



Movement Matters is a series of inspirational thought leadership events exploring new ideas about places, people and economies. Drawing on experience from leaders from around the globe, these sessions provide a burst of fresh thinking and a great opportunity for industry networking. To attend any of our events register at: www.steergroup.com/events

Event summary

INFRASTRUCTURE INVESTMENT FOR A NEW ECONOMY

27 November, 2019
etc.venues St Paul's
200 Aldersgate,
London, EC1A 4HD

On a cold and wet November night we gathered to discuss the challenges and opportunities facing the UK's infrastructure.

Infrastructure is essential for jobs, growth and productivity, and is one of five pillars of the government's modern Industrial Strategy. Creating infrastructure fit for the 21st century includes improving broadband speeds and mobile coverage, enabling housing development, decarbonising our energy networks, reducing journey times and transport reliability, investing in water networks and increasing our resilience to climate change. Ultimately, the provision of appropriate infrastructure will support a vibrant Britain, providing increased opportunities for employment, health, education and well-being.

The event, led by Steer CEO Hugh Jones, brought together four keynote speakers and participants from a wide variety of public and private sector organisations including financiers, lawyers, transport operators, network managers, government and professional advisors.

Speakers' presentations

Baroness Randerson set the scene with a strong critique of the current approach to infrastructure in the UK. She began by noting that there were at least three views on infrastructure in Westminster:

- Labour was in favour of renationalisation of railways and utilities, and the provision of free broadband.
- The Conservatives' relatively short manifesto was less clear. They had not clarified the future of high-speed rail (High Speed 2, HS2), airport expansion (a third runway at Heathrow, R3), and had not published the report of the Williams review of the railways.
- The Liberal Democrats did not favour of restructuring or ownership change, but favoured investment to rebalance the economy towards the north, and in public transport.

She gave the view that Margaret Thatcher had distrusted public transport and even the Blair years had seen a disappointing level of investment in major projects. PFI was not seen as popular as a delivery mechanism, and this had not been helped by the collapse of Carillion. However, all the main political parties now appeared to be signalling the end of austerity, and supported expansion of the country's infrastructure. However she warned that investment had not kept pace with any of rising

EVENT SUMMARY

population, advancing technology, or concerns about climate change and so a new government must be ready to invest.

However, we seemed to be in a “bad place”, where it is difficult to build any major project, with long delays between project inception and start of work. We may have reached the point where the democratic process is so unwieldy that it is itself undemocratic. On HS2, “One man’s green travel solution is another man’s loss of ancient woodland”. Long project cycles did not sit well with the frustrating short-termism of the political cycle and, arguably, the first past the post system produced big swings in policy, greater instability and less consensus than the coalitions in some other advanced economies.

The National Infrastructure Commission (NIC) was established to overcome these problems, but has not had the powers or budget to follow through. Until it does, we need secure and stable governments, which have been in short supply. Governments in the last few years had been in denial about technological innovation and the urgent need for action to counteract climate change. One example was the Swansea Bay Tidal Lagoon, to which it took a long time to say “No”.

In addition, the civil service’s job is to stop Ministers taking risks, a recipe for inaction. Brexit has proved an unwelcome distraction for government, ministers, for the civil service and for Parliament. Brexit was also a problem for business and investors, who may lose EIB funding and will need a strong green investment bank to replace it.

There is also a skills problem, with lack of continuity in programmes such as railway electrification. Problems had led to a decision to limit electrification and to rely on hybrid trains. Instead of taking the best, we grabbed a compromise.

She concluded that we are not likely to return to big state ownership, but that we need a more robust PPP model, perhaps with a bigger role for government. It may be that the first priority should be more powers and money for organisations such as Transport for the North (TfN). We may also need roads funded by road user pricing.

Increasingly, private sector investment must follow public sector ambitions, and public sector investment must maintain private sector standards and expectations in terms of efficiency and detailed project specification: “No more Garden Bridges, let alone a bridge between Wales and Ireland”.

André Gibbs of Argent illustrated some of the practical issues of providing infrastructure from the perspective of a developer, drawing on his experience of Kings Cross and Brent Cross in London.

At Kings Cross, the site was packed with infrastructure, including a canal, railways, roads, a ring main, power cables and a large gas governor. However, none of this provided directly for the needs of the development, which required that 100% of heat and 80% of power was generated on site. This meant that the developers had to put in place a wide range of infrastructure, with a total capital outlay of around £250 million, before it was possible to sell any plot and to begin to recycle cash into further development. At Brent Cross, which would be served by a new station, there were similar issues, with around £120 million of infrastructure including a school and parks needed in place before developments could be sold and occupied.

The Homes England infrastructure fund was useful, and used by Argent, because it helps de-risk this phase of the development life cycle. However, without reliable access to long term funds, there was a risk that developers would only be able to provide small and incremental schemes.

Paul Davies, an advisor to the Infrastructure Forum and a former Partner of the Infrastructure and Government team at PwC, drew on the example of carbon capture, utilisation and storage, or CCUS to suggest how infrastructure projects could be packaged to facilitate the necessary finance.

EVENT SUMMARY

Despite the government's commitments to decarbonise the economy, total consumption had fallen by only 3% since 1997, at least in part because of the "offshoring" of carbon use to countries such as China. Renewables still account for only 30-40% of electricity generation and could not readily supply large parts of our heating and industrial energy requirements. The UK's annual carbon dioxide (CO₂) emissions were currently around 115 Mt from power, 100 Mt from buildings, 150 Mt from industry, 120 Mt from land transport and 60Mt from aviation and shipping.

The aim of CCUS was to remove 200 Mt of these emissions, using three technologies:

- post-combustion captures up to 95% of CO₂ in the chimney and storing it underground.
- pre-combustion splits methane to create hydrogen and CO₂, which can then be stored.
- Bioenergy with carbon capture and storage (BECCS) draws CO₂ from the air into trees or other biomass, and then buries it post-combustion. BECCS, which is now being trialled at Drax power station, can in principle result in negative net emissions.

New technologies could best attract finance by building on existing and well-understood models:

- For the transmission and storage assets of CCS, there is the widely-used regulatory asset base (RAB) model used by Network Rail and, more recently, the Thames Tideway, where it had resulted in a bid-weighted average cost of capital (BWACC) of under 2.5%.
- For power projects, in contrast, classic project finance was appropriate: the wind sector used contracts for differences (CFD), using a payment from government to give a predictable return. Over time, CCS costs and prices will fall until it is cheaper than its major competitors.

However, things may be more difficult in some areas. Transport, at least for road haulage, faces a long transition to the use of hydrogen, which will require several types of asset in the overall energy supply chain.

Finally, **Paul** raised the issue of governance, and concerns over past "poor behaviours" including a lot of financial engineering and high levels of dividends. New models and new governance will need to address this but can, in principle, work in any sector.

Jolanta Touzard, Director - Infrastructure Equity at Aviva Investors, described the changing expectations of equity investors who want better returns than are available with bonds or real estate.

Pension funds and insurance companies now actively want to invest in infrastructure to diversify their portfolios. Between 2015 and 2018 there has been a doubling of "dry powder" to be invested in infrastructure in Europe, from \$30 billion to \$60 billion. The challenge for the fund managers was to convince them that the assets of today were still worthy of investing and the risks were still manageable, compared to the situation seven or ten years ago.

In the past, the risks of many PPP projects, with payment for the availability of an asset, were mainly under-performance of the operator. Today, however, more typical projects are gas-peaking plants, which still use gas but can generate at full capacity within three minutes when renewable sources such as wind are not generating. Many will be needed if, by 2025, the UK loses around 14 GW of coal and nuclear generating capacity. The main risks with such projects relate to the volume and price at which output can be sold into the energy market from which all the revenue comes. Difficulty in forecasting future demand and prices meant difficulty in raising finance.

Aviva can take the higher risks of such plants, partly because it does not need a guaranteed floor return, partly because it uses hands-on asset management, and partly because of its portfolio mix. Mixing wind, solar, gas-peaking plants and energy from waste, generating at different times of the

EVENT SUMMARY

day, combines and manages the risks of the different sources.

Despite this, there is still a stalemate caused by the diversion of Brexit, but government could provide three things: funds; supportive legislation such as subsidies or encouragement to invest in renewable energy; and restrictive legislation such as requirements to close coal plants or to pay carbon taxes. Local government would have a big role, such as decarbonising heating through district heating with small power plants. What is needed, however, is a consistent and stable message from government about the longer term.

The Q&A after the presentations touched on these and other themes.

Q&A

The Q&A after the presentations touched on a number of themes.

Jeremy Long of MTR began by asking what model of risk transfer would deliver best value to the taxpayer over the life cycle of a hypothetical large infrastructure project. **Paul** said that this would be a blend, but the role of the private sector would need to avoid the problems of the past: he had advocated the RAB approach, which had delivered a low cost of capital for the Thames Tideway, but there would be a need to think again if high returns were expected. **Jenny** agreed that we had still not settled who should bear what risk for each type of project: this was clearly not right in current rail franchising, which was attracting little competition. The government needed to rethink this but the policy of civil servants being generalists, who were continually moved on, meant that it did not retain sectoral skills and experience. **André** noted that, in his sector, money and skills came from different places, but widening the market for the project widens the number of sources of both. Not many private sector organisations could afford to put £150 million of infrastructure in the ground before seeing any return, and the public sector might be better placed to do this. For example, it could use compulsory purchase and land assembly, especially where many of the benefits of the project would arise outside the immediate footprint. **Jolanta** noted that everything was ultimately paid for by the taxpayer or consumer: for her the issue was therefore who makes money on the project, and how well it is executed. Good execution requires experts, who are normally in the private sector.

Henri Chua of IM Technologies Ltd raised three points. First, early PPP projects were reaching 25 years old and would soon be handed back to the public sector, but the civil service has not retained or built up the expertise to handle these contracts, and would be reliant on the private sector. Second, devolution of major projects would be difficult without also devolving funding, as happened in the US with municipal bonds: do those who favour devolution understand the complexity of what was to be devolved? Third, the private sector cannot meet the global need for infrastructure investment, estimated at \$3 trillion a year for the next ten years, which would have to come mainly from the public sector. **Jenny** agreed entirely about the importance of corporate memory, and the limitations of the current devolution arrangements, under which Transport for the North (TfN) had almost no powers or funding. She was not confident that any future government would “hand over the money as well as the power”.

David Biggs of Network Rail Property asked whether there was sufficient land value capture to incentivise investment, and whether we needed intervention to accelerate investment in decarbonisation to address market failure. **André** agreed that there were not enough mechanisms for land value capture, but did not think that this alone would ever pay for all infrastructure. There had been £2.4 billion of infrastructure investment in Kings Cross St Pancras, but the scattered benefits could not all be captured locally. More Community Infrastructure Levy (CIL) might help, or a wider footprint, or selling bonds, might all help. One issue was that the owners of assets are rarely residents: a developer’s successful regeneration could be a resident’s unaffordable gentrification.

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EVENT SUMMARY

Jolanta had not seen any studies of whether investment is sufficiently rapid to reach zero carbon before 2050, but suspected that it is not. There had been an interest in battery projects, but these lacked stable revenues, and might need some sort of floor mechanism. **Paul** agreed that the public sector needed to understand that the private sector would not invest in CCS, no matter how worthy, unless it offered profits.

Ross Gurney-Read of InfraRed Capital Partners Ltd agreed that, as an equity investor, the first question for CCS was “Where is the revenue?”, but asked if it could be made compatible with the RAB model or a return on capital, and whether it was merely a stopgap (hydrogen can already be produced by electrolysis) which would deter investment. **Paul** pointed out that wind and solar generators had contracted with the government-owned Low Carbon Contracts Company (LCCC) and some CCS will also do so. Investors are ultimately paid by consumers, through a levy on gas or electricity prices. CCS might be a stopgap, because it relies on fossil fuel use, but may still be needed for 50 years. **Jolanta** agreed, and noted that a 20-year revenue stream sufficed to attract investment in gas-peaking plants. **André** noted the powers of both avoided costs and compulsion: district heating was included at Kings Cross because planning consent required it, and the land would be worthless to a developer without it. It now seemed that it would be transformative, and that schemes now emerging would perform even better.

Andrew Cardwell of Amey wondered what had happened to the carbon tax, and how green finance was defined and attracted funds. **Jenny** said that the carbon tax was one of a range of instruments that government can use, but she favoured carrot as well as stick, such as offsetting subsidies for electric cars, which has worked well in Norway. There was also evidence that the public prefer taxes if their purpose is self-evident. **Paul** pointed out that carbon tax on industry risked merely driving production elsewhere, and that it was better to regulate, such as specifying a rate of decline in emissions, rather than to add a cost. **Jolanta** answered the query on green finance. Many investors sought Environmental, Social and Governance (ESG) assets, which ticked a defined list of boxes. However, many ESG assets bore primarily revenue risk, and competition for them could mean that the returns were not acceptable.

Marcus Kleiner of HCOB Bank Hamburg wondered whether an EU standard for green finance was needed, and whether the UK would adopt it. **Jenny** thought it unlikely that the UK would diverge from EU standards, many of which even China adopts by choice. **Paul** noted that there is a green bond standard for debt finance, and that the same might also be applied to equity. **Jolanta** thought that the ultimate standard was the goal of zero carbon.

Simon Phippard of Bird & Bird asked if other countries do things better. **Jenny** noted that France both has a democratic process and likes infrastructure “They have democracy, they build the stuff”.

Bernie Rowell of High Speed 2 asked if there was a tipping point at which “digitalisation” would change the balance of infrastructure requirements. **Paul** said that people still travel to meet – rail use had not fallen with mobile phones and teleconferencing – and that assets such as CCS could not be replaced by data. **Jolanta** countered that digitalisation and data transition was a core focus, but the issue remained revenue risk from consumer behaviour. **André** thought that digitalisation could contribute to operating efficiency, but there remained a “Babel fish” problem that disparate systems must work together, requiring a lot of middleware. **Jenny** agreed: rail digital signalling was complex because it had to interface with many legacy systems. A key issue was to build in provision, and a key problem was guessing what provision to build in.

Hugh Jones drew the discussion to a close, noting that a large area of agreement was the need for appropriate regulation, risk allocation and partnership, and consistent planning and decision-making.