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Briefing Note: Key workforce challenges for water utilities

Introduction

This document is a full copy of the text of the response from Adam Cave, Founder of Murray McIntosh, to the Workforce Challenge panel, at the UK Infrastructure Summit held by Indepen and the UK Water Report, in London in June 2026. Murray McIntosh is an AquaFed member.

AquaFed is publishing these comments in full because although the primarily concern the English water sector, the messages are relevant for all utilities in all countries.

The workforce challenges facing water utilities – Adam Cave, Murray McIntosh and AquaFed

I was in the room and here's what wasn't said

- Blue collar and white collar engineering are being treated as one problem. They are not.
- The national engineering shortage is structural, not cyclical.
- Delivery reality did not match the narrative in the room.
- The salary gap is not a footnote — it is a central constraint.
- Retraining is being treated as a solution. It is not, at scale.
- 49% of engineers cite skills as their top concern. That should have led the discussion.

First, let's do the maths

Let me start with the numbers. Because once you see them, the rest of this article writes itself.

- Water UK projects AMP8 will create 30,000 highly skilled new jobs in the water sector.
- EngineeringUK tells us the UK needs 173,000 new engineers and technicians every year just to meet existing demand through to 2030.

- Adam Cartwright from Siemens put it plainly at the panel: the economy needs around 60,000 engineers net per year to function.
- Yet only around 90,000 engineering graduates enter the profession annually across the entire country — for every sector, every industry, every infrastructure vertical competing for the same people.
- On top of that, around 20% of the current engineering workforce could retire within the next five to ten years.

The conclusion is straightforward: the UK does not have enough engineers to meet current demand, let alone AMP8. This is not a complex diagnosis. It is an uncomfortable one.

What I heard at the panel — and what was missing

The panel at the Infrastructure Summit, County Hall, hosted by Indepen and the UK Water Report, brought together senior voices from across infrastructure to tackle the workforce challenge. It was a worthwhile conversation. But sitting in that room, I became more and more frustrated: the picture being painted was more comfortable than the reality I encounter every day.

Steven Slessor, CEO at RSE and Chair of British Water, was the standout voice for water's reality. He was clear that skills isn't one problem — it's three distinct ones: volume, timing and occupational mix. They shouldn't be treated as a single skills gap. He called for a whole systems approach: demand signals, engagement with colleges and the supply chain, flexible procurement. He made the point that market forces — driven by huge infrastructure investment outside of water — are pulling engineers toward sectors that pay more, and water simply can't compete on that basis. He's right. He also raised the alarm on AMP8: we have 3 years and 9 months left, and the resource planning isn't keeping pace. I agree entirely.

Adam Cartwright, Head of Technology Adoption at Siemens, brought a different but equally credible perspective. Technology is not the problem, he said. We have enough technology today to address the challenges we face. The bigger issue is how we use what we already have more effectively — and skills is a major part of that. He also raised the silver tsunami point: around 20% of the engineering workforce could retire in the next 5 to 10 years, and we're not getting enough graduates and apprentices through to replace them.

On apprenticeships, several panel members pointed to investment in training pipelines. RSE has trained 400 apprentices in the last four years — that's a serious commitment and it matters.

The overall tone was that the situation, while challenging, is being managed. That's not what I hear on the ground.

Twelve years of ground-level intelligence. Here's what we know.

Murray McIntosh has recruited commercial and engineering specialists into water and other sectors for 12 years. Our 2025 Water Industry Labour Report was cited in the Cunliffe Review. We speak from evidence, not assumption.

The UK economy has undergone a fundamental shift over the last 50 years — from manufacturing to services. Financial services, professional services, the knowledge economy: that's where the skills base has followed. We have far fewer people equipped to do the engineering piece than we have ever had before. That is a systemic issue, not a cyclical one. The question isn't whether there is a workforce challenge. The question is where it is most acute.

Across the ecosystem, the consistent is not that recruitment is difficult – it is that critical roles are going unfulfilled for months. Water is not just competing in a tight market. It is competing in a tight market while being structurally disadvantaged on pay, on reputation, and on the political visibility that drives investment into other sectors. That is the reality Murray McIntosh navigates every single day.

Blue collar and white collar engineering are not the same conversation

Nick Pollard, Chair of Tilbury Douglas Group — which carries out significant work in the water sector — was direct: "I don't think that work in water infrastructure is in any way constrained by a skills shortage in the construction sector." His position is that the construction industry trains and repurposes its people according to need, flexing to meet client demand.

That may well be true for blue collar construction. But this presents an incomplete picture when the conversation is about the workforce challenge facing water as a whole.

The shortage Murray McIntosh encounters every day is not in blue collar construction. It is in white collar engineering — design engineers, civil design, project engineers, delivery leads. That is a different market, with different dynamics, different salary expectations, and a different — and more acute — shortage. Conflating the two doesn't just muddy the conversation. It risks drawing the wrong conclusions about how serious the problem actually is.

Retraining sounds strategic. The numbers say otherwise.

I heard the panel talk about retraining and redeploying people to meet AMP8 demand. I understand the appeal of that argument. But let me put it in context.

The top constrained roles in water right now include civil design, MEICA and EICA engineers, project and programme managers, commercial managers and quantity surveyors, planning engineers, site and construction managers, hydraulic modellers, environmental and ecology specialists, and programme controls professionals. To become a commercial QS takes five to seven years of qualifications and training. These are not roles you retrain someone into during an AMP cycle.

Retraining and redeployment is a highly strategic concept. It requires significant investment — in money, in time, and in systems thinking. You can't simply say the industry can retrain and redeploy, and leave it there. If we want to find hydraulic modellers or MEICA engineers in meaningful numbers, we need to be asking right now: where are we going to find them, what does the pipeline actually look like, and who is doing the joined-up thinking to make it happen? These are 5–10 year formation roles. They cannot be solved inside a 5-year AMP cycle. That level of analysis was largely absent from yesterday's discussion.

The Cunliffe Review cited our research. It is not anecdote. It is evidence.

The findings from our 2025 Water Industry Labour Report are stark. The number of water engineers raising concerns about skills and recruitment almost doubled in a single year — from 26% in 2024 to 49% in 2025. Two thirds of engineers are actively seeking roles in other sectors. Nearly a quarter plan to retire within five years. And skills and recruitment now ranks as the single biggest issue facing the water industry — ahead of ageing infrastructure, pollution and funding.

Leadership thinks recruitment is fine. Go and ask a delivery lead.

Steven Slessor asked a sharp question yesterday: how many organisations actually turn their business plan into a skills need? How many engage with colleges, training providers and the supply chain with enough lead time to make a difference?

It's the right question. My experience, talking to delivery leads across water companies, frameworks and contractors every day, is that the honest answer is: not enough, and not quickly enough. Leadership may have confidence in the pipeline. Delivery leads are the ones fielding the calls when roles can't be filled and programmes start to slip. That gap — between boardroom confidence and delivery reality — was visible on the panel yesterday. The people feeling it most acutely weren't in the room.

The salary issue is bigger than a footnote

There is up to a 30% pay discrepancy between water and the highest paying infrastructure sectors. Consumers pay less for water than for any other energy channel or natural resource — less than gas, less than oil, less than electricity. The economics of the water sector will never allow it to match the employment conditions on offer elsewhere. The panel talked about regional planning and bringing all the infrastructure verticals together to align on workforce strategy. It sounds appealing. But water will never be able to sit at that table as an equal on pay. We need to accept that reality and build a workforce strategy around it — not assume that a cross-sector alignment conversation will level the playing field.

The salary gap is structural. Until it is treated as a central constraint in workforce planning, the sector will continue to lose talent to higher-paying industries.

Everything is not okay

The data is clear. The Cunliffe Review recognised it. The delivery leads I speak to every day live it. The depth of the white collar engineering shortage in water deserved a more complete treatment than it received yesterday.

This is not a marginal issue. It is the constraint that will define whether AMP8 is delivered or delayed. The sector needs to move from high-level conversation to detailed workforce planning — role by role, skill by skill, timeline by timeline — grounded in the reality of where the talent actually is. Without that shift, the gap between ambition and delivery will only widen.

The picture is more serious, more urgent and more specific than the discussion suggested.

I’m ready to be part of that conversation with anyone who wants to go beyond the surface.

Adam Cave, CEO, Murray McIntosh