

7 March 2019

Independent Review of Statistics New Zealand's Market Research and Polls

Phase 1 Report

Statistics New Zealand

This report considers and reports on Statistics New Zealand's (Stats NZ's) use of a question in its 2017 pre-census market research and post-2018 Census research relating to people's sentiment towards the Government

1. The issue in scope

In February 2019, the State Services Commissioner announced he was examining the use of certain questions about the political leanings of taxpayers used by Inland Revenue in a public poll that they undertook.

When the Inland Revenue poll came to light, the Office of the Chief Executive and Government Statistician carried out an initial check of Stats NZ's own market research and polls, to see if there was anything that Stats NZ may have contracted or conducted that could be perceived as similar in nature.

Stats NZ identified one instance of a non-statistical market research survey which contained a question that could potentially be seen as inappropriate for a government agency to ask.

To safeguard Stats NZ's impartiality, to ensure that nothing has been missed, and to make sure that similar cases are prevented from arising in the future, the Government Statistician commissioned a more detailed independent review of Stats NZ's non-statistical surveys and collections to determine if there are any other instances of the use of inappropriate questions in any of its non-statistical surveys and collections.

This report covers phase 1 of the review and reports back on our findings and recommendations relating to the use of a question in a survey undertaken in 2017/18 as part of Stats NZ's pre and post-census research. The research was used to inform how Stats NZ would market and deliver the 2018 Census which was important given the shift towards a more digitally delivered and returned census model. One question asked as part of the census market research was:

How would you describe your current level of positivity towards the new Government? This was subsequently amended to:

How would you describe your current level of positivity towards the Government?

Phase 2 of the review will report separately with findings and recommendations on any other instances of the use of political questions in other non-statistical surveys and collections.



2. Purpose of this review and our approach

The purpose of this review was to identify any potential cases of non-statistical surveys or collections breaching political impartiality, or cases that may result in perceptions of impartiality, to fully investigate these, to identify lessons learned and to make recommendations that will prevent similar cases in the future.

In undertaking this first phase of the review we:

- 1. Looked at the specific piece of research noted above, how it was commissioned, carried out and reported on.
- 2. Interviewed all relevant staff and management.
- 3. Considered and reported on the systems, processes and approval policies that apply to market research and polls and examined how the providers were commissioned in relation to this research.
- 4. Developed findings and recommendations in relation to this particular survey.

3. Limitations

This report has been undertaken within relatively tight timeframes. Phase 2 is ongoing. It is therefore necessarily based upon the information that has been provided to us (Appendix 1), the interviews we have undertaken (Appendix 2), supplemented by the research we have been able to undertake within the available time.

In line with our Terms of Reference (Appendix 3), we do not make any findings nor make any comment on the conduct or competence of any individual.

4. 2018 Census - Context

The 2018 Census was held on 6 March 2018. This census marked a significant shift towards a digital delivery model compared to previous censuses. For the 2018 Census, Stats NZ was pursuing a deliberate strategy to have respondents complete their forms online via a variety of digital channels and devices.

Field collectors going door-to-door to deliver or collect census forms were not going to be used unless dwellings fell into a targeted collection area or Stats NZ had determined responders would not respond online. Special engagement strategies and communications methodologies were needed to ensure Stats NZ reached and captured people unable or unwilling to comply with online participation.

Paper forms and face-to-face visits were still used for areas which were not be able to receive mail, or who it had identified were unable or unlikely to fill out the Census online.

Stats NZ had a target of 70% response using online channels for the 2018 Census. The 2013 Census only had a 34% online response rate. Achievement of this increased target would require careful planning and execution. As with previous censuses, a communications and marketing team was set up to support the marketing and delivery of the 2018 Census.

Due to the significant change in mode to 'digital first' and the fact there were far fewer face to face interactions with field officers, the communications and marketing campaign needed to be different from previous census campaigns.

The goals of the campaign were to:

- reach all New Zealanders
- make them aware of the census
- encourage participation



- reduce barriers to participation
- inform people and households of when and how to complete the census.

Stats NZ knew from its experience with previous censuses that some people and households would be harder to reach and get a response from than others. To develop an effective campaign Stats NZ needed to understand the motivations and barriers to participation with these groups. These were known as the Target Response Groups and these included:

- Māori (multiple sub-groups)
- young working age
- elderly and over 75s
- cultural and language barrier (multiple sub-groups)
- digital barrier (multiple sub-groups)
- non-standard private dwellings (multiple sub-groups).

Stats NZ was aware that one of the potential barriers to participating in the census included people's attitudes to giving personal information to the Government. Research to explore this further was included in the scope of the marketing research that was developed.

The shift towards a digital delivery and census completion model was an ongoing international trend. Stats NZ was in regular dialogue with its counterparts in a number of jurisdictions including Australia, Canada, the UK and the US. Some had experienced issues in the shift to a digital model including Australia whose website hosting their 2016 Census was hacked leading to a denial of service to Australians at the time of the completion of the survey¹.

Further, feedback from some other jurisdictions indicated a correlation between citizens' negative attitudes towards government and lower response rates.

A campaign concept "Let's Find Out" was developed. This was aimed at understanding the discrete audiences in order to provide tailored messaging to them at different levels - nationally, regionally and within communities.

To support the development and delivery of the census in 2018, the communications and marketing campaign was developed collaboratively by Stats NZ, Clemenger BBDO and Perceptive Ltd a specialist research company which undertakes research providing insights into behaviours and attitudes of people. Perceptive and Clemenger BBDO were engaged through a procurement process and commenced work on the campaign in early 2017.

Clemenger BBDO's role was larger in that they were also engaged to advise on marketing more broadly, media management and activation strategies. Perceptive's role was focussed on the behavioural insight research which would then be used by Stats NZ, along with advice from Clemenger and Perceptive to target its marketing and delivery strategies for the census.

5. Development of the research and survey questions

In September 2017 Perceptive presented their response to the creative brief to Stats NZ. In their brief they proposed that the scope of their research would look at the influence a number of specified issues may have on the general population as well as with Target Response Groups. These issues included:

- coverage of broadband throughout NZ
- household access to internet and device type



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¹ https://www.abc.net.au/news/2016-08-09/abs-website-inaccessible-on-census-night/7711652

- attitudes towards Government, collection/use of data, Census awareness (emphasis added)
- likelihood of households to participate in Census 2018
- likelihood to respond to Census 2018 online.

The primary purpose of the research was broader than this and was to gain insight and understanding of the level of awareness of the census, people's likelihood to participate and their reasons for not participating, as well as people's understanding that the census could be filled in online as an alternative to a paper form.

For the reasons already outlined in this report, Stats NZ was also interested in understanding the influence or impact respondents' attitudes toward government might have on their likelihood of completing the census.

It seems clear from the presentation and from what we were told during the interviews we conducted that there was no intention to research people's attitude towards *the Government*. Rather, the focus was to be on attitudes towards government generally and in relation to certain specific matters relating to personal data collection, storage and use by government.

Following agreement on the areas of focus and what Stats NZ hoped to get out of the research, Perceptive prepared the survey methodology including the questions respondents would be asked to answer.

6. Conduct of the research and how it was reported back to Stats NZ

The survey methodology used two approaches.

CATI (Computer Assisted Telephone Interviews) were used as the primary survey methodology to collect the majority of the sample. Random number generation was used to target calling across New Zealand.

A secondary methodology, utilising a range of consumer research panels that complied with guidelines for online research were sourced and screened to meet the requirements for the sampling framework.

Fieldwork was weighted towards the primary methodology, with CATI making up 75% of the sample with the remaining 25% of the sample to be collected via the secondary methodology.

The surveying was to be conducted across a number of phases undertaking both pre and post-census surveys. This was to allow Stats NZ to see how the population and Target Response Group's behaviour and insights changed through the census market campaign. This information would then be available to Stats NZ to inform its approach to the next census, as well as its understanding of what worked and what didn't for the 2018 campaign.

The survey approach and questionnaire were worked up across October and November 2017. While prepared by Perceptive, Clemenger BBDO and Stats NZ were actively involved in their development and finalisation.

As it came together the questionnaire was made up of a series of sections focussed on the things Stats NZ was interested in. These were brought together in the survey questionnaire in the following order:

- awareness of the census
- awareness of Stats NZ
- awareness of the 2018 Census
- awareness that the census can be completed online
- understanding of likely participation rates and how people intended to participate



- reasons for intended non-participation
- awareness of and/or understanding of the census marketing campaign
- confidence in the NZ Government's ability to securely collect and store personal data
- levels of comfort in sharing personal and household information with government departments
- attitude towards the Government generally.

In November 2017, while the survey was being finalised, there were active communications between Clemenger, Perceptive and Stats NZ. During this phase, a Stats NZ marketing manager identified an issue with the wording of the proposed question for measuring the attitude of respondents towards government.

The proposed question was:

"Q. How would you describe your current level of positivity towards the new Government?"

The manager advised the lead manager at Perceptive that:

"Hope your week is going well?and I just caught up on the design framework and had one question for you - number 19, Attitude towards Government: how would you describe your current level of positivity towards the **new** govt?

Wondered why you are asking 'new'? Stats NZ is a govt agency that is impartial to whatever government is in power. We have a requirement to stand neutral so wondered if this question might lead to a respondent thinking the census might be linked to the new (or old) party (ies) in power?"

In response Perceptive advised:

"Very good point. The purpose of the question is to assess impact, and pick up sentiment, around the new Government - as in whether the election/change impacts the environment around the Census at all.

However I agree with your point of view on the wording, and we'll remove the word 'new'.

Also, you'll note for survey positioning we have included this survey at the end to ensure we do not create any bias towards other results from prompting and exploring Govt sentiment/attitudes."

Only the proposed change to the word new was made and so the final question read:

"Q. How would you describe your current level of positivity towards the Government?"

We are not aware of any further discussion about this question following this amendment.

We note that some people identified there may be a perception issue in using a capital G in the word *government*, regardless of the removal of the word *new*. However, we were equally advised that using a capital was not a deliberate choice and simply reflected internal use standards within Perceptive. We further note that the differentiation would not have been perceptible to survey respondents, particularly those being surveyed through the CATI process and for the most part the general population wouldn't understand that the use of a capital might convey a different meaning from government, i.e. the Government.

While the questionnaire was seen by Stats NZ officials with responsibility for the marketing and communications for the 2018 Census, as far as we are aware, it was not seen by senior management. We were advised that this is consistent with how non-statistical surveys are managed within Stats NZ.



Nor did the research design and questionnaire development come under the remit of Stats NZ's Questionnaire Methodology and Development Team, (QMD). That is because the role of QMD does not extend to non-statistical surveys. However, the QMD team has significant expertise and experience in the design and development of questionnaires insofar as these relate to Stats NZ's core statistical data surveys e.g. the census itself.

We understand the role of the QMD is:

- questionnaire wording, layout, logic and overall design
- development and implementation of standards
- implementation of core questions
- how to pre-test questionnaires
- expert sign-off on questionnaires to inform final SMA (subject matter area) sign off
- print proofing and liaising with IDC to get print questionnaires printed
- liaising with IT to ensure electronic questionnaires are delivered including Blaise
- questionnaire development
- planning and monitoring of progress.

As well as asking respondents to identify their levels of positivity towards the Government on a 5-point scale² the survey question also provided respondents with a "free text box" where they could record their reasons for their levels of positivity. A free text box option was provided in the case of all other questions as a way of eliciting reasons for people's answers and a richer understanding of why they answered the way they did. This was a logical and, we understand, normal practice with respect to these types of questions in the survey. With respect to the question about positivity towards the Government however, we consider it was always likely to prove problematic, unless the question was carefully worded and even then, likely to generate inappropriate and unintended responses.

The results of the research were reported back to Stats NZ in December 2017. In their presentation to Stats NZ, Perceptive reported on the statistical results of each question as well as providing a "word cloud" or "wordle"³.

In relation to the question about positivity towards the Government, Perceptive noted:

"There appears to be little difference in sentiment expressed towards the Government across the Target Response Groups."

Given this finding, we were advised that there was no need for the design of the marketing of the 2018 Census to take account of people's answer to this particular question. That was because the responses to this question did not indicate any significant differences in relation to the general population nor the Target Response Groups. Responses to other questions in the survey did reveal preferences and attitudes which helped inform the design of the marketing of the census campaign. In this respect the research still played an important role in informing the marketing of the 2018 Census.

Equally, the post-census survey was intended to provide important information about the extent to which the marketing had been successful (or not) in raising awareness and driving up completion rates towards the KPI's Stats NZ was hoping to achieve.

Given some of the free text responses to the poorly worded question in the November 2017

³Word clouds are visual representations of text data, typically used to depict keyword metadata, or to visualize free form text. Tags are usually single words, and the importance of each tag is shown with font size or color or a mixture of both.



² Five-point scale: Extremely positive, positive, indifferent, negative and extremely negative.

survey were clearly disclosing people's political leanings and that these then flowed through to the summary of responses collated by Perceptive and reported to Stats NZ, we consider that at this point there might have been a discussion about whether the question should be asked in the follow up survey. This discussion does not appear to have occurred. We note that the question was included in the follow up survey in March 2018. Compounding matters, the final report⁴ from Perceptive highlighted:

"Sentiment towards the Government has generally improved across all Target Groups compared to Nov-17 level."

We also note that in the December 2017 and April 2018 reports the left side panel summarising the results for the particular questions retained the words "Sentiment towards the new Government..." and used language that could easily lead a reasonable observer (without the benefit of the underlying intentions) to conclude the question was aimed at measuring how positive sentiment was towards the new Government, as opposed to government generally. We were advised that Perceptive and Stats NZ were clear in their understanding that this was not the intention and that, additionally, the reports were for internal use only and were not intended for public release. The use of the words new Government in the side panels we were told was a formatting oversight given the reports were templated at the same time the original questions were developed. Nothing much turns on this given our finding that the question itself was poorly constructed across the board.

We also note that word clouds were produced for the November 2017 and April 2018 reports. Two were produced for each report; one cloud covering reasons for being positive and one for reasons for being negative. Each featured the names of political parties and politicians.

We were advised that, with the benefit of hindsight, neither the free text box nor the word clouds should have been used. We were also advised that the reports were essentially received as "final" although Perceptive and Clemenger BBDO both confirmed they would have been amenable to editing the reports to remove the word clouds and references to politicians and political parties.

We were advised that these reports were not provided to senior management nor the Stats NZ Executive Leadership Team, although they were briefed on the results against the KPIs set for the marketing campaign.

We understand that as part of normal government financial review select committee processes reports on this research were provided to the Governance and Administration Select Committee in response to the following standard request for information from the Committee:

"What polls, surveys or market research did your department, agency or organisation undertake in the last financial year and what were the total estimated costs of this work? Please provide a copy of the polling report(s)..."

7. Findings

As a result of our review of the material, the research we undertook and the interviews we held, we have made the following findings:

- 1. Stats NZ had a legitimate interest in understanding what influenced respondents as part of developing its plan for how best to position and market the 2018 Census to the general population and specified Target Response Groups. The results of the 2013 Census showed that some groups would be more difficult to shift to a digital response than others and understanding what might work to increase their online response rate was an important part of being able to reach the ambitious target of 70% on line response for the 2018 Census.
- 2. The hypothesis that people's attitudes towards government may play a part in their

⁴ Statistics NZ 2018 Census Tracking Report-30 April 2018



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- willingness, or otherwise to participate in the census was based on reasonable assumptions which were informed by the international context and experiences of New Zealand's international counterparts, including the Australian experience with its national census in 2016.
- 3. Understanding the influence or correlation between respondents' attitudes toward government and their likelihood of completing the census was therefore important. Stats NZ had a legitimate interest in understanding this and asking for this to be included in the research and survey was not inappropriate.
- 4. There was no intention on the part of Stats NZ nor the research company to specifically survey for people's attitudes, or positivity towards the Government, or the *new* Government, or any particular political party.
- 5. The information and insights that were to be generated by the research were intended to be used by Stats NZ internally to inform the design and delivery of the campaign which aimed to achieve the highest response rate possible to the 2018 Census.
- 6. The engagement of Clemenger BBDO and Perceptive to partner with Stats NZ in the design and delivery of the research followed normal and prudent procurement practices. Both agencies are experienced in working with government and understood the boundaries that needed to be observed in relation to political neutrality and impartiality and being seen to be so. However, this was not explicitly referenced in the creative brief, the contract or other commissioning documentation we saw.
- 7. Clemenger BBDO were the lead provider with Perceptive being essentially a subcontractor.
- 8. Perceptive were responsible for designing the research methodology and the questionnaire, but in doing so it worked closely with Clemenger BBDO and Stats NZ officials.
- 9. We consider that that the approach taken to develop the questionnaire was appropriate and focused on matters of relevant importance to Stats NZ and the 2018 Census.
- 10. We do not consider the actual wording of the question to have been appropriate as it could too easily be misconstrued as requiring a response that elicited people's attitude to the current Government, as was the case. It would have benefited from further consideration and modification, being clear about what Stats NZ was seeking to gain from the question and the risks posed by the question, as drafted. To Stats NZ's credit, the issue was spotted by a manager and their position on the matter was well articulated to Perceptive. For whatever reason however, having raised the flag the only change made was minor, did not adequately deal with the risk and no further discussion appears to have been had on the issue. Unfortunately, this was a missed opportunity.
- 11. The use of free text responses from respondents was likely to generate responses that revealed people's personal views of the current Government including current politicians, regardless of the wording of the question.
- 12. Capturing the text in a word cloud exacerbated this problem as the clouds made explicit reference to political parties and politicians. Perceptive's own report then summarises the themes for why people were feeling positive or negative by specific reference to the Labour Party and the current Prime Minister.
- 13. The reports on the surveys once received by Stats NZ did not appear to go through any process to detect or highlight wording or matters that might raise risks or need to be improved through editing. There was an opportunity to have the reports from Perceptive edited to make clear what the question was really saying and in a way that didn't create the impression that the survey was interested in how people felt towards



- the current Government. Again, this appears to have been missed as an opportunity to ensure the reporting of survey data meets Stats NZ's impartiality and apolitical obligations.
- 14. The development of the research methodology and subsequent reports on the findings of the survey did not go through the same process of QA as Stats NZ's statistical surveys. A more robust process leveraging internal expertise may have picked up the risk with the question's wording, responses and how it was being reported back to Stats NZ.
- 15. While we accept that there was never any intention to question people about their attitude towards the current Government, clearly some respondents have expressed exactly that view. This was the unintended consequence of a poorly constructed question coupled with a less than ideal QA and internal oversight practices and the inclusion of free text channels that were not needed.
- 16. Compounding matters, the question was repeated in the follow up, post-census survey, and then reported back to Stats NZ in Perceptive's final report⁵ which noted positive sentiment towards the Government had "...generally improved across all the Target Response groups." As already noted, the lack of a review of how the final report dealt with the response to this question appears to have been a missed opportunity to ensure the reporting of survey data meets Stats NZ's impartiality, apolitical requirements and obligations.

8. Recommendations

Having regard to our findings we make the following recommendations:

- Stats NZ make explicit in its survey commissioning documentation and its policies for procuring all surveys, that questions relating to the Government, or alignment to parties in government are out of bounds and that questions relating to how people feel about government generally will need to be agreed through a standardised internal process with suitable senior management oversight and risk assessment.
- Stats NZ review its internal QA and question selection processes covering nonstatistical surveys and polls to ensure they are robust and meet current standards of best practice. This might include referencing these to the QMD processes used for statistical surveys and/or leveraging internal expertise.
- 3. In reviewing reports from suppliers, Stats NZ adopt the approach that they receive drafts to ensure they can be appropriately reviewed and risk assessed prior to being accepted as "final".
- 4. We consider it would be prudent to attach to this specific survey documentation a note that makes clear what the intention was in relation to the particular question. This note should make clear that the responses did not influence how Stats NZ managed the 2018 census and that to the extent that responses and word clouds and the report back from Perceptive might look on the face of it like they exceed the bounds of what is appropriate for a government agency to be surveying for, this was not intended and that the information was not shared beyond Stats NZ own internal processes.

9. Next Steps

We consider that the next steps are:

Consider and provide any feedback on this report as to factual inaccuracy or missing information

⁵ Statistics NZ 2018 Census Tracking Report-30 April 2018



- Discuss our findings and recommendations and consider the implications of implementing our recommendations
- Continue to work with us to complete phase two of this review



Appendix 1

Stats NZ Document List

- Census Communications and Marketing Research Pre-Campaign report
- Stats NZ 2018 Census Tracking Report, 30 April 2018 (Perceptive)
- Stats NZ Census Research Wave 1
- Dually Signed Overarching ASO December 2015 (Clemenger BBDO & Stats NZ)
- Report to the Minister of Statistics: Approval of 2018 Census Publicity Expenditure
- Census Communications & Marketing Research Proposal Sept 2017 (Perceptive)
- Census 2018 KPI Tracking email
- Stats NZ Organisational Chart February 2019
- Census Structure
- Procurement Policy Jan 2019
- Stats NZ Procurement Policy Feb 2019
- One-page Overview of a Procurement Project
- Procurement Guidelines Introduction to Procurement at Stats NZ
- Communications and Marketing Creative Brief 2018 Census



Appendix 2

List of People Interviewed

- Denise McGregor, Deputy Chief Executive Insights & Stats (formerly GM -Census), Stats NZ
- Richard Stokes, Director Census Communications & Engagement, Stats NZ
- Chris Harty, Former Stats NZ employee, Marketing Campaign Manager at the time
- Brett Hoskin, Managing Director, Clemenger BBDO
- Matt Barnes, Business Lead on the Census Programme, Clemenger BBDO
- Daniel Shaw, General Manager, Perceptive Ltd



Appendix 3



Terms of Reference Independent review of Stats NZ's non-statistical market research and polls

Background and context

The ongoing impartiality, and perception of impartiality, of Statistics New Zealand's (Stats NZ) conduct in its market research, polls and surveys is an important aspect of Stats NZ's work and the role of the Government Statistician.

The impartiality of the public service is a key part of its foundation, and for Stats NZ as an independent statistical agency, this is even more important.

In February 2019, the State Services Commissioner announced he was examining the use of certain questions about the political leanings of taxpayers used by Inland Revenue in a public poll that they undertook.

When the Inland Revenue poll came to light, the Office of the Chief Executive and Government Statistician carried out an initial check of Stats NZ's own market research and polls, to see if there was anything that Stats NZ may have contracted or conducted that could be perceived as similar in nature.

One such instance of a piece of market research has come to light.

To safeguard Stats NZ's impartiality, to ensure that nothing has been missed, and to make sure that similar cases are prevented from arising in the future, the Government Statistician is commissioning a more detailed independent review of Stats NZ's non-statistical surveys and collections to determine if there are any other instances of the use of inappropriate questions in any of its non-statistical surveys and collections.

An independent reviewer has been appointed and these Terms of Reference will guide their review.

Purpose and objective of this review

The aim of the review is to identify any potential cases of non-statistical surveys or collections breaching political impartiality, or cases that may result in perceptions of impartiality, to fully investigate these, to identify lessons learned and to make recommendations that will prevent similar cases in the future.

If other cases are identified, Stats NZ is seeking to understand how and why the question(s) was/were asked and reported as it was.

Scope and focus of the review

In carrying out this review the reviewer will exercise their independent skill and judgement in developing findings, forming advice and in making recommendations.



Stats NZ will provide access to all relevant Stats NZ documentation, personnel, and internal and external communications.

Without limiting the approach the reviewer might take, we would expect the reviewer to:

Carry out an audit and review of Stats NZ's market research and polls, and related material, from the last 5 years.

Look at the specific piece of research noted above, and any similar cases that may come to light to identify how and why the question was asked and reported as it was.

Interview all relevant staff and management.

Consider and report on the systems, processes and approval policies that apply to market research and polls and examine how providers are commissioned in relation to research and polls.

Make findings and recommendations, including identifying any lessons learned to ensure the ongoing impartiality, and perception of impartiality, of Stats NZ's conduct in its market research, polls and surveys.

The reviewer will not make any findings nor make any comment on the conduct or competence of any individual.

Reporting

The reviewer will report directly to the Government Statistician on the progress and findings of the review. In carrying out the review the reviewer will be supported by the Government Statistician's office.

The reviewer will ensure that the Government Statistician has an opportunity to respond to the findings, before the report is finalised.

Deliverables

The main deliverables will be a draft report that responds to these Terms of Reference (as set out above) with a final report to be delivered to the Government Statistician by 29 March 2019. The Reviewer will provide an interim update on progress by 8 March 2019.

The Government Statistician intends to share the review with the State Services Commissioner.

Key Dates

The following are the key dates for the review:

Commencement of review - 21 February 2019

Interviews and research - 22 February 2019 - 15 March 2019

Interim update - 8 March 2019

Delivery of draft report - 22 March 2019

Delivery of final report - 29 March 2019



Signed Date: 21 February 2019
Liz MacPherson
Chief Executive and Government Statistician
...Signed on 22 February 2019......

