

CMA third update report on implementation of the Privacy Sandbox commitments

January 2023

Summary

- This is the third CMA update report on the implementation of the legally binding Commitments that Google made in February 2022 to address competition concerns relating to its proposals to remove third-party cookies from Chrome and replace them with alternative Privacy Sandbox tools (see Annex 1). It aims to explain the progress made in the most recent reporting period.
- 2. This report builds on our previous reports (published July 2022 and October 2022). We do not repeat points previously made unless they pertain to areas that we intend to explore further.
- 3. Based on the evidence we currently have available, we consider that from 1 October 2022 to 31 December 2022 (the relevant reporting period), Google has complied with the Commitments. Google is reporting on the basis of calendar quarters, so any developments in January 2023 will be covered in Google's next quarterly report.
- 4. Based on our work to date and stakeholder submissions and feedback we have received, our priorities for Q1 2023 are:
 - (a) Continuing to engage with Google on the design and development of its Privacy Sandbox proposals, focusing on the Topics API and First Party Sets (FPS) in particular. Our aim is to ensure that any competition concerns are addressed as part of the design process, and that Google's Privacy Sandbox proposals meet the Development and Implementation Criteria in paragraph 8 of the Commitments.
 - (b) Continuing to engage with market participants to identify any concerns, challenge Google over its proposed approaches where appropriate, and explore ways of addressing these issues through alternative designs of the Privacy Sandbox tools. As part of this, we continue to monitor discussions in relevant fora such as W3C. It is important that Google responds to substantive stakeholder concerns raised both through these existing fora and through other routes.

- (c) Progressing plans for testing the effectiveness of the Privacy Sandbox tools, including working with Google to publish results of its own initial tests, and continuing to engage with third parties on running broader industry-wide tests once the Privacy Sandbox tools are sufficiently developed.
- (d) Monitoring Google's internal processes and controls for sharing information and data relating to the Privacy Sandbox, as well as how the Privacy Sandbox is discussed externally.
- 5. During the period we have reached out to a wide range of market participants, including on the design of experiments to test the Privacy Sandbox tools. Feedback on our proposed approach to testing the Privacy Sandbox tools is summarised in this report. We intend to use this feedback to inform our approach to quantitative testing and will continue our engagement with market participants as our plans develop.
- 6. We are continuing to encourage those who plan to eventually adopt and use the Privacy Sandbox technologies to engage early with any testing they have the capability to carry out.
- 7. We also encourage market participants who have concerns about the design and implementation of the Privacy Sandbox to continue providing feedback to us. Our contact details are included at the end of this report. While it may not be possible for us to respond to each individual concern, raising these points means we are better able to monitor the development of the Privacy Sandbox and ensure that Google is meeting its legal obligations.

Dashboard

Dashboard: summary of CMA view on current position, October-December 2022

Relevant section of Commitments	Compliance	Level of focus by CMA ¹	Key actions during period	Summary of planned next steps
D - Transparency and consultation with third parties	Compliant	Higher focus	Engagement with market participants on quantitative testing and development of individual APIs (eg Topics API) Continue to engage with a range of affected third parties to explore areas of concern	Continuing to engage with market participants on quantitative testing and development of individual APIs (eg Topics API) Ensuring Google continues to respond to stakeholder concerns
E - Involvement of the CMA in the Privacy Sandbox proposals	Compliant	Higher focus	Continue to develop framework for testing and trialling Continue to engage on design issues including approach to Topics API Bring in views from external experts and third parties	Continue to develop framework for testing and trialling Continue to engage on design issues including approach to Topics API and FPS
F - Standstill before the Removal of Third-Party Cookies	Compliant	Lower focus (currently N/A)	• None	• None
G - Google's use of data	Compliant	Medium focus	Embedding the Technical Expert into monitoring regime Preparing detailed roadmap of priorities for the Technical Expert	Build deeper understanding of Google's internal data control systems Working to ensure that necessary data use protections are fully implemented well in advance of third-party cookie deprecation
H - Non- discrimination	Compliant	Medium focus	Embedding the Technical Expert into monitoring regime Apply technical knowledge to monitoring artifacts and logs Preparing detailed roadmap of priorities for the Technical Expert	Refining the controls around interactions between internal working groups involved in the design of the Privacy Sandbox Continue to apply technical knowledge to monitoring artifacts and logs
I - Reporting and compliance	Compliant	Lower focus	Completion of regular monitoring report(s)	Google to continue demonstrating ongoing compliance Prepare for next monitoring report(s)

Note: this is a summary, so it cannot provide comprehensive details on all topics

¹ While all aspects of the Commitments are important, this column is referring to the relative priorities of the CMA, and which have required a greater focus, during the course of the reporting period.

Progress during the most recent reporting period

Testing and trialling

- 8. The aim of the testing and trialling work is to gather evidence of the likely impact of the Privacy Sandbox tools before a final decision is taken on whether to remove third-party cookies. This will form an important element of our assessment of the effectiveness of Google's proposed changes in terms of market outcomes, competition and privacy, as set out in the Development and Implementation Criteria in the Commitments.
- 9. We have continued to work with Google during the period on possible ways to test the impact of the Privacy Sandbox APIs on advertising market outcomes. We have also discussed approaches to testing with a range of market participants, to gain an understanding of their initial experiences of functional testing of the Privacy Sandbox tools as part of the current Origin Trials.
- 10. Our discussions with Google and other market participants have continued to focus on establishing a process for quantitatively testing the potential impact of the Privacy Sandbox tools. This has included discussions covering what metrics to collect as part of testing, the timing of any tests and, where appropriate, how we might facilitate coordination of testing among third parties that plan to eventually test and adopt the Privacy Sandbox tools.
- 11. We published a note in November 2022 to provide further detail on our proposed approach to experimentation (the 'experiments note'). This included information on how Google plans to run experiments and facilitate third-party experiments and guidance on how stakeholders might replicate these or similar quantitative tests. It also set out a range of metrics we are interested in collecting as part of quantitative testing and sought feedback from market participants on their experiences with testing so far.
- 12. Topics, FLEDGE, and the Attribution Reporting APIs are scheduled to become available for general adoption in Q3 2023. It is during this phase that Google and the CMA intend to carry out quantitative testing of the Privacy Sandbox tools.
- 13. We obtained feedback on our proposed approach to quantitative testing as outlined in the experiments note from several market participants. In summary, market participants were broadly supportive of our approach to testing. However, they also highlighted some ways in which the approach could be improved.

- 14. In particular, the feedback we received suggested that many market participants have not yet engaged with testing due to the cost and complexity of doing so.
- 15. As outlined in the experiments note, broad third-party engagement in quantitative testing will be important to assess the potential impact of the Privacy Sandbox tools on competition. Respondents to our request for feedback told us that further clarity on the timeline and technical parameters for testing might encourage engagement in advance of our assessment.
- 16. Respondents also told us they would like reassurance that Google's proposals are close to their final state before dedicating significant resources to testing, including by Google publishing results of internal testing or outlining how its proposals meet the Development and Implementation Criteria in paragraph 8 of the Commitments.²
- 17. We intend to use this feedback to inform our approach to testing. We will continue our engagement with market participants as part of this process.
- 18. Recognising the importance of transparency for the ecosystem, and so that other organisations can plan their own participation in tests, Google has told us that Google Ads is beginning to undertake initial testing of the Privacy Sandbox tools, including Topics API and the measurement APIs.³ Google is aiming to publish the results of these tests in coordination with us at the end of Q1 2023.
- 19. As we outlined in October's report, alongside developing approaches to quantitative testing, we are also developing a broader framework for assessing the impact of the Privacy Sandbox changes at the standstill period, including more qualitative forms of assessment and an evaluation of privacy impacts.⁴

Design issues

20. As noted in our previous reports, Google published a revised timeline for Privacy Sandbox implementation in July 2022. This envisages the removal of third-party cookies in the second half of 2024. Google's current timeline indicates that most proposals (except IP Protection, ⁵ Privacy Budget and

² Discussion on the application of the Development and Implementation Criteria is included in the section below on 'Engagement with market participants'.

³ Further details are included in Google's Q4 progress report.

⁴ See paragraphs 11 and 12 of the October report.

⁵ IP Protection is an updated Privacy Sandbox proposal that supersedes Gnatcatcher.

Bounce Tracking Mitigations) will be available for general adoption as of Q3 2023.6

21. We have had detailed discussions with Google during the period on several of the key Privacy Sandbox tools, including raising with Google points that stakeholders put to us during the period and probing on how the proposals can be designed to address the Development and Implementation Criteria in the Commitments. We summarise below the key points raised. A fuller record of stakeholders' concerns and Google's responses to them is set out in Google's quarterly report published alongside this update document.

Topics API

- 22. Google's search ranking is important to many businesses, and some were concerned that if they were to choose to opt out of the Topics API, this could affect their Google search rank. Google has told us that it will not use a site's decision to opt out from the Topics API as a rankings signal.
- 23. Stakeholders have voiced concerns about the granularity of the topics included in the Topics API from different perspectives. Several stakeholders have said that the current taxonomy is not granular enough for the purpose of interest-based advertising, while others say the combination of multiple low-granularity topics associated with a browser instance is already highly identifying. We understand that Google has been further studying the risk of re-identification from Topics API and is considering how to further develop the taxonomy.
- 24. Under the current design of the Topics API, only callers (ad techs) that observed the user visit a site about the topic in question within the past three weeks can receive the topic. Some stakeholders have pointed out that this together with the proposed addition by Google of noise could give an advantage to callers who have more presence across sites. We raised this issue with Google and in December 2022 Chrome introduced a change ensuring that a fixed 5% of returned topics are random, regardless of the caller's presence.

⁶ privacysandbox.com/open-web/#the-privacy-sandbox-timeline (accessed 18 January 2023).

⁷ See Issue #73 on GitHub.

⁸ We understand this change is sufficient to solve the Topics API GitHub Issue #73, which pointed out that smaller ad techs would get a higher proportion of random topics. However, an ad tech with less presence will still get fewer different topics, which the Topics API explainer says is by design: 'In order to be a privacy improvement over third-party cookies, the Topics API caller should learn no more than it could have using third-party cookies. This means the API shouldn't inform callers about topics that the caller couldn't have learned for itself using cookies. The topics that a caller could have learned about using cookies, are the topics of the pages that the caller was present on with that same user. This is why the Topics API restricts learning about topics to those callers that have observed the user on pages about those topics'.

- 25. We had previously discussed with Google early findings showing limitations in the topics' assignment to websites. We raised further questions about the machine learning model generating these topics, and its inputs, and understand that Google is reviewing this model and inputs.
- 26. We also note recent debate about the possible privacy implications of the Topics API, including the W3C TAG Review. We and the ICO are continuing to consider the potential impacts of the Topics API on privacy as well as market impacts, as set out in the Development and Implementation Criteria in the Commitments.

User Agent Reduction (UA-Reduction)

- 27. Certain stakeholders have expressed concerns about the implementation of UA-Reduction and User Agent Client Hints (UA-CH) and suggested that Google should delay the next phase of the roll-out.
- 28. The User Agent String (UA-String) is a text field supplied by clients (usually browsers) in communications exchanges with web servers. Chrome has been reducing the amount of information in the UA-String (through 'UA-Reduction') and instead requiring third parties to request the information through UA-CH. UA-CH reduces the default data supplied in the string whilst enabling servers explicitly to request specific more fine-grained data for certain use cases.
- 29. UA-CH has been available for adoption on Chrome for several months, and UA-Reduction is being implemented gradually. During the next phase of UA-Reduction (phase 6), the mobile device model will be replaced by the value 'K' in the UA-String. Following this change, websites will need to implement UA-CH to retrieve mobile model information.⁹ Google plans to apply this UA-Reduction to 1% of traffic from 14 February 2023 and gradually ramp-up traffic over several weeks until rollout reaches full population with 100% traffic on 11 April 2023.
- 30. We have raised three main concerns with Google:

⁹ We note that, in the short term, market participants can also sign up to a Deprecation Trial, to be able to continue to access the full UA-String by default, until May 2023. See User Agent Reduction Deprecation Trial – Chrome Developers.

- (a) Equivalence of UA-CH information with the current UA-String Some stakeholders have raised concerns that the removal of mobile device model information following UA-Reduction might hinder fraud detection and therefore lower the value of ad inventory. They also pointed out that webpages using hosting sites such as WordPress or GoDaddy have not been able to retrieve equivalent information through UA-CH. Based on the evidence provided to date, we are satisfied that all the information in the UA-String will remain available in UA-CH, as required under the Commitments. We have asked Google to respond publicly to stakeholders worried they might not be able to retrieve UA-CH signals for their specific use cases, and to clarify to them how the information can be retrieved.
- (b) Impacts on latency Some stakeholders have told us that UA-CH introduces latency, which can have an adverse effect on user experience, and provided some initial evidence of these impacts. In response, we have asked Google to publish latency measurements in its Q4 progress report (published alongside this update report) and to respond to the stakeholder concerns. Google has told us that, as UA-Reduction rampsup, if Google discovers breakages or regressions via health metrics or bug reports, it will take appropriate measures under the supervision of the CMA and proactively publish results. We will continue to monitor this situation closely, and we will ask Google to delay further reduction if there is evidence of more significant concerns over latency during rollout.
- (c) Industry preparedness Stakeholders have also suggested that levels of adoption of UA-CH may be low and, therefore, the market is not ready for the next phase of reduction. It is important that Google communicates with the market promptly and transparently about changes to its proposals. However, as noted above, Google has followed a staged approach to the adoption of UA-CH. We will continue to monitor the situation and ensure that changes to the timeline for adoption of UA-CH, and other proposals, are sign-posted clearly and well in advance.
- 31. Google has agreed to provide us with regular updates on latency metrics and evidence on industry take-up and has agreed that the rollout timeline would be extended or paused if we have significant concerns in light of either of these parameters (taking into account all relevant circumstances, including the potential sufficiency of information in the UA-String or obtained via other

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¹⁰ Footnote 3 of the Commitments states: '...before the Removal of Third-Party Cookies Google will allow publishers, advertisers and ad tech providers to make unlimited requests (and receive responses) for User-Agent Client Hints, so that all of the information available in the user-agent string as of the Effective Date would remain accessible during the period prior to the Removal of Third-Party Cookies'.

- means). Furthermore, Google has confirmed that it will use UA-CH and that it will not have access to other UA-String data which is not available to third parties following UA-Reduction.¹¹
- 32. In the longer term, we will consider the impacts of UA-Reduction and UA-CH as part of our overall assessment of the Privacy Sandbox changes at the standstill period.

IP Protection (formerly Gnatcatcher)

- 33. During the reporting period, Google also published significant design changes regarding IP Protection. Willful IP Blindness¹² will no longer be available by default and it will ultimately be unavailable to third-party trackers.
- 34. Full implementation of all IP Protection features is now not expected until 2026 at the earliest. Google still intends to introduce a 'Privacy Proxy' at some point, similar to Apple's Private Relay, that introduces two additional routing hops for browser traffic obscuring the original full user IP address while maintaining enough granularity in the IP data to identify rough geographical location for security and geo-location use-cases. Google has told us that it will manage the first hop of the two-hop proxy for the foreseeable future. We will continue to monitor this issue.

First Party Sets

- 35. As noted in previous reports, Google published updated proposals for FPS in July 2022. In Q4 2022, we queried the use cases supported by FPS subsets including 'associated sets', ¹³ and understand that Google is further reviewing the use cases that need to be supported and whether the proposed upper limit of three domains within each associated set meets this need.
- 36. Further, Google published guidelines on the developer.chrome blog on how to submit FPS to Google and created a new repository for such submissions. ¹⁴ It is not clear to us at this stage how Google will manage the administrative burden of registration and conducting technical checks via GitHub, especially with respect to cases of abuse (such as domains falsely declared as service domains). We have asked Google to provide us with further details on this.

¹¹ See paragraphs 4.267 and 5.46(b) and footnote 195 of the Commitments Decision.

¹² Mechanism by which domains either attest they will use IP addresses responsibly or are subjected to the Privacy Proxy which will only reveal a coarse IP address.

¹³ Associated sets do not require common ownership. See WICG/first-party-sets (github.com).

¹⁴ See First-Party Sets: integration guide - Chrome Developers.

Other proposals

- 37. We have also continued to discuss with Google its plans for user controls for when Privacy Sandbox becomes available for general adoption in 2023. Google has presented to the CMA its current proposed user interfaces for controls relating to Topics, FLEDGE and ad measurement APIs. Together with the ICO, we are continuing the dialogue with Google about this and what underlies current design decisions on the consent flow for opting in or out of Privacy Sandbox; and how this would compare with the consent flow for Google's own personalised advertising.
- 38. We continue to welcome market participants' feedback on this and any of the Privacy Sandbox proposals.

Actions and conclusions of the Monitoring Trustee

- 39. The Monitoring Trustee has not informed the CMA of any instances of Google being non-compliant with its obligations under the relevant paragraphs of the Commitments.
- 40. During the reporting period, the Monitoring Trustee has overseen Google's activities relating to paragraphs 25-27, 30-31, and 33 of the Commitments, including:
 - (a) Refining the controls around interactions between internal working groups involved in the design of the Privacy Sandbox.
 - (b) Continuing to monitor the approach and coverage of internal staff training for those within the relevant working groups and, in response to stakeholder feedback, increasing its focus on how Google trains and/or supports its broader employee base particularly during external interactions where Privacy Sandbox is relevant but not the focus of discussions.
 - (c) Reviewing compliance artifacts around internal decision-making processes (eg logs and records) to test whether Google's internal processes are being followed in practice, and are consistent with the Commitments (eg taking into account the Development and Implementation Criteria).
 - (d) Refining the set of repeating deliverables to improve the systematised set of materials/submissions that Google provides regularly and which represent a base level of expectations for the quarterly reporting process.

- (e) Speaking to, and reviewing submissions from, stakeholders who have raised concerns. We would generally not expect the Monitoring Trustee to respond directly to individual stakeholder feedback, but it would incorporate any relevant points into its overall review, as well as informing the CMA and/or Google as appropriate.¹⁵
- 41. As regards the Monitoring Trustee's remit in protecting against discrimination, the Monitoring Trustee has a role under Section H of the Commitments to monitor Google's compliance with the obligations in paragraphs 30 and 31 of the Commitments not to design, develop or-implement the Privacy Sandbox tools in a way that would self-preference Google. The Monitoring Trustee does not have a role to make assessments against the Development and Implementation Criteria as such (paragraph 8 of the Commitments); this is the CMA's responsibility.
- 42. We would emphasise that while the Monitoring Trustee's quarterly report represents a snapshot in time, Google is subject to continuous monitoring for the duration of the Commitments. Therefore, monitoring activities may be reported on as in progress or otherwise in the process of discussion, negotiation, investigation, or consideration, with a future road map of monitoring work at any given time.
- 43. The Monitoring Trustee has also been closely involved in the ongoing work of the Technical Expert as explained below.

Technical Expert

- 44. The Technical Expert was appointed to support the Monitoring Trustee and, in particular, aims to provide the following skills as being vital for effective monitoring of the Commitments over the medium to long-term:
 - (a) Analysing data access and flows;
 - (b) Technical access controls and security; and
 - (c) Ad tech expertise.

45 The Teehnical Evport

45. The Technical Expert has been supporting the Monitoring Trustee's work, providing advice and undertaking additional activities to test Google's compliance with the Commitments. This includes activities such as reviewing

¹⁵ Under paragraph 12 of the Commitments, 'Google will take into consideration reasonable views and suggestions expressed to it by publishers, advertisers and at tech providers, including (but not limited to) those expressed in the W3C or any other fora, in relation to the Privacy Sandbox proposals, including testing, in order to better apply the Development and Implementation Criteria in the design, development and implementation of the Privacy Sandbox proposals'.

- technical arguments and rationale to support specific key internal decisions and assessing access controls for individuals and groups within the relevant working groups.
- 46. Although the Monitoring Trustee has been primarily coordinating and managing input from the Technical Expert, and as such retains the primary responsibility for advising us on relevant matters, we have also started a direct dialogue between the Technical Expert and our testing and trialling team. We have found this discussion to be beneficial in consolidating and sharing technical expertise on areas of potential overlap between design and monitoring (eg views from stakeholders on practical implications of Google's design choices), and we intend to continue this in future periods.

Engagement with market participants

- 47. We are continuing to engage with market participants in the wider online advertising ecosystem to ensure that we become aware of, and understand, concerns about the Privacy Sandbox tools and their impact.
- 48. It is important to note that our own stakeholder engagement is not intended as a substitute for market participants' direct interactions with Google, and we would encourage participants to raise substantive concerns through existing channels including W3C. Google is required under the Commitments to respond to reasonable views and suggestions, as summarised in Google's quarterly report which is published alongside this document. It is important that Google responds substantively to feedback, and we will highlight to Google where we do not consider that they have provided an adequate response and ensure that they do so.
- 49. Since the publication of the CMA's previous report, in October 2022, we have engaged with a range of publishers, browsers and ad tech intermediaries. Concerns raised throughout the stakeholder engagement process have been raised with Google, and directly informed our role overseeing the design and implementation of its proposals.
- 50. In addition to the design-related issues and responses to the CMA's note on quantitative assessment mentioned above, we heard a range of concerns from stakeholders related to Google's ongoing development of its Privacy Sandbox proposals.
- 51. One stakeholder has said that there is no public evidence that Google is undertaking detailed work in balancing the Development and Implementation Criteria in paragraph 8 of the Commitments. In particular, the stakeholder has said that Google has not yet meaningfully applied in its quarterly progress

- reports the Development and Implementation Criteria, one of which is the impact on privacy outcomes and compliance with data protection principles as set out in the Applicable Data Protection Legislation.
- 52. We note that Google is, in fact, undertaking the work suggested, ie it is applying the Development and Implementation Criteria at the design stage of the Privacy Sandbox tools, and is sharing this analysis with us on a regular basis. We have discussed this material with Google during our regular status meetings in line with paragraph 17(b) of the Commitments. However, we also agree that Google needs to ensure that this assessment against the Development and Implementation Criteria is set out more clearly at appropriate points in its public announcements on Privacy Sandbox developments, and we will work with Google over the coming period to increase transparency.
- 53. Some stakeholders have raised concerns related to ongoing standardisation efforts within W3C, in particular that:
 - (a) proposals are being hosted in Google-dominated groups and therefore not receiving proper cross-industry scrutiny;
 - (b) that Google is rushing through proposals without proper consensusbuilding in order to meet published timelines; and
 - (c) that websites might break on non-Chrome web browsers if efforts to standardise Privacy Sandbox tools are unsuccessful.
- 54. Other stakeholders have noted that ongoing uncertainty around the timeline for Chrome's deprecation of third-party cookies is having a chilling effect on the nascent market for alternative cookie-less solutions.
- 55. We are continuing to discuss these issues with Google and other stakeholders, and will continue to monitor developments in W3C over the next reporting period. We also plan to continue our engagement with market participants to inform our approach to testing and assessment going forward.

Engagement with the ICO and international authorities

- 56. The ICO has continued to work actively alongside us in implementing the Commitments. This has included:
 - (a) Continuing to engage with us and Google in discussions on the development of the Privacy Sandbox tools to address concerns about competition and data protection impacts at the design stage, including in relation to user controls:

- (b) Continuing to work with us on plans for the wider assessment of the Privacy Sandbox tools through testing and trialling in particular, to assess the likely impacts on privacy of Google's changes; and
- (c) Assessing proposed alternative technologies to targeting.
- 57. As Google has stated that it intends to apply the Privacy Sandbox changes globally, we have continued to provide regular updates to other international competition and data protection authorities on the progress of implementing the Commitments to promote consistency of approach.

Current views and next steps

- 58. Based on the evidence we currently have available, we consider that Google has complied with the Commitments.
- 59. The key activities that we are planning to focus on during the next reporting period include:
 - (a) Continuing to engage with Google on the design and development of its Privacy Sandbox proposals, focusing on the Topics API and FPS in particular. Our aim is to ensure that any competition concerns are addressed as part of the design process, and that Google's Privacy Sandbox proposals meet the Development and Implementation Criteria in paragraph 8 of the Commitments.
 - (b) Continuing to engage with market participants to identify any concerns, challenge Google over its proposed approaches where appropriate and explore ways of addressing these issues through alternative designs of the Privacy Sandbox tools. As part of this, we continue to monitor discussions in relevant fora such as W3C. It is important that Google responds to substantive stakeholder concerns, raised both through these existing fora and through other routes.
 - (c) Progressing plans for testing the effectiveness of the Privacy Sandbox tools, including working with Google to publish results of its own initial tests, and continuing to engage with third parties on running broader industry-wide tests once the Privacy Sandbox tools are sufficiently developed.
 - (d) Monitoring Google's internal processes and controls for sharing information and data relating to the Privacy Sandbox, as well as how the Privacy Sandbox is discussed externally.

- 60. We are continuing to encourage those who plan to eventually adopt and use the Privacy Sandbox technologies to engage early with any testing they have the capability to carry out.
- 61. We are planning to publish the next report in April 2023.

Contact details

- 62. We would welcome views from members of the online advertising ecosystem on this report, as well as on any other relevant publications (eg Google's own quarterly reports). The relevant contact details are:
 - (a) **CMA:** privacysandbox@cma.gov.uk; matthew.allsop@cma.gov.uk; angela.nissyrios@cma.gov.uk; and chris.jenkins@cma.gov.uk.
 - (b) Monitoring Trustee (including communications for the Technical Expert): trustee.services@ing.com; matthew.hancox@ing.com; and david.verroken@ing.com.
 - (c) Google: Feedback Chrome Developers.

Annex 1 – current proposals in the Privacy Sandbox

At the time of publication, the list of proposals in the Privacy Sandbox include:

- 1. Use Case: Fight spam and fraud on the web
 - (a) Private State Tokens (previously Trust Tokens)
- 2. Use Case: Show relevant content and ads
 - (a) Topics
 - (b) FLEDGE
- 3. Use Case: Measure digital ads
 - (a) Attribution Reporting
- 4. Use Case: Strengthen cross-site privacy boundaries
 - (a) First Party Sets
 - (b) Shared Storage
 - (c) CHIPS
 - (d) Fenced Frames
 - (e) Federated Credential Management
- 5. Use Case: Prevent covert tracking
 - (f) User Agent Reduction (including User-Agent Client Hints)
 - (g) DNS-over-HTTPS
 - (h) IP Protection (previously Gnatcatcher)
 - (i) Privacy Budget
 - (j) SameSite cookies
 - (k) Storage Partitioning
 - (I) HTTP Cache Partitioning
 - (m) Network State Partitioning
 - (n) Bounce Tracking Mitigations