(a) and Article 36(4)(b) of MiCAR to establish minimum percentages of reserve assets with maximum maturities seem to be mainly referred to the period of time to receive cash from withdrawable deposits with credit institutions and to the termination of reverse repos. This is related to the capacity of these reserve assets of generating readily available funds to be used for redemption of tokens. The requirement does not seem to be relevant as regards the time to maturity of securities and its effectiveness to redeem tokens since securities might always be liquidated via sales or repos. A maturity requirement of 1 or 5 day maturity does not seem a logical way to ensure that a security within the reserve of assets will not be subject to price volatility risk. Under such extremely short residual maturity the market value of the security is close, if not equal, to its nominal value and will in practice make the security non-tradable which would exclude it from the reserve of assets.

13. The legislator requires a minimum amount of deposits with credit institutions in the case of tokens referenced to official currencies only. The minimum amount of deposits with credit institutions required in tokens referenced to official currencies is material in the reserve of assets, i.e. 30% of the amount referenced in each official currency or 60% if the token is significant. Tokens referenced to official currencies need to always be redeemed by payment in funds. Therefore, to ensure that the reserve of assets can generate at all times enough funds to fulfil redemption requests in funds, it is necessary that deposits (or reverse repos) within such reserve of assets have a short maturity (1 or 5 working days).

14. For these reasons the EBA proposes to require these minimum percentages in Article 36(4)(a) and Article 36(4)(b) of MiCAR to tokens that are referenced to official currencies.

b. Tokens that are not referenced to official currencies

15. The EBA also highlights that even though in the case of tokens that are not referenced to official currencies the reserve of assets is not required to include deposits with credit institutions, the issuer can decide to hold deposits with credit institutions in the reserve of assets. Redemption in funds applies to tokens where the issuer received funds upon their issuance and committed to redeem in funds if the token holder would decide so. Therefore, to ensure that the reserve of assets, in the case of tokens referenced to other than official currencies but where the reserve of assets includes deposits with credit institutions (or reverse repos), can generate at all times enough funds to fulfil redemption requests in funds, it is necessary that a minimum amount of those deposits (or reverse repos) have a short maturity (1 or 5 working days).

16. These draft RTS envisage minimum percentages of the deposits with credit institutions or reverse repos held in the reserve of assets of these tokens, with maximum maturities of 1 or 5 working days, following the mandate in Article 36(4)(c).

17. These minimum percentages do not apply to the reserve of assets of tokens that are not referenced to official currencies and where their reserves of assets do not include deposits with credit institutions or reverse repos. In the case of tokens referencing a combination of official currencies with assets other than official currencies the minimum percentages apply as

indicated for the part of the amount referencing official currencies and the part of the amount referencing other than official currencies.

c. **Calibration of the minimum percentages of the reserve of assets, in the token referenced to official currencies, and of the minimum percentages of the deposits with credit institutions or reverse repos in tokens referenced to other than official currencies.**

18. Furthermore, for the calibration of the percentages the EBA differentiates between significant tokens and those that are not significant. The minimum required amount of deposits with credit institutions is different (60% and 30%, respectively, of the amount referenced in each official currency) and thus it seems logical to ensure that the full amount of these deposits is effective for a prompt redemption of tokens upon request at any time, including under stress. Moreover, a token is significant if, among other things, it is highly interconnected to the financial system and has a more international scope. Therefore, higher percentages for significant tokens may mitigate any contagion risks.

19. With this proposed scope of the requirement, applicable to tokens referenced to official currencies and to those referenced to other than official currencies where the reserve of assets include deposits with credit institutions or reverse repos, and with a different calibration if significant or not, the EBA, following the mandate in Article 45(7)(b), takes into account and differentiates by size, complexity and nature of the reserve assets and of the asset-referenced token itself.

20. The EBA has based its proposed calibration of the relevant percentages of reserve assets that need to mature within the following 1 and 5 working days, on the recent evidence of deposit run-offs in bank related to crypto related activities⁵ and the comparable money market funds Regulation⁶.

21. The EBA has assessed the relevance of a percentage of the reserve of assets maturing or being able to be withdrawn or terminated in the short-medium term beyond 1 or 5 working days. Duration of the reserve assets and subsequent sensitivity to interest rate changes that might trigger volatility related aspects would be addressed here. The shorter the residual contractual maturity of the reserve assets the lower their volatility. The EBA considers that setting a maximum short-medium term maturity in bonds is more related to control interest rate risk rather than to liquidity risk requirements whose further specification is the target of this RTS as established under Article 36(4) of MiCAR. The EBA considers that minimum requirements for other maximum maturities than 1 or 5 working days in the short-medium term in the reserve of assets are not relevant for the purposes of fulfilling redemption requests.

⁵ 20% run off from relevant deposits in one day in the case of Signature Bank ([FDIC'S SUPERVISION OF SIGNATURE BANK](#)).

⁶ Money market funds with stable net asset value are required to hold a minimum 10% of their assets maturing within one day and 30% of their assets within one week. These money market funds are comparable with the least volatile tokens, as referenced to official currencies.

3.2 Determination of the minimum amount of deposits with banks in the case of issuers of EMTs or ARTs referenced to official currencies

22. Point (d) of Article 36(4), together with Article 58(1) and (2), of MiCAR establishes that the amount of deposits with credit institutions cannot be lower than 30% of the amount referenced in each official currency, in the case of issuers of ARTs that are not significant or e-money institutions issuing EMTs that are not significant if required by the relevant competent authority. This percentage is 60% for the cases of issuers of ARTs or EMTs that are significant.
23. The EBA considers that an amount of bank deposits in the reserve of assets higher than those percentages of the amount of assets referenced in tokens might trigger concerns from the perspective of the liquidity of the reserve assets overall and their exposure to credit risk. The EBA considers that it is key to keep a relevant amount of the reserve of assets as susceptible to be liquidated in the market and not just with specific counterparties. Furthermore, the interconnectedness between the banking system and crypto-asset sector should be well controlled to avoid reciprocal contagion effects in case of distress of one of them. Therefore, the EBA considers that the minimum amount of bank deposits in the reserve assets should not be set at a higher default level than those percentages of the amount referenced in each official currency.
24. Still on a case-by-case basis competent authorities are able to increase the minimum 30% up to a minimum 60% in the case of ARTs that are not significant (following Article 35(4) together with Article 45(3) and 45(7)) and in the case of EMTs that are not significant and are issued by e-money institutions (following Article 58(1) and (2) together with Article 45(3) and (7)).

3.3 Overall techniques for liquidity management

25. Token holders are entitled to request at any time the redemption of their tokens by an amount equal to the market value of the assets referenced. Issuer of ARTs and EMTs need to manage the reserve of assets to ensure that the market value of the reserve assets is at least equal at any time to the market value of the assets referenced. Any loss of value of the former relative to the latter need to be covered by the issuer with additional reserve assets (Article 38(4)).
26. MiCAR has specific provisions seeking to ensure that the reserve assets cover the amount of the assets referenced at any time. The composition of the highly liquid financial instruments shall be made by assets with minimum market risk, credit risk and concentration risk (Article 38(1)). The reserve of assets needs to be managed considering the liquidity risks inherent to the permanent rights of redemption held by the token holders (Article 36(1)(b)).
27. A concern here for the EBA is to mitigate the risk that the amount of the reserve of assets can become lower than the market value of the assets referenced due to various reasons:

- a. Within the requirements of the reserve assets under Article 38(1) the EBA considers necessary to mitigate the concentration risk of highly liquid financial instruments, which is part of the mandate to the EBA in the RTS to specify highly liquid financial instruments under Article 38(5), as well as of the deposits with credit institutions in the reserve of assets under the mandate in Article 36(4) in the context of overall techniques for liquidity management.
- b. Furthermore, under Article 38(1) the EBA deems necessary the mitigation of liquidity and credit risk of highly liquid financial instruments, which is inherent to the RTS specifying them under Article 38(5), but also of bank deposits in the reserve of assets under the mandate in Article 36(4) in the context of overall techniques for liquidity management.
- c. Article 38(1) also envisages the need to minimize market risk in highly liquid financial instruments for which specific consideration of hedges in place are envisaged in the RTS to specify highly liquid financial instruments under Article 38(5).
- d. Volatility of the assets referenced, particularly considering the permanent right of redemption by the token holders including during stress scenarios:
 - i. Special consideration here is the inclusion of the financial instruments used as assets referenced, or derivatives relating to them, in the definition of highly liquid financial instruments in the case of ARTs for the part of assets referenced to other than official currencies seeking a minimum correlation. This is envisaged for the relevant draft RTS under Article 38(5).
 - ii. The reserve of assets needs to be managed considering the liquidity risks inherent to the permanent rights of redemption held by the token holders (Article 36(1)(b)). This might encompass voluntary over-collateralisation.
 - iii. Mandatory over-collateralisation of the reserve assets.

28. The EBA proposes the inclusion of the following safeguards in the context of a proper liquidity management of the liquidity requirements of the reserve of assets of issuers of ARTs and EMTs and takes into account the nature, size and complexity of the reserve of assets and of the asset referenced token. These techniques will ultimately target to contribute to the effectiveness in a timely manner of the reserve of assets.

3.3.1 Minimum creditworthiness and liquidity soundness in the bank deposits counterparties

29. The EBA considers that ensuring a minimum creditworthiness and liquidity soundness in the bank deposit counterparties will mitigate their credit and liquidity risk in the reserve assets of issuers of tokens.

30. In setting minimum requirements to mitigate the liquidity and credit risk of these deposits, the EBA follows an approach to ensure that credit institutions from all EU Member States can be eligible. The EBA considers eligible deposit counterparties for the purposes of considering those deposits in credit institutions in the reserve of assets, those where the issuer has no reason to expect non-performance of the credit institution – this is based on Article 32(1) of the LCR Delegated Regulation and the LCR eligibility of inflows including those stemming from deposits

31. This safeguard should be read in conjunction with the requirement established in the RTS specifying the minimum content of the liquidity management policy and procedures under Article 45(7)(b) MiCAR where the issuer needs to assess the creditworthiness of the bank counterparty and ensure that it is in line with its risk appetite and taking into account the final volume of bank deposits in the reserve of assets.

3.3.2 Concentration limits by bank deposit counterparty

32. The EBA considers that limiting to the issuer of the tokens the amount of deposits in the reserve of assets with the same credit institution contributes to a sound credit and liquidity management.

33. A high concentration of deposits with a limited number of banks shall be avoided. This is to mitigate the risk arising from material interconnectedness between the financial system and the crypto ecosystem. A priori, it might be argued that larger banks might find fewer challenges for additional liquidity resources if needed in case of stress, for example via securitisations, new issuances in wholesale markets, repo markets or others where some minimum infrastructure is needed. Diversification across counterparties should be complemented with limits to avoid concentration of deposits within the total balance sheet of the credit institution receiving the deposits. This is to mitigate the risk that withdrawal from deposits by the issuer to redeem tokens might trigger very material repayment of liabilities by the credit institution taking the deposits that might ultimately challenge the withdrawal and redemption.

34. The EBA considers that in the application of such concentration limits the issuer shall consider in an aggregated manner, as an only counterparty, the deposits it holds with a credit institution as well as the deposits it holds with all other entities that form part of the group of that credit institution and the deposits it holds with entities with which that credit institution has close links.

3.3.3 Over-collateralisation

35. Ultimately the issuer's reserve of assets at market value aims to ensure the timely redemption of the tokens upon request at any time, including stress periods, by paying in funds the market value of the assets referenced or physical delivery of them. Article 36(7) envisages that the aggregate value of the reserve of assets shall be *at least* equal to the aggregate value of the assets referenced, thus recognizing the possibility of mandatory overcollateralisation. The EBA proposes to include a minimum mandatory overcollateralisation in the context of the techniques

for liquidity management of the reserve of assets where the size, complexity and nature of the reserve of assets and of the asset-referenced token itself will be taken into account.

36. The main target of overcollateralisation is to contribute to mitigating market risk in the reserve of assets and the differences between the changes in the market value between the reserve of assets and the assets referenced. It mitigates the risk of a potential de-pegging in tokens referenced to official currencies. De-pegging refers to cases where the parity is lost because some reputational, solvency or other reasons that make the market value of the token be below parity and that might trigger massive redemption request with subsequent damaging consequences to the issuer and the system if redemption cannot be met in time in a proper manner.
37. For these reasons the EBA proposes the inclusion of a mandatory over-collateralisation of the reserve assets to complement, particularly under stress times, the stability mechanism of ARTs and EMTs by contributing to mitigate price volatility risks and subsequent impact. The calibration proposed will only require mandatory overcollateralization in cases where the reserve of assets itself, taking into account its composition, potential voluntary overcollateralization and hedging derivatives, has not proved enough to cover the volatility of the assets referenced.

4. Draft regulatory technical standards

COMMISSION DELEGATED REGULATION (EU) .../...

of **XXX**

supplementing Regulation (EU) 2023/1114 of the European Parliament and of the Council with regard to regulatory technical standards for further specifying the liquidity requirements of the reserve of assets set out in Articles 36 and 45(3)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EU) 2023/1114 of the European Parliament and of the Council of 31 May 2023 on markets in crypto-assets, and amending Regulations (EU) No 1093/2010 and (EU) No 1095/2010 and Directives 2013/36/EU and (EU) 2019/1937⁷, and in particular Article 36(4), fifth subparagraph, and Article 45(7), fourth subparagraph, thereof,

Whereas:

- (1) In the determination of the minimum amount of the reserve of assets maturing in one or five working days, including assets received in reverse repos that can be terminated in one or five working days or deposits withdrawable with a one- or five-working-day prior notice, it is necessary to follow the calibration established in Regulation (EU) 2017/1131 of the European Parliament and of the Council of 14 June 2017⁸ and to draw on the experience of observed empirical crises related to crypto-activities. Such a minimum amount should be calibrated to ensure the ability to meet the redemption requests by token holders at any time, including under stress. Its calibration should take into account the size, complexity and nature of the reserve of assets and of the asset-referenced tokens, and differentiate tokens that are not significant from those that are significant, and which have an higher amount of required deposits in each official currency referenced, as well as crypto-activities with a higher interconnectedness with the financial system or a higher international scope. Conversely, it is unnecessary to introduce other longer maturities requirements to address the same risks.
- (2) It is necessary to take into account the benefits and potential risks that could arise as a consequence of the reserve of assets being potentially made of a large amount of deposits with credit institutions. In order to ensure a proper liquidity management of those deposits, it is necessary to introduce specific techniques for it to mitigate potential risks. Considering the potential material size of this part of the reserve of assets, any failure of the counterparty bank or simply a sudden and large withdrawal of these deposits as a consequence of redemption requests might trigger significant negative consequences to the financial stability. For these purposes, it is necessary to

⁷ OJ L 150, 9.6.2023, p. 40.

⁸ Regulation (EU) 2017/1131 of the European Parliament and of the Council of 14 June 2017 on money market funds (OJ L 169, 30.6.2017, p. 8).

specify liquidity requirements of the reserve of assets in the form of required liquidity management techniques of the deposits held in the reserve of assets.

- (3) The sound management of the reserve of assets dictates that the credit institutions, with whom such reserve assets are deposited, are subject to creditworthiness requirement calibrated in a way that creditworthy credit institutions can be found in any Member State. Sound management should also ensure that token redemption is facilitated and not prevented or hindered. Therefore, adequate diversification must be ensured and concentration limits should be set out. These limits should concern the maximum amount of the reserve of assets that can be deposited in a single credit institution and the threshold should be set both against the total reserve of assets and against the credit institution's total balance sheet. These thresholds are necessary to ensure both that an adequate number of credit institutions can be approached for redemption and that redemption will not be hindered by its potential high impact on a single credit institution's total balance sheet.
- (4) Finally, to ensure a sound liquidity management of the reserve of assets, it is necessary to introduce a minimum mandatory overcollateralisation of the market value of the reserve of assets relative to the market value of the assets referenced, with the aim to cover the absence of haircuts in the computation of the highly liquid financial instruments in the reserve of assets, to mitigate the volatility and seek for correlation of the market value of the assets referenced with respect to the reserve of assets. The mandatory overcollateralisation should be calibrated to follow a historical look-back approach, taking into account the size, complexity and nature of the reserve of assets and of the assets referenced by the tokens.
- (5) The minimum amount of deposits with credit institutions to be held in the reserve of assets related to tokens that are not significant and are referenced to official currencies should be kept to 30% of the amount referenced, or to 60% if the token is significant, and not raised any higher, as those percentages represent a good balance between the benefits for a timely redemption of the tokens upon request, and the risk of potential contagion in case of a crisis arising from the interconnectedness between crypto-activities and the financial system.
- (6) Considering that requirements set out in Articles 36 and Article 45(1) to (4) of Regulation (EU) 2023/1114 also apply to electronic money institutions issuing e-money tokens (either significant or, where decided, non-significant), as per Article 58(1), point (a), and (2) of that Regulation, this Regulation should also apply to issuers of e-money tokens that are subject to or required to comply with those requirements.
- (7) This Regulation is based on the draft regulatory technical standards submitted to the Commission by the European Banking Authority.
- (8) The European Banking Authority, in close cooperation with the European Supervisory Authority (ESMA) established by Regulation (EU) No 1095/2010 of the European Parliament and of the Council⁹ and with the European Central Bank, has conducted

⁹ Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC (OJ L 331, 15.12.2010, p. 84).

open public consultations on the draft regulatory technical standards on which this Regulation is based, analysed the potential related costs and benefits and requested the advice of the Banking Stakeholder Group established in accordance with Article 37 of Regulation (EU) No 1093/2010 of the European Parliament and of the Council,¹⁰

HAS ADOPTED THIS REGULATION:

Article 1

Maximum maturities applicable to the reserve of assets related to tokens referencing to official currencies

1. The reserve of assets referred to in Article 36 of Regulation (EU) 2023/1114 that relate to tokens referencing to official currencies shall include assets with an individual residual maturity of no longer than one working day and having a total market value equal to at least 20% of the market value of the entire reserve of assets referred to the same tokens.

Where the reserve of assets referred to in Article 36 of Regulation (EU) 2023/1114 relates to significant tokens referencing to official currencies, the percentage referred to in the first subparagraph shall be 40%.

Reverse repurchase agreements that can be terminated by giving prior notice of one working day and cash that can be withdrawn by giving prior notice of one working day shall be included in the percentages referred to in the first and second subparagraphs.

2. The reserve of assets referred to in Article 36 of Regulation (EU) 2023/1114 that relate to tokens referencing to official currencies shall include assets with individual residual maturity of no longer than five working days and having a total market value equal to at least 30% of the market value of the entire reserve of assets referred to the same tokens. That percentage shall be calculated including the assets with individual residual maturity of no longer than one working day referred to in paragraph 1, first subparagraph.

Where the reserve of assets referred to in Article 36 of Regulation (EU) 2023/1114 relates to significant tokens referencing to official currencies, the percentage referred to in the first subparagraph shall be 60% and shall be calculated including the assets with individual residual maturity of no longer than one working day referred to in paragraph 1, second subparagraph.

Reverse repurchase agreements that can be terminated by giving prior notice of five working days and cash that can be withdrawn by giving prior notice of five working days shall be included in the percentages referred to in the first and second subparagraphs.

¹⁰ Regulation (EU) No 1093/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Banking Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/78/EC (OJ L 331, 15.12.2020, p. 12).

Article 2

Maximum maturities applicable to the reserve of assets related to tokens not referencing to official currencies

1. In the case of tokens that are not referenced to official currencies, at least 20% of the reverse repurchase agreements and cash included in the reserve of assets referred to in Article 36 of Regulation (EU) 2023/1114 shall be able to be terminated or withdrawn, respectively, by giving prior notice of one working day.

In the case of significant tokens that are not referenced to official currencies, the percentage referred to in the first subparagraph shall be 40%.

2. In the case of tokens that are not referenced to official currencies, at least 30% of the reverse repurchase agreements and cash included in the reserve of assets referred to in Article 36 of Regulation (EU) 2023/1114 shall be able to be terminated or withdrawn, respectively, by giving prior notice of five working days.

In the case of significant tokens that are not referenced to official currencies, the percentage referred to in the first subparagraph shall be 60%.

The percentages referred to in the first and second subparagraphs shall be calculated including the assets referred to in paragraph 1, first and second subparagraphs, respectively.

Article 3

Deposits with credit institutions

1. Issuers of asset-referenced tokens referenced to official currencies and/or, where applicable, e-money institutions issuing e-money tokens shall hold in their reserve of assets deposits with credit institutions in each official currency referenced by the tokens and equal to at least 30% of the amount referenced in each official currency.
2. Issuers of significant asset-referenced tokens referenced to official currencies and/or, where applicable, e-money institutions issuing significant e-money tokens shall hold in their reserve of assets deposits with credit institutions in each official currency referenced by the tokens and equal to at least 60% of the amount referenced in each official currency.

Article 4

Minimum creditworthiness and liquidity soundness of bank deposit counterparties in the reserve of assets

1. Issuers of asset-referenced tokens and/or, where applicable, e-money institutions issuing e-money tokens holding deposits with credit institutions shall have no reason to expect non-performance by the credit institutions taking the deposits in order to include those deposits in the reserve of assets referred to in Article 36 of Regulation (EU) 2023/1114.

Article 5

Concentration limit by bank deposit counterparty

1. The deposits in credit institutions that are included in the reserve of assets referred to in Article 36 of Regulation (EU) 2023/1114 shall not be placed with the same credit institution by an amount higher than 10% of the market value of the reserve of assets referred to the same tokens. Where the credit institution receiving the deposit does not qualify as a large institution as defined in Article 4(1), point (146), of Regulation (EU) No 575/2013, that percentage shall be 5%.
2. The deposits in a credit institution that are included in the reserve of assets of the same tokens referred to in Article 36 of Regulation (EU) 2023/1114 shall not exceed 2.5% of the total assets of the credit institution receiving those deposits.
3. The amount of the deposits in a credit institution referred to in paragraphs 1 and 2 together with the market value of highly liquid financial instruments in the form of securities or money market instruments issued or guaranteed by the same credit institution, as well as the risk exposure to that credit institution in unmargined OTC derivatives, as envisaged in Article 38(1) of Regulation (EU) 2023/1114, shall not exceed 25% of the market value of the reserve of assets referred to the same tokens.
4. For the purposes of the limits envisaged in paragraphs 1, 2 and 3, the deposits with a credit institution, the highly liquid financial instruments in the form of securities or money market instruments issued or guaranteed by the same credit institution, as well as the risk exposures in unmargined OTC derivatives with that credit institution shall include those deposits placed with, instruments issued by or exposures to all other entities with whom that credit institution has close links.
5. When applying paragraphs 1, 2, 3 and 4, token issuers shall look through to the underlying exposures of collective investment undertakings (CIUs), as defined in Article 4(1), point (7), of Regulation (EU) No 575/2013, whose units are included in the reserve of assets.

Article 6

Mandatory over-collateralisation

1. At any time t , the daily market value of the reserve of assets referred to the same tokens shall meet the following formula:

$$Reserve_Assets_t \geq Assets_Referenced_t \times \left(1 + \max_{s \in I} \left\{ 0; \frac{\max\{Assets_Referenced_{s-i}\}_{i=0}^4 - \min\{Reserve_Assets_{s-i}\}_{i=0}^4}{\max\{Assets_Referenced_{s-i}\}_{i=0}^4} \right\} \right),$$

where:

- $Reserve_Assets_t$ is the market value at time t of the reserve of assets referred to the same tokens;
- $Assets_Referenced_t$ is the market value at time t of the assets referenced by those tokens;
- I is any set of 5 consecutive working days in the 5-year period before date t .

Article 7

Entry into force

This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels,

For the Commission
The President

[For the Commission
On behalf of the President
[Position]

5. Accompanying documents

5.1 Draft cost-benefit analysis / impact assessment

1. Following Article 10 of Regulation (EU) No 1093/2010 (EBA Regulation), the EBA shall analyse the potential costs and benefits of the draft Regulatory technical standards (RTS). RTS developed by the EBA shall therefore be accompanied by an Impact Assessment (IA) that analyses ‘the potential related costs and benefits’.
2. This analysis presents the IA of the main policy options included in this Consultation Paper on the draft RTS further specifying the liquidity requirements of the reserve of assets, which the EBA is mandated to develop under Article 36(4) of Regulation (EU) 1114/2023.
3. Article 36(4) mandates the EBA to establish the percentages of the reserve of assets with maximum maturities of 1 working day and 5 working days, including the reverse repos that are able to be terminated and the cash that can be withdrawn in those tenors. The EBA has assessed the calibration approach to determine these percentages. In addition to this, the EBA is mandated to assess the establishment of other relevant maturities. The EBA has also analysed the relevance or need to add other minimum percentages of reserve assets with other maturities in the short-medium term beyond 5 working days.
4. Furthermore, Article 36(4) mandates the EBA to establish overall techniques for liquidity management. The EBA has assessed here the convenience of introducing specific techniques in the RTS to be applied by issuers of tokens that would cover specific risks in the reserve of assets and that would result in a sound liquidity management of the reserve of assets. The techniques proposed include in particular:
 - a. techniques to ensure minimum liquidity soundness and credit quality in the counterparties of the deposits with credit institutions in the reserve of assets.
 - b. techniques to ensure a maximum concentration limit by counterparty of deposits with credit institutions in the reserve of assets.
 - c. techniques to ensure a minimum overcollateralization. It intends to cover the risk that the market value of the reserve of assets cannot cover the market value of the assets referenced for the purposes of meeting redemption request by the token holders at any time. This risk is very much related to the volatility of the reserve assets and assets referenced if not sufficiently correlated. In this context is also covers the absence of the haircuts to the highly liquid financial instruments. Its calibration follows to a great extent the regulatory framework for similar aspects

in the money market funds and also the experience observed in banking crisis stemming from crypto activities.

5.1.1 Maximum 1 and 5 working days maturities for minimum percentages of the reserve of assets

5. The EBA has assessed two policy options for the calibration of those percentages:

- Policy option A: To specify the minimum percentages based on the evidence experienced in banks’ run-off cases from deposits stemming from crypto activities as well as considering comparable regulatory frameworks with similar safeguards like the Regulation¹¹ on money market funds.
- Policy option B: To describe the general lines of an approach where ultimately the calibration of the percentages should be made by the issuer. The percentages would be based on its particular historical observations and estimated following 99% confidence intervals relative to the average redeemed amount in the worst 1 and 5 working days in terms of gross outflows.

	Advantages	Disadvantages
Policy option A	<p>On the one hand it builds on recent bank related data of experienced deposits run-off related to crypto activities in the referenced periods of time (1 and 5 working days).</p> <p>Second, the Regulation on money market funds envisages specifically the percentages of their assets that need to mature on a daily and weekly basis for liquidity soundness purposes. This serves as a comparable framework considering the similarities between the business activities of money market funds and tokens’ issuers.</p> <p>This approach takes into account the type of token (significant vs</p>	<p>There is a need to somehow adjust the observed cited deposits run-off and regulatory framework of money market funds to differentiate between significant and non-significant tokens.</p>

¹¹ Regulation (EU) 2017/1131

	<p>non-significant), reserve of assets (only applicable to tokens referenced to official currencies, with material amount of deposits), size and complexity (again differentiation between significant and non-significant).</p>	
	<p>This approach does not pose any operational burden for issuers as regards the calibration of the percentages of the reserve of assets maturing within 1 or 5 working days.</p>	<p>The calibration is not subject to an ongoing update based on the reality of stressed redemption outflows that evidence might show overtime for a specific issuer. However, taking into account the relevance of this aspect to avoid any liquidity distress in the issuer, the general crypto market and the interconnected global financial system the Guidelines on liquidity stress testing under Article 45(8) MiCAR might include, along the lines proposed under policy option 2, the need for the issuer to assess expected potential withdrawals under stress of the deposits placed in credit institutions, or termination of reverse repos, within 1 or 5 working days beyond the percentages established in these RTS for potential strengthening of the liquidity requirements.</p>
<p>Policy option B</p>	<p>Consideration of specificities of the issuer is made since it is an analysis to be run on a case-by-case basis: token type, reserve of assets, size, complexity, as required in the mandate.</p>	<p>Lack of experience and time series data that could underestimate the necessary amount maturing up to 1 or 5 working days during at least the first years of functioning of the issuer.</p>
	<p>Ongoing update aligned to the current circumstances of the experience of the issuer and the crypto system.</p>	<p>Operational burden for issuers for its calibration every day.</p>

6. The EBA has opted for option A to specify the relevant percentages of reserve assets that need to mature within the following 1 and 5 working days. The EBA builds its proposed calibration, 20% of the reserve of assets maturing within one working day and an additional 10% of the reserve of assets maturing within 5 working days, on the recent evidence of deposits run-off in a bank stemming from crypto related activities¹² and on the comparable money market funds Regulation¹³. For significant tokens, with a higher interconnectedness to the financial system and subsequent higher contagion risk, where the minimum amount required of deposits with credit institutions is 60% of the assets referenced in each official currency (versus 30% in the tokens that are not significant) those percentages are proposed to be proportionately increased to 40% and 20% for maturities within one working day and 5 working days to ensure the effectiveness of the full amount of the deposits for a timely redemption of the token upon request, including under stress periods.

5.1.2 Other relevant maturities

7. The EBA has considered two policy issues:

- a. Policy issue I: the possibility to ensure a maximum maturity of 1 or 5 working days to a minimum percentage of deposits with credit institutions or reverse repos in the case of tokens that are not referenced to official currencies.
- b. Policy issue II: the possibility to implement other longer than 1 or 5 working days maximum maturities to a minimum percentage of the reserve of assets.

Policy issue I:

8. The EBA has assessed two alternatives:

- Policy option A: to expand the application of the minimum percentages of the reserve of assets maturing within 1 or 5 working days in tokens referenced to official currencies to other tokens but relative to the amount of the deposits with credit institutions or reverse repos in the reserve of assets.
- Policy option B: to keep the minimum percentages of the reserve of assets maturing within 1 or 5 working days for tokens referenced to official currencies only.

¹² 20% run off from relevant deposits in one day in the case of Signature Bank ([FDIC'S SUPERVISION OF SIGNATURE BANK](#)).

¹³ Money market funds with stable net asset value are required to hold a minimum 10% of their assets maturing within one day and 30% of their assets within one week. These money market funds are comparable with the least volatile tokens, as referenced to official currencies.

	Advantages	Disadvantages
Policy option A	<p>It ensures that the deposits with credit institutions or reverse repos in the reserve of assets of tokens referenced to other than official currencies can be withdrawn or terminated in the very short term to be able to meet redemption requests at any time in a prompt manner, even under stress, and avoid potential subsequent worse consequences that could arise from a failure to redemption in time, e.g. massive redemption request arising and potential systemic risk to the rest of tokens issuers and the financial system.</p>	<p>It might be argued that this requirement is only necessary for tokens referenced to official currencies where deposits with credit institutions are material since required to amount to at least 30% (or 60% if the token is significant) of the assets referenced.</p>
	<p>Incentivises issuers to seek for a replica in the reserve of assets (e.g. token referenced to gold) with respect to the asset referenced in the case of tokens that are not referenced to official currencies. These tokens are a priori expected to be exposed to a higher volatility in the assets referenced and to a lower correlation between the assets referenced and the reserve of assets unless the latter replicates to a minimum extent the former one.</p>	<p>Correlation between market volatility of the reserve of assets and assets referenced other than official currencies might be argued to be able to be achieved via other instruments, e.g. hedging derivatives, without the need to set additional requirements.</p>
Policy option B	<p>Focusing on tokens referenced to official currencies, where a material amount of deposits is required, is enough to cover the</p>	<p>This risk would not be covered for potential cases where the reserve of assets of tokens referenced to other</p>

	main risk arising from a potential maturity gap between deposits or reverse repos and any redemption request of tokens	than official currencies would include deposits or reverse repos.
	Further operational and regulatory burden for tokens where expectedly the deposits or reverse repos might be non-material.	Still proportionality applies since the requirement of minimum percentages apply to the amount of the deposits or reverse repos. Therefore it applies in a proportionate manner and even in the absence of them this requirement does not apply to tokens referenced to other than official currencies.

9. The EBA has opted for Policy option A. From a prudential point of view it is crucial to ensure not only that the amount of the reserve of assets is at least equal to the value of the assets referenced, as required by MiCAR, but also that it is effectively available at any time for the redemption of the tokens. This applies for all tokens where the reserve of assets include deposits with credit institutions or reverse repos.

Policy issue II:

10. The EBA has assessed two alternatives:

- Policy option 1: To require a minimum percentage of the reserve of assets to have a maximum maturity in the short/medium term, beyond 5 working days.
- Policy option 2: To not require a maximum short/medium maturity for a part of the reserve assets.

Advantages

Disadvantages

	Advantages	Disadvantages
Policy option 1	To make the portfolio less sensitive to interest rate changes and, thus, expect lower volatility. This helps to reinforce stability in the market value of the reserve assets.	A short-medium term maximum required maturity is more related to interest rate mitigation tools rather than to liquidity risk in the short term in case of a material and sudden redemption request, including stress test periods. The interest rate risk might be covered with derivatives,

		for example, without the need to impose short-medium term maturities.
	To ensure diversification of the composition of the reserve assets by time maturity buckets and, thus, different market liquidity features depending on maturities.	The risk of setting too many restrictions for the eligibility of highly liquid financial instruments, particularly in the case of tokens referenced to other than official currencies.
Policy option 2	To provide more flexibility to issuers in the development of their business models. Setting additional maturity limits might trigger unnecessary lower yield in short-medium term reserve assets when related risks might be covered with derivatives.	The risk of having a reserve of assets with long term maturity subject to higher risks.
	Operational challenges to calibrate other maturities for the reserve of assets that are not linked to the need to ensure redemption of tokens at any time.	A higher residual maturity on average for the portfolio, in the absence of further maturity constraints, is an indicator generally of lower market liquidity in the portfolio.

11. The EBA has opted for policy option 2 and not to introduce additional maturity constraints to the reserve assets at the moment. The risk of constraining the issuer’s business models seems higher than the risk that would be controlled with these restrictions which, on the other hand, can be mitigated via derivatives.

5.1.3 Minimum creditworthiness and liquidity soundness in deposits in credit institutions in the reserve of assets

12. The EBA has assessed the following two alternatives:

- Policy option A: to require no expectation of non-performance from the bank receiving the deposits to seek for minimum creditworthiness and liquidity soundness in the deposits with credit institutions.
- Policy option B: No minimum requirements

	Advantages	Disadvantages
Policy option A	<p>To mitigate credit risk and liquidity risk with respect to the deposits with credit institutions in the reserve of assets.</p> <p>With this approach the risk of failure to repay the deposit in time is mitigated. This is important to ensure that redemption to token holders upon request at any time, including under stress, can be met and mitigate the risk to expanding the risk of default to the financial stability.</p>	<p>The approach might trigger operational issues since a change in the creditworthiness expectations of a bank counterparty making it become ineligible would trigger the need of a change in the composition of the deposits by counterparties.</p>
Policy option B	<p>A minimum creditworthiness is not necessary to be required for deposits to be eligible since it is implicit in the solvency requirements of the banks and thus all bank complying with solvency requirements should be eligible.</p>	<p>Compliance with solvency requirements does not avoid potential failure to repay in time those deposits particularly under stress times. To recall that redemption of tokens as requested by holders needs to be met at any time in a prompt manner. Ensuring a minimum creditworthiness mitigates at least partially counterparty credit risk. A similar approach is envisaged in the LCR for the recognition of inflows. A related analysis of the creditworthiness of the bank counterparty is also envisaged in the minimum content of the liquidity policy management of issuers of tokens as proposed for the RTS to specify this minimum content under Article 45(7)(b) MiCAR.</p>

13. The EBA has opted for option A since the need to provide mitigating tools to the liquidity and credit risk in the deposits with banks prevails versus potential higher costs/operational issues.

The interconnectedness between the banking system and crypto activities requires to implement prudent approaches of this kind to avoid any expansion of any risk to the financial system.

5.1.4 Concentration limits by counterparty of deposits in credit institutions in the reserve of assets

14. The EBA has assessed the following two alternatives:

- Policy option A: To include concentration limits by deposit counterparty.
- Policy option B: to not include concentration limits by deposit counterparty.

	Advantages	Disadvantages
Policy option A	<p>If highly concentrated, any failure to payment in time, by one or two banks for example, would challenge the timely redemption of tokens with subsequent implications in the reliability of the token as a means of payment and in the whole crypto ecosystem. This could trigger potential expanded effects to the whole financial system if the stress is transferred to holders of other tokens or if the funding of the deposit taking institution is highly concentrated by deposit stemming from the same issuer in case it needs to face significant redemption requests.</p>	<p>This requirement, together with a minimum credit quality and liquidity soundness in the deposits taking institutions, might require higher operational and economic efforts for the issuers of tokens to identify eligible credit institutions as counterparties taking into account that the issuers, as established in the RTS on the minimum content of the liquidity risk management policy and procedures under Article 45(7)(b) MiCAR, need to develop and include in the liquidity risk management policy the assessment of the creditworthiness of each credit institution where the issuer of tokens hold deposits within the reserve of assets.</p>
	<p>The calibration takes into account the UCITs framework with reinforced limits considering the specificities of tokens where</p>	<p>A higher diversification requirement with reinforced concentration limits might also bring concerns if the selection of the deposit taking</p>

	deposits are expected to be a material component of the reserve of assets. Stricter limits envisaged are considered for the cases of smaller banks receiving deposits due to potential higher challenges to access additional liquidity resources if needed under stress (e.g. repo markets or whole sale markets in general) to mitigate any challenge around the effectiveness of the deposits.	institutions is based on other criteria (like higher remuneration to compensate higher related operational costs) than the pure optimisation of their creditworthiness and liquidity soundness.
Policy option B	To allow for holding as much amount of deposits as the issuer may consider necessary with the same credit institutions since these could be the most reliable institutions among the available ones.	<p>Diversification is generally accepted as a sound technique to ensure a good risk management, and mainly in the case of liquidity risk.</p> <p>Concentrating the deposits in some limited counterparties might have a very detrimental impact in the financial stability in case of failure to repay in time by the bank.</p>
	These restrictions might impact business opportunities for the issuer or sources of higher yield.	Deposits with credit institutions are a material part of the tokens referenced to official currencies and ensuring a prompt redemption of token holders and to safeguard the robustness of the financial system and crypto eco-systems are a priority.

15. The EBA has opted for option A. The EBA finds the implementation of concentration limits by deposit counterparties crucial. The EBA considers that ensuring prompt redemption of tokens is key to protect holders' rights as well as to avoid any risk to expand concerns on the financial system and crypto ecosystems, particularly considering the strong interconnectedness between them. The UCITs framework envisages that the deposits with the same bank shall not be more than 20% of the UCITs assets. The EBA sets the concentration limit by deposit counterparty at 10% of the reserve of assets of the issuer of the tokens, taking into account the specificities and risks inherent to crypto activities, and at 5% if the bank receiving the deposit is not a large

institution. At the same time the EBA considers that the deposits with the same credit institution should not exceed 2.5% of the total balance sheet of the credit institution taking the deposits.

5.1.5 Mandatory overcollateralisation

d. Overcollateralisation – risks covered

16. Overcollateralisation seeks to mainly cover the market risk of the reserve of assets, rather than via haircuts on the wide definition of the specified highly liquid financial instruments, and mainly differences in the market value volatility between the reserve of assets and the assets referenced to ensure the effectiveness of the reserve assets to meet any redemption request by token holders at any time included under stress. Overcollateralisation also mitigates the risk of a potential de-pegging where the parity in tokens referenced to official currencies might be lost because of some reputational, solvency or other related reasons that result in the market value of the token be below parity potentially triggering massive redemption request with subsequent damaging consequences to the issuer and the system if redemption cannot be met in time in a proper manner.

e. Overcollateralisation - calibration

17. Article 36(4) MiCAR mandates the EBA to develop draft RTS further specifying the liquidity requirements of the reserve of assets for which the EBA shall take into account the size, complexity and nature of the reserve of assets and of the asset-referenced token itself. In particular the mandate refers to the establishment of overall techniques for liquidity management. The EBA proposed to include a minimum mandatory overcollateralisation in the context of the techniques for liquidity management of the reserve of assets. Article 36(7) envisages that the aggregate value of the reserve of assets shall be at least equal to the aggregate value of the assets referenced, thus recognizing the possibility of overcollateralisation.

18. The EBA is working on two different approaches or policy options:

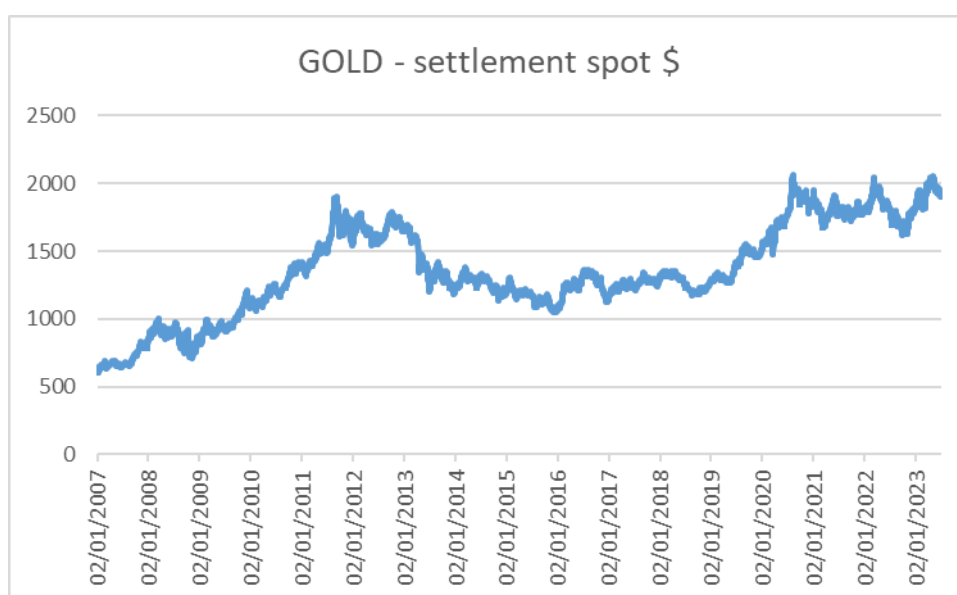
- a. Policy option 1, where the calibration of the mandatory overcollateralisation builds on a historical look back approach whose methodology is established in the RTS and to be applied by the issuer.
- b. Policy option 2, where the RTS would provide a specific quantitative calibration of the mandatory overcollateralisation.

Policy option 1 – Historical look back approach (HLBA)

19. A dedicated article in the RTS would establish the methodology to be applied by the issuer. The target is that the market value of the reserve of assets is always at least sufficient to cover the liabilities against token holders considering the highest positive difference between the market value of such liabilities (market value of assets referenced) and the market value of the reserve of assets any day over the previous 5 years. Overcollateralisation ultimately targets to cover differences in the market value changes of the assets referenced with respect to the market value changes of the reserve of assets taking into account hedging derivatives.

20. A daily calculation responds to the required daily computation and compliance with minimum reserve of assets.

21. The consideration of 5 years seems consistent and justified with the observed tendency of larger changes in the market value of the more volatile assets referenced like gold, for instance.



22. We see the largest increase in the market dollar value of gold between 2007 and 2012/2013 and between 2018-2019 and 2023. If unhedged and without over-collateralisation such increases would pose a risk to the viability of the token.

23. This approach would be implemented by the issuer of the token and therefore would take into account directly the type of token, reserve of assets, size and complexity as indicated in the mandate to the EBA.

24. The following section shows an impact assessment of this HLBA to estimate the effort that issuers might need to make to cover over-collateralisation on the basis of some theoretical and extreme cases. This effort seems to be manageable.

Impact assessment of Policy option 1 (HLBA)

25. The table below summarizes the results from an exercise simulating the overcollateralisation rules proposed above, using 9 different scenarios (based on 5 theoretical tokens): four with ARTs referencing official currencies (they intend to replicate the most volatile options with the minimum required deposits and the maximum amount of covered bonds allowed), and five with an ART referencing gold (with different shares of gold in the reserve of assets).

26. The following tokens were considered:¹⁴

- a. Significant EMT referencing EUR, backed by EUR denominated deposits (60%), sovereign bonds (5%), and covered bonds (35%)
- b. Non-significant EMT referencing EUR, backed by EUR denominated deposits (30%), sovereign bonds (35%), and covered bonds (35%)
- c. Gold referencing token, backed by 50% gold reserves, 50% sovereign bonds (in USD to match the currency of gold pricing)
- d. Gold referencing token, backed by 70% gold reserves, 30% sovereign bonds (in USD to match the currency of gold pricing)
- e. Gold referencing token, backed by 100% gold reserves

27. This simulation takes into account the changes observed in the market value of different assets referenced and reserve of assets. It should be noted that the outcome should be read without taking into account hedging derivatives that issuers might have in place to mitigate differences in the volatilities between them.

28. It is assumed that all the abovementioned tokens were issued on 30/06/2018. The required overcollateralization is calculated in absolute terms as the maximum difference between the price of the reference assets and the price of the original reserve of assets, which on 30/06/2018 match and diverge thereafter. It is then expressed in percentage relative to the value of reference assets (as shown in the Table below column 5). For all the scenarios (except one – the case of the gold backed token) the difference in value between reference and reserve of assets was calculated based on 1 day and based on 5-day difference (column 4), making a total of 9 scenarios. In the latter case, the difference is measured as the differences between the maximum value of reference assets within a 5 working days range, and the minimum value of the reserve of assets within the same 5 days range (expressed as a share of the maximum value of reference assets within the 5 working days range).

¹⁴ Covered bond prices are based on iBoxx € Covered index; Eurozone sovereign bond prices are based on iBoxx € Eurozone 1-3 index (which includes sovereign bonds with a maturity between 1 and 3 years); Treasury bills prices are based on the Merrill Lynch 1 Year T-Bill Note Index. Due to data availability, the maturity of Eurozone sovereign bonds index and that of the US T-bills are not exactly matched to ensure comparability, but were chosen in such a way that their maturity is as close as possible.

29. The daily additional reserves (column 6) refer only to the top up required in order to fulfill the requirements, considering that the reserves from the previous day already include overcollateralisation.

Table 1: Summary results

Token (1)	Reference assets (2)	Reserves (3)	Time range for calculating the difference in value of reference vs reserve assets (4)	Daily required OC (based on maximum difference over past 5 years) as percentage of reference asset value (from date of issue) (5)			Daily additional reserves required (from date of issue) (6)		
				Average	Min	Max	Average	Min	Max
Significant EMT	100% official currency (EUR)	currency deposits (60%), sovereign bonds (5%), and covered bonds (35%)	1 day	1.7%	0.2%	6.3%	0.0%	-0.4%	0.7%
			5 day	1.7%	0.2%	6.3%	0.0%	-0.4%	0.7%
Non-significant EMT	100% official currency (EUR)	currency deposits (30%), sovereign bonds (35%), and covered bonds (35%)	1 day	3.3%	0.3%	10.3%	0.0%	-0.7%	0.9%
			5 day	3.3%	0.3%	10.3%	0.0%	-0.7%	0.9%
Gold backed token (50% gold reserves)	100% gold	50% gold, 50% sovereign bonds (USD)	1 day	14.0%	7.8%	17.6%	0.0%	-2.8%	2.2%
			5 day	17.0%	9.6%	21.3%	0.0%	-2.3%	2.3%
Gold backed token (70% gold reserves)	100% gold	70% gold, 30% sovereign bonds (USD)	1 day	8.4%	4.7%	10.6%	0.0%	-1.5%	1.2%
			5 day	12.8%	7.9%	15.7%	0.0%	-1.2%	1.5%
Gold backed token (100% gold reserves)	100% gold	100% gold	NA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Note: Covered bond prices are based on iBoxx € Covered index; Eurozone sovereign bond prices are based on iBoxx € Eurozone 1-3 index (which includes sovereign bonds with a maturity between 1 and 3 years); Treasury bills prices are based on the Merrill Lynch 1 Year T-Bill Note Index (S&P Global).

30. The results show that for significant ARTs the overcollateralisation required (based on the maximum difference between prices of reference assets and reserve assets over the past 5 years) will range between 0.2% and 6.3% of the value of reference assets (Chart 1). Since the reserves will generally be overcollateralised most of the times, the issuers will only need to top up the reserves with the difference. For the case of significant ART, this difference will range between -0.4% (i.e. a decrease in required reserves) and 0.7% of the value of reference assets (Chart 2).

31. For non-significant ARTs, where the currency deposits are 30% (minimum required based on (MiCAR), the maximum overcollateralisation and additional reserves required increase by a third.

32. It is to be noted that in both cases the additional required reserves are zero on average, as it takes into account the prices changes that lead to a decrease in reserve requirements also.

Moreover, there is no material difference in the overcollateralisation required, whether the time range for calculating the difference between the value of reference and reserve assets is 1 day or 5 days.

Figure 1. Significant ARTs: Overcollateralisation based on maximum price difference of past 5 years, with difference calculated over 1 day (as percentage of reference asset value)

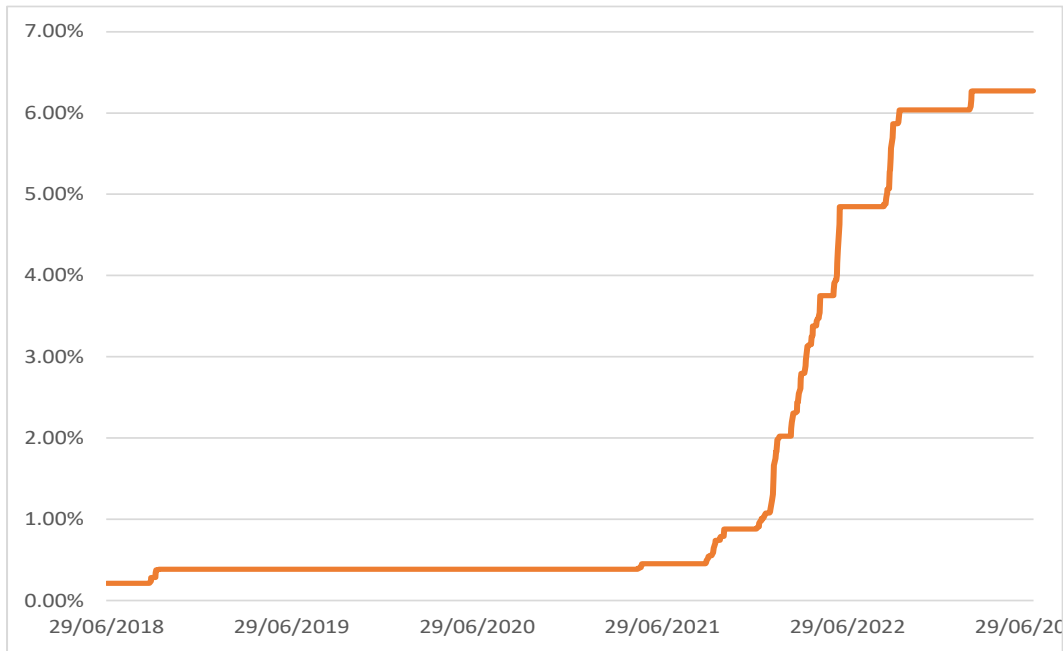
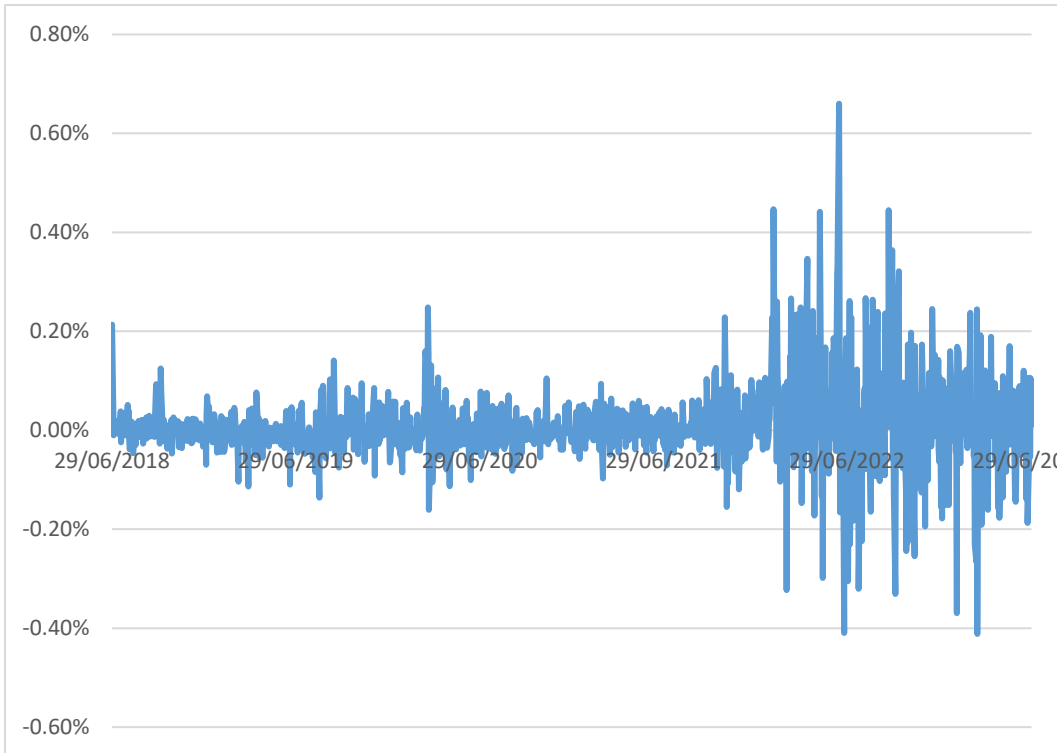


Figure 2. Significant ARTs: Additional daily reserves required with difference calculated over 1 day (as percentage of reference asset value)



33. In the case of gold tokens backed by a combination of gold and sovereign bond reserves, the ranges increase, as expected, with highest overcollateralisation requirements shown in the case of the token with lower share of gold in the reserve of assets. The overcollateralisation reaches 11% and 18% of reference assets for the gold token backed by 70% and 50% of gold respectively, where the difference in values of reference and reserve assets is based on a 1 day window. If the difference is based on a 5-day window, the maximum overcollateralization increases to 16% and 21% respectively. The daily changes in reserves are higher than for ARTs backed by official currencies. However, in the case of commodity tokens it has to be noted that these differences do not always need to materialize in an actual change of reserves, as some of it already comes from the change in the daily volatility in value of the reserve assets. A particular case in this regard is the case of a gold token backed by 100% gold reserves (last scenario).¹⁵ In this case the overcollateralisation is 0% and no additional changes to reserves are required, as the value of the reserve of assets follows exactly the value of the reference assets.

34. The graphs of the evolution of over-collateralization and additional daily reserves required for gold tokens backed by 50% gold are shown in Figure 3 and 4.

¹⁵ So far, the major gold tokens are backed 100% by gold reserves (Tether gold and Paxos gold)

Figure 3. Gold tokens (50% backed by sovereign bonds): Overcollateralisation based on maximum price difference of past 5 years, 5 days window (as percentage of reference asset value)

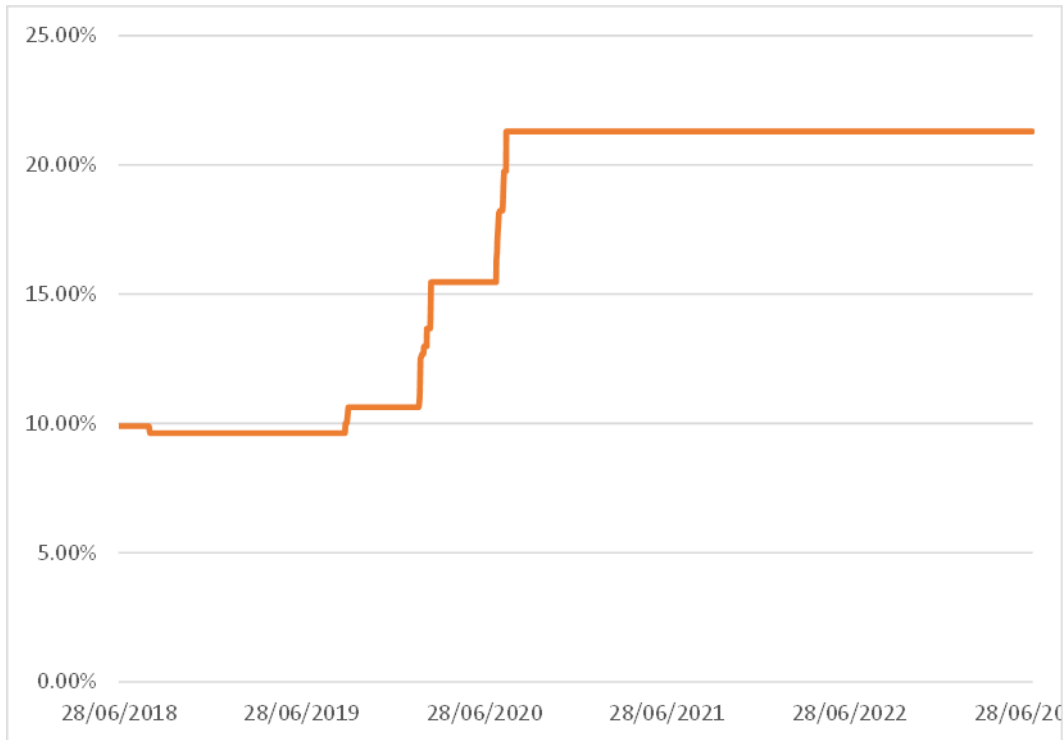
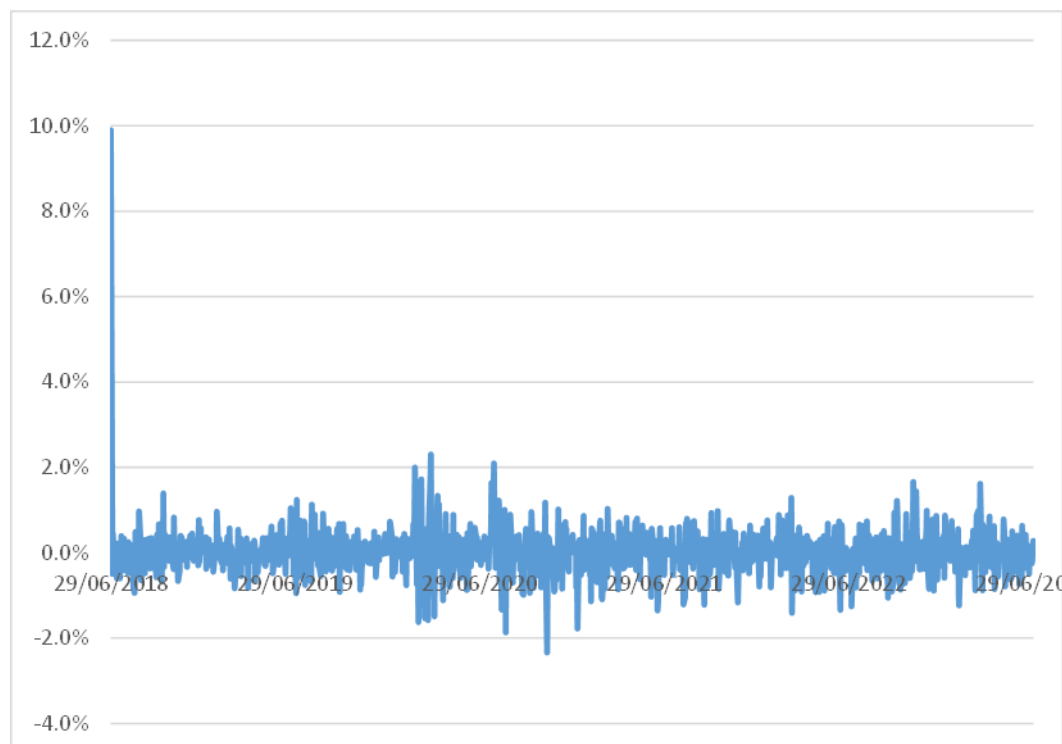


Figure 4. Gold tokens (50% backed by sovereign bonds): Additional daily reserves required (as percentage of reference asset value)



f. Policy option 2 – specific calibration in the RTS

Tokens referenced to official currencies

35.Features:

- a. Reserve of assets: assets received and retained (e.g. deposits with banks (min 30% or 60%)), sovereigns and covered bonds (max. 35%)
- b. Assets referenced: official currencies

36.In these tokens the volatility comes from covered bonds mainly. These are subject to a 7% haircut. Covered bonds are capped at 35% of the reserve of assets. Deposits are at least 30% (or 60% if the token is significant).

37.In addition, de-pegging risk should be considered for which the volatility of the market value of tokens referenced to official currencies versus the asset referenced (official currency itself) should be taken into account.

38.All in all a rough approximation taking into account these elements might lead to an expected overcollateralisation around the levels of between 3% - 5%.

Tokens referenced to other than official currencies.

39. Features:

- a. Reserve of assets: assets received and retained (e.g. gold, deposits with banks), sovereigns and covered bonds (max. 35%), assets referenced.
- b. Assets referenced: any financial instrument or combination of them, index references, commodities...

40.If the reserve of assets fully replicates the assets referenced, the minimum over-collateralisation for tokens referenced to official currencies might be simply kept for the cases where this replica is synthetic to cover the tracking error.

41.If there is no replication, the volatility of commodities (probably the most volatile asset referenced) would need to be assessed and estimated based on the one proposed for tokens referenced to official currency. For example, if the volatility of commodities is two times the volatility of securities in EMTs (mainly covered bonds) then we might go for an over-collateralisation of between around 6% - 10% (if a 3% - 5% is used for EMTs).

5.1.6 Pros and cons of Policy option 1 versus Policy option 2

	PROS	CONS
Policy option 1 (HLBA)	Full harmonisation in the determination of the approach to follow by all. A HLBA is also used to LCR additional outflows from derivatives.	Might not be based on stress times. However this would be complemented by the liquidity stress testing which is based on expectations for stress scenarios.
	Takes into account specificities based on token type, assets referenced, complexity, size.	There might be some risk of optimisation. However, the approach is quite specific and easy to review by supervisors. De-pegging risk is captured in the liquidity stress testing.
	Subject to review on an ongoing basis	Risk of procyclicality.
	Application subject to maximum harmonisation	Potential risk of a non-accurate calibration (not too

Policy option 2 (specific calibration)	since a specific number applies.	much data of experience) but more based on approximations.
	Covers all risks described including de-pegging risk with some add-on.	Specificities are not considered but for some approximations by token type and assets referenced
	Lower operational burden for the issuer	Calibration updates subject to regulatory reviews.

42. The EBA has opted for policy option 1 with 5 working day windows during the previous 5 years as observation periods of the differences between the market value of the reserve of assets and the assets referenced. 5 working day windows align to maximum maturities for readily available liquidity in MiCAR and do not seem more operational burdensome than 1 day windows since the necessary data base is the same. This approach ensure an ongoing analysis of the necessary reserve of assets to cover any redemption request under stress. The approach takes into account all specificities of each token, asset referenced, complexity and size. Procyclicality is controlled since the overcollateralisation is defined in relative terms to be compared over time.

5.2 Overview of questions for consultation

- Question 1.** Do respondents have any comment about the calibration of the percentages of reserve assets with specific maximum maturities as suggested in Article 1 and Article 2 of the draft RTS?
- Question 2.** Do respondents consider that the requirements in Article 1 and Article 2 related to the 1 and 5 working days maximum maturity could create excessive pressure in the repo market, taking into account the minimum required amount of deposits in credit institutions in the case of tokens referenced to official currencies?
- Question 3.** Do respondents have any comment on the proposed approach in Article 3 of the draft RTS to not increase the minimum amount of deposits from 30% (or 60% if the token is significant) of the asset referenced in each official currency?
- Question 4.** Do respondents have any comment with the definition of the requirement of a minimum liquidity soundness and creditworthiness in the deposits with credit institutions as proposed in Article 4 of the draft RTS?
- Question 5.** Do respondents have any comment about the definition of the requirement of a maximum concentration limit of deposits with credit institutions by counterparty in Article 5 of these draft RTS? And about the definition of the general limit considering, in addition to deposit with a bank, also the covered bonds issued by and unmargined OTC derivatives with the same bank counterparty?
- Question 6.** Do respondents have any concern about compliance with these concentration limits in Article 5, considering in particular paragraph 14 of the cost/benefit analysis in relation to the potential operational burden and risk of a wrong direction diversification, linked to the minimum required liquidity soundness and creditworthiness of deposits with banks, and taking into account the minimum amount required of deposits with credit institutions by MiCAR for tokens referenced to official currencies?
- Question 7.** Do respondents have any comment about the definition of the mandatory over-collateralisation in Article 6 of these draft RTS and the rationale for it? Do respondents find it challenging from an operational perspective, in particular with respect to envisaging 5 days windows rather than 1 day windows for observation periods of the market value of the assets referenced versus the reserve of assets and over the previous 5 years? Please elaborate your response with detailed reasoning.
- Question 8.** Do respondent think that any provision in the draft RTS is confusing and that some clarification would be necessary?