

# Global drivers affecting future UK investment decisions

**A round-table meeting hosted jointly by UCL and the Department for Transport on 14th July 2014**

## Executive summary

A round-table discussion of global drivers affecting future UK investment decisions was held at UCL on 14th July 2014, involving senior individuals from the public and private sectors and academia. The event was motivated by a desire to bring together people across sectors and policy areas who face questions about future strategy, to enable shared reflection.

There was broad support for the set of five key global drivers offered by the Department for Transport: globalisation and further interconnections; shifting global economic power; technology; environment and climate change; and demographic change.

Discussion of citizens revealed a complex mixture of increasingly on-line and rental-like consumption and decreasing interest in ownership of formerly must-have items (cars, homes), against a background of general pessimism and distrust of government. Government occupies an ambiguous position, with devolution giving more power to local bodies whilst growing state-state competition may lead to resource nationalism. Despite criticism of government and the levers of power available to it (such as regulation), its necessity was acknowledged with respect to tackling collective action problems such as climate change.

The conclusions concerning **energy** were that the UK's infrastructure is vulnerable; that future use of coal will rely on successful application of carbon capture and storage (CCS); that nuclear is inevitable; and that shale gas will provide only short-term relief. On **climate change**, a gloomy picture emerged of a likely temperature rise of four to six degrees by 2100 (with resulting increases in global inequality), together with the view that the UK does not control mitigation and should therefore concentrate on adaptation. Though the prospects with regard to **technology** were of increasing automation, this appeared unlikely to reduce the volume of travel. It is also necessary to respond more effectively to changes such as the rise of big data by establishing a workforce skilled in data analytics, and to guard more generally against the inequalities resulting from an uneven distribution of technology's benefits.

A recurring theme in these discussions was uncertainty and its complement, risk. Given the private sector's diffidence concerning transport schemes, more needed to be done to manage risks associated with major projects, a challenge that was increasingly being met through insurance, though with so far mixed success.

## Introduction

A round-table discussion was held at UCL on 14<sup>th</sup> July 2014, involving senior individuals from the public and private sectors and academia. The topic was global drivers affecting future UK investment decisions.

The following government offices and departments were represented by officials up to permanent secretary level:

- Government Office for Science
- Foreign and Commonwealth Office
- Department for Business, Innovation and Skills
- Department of Energy and Climate Change
- Department for Transport

The representatives of the private and academic sectors included chief executives and directors of strategy and public policy from leading organisations in the following sectors:

- Telecommunications
- Insurance
- Finance
- Tourism
- Market research

## Background and drivers

The workshop was motivated by a desire felt by both UCL and the Department for Transport (DfT) for an opportunity to engage with those facing questions about strategy and the future across sectors and areas of policy, and to understand better the drivers affecting their sectors. As the event was held jointly, as well as general discussion on the topic, some attention was paid to transport-specific aspects.

This report is structured around a set of interconnected topics rather than being an attempt to document the entire discussion chronologically.

DfT began by setting out its view of futures thinking by highlighting our responsibility to step back from day-to-day challenges and consider the bigger, longer-term picture to ensure that decision makers are aware of possibilities and uncertainties. The department has done an initial piece of horizon-scanning work that identified five global drivers. Whilst conscious that there is no single “right” view of the future, DfT was interested in participants’ thoughts on these drivers, how they align with participants’ views of the future, and any major trends and disruptors within them.

The five global drivers are:

- Globalisation and further interconnections
- Shifting global economic power
- Technology
- Environment and climate change
- Demographic change

## The individual as actor, consumer

A picture emerged of the citizen as an unpredictable and complex individual whose importance to investment decisions would be hard to overstate.

Despite an assertion that attitudes and values advance more slowly than technology, we nonetheless observed that young people have increasing expectations: when they travel, they want to do so actually and virtually at the same moment, sending pictures and words about their experiences to their networks, with consequent expectations of mobile connectivity. The increasingly affordable nature of air travel means that it is commonplace and has lost its luxury status. To a degree, so have cars: young people no longer see the car as an aspirational object, and the same is true of homeownership.

But their ownership of must-have gadgets looks increasingly like rental, a pattern repeated in other areas: the item is effectively leased before being replaced by the latest model. Meanwhile, the act of consumption has become an increasingly on-line phenomenon and this is set to continue, with major implications for urban logistics.

Against this background there is a theme of pessimism about the future and worries about affordability in general; people have a yearning for confidence about the future which cannot be satisfied.

Citizens continue to have a vexed relationship with government, being “cognitively polyphasic”: willing to share personal data about themselves with private-sector organisations whilst at the same time distrusting the motives of public agencies seeking such information. And they will disseminate personal information on social media more freely still. Where climate change is concerned, they would generally be ready to accept costs or compromise where there is a demonstrated “real and present danger” but the problem, so far, is too remote to qualify; it remains, for now, something that government must fix.

The consensus was that citizens remain hard to predict and susceptible to numerous influences, particularly that of the media. We need very significant behaviour change to meet future challenges, but cannot assume we shall get it until there is a credible threat to accepted norms and ways of life. In terms of investment, “if you build it, they *may* come.”

## Governance and the role of government in facilitating, providing, guiding, regulating

Given the ambivalent position of the citizen, where does this leave government? Discussion demonstrated that government needs to respond to the demands of all agents, significant amongst them private-sector organisations. The context is of course fluid: regional and local public bodies enjoy increasing power over certain policy areas (including transport), Scotland being a case in point; so the centre will not necessarily hold the ring. At the international level, it was suggested that a more competitive state-state relationship could become the norm, characterised not necessarily by conflict but by resource nationalism.

The recurring theme where governance was concerned was regulation: either it was lacking (e.g. the internet of things) or insufficiently stable for the private sector’s taste (membership of the EU being cited as one example) and becoming more unstable with time. Regulation could be a force for good, emission limits driving low-carbon technology, for example, but its deficiencies led participants to identify other paths: insurance was seen to be reducing the need for regulation, and procurement rules were presented as another way of obtaining the desired ends without the need for binding policy.

Whatever its deficiencies, government still had a major role to play. If carbon capture and sequestration (CCS) was ever going to happen, for example, it would have to be led by government. The prospect of improving mobile coverage on the transport network was presented as an opportunity for partnership between government and the private sector. But there were several critical messages too: the private sector shies away from investing in the UK road and rail sectors because it sees government controlling key “levers of demand” such as the levels of Vehicle Excise Duty and Fuel Duty. And government was successfully ducking climate change, something that would come to an end as major incidents became more frequent. Government was apt to avoid big questions in general, HS2 and south-eastern airport capacity being particularly significant examples. Was the solution, it was wondered, ten-year parliamentary terms?

## **Theme: energy**

Discussion took place in the context of the UK being a “market taker” in energy and therefore not well placed to innovate. Energy-carrying infrastructure is highly vulnerable (in a variety of ways) to different phenomena associated with climate change (e.g. flash floods or electrical storms); and, like other networks, it has a relatively small number of weak spots that are susceptible to attack.

The consensus was that, greenhouse gas emissions notwithstanding, the UK’s transport sector would continue to rely on fossil fuels in the short- to medium-term in the absence of a major shock or disruption that forced the development of alternatives. This was against a background in which nuclear energy was seen as unavoidable, and CCS an essential concomitant of future use of coal. Shale gas was seen as providing only medium-term succour. As for biofuels, it was agreed that this was a large potential market, but that the transfer needed to be clean.

The UK’s relationship with fossil fuels brought up an interesting set of connections: this country relies heavily on shipping to bring the fuel in. So a major change in our energy mix would have knock-on effects for the shipping sector. An increase in the use of biofuels and biomass might mean that these replaced to some extent the fossil fuels currently arriving by sea but there might be a drop of up to 75 per cent in the overall volume of fuel being shipped into the UK. With reduced shipping would come reduced emissions and, possibly, a down-sizing in port infrastructure.

## **Theme: climate change**

There was predictably little optimism about the discussion of climate change. First, our current policies are based on an increase in average global temperatures of two degrees whereas our actual trajectory suggested an increase of between four and six degrees by 2100. Various current difficulties attributable to climate change were acknowledged: deaths resulting from extreme heat, the harm and disruption caused by pluvial flooding, and the general instability brought by extreme weather. Though the necessity to adopt CCS was restated, this was in the context of a more general acceptance that the UK needed to concentrate on adaptation given that it cannot control mitigation.

As for an increase of four to six degrees, global inequalities could be expected to worsen much more significantly than under the two-degree scenario. This would give the UK’s and others’ migration policies crucial importance. Domestic inequalities such as those relating to water poverty could equally be expected to widen. None of this, however, made it any easier to predict the political agenda pertaining to climate change.

## Theme: technology

There will be 80 billion connected devices in the world by 2020. Mobile traffic will continue to grow by 30 to 50 per cent per annum for the foreseeable future, with an increasing role for video. We shall live in increasingly automated homes and work in more automated offices or factories. Far from reducing the tendency to travel, access to the internet is, if anything, increasing the demand for travel.

These trends are already presenting both challenges and opportunities: in terms of data analysis, for example, algorithms are replacing people in a real case of the “rage against the machine” hypothesis, and with no prospect that new jobs will arise to replace those taken by the computer. The big-data phenomenon, meanwhile, implies an equivalent workforce skilled in data analytics but the UK education system may not be responding. And, though the market has so far done well in responding to increased demand for, e.g. broadband speed and coverage, low margins and high competition may make this increasingly difficult. A case for government intervention?

Another challenge relates to equity: a substantial segment of the population remains excluded from the advantages offered by technological advance and there seems little reason to think this will change soon.

## Uncertainty – its forms, its impacts and what we can do about it

The discussion demonstrated a considerable degree of uncertainty concerning future technological change and the impacts of that change on society. Alongside acknowledged areas where opinion differed – future transport demand, for example – there was the scope for “disruptors” to subvert all predictions. The possible effects of autonomous vehicles was one such. But there seemed confidence in the range of responses available to us.

With respect to risk in general, the view was that the private sector will work with risk, provided it is affordable and susceptible to both assessment and amelioration. Transport often does not comply with these requirements, though: HS2 was cited as a very big (perhaps unaffordable) risk; and a second runway at Gatwick was mentioned as a case where demand is very hard to assess. Hence the private sector’s reticence over certain schemes.

The situation can be expected to improve as the phenomenon of big data increasingly allows risks to be understood. But design and engineering need to be based on risk mitigation and total costs over the long term rather than just the capital involved in construction.

There was also a strong call for designing resilience into projects, something which need not add unacceptably to cost.

A recurring theme was insurance and its capacity to “de-risk” investment. It was argued that climate change and other wicked problems (which seem to defeat political institutions) are increasingly being priced by insurance companies into investments. This was helping to make propositions more palatable to investors but did require money up front. These investors could protect themselves further by insuring against performance or efficiency shortfalls, and requiring a minimum level of risk mitigation in engineering solutions.

Despite these positive signs, insurance was not (yet) a panacea. Because no major case of cyber-attack has provided a precedent for the insurance markets, this remains uncharted territory. A more mundane variant of the same phenomenon is business continuity which, again, is presently beyond the reach of insurers. Insurance markets were therefore likely to need a greater level of granularity, it was suggested. And insurers still had work to do in managing their relations with policy makers (explaining that insurance can do the work of regulation) and the media (helping to shape opinion).

## **Methods of looking at and preparing for the future, including different timescales**

The following methods and principles arose during discussion:

- *Tenth man model*: if ten people are agreed that x will happen, one of them is tasked with investigating what will happen instead if x does not come about
- *Challenges, Opportunities, Enablers and Threats* as one structure for thinking about the future
- Multiple timescales: there may be a central point of interest (2050, say) but an attempt is made to capture points in both the nearer term and longer distance, reflecting the fact that major investment decisions usually have a 30-60 year legacy
- Companies should be required to state their risk and resilience strategies in company reports
- Discussion of drivers can be improved by reflecting varying levels of certainty concerning different aspects as well as regional variations – not all will affect UK in the same way as they will other parts of the world