

FAIRER SCOTLAND DUTY - ASSESSMENT TEMPLATE

This Fairer Scotland Assessment Template should be used in conjunction with the [interim guidance published on the Scottish Government website](#). The guidance provides a glossary of key terms, web links to useful resources, and further advice.

Title of policy/ practice/ strategy/ legislation etc.	Scotland's AI Strategy – Trustworthy, Ethical and Inclusive
Lead Minister	Kate Forbes MSP, Cabinet Secretary for Finance (Minister for Public Finance and Digital Economy when work began)
Lead official	John Fotheringham, Data Policy Manager
Directorate Division Team	Digital Directorate Data Division Data Policy Unit

STAGE 1 – PLANNING

This first stage is an introductory one.

The initial question to ask is: **Is this a strategic programme / proposal / decision or not?**

- If it is not strategic, there is no formal requirement for a Fairer Scotland Assessment.
- If you think this decision not to conduct an assessment may be subject to challenge at some future point, you should complete the [Assessment Not Required template](#) and store it in your local eRDM folder.
- If the programme/proposal/decision is strategic, but has no implications for inequalities, you should complete the same template.
- In both cases, it will be important that the decision not to conduct an assessment is signed off by a Deputy Director or more senior colleague.
- If you're in doubt about whether an assessment should be carried out or not, we'd advise you to do so. It's good practice to think about socio-economic factors and reducing inequalities in all policy-making.

If you decide an assessment will be needed, please begin the assessment process by answering the questions below.

Please answer the questions below to help with your planning.

1.

(a) What is the aim of your policy/strategy/plan?

The strategy will set out a vision for AI in Scotland, the principles that will guide our approach and the actions that will be taken forward to achieve the vision.

(b) Who will it affect (particular groups/businesses/geographies etc)?

Potentially, all people in Scotland, including those working on the development, adoption and use of AI; wider private, public and third sector organisations interested in AI, and the general public. AI has potential to benefit individuals, help businesses transform their operations, improve the provision and quality of public services and support the third sector in supporting people. However, it is also recognised that AI has potential to have disproportionately negative impacts for some groups and communities, such as certain employment sectors and jobs, minority ethnic people, those with fewer digital skills and, potentially, to exacerbate existing inequalities.

(c) What main outcomes do you expect the policy/strategy/plan to deliver?

To set out a strategic vision, approach and roadmap of actions that will help Scotland to realise the potential economic, social and environmental benefits of AI.

2.

2. What is your timeframe for completing the Fairer Scotland assessment?

In parallel with that to develop the Strategy.

3. Who else in the organisation will be involved in the assessment and what roles will they be playing? We'd expect involvement from policy and analytical teams as a minimum. It is rarely appropriate for one person to conduct the assessment alone.

Data and Digital Identity: Albert King, Chief Data Officer; Jeremy Darot, Head of Data Innovation; Scott Nowbaveh, Data Policy Adviser; all are involved with the strategy development process. Susie Braham, Head of Data and Digital Identity Policy Unit, whose team is refreshing the Scottish Government Privacy Principles, developing an Ethics Framework and working on projects exploring information governance and unlocking the value of data, will be asked to review key iterations.

Digital Policy and Strategy: Digital Engagement and Governance Team, conducting Impact Assessments as part of the process to refresh Scotland's Digital Strategy – to help identify issues of mutual interest.

Office of the Chief Designer: Alyson Mitchell, Head of Digital Participation and Sarah McLeod, Senior Policy Officer, working on the Ethical Digital Nation programme – to identify issues of mutual interest, and perhaps help to inform some of their activities.

Directorate for Economic Development: Digital Economy Team, which is responsible for digital labour market work – to check that findings chime with their understanding.

STAGE 2 - EVIDENCE

The second stage involves working closely with analysts, making full use of relevant data and commissioning other evidence to inform options for improvement. This stage is likely to involve a number of discussions between teams:

- To understand fully the inequalities of outcome associated with this programme/policy/decision.
- To begin to scope out how the programme/policy/decision could be strengthened to reduce these inequalities further, based on the evidence.
- Where necessary, to commission new data collection, for example from community consultation/participation, or new secondary analysis of existing data.

The Scottish Government has access to a wide range of relevant data, both quantitative and qualitative. This includes administrative data, data about local neighbourhoods (e.g. the Scottish Index of Multiple Deprivation), new experimental statistics on combined low income and material deprivation (now available at local level for the first time), and health, education and employment data. Analytical teams will be able to advise on which evidence is most useful.

Evidence can also be sought from communities and groups directly, particularly when there are evidence gaps – for example, where a significant new policy is being developed. Engagement processes should ideally reflect the principles of the [National Standards for Community Engagement](#).

Another source of help – particularly in terms of integrating equality and socio-economic considerations – is the Scottish Government [Equality Evidence Finder](#). This is an updated web resource providing equality evidence by subject area and protected characteristic. We intend to expand this over the next year to include socio-economic disadvantage as an additional category, also including child poverty considerations.

Please answer the questions below to help meet the duty's evidence requirements.

4. What does the evidence suggest about existing inequalities of outcome, caused by socio-economic disadvantage, in this specific policy area? You might want to think about:

- People on low incomes
- People living in deprived areas (and within particular communities of place and interest)
- People with no / low wealth or in debt

- People in material deprivation
- People from different social classes

The strategy will be Scotland's first ever policy on AI, and there is limited evidence on existing inequalities of outcome, caused by socio-economic disadvantage, in this specific area. However, there have been a few reports on the potential impacts of AI in Scotland, and some evidence on the impacts of AI in the labour market elsewhere.

*Technological Change and the Scottish Labour Market*¹ a joint Scottish Government and Scottish Trades Union Congress report that sets out how digitisation, automation and other innovations will affect the Scottish labour market, was published in 2018. It cites studies suggesting that a sizeable proportion of jobs, including whole occupations, in Scotland were vulnerable to new technologies within the next 10- 20 years, including some previously regarded as immune to displacement. It recognises new technologies' disruptive impacts for management and recruitment, but that their pace and scale of adoption may be slower than expected. It also cites several studies, including by the OECD, that concur that low-skilled workers are most likely to be adversely affected by tech change, which could also give rise to increasing inequalities. It also discusses the need for workers to up-skill or re-skill in the light of tech change, and the lack of provision for this in many quarters.

In their 2018 *UK Economic Outlook*² report, PwC forecast that AI could create 558,000 Scottish jobs over 20 years, with a net increase of 15,000 jobs by 2037 as productivity and real incomes rise. Deloitte³ discuss the changes that AI may bring, suggesting that AI will replace certain aspects of jobs, but could also free peoples' time and allow them to take on more rewarding roles. These are also discussed in *The impact of artificial intelligence on work*⁴, a joint report by The Royal Society and The British Academy.

1. <https://www.gov.scot/news/technology-and-the-labour-market/>
2. <https://www.pwc.co.uk/who-we-are/regional-sites/scotland/press-releases/More-than-500000-Scottish-jobs-could-be-created-through-Artificial-Intelligence.html>
3. <https://blogs.deloitte.co.uk/scotland/2018/01/why-artificial-intelligence-is-more-about-people-than-you-think.html>
4. <https://royalsociety.org/~media/policy/projects/ai-and-work/evidence-synthesis-the-impact-of-AI-on-work.PDF>

5. What does the evidence suggest about any possible impacts of the policy/programme/decision, as currently planned, on those inequalities of outcome?

Taken together, it suggests that the strategy as initially proposed already contains reasonable provisions to acknowledge and address the potential inequalities that may arise from AI. Consultation feedback on these, further analysis and reflection will be necessary to further refine and develop the provisions.

6. Is there any evidence that suggests alternative approaches to the policy/programme/decision? E.g. Evidence from around the UK? International evidence?

An analysis of AI strategies produced by other nations, regions and cities suggests a broad degree of consensus on provisions to address the potential inequalities of AI. These include codes and frameworks of practice, initiatives to inform and engage people in discussion about AI, skills development programmes, and a set of ethical and legal principles to guide the socially responsible use of AI. There are some alternative approaches – despite being active in AI some nations, such as the United States, do not have an AI strategy, whilst a few AI strategies focus on AI research, development and adoption, and do not address attendant social questions. It is anticipated that the UK Government will develop an AI strategy in the next few years.

7. What key evidence gaps are there? Is it possible to collect new evidence quickly in areas where we don't currently have any? For example, through consultation meetings, focus groups or surveys?

There are many evidence gaps, key being a lack of evidence on what people in Scotland think and feel about the potential impacts of AI. This includes in the world of work, the need for re/upskilling, the implications of AI for children and young people, and the wider societal impacts of increasing use of AI.

The Scottish Government has tasked The Data Lab (TDL), Scotland's innovation centre for data and AI, with convening the strategy development process. The project team have co-designed this so as to include an open consultation, and an extensive public engagement programme. Alongside these are a series of working groups, each of which will explore a strategic theme in detail. Themes include ethics and regulatory frameworks, skills and knowledge and AI development, adoption and use; membership of each group will be developed to ensure that it is representative of all relevant perspectives⁵. This approach is in keeping with the membership of the steering committee overseeing the process, which includes representatives from the Convention of Scottish Local Authorities, the Federation of Small Businesses Scotland, the Scottish Council Of Voluntary Organisations, the Enterprise and Skills Board and the Scottish Trades Union Congress⁶.

It is intended to continue identifying and analysing AI strategies from elsewhere, including the development of the European Union's policies and associated guidance on AI. We may also be able to use evidence generated by policy development in other areas, such as Scotland's economic recovery from the Covid-19 pandemic⁷.

5. <https://www.scotlandaistrategy.com/working-groups>

6. <https://www.scotlandaistrategy.com/steering-committee-profiles>

7. <https://www.gov.scot/groups/advisory-group-on-economic-recovery/>

8. How could you involve communities of interest (including those with lived experience of poverty and disadvantage) in this process? The voices of people and communities are likely to be important in identifying any potential improvements to the programme/policy/decision.

The first phase of the strategy development process will see the steering committee produce a scoping document that lays out strategic intent and themes going forward in the process. The document, *The AI of the Possible: Developing Scotland's AI Strategy*⁸ is intended to be a provocation, to stimulate discussion and response from the people and organisations of Scotland.

The consultation will focus on the proposals set out in the scoping document, as well as asking what else people think it is important for the strategy to address. The questions will be developed so that they are open and allow respondents to share their reflections fully. They will explore a range of areas, including the intent for the strategy to be people-centred, how people think AI could benefit Scotland's people, and how we ensure that the benefits are shared and no-one is left behind, as well as exploring issues such as ethics, trust and the socially responsible use of AI.

The consultation paper will highlight the steering committee's keenness to discuss and address the most important questions necessary to developing an AI strategy that is people-centred and reflects, in its vision and approach to realising the potential of AI in Scotland, peoples' thoughts and priorities on how this can be achieved in a way that ensures no one is left behind.

The consultation will be publicised across a range of channels, including through a range of local community and voluntary networks, to try and ensure that as wide a range of people as possible are aware of it. Responses will be accepted both online and offline, to avoid disadvantaging those who may not have internet access.

As well as the consultation it is planned to run a public engagement programme involving a range of activities - some focused on specific groups e.g. children and young people, remote and rural communities – to explore peoples' thoughts on AI and what it means for Scotland. The project team will work with the contractors – who have supported a number of similar policy development initiatives – to ensure that the public engagement activities are promoted as widely as possible so as to attract a diverse membership. It is also intended to develop options that may allow us to establish participants' previous knowledge of AI, occupation and skills levels.

Afternote 1 : the consultation can be found at <https://consult.gov.scot/data-innovation/artificial-intelligence-ai-strategy/>, and the outputs report at <https://www.scotlandaistrategy.com/s/The-AI-Of-The-Possible-Developing-Scotlands-Artificial-Intelligence-AI-Strategy-Final-Consultation-R.pdf>.

Afternote 2 : the engagement programme report is available at https://www.scotlandaistrategy.com/s/DS_The-AI-Of-The-Possible-Engagement-Report.pdf

STAGE 3 – ASSESSMENT AND IMPROVEMENT

Having considered the data and evidence you have gathered, the Assessment and Improvement Stage is where you look in more detail at potential improvements to the proposal, plan or decision.

It's essential that policy team leaders are involved at this stage to ensure that opportunities for developing a better proposal are able to be taken up; analysts should again be involved. This will be key for meeting the 'due regard' test.

The outcomes of the assessment and improvement phase, with any options emerging for consideration, should be clearly set out for consideration by the appropriate officer(s) in Stage 4.

The key questions to answer at this stage are:

9. What options could strengthen this programme/policy/decision in terms of its impacts on inequalities of outcome?

The AI strategy consultation was open from 17 February to 22 May 2020; due to the Covid-19 pandemic the closing date was extended by eight weeks. A total of 83 responses – 63 via Citizen Space, 20 by email – were received, 29 from individuals and 54 from organisations (2 organisations each submitted 2 responses).

Responses came from those developing and using AI, or who are interested in the opportunities and challenges that it presents.

Overall, there was a broad degree of support for the proposals, set out in the strategy scoping document, as a starting point. Whilst this was welcome several issues were also highlighted, and suggestions made. The top five issues that emerged from the analysis of responses were:

- The need for an ethical approach – perhaps presented as a code, framework or set of principles – to guide the development, adoption and use of AI in Scotland.
- The value of making the strategy people-centred and aligned with Scotland's National Performance Framework.
- The need to provide skills and training so that all people in Scotland can understand, engage with and use AI in a way appropriate to their needs.
- The value of case studies of AI having been developed and used responsibly to deliver benefit, and for these to be easily explainable.
- The need for a continuing public dialogue on AI in Scotland to ensure that our approach is and remains fair and inclusive.

A recurring theme was that the strategy's vision and goals should state the need for fairness, inclusion and a rights-based approach, and the need to identify and address risks and threats.

The importance of ensuring diversity, equality and inclusion in harnessing AI was highlighted, with many respondents stressing the importance of having ethical and governance frameworks in place to safeguard this and mitigate risks. Several cited the need for openness and transparency around the use of AI. The importance of data quality in AI, particularly issues such as biases – that can be built into algorithms depending on the data used to train them – and the implications this has for fairness was also raised.

Several respondents cited the potential of AI to improve efficiency and productivity, particularly in certain industries, and the impact that it may have on employment. Whilst many commented that the adoption of AI will both replace and create jobs – many of them high value – some highlighted the potential for it to cause job losses, more so in specific sectors, and the associated economic and social costs. Much feedback noted the need for the strategy to set out measures on reskilling and upskilling of those in work affected by AI, as well as broader skills and training. Some suggested that skills and training should not just be for those working in or with AI but for all citizens i.e. a continuum from basic awareness to specialist qualifications. Access to broader data and digital skills was cited as an important underpinning element for the strategy to address.

Public views on AI have also been explored by many organisations including, amongst others, the European Commission's consultation on their *AI White Paper*⁸, the UK Centre for Data Ethics and Innovation in their *AI Barometer*⁹, NESTA in *Shift+Ctrl: The Scottish public and the tech revolution*¹⁰.

There are a number of options that could strengthen the strategy in terms of its impacts on inequalities of outcome.

(i) The development and inclusion of a code of practice or framework that sets out values and principles that will guide the ethical and socially responsible development, adoption and use of AI in Scotland. Key amongst these would be values of fairness, openness and transparency, and perhaps a specific focus on these in the public sector so as to be an exemplar.

(ii) The proposal to make the strategy people-centred needs to be developed further.

(iii) Continue the proposed alignment with the National Performance Framework, which could help to reinforce the people-centred aspects.

(iv) The strategy will also need to set out provisions on skills and training, so that people can recognise, appreciate and engage with AI

(v) Actions to facilitate ongoing public engagement, to help inform the continuous development of the code of practice and ensure that this and the wider approach and actions on AI in Scotland remain focused on fairness and inclusion.

(vi) A continuing commitment to learn from good practice elsewhere, and work with partners on this, should also be included.

8. <https://digital-strategy.ec.europa.eu/en/consultations/white-paper-artificial-intelligence-european-approach-excellence-and-trust>

9. <https://www.gov.uk/government/publications/cdei-ai-barometer>

10. <https://www.nesta.org.uk/report/shiftctrl-scottish-public-and-tech-revolution/>

10. What are the pros and cons of these options?

(i) Given the supporting evidence, including a code of practice would be worthwhile, and in keeping with wider work on making Scotland an Ethical Digital Nation¹¹; not including one could undermine public support for AI. Although there are myriad examples to draw from, it could take some time to develop and agree on one, given the range of different views, and would require ongoing maintenance. It would also require to be reviewed soon after the strategy is published to ensure that it is in keeping with the outputs from the Ethical Digital Nation programme.

(ii) Making the strategy people-centred was important to many consultation respondents and participants in the engagement activities, and features in many other AI strategies. However, it can be somewhat abstract, and tricky to translate into tangible actions.

(iii) Aligning the strategy with the National Performance Framework would help to reinforce its people-centeredness. However, an issue that has been highlighted is that full alignment may be difficult to achieve in practice, and that it may be more effective to align the strategy with the most relevant outcomes in the Framework. With these most likely being economically related, there is a risk that this could mean less of a focus on fairness and inclusion; this would require careful consideration.

(iv) Provisions on skills and training will meet the clear expectations for these - as cited in consultation responses, by public engagement programme participants, discussions in working groups and evidence from further afield. They would also underline the Scottish Government's intent to ensure that Scotland harnesses AI in a way such that no-one is left behind – with a key way in which this could happen being that those displaced from their jobs by AI are not supported in transition to other employment.

(iv) (continued) There would be challenges in defining what skills and training people need in order to recognise, appreciate and engage with AI appropriately. A large amount of AI courses are delivered in higher education settings: how to develop and deliver skills development opportunities in further, open and community settings would need more consideration, particularly providers, funding and other resources required. One option that appears to have been successful elsewhere in providing accessible, cost-effective and user-friendly AI skills development are MOOCs (Massive Open Online Courses); 'Elements of AI', developed to support the delivery of Finland's AI strategy is oft-cited, and there are several commercial providers as well as bodies such as the Royal Society¹³.

(v) There is a clear demand for ongoing public engagement to help ensure that the wider approach to AI in Scotland remain focused on fairness and inclusion. Such engagement is relatively easy to deliver, with several platforms available including, hopefully once measures ease, in-person fora. There may also be opportunities to include discussions on AI alongside those on other areas, perhaps by developing links to the Citizens' Assembly programme, or by linking with relevant stakeholders such as the British Computer Society¹⁴ or Royal Society of Edinburgh, who have run a series of 'RSE investigates AI' events¹⁵. However, in order to make it meaningful and optimise the output from engagement, it needs to be planned and facilitated effectively; the likely resources available for this would need to be established before commitments are made in the strategy.

(vi) Scotland already has UK and international links and partnerships on AI, such as with the UK Office for AI, AI Council and Centre for Data Ethics and Innovation, and with governments including those in Canada (Quebec), New Zealand and Singapore. There is scope to build on these, and for the strategy to set out a clear ambition for Scotland to play a bigger role on the international stage. Similar to (v), there would be a need to plan such engagement so it delivers for both sides, and resources would also need to be confirmed.

11. <https://www.gov.scot/publications/renewing-scotlands-full-potential-digital-world/pages/9/>

12. <https://www.elementsofai.com/>

13. <https://www.scotlandaistrategy.com/video-gallery/what-is-ai-the-royal-society>

14. <https://www.bcs.org/policy-and-influence/artificial-intelligence-ai/>

15. <https://www.rse.org.uk/event/reassessing-role-digital-technology-social-care/>
(links to a further three events)

11. How could the programme/policy/decision be adjusted to address inequalities associated with particular groups? Particular communities of interest or communities of place who are more at risk of inequalities of outcome?

Some consultation responses noted that AI can have gender-specific impacts^{16,17}, and disproportionate impacts in certain employment sectors, as recognised in the Scottish Government's *A Fairer Scotland for Women: Gender Pay Gap Action Plan*¹⁸, which includes a commitment (Chapter 8) to ensure that closing the gender pay gap and its causes are central to all relevant policy analysis in this area. As well as ensuring that fairness and inclusion are embedded as core values, a code of practice or framework should seek to acknowledge and address this; as well as setting out actions to deliver the commitment in the Plan. It has also been observed that AI can potentially have adverse impacts for children¹⁹, in specific areas such as finance²⁰, and law enforcement²¹, particularly forms of AI such as facial recognition technologies²². A code of practice should seek, insofar as possible, to recognise and address these, with prospective actions then assessed accordingly. In light of increased public and political interest in algorithms, mainly on account of their use in determining assessment results in summer 2020, it may also be timely for the strategy to set out clear expectations around the development and use of such tools.

16. Consultation Response by 'Close The Gap' https://consult.gov.scot/data-innovation/artificial-intelligence-ai-strategy/consultation/view_respondent?_b_index=60&uuld=848954836

17. Consultation Response by 'AI for Her' https://consult.gov.scot/data-innovation/artificial-intelligence-ai-strategy/consultation/view_respondent?_b_index=0&uuld=953271514

18. <https://www.gov.scot/publications/fairer-scotland-women-gender-pay-gap-action-plan/>

19. <https://www.unicef.org/globalinsight/featured-projects/ai-children>

20. <https://www.gov.uk/government/publications/cdei-ai-barometer/cdei-ai-barometer#financial-services>

21. <https://www.gov.uk/government/publications/cdei-ai-barometer/cdei-ai-barometer#criminal-justice>

22. <https://www.gov.uk/government/publications/cdei-publishes-briefing-paper-on-facial-recognition-technology/snapshot-paper-facial-recognition-technology>

STAGE 4 - DECISION

This decision stage allows Deputy Directors (or above) to consider the assessment process from Stages 2 and 3, agree any changes to the policy, proposal or decision and confirm that due regard to meeting the Fairer Scotland Duty has been given in this case.

Key questions to discuss at this summary stage are:

12. What changes, if any, will be made to the proposal as a result of the assessment? Why are these changes being made and what are the expected outcomes?

A clear commitment to developing a code of practice or framework to guide the use of AI in Scotland. To highlight the Scottish Government's commitment to ensuring that Scotland harnesses AI in an ethical and socially responsible way, it may be appropriate to articulate this in the strategy's vision statement as a 'top line' statement of intent. This could be expanded upon in the code of practice or framework, with the principles then reading through into the roadmap of actions.

13. If no changes are proposed, please explain why.

Not applicable.

Once these questions have been discussed and written up, save this document in the relevant project file in eRDM. Your deputy director (or above) should sign and date in the box below.

Sign off of the Fairer Scotland Assessment template	Name: Albert King Job title: Chief Data Officer, Scottish Government
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The final stage is to complete the [Fairer Scotland Duty summary template](#) for publication on the Scottish Government website. This should be published on the Scottish Government's website - contact [Social Justice Strategy](#) for more details.