Part one: Five things you didn’t know about…

As part of the Analysis in Government month, we are hosting a series of ‘Five things you didn’t know about…’ blog posts. Analysis in government is being used more than ever in policy, decision making and the media, this series of blog posts will share, showcase and celebrate the vast variety of professions and work within the Analysis Function.

Jump to one of our posts:

Five things you didn’t know about the Analysis Function

By the Analysis Function Capability Team, Office for National Statistics

The Analysis Function (AF) is a cross-government community of around 17,000 people involved in the generation and dissemination of research, analysis and evidence. Our mission as a function is to support the government to make better decisions in every aspect of policy, delivery and operations, to deliver value for money and to improve the lives of the UK population.

As a Function we aim to improve analytical capability across government by providing opportunities for analysts to collaborate, develop, and share knowledge across profession and departmental boundaries. If you work in analysis in government or public services, you are a member of the AF.

So, what can we offer you? Perhaps you didn’t know that…

1. We will support your learning and development

As a Function we want to ensure that our members have the skills they need to deliver in their roles, as well as access to further development opportunities that will enable them to meet their potential.

The AF Learning Curriculum is our one stop shop for analytical learning and development. In line with the Civil Service Success Profiles, the Curriculum signposts opportunities to develop your behaviours, strengths, ability, experience and technical skills.

2. We want to help you plan your career

The AF is in the process of rolling out an online skills tool. The tool will

support analysts to plan their own development; allowing you to evaluate your skills against current and aspirational roles, identify knowledge gaps and quickly access relevant learning opportunities. In April 2021, government statisticians, operational researchers and some members of the Geography profession started using the tool. We hope to expand across the wider AF over time.

Don't have access to the online skills tool yet? Keep reading to understand how you can use our Career Framework alongside the AF Learning Curriculum and loan or secondment opportunities available across the AF to support your own development and realise your career ambitions.

3. We've developed a framework to help you consider a wider range of potential roles

A career in the AF can be vast and varied, allowing you to be at the heart of decision-making in government. The AF Career Framework will support you to consider your future career trajectory with confidence by clearly defining the skills and experience needed for typical analytical roles at various grades across government. We encourage you to consider how your skillset aligns to roles that you might not have previously considered.

Spotted a possible knowledge gap? Head back to the Learning Curriculum to find relevant learning! Discovered a role you're interested in? Consider a loan or secondment to gain experience across the AF. Opportunities are shared in our monthly newsletter, sign-up by emailing analysis.function@ons.gov.uk .

4. We can grow your connections across government

Do you want to meet a wider variety of analysts? Why not join AF Coffee Connect? No matter your grade or where you work, whether you want to learn more about others' careers and experiences, or whether you're simply missing casual conversations in the office kitchen, this is a great opportunity to informally network. Each month we randomly match participants and then it's over to you to start a conversation. Email analysis.function@ons.gov.uk to sign-up.

We also organise other initiatives to meet and work with others from across the AF, including mentoring programmes and working groups. Sign up to our monthly newsletter to be the first to hear about future opportunities!

Findings from our annual AF-led Diversity and Inclusion (D&I) survey and the Civil Service People Survey allow us to understand more about the analytical population across government. As a Function we are striving to create an inclusive, diverse and collaborative community, but the evidence shows that we still have some way to go. Earlier this year we published the Analysis Function Diversity and Inclusion Strategy 2021-2024, which outlines the Function we want to create and how we will achieve this.

Want to know more? Keep an eye out next week for 'Five things you didn't know about D&I in the Analysis Function' written by Sophie Ingram and Louise Skelton, our Senior Sponsors for D&I in the AF.

Five things you didn't know about how we make sure you can trust statistics

By Isabel Ralphs from the Office for Statistics Regulation

1. We make change happen

As an independent regulator, we take our responsibility as a driver of change very seriously. In the last year, we have made a number of high-profile interventions, that have resulted in real, tangible change to the way that statistics are produced and presented.

In the early stages of the pandemic, we wrote to the Health Secretary regarding poor reporting of test and trace data. In response, the government clarified the definitions around testing data, and improved both the quality and accessibility of the data for users.

We also wrote to the government's chief scientific advisors in November last year, urging them to use transparent and publicly-available data during their briefings. Maintaining public trust in statistics at a time when data is playing such an important role in all of our lives, is something we are continually striving for.

Our day-to-day regulatory work is also a vital tool with which we bring about positive change. In January 2021, we produced a report which identified several data gaps in Adult Social Care statistics. We have seen progress on a number of the report's recommendations, which has enhanced both the quality of these statistics and the value they serve for those who use them.

2. We make sure that statistics serve the public good

Integral to our role as regulators of data, is ensuring that statistics serve the public good. This means that statistics should be produced with the needs of the people who use them firmly in mind.

When we assess sets of statistics, we conduct interviews with those who use them to find out how well the existing statistics currently meet their needs for the data. Once we have collated views from users, our platform as an independent statistics regulator allows us to feed this back objectively to statistics producers.

Our interviews target a broad range of perspectives – from government departments and academics, to media, think tanks, charities, and even everyday individuals. We believe that statistics should serve the needs of all users, regardless of their statistical background or level of expertise, and so it is vital that our engagement reflects this.

We are also actively working to develop our understanding of what the 'public good' of statistics really means, through our research programme.

3. We assess statistics against the Code of Practice and award National Statistics designations

At the Office for Statistics Regulation, our primary role is upholding the commitments and values of the Code of Practice for Statistics and making sure that statistics producers do so too. The Code sets the standards that producers of official statistics should aim for, under three distinct pillars of Trustworthiness, Quality and Value.

If we find statistics to be fully compliant with the requirements of the Code, we will award them National Statistics designation. The National Statistics designation serves as an indication to users that producers have adhered to the highest standards. We regularly conduct assessments of statistics against the Code, like this assessment of benefit statistics. And shorter 'compliance checks', like Mark Pont to Tony O'Connor: Armed forces continuous attitude survey statistics, as part of our ongoing monitoring of official statistics.

4. We champion good practice when we see it

Whilst the majority of our work focuses on regulating official statistics, recently we have also started working outside of this space, as part of our advocacy for the Code of Practice and good statistical production. In 2018, we launched our Voluntary Application (VA) scheme to recognise statistics producers who are don't produce official statistics, but who have nonetheless demonstrated significant commitment to the values of the Code of Practice.

In October of last year, we awarded our first VA award jointly to the Scottish Fiscal Commission and the Ministry of Housing, Communities and Local Government. These organisations are an exemplar for statistics that serve the public good and are of the highest possible quality for their users. Highlighting their achievements with our award scheme gave us an opportunity to promote the positive examples they have set and encourage other producers to do the same.

We hope that by expanding our reach to non-government producers, we can further promote the importance of high quality, trustworthy data – and make a few more people as excited about good statistical practice as we are!

5. We respond to casework

Advocating for the public good of statistics is at the heart of what we do, and this is nowhere better reflected than in our casework programme.

The pandemic has really boosted the profile of the OSR and seen our work widely reported on in the media. This is great news for us, because we think that what we do is pretty important, and everyone should know about it!

It also means that more people are writing to us when they believe they have witnessed a misuse or misrepresentation of statistics or data.

In the period from April to June 2020, we opened 110 items of casework – higher than the total number of cases we have seen in any previous year in just one quarter. 20% of these were internally generated, but the vast majority of cases were raised with us externally, through queries received from the public, user communities, politicians and the media.

Statistics have taken on a more prominent role in many of our lives during the pandemic – as policy decisions that affect us are tied so closely to data and statistical modelling. Casework helps us to really understand the issues that the public are most interested in and address any concerns individuals have with data used by their government in the public domain.

To find out more about the Office for Statistics Regulation (OSR), visit the OSR website, follow OSR on Twitter or subscribe to the OSR newsletter.

Five things you didn't know about the Government Geography Profession (GGP)

By Liz Fox-Tucker from the Department for Environment, Food and Rural Affairs

I'm an environmental scientist by background but that's hard to do without location so I tend to think as myself as an accidental geographer. I'm happy with that as its led to an amazing journey with the Government Geography Profession (GGP). We are the 'new kid on the block' both to government professions and also to the Analysis Function. That doesn't mean that the use of spatial data, GIS and geographical principles are new to government analysis.

We have been around for years and it's not all about making maps!

1. GGP is the newest profession to join the Analysis Function

The Government Geography Profession was launched in 2018 to bring together civil, crown and public servants with professional skills and knowledge in geography. We are open to all public sector employees and have members across the UK, including in local authorities.

Although the public sector has been using geography, in the broadest definition, for years there has never been a body to support professional development, CPD, networking and standards. The GGP was established by a group of keen geographers, going from concept to a fully blown profession with over 1,400 members! And I for one am very proud to be part of that founding group! We are based in the Geospatial Commission, Cabinet Office.

2. Geographical analysis can input into all kinds of projects

Geographers bring a really special skill to the analysis party, we can provide valuable insights into how place really matters – whether responding to Covid-19, supporting regional economic growth and developing tools for better access to information or supporting ecosystems understanding across

the globe.

Watch our video about re-establishing Ayreshire as a Functional Economic Geography.

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Learn about the UK Hydrographic Office Global Mangrove Dataset.

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We are also there at the front line of delivery, from improving local decisions (watch the video about Urban Lab), natural flood management or supporting Ministry of Defence activities. We also innovate and push technology boundaries, the use of satellite imagery, or data captured by drones is geography. More of our award winning work can be found on our website.

Urban Lab at Westminster Council

3. There is great content available to GGP members, with more to come…

The Profession is now a led by David Wood, who is supported by a group of deputies. We deliver a great selection of activities, including monthly newsletters, regular webinars, blog posts, an annual conference and awards. We're also busy working with other organisations, whether it's the Royal Geographical Society where we work on many issues including Chartership and Early Careers, with the British Cartographic Society where we are working on guidance or The Geographical Association promoting geography as a career path within the education setting.

4. Diversity is a priority in GGP

We are an open and inclusive profession, welcoming people with a background in geography or those who are deep specialists. We have published job profiles and welcome members with dual professions – indeed our Head of Profession is a geographer and a member of the Government Economics Service, and I'm a member of the Government Science and Engineering Profession (back to that accident again!).

5. It takes five minutes to join the profession!

There is so much more to do, and we're very pleased that as part of the Analysis Function we can grow alongside other analytical professions.

So, you want to join? Well its quite easy. Just head to the GGP Members site and join up there. And I can't wait to see you at the next webinar, or conference, or read your award nomination.

Five things you didn’t know about being a government analyst

By Rhidian Thomas, Home Office

1. We’re not all from a mathematical background

Before I started my career as an analyst in the Civil Service, I had spent almost a decade in academia studying the biosciences. During this period, I developed skills that were not only relevant to becoming an analyst, such as how to effectively collect, analyse and disseminate data, but also ‘softer’ skills such as how to present to a large audience, manage my time and how to draft large documents.

I worked on crayfish and other aquatic animals during my PhD, whereas now I work on National Referral Mechanism statistics (the process by which potential victims of modern slavery are identified and provided with support), highlighting how analysts in the Civil Service come from diverse backgrounds. In my current role, we publish quarterly statistical bulletins, which is a bit different from the academic publications I was used to, however the principles are the same – ensuring good quality, reliable and clear analysis.

2. Our work is often in the news!

Working on high-profile official or National statistics means that our work is often headline news. This can be really satisfying, seeing that your work has contributed to public knowledge and used to inform people on important topics. For me personally, I felt that whilst working in academia I could spend months or even years working on a particular piece of work, which would be written up into a journal article, published online and then, unless you are working on a particularly high-profile topic, doesn’t get much in terms of recognition. Since joining the Civil Service, however, I have frequently worked on statistics that have ended up in the news.

The work of analysts in government has been particularly relevant during the pandemic over the past year, where interest in published statistics on COVID-19 infection rates and mortality has been closely followed by large swathes of the population. Given the wide-ranging impact that COVID-19 and the associated restrictions have had on all aspects of our lives, it’s no surprise that interest in statistics has increased, and as such, so has media attention, meaning there has never been a better time to join the Civil Service as an analyst to feel like you are making a difference.

3. We have a huge range of opportunities

I joined the Civil Service by applying for a Government Statistical Service (GSS) Higher Statistical Officer recruitment round. I was struck immediately by the breadth of potential roles across government that were available, ranging from working on policing to farming statistics.

I was placed in the Home Office to work on the National Referral Mechanism, leading on the publication of these statistics, which I have now been doing for almost 2 years after being badged at Senior Statistical Officer grade six months after joining. The topic of modern slavery, and the Civil Service in general, was completely different to my previous experience and so I have really enjoyed the challenge and learning opportunities. I also appreciate the diversity of opportunities that are now available to me as my career develops.

4. It’s not all about the analysis

Despite being first and foremost an analyst focussing on statistical publications, working in a large government department has provided me with plenty of opportunities to be involved in other types of work and to engage with other government departments. For example, being a fluent Welsh speaker, I have been part of a Welsh language network within the Home Office, helping to ensure the language is properly represented in the department. I have also been part of several internal groups working on a range of topics, including IT & Tools, Learning & Development and organising social activities within my unit. Normally, I also enjoy the sense of community and going for after-work drinks with colleagues in Westminster on a Friday, though those activities are currently on pause for obvious reasons!

5. We collaborate and connect

As well as working closely with other analytical professions, including economists, social researchers and operational researchers, I work alongside members of the policy profession, gaining an insight into the range of work that occurs across the department.

I have also been heavily involved in work to develop the analytical tools and learning and development opportunities available to Home Office analysts, engaging with the Reproducible Analytical Pipeline (RAP) network across the GSS to develop repeatable, code-based pipelines for statistical publications.

Attending conferences and engaging in cross-government networks has given me plenty of opportunities to meet and get to know other statisticians and analysts working in other departments.

Five things you didn’t know about decarbonising the UK

By James Tarlton, Department for Business, Energy and Industrial Strategy

I work on one of the most challenging and important topics in government – how to stop climate change. To address this issue, the Government has committed to reaching net zero greenhouse gas emissions in the UK by 2050. As part of this process, every five years it passes legislation on an emissions limit for 15 years in the future. These limits are called Carbon Budgets.

The Government has just announced that the average annual emissions limit for the Sixth Carbon Budget, covering the period 2033 to 2037, will be 78% lower than 1990 emissions, in line with the recommendation of the Climate Change Committee. This is the most ambitious climate change target in the world. As part of a team in the Department for Business, Energy and Industrial Strategy, I used a model called UK TIMES to inform this decision and estimate the necessary changes to the UK energy system assuming no reductions in consumer demand. In this blog post, I give five things that came out of our analysis.

Analytical notes:

The ranges in our results reflect their uncertainty.
Energy production and consumption figures are given in terawatt-hours (TWh). To give an idea of how much this is, 1 TWh would power 300,000 homes for a year, which is 1% of all UK homes.

A wind farm at sea

1. Electricity generation needs to double

Much of our transport, heating and industry needs to be electrified, as these areas are currently powered with fossil fuels, with technologies such as petrol cars and gas boilers. Electrifying them enables us to decarbonise by using renewable and other low-carbon energy sources. To achieve this, electricity generation needs to increase to 610-800 TWh by 2050, which is double our current generation rate, while also being transformed to use low carbon sources.

2. Hydrogen has a big part to play

Due to its high energy density and hot temperature when burned, hydrogen is a great low-carbon energy source for some areas, such as shipping and industrial processes. Hydrogen is produced by using electricity to pull apart water molecules (electrolysis), converting natural gas into hydrogen and carbon dioxide (gas reformation), or doing the same with biomass (gasification). The only by-product of burning hydrogen is water. Our modelling says we will need 250-460 TWh worth of it per year (around the same amount of energy currently used for electricity) by 2050, which is 10 times our current production rate.

3. Some sectors will have residual emissions

Residual emissions are the emissions that remain after we try to reduce them. Our modelling finds that some sectors will have these residual emissions in 2050, especially agriculture and international aviation and shipping. This is because some areas are expensive to decarbonise and others, such as aviation and livestock, are currently impossible to decarbonise without reducing consumer demand. To negate these emissions, we will need to take carbon dioxide out of the atmosphere.

4. We need to triple afforestation rates

Afforestation (the establishment of forests) increases the amount of carbon stored in trees rather than in the atmosphere, negating some of the residual emissions in sectors that are hard to decarbonise. The sustainable growth and maintenance of trees will be critical for reaching net zero emissions. We will need to plant 30-50 kha (about four times the size of Manchester) of trees per year, which is three times the current rate, but comparable to the rates achieved in the early 1970s.

5. Carbon Capture and Storage will be critical

Another way of negating emissions is by extracting carbon dioxide out of the air and storing it in rock formations deep underground, a process which is called Carbon Capture and Storage (CCS). This extraction can either be done naturally with energy crops, which can then be burned to get the carbon dioxide to be stored underground, or with direct air capture, which uses machines to do the same thing. We will need to extract and store 81-91 Mt of carbon dioxide per year by 2050, which is about 20% of our current emissions. This may be the most challenging transition of all when considering that there is not yet any CCS taking place in the UK.

Our analysis shows that it will be feasible to decarbonise the UK by 2050 without reducing consumer demand, but that this transition will be challenging in several areas. You can find the details of our analysis here: The Carbon Budget Order 2021, and if you want to explore alternative routes to decarbonise the UK, you can check out our interactive carbon calculator.