# CMA update report on implementation of the Privacy Sandbox commitments

July 2023

CMA

Competition & Markets Authority

# CMA Q2 2023 update report on implementation of the Privacy Sandbox commitments

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## Summary

1. This report updates 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**). The report summarises the progress made in Q2 2023. We do not repeat points made in previous reports unless they continue to raise issues that we intend to explore further.

2. Google intends to remove third-party cookies from Chrome in the second half of 2024. Although the timeline for removal of third-party cookies has been set by Google, we are keen to ensure there are no further delays in the process, provided that our competition concerns are addressed. Our aim through the Commitments is to ensure any competition concerns are addressed in the design of the Privacy Sandbox tools and that we gather evidence of the likely impacts of the changes by the middle of 2024. This includes evidence from tests of the tools conducted by Google and other market participants.

3. Based on the available evidence, we consider that from 1 April 2023 to 30 June 2023 (the relevant reporting period), Google has complied with the Commitments. Any developments in July 2023 will be covered in our next update report.

4. Building on the priorities for Q2 2023, as set out in our last update report, in Q3 2023 we intend to focus on the following:

    (a) Engaging with Google on the design and development of its Privacy Sandbox proposals with a particular focus on First Party Sets (FPS), Protected Audience API (previously FLEDGE) and Attribution Reporting API. We are also continuing to ensure that Google applies the Development and Implementation Criteria in paragraph 8 of the Commitments in the design of its proposals.

    (b) Continuing to engage with a range of market participants (with a particular focus this quarter on publishers, advertising agencies and civil society groups) to identify any concerns with Google's Privacy Sandbox proposals, challenging Google where appropriate, and exploring ways of addressing concerns through alternative designs. We will be continuing to

participate in W3C's Private Advertising Technology Community Group as part of this outreach.

*(c)* Working with Google to ensure it continues its own tests, and encouraging market participants to carry out their own testing of the Privacy Sandbox tools. In particular, we are keen to hear views of market participants on our recently published guidance on testing.[1]

*(d)* Working with the Monitoring Trustee and Technical Expert to analyse Google's internal systems, particularly around data access and flows. This is a multi-period activity to ensure that Google is in a position to comply with the data use obligations in Section G of the Commitments upon third-party cookie deprecation.

5.      Market participants who have concerns about the design and implementation of the Privacy Sandbox should continue providing feedback to us using the contact details 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.

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[1] CMA guidance to third parties on testing, June 2023.

# *Dashboard*

**Dashboard: summary of CMA view on current position, April-June 2023**

| Relevant section of Commitments | Compliance | Level of focus by CMA[2] | 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 Attribution Reporting API)<br><br>• Ensuring Google continues to respond to stakeholder concerns. | • Continue to engage with market participants on development of individual proposals (eg FPS)<br>• Following up on our recently published guidance on testing |
| **E - Involvement of the CMA in the Privacy Sandbox proposals** | **Compliant** | **Higher focus** | • Continue to develop framework for testing and trialling<br>• Continue to engage on design issues including approach to Topics, Attribution Reporting API, FPS & Bounce Tracking Mitigation<br>• Bring in views from external experts and third parties | • Encourage testing and trialling by Google and other market participants<br>• Engage on design issues including approach to FPS, Protected Audience API and Attribution Reporting API |
| **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** | • Build deeper understanding of Google's internal data control systems (particularly focusing on systems relevant to paragraph 25 and 27)<br>• Working to ensure that necessary data use protections are fully implemented well in advance of third-party cookie deprecation | • Continue to build deeper understanding of Google's internal data control systems (particularly those relevant to paragraph 26)<br>• 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** | • Systematise recurring elements of reporting on Section H measures<br>• Further testing Google's internal decision-making process, particularly at key decision points<br>• Continue to apply technical knowledge to monitoring artifacts and logs | • Continue to review any discrimination concerns around technologies moving to General Availability<br>• Engage further with Google to understand how developments particularly around FPS and Trusted Execution Environments align in this context<br>• 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<br>• Prepare for next monitoring report(s) |

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

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[2] 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*

6. The aim of testing and trialling is to gather evidence on the likely impacts of the Privacy Sandbox tools before a final decision is taken on whether to remove third-party cookies.

### *Testing framework*

7. Under the Commitments, Google is required to test quantitatively, where feasible, the Privacy Sandbox tools according to a set of Development and Implementation Criteria, which include impacts on competitive market outcomes in the digital advertising market.[3]  A significant focus of our activity this period has been working with Google on how it will test the Privacy Sandbox tools, as set out further below. We will continue to work with Google on its testing programme over the coming period and ensure that Google will publish the results and methodology of tests that are material to evaluating the effectiveness of the Privacy Sandbox proposals at Annex 1.

8. However, we recognise that Google cannot comprehensively observe impacts across the market as a whole, which means that evidence from third party market participants will also form an important part of our assessment.

9. In June 2023, we published guidance outlining how market participants can run their own experiments of the Privacy Sandbox tools and submit their results to the CMA in advance of its assessment.[4] This guidance builds on proposals from our November 2022 note on quantitative testing of Google's Privacy Sandbox technologies and the feedback we received on from market participants (which we discussed in our last update report).[5]

10. The testing guidance clarified three points:

    (a) details of two experimental designs the CMA proposes market participants use to test the impact of the Privacy Sandbox;

    (b) how these two designs align with two Chrome-facilitated testing environments Google intends to launch later this year to help third parties run experiments;[6] and

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[3] The Commitments, paragraphs 8.a to 8.e and 17.c.
[4] CMA guidance to third parties on testing, June 2023.
[5] Quantitative testing of Google's Sandbox technologies, November 2022.
[6] See the announcement The next stages of Privacy Sandbox: General availability and supporting scaled testing; and accompanying developer blog post Preparing to ship the Privacy Sandbox relevance and measurement APIs - Chrome Developers.

*(c)* how market participants can submit their results and accompanying background information to the CMA.

11. In our last update we highlighted that we had brought an external expert on board, Dr Garrett Johnson, to help us develop the framework for quantitative testing by both Google and third parties. We used Dr Johnson's expertise in developing the three aspects of our guidance listed in paragraphs 10(a) to 10(c) above, and to ensure that the testing framework we have proposed incorporates best practices in quantitative testing.

12. As we outlined in our previous update report, we do not envisage a single industry-wide test of the Privacy Sandbox, nor do we intend to oversee market participants' experiments and prescribe which technologies they should test. In our guidance, we have outlined experimental designs and a set of metrics we consider most likely to yield meaningful results.

13. However, testing the Privacy Sandbox can be time consuming, costly, and complex. Third-party testers should therefore incorporate and test the Privacy Sandbox technologies that make sense for their businesses, and run quantitative tests that market participants themselves, and not just the CMA, will find useful. This will allow us to understand as well as possible how the Privacy Sandbox might impact the digital advertising market.

14. While we are seeking to supplement Google's quantitative testing with results from third-party testing, this is not the sole source of evidence we will rely on to assess the wider market impacts of the Privacy Sandbox. Throughout our investigation, we have engaged with market participants and technical experts to gather evidence on their experiences with the Privacy Sandbox. We will continue to gather this evidence as the technologies move into General Availability from Q3 2023.

15. During the reporting period, we also engaged with market participants to gather feedback on Google's framework for testing, so that we can incorporate a wide range of industry expertise into our assessment. More recently, we engaged with market participants on test results Google published from its experiment testing the impact of the Topics API on interest-based advertising (see paragraphs 17 and 18 below for more detail), which has helped us view Google's results in the correct context. Again, we will continue this type of engagement as testing picks up.

16. Google intends to conduct its quantitative testing as the Topics, Protected Audience (previously FLEDGE), and Attribution Reporting APIs move to General Availability from Q3 2023. We encourage market participants to also engage with testing during this phase, and submit their results to the CMA as

early as possible, and at the latest **by the end of Q2 of 2024** to enable us to include them in our assessment during the Standstill Period.[7] Figure 1 below illustrates the proposed testing timeline.

**Figure 1: A visualisation of the proposed testing timeline**
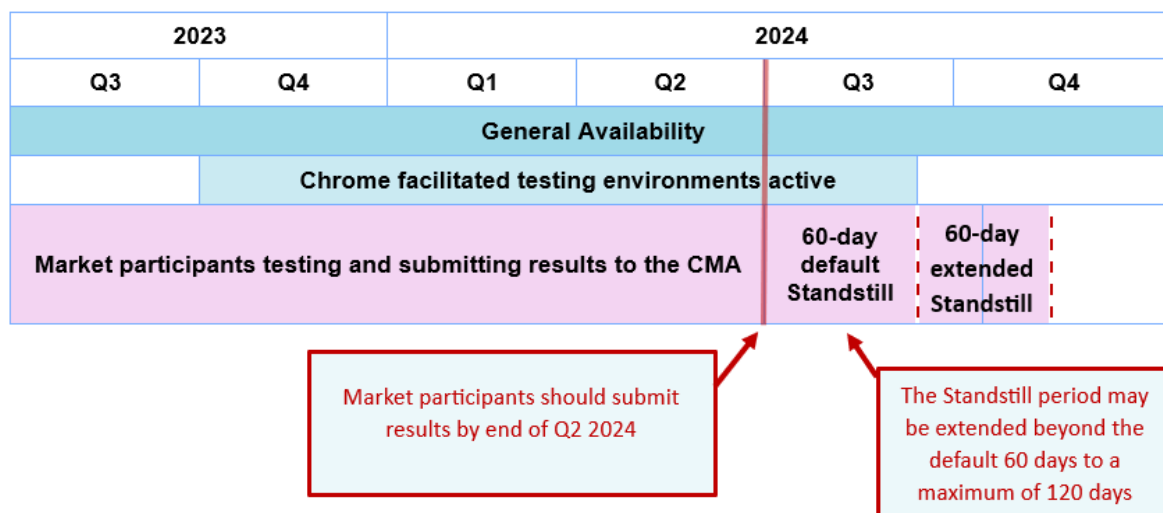


*Google's tests*

17.     We also noted in our last report that Google published results from its internal test of the Topics API.[8] The test compared the effectiveness of Google Ads' interest-based advertising using the Topics API (in combination with other privacy-preserving signals) and using third-party cookies. As we described in paragraph 15 above, some market participants told us that they felt the results of this test were not representative of how effective the Topics API would be for others in the market, and that the test showed the effectiveness of Google's other systems, such as its machine learning capability, rather than the utility of the Topics API in isolation. We also heard that, in future, market participants would find it useful to see more information on the data underlying Google's results and the metrics it used.

18.     We would like to reiterate that the main purpose of publishing the test results and methodology of Google's interest-based audience solutions Q1 test was not to provide evidence on the final effectiveness of the Topics API, but to

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[7] Under the Commitments (paragraph 19), Google will not remove third-party cookies before the expiry of a standstill period of no less than 60 days after Google notifies the CMA of its intention to implement their removal (the '**Standstill Period**'). We will perform our assessment of the Privacy Sandbox technologies during the Standstill Period to determine whether any competition concerns remain. The Standstill Period can be extended to a total of 120 days at the CMA's request.

[8] See the blog post here: Results from Google Ads' interest-based advertising testing (blog.google); and the accompanying whitepaper here: ads-privacy/Testing IBA with Privacy Preserving Signals.pdf at master · google/ads-privacy · GitHub.

provide the ecosystem with an insight into what and how Google was testing internally.

19.    Google is currently running internal tests of the Attribution Reporting API that are mainly seeking to understand its functionality. Although Google does not currently intend to publish these results, we have discussed the feedback we received on the Topics API test and will use it to inform our approach to our engagement with Google as they test more of the Privacy Sandbox tools. In particular, we would want Google to publish as much detail as possible of methodology and results and be clear on the caveats and limitations of any tests in their public reporting.

### Design issues

20.    As mentioned above, Google is intending to move most proposals (except IP Protection[9] and Privacy Budget) to General Availability as of Q3 2023.[10]

21.    We continue to hold detailed discussions with Google on the key Privacy Sandbox APIs. During these discussions, we are continuing to raise with Google points that stakeholders put to us during the reporting period, including 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.

### Topics API

22.    Following discussions with Google on stakeholder concerns about the utility of the initial 350-topic taxonomy, Google updated and expanded its Topics API taxonomy in June 2023 to 469, replacing 160 categories that were not considered useful. As mentioned in our previous report, although some larger publishers raised concerns that this would increase competitive pressure on their first-party data solutions, we believe that greater utility is better for competition overall as it allows smaller publishers to continue monetising their inventory.

23.    Stakeholders have also raised some concerns that the taxonomy is managed only by Google and therefore the industry must adhere to Google's choices of categories.  Google recently updated that they expect the taxonomy to evolve over time, and that governance of the taxonomy will eventually transition to an

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[9] IP Protection is an updated Privacy Sandbox proposal that supersedes Gnatcatcher.
[10] privacysandbox.com/open-web/#the-privacy-sandbox-timeline (accessed 24 July 2023).

external party representing stakeholders from across the industry.[11] As such, we are content that this issue is being appropriately progressed.

24.     In our previous report, we also noted that Google was considering an improved Topics API classifier that would include page titles. However, this approach has now been abandoned by Google for the foreseeable future due to critical privacy concerns that were created by the use of the page titles. Although some stakeholders have fed back that the taxonomy does not cover more niche categories and that a function such as the classifier would help, we recognise the privacy concerns that Google has identified, and our current view is that Google's approach is likely a sensible route forward.

25.     The Topics API is therefore substantially progressed for General Adoption, but we will continue to monitor its progress and listen to any concerns and raise these with Google.

*Protected Audience API (previously FLEDGE)*

26.     Since our last update report, Google has significantly expanded the specifications of, and use cases for, the off-device server architecture intended to support the operation of the Protected Audience API.

27.     These include the bidding and auction server and the key-value server providing off-device functionality via Trusted Execution Environments (TEE). Although we welcome the additional scope for API functionality, we are also aware of concerns that this would create additional costs for ad tech firms. While in principle firms could use the Protected Audience API on-device and avoid these costs, in practice given the benefits (and use cases) Google has identified, we believe that the server infrastructure may benefit stakeholders who wish to participate in ad auctions and compete via the Protected Audience API.

28.     The approved trusted servers' designs are currently limited to specific cloud providers, namely Amazon Web Services (AWS) and Google Cloud Platform (GCP). Although Google has indicated it plans to release designs for other cloud providers, at present this may prevent businesses invested in other cloud solutions from engaging with the API. Moreover, any stakeholders who primarily use on-premises infrastructure are likely to be prevented from deploying the server architecture locally.

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[11] See Chrome Developers Blog, 'Enhancements to the Topics API' (Accessed 25 July 2023).

29.     We invite further feedback from market participants regarding Google's planned off-device infrastructure which is intended to support the operation of the Protected Audience API.

*Attribution Reporting API*

30.     We are interested in understanding further the impact of the current specification of the Aggregation Service that is required to be deployed in a TEE. The TEE is deployed on a cloud service to ensure that the necessary security measures to protect the data are applied. It is a key aspect of the Attribution Reporting API and will be mandatory for those wishing to utilise Summary Reports as part of the API. Similarly to the server architecture proposed for Protected Audience API, given the resources required to build and maintain this server and the fact it will be mandatory for Summary Reports, we are keen to hear from market participants on how they will be approaching this issue – for example, whether or not they will be investing in building the server and, if not, how they otherwise plan to move forward.

31.     We understand Google is planning to publicly announce more details about the Aggregation Service coordinators in the coming months.  We will continue monitoring developments and we look forward to hearing feedback from stakeholders about Google's plans.

*First Party Sets (FPS)*

32.     We have raised ongoing concerns with Google regarding the FPS submission process and governance. Since the 'live' submissions site re-launched, uptake has been minimal. To date only five identifiable entities have submitted initial FPS on the GitHub repository.

33.     Irrespective of GitHub's capability for handling large numbers of requests, we have raised questions about Google's preparedness for the administrative burden when the bulk of market participants will be compelled to submit their FPS to the site. It is clear from the linked requests and discussions already initiated by the handful of submitters on the GitHub repository that there remain questions and problems in the process likely to require human attention from Google's side. This is a modest problem with only five submissions at present, but we have asked Google to clarify how similar issues would be handled at scale.

34.     Similarly, it is not yet clear how Google will manage complaints at scale regarding potential abuses of FPS. Google has indicated that it intends to maintain a light-touch 'hands off' approach to the governance of FPS.

35.    Finally, the FPS specification continues to evolve and has adapted to some stakeholder feedback. We are monitoring developments and continuing to discuss the design with Google, ICO and market participants.

*Bounce Tracking Mitigation (BTM)*

36.    Google has published a blog inviting interested parties to test and feedback on the current design of BTM. The mitigations will be applied in Q3 2023 to Chrome users who have either opted to block third-party cookies or are using Incognito Mode. We invite market participants to test it and feedback to both Google and the CMA with any concerns.

37.    Overall, we continue to welcome market participants' feedback on any of the Privacy Sandbox proposals.

### Actions and conclusions of the Monitoring Trustee

38.    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.

39.    During the reporting period, the Monitoring Trustee has overseen Google's activities relating to paragraphs 25-27, 30-31, and 33 of the Commitments. These activities are largely a continuation of, and build upon, the work undertaken in the last period, including:

   *(a)*  Further refining the controls around interactions between internal working groups involved in the design of the Privacy Sandbox.

   *(b)*  Continuing to review compliance artifacts around internal decision-making processes (eg logs and records) to test whether Google's internal processes are being followed in practice.

   *(c)*  Building a deeper understanding of Google's internal data control systems in order to robustly test Google's proposals to address its commitments on Chrome browsing history, Google Analytics data, and ad inventory on websites not owned and operated by Google. These commitments only apply after Chrome ends support for third-party cookies, but we are working to ensure that these controls are fully implemented well in advance of third-party cookie deprecation. During the reporting period, the Monitoring Trustee's work focused on: (i) verifying the technical tools and controls which Google intends to use to enforce its Commitments regarding Chrome browsing history, and (ii) reviewing the process flows which Google intends to use to enforce its Commitments regarding ad

inventory on websites not owned and operated by Google, and the deliverables that Google will produce to the Monitoring Trustee to evidence its compliance.

(d) Developing plans to investigate data flows within Google to ensure that the data controls are effective in practice (eg addressing potential risks arising from data use from any secondary storage locations).

(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.[12]

40. Although 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.

41. As explained below, the Monitoring Trustee has been working closely with the Technical Expert, as well as with the CMA. Submissions (or extracts of submissions) from stakeholders which are relevant to multiple elements of the compliance regime are frequently shared between the CMA, Monitoring Trustee, and Technical Expert to ensure that they are fully addressed.

### Technical Expert

42. As mentioned in previous update reports, the Technical Expert aims to support the Monitoring Trustee by providing the following skills which are vital for effective monitoring of the Commitments:

(a) Analysing Google's data access and flows;

(b) Analysing technical access controls and security; and

(c) Providing general ad tech expertise and advice.

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[12] Under paragraph 12 of the Commitments, 'Google will take into consideration reasonable views and suggestions expressed to it by publishers, advertisers and ad 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'.

43. We have also continued our direct dialogue with the Technical Expert. Discussions have focused primarily on market trends and issues concerning the design and implementation of Google's Privacy Sandbox proposals.

### *Engagement with market participants*

44. 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.

45. 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 it has provided an adequate response and ensure that it does so.

46. Since the publication of the CMA's last report, in Q2 2023, our engagement has had a particular focus on advertisers, SSPs, and civil society groups. 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. The following feedback is not exhaustive of issues raised over the reporting period.

47. Some advertisers raised concerns that:

    (a) Privacy Sandbox might negatively impact smaller advertisers – for example, if the Topics API is not granular enough for niche advertisers to utilise;

    (b) The Attribution Reporting API further adds to the range of unstandardised measurement solutions in industry, which limits the ability to compare ad performance across platforms;

    (c) There is limited direct engagement by advertisers in W3C, and advertiser interests may not be sufficiently taken into account in the discussions.

48. Certain SSPs raised concerns that:

    (a) The Privacy Sandbox does not fully deliver on brand advertising use cases, for example due to limitations in ability of advertisers to cap frequency with which they appear to consumers;

*(b)* The Protected Audience API is likely to be costly and time consuming to implement;

*(c)* The Protected Audience API might be designed in such a way as to preference Google Ad Manager;

*(d)* Running Privacy Sandbox alongside openRTB might be prohibitively difficult due to delays monitoring budget spend.

49. Companies developing alternative cookie-less technologies expressed concern that Google's anti-fingerprinting proposals (such as BTM) might foreclose their business interests. We continue to engage with Google on this point and are keen to ensure the opportunity for alternative privacy-preserving technologies to develop.

50. A consumer group told us that the current Topics API consent screen was unclear. They also highlighted the importance of Google's proposed 'anti-fingerprinting' technologies for improving user privacy. Further, they highlighted greater privacy concern with respect to retargeting use cases (eg Protected Audience API) than measurement tools (eg Attribution Reporting API).

51. Others across the digital advertising ecosystem raised concerns that statements issued by senior managers at Google have not sufficiently referred to the Commitments process and conditionality of third-party cookie deprecation, and that engagement with Google does not always lead to follow-ups and design improvements.

52. We shared the above concerns and comments with Google during the reporting period. Google has provided responses to each point, in addition to feedback received directly, in its Q2 2023 report.

53. Through the course of our engagement, we also heard concerns related to Google's proposed Android Privacy Sandbox. As previously noted, Google's Android developments are not included within the scope of Google's Commitments agreed with the CMA, although we have passed on feedback to Google where appropriate.

54. As of April, members of our case team joined W3C's Private Advertising Technology Community Group to observe the ongoing debate.

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. Given the global nature of Google's developments, we welcome feedback from organisations both within and outside the UK.

56. We have continued to work together with the ICO in implementing the Commitments. The ICO's role has included:

    *(a)* Participating in discussions with us and Google on the development of the Privacy Sandbox tools, analysing data protection impacts with a specific emphasis on user controls;

    *(b)* Continuing to work with us on plans for the wider assessment of the Privacy Sandbox tools, including assessing privacy impacts; and

    *(c)* Engaging with market participants on proposed alternative technologies to targeting.

57. We have also continued to engage with our international counterparts and data protection authorities on the implementation of the Commitments in an effort to identify any issues of common concern and ensure consistency of approach.

# Current views and next steps

58. Based on the available evidence, we consider that Google has been compliant with the Commitments.

59. Over the next three months, we are planning to focus on the following activities:

    *(a)* Engaging with Google on the design and development of its Privacy Sandbox proposals with a particular focus on First Party Sets (FPS), Protected Audience API (previously FLEDGE) and Attribution Reporting API. We are also continuing to ensure that Google applies the Development and Implementation Criteria in paragraph 8 of the Commitments in the design of its proposals.

    *(b)* Continuing to engage with a range of market participants (with a particular focus this quarter on publishers, advertising agencies and civil society groups) to identify any concerns with Google's Privacy Sandbox proposals, challenging Google where appropriate, and exploring ways of addressing concerns through alternative designs. We will be continuing to participate in W3C's Private Advertising Technology Community Group as part of this outreach.

    *(c)* Working with Google to ensure it continues its own tests, and encouraging market participants to carry out their own testing of the Privacy Sandbox

tools. In particular, we are keen to hear views of market participants on our recently published guidance on testing.[13]

*(d)* Working with the Monitoring Trustee and Technical Expert to analyse Google's internal systems, particularly around data access and flows. This is a multi-period activity to ensure that Google is in a position to comply with the data use obligations in Section G of the Commitments upon third-party cookie deprecation.

60. We are planning to publish our next update report and Google's quarterly update in October 2023.

# Contact details

61. 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.

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[13] CMA guidance to third parties on testing, June 2023.

# 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**

*(b)* Topics

*(c)* Protected Audience (previously FLEDGE)

**3.    Use Case: Measure digital ads**

*(d)* Attribution Reporting

**4.    Use Case: Strengthen cross-site privacy boundaries**

*(e)* First Party Sets

*(f)* Shared Storage

*(g)* CHIPS

*(h)* Fenced Frames

*(i)* Federated Credential Management

**5.    Use Case: Prevent covert tracking**

*(j)* User Agent Reduction (including User-Agent Client Hints)

*(k)* DNS-over-HTTPS

*(l)* Storage Partitioning

*(m)* Network State Partitioning

*(n)* IP Protection (previously Gnatcatcher)

*(o)* Privacy Budget

*(p)* Bounce Tracking Mitigations