FACE IT!

NO GROWTH WITHOUT WATER, ENERGY OR CONNECTIVITY

A national summit to **tackle constraints** on **growth** related to **essential services**

EVENT REPORT

A summit from INDEPEN THE UK WATER REPORT POLICY | REGULATION | FINANCE

SUMMIT

2 JUNE, COUNTY HALL, LONDON

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FACING IT… NO GROWTH WITHOUT WATER, ENERGY OR CONNECTIVITY

The UK will not fulfil its growth ambitions without confronting its infrastructure constraints. These include physical constraints from a shortage of natural resources, asset capacity, investment capital and skilled people. And the less tangible constraints of policy frameworks, governance choices, cultural norms and depleted trust.

The hard truth is that decades of infrastructure underinvestment and productivity stagnation are biting as ministers seek growth to deliver economic prosperity, higher living standards and better public services. Water availability, energy grid access, digital connectivity and transport bottlenecks are not future risks but live blockers to housing, innovation and regional development. Complicating the picture further is the fact that the challenges are often interconnected and need cross sector collaboration to address. But typically, conversations take place in silos or among limited groups of stakeholders, restricting the potential to find long lasting and innovative solutions.

It was in that urgent context that Indepen and The UK Water Report convened our annual Summit, this year designed as a working, cross-sector forum to:

›Raise awareness of the pivotal role of infrastructure in the Government's growth ambitions.

Our Summit brought sectors ambitious to grow together with infrastructure providers, to confront constraints and start to think as a system.

›Surface practical constraints currently limiting delivery in priority sectors and regions.

›Secure diverse insights and experience from stakeholders not routinely in the same conversations.

›Promote broad system thinking across infrastructure, skills, environment and investment.

›Explore institutional reform to align policy, planning, regulation and delivery.

We designed the summit as a journey for delegates:

›An opening keynote to establish why growth matters so much for our national ambitions, and to frame the economic context in which this mission takes place.

›A diagnosis of what's holding us back (Panel 1).

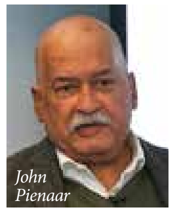
›A deep dive into solutions: the vehicles we have to move us forward (Panel 2); how these are being applied in practice where growth ambition is high (Panel 3); and what system changes are needed to move us further on (Panel 4).

›A closing keynote to consider the international context and to invite further engagement.

A list of high level themes arising throughout the discussion is set out below, followed by a summary of each contribution.

This is very much a live conversation. Since our Summit on 2 June, there has been a flurry of relevant activity, including the Spending Review, the ten-year Infrastructure Strategy, the Industrial Strategy, the interim findings of the Cunliffe Commission, the second water resources National Framework, the Industry and Regulators Committee grid connections inquiry report, and the continued passage of the Planning and Infrastructure Bill.

Through the Indepen Forum and The UK Water Report, we will continue to explore this critical topic and to facilitate collaboration to address foundational infrastructure constraints on growth.


John Pienaar

As Summit chair, journalist and broadcaster John Pienaar, said at the start of the discussions, "there is no magic trick" to this. Rather, he urged participants to "put your heads together" and "join the dots".

KEY THEMES ARISING IN DISCUSSION

GROWTH CHOICES

›Should we pursue maximum growth or 'growth plus' – with many seeing the 'plus' by default as protecting the environment. WRE's Daniel Johns said it was a "false choice" to diminish nature in pursuit of growth.

›However, there was recognition that we can't have it all… growth needs prioritisation. What do we want to grow, how and for whom?

›How should trade offs be made and communities given a voice?

›How should growth be measured? GDP-derived measures do not demonstrate value in the round.

GROWTH PLANNING

›Growth takes time. We should be planning for 50 years out rather than for five.

›Who or what should play the role of 'controlling mind' in planning growth? At national, regional or local scale? How can we join up planning at the different geographical levels? Alignment is pivotal; growth can't be commanded from the centre, but needs the centre to enable it.

GROWTH INTEGRATION

›Customers' demands are multi-sectoral and need to be thought about together. National Grid's Sonia Brown illustrated the challenge here, commenting: "I'm not sure I'm totally loving the idea of an ultimate planning guru, but I think there has to be some element of bringing together what the customer needs."

›Infrastructure industries need integrated plans to understand the needs of other infrastructure providers as well as consumers – over time and place.

›There are promising signs, including from the Cambridge Growth Company which works across sectors, and Defra's new Water Delivery Taskforce which unites central government departments to unblock water issues for growth. But such initiatives currently only operate in pockets where need is profound.

GROWTH CONVENING

›How can we best bust though silos and convene stakeholders in each place to pursue growth fairly and sustainably?

›There were high expectations of opportunities arising from greater devolution – with London's Deputy Mayor for Energy and Environment Mete Coban providing a great illustration of leadership in convening joined-up action to clean up London's waterways.

GROWTH REGULATION

›Regulation needs to make investment attractive to support growth. Ofcom offers a positive example that others could learn from. Regulators need political cover to do this.

›Regulators can encourage things they want to see. Is there scope for common incentives across regulators to drive whole system thinking?

›Regulation often focuses on customer protection, but promoting competition has been successful in telecoms and should be considered as a route to growth.

GROWTH FINANCING

›There is no shortage of capital but a shortage of good projects to invest in. We also need to consider innovative structures in financing projects, and revisit some previously successful ones.

›Will higher essential services prices to support growth be palatable to the public? How can we demonstrate value for those footing the bill, and ensure affordability support is sufficient? How can we innovate to ensure growth offers the best value to those who pay for it?

OPENING KEYNOTE


Helen Miller

WHY GROWTH MATTERS

Helen Miller, *incoming Director of the Institute for Fiscal Studies (IFS)*

Helen Miller told the Summit the Government is right to put growth at the heart of its mission. As things stand, she said, "the UK faces a growth problem…and a productivity problem". But if we could return to the pre-financial crisis typical annual productivity growth rate of 2.5%, chancellor Rachel Reeves would have around £30bn extra to play with each year. In stark contrast, if the OBR downgrades the growth forecast in autumn, that "quickly wipes out" the small surplus against headroom we are banking on. "It really is very, very tight," Miller shared, and the growth rate will have a "first order effect on the big picture choices the Government makes".

Unsurprisingly, there is "no quick fix" for nurturing growth – rather, ministers have to "do the hard yards" in multiple areas, including taxation, regulation, education, competition policy and spending choices. This Government has already chosen to prioritise capital spending; Miller said this will be "significantly higher" under Labour than for a long time, enabled by a change to the debt rule. It will also be front-loaded, with a spending boom this year and a slightly smaller one next, before tailing off in years three and four (albeit spending will remain higher than today). She questioned the logic here: "Can we get projects out of the door really really quickly and then taper them down in coming years? Would a flatter profile have been easier to plan for the big investments we need?"

Miller went on to explain that choosing to spend necessitates further choices; investing to promote growth, for instance, vies with investing in public serves and investing in climate change response. "Government can't prioritise all three of those things," she said, and will inevitably have to do something at the expense of something else.

Investing in growth is further complicated by increasingly nuanced expectations. Miller: "Unhelpfully, it has become common to talk about sustainable or equitable growth. Who doesn't love the sound of that? I love the sound of that, but what does it really mean? We want growth but only if it simultaneously has some other aim it fulfils… That's fine to have nuanced policy aims, but…when are you going to say 'no, that's growth I'm not going to accept'… or 'I'll have that growth but I'll do something else to offset it?' As soon as it's not just plain, vanilla growth, I think we get ourselves into difficulties."

Miller challenged the infrastructure specialists at the Summit to "make the best case for the sort of investments you think are needed. The Government is going to have to make choices, is going to have to line up the things you think are worthwhile against what others think are worthwhile." Defence has already surfaced as a clear priority.

Despite the challenges, Miller concluded with a note of optimism. "It seems clear to me that we could do better. Other countries manage to deliver infrastructure at lower cost and with fewer delays. I know how to design a better tax system, many of you will know what is needed in your areas of expertise."

And she offered one closing concern: "There will be a focus on new shiny initiatives, or whatever feels politically easy at the point in time. What we need to be doing is focusing on what we have to a large degree, whether that means potholes, ailing infrastructure or poor tax design. We shouldn't only look to the sexy new stuff but to what we have and how we can make that better. And we should, as far as we can, think about the long run."

Miller wrapped up with this: "I commend the ambition of this event, to discuss both the specific policies needed but also the framework in which decisions are made."

As soon as it's not just plain, vanilla growth, I think we get ourselves into difficulties.

GROWTH DELIVERY

›A strong workforce and supply chain is essential to deliver growth ambitions. How can this be assured in a globally competitive market? How can UK infrastructure sectors work together rather than compete for talent and suppliers?

›There would be limited regret in delivering infrastructure a little ahead of when it is actually needed, rather than waiting until it is urgently needed. We must shift our thinking and get ahead of the curve. National Highways' Rob Scarrott reflected: "If you build a reservoir five years before you need it, what is the level of customer harm compared to not having it at all and having a drought? What's the level of regret?"

GROWTH PSYCHOLOGY

›What is it about human nature that makes collaborating out of our swim lanes so hard? Do we destroy opportunity in decomposing problems to make them manageable?

›To what degree do problems arise because of *how* those in positions of power carry out their work, rather than because the institutional framework is wrong?

GROWTH GAPS

›Water/energy/connectivity providers have very limited visibility of non-household growth plans, and no one has statutory responsibility for this. This must be addressed. Ofwat's David Black said it was "a really poor outcome" that some businesses are blocked from expansion due to water or wastewater constraints, and at odds with the national priority.

›We mustn't overlook existing asset replacement needs and asset health in our pursuit of shiny new things.

GROWTH TOOLS

Among the tools we need to harness growth more enthusiastically are:

›AI, data analysis and digital technology – why are we relying by default on econometric modelling in regulatory determinations when new options are available to explore?

›Demand management – this is under-considered as a tool for creating headroom for growth.

USER-CENTRIC GROWTH

›Can we look at issues through the lens of the customer/user? That would help join the dots between different sectors and contexts.

›How can we put more obligation on consumers to use scarce resources well? We no longer have a bottomless pit of resources for anyone to enjoy wherever and whenever they want. Mechanisms might include banning potable water use for cooling; incentivising resource trading; using tariffs to drive more innovative behaviours; and setting standards of efficiency for key industries like data centres.

GROWING TRUST

›How can sectors that have lost trust regain it? Speakers suggested ideas including delivering on commitments, being transparent, stopping mud-slinging and bringing citizens into the tent. Mete Coban championed "Creating a framework for co-production, co-design," so communities are part of the action rather than 'done-to'. He said citizens are becoming more empowered. Londoners no longer just don't trust, they "actively demand change".

›Sectors must be clearer and more proactive in their communications. Commenting on trust in water, Cadent's Tony Ballance said: "We've got behind the debate…. Did companies do what they were funded to do is the big question, but it's got conflated with… 'I have the right to open swim in a river'. If that's a right, it comes at a huge cost, and would that resource be better placed improving the general aquatic environment in the rivers or in some other public service?" Private ownership has brought further public scepticism and led to a focus on profiteering. "It's all got a bit conflated, but we've not got ahead of the story."

PANEL 1 DELIVERING THE GROWTH MISSION: DIAGNOSING THE PROBLEMS

Speakers in the first session offered views on the infrastructure issues holding growth back.

LEGACY UNDERINVESTMENT AND BLOATED REGULATION

Colin Skellett *Group CEO, YTL UK*

"It really is a postcode lottery," said Colin Skellett of trying to build a new town. After a career running YTL's water business, Wessex Water, he is now leading its group interests in the UK, which includes the Brabazon development – a 400 acre brownfield site north of Bristol which will host to up to 30,000 homes as well as commercial and social space, and a major new events arena.

Brabazon is fortunate in sitting in South Gloucestershire Council's area, which has been "excellent" to work with, Skellett said. But for developers, the quality of planning support as well as water and energy availability, is hit and miss. Try to build in Cambridge and parts of the south east, and water would be constrained; it is a "disgrace" that no new reservoir has been built in 30 years. Try to build in Somerset and wastewater capacity would stymie you; Natural England's nutrient neutrality regime was "put in overnight, and stopped building completely". Meanwhile, 27GW of projects are awaiting an energy supply at the same time as there is 37GW of surplus in other areas; much of the spare capacity is "in the wrong place". Skellett added that spend on maintaining existing infrastructure over the past 15 years has been sorely inadequate.

Drawing on his decades of water experience, he reflected that there was a "flood of investment" after the 1976 drought, and again after privatisation, before "attention drifted onto other things" and simple effective regulation gave way to regulation that has become "more and more over complicated, obscure, inconsistent, political – and credit ratings have been affected". In the past 15 years, he argued, "regulatory creep turned into regulatory galloping" and the focus has been on keeping bills down rather than investing for the future. The result? "A hopeless, complicated mess."

What can be done? Skellett offered the following advice:

- We need sustained, long-term, private sector investment. Regulation must be "simple, consistent and transparent" to attract the right sort of investor.
- Combined authorities should have a greater say given they will drive growth in their areas, and utilities must be brought into the centre of growth planning – at present, water companies are not even statutory planning consultees.

Simple effective regulation gave way to regulation that has become "more and more over complicated, obscure, inconsistent, political – and credit ratings have been affected.

- In water, catchments are fundamental; catchment-focused regulation is needed and should pursue nature-based solutions wherever possible.
- The Government has a clear role in "setting what the national requirements are; what the targets are; and setting the national strategy. As we've heard, there are trade offs, you can't have everything at once."

LACK OF CENTRAL PLANNING

Sowmya Parthasarathy *member of the New Towns Taskforce*

The New Towns Taskforce has been charged by government with identifying the locations of potential new towns, and advising how they should be delivered to high quality – a key part of Labour's pledge to build 1.5m homes by the end of the Parliament.

Sowmya Parthasarathy's view was that "we need to reintroduce strategic planning at national level" if this ambition is not to be blocked by infrastructure constraints; we need to be more visionary and less reactionary.

She reflected on the success of the Town and Country Planning Act 1947, landmark legislation that established a system of land use planning and empowered local authorities to create comprehensive development plans, ultimately resulting in the blossoming of post war new towns. More recently, we have adopted a locally-led approach. "Clearly this is not working very well," Parthasarathy said. Without a broader framework, there is uncertainty and has been cost escalation.

She was optimistic that the pendulum is now swinging back to a more strategic approach. The New Towns Taskforce is looking at where the right places to grow are; the Planning and Infrastructure Bill will require spatial development strategies; the Ten Year Infrastructure Strategy recognises that "confidence and clarity" are needed to encourage investment; and the Industrial Strategy offers clear growth priorities and recognises the importance of place in the endeavour - from city regions to industrial clusters.

Parthasarathy added that there are also lessons from key places like Cambridge which are growing while the wider strategy is worked out. The Cambridge Growth Company and Cambridge Water Scarcity Group have already managed to unlock thousands of homes and a new cancer hospital through an innovative programme including water credits and water efficiency. She reasoned that "you need to work at both ends of the spectrum" – the strategic and the tactical –in the face of acute challenges.

We need to reintroduce strategic planning at national level.

In summary, a "patchwork quilt" project-by-project approach will yield "sub-optimal outcomes".

HIGH ENERGY PRICES AND COMPETITIVE DISADVANTAGE

Sonia Brown *Group Head of Strategy, Innovation and Market Analytics, National Grid*

Sonia Brown pointed out that the UK faces some of the highest energy costs "which could place us at a competitive disadvantage"– even despite the predicted fall in costs as we get to Clean Power 2030.

She explained that significant factors include the ongoing influence of global gas prices, and choices we have made on the recovery of policy costs, such as putting net zero costs on energy bills rather than general taxation. But in a market where countries are competing for growth including from global companies, there is a need to make demand side connections as customer-centric as possible. That includes ensuring connections are timely. "If we put the customer at the heart of this, I'm sure we will end up in a better place," Brown argued.

She offered a data centre illustration of how this might work. If the transmission network does not have the capacity to accommodate all a data centre's power needs, it should be able to collaborate on alternatives, such as exploring with the distribution network operator whether it can accommodate the demand, or providing a supply most of the time with an onsite battery to manage times where this is not possible. At present, these are not options.

Brown welcomed generation connections reforms, but noted it will take time to meet what customers need. There might, she cautioned, be a need for uncomfortable but very real choices, such as: "Do you want housing development or a data centre?"

Brown ended on a positive note though: there is much to do, she said, but innovation is happening and if stakeholders work together, the UK can be made a desirable location for growth.

If we put the customer at the heart of this, I'm sure we will end up in a better place.

STUCK IN OUR SWIM LANES

Gareth Mills *Managing Director, N-Gen*

The green genie is out of the bottle and it can't be put back in.

N-Gen funds, develops, owns and operates hydrogen production facilities for industrial, commercial and transport customers. As per Sonia Brown's counsel, Mills said N-Gen looks through the customer lens and seeks to support businesses to both grow and be green. Most organisations, he said, take net zero seriously and see it as an opportunity to preserve current business and enable growth; it is not usually a choice between growth or net zero, but about how to grow sustainably and efficiently. "The green genie is out of the bottle and it can't be put back in." Green hydrogen offers a route forward but the infrastructure required to deliver it is very substantial, spanning gas, water, land, skills, and investment. There have been successful trials but a core challenge is that some of the necessary infrastructure may be 15 years off delivery, when customers need hydrogen now. "There has to be change," Mills urged.

"Often the problem is looked at in far too narrow a way," he continued, urging "a broad view of policy, as a whole system, instead of staying in the swim lanes we currently do" across sectors, government departments and regulators. Crucially, this requires a change in mindset on policy and regulation. At present, DESNZ and DfT are looking at the same issues through different lenses, and sometimes "coming up with different solutions" .

A WAY FORWARD

Mark Shurmer *Managing Director of Regulatory Affairs, Openreach*

Rounding off the first panel and bridging with the second, Mark Shurmer shared a success story from telecoms. "Broadly, our sector has got it about right," he said. It has bucked the trend of underinvestment by unlocking a once-in-a-generation upgrade of the full-fibre network, which is running at the fastest rollout rate in Europe. By the end next year, 23m homes will have been passed and 5m connected, adding £66bn a year of gross value by 2029, rising to £73bn by 2034 – all the while creating jobs, revitalising rural economies and enabling flexible working. Connectivity speeds have increased and prices for consumers fallen. "This digital revolution is a growth engine for our economy," Shurmer enthused.

So how has telecoms done it? "The key has been a stable public policy and regulatory environment," which has both provided certainly for investors and a level playing field for competition. The policy framework set out in 2015/16 has been picked up in subsequent regulatory policy with the two working "hand in hand". This has included: allowing wholesale prices to grow modestly; creating a fair landscape for communication providers to compete (20% of the country now has three competing networks, 50% has two); and allowing full expensing and barrier busting for land access and civil engineering permissions.

Shurmer shared that telecoms has "been lucky" to some degree, and that the model is not necessarily directly exportable to other sectors. But he said it is valuable to consider how much competition can deliver in terms of good outcomes for consumers and businesses.

The key has been a stable public policy and regulatory environment.

PANEL 2 IDEAS FOR ENABLING GROWTH: WHAT WILL MOVE US FORWARD?

Summit chair John Pienaar described this panel as "brainstorming" and "kicking down walls" between sectors.

FIX THE FUNDAMENTALS

Mark Thurston *CEO, Anglian Water*

Mark Thurston kicked off with four fundamental points:

›Water and other regulated utilities need to be investible. Millions of pounds will be needed to meet government growth objectives and customer demands. But investors, not least Anglian Water's five private equity investors, have "global choice".

›"The regulatory environment needs to lend itself to the scale of the investment we're seeing." AMP8 is supersized and strategic infrastructure requirements transcend five-year cycles. Thurston said the two reservoirs Anglian is planning to build are "ten, 15 year plays".

›"Planning continues to be something that dogs infrastructure." In the past three years, Anglian has made 62 planning applications, and 60% of them have been late in getting a response (between two and 23 months late). "We've got to find a way of getting these projects through the planning system in a way that meets expectations," he urged.

›We need to think how to work more collaboratively with the supply chain and other partners such as local planning authorities. Anglian has strong relationships with the tier 1 suppliers in its leading alliancing framework but "scar tissue" from AMP7 over wider stakeholder engagement over its strategic pipeline project. Thurston observed that the sector's capital work often takes place "behind a fence" but increasingly it will need community liaison.

We've got to find a way of getting these projects through the planning system in a way that meets expectations.

REVISIT SUCCESSFUL FINANCING MODELS

Thomas Aubrey *Founder and Chief Executive, Credit Capital Advisory*

Thomas Aubrey began by setting out the failure of the siloed public investment model. This includes:

›A "paralysis of development" – where combined authorities are fearful of approving housebuilding projects without certainty that central government will fund transport links and vice versa.

›Misaligned incentives between those funding and delivering projects.

We're in a fundamentally different paradigm to we have been in 50 years.

›Short term thinking – even the Government's plan to reduce capex in years three and four of the current term, as explained in the IFS keynote. "This really isn't a sensible way of thinking about building out the infrastructure we need for growth," Aubrey said.

›Investment planning from central government when we need detailed, localised, integrated projects driven from the regions, "not from Whitehall".

Aubrey then considered what success would look like. He praised those who had enabled self-funding, localised, integrated garden cities and post war new towns in the UK, by looking out 40 years and using the Public Works Loans Board to fill capital shortages which were repaid over time.

In Europe, development corporations have built on these ideas, and raised long-term finance direct from the capital markets independently of central government, providing greater certainty for investors. Borrowing is repaid over time from diverse revenue streams. These include Land Value Capture (LVC), where land is acquired at low cost (such as at its agricultural value), and then infrastructure put in and plots subsequently sold off to developers at higher rates; local taxes such as business rates; and transport receipts from parking fees. Such approaches can yield large public to private investment ratios uncommon in the UK since a 1974 court case effectively put pay to the use of the LVC route.

Moreover, where self-funding bodies do not rely on government bonds and do not impact the public finances, many European countries treat these as off balance sheet. In the UK, we put such propositions on balance sheet. Aubrey argued this is a major reason why there is higher infrastructure investment across Europe than here at home.

Despite all of this, Aubrey was optimistic about delivery of the next wave of UK infrastructure investment. He offered the following reasons:

›The 2023 Levelling Up and Regeneration Act enables the LVC model to be used again. "We're in a fundamentally different paradigm to we have been in 50 years."

›Enabled by this funding development, the New Towns Taskforce is planning urban extensions. This "will require regional leadership to step up and come up with bold plans" for new housing, business and communities, and for existing and new residents and companies to get involved. Projects should be self-funding and off balance sheet.

›Thinking in five or ten year horizons won't work; "we've got to be thinking over 40 year periods" for return on investment, as was the case with garden cities.

›There is "no capital shortage out in the world at all but definitely a shortage of good quality detailed projects". If we start to see these coming through "that will fundamentally transform our built environment".

PUT USERS AT THE HEART

Sukhvinder Kaur-Stubbs *Chair of Regeneration, London Legacy Development Corporation and Chair, Thames Water Customer Challenge Group*

Sukhvinder Kaur-Stubbs has experience and expertise across health, housing and utilities. "I look through the lens of tenants, patients, bill-payers," she said. "They don't live in silos."

She championed the importance of citizen and customer engagement, and of actually acting on what people say. For instance, in her Thames role, she said customer research showed customers were willing to pay more to tackle long-term risks as they do not want to pass their bills onto their children. But that was "largely ignored in final determination".

In her LLDC role, which is overseeing the redevelopment of the Queen Elizabeth Olympic Park, she shared that the team has "masterplanned value into the community" from the outset, including through mainstreaming sustainable drainage and pursuing low carbon development.

Kaur-Stubbs urged the Summit to consider increasing investment horizons, improving spatial stewardship, integrated water planning, sharing data and generally to "unlock productivity by looking at systems from the perspective of people who use them". Where there is buy in from local citizens, results tend to be more sustainable and more appropriate.

I look through the lens of tenants, patients, bill-payers. They don't live in silos.

LESSONS FROM GOOD PROGRAMME MANAGEMENT

In decomposing those problems, we've missed out on some of the subtlety and some of the opportunity to fix them.

Darren Bentham *Partner, Environment, Energy and Utilities, IBM Consulting*

Darren Bentham observed that the same issues surface in different sectors, in part because we typically lack a good understanding of what it is we're trying to achieve. "We've tried to decompose those problems so they are easy to deal within a regulatory period, within the boundaries of a licence we have to operate around … but in decomposing those problems, we've missed out on some of the subtlety and some of the opportunity to fix them."

Poorly understood problems mean execution is typically inefficient.

Bentham urged that we "find a way of defining bigger industry problems and fix them collectively". Good programme management principles would go some way towards fixing these problems, including:

›Defining common issues and levers to fix them, then enabling each company or region to choose which levers to pull.

›Business plans should clearly document what companies won't do as well as what they will; "that would force the uncomfortable conversations that we all know are happening in the background but we feel a little bit scared to surface."

›Try things and learn from them quickly to increase the pace of change.

›Harness technology to connect people, task and data.

CONVENE WITH PURPOSE AND CHALLENGE ESTABLISHED WISDOM

Mete Coban *Deputy Mayor of London for Environment and Energy*

London's mission for climate justice is very much "an issue of social justice, racial justice, but also economic justice for Londoners," Coban said. He explained his motivation to do his current role as seeing his childhood community in Hackney "done to" and because "communities that have done least to cause the climate crisis are the most impacted by it".

The Mayor of London has put cleaning up waterways "at the heart of this mayoral term," Coban reported; 41 of the capital's rivers are in bad ecological condition and "not even one is rated good". Hitherto we have "always accepted it," just as breathing dirty air was "normalised" – in part because of the complexity of the challenge. But: "We will not kick the can down the road or be a political administration that is afraid to go after some of the biggest issues because it's too complex."

Instead, the Mayor's new Clean and Healthy Waterways Plan has been launched, convening 50 partners under a ten-year clean-up mission.

"It's about, how do we coordinate resources? That is the role we can play at the Mayor of London's office. At the moment, the reality is, funding is short-term, regulation is siloed, and planning is not where communities are. That's why we've got a huge role to play to make sure all of those parts come together to deliver fairer and greener London."

Coban reported that London is on track to meet legal air pollution limits, "over 180 years quicker than experts said. Why? Because we took the political decision to say, 'just because it's always been like this, just because it's difficult and requires so many different partners to come together...we're not just going to say 'no, it's too complicated'. We're going to take this head on."

We're not just going to say 'no, it's too complicated'. We're going to take this head on.

PANEL 3 PLACE-BASED GROWTH: THE FAST-GROWING EAST OF ENGLAND

This panel honed in on the East of England as a case study about how whole system approaches are being deployed to support regional economic ambitions and deliver infrastructure that is responsive, resilient, and aligned with local needs.

INTEGRATED PLANNING, A CONTROLLING MIND AND SUPPORTIVE REGULATION

Suleman Alli *Director of Customer Service, Strategy, Regulation and Technology, UK Power Networks*

Suleman Alli introduced us to the the East of England, which he said "really is at the heart of the growth story". It already hosts nearly half the country's food production, its largest freeport, half a GW of data capacity, and multiple power stations. Under government growth plans, it will house many more homes (and potentially some new towns), the Ox-Camb Arc, and specialist life sciences development.

He then turned to what a provider of critical infrastructure needs to deliver extra capacity on time:

›A good place-based integrated plan – Alli praised Central Bedfordshire Council's Biggleswade masterplan, which secured £70m of central government funding to unlock grid capacity and infrastructure to support 3,000 homes. "Someone has grasped the nettle," he said and considered housing, energy, water and transport together. He is also encouraged by the prospect of new Regional Energy System Plans (RESPs) which will, he hopes, act like the Biggleswade plan for energy in making an independent assessment of what network capacity is needed to support regional ambitions. RESPs will help network operators justify investment needs to Ofgem. Alli appreciated that RESPs will likely be of varying quality at first, but he was not perturbed: "Sometimes you need a few flashes of brilliance and then the flashes get socialised," he said, adding, "I don't think it will be solved by everyone getting to the finish line together."

›A controlling mind with local legitimacy – The IFS keynote made it clear that trade offs will need to be made. Alli argued it is not the job of an energy company to trade off supplying new housing with supplying other types of infrastructure. "We don't have the legitimacy to do that, but someone needs to have that," he pointed out. He offered some examples of the benefit of someone playing that convening role. The Canary Wharf estate in London plays a "stewardship role" for the land it owns, coordinating infrastructure needs. Meanwhile the Greater Cambridge Partnership – which brings four local authorities together with the university – established with UKPN that there would be a 10% increase in peak demand which was key to Ofgem approving £25-30m of related investment. "It made our job easier, including on where we're going to place these assets and the route."

›Supportive regulation – When electricity networks cannot immediately provide new connections because of a shortage of capacity, they get a bad rap. But Alli challenged that it would be "a platinum-edged network" that could connect a data centre (which typically uses five Shards-worth of power) on request. Regulation needs to support networks in grappling with growth challenges – for instance by incentivising innovation under an outcomes-based framework and by being clear on whether energy customers at large or those requesting the new capacity should pay for it.

It would be "a platinum-edged network" that could connect a data centre on request.

THE NON-HOUSEHOLD BLIND SPOT

Daniel Johns *Managing Director, Water Resources East*

Daniel Johns offered his organisation as exactly the sort of controlling mind Alli had called for. "We are to an extent already, and we aspire to be, a regional scale system planner for water resources, water quality, flood risk management and the wider water environment," he shared.

Supply pressures are biting now in parts of the region. Plans for housing and even a new cancer hospital were held up by "acute" water resource challenges in Cambridge; there is a formal moratorium on new non-domestic connections in part of Suffolk; and across the region "you will struggle to find water for non domestic needs".

How did we end up here, given water companies have been planning water resource requirements for decades? Johns said the fact that there is "no statutory responsibility for anybody to plan strategically for non household growth" was a major problem. Until a planning application formally goes in, "we don't know if we're planning for an Amazon warehouse which uses very little water or a data centre which uses absolutely massive amounts". We urgently need to plug that lack of statutory responsibility, Johns argued. The formation of Strategic Authorities offered hope, he added, given they will be told to develop local growth plans, and spatial development strategies.

Johns added that there is some responsibility on the shoulders of regulation. Ofwat has historically taken "a pessimistic view" of NHH growth potential and instead encouraged water companies to sweat their assets. "That has only left water companies ever behind the curve… Regulators absolutely need to be thinking progressively about growth projections," he said.

We don't know if we're planning for an Amazon warehouse which uses very little water or a data centre which uses absolutely massive amounts.

BUILD SMART

Cat Moncrieff *Head of Policy and Engagement, CIWEM*

Cat Moncrieff told the Summit about the Enabling Water Smart Communities (EWSC) project.

"Water scarcity is a drag on housing growth," she set out. The EWSC project calculated that there could be a £10bn impact on the economy of the south and east if earmarked housing fails to be build or is delayed.

Reservoirs and other supply side schemes will help address the problem, but are at least ten years off delivery. Hence there is a clear need to manage demand via mainstreaming water smart housing. "It's about really cherishing the rainfall where it lands, about green blue infrastructure, using water wisely and stewarding water," she explained. If new homes could achieve 80 litres per capita per day, this would free up water resource capacity to unlock homes and commercial use such as in data centres, agriculture or power generation.

A poll of 4000 people found 85% were up for using recycled grey water and rainwater for certain uses in their homes. "People are up for reuse if it's not toilet to tap," Moncrieff detailed.

Finally, Moncrieff challenged regulators to do more to enable smart water communities. At present:

›Regulation precludes water companies from supplying non-potable water to homes.

›There is a need to update building regulations to demand tighter water efficiency standards and, in her view, to mandate "rainwater harvesting at least for flushing loos in homes".

›Sustainable drainage systems are not mandatory in England, 15 years on from the passage of the Floods and Water Management Act.

Such policies are "absolutely vital," Moncrieff concluded, and water smart communities "within our grasp". "We just need government to get on with these policy fixes."

85% were up for using recycled grey water and rainwater for certain uses in their homes.

MAXIMISE BENEFITS AND DON'T NEGLECT REPLACEMENT

Don't forget what's already there and think about how to plan all that infrastructure replacement in.

Rob Scarrott *Director of Regulation and Monitoring, National Highways*

Rob Scarrott argued that developments should take care to maximise the benefits they provide beyond their core purpose. The example he gave was National Highways' development of the Lower Thames Crossing, which is being progressed to alleviate pressure on the Dartford crossing. But care is being taken to boost the local economy in the process by "hard coding in buying things from local suppliers". Similarly National Highway is mindful of the greater social opportunities better connectivity will bring to the east and of the need for a low carbon build. It is looking at hydrogen to support that ambition.

Second, Scarrott reminded delegates that growth tends to be associated with building new things, but in fact that 99% of infrastructure that supports the economy already exists. This must not be neglected. In the East, there is "limited resilience" in terms of alternative road routes including from the ports, and some post-war roads need to be replaced. So "don't forget what's already there and think about how to plan all that infrastructure replacement in," he advised.

He added that acting ahead of need is sometimes advisable, to head off development constraints.

SYSTEMS THINKING FOR INDUSTRY

Catherine Darby-Roberts *Associate Director, Arup*

Catherine Darby-Roberts' role is to support public and private sector growth in the Humber industrial cluster, spanning energy, water, transport, planning and more.

First she shared good practice lessons from Goole, in the East Riding of Yorkshire, where the local council invested and promoted an 'open for business' culture, attracting Siemens in as an "anchor client" in 2017. This brought £240m of direct investment, attracted others to the area and boosted trade through the local freeport, resulting in the area becoming one of the most productive places in the UK, and restoring local pride in place.

The aim now is to apply a similar approach to the whole Humber region, which could potentially generate £650m of investment through the freeport and £15bn of private sector investment to support the energy transition. The region has recognised the value of a systems approach, creating the Humber Industrial Cluster Plan in 2021. "The Humber is to energy what London is to finance," she emphasised.

However, water security is becoming recognised as a risk. Arup has worked with local authorities, the freeport and others to understand water availability, and found a significant shortfall relative to projected need. Darby-Roberts reported that an ask of central government is to convene a formal Humber Water Security Working Group, mirroring action in Cambridge which has unlocked growth. She said she was confident a way forward could be found, and the whole industrial community recently supported an application for the Humber to host an AI Growth Zone.

The community's success has attracted interest from industrial clusters from around the world - eager to learn more about the Humber's systems-led approach. Looking forward, Darby-Roberts championed regional, cross-sector vehicles for growth, supported by consistent central government policy.

The Humber is to energy what London is to finance.

PANEL 4

REFORMING THE SYSTEM: POLICY AND REGULATION

Our final panel considered whether governance systems can support the scale and speed of change required, and if not, what needs to alter.

A NATIONAL PLAN FOR WATER SECURITY

Keith Haslett *Chief Executive, Affinity Water*

Keith Haslett hammered home the need for a national water security plan. "At this point in time, there is no national plan for water security…there is no single agency responsible for ensuring resilient water resources," he spelled out.

And yet the supply deficit "is real" – at scale in the near future (1.3bn litres a day within ten years; 5bn litres a day by 2050); and right now in Affinity's area, where chalk abstraction reductions urgently need to be made against a backdrop of growth. This includes expanded house-building targets, emerging demand from data centres (500 in the south of England, typically using 26 megalitres a year each), airport expansions and a new theme park in Bedford, alongside population growth, climate pressures and post-Covid societal behaviours.

Haslett shared that Affinity is doing what it can to support a good balance. It has "very encouraging" results from its rising tariff trial, is exploring water neutral development and innovating on demand reduction campaigns. But: "We do need to get a more overarching strategy," he urged; a greater sense of government priorities, clear regulatory monitoring and a long-term objective for cohesive governance to get the water security piece right.

Alongside that, desirable specific policy needs include: planning incentives and support for water neutral developments and sustainable drainage; more visibility of what industrial demand is coming down the line; a statutory footing for regional water resource groups; and better alignment between different water planning frameworks.

Haslett noted "it's easy to be distracted with wastewater" but argued water security needs to be high on the agenda – not least because water shortages could cost the UK economy £40bn.

At this point in time, there is no national plan for water security… there is no single agency responsible for ensuring resilient water resources.

STEP CHANGE FOR THE FUTURE

Richard Thompson *Deputy Director of Water Resources, Environment Agency*

The challenges are pretty significant looking ahead.

Richard Thompson drew a clear distinction between the past and the future. Over the past 20 years, he said, the water needs of an extra 8m people have been managed without putting much more into supply – through leakage reduction, metering and declining/stable non-household demand. The water resources planning process has been rigorous in improving our understanding and optimisation of networks and supply systems. No drought has recently impacted to the extent of the Yorkshire drought in the 1990s.

"But the challenges are pretty significant looking ahead," he said. The low hanging fruit has been taken and now we need to save 30-40 litres per person per day to meet government targets; to halve current leakage; to cater for new "thirsty" industries like data and hydrogen; "and the environment in the face of climate change is going to need more water to thrive."

Speaking ahead of the Environment's Agency's launch of the second National Framework for Water Resources on 17 June, and regardless of any institutional changes that might follow from the Cunliffe Commission recommendations, Thompson pointed to a number of essential areas for attention:

›Managing demand – he said this is going to the most important thing to do over the next five to ten years. Work is underway on water labelling, the smart meter rollout, the development of water credits in Cambridge, and real-time "dynamic catchment management".

›Multi-sector water resource planning - understanding the water needs of business and industry is a big challenge, and in some cases hampered by commercial confidentiality. "We often don't know until someone rocks up and says 'can we have some water'," he shared, adding: "This is a problem for all water users."

›Governance - "Who decides on priority access for water? Does that become more tense in the future?" Thompson pondered.

›Funding – funding for water resource management comes from customers or abstraction charges, but where does the funding come from for sectors that are too small to raise the capital to understand water needs?

Thompson concluded: "We are at the point where we need a step change for the future. "

BEHAVIOURS NOT INSTITUTIONS

Dr Tony Ballance *Chief Strategy and Regulation Officer, Cadent*

Tony Ballance offered personal reflections on his experience of the policy and regulatory framework, rather than a corporate position.

First, he challenged commonly citied policy reform solutions. Changing the institutional framework is "not necessarily the panacea," he argued, adding that he was "very sceptical" that merging Ofwat and the Environment Agency would sort water out. Similarly, "government giving regulators more statutory duties just obfuscates what they are supposed to be doing". There is already a long list and piling more on (including the new Growth Duty) could even "de-democratise the UK by giving to regulators more and more…[as] the government withdraws itself from the process".

For Ballance, "reform is not just about what or who regulates, but how we regulate in practice". He offered two buckets of thought:

›The regulatory system has become politicised, notably in pursuit of keeping bills down. This can manifest in a parent/child dynamic, with "funding decisions synonymous with permission to act". He questioned whether regulator central Canary Wharf is "the best place to take decisions about what happens in the mill towns and ex mining towns in the midlands and the north?"

›Regulation has also become increasingly bureaucratised. This has not been done with bad intent; rather thoughtful and curious regulators have sought ever more information and precision and have built more and more stuff in to existing methodologies. But we "end up in a world where we think we're going to set the right answer, ex-ante" and where "models become the answer" rather than a reference point for decisions. What's more, regulators often fail to understand how their incentives work in practice in regulated companies. "The incentive to outperform the regulatory settlement is the biggest incentive in play, bar none," Ballance said. "I'm not sure we've grasped how pervasive and how strong that incentive is". He added: "I think we end up with this bureaucracy where the best becomes the enemy of the good; we end up potentially with a high resource, low decision making capacity in both the regulator and the companies."

Taken together, these result in:

›Companies becoming complicit in regulatory thinking, leading to co-dependency and an interest "in promoting and protecting the regime rather than saying…this is not really working".

›Risk averse regulation.

›Five year cycles obscuring future thinking, evident in grid connections queues and the absence of new reservoirs. Now "we're seeing this hockey stick curve of investment needed". We could have planned this out and taken advantage of low interest rates of the past 15 years.

›Most importantly, "we're guilty of taking our eye off the ball… around asset health". Whereas the HSE has dictated mains replacement in a 30 year programme in gas "because gas doesn't fail safe," water has not had that driver.

Ballance recommended some solutions:

The incentive to outperform the regulatory settlement is the biggest incentive in play, bar none.

›Clarify and simplify the duties of Ofwat.

›Reduce the size of regulators.

›Deploy AI for decision-making - "why are we still using econometric models?"

›Create a framework for self-regulation - put more onus on companies running assets.

›Provide political cover for regulation, to reduce politicisation.

›Boost the role of independent scrutiny groups.

›Deploy better enforcement and an enhanced role for reporters, as there used to be.

(For details on Tony Ballance's views, see p14)

ALREADY RESPONDING

David Black *Chief Executive, UK Regulators Network and Ofwat*

The mandatory environmental investment programme at PR19 was £5bn; at PR24, £24bn. It seems unlikely that both numbers were right.

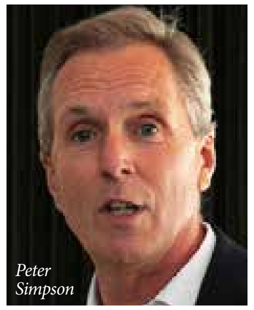
David Black opened by asserting: "We think regulators can encourage growth, can enable growth, by encouraging innovation, productivity growth and investment." He referred to PR24 funding of £104bn plus £50bn for longer term strategic schemes. Black added that Ofwat is "keenly aware that failure to deliver on some previously funded…investments, is constraining growth right now in certain parts of the country". It has now put new mechanisms in place to prevent this. He listed other growth-supporting work underway from Ofwat, including the work of RAPID, a doubled Innovation Fund, and a new Water Efficiency Fund.

Black acknowledged the National Audit Office's recent criticisms of water regulation, and addressed the prospect of changes that the Cunliffe Commission will bring. There would be benefit, he said, from streamlining and clarifying the regulatory landscape and in making changes to economic regulation itself, adding he was pleased to get government backing for Ofwat's proposed reforms to major project regulation.

He pushed back on the "common myth" that Ofwat has blocked investment to keep bills down, pointing out that the quality regulators set statutory expenditure. He chided: "The mandatory environmental investment programme at PR19 was £5bn; at PR24, £24bn. The key question we need to answer is how we've changed from £5bn to £24bn programme. It seems unlikely that both numbers were right."

From his UKRN position, Black explained how regulators work together across sectors on common issues. Recent examples include collaboration on the cost of capital, the cost of living and economic growth, which was in fact the subject of this year's UKRN annual conference. The dialogue extends outside the tent too, he said, including with central government and investors.

CLOSING KEYNOTE



Peter Simpson

GROWTH: A GLOBAL CHALLENGE

Peter Simpson, *President of the 2026 IWA World Water Congress*

Peter Simpson's closing keynote connected the UK's infrastructure and growth challenges to the global water agenda. With extensive experience in the UK water sector, and now in his role as President of the 2026 International Water Association World Water Congress in Glasgow, Simpson was able to reflect on how local action and national ambition align with the international push for resilience, sustainability, and system-wide reform.

He started with trust, and – noting the day's discussion had been about what we can do better here at home – took a moment to highlight the things the UK does well – from top notch drinking water quality to innovative nature-based solutions. He reflected that the global water community perceives the UK as a strong performer, and is often "confused about why we have managed to lose so much trust". Glasgow will provide an opportunity to put the negative into context and showcase the good. Clearly we are far from in a perfect situation, but we undervalue the positive "at our peril," he cautioned.

Simpson went on to locate the growth challenges the UK is grappling with in the global context. Supplying thirsty data centres, for instance, is an international issue. Brazil's Sao Paulo is set to be a data centre boom spot, but is already the most populous city on the continent. He suggested operators, like Amazon, could play a bigger role; some are already cognisant they could become vilified for their level of water demand. Meanwhile, textile factories in Bangladesh that supply the world's clothes consume 'free' water but with environmental consequences. "We all benefit from that and it doesn't sit right," he commented.

More widely, Simpson indicated it is clear that systems approaches will be critical to our ability to respond to increasingly extreme weather impacts on water. He cited a WaterAid report from earlier this year, which found the world's 100 most populated cities are becoming increasingly exposed to floods and droughts. 17% of the cities studied were experiencing 'climate whiplash' – intensifying droughts and floods – while another 20% have seen a major flip from one extreme to the other. Many other studies highlight similar vulnerabilities and exposures. "There are ways to shift the agenda, as the mayor said," Simpson reflected referring to Mete Coban's earlier contribution at the Summit. But we need joined up thinking on supply and demand.

> *We are far from in a perfect situation, but we undervalue the positive "at our peril".*

GLASGOW CONGRESS

Simpson then set out plans for the Glasgow Congress, highlighting the opportunity to work with the international water community on shared challenges.

The overarching theme is: Action for water – the true path to resilience and prosperity. This highlights the universal and critical role that water – quantity and quality – plays for our collective wellbeing – economic, social and environmental. There will be an express focus on the fact that progress towards SDG6 falls alarmingly short and nothing will prosper if we don't tackle challenges in an integrated, holistic, global way.

Three strategic themes sit underneath the headline topic:

- Partnering with nature and adapting to extremes – this is needed to address the risks of drought and flooding, ensure sustainable supplies and advance SDG6.
- Water cycle: ensuring long-term resilience – this theme encourages participants to consider the whole water cycle, dealing with causes not just consequences, adopting circular economy principles and moving towards net zero. This needs to be supported by greater collaboration and more integrated solutions, clear water governance and uniting efforts across catchments, basins and nations. The theme will give a platform for approaches aligned to Summit topics, including systems thinking.
- Water and health: emerging challenges – this theme covers the need for safe drinking water to support healthy societies, as well as the benefits of good quality water in our natural and built environments to enhance wellbeing through recreation.

Content at the Congress will include:

- An overarching summit – featuring ministerial participation from multiple nations, with the intention of securing tangible collaboration around meeting SDG6.
- A themed exhibition – Stand and pavilion hosts will be expected to contribute something to the theme of 'passion for the water profession'– to showcase that the sector is full of passionate people and to inspire action to address skills and diversity gaps.
- A number of specialist forums.
- An academic programme, featuring research papers, posters and workshops.

Simpson invited summit participants to get involved to continue working on this agenda together.

The NextGrid Alliance

Gerard Kelly is vice president of innovation and venture acceleration at National Grid Partners, the venture investment and innovation arm of National Grid. www.ngpartners.com.

Gerard Kelly showcases how global collaboration is speeding innovation and the energy transition – and invites engagement.

Utility companies around the world face strikingly similar challenges when it comes to innovation. Being traditionally and inherently risk-averse, we tend to prefer established vendors and proven solutions. There's an adage in our industry: "Utilities like to be the first to be second." In other words, they want somebody else to test new solutions before they commit.

The problem is, this cautious approach no longer works in a time of ever-expanding energy demand. With the rise of electric vehicles, government mandates to phase out fossil fuels and the vast power needs of artificial intelligence, the International Energy Agency (IEA) estimates global electricity demand over the next three years will increase by 3,500TWh – more than the entire annual consumption of Japan.

At the same time, global energy grids are ageing and often struggle to reliably serve existing demand. Bridging this gap between rising need and outdated infrastructure will cost trillions of dollars per year, the IEA estimates. But utilities can't simply pass those costs on to customers: affordability is a bedrock expectation of regulators.

Some utilities have started looking for solutions to these challenges from an unlikely source: startups, which aren't bound by existing approaches and can iterate new technologies quickly and cost-effectively. Yet here, too, cultural caution can sap innovation. When utilities do engage with emerging companies, they generally want to run pilots – which can take up to two years to green light. Worse, less than a third of industry pilots are ever implemented, which can lead to startup death with innovation as collateral damage.

So, how do we overcome these barriers, drive impactful collaborations, and encourage the innovation the world demands?

A PEER UTILITY NETWORK

Enter the NextGrid Alliance (NGA), a peer utility network launched by National Grid and overseen by its venture capital and innovation arm, National Grid Partners. We began by recognising that while power utilities all face fairly similar business challenges, we are – for the most part – non-competitive with one another, as utilities tend to be heavily regulated monopolies.

In its purest form, the NGA is a forum for peers to ask questions, exchange ideas, introduce solutions and share experiences to accelerate the energy transition through technology. We are collectively stronger when we collaborate.

Since launching in 2020, the NGA has focused on building a big tent: bringing together strategy, business development and operational executives from utilities across the globe to ensure investments in innovation make an industry-wide impact.

The Alliance now includes senior leaders from more than 135 utilities in 25 countries on five continents. We've facilitated more than 350 introductions between utilities and startup entrepreneurs, while convening dozens of regular webinars and workshops to share best practices on everything from boosting innovation to keeping power grids safe from hackers.

NGA 2.0

Now, in our fifth year, we're moving from breadth of reach to depth of engagement. Call it NGA 2.0. The goal is to power up this unique innovation platform for utilities, by utilities, by tapping into the collective intelligence of the industry. It's not just about introducing startups anymore – it's about developing partnerships, moving the industry forward through the exchange of meaningful information, and innovating together at greater scale.

We've refocused the quarterly NGA Working Groups to bring utilities and startups together around key strategic themes:

- Modernising the existing grid to further integrate renewable energy sources, improve resilience and enhance reliability via more sophisticated and efficient infrastructure.
- Building out new electric networks to meet future demand driven by AI data centres and the electrification of transport, heat and industrial loads.
- More closely coordinating electric and gas infrastructure while exploring how to decarbonise the energy network reliably and efficiently.

NGA Showcases (curated meetings, forums, and case study webinars) drive engagement between our members and innovative startups. NGA Engage (in-person networking at industry events) is designed to strengthen these relationships in an informal setting. And the NGA Summit – an invitation-only gathering of senior utility leaders, startup CEOs and investors, policy makers and other critical members of the energy innovation ecosystem – will continue to showcase impactful technologies and thought leadership to drive innovation.

The most recent event in October 2024 gathered more than 250 participants, including Mari McClure, president and CEO of Green Mountain Power; Yvonne Hao, Massachusetts secretary of economic development; and the founders of pioneering energy companies SunPower, Silver Spring Networks and Octopus Energy, among many others. Plans are already underway for our third Summit this fall. To learn more, visit www.ngalliance.energy.

It's all part of an ecosystem to help Alliance members build impactful relationships with peers and innovation experts in new ways. By sharing experiences, members can disarm the perceived risks of innovation and accelerate our industry's journey into the inevitable future.

If you represent an energy utility and are interested in collaborating with the NextGrid Alliance, we'd love to hear from you. Reach out to explore how you can get involved, share insights, and partner on groundbreaking innovation efforts across the energy sector.

> *The Alliance now includes senior leaders from more than 135 utilities in 25 countries on five continents.*

The state of regulation

Tony Ballance is chief strategy and regulation officer at Cadent Gas. He spoke in Panel 4 at the Summit, on Reforming the system.

Tony Ballance sets out some of the issues with regulation and offers suggestions for reform.

The UK's infrastructure regulators perform a very difficult and central role in ensuring the country's communications, energy, transport and water systems are resilient, affordable and ready for a net zero future. They do so whilst also contributing to delivering growth (a relatively new duty). Debates on how best to achieve this typically centre on regulatory powers and the shape of the institutional framework.

There is often a temptation to think that creating new institutions like 'System Operators' is a panacea, which will solve a particular sector's most difficult issues. But such new structures require careful thought as to what parts of the system need greater co-ordination and planning, and which are functioning well and need minimum interference. We need to avoid a situation where we overly complicate the institutional framework – and in the energy sector there are a significant number of institutions (many newly created), which requires a careful framing of responsibilities in order to avoid confusion and duplication.

It is sometimes argued that one way to help regulators focus and prioritise what they do is by changing their statutory duties. It is clear, however, that the growth in such new duties has not helped regulators (who already perform a very difficult role) by obfuscating what consumers, politicians, and regulated companies expect from them. Instead it gives regulators an ever-bigger role – one quite different from the original construct of independent economic regulators with a clear mandate and focus.

With regards to the introduction of the new growth duty, it could be argued that growth is best served by having efficiently run and financed utilities, delivering for customers – as was largely the basis of regulators' original duties. Growth and protecting customers are not in opposition, but two halves of the same coin.

REGULATORY BEHAVIOURS

What is often given very little attention when considering reform (and does not feature heavily in the Cunliffe Review or academic literature) is the way regulatory behaviours, decisions and incentives influence the achievement of long-term outcomes. This should be considered more centrally. Effective regulation is not simply about who regulates or sets policy in terms of the institutions, or what objectives are set for regulators via the duties – but is instead about how regulation is actually conducted in practice.

There are two overarching characteristics of UK regulation that have arisen from the way in which regulators behave which require real attention in the consideration of policy and regulatory reform, if we want the effective delivery of good public policy outcomes.

THE 'POLITICISATION' OF REGULATION

From the outset, regulators have often sought to take control of the agenda and perhaps extend their reach beyond their core duties: ensuring companies can finance their functions; carry out their functions; and for sectors like energy, promote competition. The accretion of more new duties has perpetuated a direction of travel of taking greater control too.

A lack of trust of companies is often at the core of seeking control and outperformance (or blatant 'gaming') by companies in the past became 'politically' difficult for regulators.

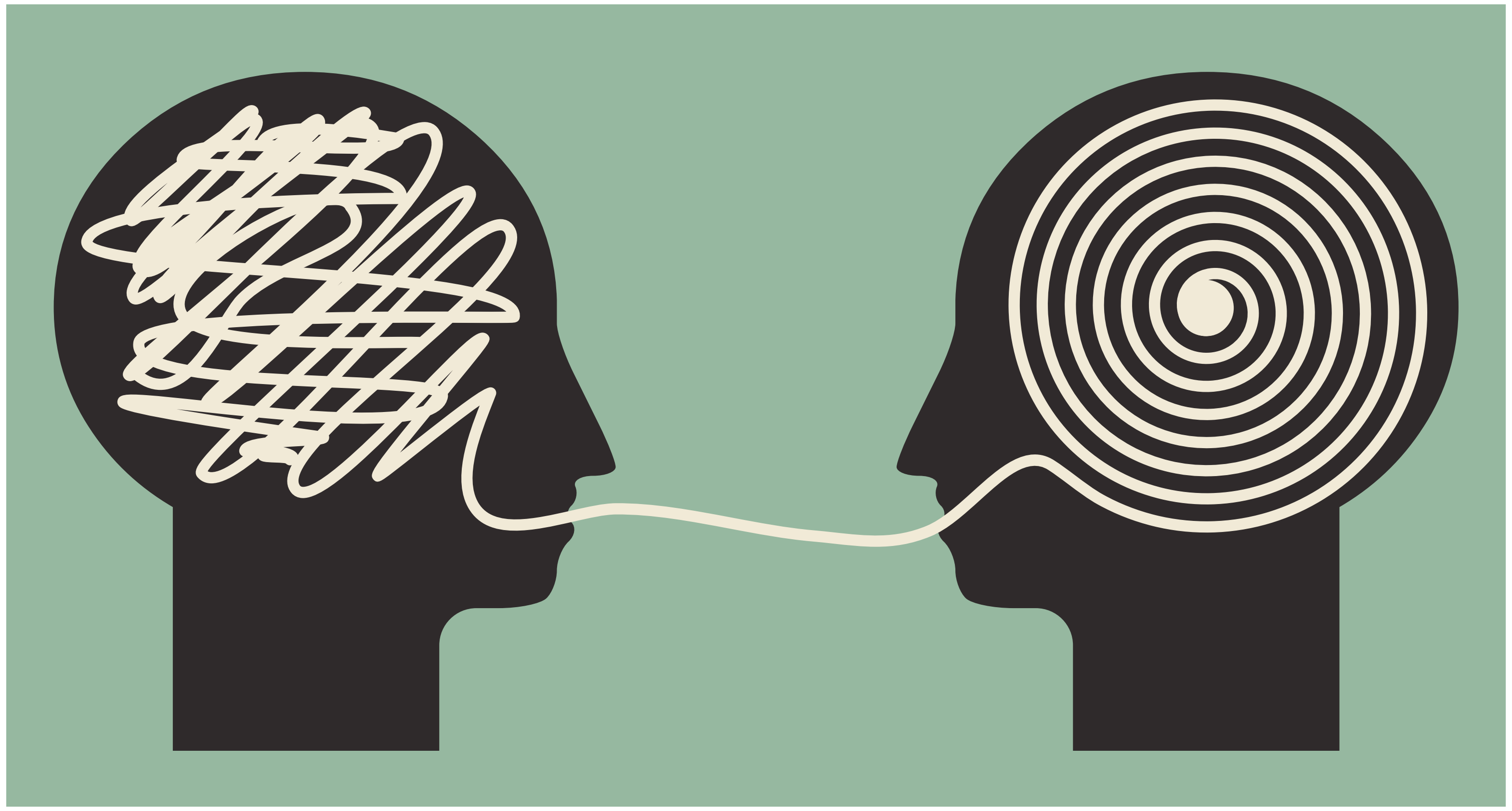
The tougher price review at RIIO-2 in the energy sector, was a result of perceived excessive outperformance in the RIIO-1 period, which was nevertheless an expectation from Ofgem at the time of RIIO-1. In the water sector, the very tough price review witnessed in 1999 was a direct consequence of several companies overtly 'gaming' Ofwat at the 1995 price control, where some companies announced shortly after the price determination that they could reduce costs way beyond what was contained in their business plans, let alone what Ofwat had assumed.

Over time a 'parent-child' dynamic has emerged, where 'funding' decisions become synonymous with permission to act, and regulation becomes more centralised. This is in contrast to other countries, but in common with UK's centralised system of government where the centre of gravity is in London – a long way from the mill towns and old colliery towns and villages of the midlands and the north, where the impact of many decisions are keenly felt.

The main 'charge' levied at regulators in terms of exercising control is in relation to the setting of customer charges (too low) at the expense of greater levels of investment or maintenance expenditure. This was something that the establishment of independent regulators was supposed to guard against.

These characteristics are ones of regulation becoming politicised - and extending its reach.

Effective regulation is not simply about who regulates or sets policy in terms of the institutions, or what objectives are set for regulators via the duties – but is instead about how regulation is actually conducted in practice.



THE 'BUREAUCRATISATION' OF REGULATION

Regulators are typically populated by thoughtful and questioning professionals, particularly economists who are innately very curious and inquisitive. In complex environments this often leads to greater demands for data and analysis that stretch the bandwidth of regulators.

The pursuit of precision and a quest to get the 'right' answer (a tendency of engineers who also occupy regulatory offices) has led to increasing use of technical frameworks: econometrics, asset risk scoring and marginal incentives – all in the pursuit of an objectivity that is illusory.

This desire for greater levels of granularity has been compounded through the cohorts of new people joining regulatory offices who seek to take what was there on arrival and codify this into methodology.

All of this reduces the use of judgement in the system and replaces it with a system based on rules which is overly technocratic. A prime example is the application of cost efficiency models – which were initially used by regulatory offices as a 'reference point' for decision making, but are increasingly seen as determining the answer.

Regulators can also end up inadvertently incentivising what they want to see.

The application of outcome/output delivery incentives (ODIs) were the start of this – and can drive company behaviours unnecessarily on a limited number of 'rate making' items.

Incentives for good business plans extended incentives further, and while a good idea in terms of trying to stop companies 'bidding' in their plans, they can in effect become a reward for telling the regulator what they want to see, and penalising those that disagree.

While some incentivisation is useful to focus companies on critical areas, an overly detailed focus on such incentive mechanisms by regulators can mean that they fail to see how the incentives of the regimes they operate work in practice. The incentive to outperform the regulatory settlement for example is huge – and can overrides other incentives.

Overall, this creates a system that is high-resource with lower decision-making capability and could be seen as letting 'the best become the enemy of the good' – and regulation becoming unnecessarily bureaucratised.

OUTCOMES

The behaviours and concomitant characteristics of regulatory regimes has manifested itself in a number of outcomes that warrant consideration of where regulation has:

1. Become too short-term focussed – and not prescient enough – with five-year price reviews now the norm (in energy, RIIO-1 was set for eight years, whilst RIIO-2 was reduced to five years). Thera are a multitude of 're-openers' in the energy sector, which now feature in water too. The lack of spend on long term resilience is a manifestation of this and we now have a hockey stick of investment that could have been undertaken in previous regulatory periods when debt was far cheaper.
2. Not paid sufficient attention to asset health, and a lack of maintenance spend has become a significant issue we are currently witnessing in the water sector. There has been a lack of attention to the incentive to ensure asset health within water, whereas in the gas sector the Health and Safety Executive (HSE) has helped ensure asset health in the networks through the mandated Iron Mains Replacement Programme.
3. Become too narrowly focussed on what economists term 'productive efficiency', and the regulation of conduct - driving for a narrow improvement in cost efficiency (often counter to the prevailing evidence on UK productivity). There has been far less focus by regulators on so-called 'allocative' or 'dynamic' efficiency, and regulation of structure. The former would have considered water resource availability and allocation, and regulation of structure would have considered the size and structure of companies (such as whether some companies were 'too big').
4. Become more cautious and risk-averse. While models like RIIO were bold, recent approaches have trended toward conservatism, where investment is withheld unless demonstrably needed. This has perhaps not led to as much innovation as one would have expected and thus necessitated the introduction of specific innovation incentives.
5. Become siloed with (unsurprisingly) a focus on the pressures of an individual sector. Whilst the the UK Regulators Network was established ten years ago to facilitate effective co-operation on important issues, it has largely focussed on technical issues like the cost of capital, rather than whole systems thinking.

In addition, companies might be seen at times to be 'let off the hook' as they can look to the regulator to set the agenda. In energy we hear too many times "if it doesn't get funded it doesn't get done". The result of regulation over stretching is that investment which might be needed may not be undertaken, and asset health may not be sufficiently prioritised. We need to be wary of putting in greater control and supervision (as the Cunliffe Review is suggesting) as this runs the risk of deepening this dependency, with regulators having a greater role in how companies are run.

AREAS FOR REFORM

Regulators have a very difficult job and determining what reforms are required is not a straightforward task. There are nevertheless a few areas worth considering:

1. Clarifying and simplifying the role of regulators through a reduction in their duties – perhaps with a far greater emphasis on the duties as originally constituted.
2. Address the size and skill base of regulators – and ways to attract the best talent into such critical institutions.
3. Expansion of the use of regulatory tools like AI, which can be shared across regulators.
4. Creating a framework for companies to better 'self-regulate' (like we have for drinking water quality and which has proven to be very effective).
5. Providing sufficient political cover to regulators to focus on long term outcomes - and not be political.
6. Extending the role of the Independent Stakeholder Groups and considering how local engagement could be further expanded, reconsidering the ideas put forward by Stephen Littlechild on negotiated settlements.
7. Introducing more robust enforcement of licences and company plans - possibly revisiting and extending the use of the independent Reporters used far more in the past by Ofwat.

Effective regulation is essential to protect consumers, ensure reliable and sustainable services with a drive towards a cleaner, greener future. Ineffective regulation can lead to environmental harm, underinvestment – and public mistrust. As we enter an increasingly complex and complicated world it is vital that we have a regulatory system that enables innovation, growth, and protects end consumers – the UK public. How that is to be achieved is not easy. Hopefully this article has offered some food for thought.

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