



# Policy Fellowships Programme

## Engineering better policy

The Policy Fellowships programme inspires policymakers to think differently and to use engineering and systems thinking to frame complex and wicked problems, and design resilient solutions.

The programme has grown a unique network of policy makers, engineers and other experts who are working together to develop fresh insights and approaches to economic, social and technical problems.

Twice a year the Royal Academy of Engineering selects exceptional policymakers to become Policy Fellows. We welcome applications from civil and public servants who have a variety of insights, expertise and backgrounds from across the policy community.

**“The Royal Academy of Engineering’s Policy Fellowships Programme could not be more timely with its mission to develop the ability of policy professionals to connect with leaders in engineering. We welcome the creation of a generation of high-calibre Policy Fellows across all levels of government. They will champion the role of engineering approaches such as systems thinking to develop better, evidence-based policy.”**

**Sir Patrick Vallance FRS FMedSci FRCP HonFREng**  
Former Government Chief Scientific Advisor

**Professor Sir Jim McDonald FREng FRSE**  
President of the Royal Academy of Engineering

## An inspiring development programme

The **Core Programme** consists of ten days of individual and group-activities over a four-month period. At its heart, the Policy Fellowships Programme offers a series of one-to-one meetings with leading engineers across industry and academia, and researchers with deep cross-disciplinary expertise, tailored to meet the needs of a chosen policy challenge. The programme also includes online workshops, individual coaching sessions, and peer-to-peer meetups. After submitting your personal report, you will be invited to present your learnings to your cohort for peer-review.

The **Alumni Programme** is open to successful completers of the programme. This includes further development opportunities such as the chance to be involved in shaping the Academy's policy work, building new networks, alumni-led events and special projects. Flagship events include the annual Alumni Networking Dinner in March and the public Policy Fellowships Showcase in October. All alumni of the Policy Fellowships Programme are expected to play an active role in this experience.

## Benefits of becoming a Policy Fellow

The Policy Fellowships programme inspires policymakers to think differently and to use engineering and systems thinking to frame complex and wicked problems, and design resilient solutions.

The programme has a unique network of experienced policy makers, leading engineers and other experts who work together to develop fresh insights and approaches to a variety of economic, social and technical problems.

Benefits to becoming a Policy Fellow include:

<p><b>Better policy outcomes</b></p> <ul style="list-style-type: none"><li>• Use engineering and systems thinking to progress policy challenges.</li><li>• Discover different approaches to define problems and design agile solutions.</li><li>• Learn about the value of multidisciplinary thinking and how to create multidisciplinary teams.</li><li>• Share and apply what you learn with your team and organisation.</li></ul>	<p><b>Expanded network</b></p> <ul style="list-style-type: none"><li>• Meet industry leaders, innovative technology entrepreneurs, and prominent academics and learn firsthand how they tackle difficult problems.</li><li>• Connect with like-minded peers across government and establish professional links between the engineering and policymaking professions.</li><li>• Engage with the work of the Academy and its partners in addressing society's most pressing issues.</li><li>• Contribute to the design of the Alumni programme's activities.</li></ul>	<p><b>Developing professional skills</b></p> <ul style="list-style-type: none"><li>• Benefit from mentoring and engineering-based advice to develop your knowledge and skills.</li><li>• Discover new perspectives and improve the understanding of your policy area and its context.</li><li>• Learn how the engineering communities, industry leaders and academics use systems approaches to solve complex problems.</li><li>• Enhance your career development opportunities.</li></ul>
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For more information about the benefits of the programme, please see *Engineering Better Policy*, an insights report written by five Policy Fellowships alumni, [available here](#).

# What to expect during your Policy Fellowship

## Core Programme Months 1 to 4



**Onboarding call:** Refine your policy challenge with the Academy's specialist policy advisors and discuss your bespoke programme. (1h)



**Kick-off workshop:** an interactive online seminar, with an introduction to the programme, meetups with engineers and other Policy Fellows and a workshop on how to apply systems approaches to policy (1 day)



**One-to-one meetings:** Connect with up to 12 leaders in engineering and subject matter experts in a series of one-to-one video calls, specifically matched to meet the different aspects of your policy challenge. (6 days)



**Policy Fellows meetups:** Throughout the programme, engage in regular peer-to-peer exchange and start creating unique connections with ambitious policy professionals from your cohort across government and public service.



**Programme report:** Reflect and capture your personal experiences in a written programme report. After submission, share findings, challenges, and lessons learnt with your cohort in a peer review session, and separately with the policy advisory teams you met with during onboarding



**Reporting workshop:** Share your experiences and learnings from the programme with peers and engineers in an interactive online seminar. (0.5 day)



**Bespoke coaching:** Engage in individual coaching sessions on applying systems approaches to your policy challenge. (1h)

## Alumni Programme Months 5+



**Engineering policy work:** Influence and shape live policy work undertaken by the Academy and the National Engineering Policy Centre (NEPC)<sup>1</sup>.



**Mentoring:** Improve your links with the engineering community through mentoring opportunities from world-leading engineers, as well as the chance to advise engineering experts on the policy landscape.



**Academy networks:** Expand your professional networks, and strengthen your evidence base, with special access to the Academy's global network of leaders in industry and academia and access to a diverse programme of online and onsite events.



**Events and projects:** Access a mixed programme of online and onsite engineering policy events, deep-dives into systems approaches, workshops and roundtables, and co-create publications and showcase events to share on your insights and experience.



**Alumni network:** Join peers to nurture and grow a talented alumni network designed to foster closer connections between government and engineering, engage in peer-to-peer meetups to exchange on topics of interest and enjoy the alumni's annual gala dinner.

<sup>1</sup> The National Engineering Policy Centre connects policymakers with critical engineering expertise to inform and respond to policy issues of national importance, giving policymakers a route to advice from across the whole profession, and the profession a unified voice on shared challenges.

## Case studies: Policy Fellow

# Rachel Lee

**Policy challenge:** To identify the benefits of flexible residential heating systems and approaches to ensuring its delivery through energy market players, consumers and heating system installers.



**Rachel Lee has over 30 years experience in private and public roles in the energy industry. At the time of her fellowship, Rachel led a programme within the Department for Energy Security and Net Zero looking at the cost and deliverability of transforming energy infrastructure to enable the decarbonisation of heat.**

### Learning journey

The policy fellowship has provided a fantastic opportunity to explore what many of my interviewees agreed is probably the biggest challenge in the transition to net-zero; the decarbonisation of heat. From the start of the fellowship the importance of system thinking has been stressed and I was able to conceptualise the system relevant to my problem and set appropriate boundaries.

One of the key take-aways was the idea of using personas to provide a model for thinking about different types of consumers and installers and their relationships with their homes and energy suppliers. This is an excellent way to make any policy problem more tractable and can also help in presenting ideas to a wider audience, and is a concept I will definitely apply in future.

### Impact

The Policy Fellowship has helped me feel more confident about my policy thinking processes and has given me new tools to use in future. I will be continuing the work through a public thought piece on heat decarbonisation policy against which I hope to gather a diverse range of views.

**“This is an excellent way to make any policy problem more tractable and can also help in presenting ideas to a wider audience, and is a concept I will definitely apply in future.”**

## Case studies: Policy Fellow

# Matthew Pullen

**Policy challenge:** To understand the policies, systems, skills and partnerships needed to deliver future utility networks that meet the needs of growth, the net-zero agenda and social demands



**Matthew Pullen is the Head of Infrastructure Planning at the London borough of Tower Hamlets.**

### Learning journey

High levels of development, the net-zero agenda and growing social requirements are putting pressure on our utility systems to be fit for purpose in the future. Existing regulatory and policy approaches lead to inconsistent results. My policy challenge sought to understand how partnership and collaboration could improve the policy and delivery systems in place and specifically what role local government might have in facilitating and/or leading this.

Through sessions with experienced engineers, reflecting on partnership work already undertaken and the challenges ahead, I gained great insight into the role that engineering and systems thinking can have in improving the system.

Fellows recommended establishing a framework to support system mapping, and problem and needs definition, utilising learning from existing tools and approaches. Further advice included how to embed value definition, resilience and scenario testing into a complex set of issues and potential solutions.

### Impact

Learning regarding systems thinking and the matters detailed above is already shaping our approaches as we enter partnership work regarding a wide range of utilities. It has also provided a key insight into the skills and organisational requirements that we, as a local authority, will need to meet.

**“Through sessions with experienced engineers, reflecting on partnership work already undertaken and the challenges ahead, I gained great insight into the role that engineering and systems thinking can have in improving the system.”**

## Case studies: Policy Fellow

# Chris Thomson

**Policy challenge:** How can the Scottish government effectively integrate systems thinking into its policies and approaches to address fluvial flooding on the River Clyde?



**Chris Thomson is Head of Scottish Government for the USA, based in Washington, DC. He has previously worked in economic development policy, justice and Human Resources across government and agencies, and completed his Policy Fellowship whilst leading the Scottish Government's "Clyde Mission" initiative.**

### Learning journey

Through conversations with Academy Fellows and group workshops, I realised we could conceptualise different systems at play in this work: physical, technical systems and infrastructure; systems of relationships and policy imperatives between partners; and the financial systems required to deliver and maintain infrastructure. I realised that we had to delineate each one, and understand how to navigate it, to make progress.

I also learned a lot about the "softer" skills required to bring people along with systems thinking: the importance of language, of simplifying the complex, and of "letting the system see itself". All of these are not only valuable systems thinking tools, but valuable policy tools.

### Impact

These insights helped me to commission first-of-its-kind research on flood risk management around the river, and have meaningful conversations with the engineers involved about how this links to the Mission-based approach we took.

It also enabled me to introduce systems thinking tools and concepts to both my team and my stakeholder network, including using simple systems maps and concepts to think about the themes and leverage points within the systems we work with.

**"I also learned a lot about the 'softer' skills required to bring people along with systems thinking: the importance of language, of simplifying the complex, and of 'letting the system see itself'."**

## Who should apply

Successful Policy Fellows are civil or public servants with responsibility for policy or service design in any sector, with the ability to influence and impact public policy in their field. The Academy is committed to diversity and inclusion. We welcome applications from a range of backgrounds for example economics, politics, sociology, health, planning, digital, science or engineering; and from a range of institutions with a public service mission, including central, devolved, and local government, arm's length bodies or public agencies, and public benefit non-profits.

## How to apply

Policy Fellows are selected through a competitive process on the strength of their application. We may offer deferred places on the programme to help with the balance of a cohort.

Successful Policy Fellows must have:

- A well-defined challenge or issue which will benefit from engineering expertise.
- Clear expectations for how they intend to apply their learning.
- The support of a sponsoring manager and employer commitment to fund your participation in the programme.  
**Please note there is no option to self-fund your enrolment at this time.**
- A commitment to play an active role as a Policy Fellow and future alumni of the programme.

### Application support

Our Policy Fellowships team will hold drop-in sessions to assist you with the application process and defining the policy challenge. These will be held each Wednesday at 15:00 for one hour throughout the duration of the application period (September 1st – November 18th).

To register for a drop-in session, explore opportunities, or receive bespoke advice on your application, contact our team at [policyfellowships@raeng.org.uk](mailto:policyfellowships@raeng.org.uk)

## Key dates

We will be running two cohorts each year, typically starting in March and September. The key dates and fee for the next confirmed Policy Fellowships cohort are:

Applications open <b>1 September 2024</b>	Applications close <b>18 November 2024</b>	Onboarding starts <b>January 2025</b>
Kick off workshop <b>17 April 2025</b>	Reporting workshop <b>12 June 2025</b>	Programme fee <b>£3,100</b>

For more information, please visit: [www.raeng.org.uk/policyfellowships](http://www.raeng.org.uk/policyfellowships) or contact [policyfellowships@raeng.org.uk](mailto:policyfellowships@raeng.org.uk)



Royal Academy  
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The Royal Academy of Engineering is harnessing the power of engineering to build a sustainable society and an inclusive economy that works for everyone.

In collaboration with our Fellows and partners, we're growing talent and developing skills for the future, driving innovation and building global partnerships, and influencing policy and engaging the public.

Together we're working to tackle the greatest challenges of our age.

**Royal Academy of Engineering**

Prince Philip House,  
3 Carlton House Terrace  
London SW1Y 5DG

Tel: 020 7766 0600  
[www.raeng.org.uk](http://www.raeng.org.uk)  
@RAEngNews

Registered charity number: 293074