

# ICE Discussion Paper: Potential implications of the nationalisation of infrastructure

This discussion paper identifies the potential effects that nationalising parts of Great Britain's (GB) economic infrastructure, namely rail, water and energy, would have on investment and service delivery.

The views and conclusions that are expressed do not represent a series of policy positions that the Institution of Civil Engineers (ICE) has reached on nationalisation. To be clear, this paper neither supports or opposes the nationalisation of any element of GB's infrastructure sector. Rather, it seeks to outline the potential cost, practical and technical implications that could result from nationalisation; providing a source of impartial advice for policymakers.

ICE welcomes the views of interested stakeholders on the content of this paper. Please get in touch using [policy@ice.org.uk](mailto:policy@ice.org.uk).

## Key points

- Ultimately, whether services are in public or private ownership, a long-term approach to asset management and investment is needed, supported by sensible regulation, good governance and accountability in order to ensure best value for consumers.
- Public support for nationalisation as a binary concept is high, but more needs to be done to close the information deficit about the tangible benefits private investment delivers.
- Nationalisation of rail would have marginal short-term impacts, but in the longer-term an integrated network could improve decision-making and efficiency.
- At present, the water and energy sectors are funded almost wholly by private investment. There is a real risk that outright nationalisation would see investors move their capital elsewhere, with the public sector then needing to meet the investment requirements for much-needed infrastructure improvements.

## Introduction

It is vital to consider future infrastructure needs and the pipeline of upcoming projects in the context of nationalisation. ICE's National Needs Assessment identified that the UK is a long way from having the highest-quality infrastructure networks required by a world-leading economy.<sup>1</sup> Regardless of whether ownership and management is private or public, addressing this shall remain the biggest priority.

In addition to this need to improve existing infrastructure, the challenges of an ageing population, climate change and a greater concentration of the population living in urban environments mean investment must be increased further. Strides are being made to achieve this; the current Government has committed to a fiscal envelope of between 1 and 1.2% of public spending on economic infrastructure from 2020 to 2050, a level not reached for the past 40 years.<sup>2</sup>

Another consideration when it comes to ownership of infrastructure must be the digital revolution, which is already starting to transform the sector. Connected and autonomous vehicles (CAVs), Machine Learning, the Internet of Things, Artificial Intelligence and other disruptive technologies will change how existing infrastructure is used and the demands placed on it. As user requirements change and adapt to these technologies, infrastructure owners must be flexible and able to deliver best value for consumers.

### Future investment needs

Energy and water bills, as well as rail prices, have all been subject to above-inflation increases in recent years. The principal drivers for these have been manifold and dependent on the sector: wholesale gas prices have increased, pushing up consumer costs; decades of underinvestment in the rail sector and ever-increasing passenger numbers mean vast improvements to the network have been required, while the need to meet tighter statutory environmental standards and improve capacity has been a large driver for both water and energy bill increases. Crucially, though, none of these drivers would cease if these sectors were nationalised.

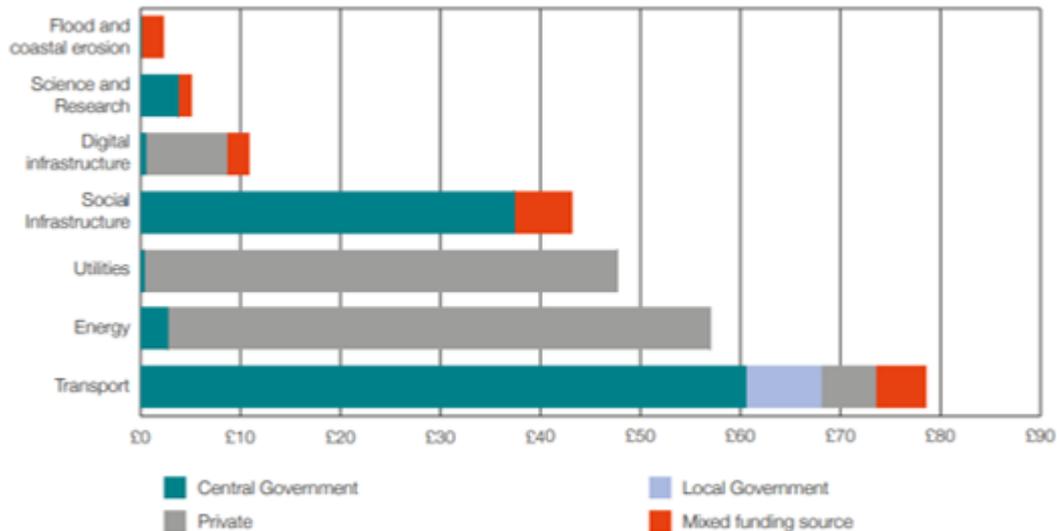
The current mix of public and private investment is almost equal within the National Infrastructure and Construction Pipeline (Figure 1), with over 45% of investment to 2020/21 set to be financed through the private sector, mostly focused in the energy and water sectors. Transport investment, including rail, is chiefly sourced from central government with contributions from local government, the private sector and mixed funding sources.<sup>3</sup>

---

<sup>1</sup> ICE (2016), [National Needs Assessment: A vision for UK infrastructure](#)

<sup>2</sup> HM Treasury, Autumn Statement 2016

<sup>3</sup> Infrastructure and Projects Authority (2017), [Analysis of the National Infrastructure and Construction Pipeline](#)



**Figure 1:** Funding mix of the National Infrastructure and Construction Pipeline 2017/18 to 2020/21 by sector (£bn), Infrastructure and Projects Authority

Private investment is primarily raised on the open markets through debt-finance or financed by institutional investors where there is an expectation of a stable return on investment over a long period of time. This has had a substantial impact when tied to the UK's energy and water sectors. This mix of investment through a diverse range of financing streams meets individual project needs and allows for the wider benefits of infrastructure investment, including social and environmental gains, to be better realised.

It is fair, therefore, to ask what risks and opportunities nationalisation presents when considering the vital need for investment.

### How would nationalisation happen?

UK governments have nationalised businesses and whole sectors in the past, but to do so profitably, solvent entities whose assets are in generally good condition would be quite different. This would not be the nationalisation of an insolvent bank (Northern Rock in 2008), meeting the financial obligations of a struggling firm (Rolls-Royce in 1971) or taking into public ownership infrastructure ravaged by war or disaster (as what happened with the railways, utilities and other sectors in the immediate post-war period). There are today many more legal hurdles to overcome in comparison to historical examples of nationalisation, as well as additional complexity in setting out new governance arrangements. Any nationalisation plans would take time, possibly years, to design and would be subject to rigorous debate and scrutiny before becoming legislation.

There are conflicting statements from policy makers about the costs and benefits of nationalisation. Those in favour claim that it would be cost-neutral, bringing into public ownership an asset that would then, by eliminating the pay-out of dividends, generate

income and benefits to taxpayers, including the possibility of lower bills. However, untangling the complex knot of existing privatised assets and compensating shareholders is not likely to be a quick or low-cost process, with consequences on public deficit and debt levels. Opponents of nationalisation argue that it will see reduced levels of investment with potential implications on service level, jobs, consumer redress, infrastructure resilience and pension funds.<sup>4</sup> Any nationalised industry could also be subject to the Treasury's expenditure and borrowing limits if spending is not explicitly ringfenced.

Not every nationalisation would need government to compensate private investors. For example, train operating companies (TOCs) function under a contracted franchise system for a limited term. A government wanting to nationalise them could simply wait for the existing franchises to expire and transfer the service back into public ownership. The same could also apply to PFI and PPP contracts near the end of their terms, though these tend to be longer-term agreements than rail franchises. An alternative here could be activating break clauses if they are in place, as London Underground did on a PFI contract in 2012, ending contracts amicably and taking services in-house, something Transport for London (TfL) achieved on a PPP maintenance contract in 2016, or choosing to end a contract early and compensate the private firm as appropriate.<sup>5 6</sup> Alternatively, control of companies could be achieved by government buying a majority stake rather than outright nationalisation.

In sectors where licences are long-term or permanent, such as water and energy, compensation would be required. The question here is what investors might expect in return for their shares, likely to be in the form of secure bonds as per previous nationalisations. Some investors would look to sell on bonds at the earliest opportunity, with institutional investors replacing their infrastructure investments with equivalents in other countries. This could then have impacts on the wider economy, including a loss of confidence from private sector investors due to a combination of regulatory risk, currency risk and an increased interest burden.

### **How much would it cost?**

The cost of government buying the firm(s) is dependent on what route is taken. For example, government could take the decision to overpay and quickly, in relative terms, bring a service under public control. An alternative would be government seeking to pay less for a sector in order to deliver a lower cost to the taxpayer, but private firms are unlikely to favour this approach. Law firm Clifford Chance believes that any nationalisation that does not offer full market value compensation will almost certainly be challenged either through investor-state arbitration or the UK Courts.<sup>7</sup>

As well as a recognised need for new infrastructure, existing assets require continuous investment, through maintenance and improvement, in order to provide a safe and reliable service. If taken into the public sector, government would need to meet these long-term investment requirements on top of existing commitments and debts. The Social Market

---

<sup>4</sup> Centre for Policy Studies (2018), [The Cost of Nationalisation](#)

<sup>5</sup> Construction News (2012), [London Underground scraps 30-year PFI deal](#)

<sup>6</sup> Building (2016), [TfL strips Amey of Tube maintenance job](#)

<sup>7</sup> Clifford Chance (2018), [UK nationalisation: The law and the cost](#)

Foundation found that if water network investment alone was undertaken by government rather than the private sector in 2016/17, it would have accounted for 13% of total public capital expenditure.<sup>8</sup>

If businesses are returned to the public sector, the cost of capital may be lower as governments can borrow at a cheaper rate.<sup>9</sup> It is also possible that suppliers would be granted better payment terms than they are by some private firms. However, there are historic examples of the public-sector underinvesting in infrastructure compared to when it is private ownership. The World Bank identified that, in the six years after privatisation in 1989, Britain's water companies invested £17bn in improving supply, compared with £9bn in the six years before privatisation.<sup>10</sup>

### **Public perception of nationalisation**

There is strong public support for privately-owned infrastructure assets being state-owned and operated. In August 2017, a Populus poll showed 76% of the public back the nationalisation of the railways, 77% for that of electricity and gas, and 83% for the water industry.<sup>11</sup> This level of backing crosses generations and social grades, while the public, media and some politicians have raised several questions surrounding market competition, dividend pay-outs, executive pay, the cost of services and levels of company debt. However, some of the benefits that have derived since privatisation, namely heightened investment, increased corporation tax receipts and pension fund returns, are not immediately obvious to the public.

A more detailed poll, carried out in conjunction with the water industry in 2018, showed public support for nationalisation of water fell to 42% when respondents were provided with arguments for and against.<sup>12</sup>

Giving backing for nationalisation as a binary answer to a poll question is relatively simple, but the risks the public are prepared to take in enacting sweeping changes to the UK business environment and existing infrastructure systems are as yet uncertain.

ICE, in association with consultancy Copper, conducted a thorough survey of the public's attitude to infrastructure in 2017. It found that, while the public recognise the need for investment in infrastructure, there is an information deficit about the tangible benefits investment delivers. This lack of a coherent story causes an investment-benefit disconnect which, in turn, means the public does not identify with what investment means to them until a project is operational, often many years after it is first proposed.<sup>13</sup>

Accountability is also an important consideration. In private hands, firms are ultimately accountable to their shareholders. Private sector monopoly firms who own and manage infrastructure assets and provide a service need to be mindful that they are considered by

<sup>8</sup> Social Market Foundation (2018), [The cost of nationalising the water industry in England](#)

<sup>9</sup> Institute for Government (2017), [Financing Infrastructure](#)

<sup>10</sup> The World Bank Group (1997), [Water privatization and regulation in England and Wales](#)

<sup>11</sup> The Legatum Institute (2017), [Public opinion in the post-Brexit era](#)

<sup>12</sup> ComRes (2018), [GB public research on the appetite for nationalising the water sector](#)

<sup>13</sup> Copper (2017), [Independent survey of attitudes to infrastructure in the United Kingdom](#)

the public as delivering a civic good, and in some cases a basic human right, and must be seen to act in that way.

A nationalised system would have public sector rules on transparency and accountability, providing the government of the day with greater control, but state ownership should still be open to democratic scrutiny so that it does not provide backing for unworkable or politically expedient solutions. The issue here lies in what ownership model can be best trusted to deliver the best possible service and therefore good governance and effective regulators, no matter who owns the infrastructure, is vital.

### **The impact on innovation and skills**

Commercial enterprises, responding to market pressures and the need to stay competitive, incorporate new technologies into their operations as a way to boost efficiency and productivity. However, due to the monopoly nature of some of the privatised firms, they have been accused of underinvesting in innovation themselves for a number of years.<sup>14</sup>

In contrast, government does not have ‘customers’ in the traditional sense and is not required to deliver returns to shareholders. This lack of incentive to innovate and deliver efficiency, along with the sheer scale and capital cost of implementing change network-wide, has historically resulted in significant underinvestment in nationalised assets.<sup>15</sup>

The need for innovation has never been greater, with a digital revolution well underway and challenges including population growth and climate change to address. There is a potential role for existing regulators in promoting greater competition, incentivising innovation and encouraging greater collaboration in order to deliver better outcomes to consumers while meeting these challenges. Indeed, this has been recognised in the 2018 Budget with the Government announcing a consultation on encouraging innovation in the regulated utilities.<sup>16</sup>

Predicting how nationalisation will affect employment and skills is challenging. To a large extent, it depends on how successful the nationalisation and its implementation is. There are questions about whether former private sector employees would remain employed in the public sector, either due to being moved on or electing to find alternative employment. High-performing or entrepreneurial individuals might find their talents better rewarded elsewhere, leading to a ‘brain drain’ of expertise of those knowledgeable in particular infrastructure sectors, including engineers. Alternatively, a nationalised sector could lead to an increase in employment, while workers may feel incentivised to improve their performance due to a sense of ownership as opposed to financial motivation.

---

<sup>14</sup> Arup (2014), [Future of Rail 2050](#)

<sup>15</sup> Schleifer, A. Journal of Economic Perspectives—Volume 12, Number 4—Pages 133–150 (1998), [State versus Private Ownership](#)

<sup>16</sup> HM Treasury/BEIS (2018), [Encouraging innovation in regulated utilities](#)

## Railways

The railways in Great Britain are a partnership between the private and public sectors, with state-owned Network Rail responsible for track maintenance and improvements, and the various TOCs running passenger services under a franchise system.

Rail travel has seen an enormous surge in demand in the 20 years since the privatisation of British Rail. Journey numbers have more than doubled since 1997 yet, despite this, rail fares remain the highest in Europe with the average rail commuter spending 13% of their salary travelling to work by train.<sup>17</sup> However, improvements have been made – delay minutes have reduced by 20% over the past decade, services per day have increased markedly, operating and maintenance costs of passenger journeys have reduced by 40%, while the safety record of the industry is the best of the ten largest railways networks in Europe.<sup>18 19</sup>

Unlike water and energy, which attract vast levels of private investment and are projected to continue to do so in the future, 87% of forthcoming pipeline spend on rail is due to come from the public sector. This is being driven by major projects like High Speed 2, Northern Powerhouse Rail and Crossrail 2, which seek to create a better-connected Britain and a more reliable train service. In 2016/17, the private sector invested £925m in rail infrastructure, most of which was on rolling stock – this compares to £4.2bn of government support in the same period.<sup>20</sup>

Despite record investment, customer satisfaction rates portray a mixed picture, with some TOCs scoring as low as 27% for satisfaction with value for money.<sup>21</sup> Most recently, the rail network has been prominent in the news as delays to infrastructure programmes ahead of timetable changes, alongside a lack of preparedness from TOCs, led to significant disruption on some routes.<sup>22</sup> The recent public ownership of the East Coast Mainline franchise due to private sector shortcomings is also perceived as a failure of the current system.<sup>23</sup>

In September 2018, Transport Secretary Chris Grayling announced a large-scale review of Britain's railways. The review will consider regional partnerships and greater use of innovation to improve services and deliver better value for money.<sup>24</sup>

### Process for nationalisation

The simplest, and cheapest, process is for government to wait for the various franchises to end and then take them into public ownership as they expire, with the latest due to end in 2030. Government could decide to take franchises under immediate public ownership, to which compensation would need to be paid to TOCs.

---

<sup>17</sup> The Times (2018), [Rail fares five times higher than in Europe](#)

<sup>18</sup> Network Rail (2018), [A better railway for a better Britain](#)

<sup>19</sup> Rail Safety and Standards Board (2018), [Annual Safety Performance Report 2017/18](#)

<sup>20</sup> Office of Rail and Road (2017), [Rail Finance 2016-17 Annual Statistical Release](#)

<sup>21</sup> Transport Focus (2018), [National Rail Passenger Survey](#)

<sup>22</sup> Office of Rail and Road (2018), [Independent inquiry into the timetable disruption in May 2018](#)

<sup>23</sup> BBC News (2018), [East Coast train line to be put into public control](#)

<sup>24</sup> Department for Transport (2018), [Government announces 'root and branch' review of rail](#)

The rolling stock, currently leased by the TOCs from other firms, would entail costs. Government may decide to buy the rolling stock outright or it could establish a body to procure and lease the rolling stock itself. This could represent a cost similar to the approximate £750m a year that private firms invested in rolling stock in 2016-17, with the possibility of greater efficiencies from dealing with a single entity and reduced borrowing costs from being in the public sector.

Some part-nationalisation has already happened or is planned in addition to that on the East Coast Mainline; the Heathrow Express and some East London lines have been transferred to Transport for London (TfL) as part of Crossrail, while TfL also want to bring a number of South London lines into public ownership.<sup>25</sup>

This thinking is being driven by efficiency reasons and follows the success TfL have had in improving the Overground network.<sup>26</sup> However, the model on the Overground, Crossrail and DLR is not run fully by the public sector; instead it is operated by various private companies. But unlike TOCs under the franchise control of the Department for Transport, TfL itself sets fares, procures rolling stock and decides on service levels in a concession-style model. The operator takes only a small element of revenue risk, with TfL taking 90% and the operator 10%. It is possible for a similar model to work for the wider rail network as part of a more regulated system, particularly with a move towards greater devolution.

### **Potential implications for the sector**

In the year to 15 September 2018, 60% of passenger train delays were attributed to publicly-owned Network Rail.<sup>27</sup> Nationalisation of TOCs is unlikely, then, to immediately improve quality of service. It is likely that service levels would be maintained, though it could, in the short-term, be disruptive and time-consuming. Timetables may change, issues surrounding the handover of rolling stock may occur, and a potential skills gap due to increased staff turnover may arise.

Currently, the ability to cap or reduce fares is entirely independent of who operates the trains. In any case, without drastic improvements in capacity, it would not be immediately possible for government to reduce fares without causing a major shock to the system or increasing public debt further. Moreover, government would likely have to offer compensation arrangements for delays and cancellations to passengers directly and thereby increase its own costs.

In the mid- to long-term, it is possible, with an integrated track and train service, that decision-making, operations and stability will be improved by fostering a closer interaction between the infrastructure and the trains that run on it. The Government have already taken steps to end the operational divide between track and train, setting out plans to relax rules on who provides improvement for track maintenance work.<sup>28</sup>

---

<sup>25</sup> Transport for London (2018) [Developing the rail network](#)

<sup>26</sup> London Assembly Transport Committee (2015), [Devolving rail services to London](#)

<sup>27</sup> [Network Rail Public Performance Measure](#)

<sup>28</sup> Department for Transport (2017), [Connecting people: a strategic vision for rail](#)

## Water

Water and sewerage services in England are provided by private sector monopoly companies. An economic regulator, Ofwat, sets prices while the Environment Agency and Drinking Water Inspectorate, among others, regulate wider performance. Since privatisation in 1989, the UK's reputation as the 'dirty man of Europe' has been washed away with some £140bn of investment leading to high quality drinking water, cleaner rivers and beaches and household water bills that are, on average, comparable to or cheaper than many other Western European nations who operate a state-owned water and sewerage network.<sup>29</sup>

These improvements have largely derived from environmental requirements agreed through European Union directives. Even as the UK looks to leave the EU, there is little chance of a return to the environmental problems seen in the latter part of the twentieth century as, alongside heightened public awareness of environmental issues, domestic policies today are firmly set on the foundations of those directives.

In Scotland and Northern Ireland, water is delivered by the public sector. In Wales, a non-profit organisation supplies the service. In England, nine wholly private companies provide water and wastewater management in ten regions, making England the only country in the world to have a fully privatised water and sewerage system. The industry operates under the regulatory asset base (RAB) model, with fully privately-owned assets and 99.3% of finance provided privately and is organised through asset management periods of five years in length, providing a degree of certainty for investors.

With consumers geographically and legally limited as to where they can source water and sewerage services from, and bills on average having increased by 41% between 2007 and 2017, the water industry is often singled out by politicians and the public as a sector ripe for nationalisation.<sup>30</sup> Ofwat, however, believes that prices are £110 lower than if the utilities had remained in the public sector, while the sector is 64% more productive now than in 1994.<sup>31 32</sup>

Part of the issue lies in how a few water firms are perceived. Some have been on the receiving end of criticism from the media, politicians and the public for large dividend and executive payments and complex offshore financial arrangements. Indeed, this is recognised by the current Government. In March 2018, the Secretary of State for Environment, Food and Rural Affairs Michael Gove warned water executives that poor practices could drive support for putting the utility into public ownership.<sup>33</sup> Mr Gove urged companies to use their "imagination, tenacity and creativity" to solve the problems or "face the consequences" in the form of greater regulatory powers. Those firms have announced intentions to cease their current financial arrangements, become more transparent and increase investment in the

<sup>29</sup> International Water Association (2016), [Total Charges For 170 Cities In 2015 for a consumption of 100 m<sup>3</sup> in US\\$](#)

<sup>30</sup> The Independent (2017), [Household bills rose twice as fast as salaries over last decade](#), 27 June 2017

<sup>31</sup> Ofwat (2016), [Affordable for all](#)

<sup>32</sup> Frontier Economics (2017), Productivity improvement in the water and sewerage industry in England since privatization

<sup>33</sup> Department for Environment, Food & Rural Affairs (2018), [A water industry that works for everyone](#)

network.<sup>34</sup> This has also been reflected in water bill reduction targets over the next asset management period, which Ofwat expects to fall by up to £25 between 2020 and 2025.<sup>35</sup>

### Process for nationalisation

Estimates for the cost of nationalising the water industry vary. Ofwat puts the capital value of the industry at £69bn, while a report by the Social Market Foundation think-tank, sponsored by the water industry, argues that the compensation costs to shareholders would be as much as £90bn, based on taking the value of the industry's regulated asset base and applying an acquisition premium, as per market convention, of 30%. Such a move could increase national debt by up to 5%.<sup>36</sup>

The Centre for Policy Studies reaches a similar conclusion, revising the acquisition premium down to 25% for a final figure of £86.25bn. This figure could increase by a further £49bn to take account of paying off the debts of the water companies.<sup>37</sup> However, other estimates put the cost at £37bn if pure market value is paid.<sup>38</sup>

The actual process is likely to be a lengthy one, with a need for an end to come to existing asset management periods first and legislation and compensation agreed upon in Parliament. It is likely that new regional water authorities will be created for each of the water regions, operating the water and sewerage services using the existing workforce.

### Potential implications for the sector

The lenders, investors and equity holders that make capital available to the water industry do so in expectation of a return on their investment. For shareholders this takes the form of dividends, for institutional investors this means annual interest payments. Ofwat recognises that the cost of capital is unavoidable, meaning customers partly fund private sector financing costs, with the most recent analysis suggesting an average household will pay between £60-£70 per year between 2020 and 2025 to enable this.<sup>39</sup> There is an argument, then, that a nationalised industry no longer requiring this cost could pass on the savings to consumers via lower bills.

However, this must be balanced against what could be a less efficient and agile operation in public hands. As noted in this paper, investment and productivity in water have vastly improved since privatisation, particularly in light of sluggish or even declining productivity in other publicly-run services over the same period.<sup>40</sup> Calculations from First Economics suggest that the efficiency gains of privatisation of water outweigh the burden on consumers of raising capital by a margin of at least £400m.<sup>41</sup>

---

<sup>34</sup> Utility Week (2018), [Bid farewell to the Caymans](#)

<sup>35</sup> BBC News (2017), [Water bills set to fall by up to £25 from 2020](#)

<sup>36</sup> Social Market Foundation (2018), [The cost of nationalising the water industry in England](#)

<sup>37</sup> Centre for Policy Studies (2018), [The Cost of Nationalisation](#)

<sup>38</sup> Bayliss, K. & Hall, D (2017), [Bringing water into public ownership: costs and benefits](#), Public Services International Research Unit (PSIRU), London

<sup>39</sup> Ofwat (2017), [Delivering Water 2020: our final methodology for the 2019 price review](#)

<sup>40</sup> ONS (2017), Public service productivity estimates

<sup>41</sup> First Economics (2018), [Private vs public ownership of water and sewerage companies](#)

In public hands, central government can also restrict expenditure and borrowing capacity, potentially delaying infrastructure projects. Indeed, one of the drivers of privatisation was to avoid situations such as this occurring by depoliticising the process. Northern Ireland Water, publicly owned but operating under company legislation, is a case in point. The company has been functioning since 2015 in a resource-constrained mode after the Northern Ireland Assembly made the decision it could not adopt its plans for the PC15 period, meaning a fully funded business plan is not in place.<sup>42</sup> NI Water is having to postpone infrastructure improvements as a result.

Water is a heavily regulated monopoly and great improvements have been made since privatisation in terms of service level, investment and efficiency. It should be possible under the existing regulatory structure for government to achieve whatever trade-off it wishes for lower bills and better infrastructure. The option is also there for strengthening regulatory powers if necessary. However, if public trust in water firms continues to erode and more thorough reform and greater levels of accountability are identified as necessary, a move toward a concession model, subject to competitive tendering, may be an approach taken as opposed to outright nationalisation.

## Energy

Since privatisation of the gas sector in 1986 and the electricity sector in 1990 into just a handful of companies, there are now over 60 energy generating companies in GB, from the so-called 'Big Six' through too much smaller, local players, some of which are publicly owned.

Alongside those suppliers, the transmission and distribution network has also diversified since privatisation. GB's power transmission network is owned by National Grid, SSE and Scottish Power, with National Grid solely responsible for the gas transmission network. Distribution of gas is split regionally between four monopolies, with the electricity distribution network separated regionally into nine monopolies.

The energy sector is overseen by Ofgem, who seek to protect consumers' interests by regulating the companies through price control periods that set the maximum amount of revenue that can be recovered from consumers and businesses. These arrangements also seek to incentivise the companies to improve efficiency, innovate and to act in line with the interests of their customers.

The UK faces an 'energy trilemma', namely balancing security of supply in the face of increasing demand, meeting environmental targets, and improving affordability for domestic and industrial users. ICE's National Needs Assessment found that peak energy capacity would need to reach 1200 TW/h/years by 2050 – a 33% increase on current capacity.<sup>43</sup>

It is imperative that the UK meets these challenges head-on. This will require heavy and

---

<sup>42</sup> NI Water, [Annual Report & Accounts 2016/17](#)

<sup>43</sup> ICE (2016), National Needs Assessment

sustained investment in renewable energy alongside battery and storage technologies, smart grid solutions, and more a more sustainable heating network through, for example, district heat networks or hydrogen generation. To support this investment, a stable regulatory environment and long-term policy objectives are required to bolster investor confidence.

As with the water industry, there is a widespread public perception that private suppliers and distributors of energy are making excess profits and do not always act in the public interest, reinforced by examples such as mis-selling in the energy retail sector.<sup>44</sup> There are also undoubtedly improvements that need to be made to the market in terms of increasing competition and widening access to new entrants, encouraging greater levels of innovation to meet future challenges and develop new technologies, and attracting further financing to create additional capacity and a more resilient network.

Electricity prices in the UK are less expensive than many other EU-15 nations, many of which operate a nationalised or part-nationalised energy network. In the first half of 2017, and including levies and VAT, this translated to 15.2 pence/kWh, approximately 9% below the median.<sup>45</sup> In terms of domestic gas prices, in the first half of 2017 these were also below the EU median, standing at 4.04 pence/kWh.<sup>46</sup> National Grid claims that the costs of maintaining the high voltage transmission network are now 30% lower than before privatisation, with £14bn invested in electricity transmission infrastructure over the past decade.<sup>47</sup>

### **Process for nationalisation**

The energy sector's composition is highly complex, split between generation, transmission and distribution across a multitude of organisations. The scale of nationalisation and how a company's value is determined means that existing cost estimates of nationalising the energy sector are uncertain and vary widely.

In the most extreme case, for example a wide-ranging nationalisation of the energy sector, the Centre for Policy Studies estimates the final total could be as high as £185bn, £55.4bn of which accounts for the transmission and distribution network.<sup>48</sup> Investment bank Jefferies estimates the cost of nationalising just the 'Big Six' energy firms would amount to as much as £124bn.<sup>49</sup>

At the lower end of the spectrum, a report from the University of Greenwich suggests that the outright cost would be between £24bn and £36bn, though this would not involve the nationalisation of the supply network as it proposes the creation of new local public-sector suppliers to compete alongside them. Instead, the costs arise from compensating shareholders in the process of nationalising the transmission and distribution network.<sup>50</sup>

---

<sup>44</sup> Ofgem (2014), [Ofgem secures £1 million payment by British Gas for mis-selling](#)

<sup>45</sup> BEIS, [Quarterly energy prices tables annex, December 2017](#)

<sup>46</sup> House of Commons Library (2017), [Energy Prices](#)

<sup>47</sup> Financial Times (2017), [National Grid hits back at calls for renationalisation](#)

<sup>48</sup> Centre for Policy Studies (2018), [The Cost of Nationalisation](#)

<sup>49</sup> Financial Times (2018), [Returning the UK's privatised services to the public](#)

<sup>50</sup> University of Greenwich (2016), [Public ownership of the UK energy system - benefits, costs and processes](#)

Unlike water, energy generation and the retail market are not monopolies. It is likely that existing publicly owned energy companies or co-operatives would be able to compete with private providers to provide the widest choice to consumers. More likely, then, is the nationalisation, or part-nationalisation, of the transmission and distribution network. By changing licence terms, government could leave the existing private firms as the asset owners, but hand day-to-day operation of the network to the public sector.

### **Potential implications for the sector**

Similar to the water sector, in public hands the energy sector will become vulnerable to spending constraints set by the Treasury or short-term political objectives. This could lead to reduced investment and new assets being delayed at a time when decarbonisation and improving security of supply, resilience and affordability need to be prioritised. There could well be an impact of lower bills for consumers, though this comes with the risks of reduced investment further down the line as investors move their capital and lead to reduced service levels in later years.

There is also a possibility that the current trend towards decentralised energy could be further enabled by nationalisation, allowing local authorities to take control of their energy network and invest any profits into local schemes. A nationally owned grid geared towards local generation, focused on renewables, may help balance supply and increase investment in energy storage.

Concerns about energy prices, quality of service and trust levels are valid. But there are alternatives to nationalisation to improve the deal that consumers receive. Government can ensure it does not unnecessarily exacerbate rising prices. It can ensure the investment priorities make the best use of customer money, open the market to greater competition and consumer choice and consider devolution of energy in some cases as a solution to achieve this.

In the case of a natural monopoly such as the transmission and distribution of energy, more can be done to safeguard strong and effective regulators, independent of the supply network.