Value for Money Evaluation of Adaptation Reporting Power 4 (ARP4)

S1693 – Evaluation of ARP4

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Glossary

Acronym	Full term
ARP	Adaptation Reporting Power
ARP4	Fourth round of Adaptation Reporting Power
CAWI	Computer-Assisted Web Interviewing
CCRA	Climate Change Risk Assessment
CDP	Carbon Disclosure Project
Defra	Department for Environment, Food and Rural Affairs
GIS	Geographic Information System
LA	Local Authority
LCAT	Local Climate Adaptation Tool
MEL	Monitoring, Evaluation and Learning
NAP	National Adaptation Programme
ONS	Office for National Statistics
SECR	Streamlined Energy and Carbon Reporting
TCFD	Task Force on Climate-related Financial Disclosures
ToC	Theory of Change
UKCP18	UK Climate Projections 2018
VfM	Value for Money
Civil Service Grade Structure	
	Administrative Officer
	Administrative Assistant
	Executive Officer
	Higher Executive Officer
	Senior Executive Officer
	Grade 7 (UK Civil Service)
	Grade 6 (UK Civil Service)
	Senior Civil Service
Types of reporting	
Collective reporting	The grouping “collective reporting” was produced to be the aggregate of joint reporters, those who have created an individual report which has contributed to a sector-level report, those who are creating a sector level report based on individual submissions, and those who are reporting on behalf of a sector group. These were combined due to small sample sizes in each smaller aforementioned grouping.
Hybrid reporting	Reports which included more detail than a light-touch report but less than a full report. This classification was self-reported in the survey.
Light-touch reporting	Reports which outline a review of the organisation’s action plan and a progress update on actions. This classification was self-reported in the survey.

Executive summary

Introduction

The Adaptation Reporting Power (ARP) is a provision under the UK Government's Climate Change Act 2008 that enables Defra to direct certain organisations, particularly those responsible for delivering infrastructure and public services, to report on their climate change risks and adaptation strategies. The fourth round of this reporting process (ARP4) has been completed, including a pilot of reporting by local authorities (LAs). The primary objectives of ARP4 are to support the integration of climate change risk management into the work of reporting organisations and to build an understanding of the level of preparedness of key sectors to climate change at a sectoral and national level. This information is intended to inform other parts of the government's statutory cycle for climate adaptation, including Climate Change Risk Assessments (CCRAs) and National Adaptation Programmes (NAPs).

This evaluation assesses how ARP4 supported organisations to understand and manage climate risks and generates evidence on costs and benefits to provide a value for money assessment. The evaluation involved the development of a behavioural theory of change, a desk review, primary research with reporting organisations and government, and the development of a 4E's value for money framework. There are several limitations with the analysis presented in this evaluation, which are detailed in the 'Limitations and next steps' section and should be taken into consideration when interpreting the results.

Key findings

Costs

For reporting organisations, total reporting costs clustered around £6,400 (median), with a mean of £25,600 due to a small number of high-cost cases. There are significant differences in the total costs of reporting between those who used only internal resource for ARP4 (73%) at £5,100 (median) and those who also incurred additional external costs (27%) at £43,000 (median). Collective and hybrid submissions had the greatest variability of costs reported, and local authorities tended to report lower, more consistent costs. Overall, higher spending was associated with full reports and public-sector bodies. Higher costs are associated with factors such as the greater complexity of their functions or structures, the need to upskill to conduct new risk assessments, or differences in how guidance was interpreted and applied.

A large proportion of the total government costs was made up from staff time across strategy, engagement, guidance, recruitment/information-sharing, and review/feedback activities. The total cost (including internal resource and external consultants) of ARP4 to Defra policy and evidence teams, as well as to the wider government, was calculated to range from £211,300 to £241,600. Staff time costs accounted for approximately 57–63% of this amount. Over the 101 reports submitted, this is equivalent to an average cost of around £2,100 - £2,400 to support each report, which is in line with assumptions made in the ARP4 strategy (£1,461 – £2,921).

Benefits

Increased awareness of and engagement with climate resilience

ARP4 contributed to increased climate resilience in some organisations by improving understanding of climate risks, catalysing planning and investment, and embedding adaptation measures into existing processes. It acted as a catalyst for new adaptation initiatives, supported knowledge sharing across organisations, and provided the evidence base to secure funding or deliver concrete measures such as nature-based solutions.

However, some organisations reported no observable reduction in climate risks, citing barriers such as the lack of systematic evaluation frameworks, long timescales before impacts become apparent, and limited implementation of planned actions. It is feasible that earlier rounds of ARP, for repeat reporters, have indirectly led to increased climate resilience via these improvements. This effect is challenging to isolate and falls outside the scope of this study.

Reflection on national adaptation efforts

Many respondents (62%) agreed or strongly agreed that ARP4 led their organisation to reflect on its role within national adaptation efforts. Public sector organisations reported the highest levels of agreement (70%), compared to 50% in the private sector.

Climate adaptation ambitions

Around half of respondents (52%) reported increased ambitions to collect climate risk data following ARP4, with public sector organisations more likely to report increased ambitions (54%) than private sector respondents (47%).

Similarly, 58% of respondents reported increased ambitions to develop or strengthen climate adaptation plans, with public sector organisations again showing higher levels of increased ambitions (62%) compared to private sector respondents (44%).

Additional benefits

ARP4 prompted organisations to introduce new processes, procedures, or activities, such as new or updated climate risk assessments and the development or updating of adaptation strategies or action plans. Around three-quarters of respondents reported these benefits to some extent.

The process also often prompted the reinforcement of existing adaptation plans, though it had less impact on securing new funding, allocating additional funding or ensuring that policies, procedures, and procurement incorporating climate risks were retained.

Contribution to other reporting requirements

ARP4 primarily informed internal processes and, to a lesser extent, TCFD reporting. However, its links to SECR and public-sector reporting frameworks remained quite limited for respondents.

Benefits to government

ARP4 has helped government teams and departments improve their understanding of the level of preparedness to climate change of key sectors, allowing them to highlight high-

performing organisations and identify sectors or themes which require stronger policy support. In one case, this improved understanding has directly fed into policy development, and in another case, reports have provided useful and informative insights into climate change risk and adaptation approaches which have been integrated into resilience policy.

ARP4 data has informed activities related to ongoing NAP3 delivery in at least two government departments and has also indirectly supported government in the production of CCRA4. The Climate Change Committee (CCC) has drawn on ARP4 evidence in its independent advice, including its most recent Progress Report assessment, which government will take into account in policy development culminating in NAP4. This contribution to CCRA4 was a primary driver for shortening the ARP4 timeline.

Comparison with previous rounds

A majority of reporting organisations felt ARP4 delivered benefits on par with previous rounds, while about a third saw improvements. Full reporters were most positive, with 83% reporting more benefits, while hybrid and light-touch reporters were more neutral or unchanged.

Evidence indicates that ARP4's comparative benefits were strongest for organisations with existing adaptation capacity, particularly where reporting helped accelerate or consolidate ongoing work. However, some respondents noted diminishing additional benefits compared to earlier rounds, as climate risk management practices become embedded into business-as-usual processes and the shorter timeframe since ARP3 limited the availability of new evidence. This suggests that while ARP4 continues to play an important role in reinforcing and standardising adaptation planning, the marginal benefits may be greatest for new reporters entering the process for the first time.

Challenges

Reporting organisations highlighted several internal and external factors that constrained the benefits of ARP4, including timing pressures, capacity and resourcing constraints, coordination challenges, data gaps, and low senior-level engagement.

Government survey respondents mentioned challenges such as variation in the quality of reports, reporting organisations not necessarily being representative of sectors, and the length of reports.

Local Authority Pilot

ARP4 included a pilot with local authorities, marking the first time they were asked to report within the ARP framework. Local authorities made up the largest single group of survey respondents (13 out of 57, with 9 providing information on costs). Median internal staff time costs were ~£5,100 (vs. £5,900 for others), though the mean (of £17,800) was skewed by one outlier (£146,800). Additional consultancy costs were somewhat higher (median £40,000 vs. £25,000), though based on only three responses.

Benefits were clear, with most local authorities reporting increased awareness of climate risks (75%), stronger integration into business strategies and governance (78%), and increased ambition to collect risk data (78%) or strengthen adaptation plans (90%). All local

authorities identified at least some benefit in developing adaptation options. However, capacity gains were less consistent, and collaboration benefits were slightly below average.

Overall, the pilot demonstrated that ARP could play a useful role for local authorities in helping them incorporate adaptation into corporate risk registers, local plans, and resilience forums. Nevertheless, challenges could remain for some around translating long-term climate scenarios into service-level risks and ensuring consistency of reporting, as was the case for the local authority case study. Future rounds could strengthen support with clearer guidance, more standardised templates, and proportionate approaches for smaller, less-resourced authorities.

Value for Money judgement

A 4E's framework was used to assess value for money based on the qualitative and quantitative evidence available. ARP4 performed well across all assessment criteria and there was strong evidence to suggest ARP4 delivered its intended benefits. Based on the 4E's assessment, and the wider benefits outlined in this report, there is evidence to suggest ARP4 has delivered value for money.

Cost-effectiveness and efficiency

The evaluation identified multiple signals of cost-effectiveness and efficiency. Over 70% of organisations reported increased awareness of climate risks, around half reported greater ambition to collect data or strengthen adaptation plans, and a majority agreed ARP4 supported reflection on their role in national adaptation. At the same time, two-thirds of respondents indicated their ARP4 resource use was the same or lower than in previous rounds, potentially reflecting process efficiencies and reuse of existing analyses. Opportunities for further efficiency gains were also highlighted, including clearer templates and terminology, better timing and lead-in periods, stronger alignment with TCFD, and more specific feedback processes.

Effectiveness and outcomes

ARP4 benefits were especially strong for full reporters, local authorities, and organisations with existing adaptation plans, where the process acted as an accelerator and consolidator of ongoing work. Benefits included strengthened governance, cross-departmental engagement, and integration of climate risks into strategic planning. Although some organisations reported limited measurable reductions in climate risks to date, this reflects the long timescales of adaptation, with many respondents noting that benefits will crystallise over future years.

Overall assessment and forward look

Taken together, the evidence developed through the evaluation suggest ARP4 delivers value for money. Costs for both organisations and government were moderate and proportionate, while benefits spanned organisational resilience, policy development, and national adaptation planning. While some diminishing returns were reported compared to earlier rounds, especially among experienced reporters, the evaluation points to practical measures to sustain and increase VfM in ARP5 – including proportional reporting, better alignment with existing frameworks, and stronger data support.

Limitations and next steps

It should be noted that the evidence base for the VfM assessment remains constrained. Benefits were assessed qualitatively and descriptively rather than monetised, limiting the scope for formal cost-benefit comparisons. Survey responses were relatively small in number (57 reporting organisations, 5 government teams), with limited disaggregation possible by sector or reporting type. In addition, estimates relied on self-reported data and retrospective assessments, which may introduce uncertainty. These limitations mean findings should be interpreted as indicative rather than definitive. Nonetheless, ARP4 provides a robust baseline for future rounds, which could enable more systematic quantification and monetisation of benefits as adaptation actions mature and evidence accumulates.

The evaluation establishes a baseline for future rounds and points to priority improvements, particularly around timing, clarity, proportionality and data support, to enhance ARP5's effectiveness and VfM. It should be noted that ARP reporting is already scheduled to return to its standard five-year cycle in Round 5, following the necessarily shortened cycle in ARP4 to align with CCRA.

Introduction

Policy introduction

The Adaptation Reporting Power (ARP) is a provision under the UK Government's Climate Change Act 2008 that enables Defra to direct certain organisations, particularly those responsible for delivering infrastructure and public services, to report on their climate change risks and adaptation strategies. While the power itself has not been formally used to issue such directions since 2011/12, the process by which voluntary reporting has been sought remains referred to as ARP by its stakeholders and will be throughout this report. The fourth round of this reporting process (ARP4) has been completed, including a pilot of reporting by local authorities. The primary objectives of ARP4 were to:

- Support the integration of climate change risk management into the work of reporting organisations
- Build an understanding of the level of preparedness of key sectors to climate change at a sectoral and national level, and to inform other parts of the government's statutory cycle for climate adaptation, including Climate Change Risk Assessments (CCRAs) and National Adaptation Programmes (NAPs)

ARP4 theory of change

To support the evaluation of the ARP4, ICF developed a behavioural theory of change (ToC). The behavioural theory of change uses the integrated model of behaviour (Barnard, 2023), which nests and integrates a wide range of existing approaches along the whole of the behavioural pathway, from those related to core motivational drivers, through the process of making choices in the face of limited time, energy and resources to models that illuminate the challenges of implementing a behaviour and the influence of the experience of both the behaviour and its impact via feedback mechanisms.

The use of a behavioural ToC for ARP4 was deemed appropriate as this was a voluntary reporting round that would only work if organisations *chose* to invest time and resources into reporting. A behavioural ToC places the decision-making and actions of reporting organisations at the centre. Since ARP4 gave organisations a choice under constraint (of scarce time and budget), this framing of a ToC is well suited to understanding the causal pathway through which ARP4 is expected to achieve its intended outcomes.

In addition, a behavioural ToC helps surface behaviour-driven benefits and capture feedback loops in a way that traditional ToCs do not. In the context of delivering a VfM evaluation, this choice of ToC allows the VfM to measure compounding effects and lock-ins that drive long-term value for ARP overall. The high-level behavioural ToC developed for ARP4 is shown in Figure 1, and the elements are described in more detail in the following subsections. The ToC was informed by the desk-based review and a workshop with key Defra stakeholders.

Activities

ARP enables the government, via Defra, to ask organisations, particularly those responsible for delivering public services, to report on their climate change risks and adaptation strategies. The fourth round of this reporting process (ARP4) was completed in December

2024 and included a pilot of reporting by local authorities. Returning reporting organisations (i.e., those who had participated in previous ARP rounds) provided light-touch updates, and organisations that had not reported under previous rounds of the ARP were invited to supply full reports. The key activities were thus undertaken by two stakeholder groups: Defra and reporting organisations.

- **Defra** owns the strategy and processes to implement ARP. It publicly consulted on its proposals for ARP4, with a view to obtaining feedback on the objectives and reporting process. Defra developed ARP4 guidance with an advisory Task and Finish group with representatives across ARP sectors. Defra published ARP4 requirements, guidance, and templates, and engaged with organisations through webinars, 1-1 meetings on request, quarterly drop-in sessions, and sector-led specific sessions.
- **Reporting organisations** engage in the reporting process. In the case of first-time reporters, this involves conducting a risk assessment and producing an action plan. For organisations that have reported previously, the update focuses on major developments since the last report and the delivery of climate adaptation actions since then. Nonetheless, they also had the option to refresh their risk assessments if they chose to do so. The ARP4 process was voluntary and there was flexibility on the level of detail that organisations provided.

These elements constitute the activities of ARP4, in that they are expected to lead to changes in behaviour and would no longer be present if ARP4 was not implemented.

Source: ICF developed a behavioural ToC of ARP4 for this evaluation, based on a policy review and a workshop with Defra.

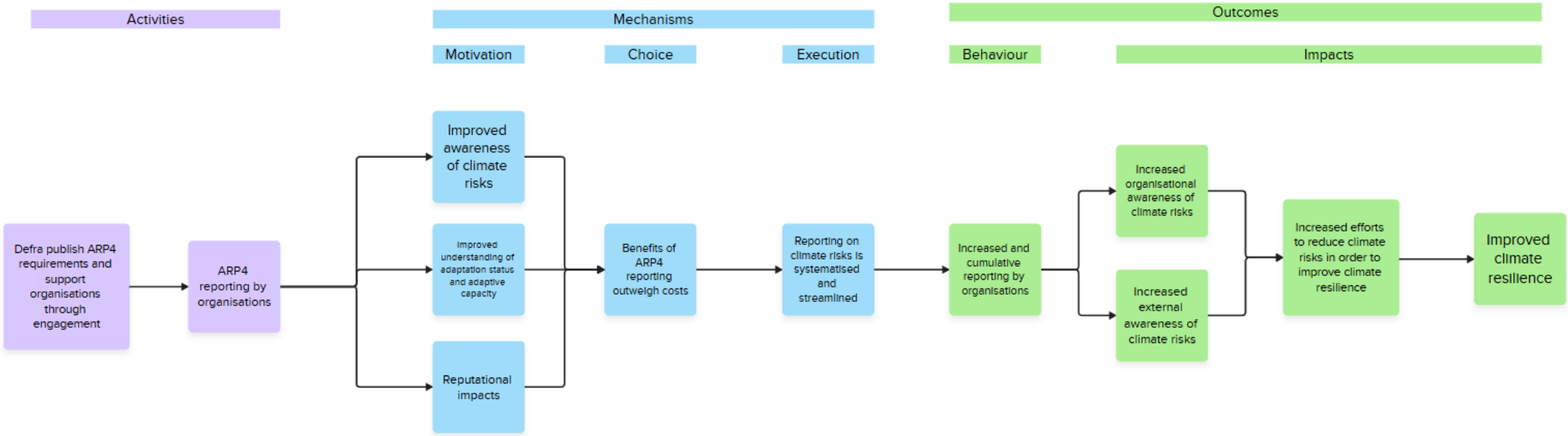

Figure 1: Behavioural Theory of Change for ARP4

Mechanisms

The mechanisms in the ToC describe the 'active ingredients' of the intervention, and explain how the intervention's activities are expected to influence the targeted behaviour. Using the integrated model, the ARP4's mechanisms are understood to encompass three elements:

- **Motivation**: Organisations may be motivated to report on their climate risks and adaptation strategies for various reasons, which may be independent from ARP4. However, the ToC aims to isolate those motivations that are likely to arise specifically because of ARP4. Within this context, three key motivations are considered. First, organisations may seek to improve their awareness of climate risks. Second, they may aim to better understand their own adaptation efforts and adaptive capacity (i.e., their capability and capacity for adaptation). Finally, reputational factors could play a role, both in avoiding negative publicity and enhancing the organisation's image. Reports are made public (unless in exceptional circumstances) and might be read by a range of stakeholders, including partner organisations, peers, customers, regulators, and the wider public.
- **Choice**: Even if an organisation is motivated to report, that motivation alone may not be enough. Organisations face many competing priorities and have limited time and resources; accordingly, they face trade-offs about which action(s) to pursue. This means they are likely to assess the costs (including costs like external consultants) and benefits of ARP4 reporting as part of a broader decision-making process, which can be considered a form of constrained optimisation exercise. In general, organisations will only choose to report if it forms part of their optimum set of actions (i.e., if it aligns with what they consider the most valuable use of their time and resources).
- **Execution**: Alongside the fundamental costs and benefits of ARP4 reporting, the process of compiling data and reporting on climate risks and adaptation strategies involves several practical steps, which can be complex. To support organisations, Defra provided templates, guidance, and direct engagement to streamline and support reporting on climate risks. ARP4 also aimed to promote standardisation and comparability of climate risk information across sectors, while helping organisations achieve efficiency gains in data collection and reporting. ARP4 aimed to establish a more structured reporting process, supporting a consistent approach to risk assessment through which benefits could be realised over time via cumulative and iterative reporting. Streamlined processes may have made reporting easier for some, and reporting was simpler for those who had reported in the previous round, because they could provide an updated report, and did not have to redo a risk assessment. However, the ease of reporting varied between organisations; for example, differences in data availability between sectors could influence their ability to engage effectively with the ARP4 process. Yet this repeatable, iterative approach to reporting may allow, even within data-scarce sectors, for a better understanding of climate risks and impact over time.

Outcomes

As highlighted in the integrated model, human actions are generally goal-directed. Therefore, the relevant outcomes of a behaviour change process include both the behaviour itself and its resulting impact (Ajzen, 1991). As such, individuals' experiences of carrying out the behaviour, as well as the consequences it produces, can influence future motivations, decisions, and ability to implement similar actions. ARP4's targeted behaviour and its anticipated impacts are described below:

- **Behaviour**: For ARP4, the targeted behaviour is increased and cumulative organisational reporting on climate risks. This includes reporting on the actions they have taken to respond to the effects of climate change and their approach to climate risk management. The increase in reporting is understood to be both an increase in the quality of reporting and an increase in participation in ARP4.
- **Impacts**: It is anticipated that there will be a range of interlinked impacts of the reporting behaviour:
  - The most immediate anticipated impact will be an **increased awareness of climate risks among reporting organisations**, increased data collection around these risks, and an improved understanding of adaptation status, which is expected to lead to the identification of opportunities to reduce climate risks. There may be internal pressure from within organisations to mitigate these risks once they have been identified. There are also benefits from cumulative reporting, i.e., reporting from organisations that have reported before under the ARP. Repeated reporting may support a refined and up-to-date understanding of climate risk and the effectiveness of interventions over time, allowing an adaptive pathway approach that can be tweaked as the trajectory of change and risk profile manifests.
  - Alongside raising internal awareness of climate risks, publishing the reports is expected to **increase external awareness of climate risks** and lead to pressure from external stakeholders – such as customers, the wider public, government, the CCC, regulators, and pressure groups – to take further action to reduce those risks. This 'pressure' may also take the form of positive incentives, such as the reputational benefit of being seen as a leader in climate adaptation and climate risk mitigation.
  - The combination of internal awareness and external awareness is anticipated to lead organisations to **increase their efforts to reduce climate risks in order to improve climate resilience**.
  - Identifying and reducing climate risks is a complex process. While the aim is that actions taken will successfully identify and reduce climate risks and improve climate adaptation strategies, there is no guarantee these efforts will lead to improved climate resilience. Provided that efforts are successful, **improved climate resilience** is the final and critical step in the ToC. Improved climate resilience is expected to lead to cost savings and other benefits for both governments and organisations.

Unintended consequences

Although not included in the ToC, it is important to consider the potential unintended consequences of ARP4 reporting. These are listed below:

Free-rider effects: Reputational factors and the publication of reports are expected to motivate organisations to engage with ARP4, some organisations may become 'free-riders', whereby they choose to rely on the adaptation efforts of others rather than engaging with the process themselves (Olson, 1971).

For instance, as more organisations report on climate risks and demonstrate adaptation planning, others may perceive that the collective sector or value chain is already making sufficient progress. This perception could reduce the pressure or perceived urgency for organisations to act individually. This may especially be the case for organisations with limited resources or low regulatory exposure: for such organisations, the cost-benefit calculus described above may not justify the effort required to report.

Moreover, if data on climate risks becomes publicly available through the efforts of a subset of proactive organisations, others may benefit from this information. While this may be perceived as a positive (shared learnings from organisations can benefit all), it comes at a risk of disincentivising individualised adaptation strategies. Addressing such risks may require careful consideration of reporting incentives to discourage strategic non-participation.

Reporting diverts from implementation of actual adaptation action: Another possible unintended consequence of ARP4 reporting may be that if organisations have limited resources and choose to spend their resources on focusing on reporting, this might divert resources away from implementation of actual adaptation action, or delay implementation such that actions can only be taken in future years.

Research aims and objectives

The main aim of this research is to provide Defra with evidence on the costs and benefits associated with ARP4, both to participating organisations and to government. The research objectives set out by Defra were:

- To evidence the benefits to both government from collection of information, and to organisations from taking part;
- To improve the understanding of costs to reporting organisations and to government; and
- To evaluate the value of the pilot of local authority reporting.

This research was produced to meet these objectives, and the outputs will help to provide insights into the costs and benefits and provide an assessment of VfM for ARP4. Further, the evidence will help to inform recommendations and strategies to improve future rounds of ARP.

It is important to note that, at the individual organisation level, the decision to participate in ARP4 inherently reflects that organisation's own assessment that reporting represents a worthwhile use of its time and resources relative to other priorities, as discussed in the previous section. However, this study considers aggregate VfM across all reporting

organisations as well as Defra's central running costs and the wider added value delivered by ARP4. The aim is to assess whether ARP4 is more than the sum of its parts; capturing benefits that go beyond each organisation's own perspective, including national-scale insights, efficiencies, and system-wide impacts that arise from the programme as a whole.

Based on the objectives set out by Defra and information gathered through this study, we have developed the following high-level research themes through which this study is reported.

1. What are the costs associated with participation in ARP4?
2. What are the benefits associated with participation in ARP4?
3. What evidence is there to demonstrate VfM?
4. What has the Local Authority Pilot demonstrated?

In addition to presenting findings on costs, benefits, VfM, and lessons from the Local Authority Pilot, this report concludes with a set of evidence-based recommendations for improving future rounds of ARP. These recommendations draw directly on the analysis conducted in this study and focus on opportunities to:

- Achieve greater cost efficiency in the reporting process;
- Strengthen the benefits delivered through participation;
- Refine engagement and reporting strategies across different types and levels of organisations; and
- Build on lessons emerging from the Local Authority Pilot to inform any potential wider rollout.

This final section is intended to support Defra in identifying practical actions that could maximise the overall VfM of ARP in future rounds while ensuring that reporting continues to deliver meaningful insights for national climate adaptation planning.

Methodology

A mixed-methods approach was developed to address the research questions and to provide robust evidence of VfM. The methodology included: a desk-based review; developing a ToC to illustrate the expected route through which impacts are delivered under ARP4; primary research with reporting organisations and government to gather evidence on costs and benefits, and a 4E's VfM framework assessment. The approach to assessing VfM is rooted in the ToC and 4E's framework and draws heavily on the quantitative costs and qualitative insights on costs and benefits provided by stakeholders. This approach was developed to reflect the challenges associated with quantifying and monetising the full range of benefits associated with adaptation reporting. Although a ToC captures a wider range of policy outcomes other than costs and benefits, we have focused on the elements that most affect VfM.

Desk-based review

ICF conducted a desk-based review to understand the current evidence base on costs and benefits of reporting under ARP. Using literature provided by Defra, ICF undertook a

screening of literature in MS Excel, capturing general information about each source, including the title of the paper, source link, and the date of publication. To assist with the prioritisation of literature, we assessed each source based on its relevance to the research question.

The research team conducted a data and evidence extraction from the literature in a systematic and consistent manner, following a structured approach to ensure accuracy and reliability. This review provided evidence to support the development of the Theory of Change. In addition, it led to the production of a cost and benefits framework from which to base survey questions to government respondents and reporting organisations.

Reporting organisation survey

Survey data collection process and case studies

The key data points required for the cost benefit assessment were developed in consultation with Defra. These data points formed the basis of the survey. The survey was designed for Computer-Assisted Web Interviewing (CAWI), with initial invitations sent via email. It also incorporated two additional modes of participation: (i) follow-up by telephone for non-respondents to the web invitation, and (ii) full survey administration by telephone for those who preferred this method. The draft survey was refined through cognitive testing with four participants, each with varying ARP reporting experience. This process ensured that the recruitment emails were clear, the survey questions were interpreted as intended, and that respondents were able to provide the required data.

Defra provided a database of 101 reporting organisations to be invited to participate in the research. Where multiple contacts were listed for a single organisation, a group invitation was sent requesting that the most appropriate individual be nominated to complete the survey. In cases where several organisations contributed to a single report, separate invitations were issued to ensure all relevant parties had the opportunity to participate. Each contact received an initial email invitation, followed by two reminders—sent one and two weeks after the initial request. After this period, non-respondents were contacted by telephone or, in some instances, received a direct participation request from Defra.

In cases where the contact provided was not the most appropriate respondent / had left the organisation, efforts were made during telephone calls to identify an alternative. The survey was then emailed to the revised contact for completion. Telephone calls and reminder emails were used as necessary to prompt survey completion. In some instances, telephone and email recruitment were unsuccessful, so desktop research was undertaken to identify alternative contacts.

In total, 54 surveys were completed, and a further three partials were sufficiently complete to contribute to the analysis. Survey data was quality assured throughout the process with regular checking and, where required, figures were verified with respondents via email or over the telephone.

Two organisations identified by Defra as having ARP reporting experience of interest were recruited to be case studies, and in addition to completing the online survey participated in a 45-minute qualitative interview via Teams to gain greater insights on the costs and benefits

of ARP reporting. The topic guide for the interview was agreed in advance with Defra to support the development of a narrative around their reporting experience.

Analysis of costs

A clear set of assumptions was established to support the analysis of responses to questions regarding costs, and each assumption was documented with its rationale, potential effect on the outputs, and any numerical values referenced. External economic data (e.g., ONS job classifications and salary data) was inputted and used to calculate staff time costs on a per-day basis across different job levels.

Multiple types of costs were calculated based on survey responses:

- **staff time costs** were derived using reported time commitments and economic input data;
- **consultancy and external costs** were compiled directly from survey estimates; and
- **total monetised costs** combined internal and external costs where both were available.

Costs were analysed through several key dimensions, including reporting level (full, hybrid, light-touch), sector (public, private), and reporting type (e.g., individual vs collective). Box plots and other visual tools were used to explore differences across categories. Organisations' perceptions of changes in reporting costs over time (relative to previous ARP rounds) were analysed thematically and descriptively, with attention to differences by reporting level and cost band.

To assess the reliability of cost estimates, a separate analysis compared results from respondents who gave monetised staff costs directly versus those who estimated using staff hours. Some variation was observed, indicating potential differences in how organisations interpreted and reported cost data.

Analysis of benefits

Quantitative and qualitative survey responses relating to the benefits of ARP4 were analysed using a structured mixed-methods approach. For the closed questions (e.g., Likert scale items from "strongly disagree" to "strongly agree"), responses were analysed descriptively. The resulting frequencies and distributions were visualised through charts, including breakdowns by relevant organisational characteristics (e.g., sector, reporting level, reporting grouping). Given the small sample sizes in some subgroups, this analysis is non-statistical and intended for descriptive purposes.

For open-ended (free-text) responses, an inductive thematic analysis was conducted to identify emerging themes directly from the raw data. Responses were then grouped into these themes, and we established how many respondents had contributed to each theme. However, in line with good qualitative research practice, we do not report precise frequencies for individual themes. Instead, we applied a classification system that enables proportional interpretation without implying quantitative precision. This system is detailed in Table 1.

Table 1: Categorisation of free-text responses

Proportion of responses	Categorisation
Single mention	One respondent
More than one response, but up to 50% of relevant respondents	Some respondents
More than 51%, less than 75%	Most applicable respondents
75% or more	A sizeable majority of applicable respondents

Note: Where fewer than four responses applied to a given theme, only the first two categories were used.

Artificial Intelligence (AI) tools were used to assist with the initial identification and summarisation of common themes and illustrative quotes. However, all outputs were reviewed and validated manually by researchers to ensure accuracy and reliability.

Government surveys

In line with the reporting organisation survey, the survey on costs and benefits to government was formed of questions developed in consultation with Defra. The list of the nine survey invitees, categorised into three groups based on the nature of their engagement with ARP4, was provided by Defra, based on their understanding of the most relevant government teams, government departments and advisory bodies which may have used outputs from and/or contributed to ARP4. Three separate surveys were produced to ensure questions were as relevant as possible to the groups of invitees. In total, there were five government respondents. Follow-up communications via email (and in one case Teams video conference) with some respondents provided further context and verification of the provided information.

Assessment of costs and benefits

We have developed an ARP4-specific 4E's framework that utilises the quantitative and qualitative evidence derived through this evaluation, to provide an assessment of VfM. This approach was developed to reflect the evidence available for adaptation reporting, which is predominantly quantitative for costs and qualitative for benefits. The below 4E's criteria were selected based on the ARP4 policy objectives:

- Economy: are inputs of appropriate quality bought at a minimised price?
- Efficiency: how well are inputs transformed into outputs?
- Effectiveness: how well do the inputs achieve intended outcomes?
- Cost-Effectiveness: does the value returned justify the resources?

An 'Equity' criterion, which is commonly used as part of similar VfM assessments, has not been included because it was not deemed appropriate based on the evidence collected

through the evaluation and the research parameters. ARP4 requirements only apply to large organisations and there are only a relatively small number of responses required in each round (101 in ARP4), and therefore, distributional analysis is not likely to provide significant insights into VfM. Future research to assess 'Equity' could focus on geographical / regional analysis of adaptation measures implemented as a result of ARP4 to assess the impact on affected populations.

Each of the criteria used in this evaluation are assessed against the following performance standards:

- Excellent: meeting or exceeding all reasonable expectations / targets
- Good: generally meeting all reasonable expectations / targets
- Adequate: not meeting expectations / targets, but fulfilling minimum requirements
- Poor: not fulfilling minimum requirements

We have developed a set of ARP4-specific questions for each of the 4 'E's' which reflect the intended mechanisms identified in the ToC. For each question, we then developed a set of standards to determine *'what would success look like'* – these standards are the defined levels of performance that apply to each criterion and specify what the evidence would look like at different levels of performance. The matrices of criteria and standards are defined as rubrics and are presented in Table 2.

Table 2: 4E's criteria and metrics

Question	Metric	Standards
Economy		
Are adaptation reports being developed at a reasonable quality?	Quality of data and information informing ARP4 reporting (qualitative)	Qualitative assessment, including the use of reporting to the government
Are adaptation reports being developed at a minimised price?	Cost of producing ARP4 reporting (£)	Assessment compared against other reporting requirements
Efficiency		
Has ARP4 reporting improved organisational capacity and capability?	Proportion of organisations reporting improved organisational capability (%) Proportion of organisations reporting improved organisational capacity (%)	Excellent: >75% Good: >50% - 75% Adequate: >25% - 50% Poor: <25%

Question	Metric	Standards
Has ARP4 reporting increased awareness?	Proportion of organisations reporting increased organisational awareness (%) Proportion of organisations reporting increased external awareness (%)	Excellent: >75% Good: >50% - 75% Adequate: >25% - 50% Poor: <25%
Effectiveness		
Has ARP4 reporting increased ambitions to reduce climate risks?	Proportion of organisations reporting increased climate adaptation ambitions (%)	Excellent: > 60% Good: 40% - 60% Adequate: 20% - 40% Poor: <20%
Has ARP4 reporting improved climate resilience?	Proportion of organisations reporting improved climate resilience (%)	Excellent: >50% Good 30% - 50% Adequate: 15% - 30% Poor: <15%
Has ARP4 contributed to National Adaptation efforts?	Improvements in national adaptation efforts reported by organisations (%) Contribution to national adaptation efforts (qualitative)	Mixed methods with reporting (%) and qualitative assessment
Cost-Effectiveness		
Have the resources invested by government been reasonable in delivering benefits?	Benefits summary (qualitative) Cost per report to government (£/report; qualitative)	Mixed assessment with cost (£/report) and qualitative assessment
Have the resources invested by organisations been reasonable in delivering benefits?	Benefits summary (qualitative) Cost per report to organisations (£/report; qualitative)	Mixed assessment with cost (£/report) and qualitative assessment

Assessments for each rubric in Table 2 are based on the evidence developed during this evaluation, predominantly derived through the surveys of both participating organisations and government stakeholders.

A total of 57 responses were received from reporting organisations, with 3 being incomplete, while 5 responses (obtained through a separate survey) were received from government. These small sample sizes limit the ability to extrapolate conclusions to the population as a

whole and limit the robustness of subgroup analysis. We have only provided conclusions for subgroup analysis where there are at least 3 respondents.

Costs to reporting organisations

Resource costs

Setting up internal capabilities and capacity for ARP4, including processes, compiling relevant data and information, analysing data, creating adaptation plans, reporting, and gaining approval / sign-off for reports, involves a level of resource that must be accounted for when determining the expected VfM of reporting.

For reporting organisations, we have quantitative and qualitative information on the costs associated with reporting under ARP4. Organisations reported resource costs in either monetary terms (£) or in staff time (hours). We have used ONS data on average hourly costs for comparable job level classifications to monetise the impact of those responding with staff time requirements. Assuming a 37.5 hour working week, we have estimated the total costs (including wages and non-wage costs) of participating in ARP4.

We have produced a range of descriptive statistics to show the average costs of participation and the range of costs across various reporting types and sectors.

Additional costs

For some reporting organisations, there are additional costs associated with reporting under ARP4. Through the survey, we have quantitative estimates for spending on external consultants for the purpose of assisting with ARP4 reporting, which are provided by respondents in monetary values. Cost estimates for obtaining licenses for systems / tools to report under ARP4 were sought through the survey but they did not account for a large enough sample to include in this analysis.

Where other additional costs are incurred by reporting organisations, they have been captured through free-text responses and therefore, we have utilised text-based analysis to draw insights.

Opportunity cost

Due to the resource requirements and external costs associated with participating in ARP4, there is an opportunity cost for reporting organisations. The opportunity cost represents the next best alternative foregone for organisations, i.e., what they would have done with the staff time and funding for external consultants had they not reported under ARP4.

The survey provides evidence on the number of organisations that would have utilised the resources on other, non-ARP4, adaptation or sustainability activities. We provide descriptive statistics on the proportion of organisations that would utilise the resource for these activities, with additional free-text responses which allow for text-based analysis.

Benefits

Due to the challenges associated with monetising evidence on benefits, the information provided in survey responses from reporting organisations is not monetised. Analysis combined both quantitative survey responses (e.g., multiple choice, Likert-scale questions) and qualitative free-text responses to ensure the full range of benefits and experiences was

captured. Given the relatively small sample sizes, analysis is descriptive rather than statistical or inferential.

Free-text responses were analysed thematically. Emerging themes were identified using inductive reasoning, grouping similar comments to define typologies of benefits and challenges. AI tools were used to support this process. Where responses offered sufficiently clear and representative views, illustrative quotes were extracted to bring out participants' perspectives.

This combined approach enables the report to present both the breadth of responses (through descriptive analysis of closed questions) and the depth of experiences and insights (through thematic analysis of free-text responses), while remaining proportionate to the size and scope of the dataset.

Costs to government respondents

Resource costs

Activities related to the development of the ARP4 strategy and guidance, reporting organisation recruitment, engagement with reporting organisations, reviewing reports and logging feedback, participation in consultations and evaluations, and dissemination of ARP4 reports, involve the use of resources which must be accounted for in assessing the costs of ARP4 for government.

The surveys collected quantitative information on staff time cost, although questions differed in some cases to ensure questions were relevant to different stakeholder categories. Resource costs could either be provided in monetary terms (£) or in staff time, disaggregated by civil service job level[1]. We have then used publicly available civil service starting salary data to estimate the minimum and maximum labour cost of the staff time, assuming 25-30 days of annual leave and a 7.5-hour day. Maximum cost was calculated as the starting salary of the job level and 30 days of annual leave per year, while minimum cost was calculated as the starting salary of the respective job role and 25 days of annual leave, adjusted for estimated non-wage costs.

Consultancy costs

Cost of external evaluations were provided in monetary terms (£). Partial exclusion of one evaluation cost was made in consultation with Defra due to the subject matter of the evaluation extending beyond ARP4 to focus on the development of ARP5.

Limitations

The availability of quantitative data for ARP4 costs and benefits is limited, and this research is primarily driven by the results of surveys requesting retrospective cost estimations and experience of benefits, which could be inaccurate. Subgroup analysis of the survey responses is limited due to small sample sizes (e.g., for sectors).

[1] (Administrative officer/Administrative assistant (AO/AA), Executive officer (EO), Higher executive officer (HEO), Senior executive officer (SEO), Grade 7, Grade 6, or Senior civil services (SCS)).

As agreed with Defra, our approach has been to include analysis where sample sizes are at least 3 for the survey of reporting organisations, however caution should be taken when interpreting the findings because extrapolation from these sample sizes to the ARP4 population as a whole may be misleading. For the government respondents, results are still reported for subgroup sizes under 3, given the reduced surveyed sample size (n=5).

Further, the survey relies on self-reporting from organisations, and verification of the estimates has not been conducted, and therefore the outputs are reliant on the information provided. Due to the nature of the benefits associated with reporting under ARP4, there is limited quantitative evidence to include in this research. Climate adaptation strategies are long-term and, for many organisations, are in a nascent stage and therefore quantification and monetisation are not possible at this stage. As such, it is not appropriate to conduct a full Social Cost-Benefit Analysis (SBCA) through this evaluation, and he outputs therefore represent a mixed-methods assessment of VfM based on a quantitative analysis of costs and insights into the benefits through survey responses.

This research provides a baseline level of evidence that can be updated and refined for a future evaluation with a broader scale and scope, which can focus on quantification and monetisation of the benefits identified through this study.

Summary statistics of respondents & characteristics

Reporting organisations

The largest share of reporting organisations came from local authorities, accounting for 23% of all respondents**Error! Reference source not found.**. Energy sector organisations formed the second largest group (18%), followed by the water sector (12%) and environmental organisations (9%). Several other sectors, such as heritage, ports, financial services, aviation, and marine, each contributed 5% of responses, while ICT, road and rail, space, health, and combined authorities collectively represented 12% of responses. All in all, this points to a significant presence of public service and infrastructure sectors among survey respondents.

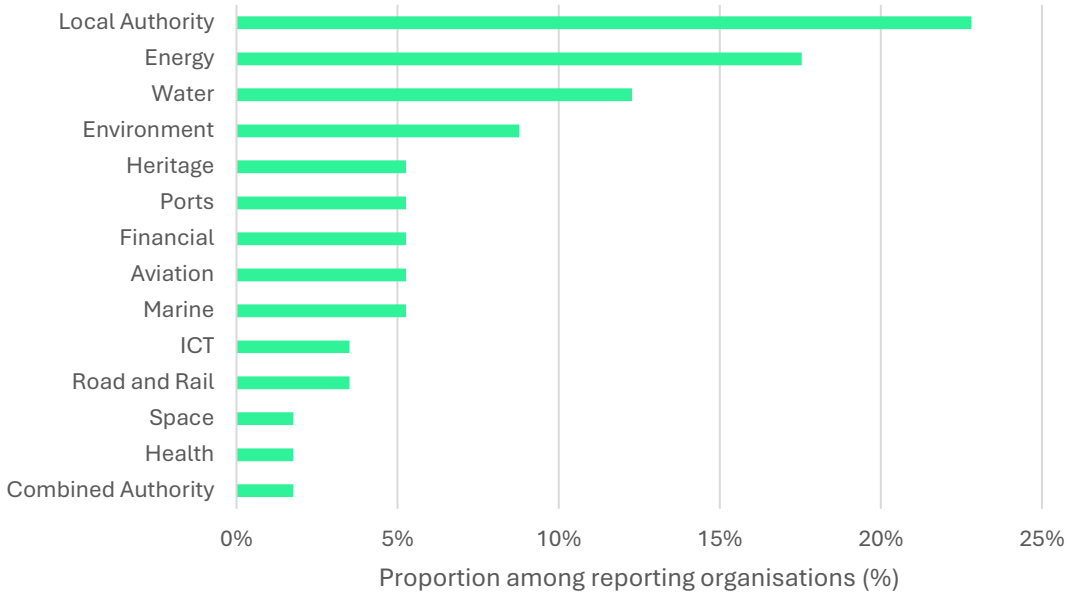

Figure 2: Sectoral representation among reporting organisations, n=57

For respondents who said they were in the energy sector, electricity network operators represented the largest proportion at 40% (4 respondents), followed by gas network operators at 30% (3 responses). Organisations classified under “Other” energy activities accounted for 20% (2 responses), while electricity generation companies made up the smallest share at 10% (1 respondent). Network operators are more represented in our survey, compared to energy generation entities, despite both sub-sectors being involved with collective reporting.

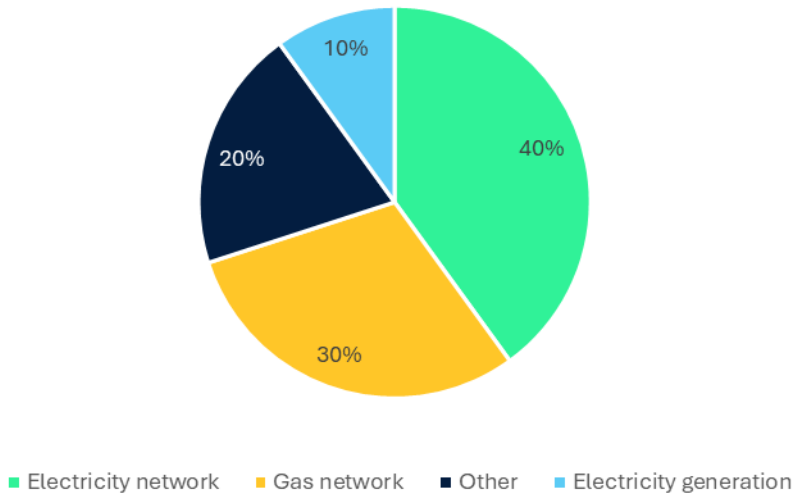

Figure 3: Energy sub-sectors represented among reporting organisations, n=10

The largest share of respondents operate in the public sector (34, or 60%) while private sector organisations accounted for 19 respondents (33%) (Figure 4). The third sector,

including charities and non-profit organisations, represented a much smaller proportion with only 4 respondents (7%). Overall, this reflects the public sector focus of ARP4.

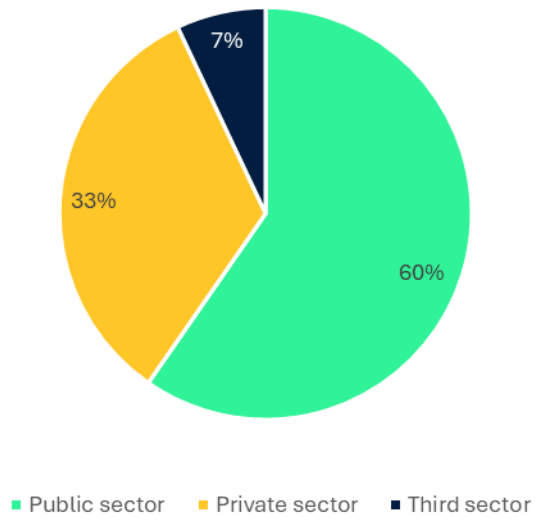

Figure 4: Economic sectors represented, n=57

Operators were the most common type of organisation responding to the survey, making up 23 respondents (40%) (Figure 5). Regulators were the next largest group at 10 respondents (18%), followed by public bodies, county councils, and unitary authorities, each represented by 4 respondents (7%). Trade bodies and metropolitan borough councils each contributed 3 responses (5%), while charities, district councils, combined authorities, and navigation authorities collectively represented 11%.

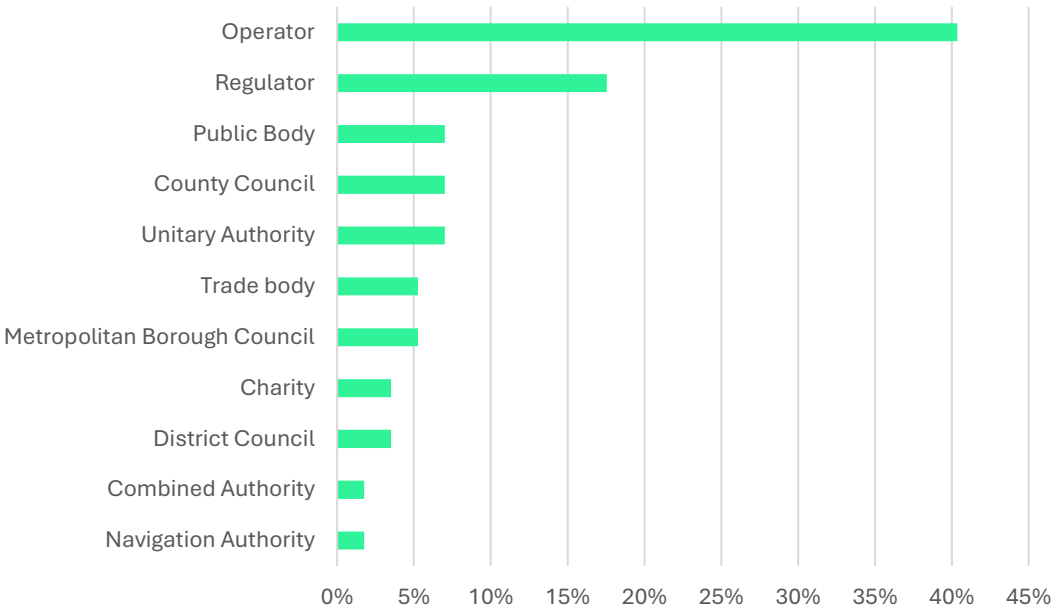

Figure 5: Types of organisations, n=57

Over one third of respondents (39%) reported in all three previous rounds of ARP, which shows strong continuity in participation (Figure 6). 19 respondents (33% of organisations) reported for the first time in ARP4[2], while smaller shares participated in only one or two earlier rounds.

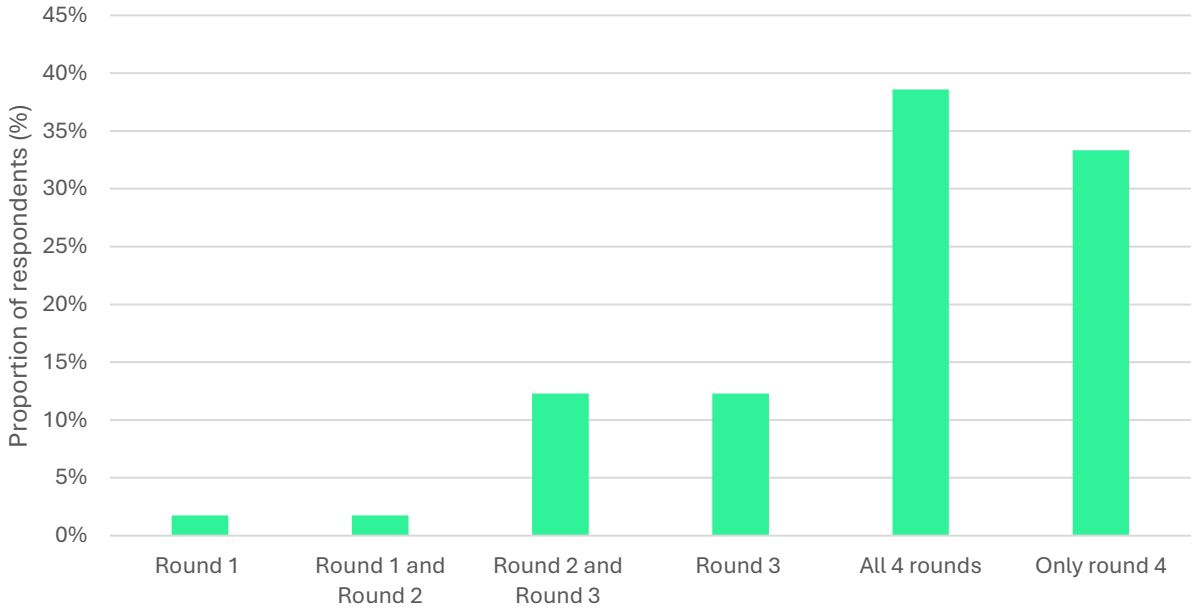

Figure 6: Respondents' reporting history, n=57

A large majority of organisations (41, or 72%) submitted reports as individual entities. Two further organisations reported as individual entities, but their reports received input/support from other organisations. In the sections that follow, these two groups have been combined, and are referred to as “individual reporting”0. Joint reports involving multiple organisations accounted for 7 respondents (12%), while 5 respondents (9%) reported on behalf of sector groups. A small number of organisations contributed to sector-level reports or presented overview reports, representing 4% combined. In the sections that follow, the grouping “collective reporting” is used to be the aggregate of joint reporters (n=7), those who have created an individual report which has contributed to a sector-level report (n=1), those who are creating a sector level report based on individual submissions (n=1), and those who are reporting on behalf of a sector group (n=5). These were combined due to small sample sizes in each smaller aforementioned grouping.

[2] Note that this includes 14 local/combined authorities reporting for the first time as part of the Local Authority Pilot.

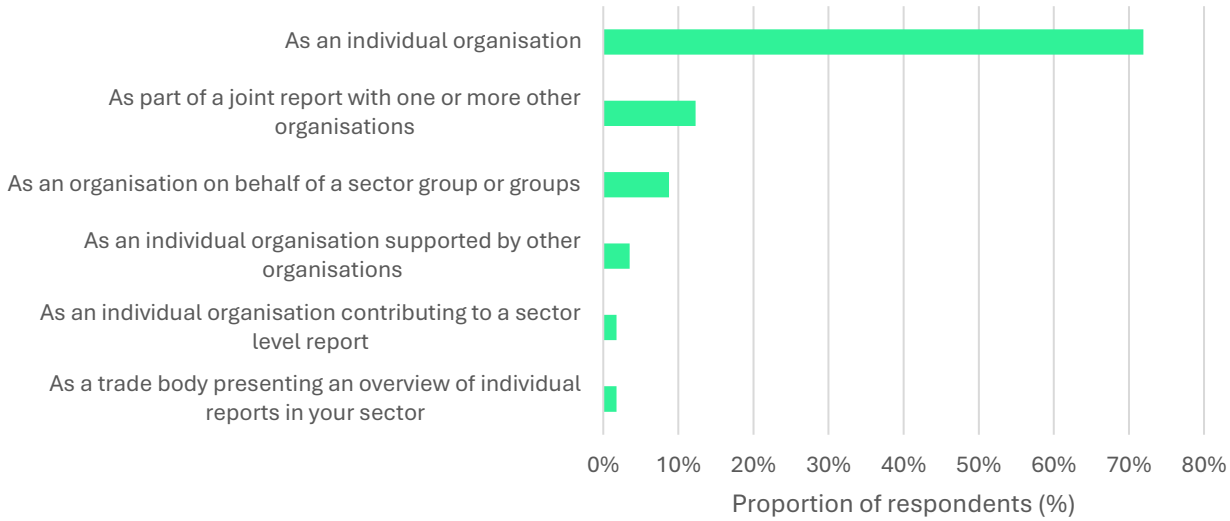

Figure 7: Reporting format, n=57

Nearly half of all respondents (49%) prepared a full report under ARP4. This includes 19 first time reporters, 6 who provided a full report because the action plan in their previous report did not outline details on monitoring and/or ownership, and 3 who provided a full report as the previous report produced did not include an action plan or actions against risks in their assessment. 15 respondents (26%) adopted a hybrid approach, which included more detail than a light-touch report but was not a full report. 9 respondents (16%) submitted light-touch reports only, outlining a review of their action plan and a progress update on actions, and 5 respondents (9%) were unsure about their reporting classification. As such, most organisations responding invested in a comprehensive ARP report.

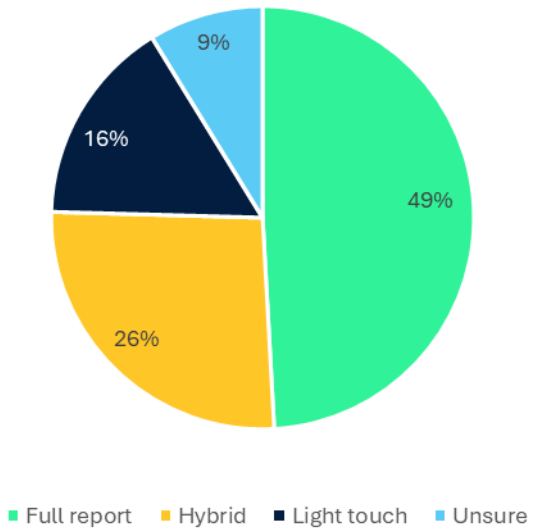

Figure 8: Reporting types, n=57

Government respondents

In total, there were 5 government respondents, including Defra policy and evidence teams primarily involved with ARP4 development and delivery, wider government teams/departments/advisory bodies.

Results

What are the costs associated with participation in ARP4?

Reporting organisations

Resource costs

A total of 43 respondents reported the resource required to compile and report under ARP4, with 4 providing a financial estimate (£) and 39 providing a staff time estimate (hours), with the majority broken down by job level classifications[3].

Survey evidence shows that resource costs for compiling ARP4 reports varied by organisation type, reporting level, and reporting approach. The median staff time cost was £5,800, though average (mean) costs were consistently higher (overall average was £17,400) due to a smaller number of high-cost cases (one outlier exhibited a cost of £146,800).

Public sector organisations faced higher typical costs (£5,900 median; £18,200 mean) than private sector organisations (£5,200 median; £16,300 mean), with a wider spread of costs reported by public sector participants. Moreover, full reports showed the greatest variability and highest mean costs (mean: £18,600; median: £5,900) compared to hybrid (mean: £12,900; median: £5,600) and light-touch reporters (mean: £4,900; median: £4,400). Collective reports had a higher median (£6,800) than individual reporters (£5,500) but a lower mean (£10,300 vs £19,300) indicating lower levels of variability for collective reporters. Local authorities reported lower median costs (median £5,100; mean £17,800) compared to other sectors (£5,900 median; £17,300 mean), but their mean is skewed by the presence of an outlier (£146,800). Overall, while typical costs remain moderate, cost variability suggests a potential disproportionate burden on organisations depending on characteristics and reporting format.

Consultancy costs

12 out of 44 organisations reported external consultancy costs. Of those, additional cost estimates ranged from £5,000 to £69,000, with a median of £30,100 (mean: £30,900). The median additional cost for full reports was around £37,600, considerably higher than for hybrid reports (£20,000) and light-touch reports (£17,500), indicating that reporting intensity is associated with external spending. Public sector organisations showed the highest additional costs overall, with a median of about £35,200, compared to £22,500 in the private sector. Finally, local authorities displayed higher median consultancy costs (£40,000 versus

[3] (Executive or Board Level; Senior Staff or Sector Level Experts; Mid-level staff or Management; Administrative Roles).

£25,000 for all other sectors), which may reflect that local authorities were reporting for the first time under ARP4.

Other costs which were reported qualitatively were assistance with the preparation and reporting of ARP4 through graphic design requirements, training, specialist capability and data, GIS, and time associated with working with other organisations.

Total costs

Total costs (including internal resource and additional external costs) of preparing ARP4 reports varied widely across reporting approaches, organisation types, and sectors.

Typical reporting costs were relatively modest, with a median of £6,400. However, mean costs were consistently higher due to a smaller number of resource-intensive cases, indicating a right-skewed distribution. Mean costs across all reporters were £25,600. There are significant differences in the total costs of reporting between those who used only internal resource for ARP4 at £5,100 (median) and those who also incurred additional external costs at £43,000 (median).

Key patterns emerge across reporting dimensions:

- **Reporting grouping:** Collective reports had slightly higher typical costs (median £10,000; mean £19,000) but lower variability than individual reports (median £6,100; mean £27,300), suggesting that while collaboration can reduce duplication for some organisations, it typically creates additional coordination costs. Nevertheless, the split of costs between organisations in joint reporting is unclear, and it may be that those reporting costs in the survey took on a higher level of responsibility. Furthermore, although organisations reporting on behalf of other organisations may report higher costs, there could still be significant savings for the organisations they are reporting on behalf of.
- **Reporting level:** Costs were most consistent and lowest in average terms for the seven light-touch reports surveyed (median £4,400; mean £9,900), while full reports showed the highest mean costs (around £27,000) and the widest variation, reflecting a subset of particularly resource-intensive cases in this latter group.
- **Organisation type:** Public sector organisations reported higher typical costs (median £6,700; mean £26,700) and greater variability than private sector organisations (median £5,900; mean £21,800).
- **Local authorities:** showed lower typical costs, albeit with a right-skewed mean driven by an outlier (£160,000 reported costs); overall median for LAs is £5,500; mean £26,000, compared to other sectors (median £7,500; mean £25,500).

Overall, costs tend to increase with reporting intensity, public sector involvement, and joint reporting set-ups in some instances. The evidence suggests that most organisations experienced moderate reporting costs, but a small number of high-cost cases significantly raised the average in several categories.

Opportunity cost

The opportunity cost for reporting organisations reflects the activities that would be undertaken in the absence of ARP4, both through the use of staff time and through funding

provided for additional services (e.g., consultancy). In that regard, the survey asked organisations how they would have used the time and financial resources allocated to ARP4 reporting if the requirement had not existed (**Error! Reference source not found.**). Most respondents indicated these resources would have been redirected towards general sustainability-enhancing activities (23 respondents, 40%) or activities to adapt their organisation for climate change (22 respondents, 39%). A smaller share (12 respondents, 21%) reported that the resources would not have been used for either of these purposes, while 8 respondents (14%) were unsure or preferred not to answer.

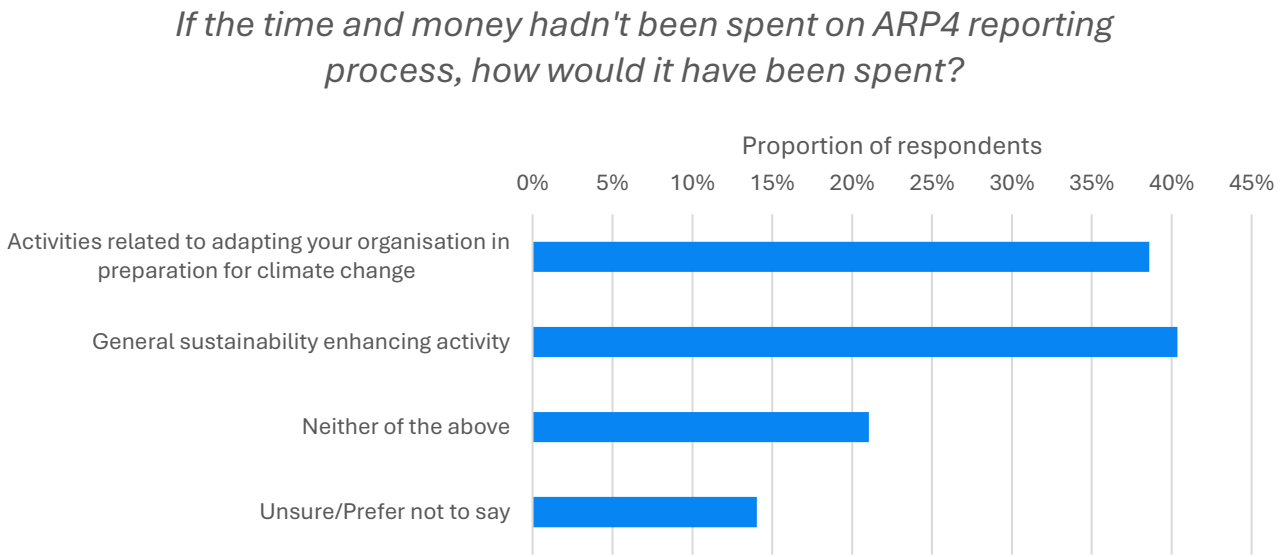

Figure 9: Opportunity cost of ARP4 reporting, n=57

This indicates that ARP4 reporting complements organisational investments in climate adaptation and sustainability, as most respondents would have used the same resources for related objectives even without the reporting obligation. On the other hand, it also points to a diversion of organisational resources away from adaptation delivery towards reporting, which can be deemed evidence of crowding out. At least two respondents mentioned this issue in their open-ended responses.

Indeed, several respondents mentioned how climate risks are already managed through non-ARP processes, and ARP is just a mechanism by which to report on this. Additionally, some respondents wrote about how they would like ARP4 to be more ‘action focused’, suggesting a potential benefit in steering ARP guidance towards advising on how adaptation actions can be implemented rather than focusing on academic theory.

This conclusion is supported by additional free-text analysis, which suggests that the majority of organisations would have used this capacity for closely related adaptation, resilience, and sustainability work rather than unrelated activities. Some respondents indicated they would have invested additional resources into enhancing adaptation plans and risk assessment processes, for instance, or implementing measures identified in previous adaptation reports and ensuring adaptation strategies were rolled out more quickly across organisational units.

Overall, the findings suggest that ARP4 reporting requirements might have diverted resources from some climate mitigation, biodiversity, and sustainability strategy initiatives.

However, many of the proposed activities remain closely aligned with ARP4's overarching adaptation and climate resilience objectives, which suggest those are complementary rather than competing priorities. Furthermore, since the majority of respondents also reported increased ambitions of climate adaptation plans or discussions as a result of participating in ARP4**Error! Reference source not found.**, it appears that ARP4 reporting not only offset the opportunity costs for a large proportion of those participating, but also increased the scope of their adaptation work.

Additional costs

13 respondents indicated that additional resources beyond those already captured were required for ARP4 reporting. Additional resource needs for ARP4 reporting by cost category.

Analysis of free-text responses highlights three main areas where organisations required extra resources for ARP4 reporting:

- **Stakeholder engagement and workshops**: Significant resources were needed for organising events, multi-agency coordination, and securing inputs from external partners.
- **Technical support**: Additional capacity was required for specialist inputs such as GIS mapping, climate data tools (e.g., UKCP18, LCAT), and graphic design to support report preparation and communication.
- **Training and internal capacity**: Respondents cited the need for Met Office training, project management support, and internal dissemination to embed adaptation considerations across departments.

Overall, for 23% (13) of respondents, ARP4 created additional costs, in terms of coordination, technical, and capacity-building demands. As such, future ARP rounds might benefit from centralised tools, training, and facilitation support to reduce the burden on some individual organisations.

Trends over time

The Adaptation Reporting Power process has been in place for 4 rounds of reporting, and two-thirds of survey respondents had participated in at least one previous round (Figure 6). This study aimed to compare ARP4 with earlier reporting rounds; as such, a question was asked at the end of the survey to address this.

Survey responses comparing the amount of resources used in ARP4 with earlier reporting rounds show a mixed pattern (Figure 10). Across all 34 respondents (with "unsure" removed), 24 respondents (71%) reported using the same or fewer resources for ARP4 compared to previous rounds, while 10 respondents (29%) reported using more resources. By profile, the findings show the following:

- **Report grouping:** Collective reports (n=11) had the highest share of respondents reporting greater resource use, with 6 respondents (55%) indicating costs were more. Individual reports showed the largest share reporting the same or lower resource use (83%), suggesting efficiency gains when reporting individually.

- **Reporting level:** Full reports most frequently required greater resources than before (78% of respondents indicated this), reflecting the more comprehensive nature of these submissions. Light-touch reports were associated with lower resource use in 57% of instances, consistent with their more limited scope.
- **Sector:** Lastly, public sector organisations were more likely to report higher resource requirements than private sector respondents (47% versus 7% - one respondent), who mainly reported stable or reduced costs (53% reported lower costs).

Overall, these findings suggest that reporting format and organisational type influence resource efficiency in comparison to previous ARP rounds, with collective and full reports placing the greatest burden, while light-touch and individual reports often required fewer resources than in previous ARP rounds.

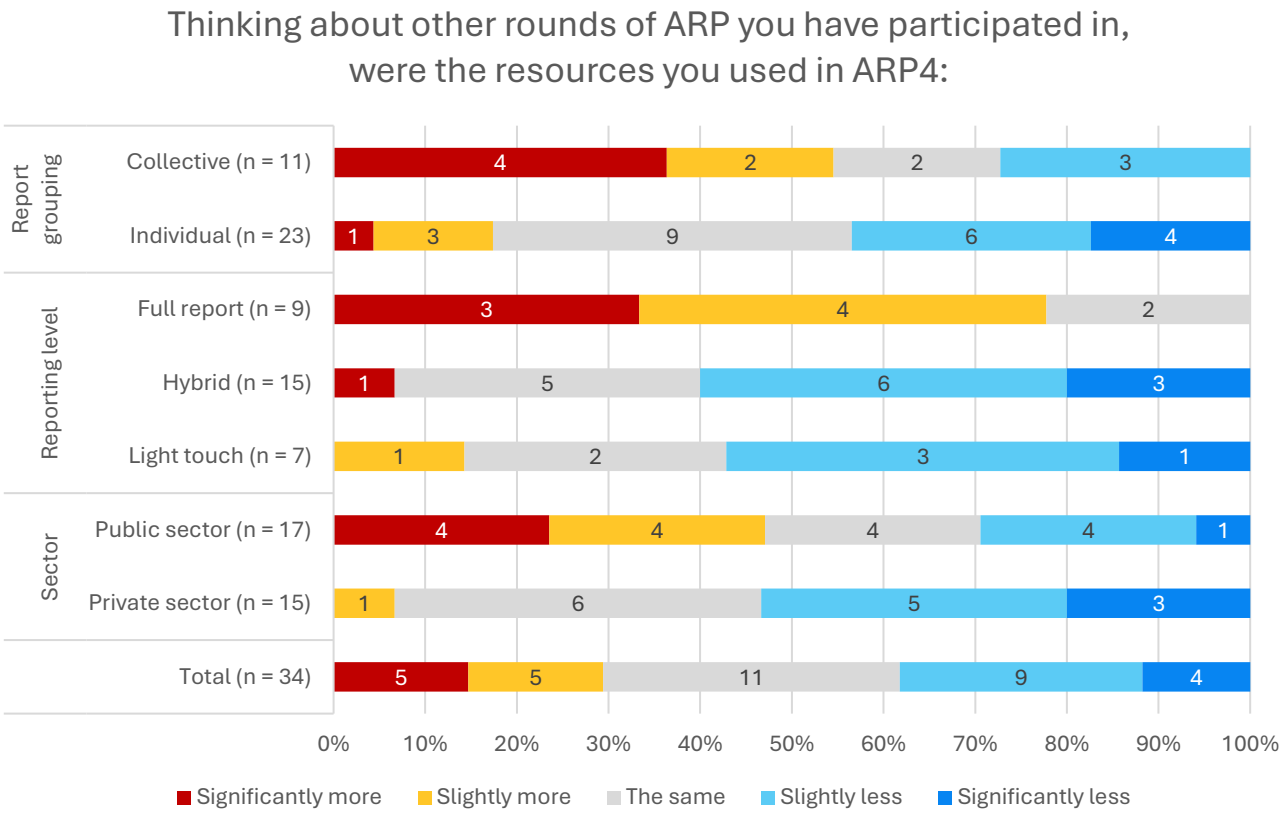

Figure 10: Comparison of ARP4 to previous rounds

Note: "Unsure" responses were removed from this figure.

Among organisations reporting higher ARP4 costs than in previous rounds, the main drivers (derived from an analysis of the free-text answers) were a broader scope and depth of reporting, more adaptation activity to document, and greater organisational participation across internal teams, leadership, and external partners. Several respondents highlighted the resource demands of expanded interdependency analysis, new or updated risk assessments, and additional workshops or consultations. In some cases, higher costs reflected staffing changes, such as recruiting dedicated climate staff or reallocating tasks previously covered by consultants, while a few noted that reporting timelines coincided with

other major priorities. Overall, increased costs appear to result from the expanded scale and complexity of ARP4 rather than one-off inefficiencies.

Among organisations reporting lower ARP4 costs than in previous rounds, the main reasons were their ability to build directly on previous reports and the absence of major new climate data requiring updated risk assessments. Several respondents noted that they could reuse earlier analyses and stakeholder inputs, reducing the need for external consultants or extensive new work. In some cases, efficiencies came from internalising tasks previously outsourced, while a few organisations highlighted that the shorter reporting timeframe also limited the scope of activities undertaken. Overall, reduced costs reflected process efficiencies and continuity from earlier rounds rather than underinvestment in reporting quality.

Government respondents

Resource costs

All the costs incurred through ARP4, reported in the surveys, constituted resource costs in the form of staff time, except the cost of evaluations, which have been delivered by external consultants. Staff time spent by the primary Defra policy and evidence teams made up around 95% of the total.

Grade 7 employees spent the largest proportion of time, with a total of 1,844 hours spent on ARP4 in total, followed by SEOs at 1,580 hours and then HEOs at 970 hours. Grade 6 employees spent just 2 hours on ARP4 across government respondents for participating in consultations and/or evaluations, and no time was reportedly spent by AO/AAs, EOs or SCS.

The largest proportion of staff time was spent on strategy development, from early work through to publication, which took a total of 1,502 hours, including 702 hours of Grade 7 employee staff time. This was followed by 1,000 hours spent on a year-long engagement phase to support reporting organisations, which included 500 hours Grade 7 employee time.

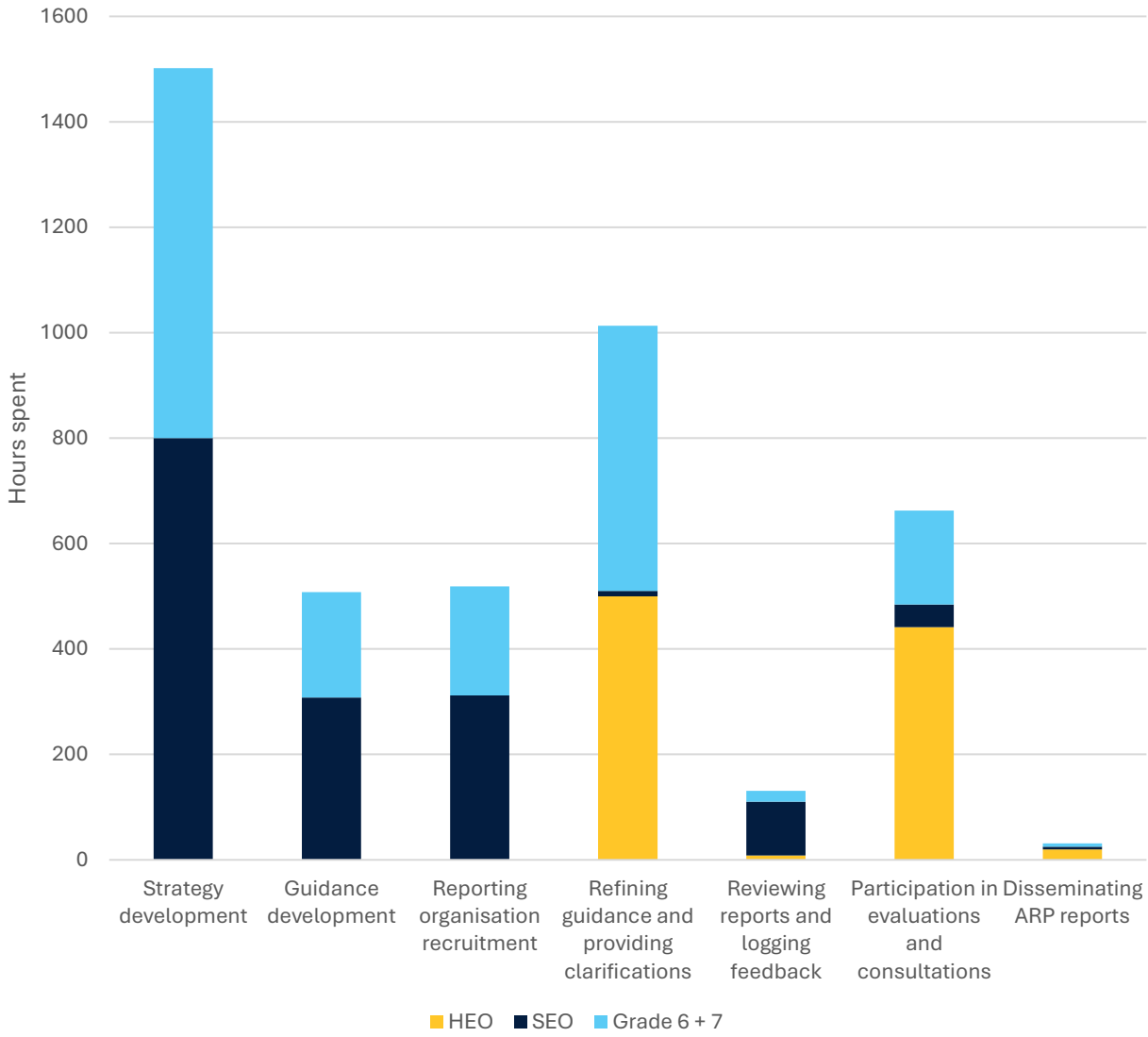

Figure 11: Total number of hours spent by government officials on each ARP4 activity as reported by all survey respondents, disaggregated by civil service job level

One respondent reported 500 hours spent participating in both this evaluation and a related piece of evidence synthesis and reporting mapping. Since the latter is forward looking and focused on ARP5, it was decided to only account for 50% of all costs incurred in participating in and commissioning that work. 200 hours were also spent analysing and reporting on the results of the ARP4 consultation. When combined with hours reported by the other respondents, results showed a total of 663 hours of staff time was spent on participating in evaluations, workshops and consultations.

Guidance development took 508 hours of total staff time, from initial workshopping to issuance. Discussions with Defra uncovered that the Environment Agency and CCC were also involved in initial workshopping activities, so some resource costs which are not reported here would have been incurred to both agencies for participation.

Staff time was reported by 2 respondents for recruiting organisations to report in ARP4 and sharing information about the process. This totalled 519 hours of staff time overall.

The largest proportion of wider government teams' time was spent reviewing ARP4 reports and logging feedback (113 hours). Defra policy and evidence teams also were involved in reviewing reports and providing feedback, but this was exclusively for the 18 local authority reports. The combined number of hours spent on this activity across all respondents was 131 hours. The smallest proportion of total staff time spent on ARP4 related activities was for disseminating ARP4 reports within and outside of government (31 hours in total).

When monetised, overall resource costs to government in terms of staff time totalled £121,300 - £151,600.

Consultancy costs

Based on evidence provided by Defra, around £90,000 was spent on evaluation and associated consultancy work to support ARP4, inclusive of VAT.

Total costs

When the resource and consultancy costs were combined, the total cost of ARP4 to government was calculated at £211,300 - £241,600, 57-63% of which is made up of staff time costs. The spend on consultancy pushes participation in and commissioning of evaluations and consultations to be the activity which requires the highest spend. Over the 101 reports submitted, this is equivalent to an average cost of £2,100 - £2,400 of supporting each report. However, since not all invited government respondents outside the central Defra ARP team completed the survey, there could have been additional costs incurred by other departments. Nevertheless, it is assumed that these additional costs would be low due to the comparatively small proportion of costs made up by the wider government team respondents which did complete the survey.

Trends over time

When asked how resources used in developing, facilitating and reviewing ARP4 compared to previous rounds of ARP, some respondents were unsure or preferred not to say, while one found resource use to be slightly more than previous rounds.

Previous reports have attempted to monetise the cost of ARP to government. The ARP4 strategy itself estimated costs would be £1,461 to £2,921 per report (Defra, 2022). The impact assessment for ARP2 anticipated additional cost to government in terms of supporting reporting organisations of £2,500 - £5,000 for new reporting organisations and £250 - £500 for those providing a progress update (Defra, 2013). The costs of the adaptation measures in the Climate Change Act 2008 were also estimated in its 2009 impact assessment, focusing on ARP. It concluded that the cost of producing the initial guidance would cost the government £50,000, and that there would be an additional cost of £1,550 per request for analysing information provided by organisations (DECC, 2009). The figures set out in this evaluation encompass a much broader array of costs, including some expensive aspects of ARP such as strategy development and evaluation costs, which significantly increase the overall cost of ARP4 to the government. Nevertheless, the total costs to the government per report set out in this evaluation are within the range of the initial estimates set out in the ARP4 strategy document.

What are the benefits associated with participation in ARP4?

Reporting organisations

There are a range of benefits associated with participation in ARP4 for reporting organisations. This includes an increased awareness of climate risks, increased understanding of adaptation status and adaptive capacity, and improved reputational impacts. Due to the nature of the benefits associated with ARP4 reporting and outlined in the ToC, the main evidence uses descriptive statistics of survey responses and text-based analysis. This section provides analysis based on the survey for participating organisations on the benefits of ARP4.

Organisational awareness, business strategy and governance

One of the core impacts of ARP4 reporting outlined in the ToC is through increased organisational awareness of climate change risks. Survey results show that ARP4 reporting has had a broadly positive impact on raising awareness of climate change risks within organisations (for trade bodies, this refers to how awareness has changed within all organisations that contributed to the sector-level report). Out of 54 respondents, 12 (22%) strongly agreed and 27 (50%) agreed that ARP4 increased awareness, meaning nearly three-quarters of organisations (72%) recognised this benefit. Only 6 respondents (11%) disagreed to any extent, while 9 respondents (17%) neither agreed nor disagreed.

Looking across subgroups, the pattern is consistent:

- By **reporting grouping**, collective reports showed slightly higher perceived benefits (3 strongly agree, 7 agree out of 13) than Individual reports (9 strongly agree, 20 agree out of 41).
- By **reporting level**, hybrid reporters had the highest share agreeing (5 strongly agree, 8 agree out of 14; 93%), followed by full reports (5 strongly agree, 14 agree out of 27; 70%) and light-touch reports (3 agree out of 8; 38%).
- By **sector**, public sector organisations reported marginally more benefits overall (7 strongly agree, 17 agree out of 32; 75%), compared to private sector organisations (4 strongly agree, 9 agree out of 18; 72%).
- **Local authorities** reported slightly lower strong agreement rates than other organisations (2 strongly agree, 7 agree out of 12), but still 75% acknowledged increased awareness

Overall, these results highlight that ARP4 reporting helped provide climate risk awareness across most organisations, with consistently positive responses across sectors, reporting levels, and groupings.

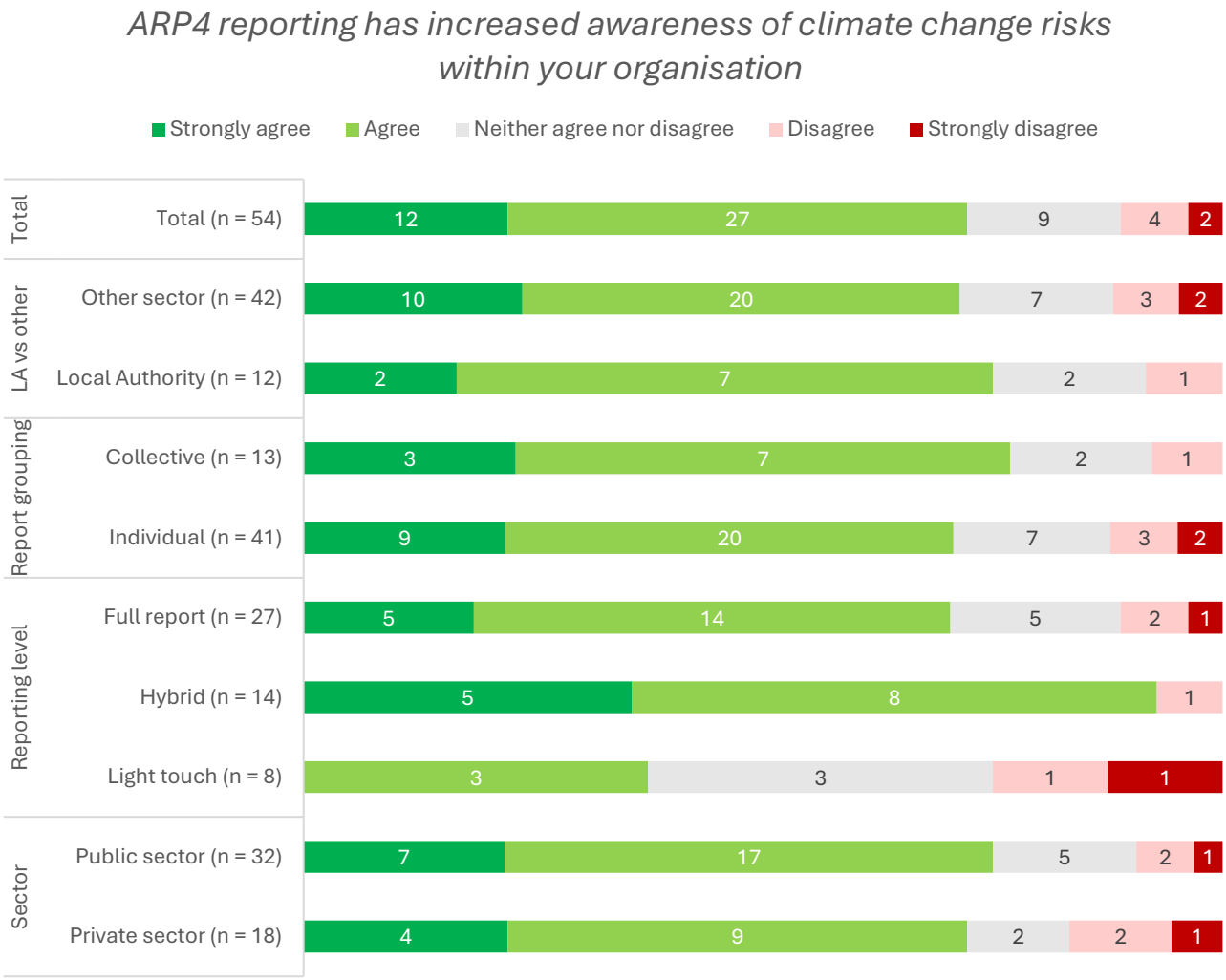

Figure 12: Climate change risk awareness

Analysis of free-text responses for respondents having experienced increased awareness shows that ARP4 reporting substantially increased organisational awareness of climate risks by elevating the issue to senior management levels, promoting cross-departmental engagement, and integrating climate risks into formal risk registers and corporate planning. Many organisations noted that the process broadened understanding of both existing and emerging risks (e.g., severe storms, interdependencies), provided a formal incentive for adaptation action, and consolidated climate risk work across departments. Several respondents highlighted the creation of new governance structures, working groups, and stronger links to national frameworks and external support (e.g., Defra, Met Office). Overall, ARP4 reporting was widely seen as strengthening the visibility, legitimacy, and strategic priority of climate adaptation within organisations.

For some organisations, ARP4 brought limited additional awareness because risk management processes and climate adaptation considerations were already well embedded or because reporting requirements diverted resources from active resilience work. In a few cases, limited internal dissemination, insufficient engagement beyond core teams, or a lack of resources to continue adaptation activities reduced its potential impact.

As such, ARP4 strengthened organisational understanding of climate risks in most cases but its influence varied depending on existing organisational capacity, prior adaptation experience, and the extent of internal engagement.

Among respondents who indicated that ARP4 increased organisational awareness of climate risks, a follow-up question explored whether this heightened awareness led to the integration of climate adaptation considerations into business strategy and governance (Figure 13).

26 out of 38 respondents (68%) agreed or strongly agreed that ARP4 had influenced strategic or governance processes, while 10 (26%) neither agreed nor disagreed and 2 (5%) disagreed.

- **By sector**, public sector organisations reported the highest levels of agreement (19 out of 24; 79%), followed by the private sector (5 out of 12; 42%).
- **By reporting level**, full reports were most likely to show integration (16 out of 19; 84%), followed by hybrid reports (8 out of 12; 67%)
- **By reporting grouping**, collective reports were slightly more likely (8 out of 9; 89%) than individual reports (18 out of 29; 62%) to indicate integration into governance.
- **Local authorities** showed moderate integration levels, with 7 out of 9 (78%) agreeing

These results suggest that ARP4 not only increased awareness but, for the majority of respondents, also helped embed adaptation considerations into organisational decision-making structures, particularly in the public sector and where more comprehensive or collective reporting was undertaken.

For trade bodies, survey responses on integration and governance reflect changes perceived across the member organisations contributing to the sector-level report, rather than the trade body alone. It is important to note that only one respondent indicated they had contributed to a sector-level report (without producing it themselves), making it difficult to assess how experiences differ between contributors and coordinators. The relatively high agreement rates observed in this group may reflect the broader scope of sector-level reports, which can offer more comprehensive insights and visibility across organisations.

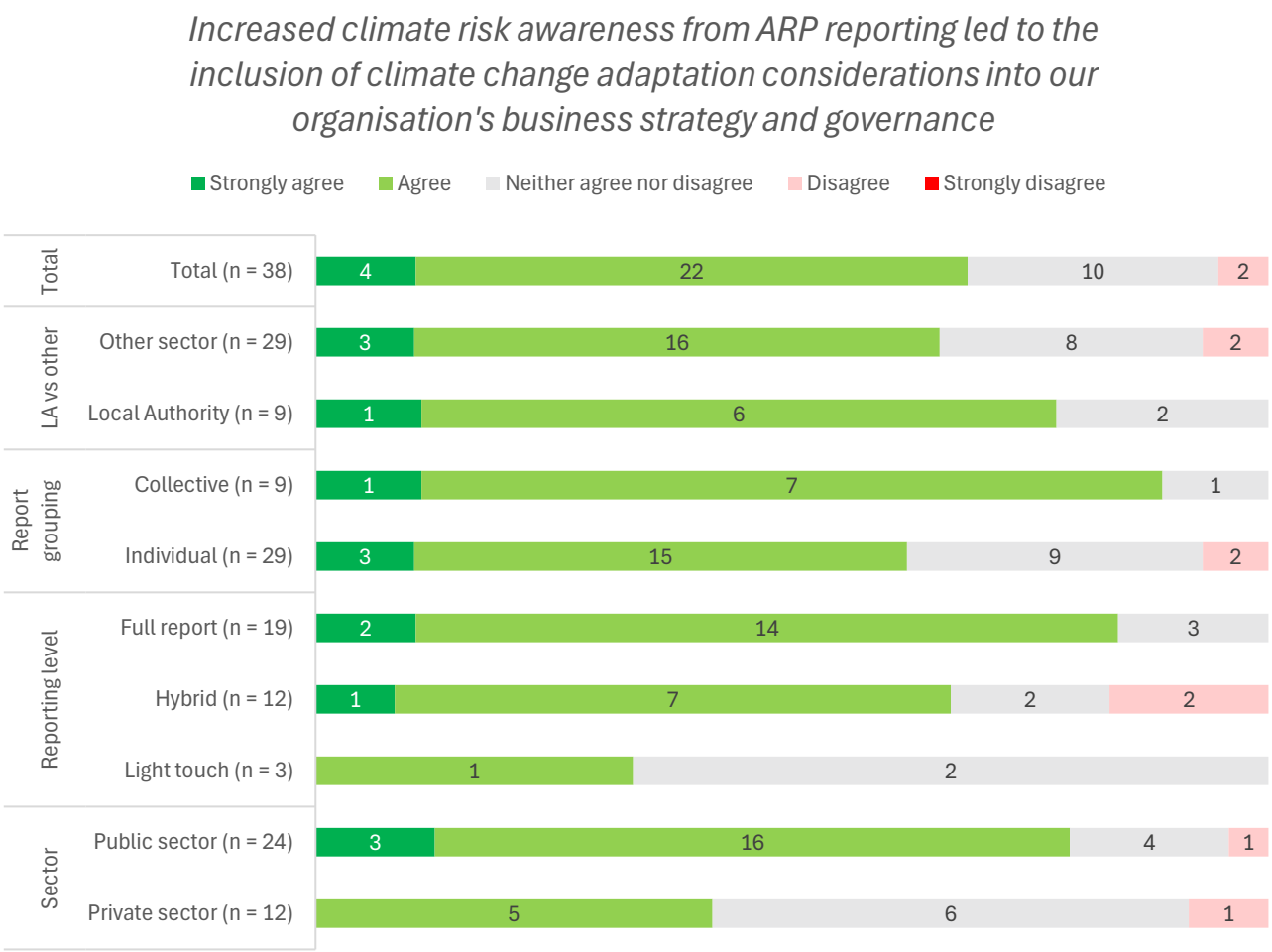

Figure 13: Embedding adaptation into business strategy and governance

Note: This was only asked to respondents who believed ARP4 improved their organisation's climate change risk awareness.

Analysis of free-text responses shows that ARP4 reporting played a significant role in strengthening organisational approaches to climate risk management. Many organisations integrated climate risks into corporate risk registers and governance frameworks, aligning adaptation considerations with strategic plans, executive oversight structures, and risk assurance processes. The process also supported compliance with external reporting requirements such as TCFD and facilitated the development or enhancement of climate resilience strategies, operational delivery plans, and adaptation support programmes. Several organisations reported that adaptation considerations were now embedded into business-as-usual decision-making, with some investing in new data systems, tools, and specialist staff to strengthen risk governance. Importantly, ARP4 also encouraged future adaptation planning and collaboration across sectors and with national bodies, helping to align climate resilience efforts with broader organisational and policy objectives.

Capacity building

Evidence on the capacity building of organisational capabilities is provided through the survey. The first related question explored whether preparing the ARP4 report helped organisations build or improve their capacity to assess climate risk.

Across all respondents (n=51[4]), only 6 organisations (12%) reported that ARP4 helped to a great extent, while 31 (61%) said it helped to some extent**Error! Reference source not found.**. However, 14 organisations (27%) indicated that ARP4 did not help at all. Results vary across groups:

- By **reporting level**, respondents preparing full reports (n=25) were slightly more positive, with 5 reporting strong benefits and 16 moderate ones, though 4 organisations reported none. For hybrid (n=14) and light-touch (n=8) reports, the proportion reporting no benefit was higher, at 43% and 50%, respectively.
- By **reporting grouping**, those submitting collective reports (n=11) were slightly more positive than individual reporters: 1 organisation reported strong benefits, 7 some improvement, and 3 no benefits. Among individual reporters (n=40), 5 organisations (13%) reported substantial capacity gains, 24 (60%) some improvement, and 11 (28%) no benefit.
- By **sector**, public-sector organisations (n=30) showed the strongest gains, with 3 reporting substantial capacity building and 20 some improvements, while private-sector respondents (n=17) were more divided, with 6 (35%) reporting no benefits.
- Among l**ocal authorities** (n=11), only 2 organisations reported substantial capacity gains, while 7 saw moderate benefits and 2 reported no benefit.

Overall, the results indicate that while ARP4 contributed to incremental improvements in climate risk assessment capacity for most organisations, it did not lead to major capacity gains for the majority, particularly for lighter-touch or hybrid reports.

[4] Excluding “unsure” responses, n=3

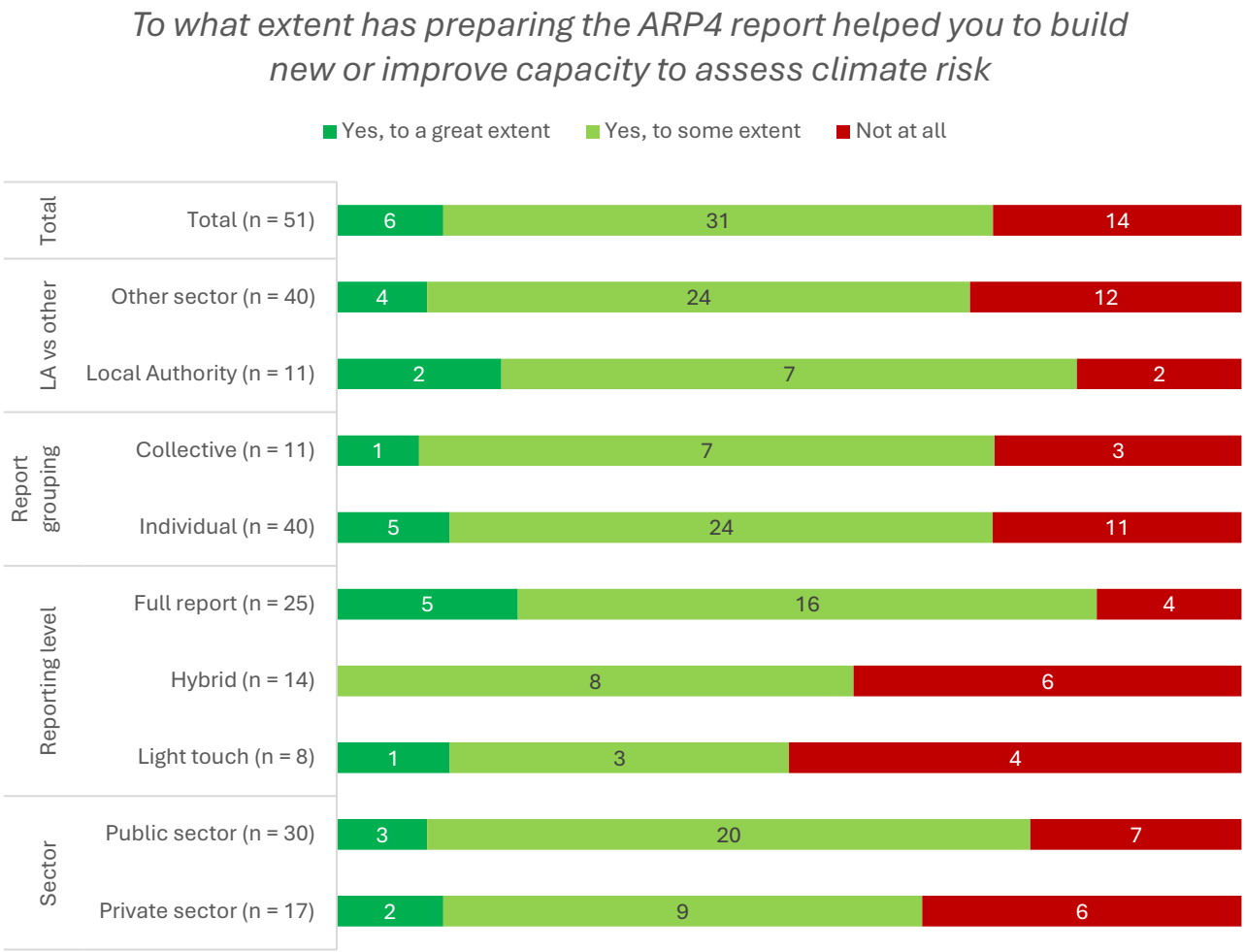

Figure 14: Capacity to assess climate risk

A second question related to capacity building concerned the benefits of ARP4 reporting in terms of identifying or refining adaptation options. Across the full sample (n=49[5]), most organisations (76%) reported experiencing this benefit. Specifically, 5 organisations (10%) indicated that ARP4 helped them to a great extent, 32 (65%) to some extent, while 12 (24%) reported no benefits in this area.

- **By sector**, the public sector showed the highest levels of agreement, with 25 out of 29 organisations (86%) reporting at least some benefit, compared with 10 out of 17 private sector organisations (59%).
- **By reporting level**, full reports were most likely to identify or refine adaptation options (21 out of 24; 88%), followed by hybrid reports (9 out of 14; 64%) and light-touch reports (4 out of 7; 57%).
- **By reporting grouping**, collective reports were slightly less likely to report benefits (8 out of 11; 73%) than individual reports (29 out of 38; 76%)

[5] Excluding "unsure" responses, n=5

- **Local authorities** reported particularly strong results, with all 11 responding to this question (100%) indicating at least some benefit.

These results suggest that ARP4 most strongly supported adaptation planning among local authorities, public sector organisations, and those producing full reports, while benefits were less consistent for private sector and light-touch reporters.

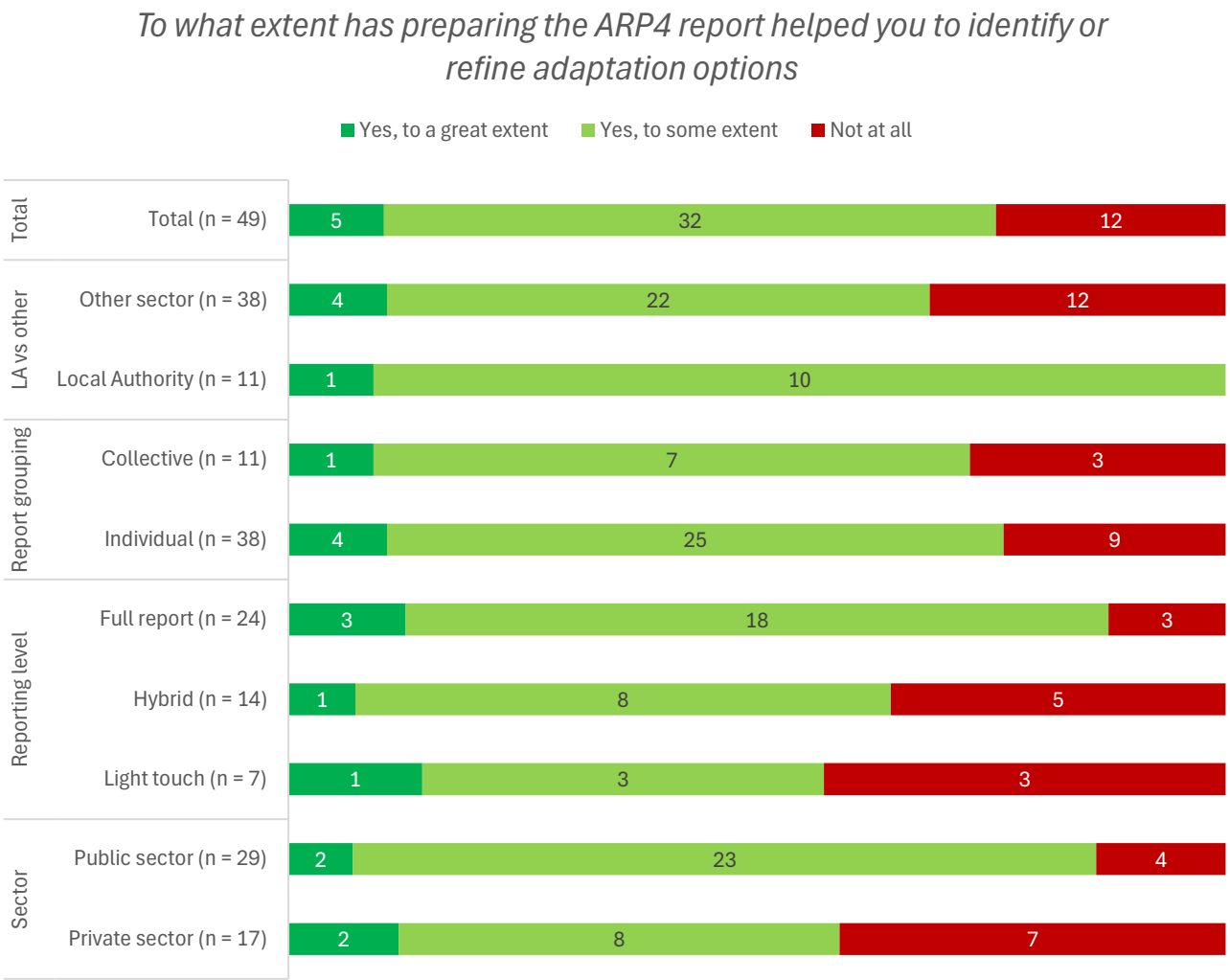

Figure 15: Identification and refinement of adaptation options

Analysis of free-text responses shows that ARP4 primarily helped organisations strengthen internal and external engagement on climate risks, raise the profile of adaptation within senior decision-making, and integrate climate considerations into corporate risk management processes. Many respondents reported that ARP4 prompted the development or refinement of resilience plans, risk registers, and adaptation action plans, while also improving risk-scoring methodologies and highlighting critical resource and data gaps. The process enabled capacity-building through staff training, cross-organisational collaboration, and access to external expertise, with some organisations formalising adaptation-focused roles or working groups as a direct outcome. Overall, ARP4 acted as a catalyst for embedding climate risk considerations into organisational governance and strategic planning.

Collaboration

Participation in ARP4 can also bring benefits through collaboration with other reporting organisations, for example, through information sharing. To investigate this causal pathway, a question examined whether participating in ARP4 led to collaboration with other reporting organisations (e.g., information sharing).

Overall, 35 out of 53 respondents[6] (66%) reported at least some collaboration, including 12 (23%) to a great extent and 23 (43%) to some extent, while 18 respondents (34%) reported no collaboration benefits.

- **By sector**, collaboration was reported by 21 out of 32 public sector organisations (66%) and 14 out of 18 private sector organisations (78%)
- **By reporting level**, hybrid reports were most likely to report collaboration (12 out of 14; 86%) , followed by full reports (17 out of 26; 65%), and light-touch reports (3 out of 8; 38%).
- **By reporting grouping**, collaboration was reported by 10 out of 12 collective reports (83%) and 25 out of 41 individual reports (61%), suggesting that collective reporting may have facilitated stronger cross-organisational engagement.
- **Local authorities** reported lower collaboration, with 7 out of 12 (58%) noting at least some collaboration.

Overall, this suggests that collective reporting (and particularly joint reporting over sector-level reporting) and hybrid reporting are most correlated with collaboration, whereas light-touch reports and some local authorities saw more limited benefits in this sense (at least proportionally).

[6] Excluding “unsure” responses, n=1

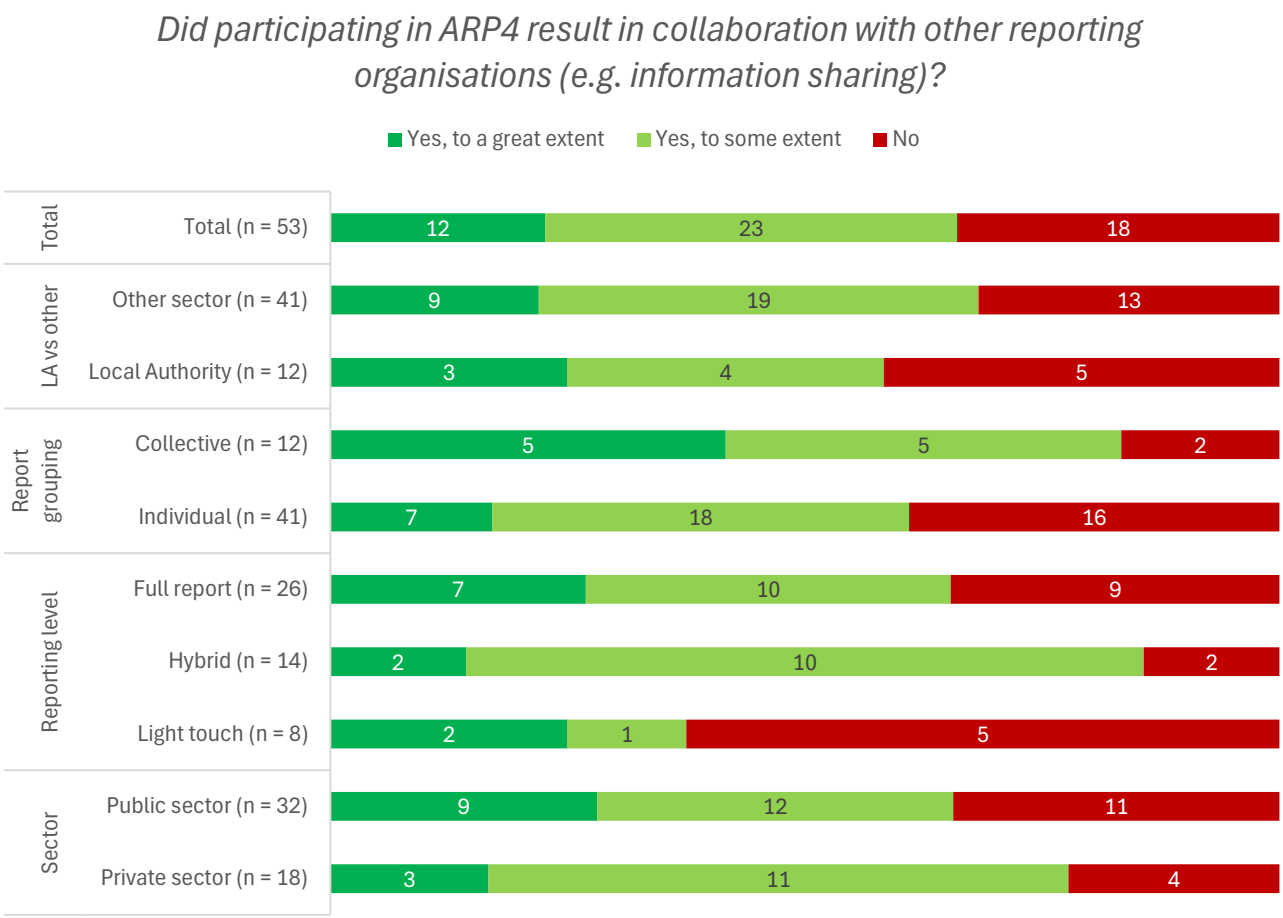

Figure 16: Collaboration effects

Based on free-text answers, the collaboration fostered by ARP4 was wide-ranging, spanning knowledge exchange, collective reporting, and sector-wide engagement. Many organisations highlighted the value of Defra-hosted webinars, interdependency workshops, and trade body coordination in connecting reporting organisations across sectors and regions. Examples included collective industry reports, inter-authority working groups, and transport and energy sector steering groups. Several organisations also noted that ARP4 led to the creation of lasting resources, such as case-study libraries and mapping tools, as well as commitments to future collaboration through conferences and working groups.

Public acknowledgement

One pathway identified through which ARP4 might provide benefits is as an opportunity for organisations to be publicly acknowledged (Figure 17). Overall, 28 out of 47[7] respondents (60%) reported some level of public acknowledgment for their organisation.

- **By sector**, public acknowledgment was reported by 19 out of 28 public sector organisations (68%) compared with 7 out of 15 private sector organisations (47%), suggesting a stronger recognition effect in the public sector.

[7] Excluding "unsure" responses, n=7

- **By reporting level**, full reports were most likely to report public acknowledgment (17 out of 24; 71%), followed by hybrid reports (6 out of 12; 50%) and light-touch reports (3 out of 7; 43%).
- **By reporting grouping**, collective reports were notably higher, with 9 out of 11 (82%) reporting public acknowledgment compared to 19 out of 36 individual reports (53%).
- **Local authorities** reported slightly lower levels of acknowledgment compared to other organisations, with 6 out of 11 (55%) noting some benefits compared to 61% for other organisations, but this marginal difference, along with a small sample size, prevents a conclusive analysis.

These findings indicate that full and collective reports, as well as public sector organisations, were more likely to benefit from public acknowledgement. In contrast, private sector organisations and light-touch reporters reported slightly fewer such opportunities, which may reflect both fewer acknowledgements received and, in some cases, a deliberate choice not to seek wider visibility where reports were similar to previous rounds.

In free-text responses, organisations reported that ARP4 provided opportunities to publish reports on gov.uk or corporate websites, with some noting subsequent recognition by the CCC, government departments, or sector-level bodies. Publication often prompted further engagement with stakeholders, invitations to present on climate change adaptation, and references in external reports or academic studies.

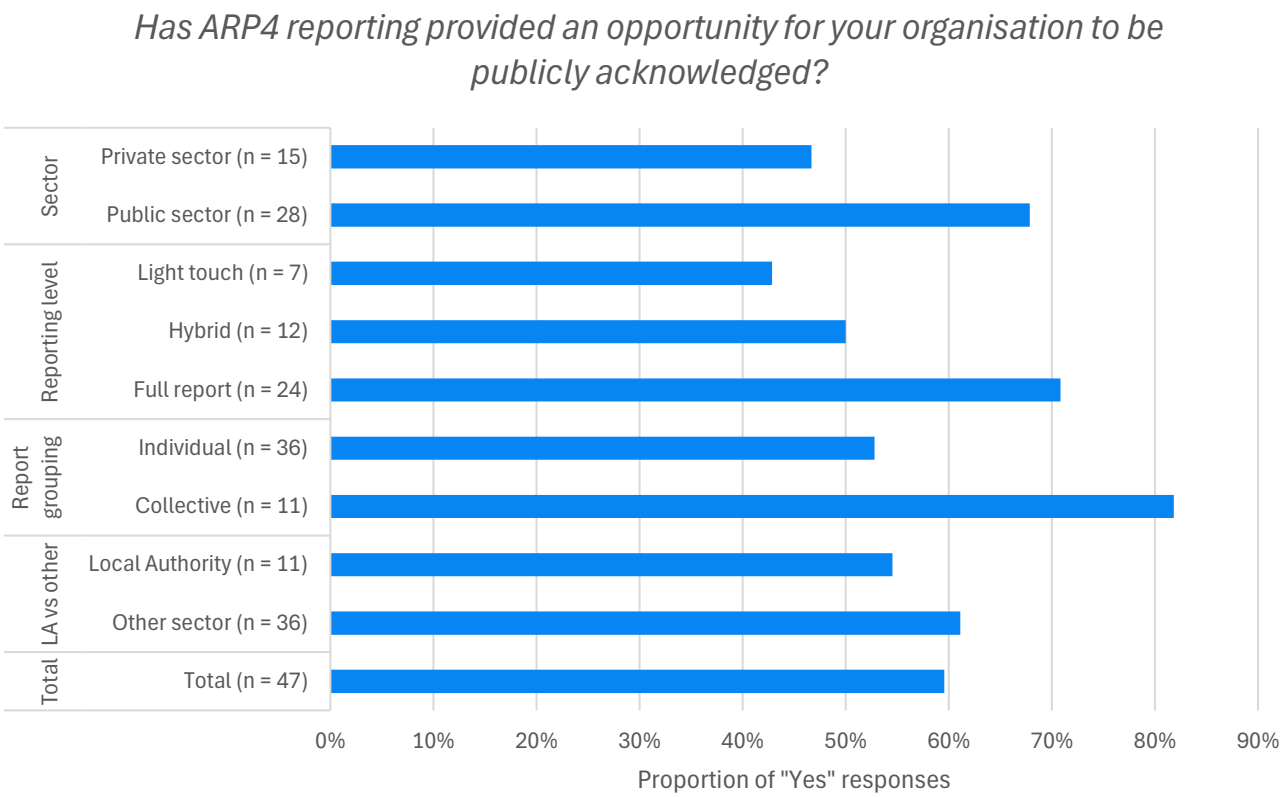

Figure 17: Public acknowledgement per grouping

Climate resilience

One of the survey questions pertained to high-order effects of ARP, namely whether implementing climate change adaptation measures from ARP reports reduced respondent organisations' climate change risk (Figure 18). This was only asked of those who had reported previously, as it was assumed that it would be too early to say whether resilience had improved due to actions set out in ARP4 adaptation plans.

Overall, 12 out of 32 respondents[8] (38%) reported that adaptation measures had already reduced their organisation's climate change risk, while 13 out of 32 (41%) felt it was too early to say, and 7 out of 32 (22%) reported no such impact yet.

- **By reporting grouping**, collective reporters were least likely to report clear risk reduction (none except one declared this), versus 11 out of 24 individual reporters (46%), suggesting that individual reporting may be more closely linked to measurable adaptation benefits.
- **By reporting level**, light-touch and full reports had higher proportions of respondents noting reduced risk (4 out of 8; 50% and 3 out of 8; 38% respectively) than hybrid reports (4 out of 13; 31%), though smaller sample sizes limit strong conclusions.
- **By sector**, public sector organisations reported slightly more benefits (7 out of 17; 41%) than private sector organisations (5 out of 14; 36%).

These results suggest that while many organisations are starting to see adaptation benefits, for a significant share, it may still be too early to observe measurable risk reduction, particularly for collective reporters and some hybrid report organisations, although small sample sizes for the latter groupings limit our ability to draw robust conclusions.

[8] Excluding "unsure" responses, n=2

Have you found that your organisation's climate change risk has been reduced due to the implementation of climate change adaptation measures planned as part of an ARP report? Please consider all rounds of ARP you have participated in.

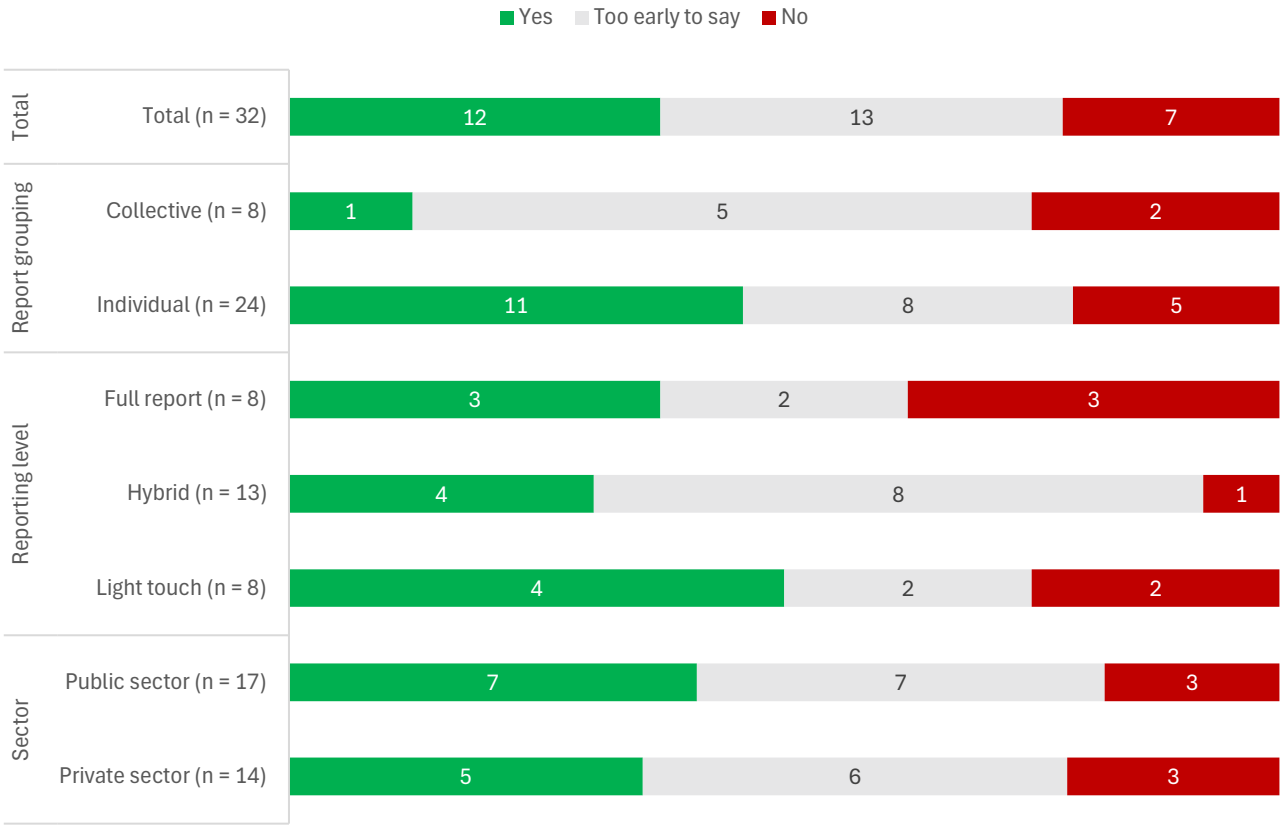

Figure 18: Climate resilience benefits, per grouping

Note: This question was only asked to respondents who had reported at least once before ARP4. Thus, it was not asked to local authority respondents.

ARP4 reporting has contributed to increased climate resilience in some organisations primarily by improving understanding of climate risks, catalysing planning and investment, and embedding adaptation measures into existing processes. Indeed, based on free-text responses, ARP reportedly "acted as a catalyst" for new adaptation initiatives, supported knowledge sharing across organisations, and in some cases provided the evidence base to secure funding or deliver concrete measures, such as "nature-based solutions… reducing scour risk, improving the floodplain and providing flood protection."

Nonetheless, others reported no observable reduction in climate risks, citing several barriers. Many put forth the lack of systematic evaluation frameworks to measure resilience gains, the long timescales before impacts become apparent, and the fact that "monitoring and tracking… is underway, but too early for conclusions." Some noted that ARP primarily summarised existing activities rather than introducing new ones, while others indicated that climate risk management was already embedded in other regulatory or strategic processes, making it difficult to attribute change directly to ARP. Additionally, limited implementation of

planned actions, data gaps preventing investment decisions, and the focus on "introducing the concept of adaptation rather than immediate implementation" further explain why risk reduction was not yet evident for many organisations.

Reflection regarding role within national adaptation efforts

As part of this VfM evaluation and the production of the ToC, reflection on an organisation's role within national adaptation efforts was identified as a key, co-substantial causal pathway through which ARP4 could generate broader adaptation benefits. Because of this, a dedicated survey question asked respondents whether ARP4 had prompted such reflection, with responses summarised in Figure 19. A majority of respondents (31 out of 50[9]; 62%) agreed or strongly agreed that ARP4 led their organisation to reflect on its role within national adaptation efforts, while 15 respondents (30%) neither agreed nor disagreed.

- **By sector**, public sector organisations reported the highest levels of agreement (21 out of 30; 70%), compared to 8 out of 16 (50%) in the private sector, which may reflect the public sector's inherently stronger reflection concerning national dynamics.
- **By reporting grouping**, collective reporters expressed slightly stronger agreement (7 out of 11; 64%) than individual reporters (24 out of 39; 62%).
- **By reporting level**, full-report respondents showed the highest agreement (17 out of 25; 68%), followed by hybrid (9 out of 14; 64%) and light-touch reporters (3 out of 7; 43%), suggesting that more comprehensive reporting correlated with stronger perceived reflection on national adaptation roles.

Overall, the findings indicate that ARP4 encouraged a strong majority of organisations to consider their contribution to national adaptation efforts, with public sector and hybrid/full reporters reporting substantial levels of reflection. In contrast, light-touch and private-sector reporters demonstrated low reflection levels, perhaps a testament to light-touch reporters to their more limited involvement in ARP reporting in this round and, for some private sector organisations, their inherently lower engagement in national policy discussions and adaptation planning.

[9] Excluding "unsure" responses, n=4

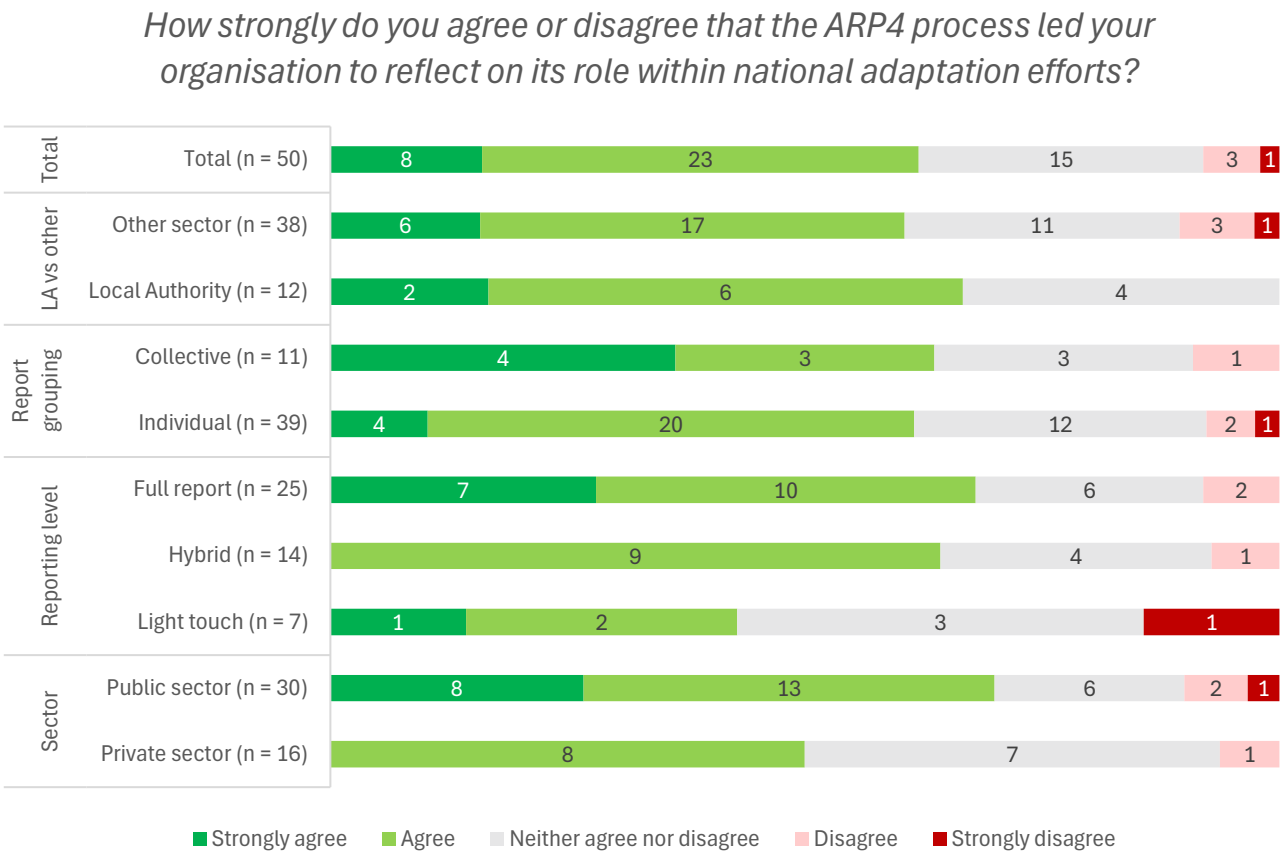

Figure 19: Extent to which ARP4 prompted reflection on organisations' role in national adaptation efforts

Climate adaptation ambitions

The survey also examines the extent to which ARP4 participation influenced organisations' ambitions to collect climate risk data. Overall, around half of respondents (24 of 46; 52%) reported increased ambitions following ARP4, including 4 respondents who reported greatly increased ambitions, while the remaining 22 respondents (48%) reported no change.

Results suggest that ARP4 acted partially as an accelerator rather than purely as a starting point for some organisations. Among organisations that already had plans or discussions on data collection before ARP4, three quarters (9 of 12; 75%) reported increased ambitions following ARP4. This pattern indicates that, for these organisations, ARP4 reinforced and expanded existing initiatives, rather than initiating new ones from scratch.

Differences emerged across reporting approaches:

- **By reporting level**: Full reporters showed the largest increase, with 14 of 20 (70%) reporting greater ambitions, compared to 7 of 13 (54%) of hybrid and only 2 of 8 (25%) of light-touch reporters.
- **By grouping**: Similarly, collective reporters were more likely to report increased ambitions (6 of 9; 67%) than individual reporters (18 of 37; 49%), suggesting that deeper engagement and collaboration within ARP4 correlated with stronger ambition shifts.

- **By sector**: public sector organisations were more likely to report increased ambitions (15 of 28; 54%) than private sector respondents (7 of 15; 47%), reflecting differences in baseline capacity: 71% of public sector respondents already had plans for climate risk data collection before ARP4, compared to none among private sector respondents.
- **Local authorities** stand out, with 7 of 9 (78%) reporting increased ambitions after ARP4, consistent with their higher rate of prior planning (75% had plans before ARP4).

Taken together, these findings indicate that ARP4 most strongly influenced organisations with existing capacity or plans, while slightly more limited shifts among light-touch and private-sector respondents likely reflect lower baseline engagement or competing priorities.

To what extent has participation in ARP4 altered your organisation's ambitions related to collecting climate risk data?

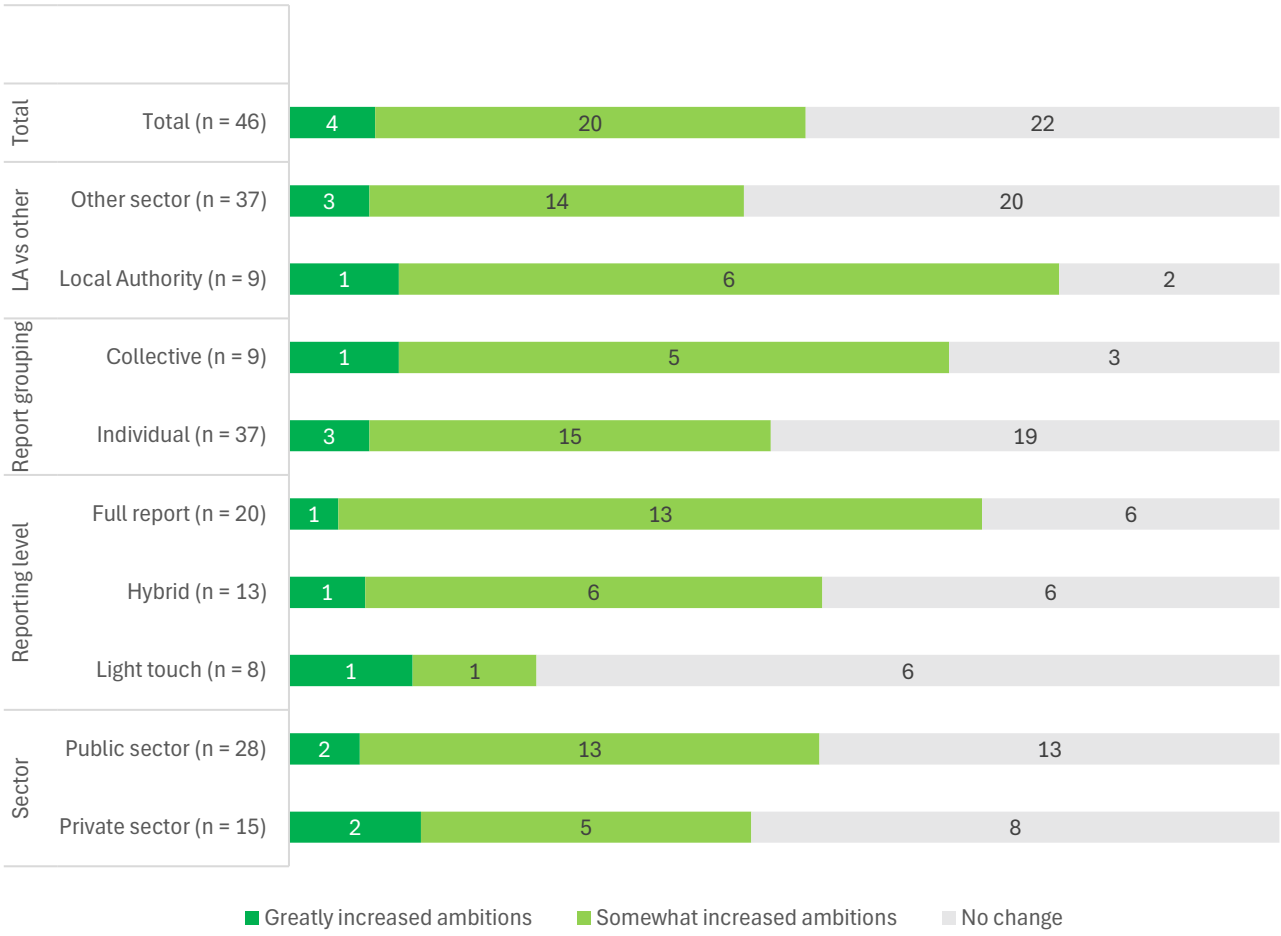

Figure 20: Impact on climate risk data collections

Similarly, Figure 21 Figure 21examines the extent to which ARP4 participation influenced organisations' ambitions to develop or strengthen climate adaptation plans. On the whole,

around three in five respondents (28 of 48[10]; 58%) reported increased ambitions following ARP4, including 3 who reported greatly increased ambitions, while the remaining 20 respondents (42%) reported no change. Among the 14 organisations that already had plans or discussions on adaptation planning before ARP4, nearly four-in-five (11 of 14; 79%) reported increased ambitions following ARP4. This indicates that, for these organisations, ARP4 reinforced and expanded existing initiatives rather than initiating new ones from scratch, in a similar manner to climate risk data collection as explained above.

Differences emerged across reporting approaches:

- **By reporting level:** Full reporters showed the largest increase, with 17 of 23 (74%) reporting greater ambitions, compared to 6 of 13 (46%) of hybrid and 4 of 8 (50%) of light-touch reporters. Full reporters were likely to already have plans pre-ARP4 (14 of 18; 78%), while there were no baseline responses for hybrid/light-touch and possible comparison within that group.
- **By grouping:** Individual reporters were more likely to report increased ambitions (24 of 39; 62%) than collective reporters (4 of 10; 40%).
- **By sector**: Public-sector organisations were more likely to report increased ambitions (18 of 29; 62%) than private-sector respondents (7 of 16; 44%). This also mirrors pre-ARP4 ambitions, where public-sector respondents more often had pre-ARP4 plans (11 of 14; 79%) than private-sector respondents (1 of 2; 50%; but a small base).
- **Local authorities** stand out, with 9 of 10 (90%) reporting increased ambitions after ARP4, which is consistent with their high rate of prior planning.

These findings indicate that ARP4 most strongly influenced organisations with existing capacity or plans (e.g., LAs, public sector, full reporters), while more limited shifts among collective, hybrid, and private-sector respondents may reflect lower baseline engagement and/or smaller, less mature planning pipelines pre-ARP4 (although small sample sizes should be noted for some subgroups.

[10] Excluding “unsure” responses, n=1

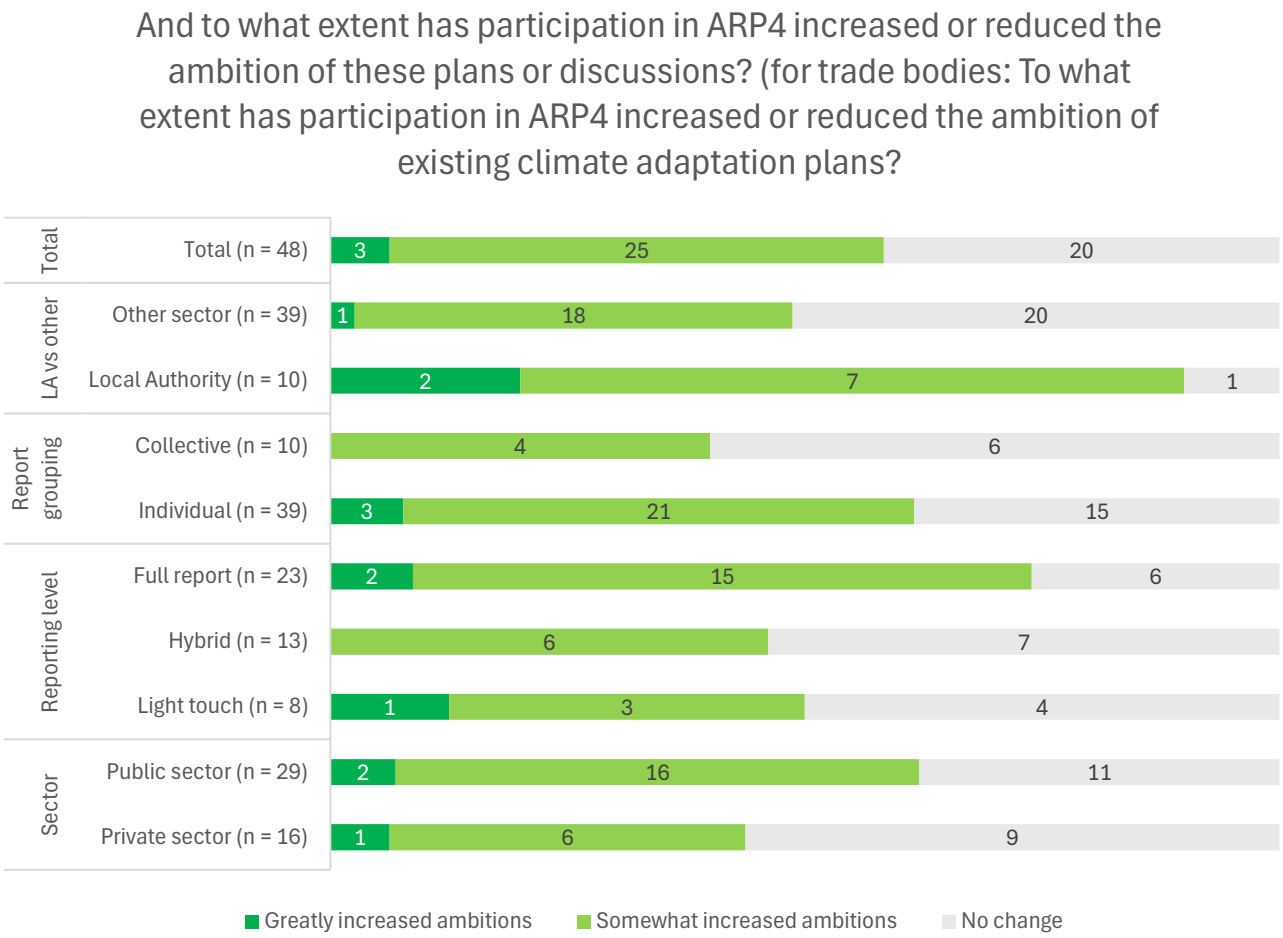

Figure 21: Impact on climate adaptation plans

Additional benefits

Among respondents, a question explored whether preparing the ARP4 report prompted organisations to introduce new processes, procedures, or activities (Figure 22). This analysis of potential additional benefits from ARP4 shows that the process most frequently led to new or updated climate risk assessments and the development or updating of adaptation strategies or action plans, with around three-quarters of respondents (75% and 79% respectively) reporting these benefits at least to some extent. Similarly, ARP4 often prompted the reinforcement of existing adaptation plans (reported by 73%). However, it had less impact on securing new funding, allocating new resources or ensuring that policies, procedures and procurement incorporating climate risks were retained; for these, respectively, fewer than 20%, 33% and 40% of respondents respectively noted any change.

- **By report grouping**, collective reporters, and in particular sector-level reporters, were more likely to have been prompted to conduct new or updated climate risk assessments 'to a great extent' (7, or 64% of respondents) than individual reporters (10, or 24% of respondents). Individual reporters were also less likely to have been driven to ensure that their organisation continued to commit resources to adaptation.

- **By reporting level,** ARP4 was less likely to lead light-touch reporters to conduct new or updated climate risk assessments compared with full or hybrid reporters. This is to be expected, as light-touch updates typically build on existing assessments rather than requiring substantial new analysis. As a result, these organisations were also less likely to report changes in policies, procedures, or procurement to incorporate climate risk.
- **By sector,** the public sector was more positive about ARP4's effect on improving internal skills or implementing training on adaptation than the private sector (63% positive answers compared to 35% for the private sector). On the other hand, the private sector was more likely to state that ARP4 fostered an allocation of new resources to climate adaptation (nearly 50% positive answers, compared to less than 25% for the public sector).
- **Local authorities** were more likely to state that ARP4 led them to conduct new or updated climate risk assessments, or to develop/update adaptation strategies or action plans than other types of reporting organisations. However, they were less likely to state that it drove an allocation of new resources or ensured continued commitment of resources to climate adaptation.

Has ARP4 reporting prompted your organisation to do any of the following:

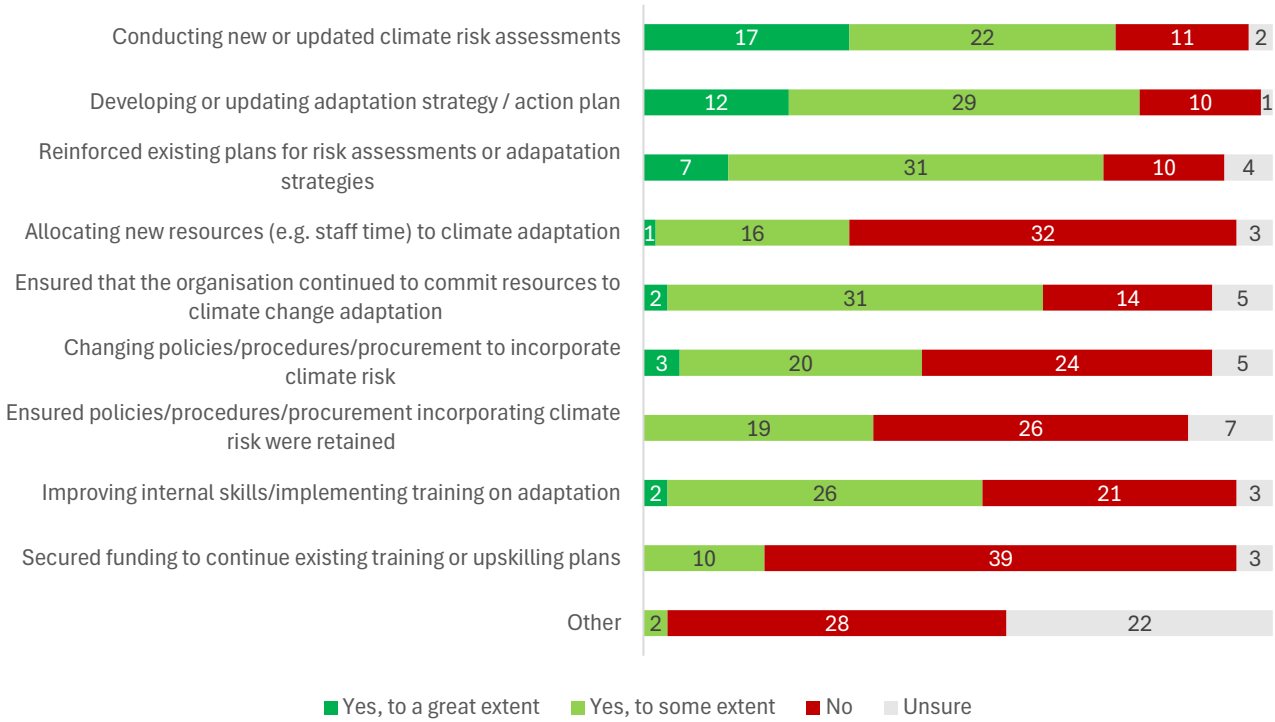

Figure 22: Additional benefits related to processes, procedures and activities, n=52

Overall, based on an analysis of free-text answers, ARP4 reporting played a significant role in strengthening organisational approaches to climate risk management, particularly in terms of raising awareness of climate risks across departments, embedding adaptation

considerations into strategic and corporate planning, and updating risk assessments and action plans. In several cases, ARP4 facilitated new collaborations, both internally and with external organisations, and provided a framework to justify additional resources or training needs. While some organisations were already advanced in their adaptation planning, ARP4 often served as a catalyst to consolidate existing work, identify gaps, and maintain adaptation as a strategic priority across organisational levels.

Other reporting requirements

The landscape of climate related reporting for organisations is complex, and in addition to ARP4, there are a range of mandatory and voluntary reporting requirements that organisations may participate in. We have sought evidence on the extent to which reporting under ARP4 has had an impact on other reporting requirements, and whether there are any benefits realised from multiple reporting formats.

The strongest contribution from ARP4 was reported for internal reporting, where 31 out of 50 surveyed organisations (62%) indicated benefits, including 5 (10%) to a great extent, while 16 (32%) reported no impact. For TCFD reporting, 20 out of 40 organisations (50%) reported some contribution, including 4 (10%) to a great extent, though 16 (40%) said ARP4 had no impact. Contributions to SECR reporting were more limited, with only 4 out of 40 organisations (10%) reporting some benefit, while a majority (26, or 65%) reported no impact. Finally, for public sector-specific reporting, among the 28 public sector respondents, 6 (21%) reported some benefit, while 17 (61%) said there was no impact.

All in all, ARP4 primarily informed internal processes and, to a lesser extent, TCFD reporting[11], while links to SECR and public-sector reporting frameworks remained quite limited for respondents.

[11] It is important to note that more than half of reporting organisations are not subject to TFCD reporting requirements.

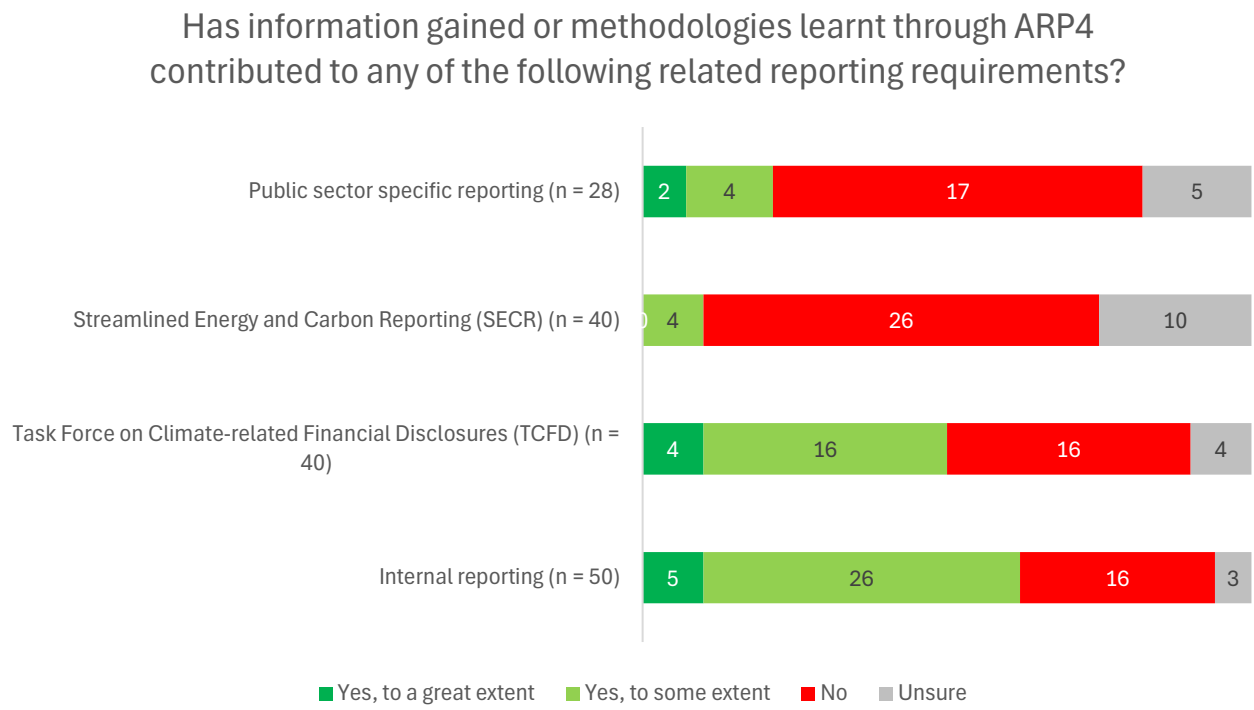

Figure 23: Contribution to other reporting requirements

As above, smaller sample sizes limit the ability to make robust conclusions, but some salient points of interest remain, specifically regarding light-touch reporters and local authorities:

- Notably, **light-touch reporters** are more likely to indicate that ARP4 did not help with other reporting requirements; 63% said so regarding internal processes and TCFD, 71% for SECR, and 67% for public sector-specific reporting.
- In addition, all **local authorities** responded "No" to this question regarding SECR, 73% about public sector-specific reporting, and 83% about TCFD.

A follow-up question explored how ARP4 supported other reporting requirements (Figure 24). Results suggest that ARP4 reporting helped streamline processes, improve data consistency, and strengthen internal frameworks for multiple reporting obligations, though the degree of benefit varied across categories. For internal reporting, where the sample size is largest (n=31), the strongest benefits were in building internal capacity and frameworks and supporting stakeholder engagement (each reported by 21 respondents; 68%), followed by providing relevant data or indicators (19 respondents; 61%). Regarding TCFD (n=20), responses were relatively even with stakeholder engagement (12 respondents; 60%) and aligning terminology (10 respondents; 50%) as key benefits, alongside providing data and building capacity (both 11 respondents; 55%). For SECR (n=4) and public sector reporting (n=6), benefits were also fairly evenly reported.

Overall, stakeholder engagement, capacity building, and provision of consistent data emerged as the most common benefits across reporting types. On the other hand, some organisations indicated that ARP4 supported other reporting requirements by helping to avoid duplication of effort.

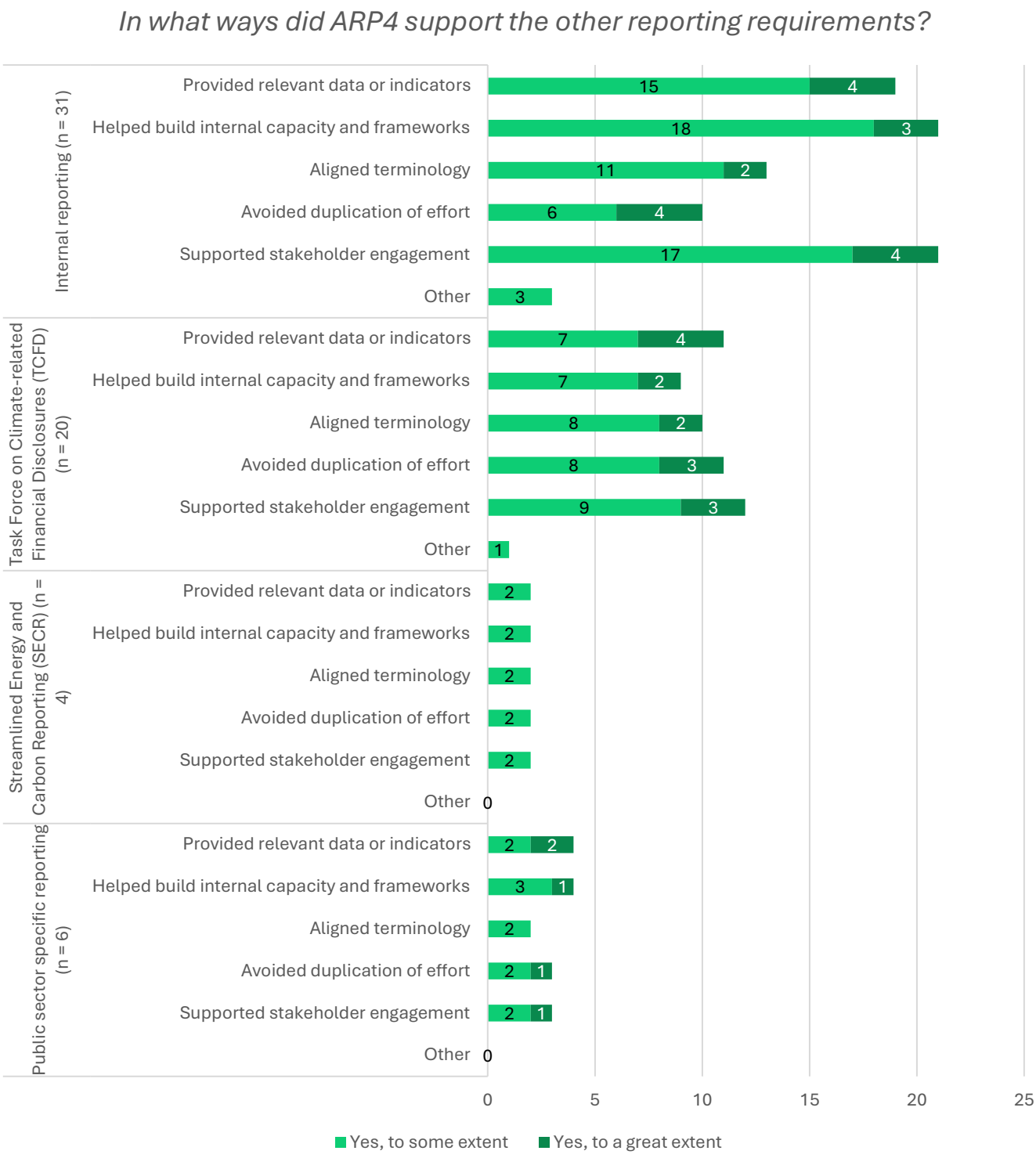

Figure 24: Support to other reporting requirements

Note: This question was only asked to respondents who answered "Yes" to the previous question, presented in Figure 20.

Comparison with previous rounds

This study also examined whether the benefits of ARP4 evolved across successive reporting rounds, capturing how its effects on organisations may have changed over time. Figure 25 compares perceived benefits of ARP4 against earlier ARP rounds. Overall, a majority felt

ARP4 delivered benefits on par with previous rounds, while about a third saw improvements[12]: 10 of 29 respondents (34%) reported “more” benefits (1 significantly, 9 slightly), 16 (55%) reported “the same,” and 3 (10%) reported “slightly less.” No one selected “significantly less”.

Differences emerged across reporting approaches.

- **By reporting level**: Full reporters were most positive (5 of 6; 83% reported more; 1 the same). Hybrid reporters were more neutral (3 of 14; 21% more; 10 the same; 1 slightly less). Light-touch reporters were largely unchanged (1 of 6; 17% more; 4 the same; 1 slightly less).
- **By grouping**: Collective reporters were comparatively positive about this round of reporting (6 of 9; 67% more; 2 the same; 1 slightly less), whereas individual reporters mostly saw no change (4 of 20; 20% more; 14 the same; 2 slightly less).
- **By sector**: Public-sector respondents were mostly positive but with a “slightly less” response (8 of 13; 62% more; 4 the same; 1 slightly less). Private-sector respondents mostly saw no change (2 of 14; 14% more; 10 the same; 2 slightly less).

Overall, ARP4’s benefits were perceived as maintained compared to previous rounds for most, with net improvements concentrated among those arguably more deeply engaged in this process (full reporters, collective submissions, public sector). More neutral or negative views were more common among private-sector and lighter-touch/hybrid participants (whilst noting small base sizes for several subgroups, limiting definitive conclusions).

[12] Values exclude “unsure” responses, n=7

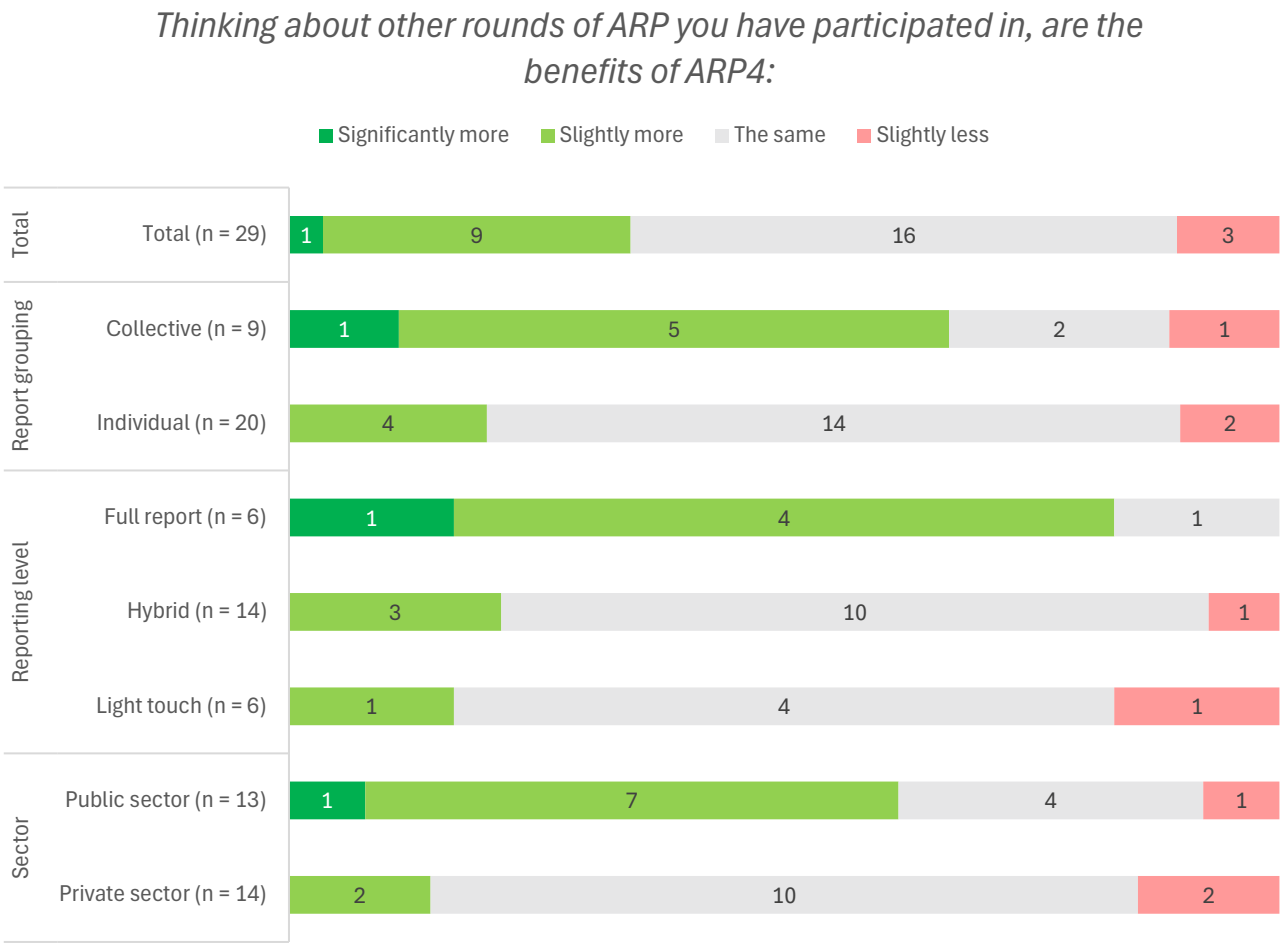

Figure 25: ARP4 benefits perception as compared to previous rounds

ARP4 delivered clear added value compared to earlier rounds, particularly for organisations with existing adaptation capacity. Respondents highlighted that ARP4 deepened understanding of climate risks and interdependencies, broadened organisational and sectoral engagement, enabled reflection on previous reports, aligned with CCRA4 evidence requirements, and prompted new or updated risk assessments to be embedded in corporate governance processes. Its timing and iterative approach allowed gaps to be addressed, and clearer baselines to be set for ARP5, creating efficiencies and strengthening ongoing adaptation work.

Yet some respondents did note diminishing benefits compared to previous rounds, as climate risk management becomes embedded in business-as-usual practices and because the shorter timeframe since ARP3 limited the availability of new evidence.

Overall, ARP4 offered strong comparative benefits by accelerating and consolidating adaptation planning, though future rounds may need expanded scope or new analytical requirements to maintain impact for previous reporters.

Internal or external challenges limiting the benefits of ARP4 participation

Respondents highlighted several internal and external factors that constrained the benefits of ARP4. Timing pressures were the most common challenge, with reporting deadlines often coinciding with regulatory cycles, the shorter reporting window, or falling during holiday

periods. Many organisations cited capacity and resourcing constraints, including limited staff time, lack of technical expertise, and competing priorities, particularly in local authorities facing wider funding pressures.

Coordination challenges also emerged, including limited visibility of other organisations' plans, difficulties engaging on interdependencies and cascading risks, and fragmented government communications across multiple departments. Some organisations noted data gaps and complexity, for example, inconsistent or unusable climate projections and delayed sector-level data. On the other hand, others faced barriers to information sharing due to the sensitivity of commercial data.

Finally, several respondents mentioned low senior-level engagement, the non-mandatory status of ARP4, and competing statutory or political commitments as factors reducing the priority and integration of ARP4 within internal planning processes.

Other direct or indirect effects

Respondents reported that ARP4 generated several positive direct and indirect effects. It strengthened external relationships around adaptation (including with key companies and other organisations), raised awareness and senior-level support by keeping the topic in the national spotlight, and helped some organisations prepare to embed the TCFD framework.

Participants also cited direct benefits for regulatory work, a useful geospatial lens introduced through local authority participation, and strong educational value that promoted cross-team engagement and thinking on resource allocation.

At the same time, drawbacks were noted: ARP4 can raise expectations without commensurate funding and is time-intensive for some teams, diverting effort from other activities.

Government respondents

Understanding key sectors' preparedness to climate change

One of the primary objectives of ARP4 was "to build an understanding of the level of preparedness of key sectors to climate change". 2 respondents agreed that ARP4 has improved their team/department's understanding of this. Furthermore, these 2 respondents stated that ARP4 has helped them identify sectors or themes that need stronger policy support, and one of them mentioned how ARP reports informed the policies and content of the upcoming Transport Adaptation Strategy. Respondents explained how their understanding of the level of preparedness was improved directly through presentation of the latest information on the climate risks facing each sector and the actions organisations in each sector are taking to address these. The reports also provided "informative" insights into how climate change was projected to impact certain natural assets such as forests, peatlands and soil, or outlined adaptation approaches to address specific climate risks such as droughts and wildfires. This suggests that ARP4 was not only a reporting activity to understand preparedness, but also a mechanism to support knowledge transfer on climate risks and adaptation approaches from reporting organisations to central government.

All respondents agreed that the utility of reports in evaluating climate risk across sectors has increased to some extent since previous ARP rounds due to refinement of reports, with one respondent stating that the utility of reports had increased a lot.

1 respondent indicated that ARP4 has been very useful for their analysis across projects, including progress reporting. This is particularly true in the infrastructure sector, where data is sometimes scarce. In addition, they mentioned how they have made "heavy" use of ARP findings, foremost concerning infrastructure and local authority endeavours.

Showcasing good practice

All respondents agreed that ARP4 highlighted high-performing organisations, enabling the government to showcase good practice. Most ARP4 reports were published on the governments and the organisations' own websites, and good examples were even highlighted in the CCC's progress report. Some are even being used as case studies in the Transport Adaptation Strategy. Government respondents mentioned how progress had advanced since previous rounds, with knowledge on interdependency risk clearly improved and more action focused on addressing it, more joined-up thinking on adaptation action demonstrated, and upskilling and capacity building in reporting organisations highlighted. They also mentioned how some reporting organisations demonstrated advocacy for prioritising adaptation approaches that offer co-benefits for biodiversity.

One respondent mentioned how they were able to identify good adaptation practice presented in reports, which was then used to contribute insights into another government resilience-building initiative called the Tree Health Resilience Strategy (THRS). Additionally, one respondent mentioned how discussions with reporting organisations informed the department's own processes, such as the Defra MEL Framework for adaptation.

This input from survey respondents clearly shows that ARP4 reporting has allowed the government to not only identify high performing organisations and showcase them publicly, but also to integrate good practices highlighted in reports and in discussions with reporting organisations into government departments' operations.

Contribution to NAP and CCRA

Although two of the wider government team respondents were either unsure whether ARP4 data had informed activities or research related to the ongoing CCRA3 risk management in their department or stated that it had not, both stated that it had informed activities or research related to their departments' ongoing delivery of NAP3 to either some extent or a great extent.

- The respondent who stated it had largely informed it explained how this was due to ARP4's contribution to the forthcoming Transport Adaptation Strategy, which was a commitment under NAP3.
- The respondent who stated it had informed it to some extent cited how one report provided insight on the use of the Resist Accept Direct (RAD) framework, impacting how habitats are managed and improved in response to climate change, which feeds into NAP reporting. They also mentioned how information on Adaptive Development Plans informed NAP updates and fed into internal discussions on resilience.

Information provided by Defra demonstrated the interactions between ARP4 data and CCRA4. The reports will be reviewed to contribute to an understanding of sector preparedness and cascading risks and help identify best practice examples of effective adaptation. Already, ARP reports have been cited numerous times in the UK adaptation Progress Reports, and the 2025 Progress Report specifically states that ARP4 reports will inform CCRA4, and that they are intended to inform NAP4 (CCC, 2025).

Challenges faced

Respondents to the government survey did highlight some issues with ARP4. Variations in the quality of reports were mentioned, alongside the fact that reporting organisations were not necessarily representative of all organisations in each sector, hindering an understanding of the full picture of the level of preparedness to climate change.

Additionally, the lengths of reports were mentioned, with one respondent suggesting that all reports should be concise, contain a clear executive summary and offer some information on how they can be used by different government departments.

Local Authority Pilot findings

ARP4 included a pilot of reporting by local authorities, marking the first time that these organisations were asked to report on climate risks and adaptation actions within the ARP framework. The pilot aimed to test the feasibility, costs, and benefits of extending reporting requirements to this group, and to assess the potential value of a wider rollout in future rounds. Local authorities were the single largest sector group among survey respondents, making up 23% (13 of 57) of all reporting organisations.

Costs

Local authorities generally reported lower typical staff time costs than other sectors (median £5,100 compared to £5,900 for other sectors), suggesting that reporting burdens were typically moderate. However, the average cost is driven up (mean is £17,800 compared to £17,300 for other sectors) by an outlier of £146,800. Additional consultancy costs were higher than average, with a median at £40,000 compared to £25,000 for other sectors - however there were only 3 respondents with external costs in this group, limiting our ability to draw strong conclusions. Overall, local authorities total costs clustered at the lower end of the distribution compared to other sectors, which is reflected in a median total cost of £5,500 (mean: £26,000) compared to £7,500 (mean: £25,500) for other sectors.

Benefits

Most local authorities reported increased awareness of climate risks, including at leadership levels, with 75% of respondents acknowledging increased awareness. ARP4 seems to have prompted stronger integration of adaptation into risk registers, corporate planning, and departmental strategies: 7 out of 9 local authorities (78%) agreed that ARP4 led to the integration of climate adaptation into business strategy and governance - similar to the public-sector average. Capacity gains (in terms of their ability to assess climate risk) are less clearcut: among local authorities (n=11), only 2 organisations reported substantial capacity gains, while 7 saw moderate benefits and 2 reported no benefit. In terms of identifying or

refining adaptation options, they reported particularly strong results, with all 11 responding to this question (100%) indicating at least some benefit, though only 1 (9%) to a great extent.

In terms of ambition-building, local authorities stood out: 7 of 9 (78%) reported increased ambition to collect climate risk data after ARP4, consistent with their higher rate of prior planning. 90% reported increased ambitions to develop or strengthen climate adaptation plans. However, they reported slightly lower collaboration benefits than average, with 7 of 12 (58%) indicating at least some collaboration (vs. 66% overall). ARP4 did not appear to have assisted local authorities in filling other reporting requirements: 73% responded that it did not help with public sector-specific reporting, and 83% with TFCD.

Case studies

In-depth case studies were explored through interviews held via telephone for two reporting organisations – The Energy Networks Association (ENA) and North Tyneside Council. These are detailed below.

Reporting approach

ENA – ENA represented all UK electricity distribution networks, and up until the end of 2024, gas distribution networks too. ENA set up a dedicated group, with at least one representative from each organisation, to collate and compile a broader industry report detailing general trends and improvements since ARP3. Each member company submitted detailed reports highlighting specific deliverables undertaken on their individual networks.

To produce the sector-level report, ENA gathered members to collaboratively evaluate progress on key issues and then assembled data into a risk matrix with confidence ratings for future scenarios. A template based on Defra's guidance was sent to gather consistent data from members. The process also involved discussions with members to review their individual written ARP submissions.

North Tyneside Council – The Council had a head start in the ARP4 process as they had previously identified vulnerable service areas around 2022 using the Local Partnerships Adaptation Toolkit, and this Toolkit became their structured approach to the ARP4 reporting process. The work was embedded in their existing Environmental Sustainability Team, which had adaptation experience linked to the now defunct BVPI 188 Defra indicator for climate preparedness.

For ARP4, they conducted a questionnaire and meetings with senior leaders in five vulnerable service areas, helping them identify 120 climate-related risks. Following Defra's pro-forma, they scored each risk low, medium, or high, and focused on high-risk items for detailed assessment. They focused on short-term risks up to 2030 due to the complexity and uncertainty associated with long-term climate projections.

They are now building on their draft adaptation strategy with a wider borough consultation.

Resource use

ENA – In order to align the ARP process reporting with other requirements from the National Infrastructure Commission and the CCC, the timeframe to develop the ARP4 report was considerably shorter than that for previous reports. However, considering that ARP4 was to

be considered an update rather than a full report, the timeframe was considered sufficient in respect to the scope.

The group spent considerable time on ARP4 reporting, but this is difficult to quantify the time accurately as the work is integrated into broader roles. The content of ARP4 reports was shaped by the group's expertise.

North Tyneside Council – Most ARP4 work was undertaken by one individual over 25 non-consecutive days. This was deemed proportionate and reasonable, and strong internal relationships and the small council size helped. The twelve-month timeframe was manageable for the scope, but more time would be needed for a borough-wide assessment.

They did not collaborate with consultants, but they did engage with utility companies, who contributed to a stakeholder event focused on understanding interdependencies and cascading risks during extreme weather events.

ARP4 outcomes

ENA - The process of compiling the report has encouraged the industry to recognise and address emerging risks and interdependencies, which were given more attention in ARP4. However, the respondent explained that those were not deeply explored due to the relatively short timeframe provided to complete the report. Nonetheless, those are mentioned in the report as potential avenues for further consideration in ARP5.

Energy grids are highly interconnected - electricity supports the gas infrastructure, and vice versa. A failure in one system can cascade into the other, as seen when a previous gas outage led to increased electricity demand from heating and cooking requirements. These interdependencies extend beyond energy, affecting sectors like banking, water, and retail, all of which rely heavily on a stable electricity supply.

The combination of individual and sector-level reporting allows different audiences to access the level of detail desired, and the sector-level report can act as a starting point and benchmarking tool for member organisations to refer to.

The ARP4 process also revealed areas for improvement to be addressed in future reporting rounds, such as risk groupings which should be further disaggregated to be properly understood, such as the grouping of windstorms under the broader "storms" bracket, and specific emerging risks which require further exploration, such as groundwater flooding impacting ground-mounted substations, and gas asset corrosion due to humidity.

North Tyneside Council – The adaptation strategy developed through ARP4 was a critical tool to elevate adaptation in organisational priorities and enabled its inclusion in the Council's corporate risk register. Adaptation work was previously integrated into the Council's broader net-zero action plan, but since the ARP4 pilot, they decided to make it a standalone strategy to afford it a clearer focus, dedicated stakeholder engagement, and formal approval. It also influenced the Council Local Plan currently being revised, with climate change now central to its development, and with mitigation and adaptation now seen as distinct but complementary priorities.

The strategy facilitated engagement with external initiatives to support preparedness, reinforcing its practical value. Being the only North East authority to partake in the pilot, this

work has been used to support other local authorities in their climate adaptation plans, as well as being able to support the pending Combined Authority work on adaptation. Furthermore, APR4 strengthened the Council's position in relation to supporting the work of the Local Resilience Forum, allowing them to advocate for a more unified and proactive approach to preparedness in the North East. They were even invited to present at the North-East Regional Group of Audit Committee Chairs, raising awareness of climate risks among decision-makers.

From the Council's perspective, outputs far exceeded inputs for ARP4. The lead officer built significant insight into the national adaptation landscape and fostered valuable relationships with other organisations that would not otherwise have arisen.

Challenges

ENA – ENA mentioned how there were challenges in managing the differing needs and perspectives of electricity and gas networks. The impacts of climate change on these systems vary considerably, with electricity assets often more exposed and vulnerable than gas infrastructure, which is largely underground. This made it difficult at times to maintain consistency across the sector-level report.

North Tyneside Council – The main challenge experienced by the Council was in assessing medium- and long-term risks, due to difficulties that the team had in translating future climate scenarios into service-level risk assessments.

They also mentioned how periodic Teams meetings with other pilot authorities were useful for peer learning and benchmarking, but the lack of a standardised reporting framework led to inconsistencies between reports. Since feedback highlighting missing elements was only received after submission, the Council mentioned how it would have been easier to address these with clearer upfront expectations.

Conclusions and recommendations

What evidence is there to demonstrate value for money?

Based on the evidence of costs and benefits presented in this report, and the assessment against the 4E's framework outlined in the remainder of this section, there is evidence to suggest that ARP4 has delivered VfM.

Economy

Based on the available evidence, ARP4 is assessed as 'Good' for the Economy criterion. The metrics used and standards achieved are presented in Table 3.

Table 3 Economy metrics and standards

Metric	Output assessed	Standard achieved
Economy		
Quality of data and information informing ARP4 reporting (qualitative)	Quality from government respondents	Good
Cost of producing ARP4 reporting – reporting organisations (£)	Total: £6,400 (median)	Good to Excellent
Cost of ARP4 – government (£)	£2,100 - £2,400	

Performance standards for 'Economy' have been developed and agreed between ICF and Defra, and reflect a reasonable expectation of how well activities will translate into inputs for ARP4:

- Excellent: Strong evidence that the quality of data informing ARP4 is high and has been produced at a minimised price
- Good: Some evidence to suggest that the quality of data informing ARP4 is high and has been produced at a minimised price
- Adequate: Little evidence to suggest the quality of data informing ARP4 is high and has been produced at a minimised price
- Poor: No evidence to suggest the quality of data informing ARP4 is high or has been produced at a minimised price

Quality

Government respondents agreed that ARP4 has improved their department / teams' understanding of how well sectors are prepared for climate risks, and that reporting under ARP4 has been refined to increase the utility of reports for evaluating climate change risk

across sectors compared to previous ARP4 iterations. Although there is a low number of responses from the government survey, this provides some evidence that reporting is of a high enough quality for the government to utilise and is therefore assessed as **Good**.

Cost

Based on evidence from the survey of organisations, the total median costs of reporting ARP4 were around £6,400, with mean costs substantially higher (£25,600) due to a small number of high-cost outliers. There are significant variations within this average across a range of organisational and reporting characteristics. For those who reported only internal resource for ARP4 reporting, the median costs were £5,100, however, this increased significantly for those who also incurred external costs at £43,000. There were additional variations depending on reporting intensity, public sector involvement, whether reporting was 'Full' or 'Light-Touch', and whether an organisation reported jointly. Organisations are typically subject to multiple reporting requirements, predominantly driven by energy and carbon disclosures and climate mitigation strategic reporting.

This variation indicates that while ARP4 was relatively low-cost for many organisations, a minority faced disproportionately higher burdens. Nevertheless, an assessment of the estimated costs for other reporting requirements provides evidence that ARP4 appears reasonable and was produced at a low cost, especially considering the strategic nature of the reporting requirements. For example, analysis of the expected costs of participating in the CRC Energy Efficiency Scheme was ~£35k (excluding one-off and registration costs) (DECC, 2015); moreover, compiling information and reporting under TCFD is expected to be over £100k per parent organisation (Lozano-Guerrero and Armour, 2021). On balance, ARP4 is assessed as providing strong VfM, though distributional impacts (i.e., a small subset bearing higher costs) should be considered in future rounds. Costs to government are estimated to be £2,100 to £2,400 per report, which appears reasonable compared to estimates included in the ARP4 strategy (£1,461 to £2,921 per report) and the impact assessment for ARP2 estimates (£2,500 to £5,000 to support new reporting organisations and £250 to £500 for supporting organisations who have previously reported). Overall, given the relatively low costs to reporting organisations and government, this is assessed as **Good to Excellent**.

Efficiency

Based on the evidence available, Efficiency is assessed as 'Good' across all metrics. The metrics used and standards achieved are presented in Table 4.

Table 4 Efficiency metrics and standards

Metric	Output assessed	Standard achieved
Efficiency		

Proportion of organisations reporting improved organisational collaboration (%)	66%	Good
Proportion of organisations reporting improved organisational capacity (%)	73%	Good
Proportion of organisations reporting increased organisational awareness (%)	72%	Good
Proportion of organisations reporting increased external awareness (%)	60%	Good

Performance standards for 'Efficiency' have been developed and agreed between ICF and Defra, and reflect a reasonable expectation of how well we might expect inputs to translate into outputs for ARP4:

- Excellent: a strong majority (>75%) of respondents' report benefits
- Good: a majority (>50% - 75%) of respondents' report benefits
- Adequate: a minority (>25% - 50%) of respondents' report benefits
- Poor: a strong minority (0% - 25%) of respondents' report benefits

Collaboration

Increased collaboration between organisations has the potential to increase the quality of reporting and reduce the costs associated with ARP due to the benefits of knowledge and information sharing and sharing learnings from experience. Based on the survey, joint / combined reporters and hybrid reporting are most correlated with collaboration, which is expected given the nature of these approaches. Overall, around two-thirds of organisations report improved collaboration, and therefore this is assessed as **Good.**

Capacity

A key mechanism identified in the ToC is improved capacity and capability of organisations – the evidence from the survey suggests that 12% of organisations reported that ARP4 helped largely in improving their capacity to assess climate risk, with 61% reporting it helped to some extent. This provides strong evidence that ARP4 is delivering adaptive capacity building benefits and is assessed as **Good**. It should be noted that major capacity gains were least reported for light-touch or hybrid reports.

Awareness

ARP4 can bring benefits through improvements in both internal and external awareness – this is a key mechanism identified in the ToC. Almost three-quarters of respondents reported improved internal awareness as a result of ARP4, with consistently positive responses across sectors, reporting levels, and groupings. A total of 60% of respondents reported some

level of public acknowledgement for their organisations, which provided evidence of external awareness. Given that the survey provides evidence on improvements in both internal and external awareness as a result of ARP4, this is assessed as **Good**.

Effectiveness

Effectiveness has mixed ratings across the assessment criteria, with an overall rating of 'Good'. The metrics used and standards achieved are presented in Table 5.

Table 5 Efficiency metrics and standards

Metric	Output assessed	Standards
Effectiveness		
Proportion of organisations reporting increased climate adaptation ambitions (%)	52%	Good
Proportion of organisations reporting improved climate resilience (%)	38%	Adequate
Improvements in national adaptation efforts reported by organisations (%)	62%	Excellent

Performance standards for 'Effectiveness' have been developed and agreed between ICF and Defra and reflect a reasonable expectation of how well we might expect outputs to translate into outcomes for ARP4. Note that the metric for meeting each performance standard (%) is lower than for efficiency, and this reflects the lower direct impact ARP4 has on outcomes compared to outputs.

- Excellent: a majority (>60%) of respondents' report benefits
- Good: around half (>40% - 60%) of respondents' report benefits
- Adequate: a minority (>20% - 40%) of respondents' report benefits
- Poor: a strong minority (0% - 20%) of respondents' report benefits

Ambitions

Around half of organisations (52%) reported increased ambitions to collect climate risk data following ARP4, and this proportion increases further for those that already had plans or discussions on data collection prior to ARP4, which suggests that ARP4 acted as a driver to expand or revisit existing plans. Local authorities in particular reported a high rate of increased climate ambition (78%). The evidence suggests that ARP4 has led to increased organisational climate ambitions, and therefore this is assessed as **Good**.

Resilience

The ultimate impact of ARP4 reporting is to improve climate resilience by implementing adaptation measures and reducing organisations' climate change risk. 38% of organisations reported that adaptation measures had reduced their climate change risk, with a greater

proportion (41%) reporting that it is too early to say. This was only asked of those who had reported previously, as it was assumed that it would be too early to say whether resilience had improved due to actions set out in ARP4 adaptation plans. Although some organisations are starting to see resilience benefits, it is too early to observe measurable risk reductions for a large share of organisations, and therefore, this is assessed as **Adequate**.

Role in National adaptation efforts

The role of ARP4 in contributing to national adaptation efforts is a key causal pathway through which ARP4 can generate broader adaptation benefits. A majority of respondents (62%) agreed or strongly agreed that ARP4 led their organisation to reflect on its role within national adaptation efforts, with this effect greatest for public sector and hybrid / full reporters. Further evidence from government respondents indicates that ARP4 has informed activities and research with the departments' ongoing delivery of NAP3, and that ARP4 will inform CCRA4. Based on the evidence from organisations and government, this is assessed as **Excellent**.

Cost-Effectiveness

Based on the available evidence, Cost-Effectiveness is assessed as 'Good' across all metrics. The metrics used and standards achieved are presented in Table 6

Table 6 Efficiency metrics and standards

Metric	Output assessed	Standard achieved
Cost-Effectiveness		
Cost to government per report produced	£2,100 – 2,400	Good
Cost to organisations per report produced	£6,400 (median)	No assessment

Performance standards for 'Cost-Effectiveness' have been developed and agreed between ICF and Defra, and reflect a reasonable expectation of how well activities translate into outcomes for ARP4:

- Excellent: Strong evidence that the resources invested in ARP4 provide benefits expected
- Good: Some evidence that the resources invested in ARP4 provide benefits expected
- Adequate: Little evidence that the resources invested in ARP4 provide benefits expected
- Poor: No evidence that the resources invested in ARP4 provide the benefits expected

Cost-Effectiveness

The assessment of 'Economy', 'Efficiency', and 'Effectiveness' criteria suggests strong evidence that ARP4 is delivering its intended outputs and outcomes as identified in the policy ToC. The cost-effectiveness of ARP4 to the government can be assessed by comparing the costs associated with government activities to alternative options or approaches to develop ARP4 reports and therefore generate the same benefits, e.g., the government producing the 101 ARP4 reports. The cost to the government is estimated to be between £2,100 - £2,400, which is significantly lower than the cost to organisations. We can assume that, if the government were to produce the reports, the cost would be higher than for organisations due to factors such as familiarisation costs, data access costs, etc. This analysis does not take into account the wider economic costs of producing the report (i.e., that organisations incur costs as well as the government), however, the current approach appears to provide cost-effectiveness to the government and is assessed as **Good.**

For reporting organisations, although there is evidence provided in the 'Economy' criteria assessment that costs are reasonable compared to other reporting requirements and through 'Efficiency' and 'Effectiveness' that ARP4 is delivering benefits as intended, there is little evidence on whether organisations could experience the same benefits of ARP4 reporting (e.g. awareness of climate adaptation, changes in climate resilience level etc.) at a lower cost. Therefore, the cost-effectiveness assessment has been made for the government only.

Summary

The 4E's assessment provides evidence that ARP4 has performed well across the range of criteria, with an average rating of 'Good'. There are wider benefits to organisations which are not fully captured within this assessment but provide additional evidence of successful delivery of benefits through ARP4, including the introduction of new processes, procedures and activities, with 73% reporting the reinforcement of existing adaptation plans.

The programme strengthened organisational awareness and governance around climate risks, accelerated work where plans already existed, and supported alignment with national processes (CCRA/NAP) and emerging disclosure frameworks (e.g., TCFD). Insights from ARP4 reports have highlighted good practice and contributed to adaptation/resilience policy in at least two government departments. Most reporting organisation respondents perceived benefits equal to or greater than prior rounds, with the strongest effects among full reporters, local authorities, and organisations that had pre-existing plans. Early outcome signals (e.g., reported risk reduction and strengthened plans) are evident, though many benefits are non-monetised and will crystallise over time.

The evidence suggests there are benefits to the government from ARP4, including improved government departments' understanding and awareness of climate risks. ARP4 has also facilitated knowledge transfer on climate risks and adaptation approaches. The utility of these reports has increased compared to previous rounds, and ARP4 has been effective in showcasing good practices and high-performing organisations. However, challenges such as variations in report quality and the representativeness of reporting organisations were noted. Additionally, the reports have contributed to the National Adaptation Programme and will be used to contribute to the CCRA4 development process.

Costs were concentrated in staff time for both reporters and the government. Internal reporting costs for over half of the reporting organisations surveyed were below £6,400, with external spend varying by scope and sector. Government costs were mostly staff time used for developing guidance, engagement, and reviewing reports. Stakeholders identified concrete opportunities to lower compliance costs and increase impact through better timing, clearer standards and templates (with proportionate flexibility), improved data guidance, and alignment with existing reporting frameworks.

Constraints that limited benefits included timing clashes, capacity and funding pressures, data gaps/complexity, and coordination challenges on interdependencies.

Based on the 4E's assessment, and the additional benefits to reporting organisations and government, there is evidence to suggest that ARP4 has delivered its intended outcomes at a reasonable cost, and therefore there is VfM to both organisations and government.

Additionality and diminishing returns

Many organisations would have pursued related climate work in the absence of ARP4, but the programme concentrated effort, created deadlines, and improved comparability, which seems to have contributed to enhancing the productivity of existing resources. It is important to note that reporting is not the same as undertaking climate adaptation action. For some organisations, the reporting exercise may have diverted limited resources away from practical adaptation work, raising a potential risk of "crowding out" rather than complementing climate action.

Overall, the balance of evidence suggests that ARP4 added value by structuring and consolidating activity that might otherwise have been more diffuse, but future rounds should be attentive to minimising the risk that reporting requirements displace on-the-ground action. Findings also suggest diminishing incremental benefits for organisations that have reported in multiple rounds, as climate risk management becomes embedded into routine governance.

As climate risk management becomes mainstreamed, incremental benefits may diminish unless future rounds introduce refreshed analytical asks (e.g., quantitative risk assessment) and stronger policy feedback loops.

Should reporting become mandatory, particular emphasis could be placed on supporting new reporters, where the benefits of engagement are likely to be highest, while encouraging more advanced reporters to move towards deeper analysis, innovation, or sector-level collaboration. As such, the scheme could maximise overall VfM by tailoring expectations to different levels of maturity.

Barriers and constraints

Respondents identified several factors limiting benefits and inflating costs, including timing clashes with regulatory milestones or year-end periods, capacity and funding pressures, data gaps, and coordination challenges across sectors and regions.

Recommendations for future rounds

Feedback converged on several opportunities to improve efficiency, cost-effectiveness, and ultimately VfM:

Timing and predictability

Longer lead times (e.g., returning to the usual 5-yearly cycle), earlier guidance, and alignment with existing regulatory and corporate cycles would reduce compliance costs and avoid last-minute pressures.

Templates and standardisation

Core templates for minimum reporting standards, with modular annexes for sector-specific or collective submissions, would balance comparability with proportionality. Explore options to standardise climate risk terminology, scenario assumptions, and quantitative expectations with worked examples. An “update pathway” option for repeat reporters would lower recurring costs.

Data Access and tools

Curated datasets (local indicators, hazard layers), clear risk lists, and worked examples would reduce interpretation costs and improve data consistency. Lightweight digital submission formats would streamline analysis and feedback.

Collaboration mechanisms

Combined authorities and sectoral fora could coordinate reporting, pool resources, and address interdependencies at lower per-organisation cost.

Training and capacity-building

Open, modular training, targeted clinics, and starter packs for new reporters would reduce internal time burdens.

Alignment with other frameworks

Mapping ARP requirements to TCFD, CDP Cities, and similar frameworks would avoid duplicate disclosures and improve comparability.

Feedback and policy loop

Structured, prioritised feedback on submissions and transparency on how ARP insights feed into policy would strengthen perceived value and uptake.

Governance and resourcing

Encourage senior sponsorship within organisations and consider statutory reporting to secure prioritisation and resources.

Implementing the above would lower total reporting costs, improve data quality and comparability, and increase the likelihood that ARP outputs translate into concrete adaptation investments. In turn, this should sustain VfM in future rounds by shifting effort from interpretation and rework toward analysis, decision-making, and implementation, where resilience benefits are ultimately realised.

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