The All-Party Parliamentary Group for

Engineering

23 November 2023

**Engineering for Water**

*Discussion over lunch in the House of Lords*

**Chair** – Laurence Robertson MP

**Speakers**:

* Professor David Balmforth, Independent Consultant
* Ayo Sokale, Chartered Civil Engineer, TV Presenter, Former Councilor, Deputy Mayor of Reading and Project Team Manager for the Environment Agency in Eastern England
* Sophie McPhillips CEng MICE, Practice Manager, Design & Advanced Technology

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Laurence Roberston began the meeting by thanking everyone for attending and introduced the first of the distinguished speakers, Professor David Balmforth.

­­­­­**Professor David Balmforth** is an independent consultant specialising in flood risk management and urban pollution control. He is a Past President of the Institution of Civil Engineers and until 2020 worked as an Executive Technical Director with the international engineering consultancy Stantec. His work has ranged from the delivery of £multi-million engineering programmes for reducing river and coastal pollution, to flood advisory work for municipalities in the UK and overseas.

David is a member of the UK Government’s Roundtable on Property Flood Resilience. He has held several UK Government advisory roles and recently completed a review of Reservoir Safety following the Toddbrook reservoir incident.

David is a Visiting Professor in the Department of Civil and Environmental Engineering at Imperial College London and is currently a member of the Singapore Government’s Coastal Protection Expert Panel on climate change adaptation.

**Ayo Sokale.** A generation of young people have grown up following Ayo at the BBC – most prominently as the co-presenter on CBeebies of Get Set Galactic – an entertaining, science-based immersive gameshow, exploring themes from gravity and the Solar System to pollination, energy and much more and showcasing her love of working with children and sharing the joys of scientific learning, exploration and experimentation. Ayo has presented for BBC Reel and BBC Bitesize, where she’s covered the first principles on an array of scientific subjects from the Physics to Design. She also works as TV expert on documentaries for the likes of the Smithsonian, National Geographic, Discovery Channel, Yesterday TV and Channel 5.

Ayo is a Chartered Civil Engineer and Project Team Manager for the Environment Agency in Eastern England and is a popular Keynote Speaker on the environment and sustainability and counts Blue Yonder, the NHS and Thames Water among the leading organisations for whom she has been a keynote speaker.

**Sophie McPhillips** is a Chartered civil engineer with 12 years’ experience in the water industry. She works for the engineering consultancy AtkinsRéalis, who she started her engineering career with when she was 18, completing a Year in Industry before her engineering degree. She now leads the AtkinsRéalis infrastructure design team in the south west of the UK. She has experience working on UK and international water and wastewater projects including in Uganda and the Gambia. She is currently leading the design assurance team on the Havant Thicket Reservoir project for Portsmouth Water. Sophie is also an Ambassador for the charity Frank Water, an organisation dedicated to ensuring safe and sustainable water for everyone in the world.

**Q1. Jerry Brown (Tewkesbury Academy)**

Question: (In reference to a new built reservoir mentioned earlier in the meeting) will this be the sole new reservoir built in the UK?

Sophie: There is still a need for more reservoirs. There are Strategic Resource Options (SROs) which help work out how to get water transferred around the UK. Historically, water companies worked within their area, but now there is a growing challenge of there not being enough water, so water companies need to work together more using pipelines.

**Q2. Jim Godman (Safran)**

Question: Water is a finite resource. What tips are there for consuming less water?

David: There is a need to get our water consumption down from 150l per day to 100l per day. The key thing, is that it is a human issue rather than a technological issue. The public needs to be part of the solution. The public need to be in partnership with civil engineering projects to help cope with demand.

**Q3. Marco Peira (King’s Maths School)**

Question. A landmark of London is the Thames Flood Barrier. We keep hearing about 1 degree Celsius will result a rise in water level, does this make the Barrier still fit for purpose in that instance?

Ayo: There is a team that is looking for protective flooding up to 2100, and the Thames Barrier is part of this. Currently, the strategy goes up to 2070 which isn’t that far away. This needs to be a priority as a major flood in London would be really bad for the economy.

**Q4. Mark Wright (Laing O’Rourke)**

Question: Bearing in mind your audience, if you were going to give a piece of advice to your younger selves in getting into engineering, what would it be?

Sophie: It’s okay to try things out, and it’s okay if things don’t work out. There are many types of engineering, so explore and learn about the different types of engineering you can choose from.

Ayo: I wouldn’t change anything, but looking at engineers today – be more flexible about what engineering means in each sector. Think about incorporating AI into engineering workspace to make it more effective. Use your brain to be open to using new methods of working.

David: Choosing a career is scary, you don’t need to have a career mapped out. Just take it step by step and work out what you want to do in life as you go along. When an opportunity comes your way, think carefully if you want to turn it down.

**Q5. Cat Gibson (Stroud High School)**

Question: What advice do you have for 16-17 year olds in getting involved in civil engineering or other forms of engineering?

Sophie: Go to the Engineering Development Trust which has a lot of pathways for you to follow, it’s the function I used to help me find my year in industry and has programmes for pupils all the way through secondary school and higher education. The ICE also has an accessible library which is really useful.



Laurence Robinson MP closed discussions by thanking our distinguished speakers, excellent guests and event organisers.