

# Guidance on the use of storage and access technologies impact assessment - DRAFT

December 2024

**ico.**

Information Commissioner's Office



# Contents

|  |    |
|--|----|
| Executive summary.....   | 1  |
| 1. Introduction .....  | 4  |
| 1.1. Our approach to impact assessment .....                   | 4  |
| 1.2. Report structure .....                                    | 5  |
| 2. Problem definition .....                                    | 6  |
| 2.1. What are storage and access technologies? .....           | 6  |
| 2.2. Problem definition .....                                  | 6  |
| 2.3. Use of storage and access technologies within the UK..... | 8  |
| 3. Rationale for Intervention .....                            | 16 |
| 3.1. Data protection (DP) harms.....                           | 16 |
| 3.2. Policy Context.....                                       | 18 |
| 3.3. Market failures .....                                     | 20 |
| 3.4. Summary of rationale for intervention .....               | 21 |
| 4. Options appraisal.....                                      | 22 |
| 4.1. Options for consideration .....                           | 22 |
| 4.2. Assessment of options .....                               | 22 |
| 5. Detail of proposed intervention.....                        | 24 |
| 5.1. The guidance .....  | 24 |
| 5.2. Scope of draft guidance .....                             | 27 |
| 5.3. Guidance timeline .....                                   | 27 |
| 5.4. Affected groups.....                                      | 28 |
| 6. Cost-benefit analysis .....                                 | 32 |
| 6.1. Identifying impacts .....                                 | 32 |
| 6.2. Counterfactual .....                                      | 32 |
| 6.3. Costs and Benefits .....                                  | 34 |
| 7. Monitoring and review.....                                  | 40 |
| Annex A: What are storage and access technologies?.....        | 41 |
| Annex B: Measurement of affected groups .....                  | 43 |
| Annex C: Familiarisation costs .....                           | 45 |

## Executive summary

This draft impact assessment accompanies our draft guidance on the use of storage and access technologies. The overarching objectives of the guidance are to provide regulatory certainty to organisations:

- on compliant practices for using storage and/or access to information on a device;
- in the application and use of consent mechanisms, where required; and
- regarding our expectations when they are using storage and access technologies.

This document sets out our initial impact findings for consultation, alongside consultation on the draft guidance itself. It is important to note that this isn't an exhaustive assessment, and we will develop our analysis further as we move towards publication of the final guidance based on information and feedback received. We are seeking feedback on this draft impact assessment, as well as any other information and insights stakeholders can provide on impacts through the consultation process.

## Problem definition and rationale for intervention

Storage and access technologies refer to any technology that stores information, or accesses information that is stored on a subscriber or user's 'terminal equipment' (for instance a smartphone or laptop). This is explained further in Annex A, and includes, but is not limited to:

- cookies;
- tracking pixels;
- link decoration and navigational tracking;
- scripts and tags;
- web storage; and
- device fingerprinting.

Since our current guidance was produced in 2019 there have been important developments in relation to storage and access technologies. As a result, our guidance no longer reflects current market practices and has given rise to a need for greater regulatory certainty.

The ICO is well placed to provide this regulatory certainty and reduce the risk of harms materialising to individuals and wider society from the use of storage and access technologies. With the growing adoption of these technologies across the economy it is expected that without intervention the potential for these harms will rise.

## Options appraisal

In the context of the identified problem, the following options for intervention were considered:

- **Do nothing:** Do not update the current version of the detailed cookies guidance, published in 2019.
- **Provide a significant update to guidance (preferred option):**  
Provide a significant update to the detailed cookies guidance, that will:
  - Clarify and expand on established policy positions where we can provide further regulatory certainty.
  - Provide equal weight to “similar technologies” (such as web storage and scripts and tags) alongside cookies by renaming the guidance products and providing new examples.
  - Provide clarity by using the new style guide and must / should / could framework.
- **Provide a light update to guidance (do less):** Provide a light update to the detailed cookies guidance, that will:
  - Provide clarity by using the new style guide and must / should / could framework.
- **Provide sector specific guidance (do more):** Provide sector specific guidance and/ or detailed device-specific guidance.

These options were assessed against a number of critical success factors and the production of a significant update to guidance was identified as the preferred option. The preferred option ensures that guidance on storage and access technologies reflects the current use of technology and reduces the risk of the ICO being challenged on outdated guidance.

## Details of proposed intervention

The update to the ‘guidance on the use of cookies and similar technologies’ will expand on existing guidance, reframing it as ‘guidance on the use of storage and access technologies’. The guidance is aimed at providers of online services, including web or app developers, who need a deeper understanding of how PECR (Reg 6) and UK GDPR (where the use of these technologies involves the processing of personal data) apply to the use of storage and access technologies. It provides greater regulatory certainty by setting out what organisations must, should, and could do to comply with legislative requirements within the ICO’s remit or relevant established case law.

The route to impact for the guidance is set out in the theory of change in Figure 1 in Section 5. There are various groups that could be affected by the guidance including:

- Online service providers: Organisations that use storage and access technologies for essential and non-essential purposes;

- Supply chain: Organisations that interact with and assist in collection and processing of information stored and/or accessed on online services; using storage and access technologies;
- UK organisations: Organisations that use online advertising;
- UK population users: People who interact with online services that use storage and access technologies;
- The ICO; and
- Wider society.

## Cost-benefit analysis

The costs and benefits of the intervention have been identified, as far as is possible and proportionate. Our ability to fully quantify and monetise impacts has been limited given the evidence gaps around the scale of affected groups.

We will develop our cost-benefit analysis further as we move towards publication of the final guidance based on information and feedback received through the consultation process.

Although there will be costs to organisations from reading, understanding and implementing the guidance, this is expected to be outweighed by the wider societal benefits of reduced data protection harms. On balance we expect the guidance to have a net positive impact.

## Monitoring and evaluation

An appropriate and proportionate review structure will be put in place when finalising our guidance. This will follow best practice and align with our organisational reporting and measurement against ICO25 objectives.

# 1. Introduction

This document sets out a draft impact assessment of our proposed intervention to increase regulatory certainty around the ICO's expectations around storage and access technologies. This intervention involves a significant update to the current 'guidance on cookies and similar technologies' in line with PECR (Reg 6)<sup>1</sup> and UK GDPR<sup>2</sup> (where the use of these technologies involves the processing of personal data), involving the following changes:

- It aims to clarify and reference the range of storage and access technologies that are widespread today alongside cookies, using examples throughout.
- The guidance has been rewritten using "must", "should", or "could" language to provide regulatory clarity to readers.
- The guidance reflects recent case law and ICO positions on key topics, including on our expectations for online advertising.

The purpose of impact assessment is to improve regulatory interventions and policy-making by:

- informing decision-makers about potential economic, social, and (where relevant) environmental ramifications;
- providing a mechanism to consider the impact of interventions on a range of stakeholders, including different groups of citizens and organisations;
- improving the transparency of regulation by explicitly setting out the intervention theory of change and the quality of underlying evidence;
- increasing public participation in order to reflect a range of considerations, improving the legitimacy of policies;
- clarifying how public policy helps achieve its goals and priorities through policy indicators; and
- contributing to continuous learning in policy development by identifying causalities that inform ex-post review of interventions and improve future policy-making.

## 1.1. Our approach to impact assessment

This document sets out our initial impact findings. It is important to note that this isn't an exhaustive assessment, we will develop our analysis further as we move towards publication of the final guidance based on information and feedback received. We are seeking feedback on this draft impact assessment, as

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<sup>1</sup> UK Government (2003) *The Privacy and Electronic Communications (EC Directive) Regulations 2003*. Available at: <https://www.legislation.gov.uk/ukxi/2003/2426> (accessed 13 December 2024).

<sup>2</sup> UK Government (2016) *Regulation (EU) 2016/679 of the European Parliament and of the Council*. Available at: <https://www.legislation.gov.uk/eur/2016/679/contents> (accessed 13 December 2024).

well as any other information and insights stakeholders can provide on impacts through the consultation process.

We have assessed the potential impacts of the updated guidance using cost-benefit analysis, which aims to identify the full range of impacts by assessing both the costs and benefits individually. Our approach follows the principles set out in the ICO's Impact Assessment Framework,<sup>3</sup> which in turn is aligned with HM Treasury's Green Book,<sup>4</sup> and Regulatory Policy Committee guidance.<sup>5</sup>

## 1.2. Report structure

The remainder of this report is structured as follows:

- **Section 2: Problem definition** - provides an overview of storage and access technologies; then sets out the economic, social and political context for the guidance.
- **Section 3: Rationale for intervention** - sets out the rationale for intervention and why the ICO is best placed to solve this problem.
- **Section 4: Options appraisal** - provides a review of alternative policy options against critical success factors.
- **Section 5: Details of proposed intervention** - provides an overview of the proposed guidance and the affected groups.
- **Section 6: Cost-benefit analysis** - presents the findings of the cost benefit analysis for the guidance.
- **Section 7: Monitoring and evaluation** - outlines future monitoring considerations.
- **Annex A** – provides a definition of key storage and access technologies.
- **Annex B** – provides a summary of quantification of affected groups.
- **Annex C** - provides more detail on how familiarisation costs are estimated to support the assessment of costs and benefits.

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<sup>3</sup> ICO (2023) *The ICO's Impact Assessment Framework*. Available at: <https://ico.org.uk/media/about-the-ico/documents/4027020/ico-impact-assessment-framework.pdf> (accessed 13 December 2024).

<sup>4</sup> HM Treasury (2022) *The Green Book*. Available at: [The Green Book \(2022\) - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/916918/better-regulation-guidance.pdf) (accessed 13 December 2024).

<sup>5</sup> BEIS (2020) *Better Regulation Framework – Interim Guidance*. Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/916918/better-regulation-guidance.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/916918/better-regulation-guidance.pdf) (accessed 13 December 2024).

## 2. Problem definition

In this section we provide an overview of storage and access technologies, then set out the basis for regulatory intervention including an overview of available research and evidence on the economic, social and political context around the use of storage and access technologies.

### 2.1. What are storage and access technologies?

Storage and access technologies refer to any technology that stores information, or accesses information that is stored on a subscriber or user's 'terminal equipment' (for instance a smartphone or laptop). This includes, but is not limited to:

- cookies;
- tracking pixels;
- link decoration and navigational tracking;
- scripts and tags;
- web storage; and
- device fingerprinting.

We provide a definition of these technologies in Table 5 in Annex A with more detailed definitions available within the guidance.

### 2.2. Problem definition

Organisations use storage and access technologies for wide ranging purposes, from remembering what a user has added to their shopping basket to complying with the security requirements of data protection law (eg for online banking services). They are also widely used for online advertising purposes. Their use has the potential to provide benefits for both the user and the online service provider.

However, the non-compliant use of these technologies, and subsequent processing of personal data, has the potential to result in data protection harms such as the loss of control of personal information, as well as the potential for financial and psychological harms. These harms are discussed in more detail in Section 3. In an evolving landscape, continuing to provide regulatory clarity creates certainty which enables compliance limiting the risk of harms. Furthermore, when organisations understand the rules, they can plan, invest, and operate more effectively.



### 2.2.1. An evolving landscape

The previous significant update to the 'guidance on cookies and similar technologies' was published in 2019,<sup>6</sup> setting out the responsibilities where required (as further detailed within PECR (Reg 6) and UK GDPR) of online service providers to comply with legislation.

Since 2019, the ICO has undertaken considerable additional work in the area of online privacy including:

- our cookies letters project;<sup>7</sup>
- work to reduce incidents of gambling related harm;<sup>8</sup>
- action against Experian (taking account of subsequent case law rulings);<sup>9</sup>
- a joint paper with the CMA on harmful design;<sup>10</sup>
- Commissioner's Opinion on online advertising proposals;<sup>11</sup>
- guidance on designing products to protect privacy;<sup>12</sup> and
- participation of Meta Platforms Inc in the ICO's Regulatory Sandbox programme on further development of its Privacy Enhancing Technologies (PETs) powered ad measurement.<sup>13</sup>

Due to these activities and the work undertaken by the ICO others, recent changes have been noted in the external landscape around cookies, with organisations such as Apple, Google and Mozilla announcing plans to phase out

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<sup>6</sup> ICO (2019) *Guide to Privacy and Electronic Communications Regulations: Cookies and similar technologies*. Available at: <https://ico.org.uk/for-organisations/direct-marketing-and-privacy-and-electronic-communications/guide-to-pecr/cookies-and-similar-technologies/> (accessed 13 December 2024).

<sup>7</sup> ICO (2024) *Commissioner warns UK's top websites to make cookie changes*. Available at: <https://ico.org.uk/about-the-ico/media-centre/news-and-blogs/2023/11/commissioner-warns-uk-s-top-websites-to-make-cookie-changes/> (accessed 13 December 2024).

<sup>8</sup> ICO (2023) *ICO Sandbox publishes exit report following work with the Betting and Gaming Council to reduce incidents of gambling related harm*. Available at: <https://ico.org.uk/about-the-ico/media-centre/news-and-blogs/2023/07/ico-sandbox-publishes-exit-report-following-work-with-the-betting-and-gaming-council/> (accessed 13 December 2024).

<sup>9</sup> ICO (2024) *ICO statement on Upper Tribunal ruling*. Available at: <https://ico.org.uk/about-the-ico/media-centre/news-and-blogs/2024/04/ico-statement-on-upper-tribunal-ruling/> (accessed 13 December 2024).

<sup>10</sup> ICO (2023) *It's time to end damaging website design practices that may harm your users*. Available at: <https://ico.org.uk/about-the-ico/media-centre/news-and-blogs/2023/08/it-s-time-to-end-damaging-website-design-practices-that-may-harm-your-users/> (accessed 13 December 2024).

<sup>11</sup> ICO (2021) *Data protection and privacy expectations for online advertising proposals*. Available at: <https://ico.org.uk/about-the-ico/what-we-do/information-commissioners-opinions/> (accessed 13 December 2024).

<sup>12</sup> ICO (2023) *Designing products that protect privacy*. Available at: <https://ico.org.uk/for-organisations/uk-gdpr-guidance-and-resources/designing-products-that-protect-privacy/> (accessed 13 December 2024).

<sup>13</sup> ICO (2024) *Current projects*. Available at: <https://ico.org.uk/for-organisations/advice-and-services/regulatory-sandbox/current-projects/> (accessed 13 December 2024).

the use of third-party cookies.<sup>14</sup> In addition, there has been a shift toward the use of other tracking technologies by some organisations,<sup>15</sup> with a range of increasingly sophisticated tools in widespread use.

## 2.3. Use of storage and access technologies within the UK

In order to inform our understanding of the issues arising from the use of storage and access technologies we have carried out desk research looking at both the supply side (organisational use of storage and access technologies) and demand side (consumer interaction with these technologies).

Due to limitations in the data available and rapid developments in online tracking and technologies, it is difficult to state definitively how many organisations or online services use storage and access technologies. It should also be noted that the organisations relevant to this analysis span a wide range of sectors, which in turn interact with a wide range of consumers. This means that it is not possible to provide a detailed measurement of the size and scale of supply or demand. Given these evidence limitations the figures we have gathered are only intended to provide an approximation of the scale of storage and access technologies related activity in the UK. We summarise the evidence presented in this section in Annex B for clarity.

### 2.3.1. Supply side insights

The current guidance on the use of 'cookies and similar technologies',<sup>16</sup> is aimed at those who 'operate an online service, such as a website or a mobile app, and need a deeper understanding of how PECR applies to your use of cookies.' The guidance further notes that 'if you are running an online service, it is likely that you are operating an information society service (ISS)' which is defined within EU legislation as 'any service normally provided for remuneration, at a distance, by electronic means and at the individual request of a recipient of services'.<sup>17</sup> Essentially this means that most online services are ISS, including apps, programs and many websites.

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<sup>14</sup> Forbes *The Slow Death of Third – Party Cookies*. Available at: <https://www.forbes.com/councils/theyec/2022/09/12/the-slow-death-of-third-party-cookies/> (accessed 13 December 2024).

<sup>15</sup> IAPP (2023) *The half-baked future of cookies and other tracking technologies*. Available at: <https://iapp.org/resources/article/future-of-cookies-tracking-technologies/> (accessed 13 December 2024).

<sup>16</sup> ICO (2019) *Cookies and similar technologies*. Available at: <https://ico.org.uk/for-organisations/direct-marketing-and-privacy-and-electronic-communications/guide-to-pecr/cookies-and-similar-technologies/> (accessed 13 December 2024).

<sup>17</sup> EU (2015) *Directive (EU) 2015/1535*. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32015L1535> (accessed 13 December 2024).

There are approximately 5.6 million organisations in the UK according to the most recent business population estimates,<sup>18</sup> with around 68% of these (approximately 3.8 million UK organisations) having a website according to an official annual survey of UK businesses.<sup>19</sup>

Given the definitions above, we could assume that approximately 3.8 million organisations in the UK could be classified as online service providers.

Evidence from this survey also suggests that 9.2% of organisations that gather personal data (approximately 216,000 organisations within the UK) do so through the use of cookies placed on people's connected devices. However, this appears likely to be an underestimate, as it is based on businesses' self-reporting and understanding of their use of storage and access technologies.

Other sources suggest that there were approximately 5.6 million separate detections of analytics and tracking (using storage and access technologies) among the top million websites in the UK in October 2024;<sup>20</sup> and whilst this includes use of multiple technologies across individual websites, it does highlight the potential scale of use. Further academic research suggests that 97.7% of the Alexa top 10 thousand websites use cookies.<sup>21</sup> Applying these estimates to the approximate number of UK organisations with a website suggests that up to 3.7 million organisations could be using storage and access technologies within the UK.

A full breakdown of the numbers of organisations using different types of technology to track user information is difficult to find. However, wider research illustrates that up to 73% of organisations in the UK (approximately 2.7 million organisations with websites<sup>22</sup>) use link decoration,<sup>23</sup> while around 4% of

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<sup>18</sup> Department for Business and Trade (2023) *Business Population Estimates*. Available at: <https://www.gov.uk/government/statistics/business-population-estimates-2023> (accessed 13 December 2024).

<sup>19</sup> Department for Science, Innovation & Technology (2024) *UK Business Data Survey*. Available at: <https://www.gov.uk/government/statistics/uk-business-data-survey-2024/uk-business-data-survey-2024> (accessed: 13 October 2024).

<sup>20</sup> Built with data (2024) *Analytics Usage Distribution in United Kingdom*. Available at: <https://trends.builtwith.com/analytics/country/United-Kingdom> (accessed 13 December 2024).

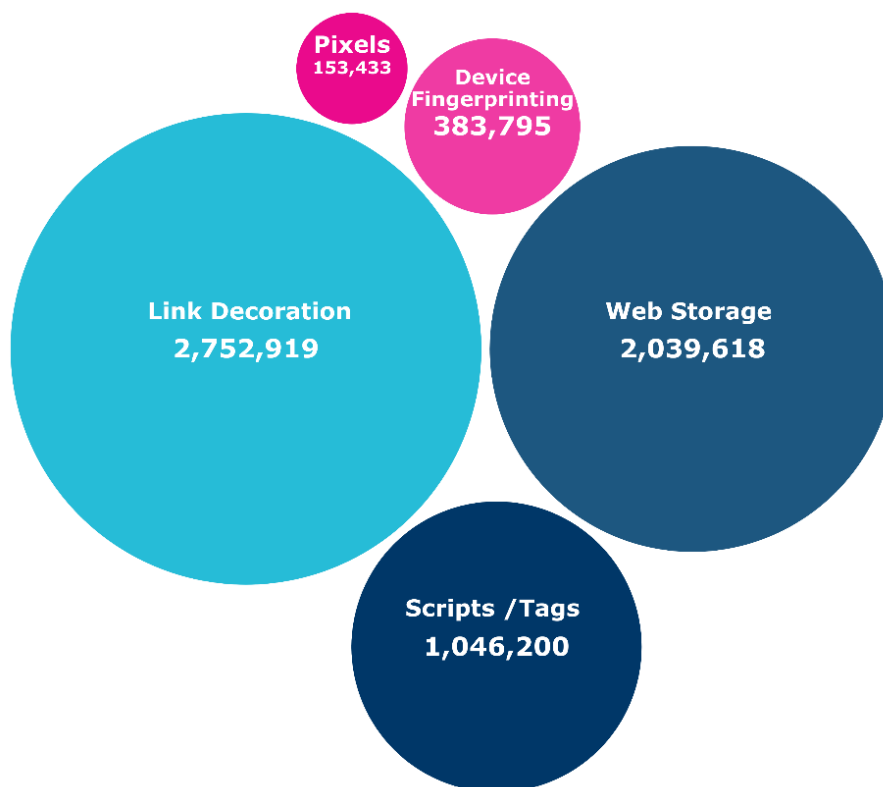
<sup>21</sup> Chen, Iliia, Polychronakis and Kapravelos (2021) *Cookie Swap Party: Abusing First-Party Cookies for Web Tracking*. Available at: <https://www3.cs.stonybrook.edu/~mikepo/papers/firstparty.www21.pdf> (accessed 13 December 2024).

<sup>22</sup> Department for Business and Trade (2023) *Business Population Estimates*. Available at: <https://www.gov.uk/government/statistics/business-population-estimates-2023> (accessed 13 December 2024).

<sup>23</sup> Munir, Lee, Iqbal and Shafiq (2023) *PURL: Safe and Effective Sanitization of Link Decoration*. Available at: [https://www.researchgate.net/publication/372961970\\_PURL\\_Safe\\_and\\_Effective\\_Sanitization\\_of\\_Link\\_Decoration](https://www.researchgate.net/publication/372961970_PURL_Safe_and_Effective_Sanitization_of_Link_Decoration) (accessed 13 December 2024).

organisations in the UK (153,000) use other forms of tracking technologies including pixels.<sup>24</sup> It should again be noted that organisations are likely to use more than one of these storage and access technologies. Figure 1 gives an illustration of the range of estimates found during our research, for a number of key tracking technologies.

Figure 1: Estimated number of organisations using various tracking technologies



Source: ICO analysis using a number of sources.<sup>24,23,24,24,25,26</sup>

Given the research noted above, between 216,241 and 3.7 million UK organisations classified as online service providers, could be using storage and access technologies when acquiring personal data.

<sup>24</sup> Built with data (2024) *Analytics Usage Distribution in United Kingdom*. Available at: <https://trends.builtwith.com/analytics/country/United-Kingdom> (accessed 13 December 2024).

<sup>25</sup> Ahmad, Casarin and Calzavara (2023). *An Empirical Analysis of Web Storage and Its Applications to Web Tracking*. Available at: <https://dl.acm.org/doi/10.1145/3623382#sec-4-3> (accessed 13 December 2024).

<sup>26</sup> Iqbal, Englehart and Shafiq (2021) 'Fingerprinting the Fingerprinters: Learning to Detect Browser Fingerprinting Behaviors'. Available at: <https://arxiv.org/abs/2008.04480> (accessed 13 December 2024).

Some of the work undertaken by the ICO since 2019 (see Section 2.2.1) in the area of online advertising has highlighted notable issues within the supply side use of storage and access technologies, including:

- **Work to reduce incidents of gambling related harm**<sup>27</sup> raised issues around user choice and control, such as the use of storage and access technologies before a user has given consent.
- **The cookies letters project**<sup>28</sup> also identified compliance issues such as instances where:
  - non-essential advertising cookies are placed before the user has the opportunity to provide consent;
  - users can reject non-essential advertising cookies as easily as they can accept them; and
  - non-essential advertising cookies are placed even if the user did not consent to such cookies.
- **Ongoing participation of Meta Platforms Inc in the ICO's Regulatory Sandbox programme**<sup>29</sup> considers Meta's new ad measurement proposal, which includes a question around how PECR legislation applies.

Measuring the numbers of organisations involved in the wider supply chain relating to storage and access technology use is difficult and may require further research. Academic research carried out on the use of cookies on the Alexa top 10 thousand websites notes that 57.6% of these sites have third parties that exchange tracking IDs stored in cookies which illustrates an increasingly used practice of 'relying on first-party cookies that are set by third-party JavaScript code to implement user tracking and other potentially unwanted capabilities'.<sup>30</sup>

Around 58% of the top 10 thousand websites in the UK have third parties that exchange tracking IDs stored in cookies. This equates to around 2.1 million

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<sup>27</sup> ICO (2023) *ICO Sandbox publishes exit report following work with the Betting and Gaming Council to reduce incidents of gambling related harm*. Available at: <https://ico.org.uk/about-the-ico/media-centre/news-and-blogs/2023/07/ico-sandbox-publishes-exit-report-following-work-with-the-betting-and-gaming-council/> (accessed 13 December 2024).

<sup>28</sup> ICO (2024) *Commissioner warns UK's top websites to make cookie changes*. Available at: <https://ico.org.uk/about-the-ico/media-centre/news-and-blogs/2023/11/commissioner-warns-uk-s-top-websites-to-make-cookie-changes/> (accessed 13 December 2024).

<sup>29</sup> ICO (2024) *Current projects*. Available at: <https://ico.org.uk/for-organisations/advice-and-services/regulatory-sandbox/current-projects/> (accessed 13 December 2024).

<sup>30</sup> Chen, Iliia, Polychronakis and Kapravelos (2021) *Cookie Swap Party: Abusing First-Party Cookies for Web Tracking*. Available at: <https://www3.cs.stonybrook.edu/~mikepo/papers/firstparty.www21.pdf> (accessed 13 December 2024).

## organisational websites operating within the UK.

A study by Paci, Pizzoli and Zannone investigated compliance across 400 popular mobile apps, suggesting that all of those investigated violate one or more of the requirements on valid consent.<sup>31</sup> Their findings suggest that between 39% and 59% of apps surveyed violated one or more of the requirements listed with the highest proportion related to whether consent was 'revocable' (ie how easily consent could be withdrawn).

The second highest area of violation reported related to whether consent was 'specific', with questions gauging how requests for consent relate to purposes outlined and how customisation settings are presented. Industry research from Warwick Business School suggests that over 80 third parties, on average, have access to data within seconds of opening a web page, indicating the potential to overwhelm users with an overly extensive list of third parties that do not necessarily reflect their particular interaction.<sup>32</sup>

While we know that organisations use information on how visitors use their website to inform service improvements, we also know that this information can be used to track individuals with a view to providing online advertising, alongside other non 'strictly necessary' use cases. We are therefore interested in quantifying the wider interaction between the use of storage and access technologies and the online advertising sector as a whole.

The online advertising market is based on the sale of advertising space by online service providers to other organisations wishing to target consumers of that online service. According to industry research around 81% of SMEs that use paid-for online advertising say it is important to their business success, with 64% of UK SMEs (roughly 3.5 million organisations) having used some form of paid online advertising in the last year.<sup>33</sup>

According to UK business statistics there are approximately 5.5 million businesses across all sectors within the UK with around 3.5 million of those

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<sup>31</sup> Paci, Pizzoli and Zannone (2023) *A Comprehensive Study on Third-Party User Tracking in Mobile Applications*. Available at:

<https://dl.acm.org/doi/pdf/10.1145/3600160.3605079> (accessed 13 December 2024).

<sup>32</sup> Warwick Business School (2024) 'How websites deceive users on data sharing'.

Available at: <https://www.wbs.ac.uk/news/websites-deceive-users-data-sharing/#:~:text=This%20pervasive%20surveillance%20raises%20significant,average%20have%20accessed%20your%20information> (accessed 13 December 2024).

<sup>33</sup> IAB (2023) *The Digital Dividend*. Available at: <https://www.iabuk.com/news-article/digital-dividend-introduction-iab-uks-ceo-jon-mew> (accessed: 13 December 2024).



considered to be SMEs.<sup>34</sup>

### 2.3.2. Demand side insights

While it is not possible to obtain evidence on consumer interaction with individual storage and access technologies, research does suggest that around 94% of the population in the UK aged over 16 (around 52 million people) have access to the internet.<sup>35</sup> Due to the high incidence of essential and non-essential storage and access technologies across websites noted above, we can assume that all those that use the internet will, at some point, come across these technologies.

An independent study carried out by the Behavioural Insights Team in 2023,<sup>36</sup> found that 'most people accept and use cookies', with acceptance rates of between 58% and 80% noted across a number of tests. Over half of participants (53%) reported being "somewhat/very comfortable" with sharing their data with websites and organisations. The remaining participants (47%) reported being "not very/not at all" comfortable with that idea; while a further 42% reported that 'finding some cookie functionalities' was "not at all / not very important". The study assumes that this represents those that may want to customise their settings while the remaining 5% of respondents represents those who would want to decline or 'reject all'.

Complaints received directly by the ICO as well as wider research studies also suggest that there are high rates of non-compliance with the legislative requirements for valid consent.<sup>37</sup> Issues noted include the lack of an option to decline tracking as required in legislation and lack of clarity on the specific scope of consent requested. Several complaints specifically referenced issues relating to sharing data with partners, for example:

"I had to spend 10 minutes de-selecting legitimate interest on the hundreds of data partners that they use. If I need to spend 10 minutes to access each site

<sup>34</sup> Department for Business and Trade (2023) *Business Population Estimates*. Available at: <https://www.gov.uk/government/statistics/business-population-estimates-2023> (accessed 13 December 2024).

<sup>35</sup> Ofcom (2024) *Online Nation 2024 Report*. Available at <https://www.ofcom.org.uk/siteassets/resources/documents/research-and-data/online-research/online-nation/2024/online-nation-2024-report.pdf?v=386238> (accessed 13 December 2024).

<sup>36</sup> BIT (2023) *Evaluating browser-based cookie setting options to help the UK public optimise online privacy behaviours*. Available at: [https://assets.publishing.service.gov.uk/media/660d15f338f66c001184a95d/BIT\\_Evaluating\\_browser-based\\_cookie\\_settings\\_report.pdf](https://assets.publishing.service.gov.uk/media/660d15f338f66c001184a95d/BIT_Evaluating_browser-based_cookie_settings_report.pdf) (accessed 13 December 2024).

<sup>37</sup> Paci, Pizzoli and Zannone (2023) *A Comprehensive Study on Third-Party User Tracking in Mobile Applications*. Available at: <https://dl.acm.org/doi/pdf/10.1145/3600160.3605079> (accessed 13 December 2024).

then the internet is unusable unless I give up my rights. This is so onerous it basically makes a mockery of cookie permissions and GDPR.”

Source: ICO Complaints 2 October 2024.

“There was no decline all option for non-essential cookies, meaning that the only way to decline all was to manually go through and check over 1,500 purposes and partners. There was an accept all option.”

Source: ICO Complaints 12 September 2024.

The ICO Data Lives research found that both children and adults struggle to understand how companies use their personal information.<sup>38</sup> In addition, similar research carried out on children found that framing and language of privacy information/consent requests was often beyond what they could understand.<sup>39</sup>

Another ICO survey found multiple issues with cookie consent requests that prevent users from being offered a meaningful choice as to whether their personal information is used for non-essential purposes, including personalised advertising.<sup>40</sup> The survey specifically found that:

- People often don't read privacy information - 40% of adults never read 'cookie preferences, policies or settings' when visiting a new website, while 56% read them, indicating a growing awareness of online privacy practices.
- People often want privacy information to be clear and simple to understand - 53% of adults would prefer a short and concise version of the information, with 46% preferring that simple, clear language is used.
- People often care about their data being shared, but their actions don't always reflect this - 44% of adults reported sharing more personal information than they would like at least once a week in the past month, while 21% reported doing so at least once a day.
- People appreciate the relevance of personalised online advertising but also often want more data privacy – 56% of adults surveyed wanted to 'give organisations less information about themselves and receive less advertising', 25% wanted to give more of their information for more relevant advertising and 18% had 'no opinion' on the subject.

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<sup>38</sup> ICO (2023) *Data Lives research* <https://ico.org.uk/media/about-the-ico/documents/4027602/ico-data-lives-year-1-report.pdf> (accessed 13 December 2024).

<sup>39</sup> ICO (2024) *Children's Data Lives research*. Available at: <https://ico.org.uk/about-the-ico/research-reports-impact-and-evaluation/research-and-reports/children-s-data-lives-research/> (accessed 13 December 2024).

<sup>40</sup> ICO (2024) survey, yet to be published.



As mentioned previously the ICO's cookies letters project<sup>41</sup> sought to check compliance of organisation's cookie banners with the requirements of PECR and UK GDPR (where the use of these technologies involves the processing of personal data). Where these assessments found non-compliance, a letter was sent to the Data Protection Officers of the relevant organisations, highlighting concerns and requesting that concerns be addressed within one month of receipt, at which stage a second assessment was conducted. We wrote to 53 organisations to warn that they faced enforcement action if they did not make changes to advertising cookies to comply with data protection law. There was a positive response to this call to action, with 52 of the websites making changes to how advertising cookies are used. Following this intervention, 88 of the UK's 100 most frequented websites now meet the ICO's expectations by offering users a fair choice over whether to consent to advertising cookies.<sup>42</sup> The ICO stated that 'companies that fail to put "reject all" buttons on their banners are risking enforcement'.<sup>43</sup>

### **Problem statement**

The significant level of activity in this area since guidance was produced in 2019 has meant that the current guidance no longer fully reflects current market practices. This has given rise to a need for greater regulatory certainty. The ICO is well placed to provide this regulatory certainty and reduce the risk of harms materialising to individuals and wider society from the use of storage and access technologies. With the growing adoption of these technologies across the economy it is expected that without intervention the potential for these harms will rise.

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<sup>41</sup> ICO (2024) *Commissioner warns UK's top websites to make cookie changes*. Available at: <https://ico.org.uk/about-the-ico/media-centre/news-and-blogs/2023/11/commissioner-warns-uk-s-top-websites-to-make-cookie-changes/> (accessed 13 December 2024).

<sup>42</sup> ICO (2024) *Cookies letter to IAB*. Available at: <https://ico.org.uk/media/about-the-ico/documents/4028658/cookies-letter-to-iab-aop-20240305.pdf> (accessed 13 December 2024).

<sup>43</sup> ICO (2023) *Cookie banners missing 'reject all' buttons will be investigated, UK data watchdog warns*. Available at: <https://content.mlex.com/#/content/1477319> (accessed 13 December 2024).

## 3. Rationale for Intervention

This section sets out the rationale for intervention and why the ICO is best placed to solve this problem. When exploring the ICO's rationale for intervention, we illustrate the potential data protection harms and market failures that this intervention seeks to address.

### 3.1. Data protection (DP) harms

This section provides some illustrative examples of the DP harms that can result from the non-compliant use of storage and access technologies.<sup>44</sup> This is a non-exhaustive list for illustrative purposes.

#### 3.1.1. Financial, bodily and psychological harm

Non-compliant use of storage and access technologies increases the risk of data protection harm to consumers. Where data is subject to hacking or a breach, personal user information could be made public that has the potential to cause financial harm, as well as psychological distress and or bodily harm.

Financial harm could be experienced where personal information obtained through storage and access technologies is used to target advertising at users, through encouraging negative purchasing habits or exploiting financial vulnerabilities through marketing of high interest loans. Psychological harm could range from fatigue and irritation about consent banners to fears of social exposure where sensitive information has been used to target someone with adverts. While there could be risk of bodily harm where users' are subjected to medical misinformation or the misuse of personal information to cause bodily harm.

#### **Example: Disclosure of private health information causes psychological distress and financial harm**

Following a new diagnosis of a medical condition, a user visits the website of a charity dedicated to that condition. The charity uses a third-party tag provided by a social media platform to track user activity on their site which will be used to improve the performance of advertising campaigns on the social media platform.

When the user visits a page on the website containing resources for people who have just been diagnosed with the condition, the page visit is captured by the tag; and later when using a social media platform, they see an advert for

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<sup>44</sup> ICO (2022) *Overview of DP Harms and the ICO's Taxonomy*. Available at: <https://ico.org.uk/media/about-the-ico/documents/4020144/overview-of-data-protection-harms-and-the-ico-taxonomy-v1-202204.pdf> (accessed 13 December 2024).

another charity relating to the same health condition.

This causes psychological stress and a fear of exposure to their friends and family. In addition, they are later marketed for wellness products that help with symptoms associated with their condition, which they consider purchasing. This could lead to financial or physical harms if the person chooses to take products that they don't need, or which could interfere with their prescribed treatment.

### **3.1.2. Unwanted intrusion and loss of control of personal information**

The use of storage and access technologies to track users, such as for online advertising purposes can lead to unwanted intrusions for users. This can include unwanted communications that disturb tranquillity, interrupt activities, sap time or increase the risk of other harms occurring, for instance unwanted targeted advertising, nuisance calls or spam or unwarranted surveillance. Loss of control of personal information can lead to harms stemming from the misuse, repurposing, unwanted retention or continued use and sharing of personal information, including a lack of commitment to the accuracy of information or lack of transparency. Restrictions on ability to access or review use of personal information or incompatible repurposing can lead to users experiencing emotional and psychological distress as well as increasing the risk of additional harms such as financial harms depending on the repurposed use of information.

#### **Example: Alcohol addiction treatment firm disclosed user's personal health information to third-party advertising platforms.**

In 2024 the Federal Trade Commission (FTC) acted against an alcohol addiction treatment service for allegedly disclosing users' personal health information to third-party advertising platforms, including Meta and Google, for advertising without consumer consent; after promising to keep such information confidential.<sup>45</sup>

Monument specified that it disclosed Custom Events containing health information to third-party advertising platforms for as many as 84,000 individuals although this number was an estimate as it did not adequately track the information collected and disclosed.

Disclosure of this information had the potential to cause psychological harms including stigma, embarrassment, and emotional distress to the users. It could also have led to financial harms through the ability to obtain and/or retain

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<sup>45</sup> Federal Trade Commission (2024) *Alcohol Addiction Treatment Firm will be Banned from Disclosing Health Data for Advertising to Settle FTC Charges that It Shared Data Without Consent*. Available at: <https://www.ftc.gov/news-events/news/press-releases/2024/04/alcohol-addiction-treatment-firm-will-be-banned-disclosing-health-data-advertising-settle-ftc> (accessed 13 December 2024).

employment, housing, health insurance, or disability insurance.

## 3.2. Policy Context

It is important to consider the wider policy context surrounding our identified problem definition to assess where there is positive or negative alignment with the rationale for intervention. This includes both internal ICO policy but also wider initiatives such as government policy.

### 3.2.1. ICO strategy

ICO25 is the ICO's overarching strategic plan.<sup>46</sup> The objectives of the strategy include to:

- safeguard and empower people; and
- empower responsible innovation and sustainable economic growth.

The revised guidance aims to increase confidence that stakeholders understand the ICO regulatory position on their use of cookies, as well as other increasingly used storage and access technologies within scope of PECR (Reg 6). As a result, there should be a reduction in businesses spending a disproportionate amount of time working out the requirements of the UK data protection law. This will help to safeguard and empower consumers while also providing the regulatory certainty needed to help those we regulate plan, invest and innovate confidently.

### 3.2.2. Relevant legislation

We developed the guidance in accordance with relevant legislation on DP and legislation, in particular PECR (Reg 6),<sup>47</sup> UK GDPR<sup>48</sup> and the Data Protection Act 2018 (DPA 2018).<sup>49</sup> These laws control how organisations, businesses or the government use personal information. The guidance provides additional clarification to organisations on the compliant and lawful use of storage and access technologies.

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<sup>46</sup> ICO (2022) *ICO25 strategic plan*. Available at: <https://ico.org.uk/about-the-ico/ourinformation/our-strategies-and-plans/ico25-plan> (accessed 13 December 2024).

<sup>47</sup> UK Government (2003) *The Privacy and Electronic Communications (EC Directive) Regulations 2003*. Available at: <https://www.legislation.gov.uk/ukxi/2003/2426> (accessed 13 December 2024).

<sup>48</sup> UK General Data Protection Regulation. Available at: <https://www.legislation.gov.uk/eur/2016/679/contents> (accessed 13 December 2024).

<sup>49</sup> Data Protection Act 2018. Available at: <https://www.legislation.gov.uk/ukpga/2018/12/contents/enacted> (accessed 13 December 2024).

The UK government is currently working on the Data Use and Access Bill.<sup>50</sup> Although the Bill has yet to complete its Parliamentary passage, it is anticipated to make changes to the existing legal framework when it becomes law. It is important that the guidance is flexible so it can be updated to align with the Bill as required.

### 3.2.3. Relevant external policy landscape

The most relevant external policy considerations are:

- **The National Data Strategy**<sup>51</sup> - The National Data Strategy looks at how to use the UK's existing strengths to boost the better use of data across businesses, government, civil society and people. The draft guidance aligns well with the strategy; in particular through the provision of regulatory certainty, as assisting organisations in complying with relevant legislation aligns well with the mission of 'securing a pro-growth and trusted data regime.
- **UK Digital Strategy**<sup>52</sup> - Another important policy consideration is the UK Digital Strategy, which sits alongside the National Data Strategy with the following objectives:
  - unlocking the power of data;
  - a secure digital environment; and
  - enhancing the UK's place in the world.

Providing clarity and practical advice should help organisations to feel more confident about their use of personal data and assist with meeting the objectives listed.

- **UK digital identity and attributes trust framework**<sup>53</sup> - The UK digital identity and attributes trust framework aims to make it easier and more secure for people to use services that enable them to prove who they are. It is a set of rules for organisations to follow if they want to provide secure and trustworthy digital identity. The framework explains what rules organisations will need to follow to be certified against the trust framework.

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<sup>50</sup> UK Government (2024) Data Use and Access Bill. Available at: <https://bills.parliament.uk/bills/3825> accessed 13 December 2024).

<sup>51</sup> UK Government (2019) *National Data Strategy*. Available at: <https://www.gov.uk/guidance/national-data-strategy> (accessed 13 December 2024).

<sup>52</sup> DCMS (2022) *UK Digital Strategy*. Available at: <https://www.gov.uk/government/publications/uks-digital-strategy/uk-digital-strategy> (accessed 13 December 2024).

<sup>53</sup> DCMS (2023) *UK digital identity and attributes trust framework*. Available at: <https://www.gov.uk/government/publications/the-uk-digital-identity-and-attributes-trust-framework/the-uk-digital-identity-and-attributes-trust-framework> (accessed 13 December 2024).

- **European Data Protection Board (EDPB) Art 5(3) ePD final guidelines**<sup>54</sup> - Guidelines 2/2023 on Technical Scope of Art. 5(3) of the ePrivacy Directive.

### 3.3. Market failures

Non-compliant use of storage and access technologies can lead to market failures, such as **imperfect information** where there is a lack of clarity on how to comply with PECR (Reg 6) and UK GDPR (where the use of these technologies involves the processing of personal data). These market failures can present as inefficiently high costs; as organisations incur costs in order to ensure they are complying with legislation, such as the costs of gaining legal advice or the costs of regulatory action through fines. Additionally, there could be inefficiencies of time costs to consumers where the level of detailed information made available is deemed excessive by consumers and therefore, they may not fully engage with the information resulting in sub-optimal decision-making.

Organisations may be unclear about the privacy information that they should provide to users of their services on the use of storage and access technologies for non-essential purposes. This could erode users' privacy and information rights as individuals may not fully understand the intended use of their personal information. Additionally, where individuals are less likely to trust organisations, it could lead to them opting out of sharing information or using the service on offer. This diminishes the potential value of initiatives which depend on the processing of personal information for online advertising purposes.

The use of storage and access technologies for the purposes of online advertising can also lead to **principal-agent** issues and **information asymmetry** where an advertiser or data processor may hold disproportionately more information on a consumer's behaviour than they are aware of or may even know themselves. This can create an imbalance in knowledge and decision-making power, with the potential to leave consumers vulnerable to exploitation and harm.

Unclear delineation of responsibilities can also lead to **negative externalities** where organisations share personal consumer information with third-parties or outsource decision-making around consent mechanisms to consent management platforms. There is a risk that organisations may not consider the full implications of non-compliant use of storage and access technologies and subsequent processing of personal information; and the costs this may impose on individuals. This may lead to inadequate implementation of security measures

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<sup>54</sup> EDPB (2023) *Guidelines 2/2023 on Technical Scope of Art. 5(3) of ePrivacy Directive*. Available at: [https://www.edpb.europa.eu/our-work-tools/our-documents/guidelines/guidelines-22023-technical-scope-art-53-eprivacy-directive\\_en](https://www.edpb.europa.eu/our-work-tools/our-documents/guidelines/guidelines-22023-technical-scope-art-53-eprivacy-directive_en) (accessed 13 December 2024).

for personal information, increasing the likelihood of DP breaches. This can impose a cost on wider society.

As the UK's DP regulator, the ICO is well placed to provide regulatory certainty and address these market failures.

### **3.4. Summary of rationale for intervention**

In summary, a combination of industry developments and a need for updated regulatory input has contributed to uncertainty on how PECR and UK GDPR regulations apply to the use of storage and access technologies. This absence of regulatory certainty has contributed to a number of data protection harms and market failures, such as the loss of control of personal information; which have been exacerbated by high levels of non-compliance among organisations. Without regulatory intervention, organisations may draw their own conclusions on the lawful use of storage and access technologies and lead to their use in inappropriate circumstances.

## 4. Options appraisal

This section provides an overview of the options considered in response to the problem defined and rationale for intervention identified in Sections 2 and 3. Although other regulatory tools are available, guidance was considered the most appropriate means to:

- create regulatory certainty to encourage compliant use of storage and access technologies; and
- promote a lawful and responsible approach for future developments and current applications.

Accordingly, the options presented below focus on guidance related interventions as a means of addressing the lack of regulatory certainty described in Section 2, and the related harms and market failures discussed in Section 3.

### 4.1. Options for consideration

We have considered the following options for intervention:

- **Do nothing:** Do not update the current version of the detailed cookies guidance, published in 2019.
- **Provide a significant update to guidance (preferred option):** Provide a significant update to the detailed cookies guidance, that will:
  - Clarify and expand on established policy positions where we can provide further regulatory certainty.
  - Provide equal weight to “similar technologies” (such as web storage and scripts and tags) alongside cookies by renaming the guidance products and providing new examples.
  - Provide clarity by using the new style guide and must / should / could framework.
- **Provide a light update to guidance (do less):** Provide a light update to the detailed cookies guidance, that will:
  - Provide clarity by using the new style guide and must / should / could framework.
- **Provide sector specific guidance (do more):** Provide sector specific guidance and/ or detailed device-specific guidance (ie a portfolio of multiple guidance products).

### 4.2. Assessment of options

In line with HM Treasury guidance,<sup>55</sup> we qualitatively assess options against the critical success factors (CSFs) set out below:

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<sup>55</sup> HM Treasury (2022) *The Green Book*. Available at: [The Green Book \(2022\) - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/111111/green-book-2022.pdf) (accessed 13 December 2024).



- **Strategic alignment:** Considers how options fit with ICO25 objectives/Strategic causes and the wider policy landscape.
- **Affordability:** Covers the financial impacts of options, including the cost for the ICO of delivering and maintaining these (e.g. staff time and other resources).
- **Achievability:** Considers the viability of options as long-term solutions, and whether further action is likely to be required in the future.
- **Risks:** the risks posed to the ICO, including legal and reputational risks (this includes the risks of the ICO being challenged on outdated guidance).
- **Impacts:** Considers whether options have a positive or negative impact on affected groups (including whether options reduce regulatory uncertainty or impose additional costs).

A degree of judgement is used to score options against each of these factors. Accordingly, the assessment should be viewed as indicative. Options have been assigned a red, amber, green (RAG) rating for each CSF.

Table 1: Assessment of options

| Option                  | Strategic alignment | Affordability | Achievability | Risks    | Impacts  |
|-------------------------|---------------------|---------------|---------------|----------|----------|
| <b>Do nothing</b>       | Low (-)             | High (+)      | High (+)      | High (-) | Medium   |
| <b>Preferred option</b> | High (+)            | Medium        | Medium        | Medium   | High (+) |
| <b>Do less</b>          | Medium              | Medium        | Medium        | High (-) | Medium   |
| <b>Do more</b>          | High (+)            | Low (-)       | Low (-)       | Low (+)  | High (+) |

Source: ICO analysis.

The preferred option of **a significant update to guidance** has no red ratings, and two out of five criteria are assessed as green. This option rates highly in relation to strategic alignment and potential impact; while having a medium rating across affordability, achievability and risk factors. This is the highest scoring option with all others either having red ratings or no greens and, as such, this is deemed the most appropriate option to progress.

The preferred option aligns with ICO25 objectives and the external policy environment. The upfront cost to the ICO of producing guidance is expected to be offset by the impact of increased regulatory certainty for organisations and the reduced potential for DP harms. The preferred option ensures that guidance on storage and access technologies reflects the current use of technology and reduces the risk of the ICO being challenged on outdated guidance.

## 5. Detail of proposed intervention

This section provides an overview of the preferred option for the draft guidance intervention identified in the previous chapter and its objectives. It also sets out a theory of change for the draft guidance, which covers:

- the change the guidance is expected to bring about; and
- the causal chain of events that are expected to bring about that change.

The section concludes by providing an overview of the main groups expected to be impacted by the draft guidance.

### 5.1. The guidance

The draft guidance is a significant update to the previous 'guidance on the use of cookies and similar technologies'. It is aimed at providers of online services, including web or app developers, who need a deeper understanding of how PECR applies to the use of storage and access technologies. The guidance also covers UK GDPR, where the use of these technologies involves the processing of personal data. It provides greater regulatory certainty by setting out what organisations must, should, and could do to comply with legislative requirements within the ICO's remit or relevant established case law.

Specifically, in order to address the issues outlined in Sections 2 and 3 the draft guidance aims to:

- Provide equal weight to storage and access technologies other than cookies (such as web storage and scripts and tags), to reflect current practices. This includes renaming the guidance and adding new sub-sections and examples.
- Clarify and expand on established policy positions where the ICO can provide further clarity. For example, our expectations around withdrawal of consent.
- Include new examples of "good" and "bad" practice consent mechanism designs. This will build on the harmful design practices work with the CMA, our observations of common practice, and feedback from stakeholders that examples would be useful.

The following topics are covered within the draft guidance:

- Why have you produced this guidance
- What are storage and access technologies
- What are the rules?
- How do the PECR rules relate to the UK GDPR?
- How do we comply with the rules?
- How do we manage consent in practice?
- How do the rules apply to online advertising?

- What happens if we don't comply?
- Glossary

### 5.1.1. Overarching objectives

The overarching objectives of the guidance are the provision of **regulatory certainty** to organisations:

- on compliant practices for using storage and/or access to information on a device;
- in the application and use of consent mechanisms where required; and
- regarding our expectations when they are using storage and access technologies.

These objectives align with the problem identified and the rationale for intervention outlined in Section 3, as well as with the ICO's organisational strategic objectives which are outlined within ICO25,<sup>56</sup> particularly to:

- safeguard and empower people; and
- empower responsible innovation and sustainable economic growth.

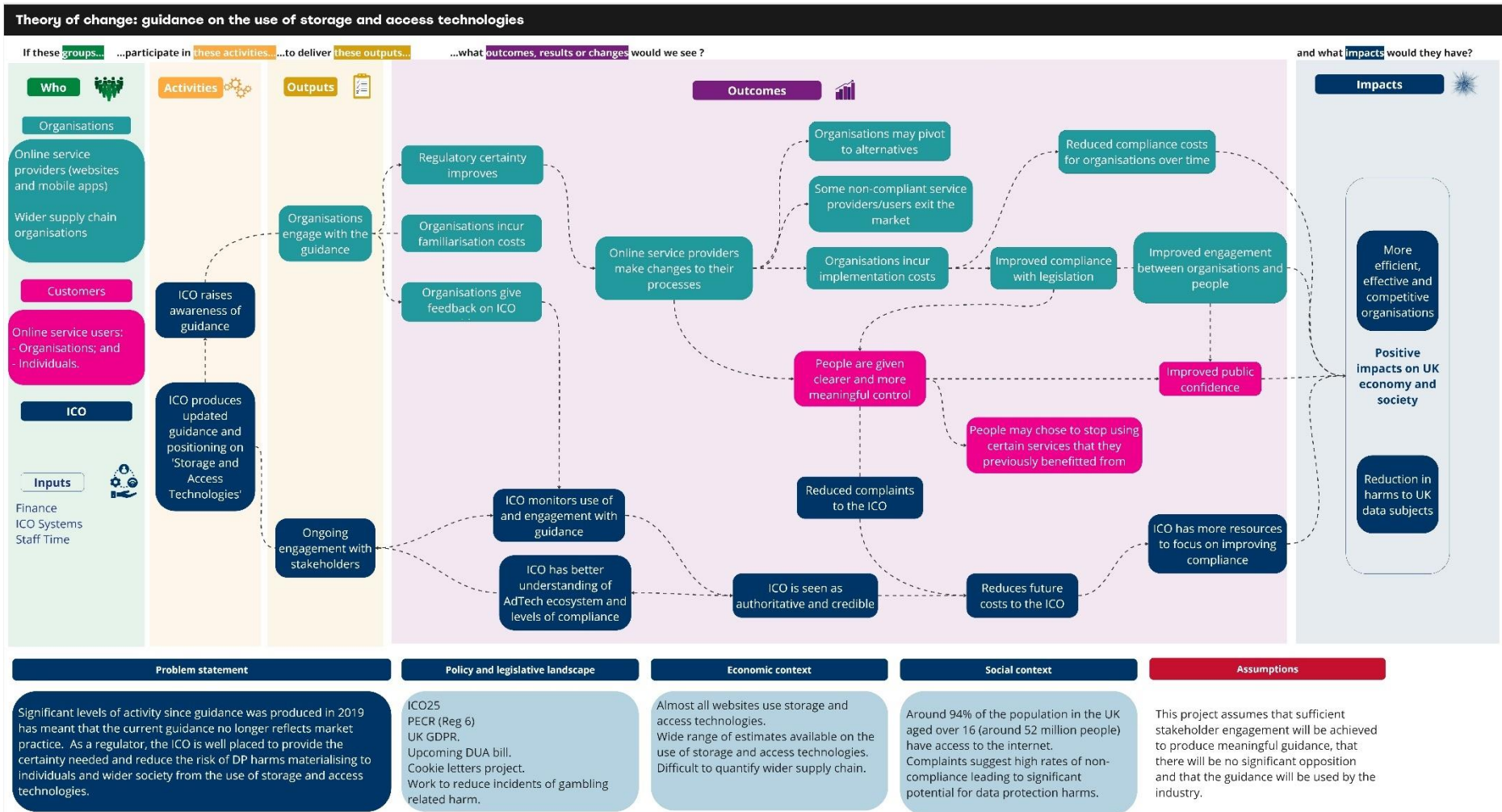
### 5.1.2. Theory of change

Our draft impact assessment is underpinned by an 'output to outcome to impact' methodology, called a theory of change. This shows how guidance can link to a chain of results that lead to the intended impacts. It should be noted that impact, linked to the rationale, is often the most difficult aspect to measure because it will occur over a longer period of time and can be influenced by other external factors. Our theory of change is shown in Figure 1.

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<sup>56</sup> ICO (2021) *ICO25 strategic plan*. Available at: <https://ico.org.uk/about-the-ico/our-information/our-strategies-and-plans/ico25-strategic-plan/> (accessed 13 December 2024).

Figure 1: Draft guidance on the use of storage and access technology – theory of change



Source: ICO analysis.

## 5.2. Scope of draft guidance

The draft guidance is primarily aimed at online service providers that use storage and access technologies, as well as web or app developers who need a deeper understanding of how PECR applies to the use of storage and access technologies.

The draft guidance explains how PECR and UK GDPR (where the use of these technologies involves the processing of personal data), apply when you use technologies that store information, or access information stored, on someone's device. The guidance gives an overview of the changes so that readers can easily navigate the updates made, and also provides a definition of storage and access technologies; outlines the rules of PECR and how they relate to UK GDPR; illustrates how online service providers can comply with the rules and management of consent; and provides some "good" and "bad" practice examples.

The draft guidance does not cover requirements of the PECR outside of Regulation 6, except where relevant to the use of storage and access technologies. Nor does it cover wider compliance obligations with the Data Protection Act (DPA) and UK GDPR when using storage and access technologies, except for where they are relevant to PECR (Reg 6) requirements.

## 5.3. Guidance timeline

Figure 2 shows some of the key milestones in the development of the guidance.

Figure 2: Timeline of key milestones linked to the guidance



Source: ICO analysis.

### 5.3.1. Public consultation

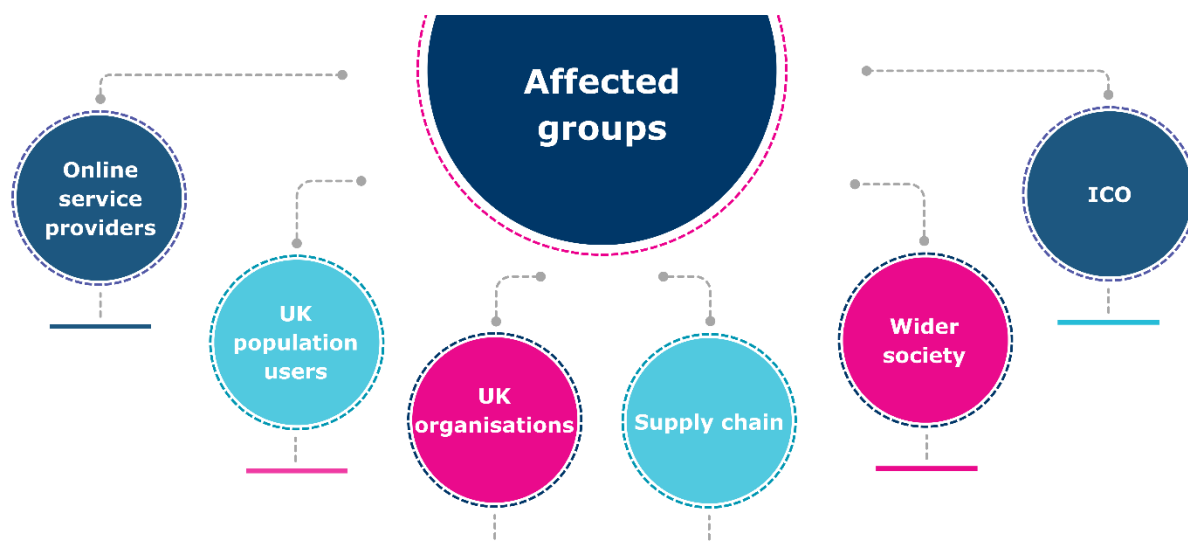
As highlighted at the outset of this document and in line with the ICO’s Policy Methodology,<sup>57</sup> the ICO is consulting on the draft guidance and this draft impact assessment. Responses to this consultation will be analysed and considered in the development of the final guidance. In parallel this draft impact assessment will be iterated further based on any changes and where respondents have provided relevant impact information.

## 5.4. Affected groups

The main groups we expect to be affected by the guidance are outlined in Figure 3 below. There are a number of challenges with quantifying the scale of affected groups, including a lack of robust data and evidence as noted in Section 2.3.

The use of storage and access technologies spans across all sectors with an online presence. This has meant that it is difficult to use official UK statistics and data on businesses (such as industry classification codes which can be used to identify market size) to inform our understanding of likely affected groups, therefore we have had to rely on other sources such as external research and surveys as noted in Section 2.3 and summarised in Annex B: Measurement of affected groups.

Figure 3: Key groups with the potential to be affected by guidance on the use of storage and access technologies.



Source: ICO analysis.

<sup>57</sup> ICO (2024) The ICO’s policy methodology. Available at: <https://ico.org.uk/media/about-the-ico/policies-and-procedures/4028535/policy-methodology.pdf> (accessed 13 December 2024).

#### **5.4.1. Online service providers: that use storage and access technologies for essential and non-essential purposes**

The draft guidance is expected to primarily affect all organisations that are online service providers and who use these technologies as well as web or app developers, who need a deeper understanding of how PECR applies to the use of storage and access technologies.

As noted in Section 2.3 and further illustrated in Annex B: Measurement of affected groups, while it is difficult to accurately measure the number of online service providers operating within the UK that use storage and access technologies, we can provide estimates using a range of sources. Using UK business statistics, we can estimate the number of organisations in the UK that have a website (approximately 3.8 million),<sup>58,59</sup> with almost all of these (3.7 million) using cookies.<sup>60</sup> A review of available evidence on the usage of other types of storage and access technologies indicates that this could be taken as an upper estimate of usage as a whole.

Based on a range of available proxies we can assume that up to approximately 3.7 million online service providers use storage and access technologies for essential and non-essential purposes.

#### **5.4.2. Supply chain: Organisations that interact with and assist in collection and processing of information stored and/or accessed on online services; using storage and access technologies**

The draft guidance will also affect those within the supply chain of online service providers. In Section 2.3 we highlight the roles of organisations such as consent management platforms, third parties, and developers of storage and access technologies. As noted within Section 2.3, measuring the numbers of organisations involved in the wider supply chain of storage and access technologies is challenging and may require further research.

We cannot provide a robust estimate of the number of supply chain organisations at this time. We will seek to reassess this evidence gap post

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<sup>58</sup> Department for Business and Trade (2023) *Business Population Estimates*. Available at: <https://www.gov.uk/government/statistics/business-population-estimates-2023> (accessed 13 December 2024).

<sup>59</sup> Department for Science, Innovation & Technology (2024) *UK Business Data Survey*. Available at: <https://www.gov.uk/government/statistics/uk-business-data-survey-2024/uk-business-data-survey-2024> (accessed: 13 October 2024).

<sup>60</sup> Chen, Iliia, Polychronakis and Kapravelos (2021) *Cookie Swap Party: Abusing First-Party Cookies for Web Tracking*. Available at: <https://www3.cs.stonybrook.edu/~mikepo/papers/firstparty.www21.pdf> (accessed 13 December 2024).



consultation.

### **5.4.3. UK organisations: that use online advertising**

The guidance is likely to have an effect on all UK businesses as many use online advertising to some degree, with around 81% of SMEs noting the importance of online advertising to the success of their businesses.<sup>61</sup> The reliance of SMEs on online advertising is likely to have a greater bearing on their likelihood to succeed due to their size, budget sensitivity and potential lack of in-house marketing capacity.

According to UK business statistics there are approximately 5.5 million businesses across all sectors within the UK with around 3.5 million of those considered to be SMEs.<sup>62</sup>

### **5.4.4. UK population users: People who interact with online services that use storage and access technologies.**

Given that organisations across a broad range of sectors are expected to engage with this guidance, it is anticipated that all UK internet users will be included within affected groups also.

Recent figures from Ofcom suggest that around 94% of individuals in the UK aged 16+ have access to the internet at home (via any device, e.g. PC, mobile phone etc),<sup>63</sup> this accounts for around 52 million people in the UK.<sup>64</sup>

### **5.4.5. ICO**

The ICO will be affected, as the regulator of DP legislation and as the producer of the guidance.

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<sup>61</sup> IAB (2023) *The Digital Dividend*. Available at: <https://www.iabuk.com/news-article/digital-dividend-introduction-iab-uks-ceo-jon-mew> (accessed 13 December 2024).

<sup>62</sup> Department for Business and Trade (2023) *Business Population Estimates*. Available at: <https://www.gov.uk/government/statistics/business-population-estimates-2023> (accessed 13 December 2024).

<sup>63</sup> Ofcom (2024) *Online Nation 2024 Report*. Available at <https://www.ofcom.org.uk/siteassets/resources/documents/research-and-data/online-research/online-nation/2024/online-nation-2024-report.pdf> (accessed 13 December 2024).

<sup>64</sup> ONS (2024) *UK population mid-year estimate 2022*. Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates> (accessed 13 December 2024).



This group is wholly represented by the ICO.

#### **5.4.6. Wider society**

The guidance also has the potential impact on other groups and may have indirect impacts on wider society. This might include

- civil society groups; and
- the wider population.

It is difficult to estimate who the guidance would and wouldn't affect indirectly. As such, we estimate the whole population as an upper-end estimate.

The total UK population (67 million people) could be used as an upper end estimate of the number of people that could be affected by societal impacts.<sup>65</sup>

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<sup>65</sup> ONS (2024) *UK population mid-year estimate 2022*. Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates> (accessed 13 December 2024).

## 6. Cost-benefit analysis

In this section we look at the potential costs and benefits of the draft guidance on the use of storage and access technologies. We will assess the potential impacts of the guidance on affected groups and illustrate the potential impacts on wider society as a whole.

### 6.1. Identifying impacts

In identifying the potential impacts of the draft guidance, it is important to distinguish between:

- Additional impacts that can be attributed to the guidance – these are affected by how the ICO chooses to develop the guidance.
- Impacts that are not attributable to the guidance. These are impacts that simply arise from the existing legislative requirements that controllers are already expected to comply with.

For the purposes of the impact assessment, we are interested in impacts that are attributable to the draft guidance, rather than those that would have happened in the absence of regulatory intervention - a concept known as 'additionality'. Additionality can take a number of forms and may include the realisation of impacts at an earlier stage or to a higher scale or standard than would have been the case without intervention. Impacts can also be direct or indirect:

- Direct impacts: these are 'first round' impacts that are generally immediate and unavoidable, with relatively few steps in the theory of change between the introduction of the measure and the impact taking place.
- Indirect impacts: these are 'second round' impacts that are often the result of changes in behaviour or reallocations of resources following the immediate impact of the introduction of the measure. These impacts tend to be at the latter stages of a theory of change.

While it is not always feasible to categorise impacts distinctly, we have identified those that are attributable to guidance as far as possible. Our impact assessment draws on a mixture of quantitative and qualitative evidence where available, to substantiate and measure impacts. However, as discussed in more detail within Section 2, our analysis is limited by the lack of robust and specific evidence available.

### 6.2. Counterfactual

The counterfactual is a term used to describe the baseline or current level of activity. Measuring this baseline allows us to measure the additionality of

introducing the updated guidance. As outlined in Section 2, the current guidance on the use of 'cookies and similar technologies' has been in place since 2019 and provides a useful overview of the key considerations for organisations in ensuring compliance with PECR (Reg 6) and UK GDPR (where the use of these technologies involves the processing of personal data) legislation.

If the updated guidance on the use of storage and access technologies was not introduced, then the current guidance on the use of 'cookies and similar technologies' would continue to apply and would form the counterfactual in this case.

As explained in Sections 2 and 3 we have particular concerns about compliance at present, but we lack specific evidence that could be used to quantify this. As a result, and in line with government guidance,<sup>66</sup> for the purposes of the impact assessment we assume a counterfactual with compliance both with existing legislation and guidance.

### **6.2.1. Monetising impact**

Providing a quantification of the impacts of the proposed draft guidance is challenging, given its wide-ranging scope and the limited evidence available to provide a monetised illustration on potential impacts on affected groups. Our analysis therefore focuses primarily on non-monetised impacts. However, where possible, we have provided high level quantitative analysis to indicate scale.

### **6.2.2. Uncertainty, risk and optimism bias**

As set out in the Treasury's Green Book,<sup>67</sup> it is necessary to consider the significant levels of uncertainty surrounding the evidential assumptions used to estimate the potential impacts of this draft guidance on the use of storage and access technologies. Although optimism bias is typically only considered in capital projects,<sup>68</sup> we understand that there can be a tendency to overestimate aspects within non-capital project also, such as in the measurement of engagement with guidance.

To account for and demonstrate the implications of any potential bias, we have provided sensitivity analysis for the impacts we have been able to quantify.<sup>69</sup>

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<sup>66</sup> BEIS (2017) *Business impact target*. Available at: [Business Impact Target: appraisal of guidance - assessments for regulator-issued guidance](#) (accessed 13 December 2024).

<sup>67</sup> HM Treasury, *The Green Book: appraisal and evaluation in central government*. Available at: <https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government> (accessed 13 December 2024).

<sup>68</sup> Department for Finance of Northern Ireland, *Step six: assess risk and adjust for optimism bias section 2.6.27*. Available at: <https://www.finance-ni.gov.uk/articles/step-six-assess-risks-and-adjust-optimism-bias> (accessed 13 December 2024).

<sup>69</sup> See para 5.59 of HM Treasury's Green Book for more information on sensitivity analysis. HM Treasury (2022) *The Green Book: appraisal and evaluation in central*

This tests the sensitivity of impact estimates to changes in assumptions and is provided in Section 6.3.2.

### 6.3. Costs and Benefits

Table 2 gives an overview of the impacts on affected groups. Quantification in relation to both the scope (the size and scale of affected groups) and depth (the degree of change expected for entities within the affected groups) of costs and benefits has not been fully possible at this stage as evidence gaps and proportionality considerations have prevented a more comprehensive assessment.

As noted at the outset of this document and in Section 5.3.1, we will develop our analysis further as we move towards publication of the final guidance based on information and feedback received. We are seeking feedback on this draft impact assessment, as well as any other information and insights stakeholders can provide on impacts through the consultation process.

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*government*. Available at: <https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government> (accessed 13 December 2024).

Table 2: Summary of potential impacts of guidance on the use of storage and access technologies

| Affected groups   | Benefits   | Costs   |
|---|--|---|
| <p><b>Online service providers:</b><br/>Organisations that use storage and access technologies for essential and non-essential purposes</p> | <ul style="list-style-type: none"> <li>• Improved understanding of relevant legislation.</li> <li>• Reduction in costs of obtaining advice and support (eg legal advice).</li> <li>• Reduction in potential future compliance costs of relevant legislation (eg avoidance of future intervention including penalties).</li> <li>• Improved reputation through increased public confidence in organisational compliance with relevant legislation.</li> </ul> | <ul style="list-style-type: none"> <li>• Familiarisation costs of engagement with the updated guidance (£124 per organisation).<sup>70</sup></li> <li>• Implementation and maintenance costs of employing compliant practices (eg consent management practices).</li> <li>• Potential reduction in revenue from cessation of non-compliant practices.</li> <li>• Potential reduction in how organisations view the effectiveness of insights and consumer targeting, due to a reduction in the amount of personal data available (for instance due to consumers selecting 'reject' or 'reject all').</li> <li>• Potential reduction in revenue for organisations that generate income through personalised advertising.</li> <li>• Organisations may pivot to other models of revenue raising, for instance consent or pay models.</li> </ul> |

<sup>70</sup> Familiarisation costs are the costs associated with reading and becoming familiar with new or revised guidance. We calculate these as administrative costs associated with an individual at manager, director or senior official level reading the document. See Annex C for further detail on our approach

**Supply chain:**

Organisations that interact with and assist in collection and processing of information stored and/or accessed on online services; using storage and access technologies.

- Improved understanding of relevant legislation among supply chain organisations.
- Reduction in compliance costs of relevant legislation (eg avoidance of future intervention including penalties).
- Improved reputation through increased public confidence in organisational compliance with relevant legislation.

- Potential perceived reduction in effectiveness of insights and consumer targeting for third parties, due to a reduction in acceptance rates of storage and access technologies for online advertising purposes.
- Potential reduction in revenue due to reduction in the ability to sell or promote services to organisations.
- Potential reduction in market size and potential due to impacts on organisations that generate income through online advertising; or use/rely heavily on online advertising markets.

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**UK organisations:**

Organisations that use online advertising.

- Improved understanding of relevant legislation.
- Improved reputation through increased public confidence in organisational compliance with relevant legislation.

- Potential reduction in how organisations view the effectiveness of insights and consumer targeting, due to a reduction in the amount of personal data available (due to consumers for instance selecting 'reject' or 'reject all').
  - Potential reduction in revenue potential from buying advertising space due to lower return from targeted audience interaction rates.
  - Potential for increased marketing spend by organisations reliant on online advertising – particularly SMEs.
-

|  |  |   |
|--|--|---|
| <b>UK population users:</b> People who interact with online services that use storage and access technologies. | <ul style="list-style-type: none"><li>• Access to better and more compliant online services.</li><li>• Improved ability to exercise data protection rights both from increased knowledge of relevant legislation and access to more compliant online services.</li><li>• Reduction in potential data protection harms.</li></ul> | <ul style="list-style-type: none"><li>• Potential for increased friction due to potential changes in consent management practices by organisations.</li><li>• Potential reduction in service offerings due to reduced profitability of organisations that use/rely on online advertising markets.</li></ul> |
| <b>ICO.</b>  | <ul style="list-style-type: none"><li>• Improved engagement with organisations.</li><li>• Ability to allocate resources efficiently.</li></ul>   | <ul style="list-style-type: none"><li>• Upfront resource costs.</li></ul>   |
| <b>Wider society.</b>  | <ul style="list-style-type: none"><li>• Reduction in societal costs associated with organisational non-compliance.</li></ul>   | <ul style="list-style-type: none"><li>• Potentially reduced wider organisational service offerings or the removal of a service altogether.</li></ul>  |

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Source: ICO analysis.

### 6.3.1. Distributional Impacts

The guidance may benefit those with protected characteristics through the reduced potential for data protection harms.<sup>71</sup> While the potential costs of implementing and maintaining compliant systems may impose a proportionally larger cost on smaller organisations, the compliant use of these technologies is a legislative requirement of all organisations. We also acknowledge that there is the potential for reduced revenue among organisations that rely on digital advertising, including SMEs.

### 6.3.2. Key Assumptions

The impacts identified from the guidance are contingent on:

- organisations' awareness of the guidance;
- the extent that organisations engage with the guidance; and
- changes that are made to organisational practices as a result of engaging with the guidance.

While we are unable to quantify the impacts of these uncertainties, Table 3 provides an indication of the sensitivity of key impacts to these unknowns.

Table 3: Sensitivity of key impacts to identified risks

| <b>Impacts</b>   | <b>Sensitivity</b> |
|--|--------------------|
| More efficient, effective and competitive organisations. | Medium             |
| Familiarisation costs for organisations.                 | High               |
| Improved compliance with relevant legislation.           | Medium             |
| Implementation and maintenance costs for organisations.  | High               |
| Increased public trust and confidence.                   | High               |
| Reduction in harms to UK data subjects.                  | Medium             |

Source: ICO analysis.

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<sup>71</sup> Refers to characteristics protected by the Equality Act 2010 (England, Scotland and Wales) and Section 75 of the Northern Ireland Act 1998. These include: age, disability, sex, sexual orientation, gender reassignment, marriage or civil partnership (in employment only), pregnancy and maternity, race, religion or belief and political belief.



### 6.3.3. Overall Assessment

As summarised in Table 4, our analysis has identified a number of impacts of the guidance including the reduced potential for data protection harms. The guidance is expected to increase regulatory certainty for online service providers, their supply chain, and wider UK organisations that use online advertising.

Although there will be costs to organisations from reading, understanding and implementing the guidance, this is expected to be outweighed by the wider societal benefits of reduced data protection harms. On balance we expect the guidance to have a net positive impact. Table 4 presents a summary of the main impacts we expect to see from the guidance.

Table 4: Overall impacts of guidance on the use of storage and access technologies

| <b>Impacts</b> |   | <b>Attribution to the ICO</b> | <b>Direct or Indirect</b> |
|----------------|---|-------------------------------|---------------------------|
| Benefits       | More efficient, effective and competitive organisations.                        | Partly Attributable           | Indirect                  |
|                | Improved compliance with relevant legislation.                                  | Partly Attributable           | Indirect                  |
|                | Reduced data protection harms leading to increased public trust and confidence. | Partly Attributable           | Indirect                  |
| Costs          | Familiarisation costs of engaging with guidance.                                | Attributable                  | Direct                    |
|                | Implementation and maintenance costs of deploying alternatives.                 | Partly Attributable           | Indirect                  |

Source: ICO analysis.

## 7. Monitoring and review

Finally, as per our IA Framework, when finalising the guidance post consultation, we will consider the monitoring and review processes. In line with organisational standards as set out within our Ex-post Impact Framework,<sup>72</sup> we will look to put in place an appropriate and proportionate review structure. This will follow best practice and align with our organisational reporting and measurement against ICO25 objectives. For example, this could include:

- feedback from organisations on the updated guidance on the use of storage and access technologies;
- engagement figures that monitor how many times the guidance is viewed; and
- working with other Data Protection Authorities to seek alignment and complementarity between our monitoring and review activities.

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<sup>72</sup> ICO (2024) *Ex-post Impact Framework*. Available at: [https://ico.org.uk/media/about-the-ico/documents/4031030/ex-post-impact-framework\\_sept24\\_v1.pdf](https://ico.org.uk/media/about-the-ico/documents/4031030/ex-post-impact-framework_sept24_v1.pdf) (accessed 13 December 2024).

## Annex A: What are storage and access technologies?

This annex provides an overview of some of the key storage and access technologies.

Table 5: What are storage and access technologies?

| Technology                                | Description  |
|---|--|
| Cookies                                   | <p>Cookies are small text files generated by a web server responding to a request from a website. The user's device can store cookies (for example, via their web browser) and send the information back when they next make a request to the same web server.</p> <p>Cookies are widely used to make websites work, or work more efficiently, and to provide information to the website operator. For example, they can be used for:</p> <ul style="list-style-type: none"> <li>• recognising a user's device;</li> <li>• remembering what's in a shopping basket when shopping for goods online;</li> <li>• supporting users to log in to a website or remembering they are logged in; or</li> <li>• analysing traffic to a website and how users interact with the website.</li> </ul> <p>They can also be used for other purposes, such as tracking users' browsing behaviour.</p> |
| Tracking pixels                           | <p>Tracking pixels are small pieces of code, usually an image file, embedded into a piece of content like a website or an email. Their purpose is to create a communication between the user's client and a server. The server can then identify information, such as when a user has viewed a webpage or opened an email.</p>   |
| Link decoration and Navigational tracking | <p>Link decoration refers to the practice of adding extra information to the URL in a link that someone clicks on. This doesn't change the destination of the link but provides a way to pass additional information to the destination site beyond what is essential to navigate to the page that the user wants to visit.</p> <p>This extra information is generated:</p> <ul style="list-style-type: none"> <li>• statically, eg by being attached to a URL when a link is created; or</li> </ul>   |

|                       |  |
|-----------------------|--|
|                       | <ul style="list-style-type: none"> <li>dynamically, eg through the use of JavaScript code.</li> </ul> <p>When a user navigates to the webpage via the URL, the browser loads the requested resource. It may also involve storage or access of other information.</p>   |
| Scripts and Tags      | <p>Online services can add pieces of JavaScript code, often referred to as 'scripts' or 'tags', to web pages to collect additional information about visitors to their service. When a user accesses a web page, their browser interprets the instructions included in the script and executes them. While scripts can be used for many purposes, 'tags' often refers to a JavaScript 'snippet' included specifically to gather data about a website's visitors.</p> |
| Device fingerprinting | <p>Device fingerprinting, such as browser fingerprinting techniques, involves the collection of pieces of information about a device's software or hardware. These can be combined to uniquely identify a particular device.</p>   |
| Web storage           | <p>Web storage is another way in which online services can store information, or access information stored, on someone's device. It involves websites storing data in someone's browser. It's also known as "local storage", "HTML5 storage" or "DOM storage".</p>   |

Source: ICO Analysis, Guidance on the use of storage and access technologies.<sup>73</sup>

<sup>73</sup> ICO (2024) *Guidance on the use of storage and access technologies*. Available at: <https://ico.org.uk/for-organisations/direct-marketing-and-privacy-and-electronic-communications/guidance-on-the-use-of-storage-and-access-technologies/> (accessed 19 December 2024).

## Annex B: Measurement of affected groups

This annex sets out the calculations made to estimate and quantify groups that have the potential to be affected by the guidance.

Table 6: Measurement of UK organisations within affected groups

| <b>Assumption</b>   | <b>Detail</b>        |
|---|----------------------|
| Number of UK businesses <sup>74</sup>   | 5,555,120            |
| UK businesses with a website <sup>75</sup>  | 67.9%<br>(3,770,089) |
| Organisations general data use: Personal Data (including employee data) <sup>75</sup>                               | 62.3%<br>(2,350,444) |
| Businesses that acquire personal data through the use of cookies placed on people's connected devices <sup>75</sup> | 9.2%<br>(216,241)    |
| Alexa top 10 thousand websites that use cookies <sup>76</sup>   | 97.7%<br>(3,683,377) |
| Alexa top 10 thousand websites that have third parties that exchange tracking IDs stored in cookies <sup>76</sup>   | 57.6%<br>(2,171,571) |
| Link decoration <sup>77</sup>   | 73.0%<br>(2,752,919) |
| Web Storage <sup>78</sup>   | 54.1%<br>(2,039,618) |
| Scripts <sup>79</sup>   | 27.8%<br>(1,046,200) |

<sup>74</sup> Department for Business and Trade (2023) *Business Population Estimates*. Available at: <https://www.gov.uk/government/statistics/business-population-estimates-2023> (accessed 13 December 2024).

<sup>75</sup> Department for Science, Innovation & Technology (2024) *UK Business Data Survey*. Available at: <https://www.gov.uk/government/statistics/uk-business-data-survey-2024/uk-business-data-survey-2024> (accessed: 13 October 2024).

<sup>76</sup> Chen, Iliia, Polychronakis and Kapravelos (2021) *Cookie Swap Party: Abusing First-Party Cookies for Web Tracking*. Available at: <https://www3.cs.stonybrook.edu/~mikepo/papers/firstparty.www21.pdf> (accessed 13 December 2024).

<sup>77</sup> Munir, Lee, Iqbal and Shafiq (2023) *PURL: Safe and Effective Sanitization of Link Decoration*. Available at: [https://www.researchgate.net/publication/372961970\\_PURL\\_Safe\\_and\\_Effective\\_Sanitization\\_of\\_Link\\_Decoration](https://www.researchgate.net/publication/372961970_PURL_Safe_and_Effective_Sanitization_of_Link_Decoration) (accessed 13 December 2024).

<sup>78</sup> Ahmad, Casarin and Calzavara (2023). *An Empirical Analysis of Web Storage and Its Applications to Web Tracking*. Available at: <https://dl.acm.org/doi/10.1145/3623382#sec-4-3> (accessed 13 December 2024).

<sup>79</sup> Built with data (2024) *Analytics Usage Distribution in United Kingdom*. Available at: <https://trends.builtwith.com/analytics/country/United-Kingdom> (accessed 13 December 2024).

|                                     |                    |
|-------------------------------------|--------------------|
| Tracking pixels <sup>79</sup>       | 17.3%<br>(652,225) |
| Device fingerprinting <sup>80</sup> | 10.2%<br>(383,795) |
| Tags <sup>79</sup>                  | 4.1%<br>(153,443)  |

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<sup>80</sup> Iqbal, Englehart and Shafiq (2021) '*Fingerprinting the Fingerprinters: Learning to Detect Browser Fingerprinting Behaviors*'. Available at: <https://arxiv.org/abs/2008.04480> (accessed 13 December 2024).

## Annex C: Familiarisation costs

This annex sets out the approach taken to estimate familiarisation costs for the guidance, which follows an approach drawn from our impact assessment guidance.<sup>81</sup>

### 7.1. Familiarisation costs per organisation

We have estimated the total time for reading the guidance at 3 hours and 58 minutes. This is based on a word count of around 17,879 words and a Fleisch reading ease score of 36.5.

Table 7: Estimate of the average time taken to read the guidance

| Document | Word Count | Fleisch reading ease score | Assumed words per minute | Estimated reading time (hr:mn) |
|----------|------------|----------------------------|--------------------------|--------------------------------|
| Guidance | 17,879     | 36.5                       | 75                       | 3h58                           |

Source: ICO, BEIS (2019).<sup>82</sup>

The impact of familiarisation on organisations can be monetised using data on wages from the ONS Annual Survey of Hours and Earnings.<sup>83</sup>

Making the conservative assumption that the relevant occupational group is 'Managers, Directors and Senior Officials', the 2024 median hourly earnings (excluding overtime) for this group is £26. This hourly cost is updated for non-wage costs using the latest figures from the Regulatory Policy Committee guidance,<sup>84</sup> resulting in an uplift of 22% and an hourly cost of £31. We therefore assume the cost of reading the guidance once to be approximately £124.

<sup>81</sup> ICO (2023) *The ICO's Impact Assessment Framework*. Available at: <https://ico.org.uk/media/about-the-ico/documents/4027020/ico-impact-assessment-framework.pdf> (accessed 13 December 2024).

<sup>82</sup> BEIS (2017) *Business Impact Target: Appraisal of guidance: assessments for regulator-issued guidance*. Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/609201/business-impact-target-guidance-appraisal.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/609201/business-impact-target-guidance-appraisal.pdf) (accessed 13 December 2024).

<sup>83</sup> Office for National Statistics (2024) *Annual Survey of Hours and Earnings*. Available at: <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/bulletins/annualsurveyofhoursandearnings/2024> (accessed 13 December 2024).

<sup>84</sup> RPC (2019) *RPC guidance note on 'implementation costs'*. Available at: <https://www.gov.uk/government/publications/rpc-short-guidance-note-implementation-costs-august-2019> (accessed 13 December 2024).