

Annex K: Governance – supplementary material

K.1 MUNICIPAL GOVERNANCE AND DECENTRALISED BEGINNINGS

Much of the existing infrastructure in the UK is a municipal legacy that can be traced back to the 19th century. In the past, the ownership and infrastructure investment decisions were more decentralised and dispersed and the local councils were the main authorities responsible for transportation, telecom, energy governance, waste management, and domestic water supply. The private sector actors operated mainly as unregulated market entities within transportation, water, and the energy (predominated by coal) sectors (Marshall, 2010).

Most of the existing water network infrastructure in the UK was developed during and after the Royal Commission on the Health of Towns came into existence in 1843. The Commission's Public Health Act of 1848 gave town councils/local boards (of health) the responsibility for the supply of the water to houses, waterworks, drainage, sewerage, and street paving. However, the early public health act had little impact on the responsibility of the local authorities due to the permissive nature of the legislation. Urban water supply continued to be in the hands of large private companies for a long duration (Fisher and Cotton, 2005). More compulsory legislation came with the Public Health Act of 1875 that consolidated the powers and duties of local authorities. With the revision of the Public Health Act in 1936, the duties and responsibilities of local authorities were defined more clearly. Further changes came through the Water Act of 1945 that encouraged the amalgamation of water companies and local boards. This was followed by the establishment of river boards in 1948 with assigned responsibilities for drainage, fisheries, and the prevention of pollution. The Water Resource Act 1963 replaced these river boards with river authorities, with powers to control the abstraction of water and pollution (House of Lords Science and Technology Committee, 2006).

The energy sector was also characterised by a mix of public and private provision at a municipal level. A hundred years ago, the UK's energy system was dominated by coal. The industrial revolution had embedded a wholesale shift in UK energy demand – away from traditional wood fuel towards the use of this plentiful fossil fuel (Fouquet and Pearson, 1998). Gas and electricity systems of the early 20th century were small and localised. Gas manufactured from coal was used for lighting in streets, factories and public buildings. Electricity was comparatively new, and was initially developed to serve some industrial facilities and the homes and leisure venues of the wealthy, such as the Royal Opera House (Hughes, 1983). As time progressed, electricity networks expanded to connect more customers as new sources of demand emerged such as electric motors. These networks were largely private and independent, and many operated using different technical

standards. There was no regulatory obligation for the network owners to provide universal services. Furthermore, some developers (e.g. owners of new tram systems) often built their own network to meet their needs (Patterson, 1999).

The telephone service in the UK around the mid-1800s were also under decentralised municipal level private control by companies such Electric Telegraph company in 1846 and National Telephone Company (NTC) in 1878. In 1896 the General Post Office (GPO) took over the NTC and by 1912 it became the monopoly agency that took over all the private telephone companies that were existing at the municipal level (BT, 2006).

The waste management in the 18th century, although decentralised, had gained reasonable importance particularly in London due to the increase in the resource value of waste. Domestic heating and cooking were the main generators of municipal waste with high ash content, which became a major raw material (during the industrial revolution) for bricks and breeze for building. London Parishes contracted the collection of waste to private contractors systematically and ash trade peaked in 1830s. Another driver for waste management was the public health and sanitation movement in 1850–1900s. As a result of the Public Health act of 1848 the households were required to handover their rubbish to local authorities who systematically managed the weekly collection system (Wilson, 2007).

In some cases (and not all) the dispersed public/private ownership arrangement established in the industrial revolution led to chaotic infrastructure development based on incremental decision-making by private businesses and local bodies (Glaister *et al.*, 1998). However, sectors gradually gained national attention as when the state recognised the salience of the respective sectors as key components of national development. For example, energy and transportation sectors became centralised much earlier, in the 1940s, than water, which was locally governed until the 1960s.

K.2 CENTRALISATION, REGIONALISATION AND INCREASING STATE INVOLVEMENT

The post-Second World War period is marked by increased state control and national attention given to the transportation and the energy sectors. Between the 1940s and 1980s, energy and transportation received significant attention and spending from the state, as these sectors were seen as complementary and essential to the entire country's economy. However, the idea of converting the telecommunications under the control of General Post Office (GPO) into nationalised industry germinated way earlier than these two sectors in 1932. Nevertheless, it was with the passing of the Post Office Act of 1969 that the post office became a nationalised monopoly with the exclusive rights to run the telecommunications in UK (BT, 2006).

In transportation, rail and road infrastructure were the key areas which received maximum government spending. Although all transportation modes (rail, road, air, and ports) were controlled by central authorities, each modal authority functioned in a 'silo' styled manner, characterised by disintegrated decision-making (Glaister *et al.*, 1998).

Similar to transportation, the energy sector was increasingly seen as strategically important for the UK economy (Foresight, 2008). From the 1920s onwards, the need for load management and the economies of scale offered by advances in steam turbine technology began to feed through to a move to centralisation and standardisation (Hughes, 1989). In the UK, the national grid began to emerge from a patchwork of local companies and networks. During the inter-War period, a decisive move towards an integrated system was made. Following a protracted battle with local authorities, universal technical standards were imposed by the national government.

Electricity supply was nationalised after World War Two in 1947. This set the scene for several decades of development that was characterised by progressively larger power plants (Sherry, 1984). Similarly, nationalisation of the gas industry a year later amalgamated over 1000 companies into just 12 regional gas boards (National Grid, 2005). The discovery of natural gas in the North Sea in the late 1960s further reinforced the development and integration of the UK's gas network, and to the phasing out of locally manufactured town gas.

The relative importance of energy policy in the UK has varied considerably since nationalisation (MacKerron, 2009). By the late 1950s, the security of coal and oil supplies had lost its prominence as an energy concern, but the global 'oil shocks' of 1973 and 1979 refocused attention on the need for energy efficiency and alternative sources of energy. This led to a drive to harness and exploit natural gas and oil from the North Sea, and also provided a continuing rationale for the UK's emerging civil nuclear power programme. Nuclear power was introduced in 1956 with the opening of the Calder Hall reactor – the world's first civil nuclear power station. But this source of electricity became increasingly controversial (Marshall, 2010), and the programme lost momentum in the 1980s as other policy imperatives took precedence over energy security (Pearson and Watson, 2011).

In contrast to energy and transportation, the stronghold of the localised public and private control of water lasted until the 1960s and the 1970s. The post-1960s government attention to regionalise the water sector was triggered by water security issues and the growing reliance of other infrastructure sectors on water (such as energy). The Water Act of 1973 led to the establishment of 10 Regional Water Authorities (RWAs) that were later converged into private Water and Sewerage Companies (WASCs) through the Water Act of 1989. The RWAs functioned as single units of operation within their respective regional areas and were required to perform diverse range of tasks such as water supply and treatment, sewerage disposal, drainage, river pollution, fisheries, etc., which up until 1975 were performed at a more localised disintegrated level by various agencies such as River Boards, Sewerage Boards, and quasi regional water boards.

Similar to energy and transportation, national spending on water supply infrastructure increased considerably post-centralisation. Between 1955 and 1973, the growing demand for industrial and domestic water was a major driver for state spending on capital intensive supply solutions, such as the construction of reservoirs, ground water resource development, and pumping stations, etc. (Marshall, 2010). Nonetheless, the economic downturn of the 1980s was accompanied by cuts in public sector borrowing and spending. Spending cuts had a detrimental impact on investment in water infrastructure needed to improve the water quality of the UK as laid down by the EC directives of mid-1980s (House of Lords Science and Technology Committee, 2006).

Unlike the other sectors, the waste management services have continued to be delivered locally even till date. However, the central policy attention toward waste grew in the 1960s due to the environmental movement and environmental consciousness at the European level. This was followed by the EU legislations in 1990s which expected the member states to take thorough actions towards waste management. Despite this, in the early 1990s the UK continued with the waste to landfill norm and followed traditional treatment systems, although various badly run landfill sites were closed during this time. But gradually the political interest was growing and soon waste became an important planning issue at the central level (Davoudi *et al.*, 2005).

This brief survey of the development of the UK's infrastructure sectors during the period after World War 2 reflects that the main driver of central government's policy attention was the need to plan and finance investment to underpin economic growth. Public investment tended to focus on capital-intensive, supply-side infrastructure – though in the 1970s and 1980s this investment was not sustained due to increasing pressure on public budgets and slower economic growth.

K.3 PRIVATISATION AND LIBERALISATION

The 1980s saw the privatisation of almost all ITRC sectors, with the central government transferring all its state-owned assets into private hands. This wave was different from the unregulated public/private governance system of the pre-1940s era, as it was accompanied by economic and environmental regulation through multiple actors such as Ofgem, Ofwat, and the Environment Agency (Marshall, 2010). The 1980s privatisation initiative was driven by financial deficiency and efficiency issues. The financial position of the government was such that privatisation came as a relief because it allowed the state to meet national infrastructure investment needs without placing the burden on users or government budgets. The privatisation move also fits with the Conservative government's desire to reduce the power of unions (Helm and Tindall, 2009).

In transportation, post-1980s saw the privatisation of almost all modes of transportation except road infrastructure, which continued to be publically funded. The new governance system placed emphasis on regulations and subsidies through various mechanisms. This liberalised system witnessed the emergence of integration across various modes of transportation and increased emphasis on changing the modal split particularly in favour of public transportation (Marshall, 2010).

Within the energy sector, almost all subsectors (gas, electricity, and coal) were privatised between 1986 and 1995 – with the exception of some of the older nuclear power stations which were retained in the public sector. During the 1990s, competition was gradually introduced for both electricity and gas. By 1999, all consumers (including householders) could choose their supplier. The regulation of monopoly network charges remained with independent economic regulators. These were initially Offer (for electricity) and Ofgas (for gas). These were merged to form a single electricity and gas regulator Ofgem in 1999. The regulators used the 'RPI-X' formula to reduce network charges over time. Because of past investments in the State-owned era, it was possible 'sweat the assets' of the network companies to deliver significant efficiency savings (Helm, 2009).

By the late 1980s, the water sector also began to feel the pinch of state level operational inefficiency and financial deficiency in infrastructure finance. Thus, for the first time in Europe, the water systems were made fully privatised by placing 100% of assets into private water company ownership. The post-privatisation era saw improved operational efficiency and extensive investment in infrastructure construction to improve water quality and comply with EC directives and obligations. Akin to the energy sector, the utility companies continued to 'sweat the assets', particularly the supply infrastructure that was built during the previous era (House of Lords Science and Technology Committee, 2006).

By 1984, the General Post Office's branch that became British Telecommunications (BT) was also privatised under the Telecommunications Act of 1984 that transferred almost 50% of the shares of BT to the general public. Privatisation enhanced the commercial freedom of BT and it became more receptive to competition and global expansion. By 1991 the Telecommunication White Paper removed the duopoly of British Telecom and Mercury Telecommunications in the UK. Then Oftel was introduced as the telecom regulator that encouraged market competition in telecommunications. Although telecommunications was regulated, IT was left open to the international market (BT, 2006).

Waste was privatised around the early 1990s where commercial waste management came under complete private ownership, while household waste was dealt through private ownership with public contracting for service delivery under Local authority waste management. Around 6 major companies (including two main companies, Veolia and Suez) held almost 50% of the turnover of the waste industry by 2006. A complex regulatory regime sprung around the waste industry. The pollution control and waste treatment which was priory managed by local authorities came under the Environment Agency. Defra emerged as a vigilant central authority by 2001, which kept an eye on local authorities, and that they abide by EU obligations (by 2012 and 2020) to reduce landfill usage. The EU obligations also encouraged the Private Finance Initiative programme for waste infrastructure construction (incinerators, anaerobic digesters, etc.) which was determined by the Ministry and the local waste disposal authorities. However, PFI procurement only took care of some part of infrastructure built to meet the 2012 and 2020 EU targets; this may have implications when large corporations are not held responsible for failing the EU targets (Davoudi *et al.*, 2005).

Changes in ownership post-privatisation

Over time, this complex set of factors led to diverse privatisation models for each sector, and in the early years created a dispersed set of small shareholders. This was a deliberate feature of these privatisations, which were designed by the Conservative government to create a 'share owning democracy' backed up by television advertising campaigns (Helm and Tindall, 2009). Looking across the privatisations enacted between 1995 and 1996, between 38–67% of shares were allocated to these 'retail owners'. In many cases, the government retained significant 'golden shares' which placed some restrictions on the activities of the privatised companies, and reduced their vulnerability to takeovers. As a result of this shared ownership model, Helm and Tindall (2009) argue that the management of these companies was subject to weak controls by shareholders. This allowed managers to increase their own salaries for example.

During the mid-1990s, the government's golden shares expired, and ushered in a wave of takeovers of UK utility companies – many by foreign investors. In the electricity sector, many of these were from the US. In the water sector, U.S. based Enron did attempt to take over Wessex water, in the hopes that the large returns observed during the first year of privatisation would continue into the future. However, regulations following the UK government's first price reviews in 1997 led most of the companies to back away from the water sector. Thus, foreign owned companies remained in the UK, but mostly in the energy sector. A later wave of international involvement resulted in the direct ownership control in the energy sector by European electricity companies such as E.On and RWE from Germany, EdF from France and Iberdrola from Spain. The shared retail ownership of the UK's national infrastructure was succeeded by the emergence of infrastructure and private equity funds (Helm, 2009). In the water sector also, a water utility company (Northumbria water) was recently sold to Hong Kong based investment firm CKI for £2.4billion. It is estimated that more than 30% of the country's infrastructure assets across all sectors are under the ownership of international players (Guardian, 2011).

K.4 THE ROLE OF THE EUROPEAN UNION

In the energy sector the EU Emission Reductions Targets; Emissions Trading Scheme (ETS), Renewable Energy Directive, Energy Performance of Buildings Directive, etc. are some of the key regulations aiming to achieve the vision for decarbonisation, thus providing a framework in the UK to invest in sustainable energy. In many cases, the UK government has led the rest of the EU – for example, by hosting an initial voluntary pilot for the EU emissions trading scheme in 2005, by going much further than EU GHG emissions reduction targets through the Climate Change Act, and by being the first EU member state to open up gas and electricity markets to wholesale and retail competition. UK policy has also sought to compensate for some drawbacks in the EU Emissions Trading Scheme (ETS) where it is believed that ETS discourages investment in low carbon electricity, as the pricing is too low (and uncertain) and does not fully account for externalities caused by GHG emissions (Stern, 2007). The White Paper proposes the introduction of a Carbon Price Floor (CPF) in the UK in April 2013 to overcome this issue (DECC, 2011a). Despite these proposals to meet EU regulations, there may be some areas of reforms that could fall foul of EU rules. Stakeholders fear that the CPF might encourage carbon leakage as companies would move abroad to avoid higher prices (DECC, 2011a). This may call for a common strategy for carbon pricing at the EU level. It is also feared that various obligations have had a limited translation into market reforms that promote the uptake of privately funded capital intensive projects. Some initiatives have sprung up such as the EU Third Package that proposes changes to the governance of Europe's electricity and gas markets, many of which have already been implemented in the UK (DECC, 2011b; WFW, 2011). Some of the Third Package provisions have not been fully implemented, and include changes to enable market coupling (between markets in different Member States) and cross-border transmission projects. The response to these two areas is already being considered by Ofgem.

The regulatory structure for energy efficiency and carbon reduction in buildings is framed by the Energy Performance of Buildings Directive (EPBD) introduced in 2002 that is translated into the Building Regulations of the UK and the Housing Act of 2004. These outlines the principles for energy performance requirements, state the requirement for achieving a minimum carbon performance for new buildings, conservation of energy in new non-domestic buildings, requirement for producing an Energy Performance Certificate, etc. Although it is clear that UK law incorporates various measures in response to the Building directives, but the actual translation of law into practise has been much slower than expected. For example, the goal to achieve large scale uptake of smart meters is far from being realised. Various examples of energy labelling in various countries has shown little difference in energy performance in buildings (Ekins and Lees, 2008). These gaps may call for more innovative reforms to encourage investments in energy efficient buildings. For example, schemes such as the Green Deal may facilitate energy efficiency compliance through financial incentives to retrofit buildings. However, due to inadequate precedence their effectiveness is still unproven. A new EU Energy Efficiency Directive 2011 has also been recently announced that aims to reduce energy consumption by 20% through demands on member states that they shall establish energy saving plans and that energy suppliers reduce sales volumes by 1.5% annually through promoting conservation amongst users. However, these measures are not binding for the time being and may not show the expected result when the attached conditions are not mandatory.

Numerous EC Directives have evolved over the years in the water and wastewater domain too, for example, the Urban Wastewater Directive, Bathing and drinking water directives, etc. EC Water Framework Directive introduced in 2000 has been a key instrument aiming for an integrated system of water protection, improvement, and sustainable use, with binding requirements to maintain Environmental Quality Standards (EQS).

The EC regulation was transposed into the UK through the Water Environment Regulations in 2003 and applies to all UK surface and groundwater. These initiatives have been effective in improving the capacity of water and wastewater infrastructure resulting in improved water quality; however, the obligations under the WFD pose a dual challenge when water and WWT also accounts for high energy usage. Increased treatment under WFD increases the carbon emissions by over 110,000 tonnes a year due to energy usage associated with water and wastewater treatment (EA, 2009). Although it may seem relatively low in comparison to overall emissions by the sector, it may cause future implications due to climatic and demographic changes. Various measures are being discussed to deal with this dual challenge such as controlling the substance of concern (for quality) at source, or usage of least carbon end of pipe processes. Storm water constitutes almost one third of the water being treated in treatment plants, the Sustainable Urban Drainage systems (e.g. Rainwater harvesting, permeable roads, etc.), have a high potential in reducing energy usage in pumping and treatment of water (EA, 2009). Removal of barriers to usage of renewable energy by water industry may also be taken under consideration. Thus implementation of the EU directive will also require coactions by national governments that incentivise low carbon and innovative solutions in water and wastewater treatment.

Within transportation, air quality improvement has been the main agenda defined within EC regulations as the Air Quality Framework Directive and the Directive on Integrated Pollution Prevention and Control (IPPC). These were translated into national law by the Air Quality (England) Regulations 2000 which saw improvement in air quality of the UK due to better vehicular systems, and initiatives such as congestion charging and Low Emission Zones (TfL, 2006). With the growing climate agenda, the recent EC directives significantly aim to reduce carbon emissions from transportation. For example, 2009/33/EC directive for promotion of clean and energy-efficient road transport vehicles; the EU regulation for reduction in CO₂ emissions of new passenger cars; the Renewable energy Directive and the Fuel Quality Directive, etc. These directives have transposed into English laws in different ways. The EU's New Car CO₂ Regulation have helped the UK government to develop targets to achieve 130 g CO₂/km as the fleet average for each car manufacturer for all new cars registered (DfT, 2009). The recent budget (2011) also incentivises the take up of low carbon vehicles, with the announcement that the government will freeze Company Car Tax (CCT) for vehicles generating less than 95 g/km from April 2013 and increase tax for carbon emissions between 95 g/km and 219 g/km by 1%. Most requirements to reduce emissions from private vehicles have been mostly voluntary and the UK had failed to meet its targets to reduce vehicular emissions to 140 g/km in 2004, however, the EU attention may give way to more mandatory approach to meet the targets. The CCC carbon budget report have also translated the EU aims in its chapter on decarbonising surface transport suggesting improved efficiency of conventional vehicles, increased use of electric technology in both road and rail transport, and use of bio fuels. Renewable Transport Fuel Obligation in the UK (derived from the Renewable Energy Directive) gives policy certainty in relation to uptake of bio fuels in Transportation (DfT, 2009). These initiatives have been very instrumental in giving market signals for the uptake of low carbon technologies, electrification, etc. However, likely wide scale electrification within transportation may have significant manifestation in energy intensive (electricity) practises and subsequent implications for the energy sector.

The key directives with implications for waste infrastructure in the UK are the EU Waste Framework Directive (amended in 2008), the EU landfill diversion directive, and the Waste Incineration Directive. The waste framework directive with its lifecycle analysis approach expects member states to meet their waste reduction, recycling, and recovery targets. The UK has defined these targets under UK waste strategy 2007. The landfill diversion directive has set legally binding targets to divert waste from landfills.

The EU directive has been transposed into national schemes and laws such as Landfill regulation and the Landfill Allowance Trading Scheme (LATS) in 2005 which has led to the decline in the amount of waste going to landfill from 64Mt in 2007 to 45Mt in 2009. The numbers of treatment facilities have also increased in the country. The UK has also included the non MSW waste such as C&I waste in the waste reduction target under the Waste Framework Directive. Energy recovery from waste (EfW) has also gained momentum but still needs support in terms of removing barriers to waste segregation. However, the large scale uptake of traditional EfW options such as incineration may once again pose the dual challenge of energy recovery and emissions reductions. Policy attention towards alternative technologies for waste treatment and recovery can contribute in meeting the dual EU targets for energy recovery and emission reductions.

EU regulations are major drivers in environmental improvement and carbon reduction initiatives at a European wide scale. However, these obligations pose additional concerns, particularly the high level of demand for capital investment in infrastructure (in current difficult financial times) and increased trade-off between measures such as waste and water treatment and energy intensity or carbon emissions, thus requiring balanced strategic intervention at the national level.

Stages		
Decentralised governance.		
Energy		Drivers
Pre-1940s	<ul style="list-style-type: none"> • Municipal governance (public/private control). • Unregulated market forces: coal main agent in 1920s. 	
Water		Drivers
Pre-1960s	<ul style="list-style-type: none"> • Municipal infrastructure – Legacy–1800. • 1900s – Public private control. Water low in profile unlike energy and transport – much lower state/National authorities’ involvement. 	
Transport		Driver
Pre-1940s	<ul style="list-style-type: none"> • Local governance, dispersed private control and operations. 	
ICT		Driver
1800	Decentralised municipal level : private companies such as NTC and Electric Telegraph company.	
Waste		Driver
18th–19th century. 1750–1890	<ul style="list-style-type: none"> • Municipal waste (ash) became an important raw material for buildings during industrial revolution. • London parishes –contracts – Private contractors waste collection. • 1848 Public health act led to the systematic collection of waste on a weekly basis from households by Local authorities. 	<ul style="list-style-type: none"> • Municipal waste- resource value • Public health and sanitation movement

Centralisation/state control		
Energy		Drivers
Post-1940s	<ul style="list-style-type: none"> • Centralised control. • Drive for universal provision and access. • Public expenditures and investments all determined and controlled by the state. Energy policy aimed to focus on – security and economic provision. • Period saw state level infrastructure investment in coal fields (as a result of rising oil prices), coal power plants, nuclear power plants and oil and gas infrastructure. 	<ul style="list-style-type: none"> • Energy sector- Backbone of the economy. • Concerns over security of supply, economic provision, and universal access. • Growing dependence of other sectors: Transportation
Water		Drivers
	<ul style="list-style-type: none"> • 1960s-1980s: National attention: DD-SS gap & economic reasons enhanced importance of water sector. • Assets inherited from 1800s suffered neglect – due to previous dispersed ownership. • The water act of 1973 – establishment of 10 Regional Water Authorities (RWAs). • Supply fix solutions: 1955–1976 the cap expenditure increased. Investment in resource infrastructure (reservoirs, storage tanks, etc) • Later economic turbulence of 80s – public spending control in infrastructure. • Water quality an issue of concern – EC directives. 	<ul style="list-style-type: none"> • Water supply security issues. • Growing economic importance of the water sector. • Interdependence of other sectors – energy and industrial demand.
Transport		Driver
Post-1940s till 1980s	<ul style="list-style-type: none"> • State control. Setting of the British transport commission in 1947. Focus on rail and roads. 	
ICT		Driver
1969	<ul style="list-style-type: none"> • Centralisation of the General Post Office (GPO) that controlled telecommunications as a nationalised industry. 	
Waste		Driver
1960s	<ul style="list-style-type: none"> • Waste delivery continued under local authority. • However central policy attention increased, due to the environmental movement of 1960s. As a result various improper landfills were shut down. 	<ul style="list-style-type: none"> • Environmental consciousness

Privatisation		
Energy		Drivers
Late 1980s	<ul style="list-style-type: none"> • All subsectors – privatised (Different private corporations). Networks – under one control – National Grid. • Privatisation and competition from 1980, e.g. electricity (1989/90), gas (1986), coal (1994), some nuclear power (1996). • OfGem the main economic regulator. • Sweating of assets built in previous eras. • Demand and supply measures. 	<ul style="list-style-type: none"> • Improve operational efficiency. • Conservative government's drive to de-unionise the energy sector.
Water		Drivers
Post-1989	<ul style="list-style-type: none"> • Transfer of water authorities to private companies. • 100% asset ownership by the companies. • Economic regulator Ofwat. Water quality and environmental regulators: DWI and EA. • Improved operational efficiency and investment in infrastructure to improve water quality in order to comply with EC directives and obligations. • 'Sweating of' supply infrastructure. • Promotion of supply and demand measures 	<ul style="list-style-type: none"> • Operational efficiency. • Meet infrastructure investments to improve environmental quality.
Transport		Driver
Post-1980s	<ul style="list-style-type: none"> • Privatisation of rail, buses, ports & airports. Roads continued to be funded through government. Regulations in environment, pricing, and introduction of subsidies. 	
ICT		Driver
By 1984	<p>British telecom was privatised and more than 50% of the shares were sold to the public under the Telecommunications Act, 1984.</p> <p>This was regulated by Oftel, which encouraged new companies to stimulate competition.</p>	
Waste		Driver
By 1994	<ul style="list-style-type: none"> • The commercial and household waste was privatised. By the contracts for delivery of services rested with local waste management authorities. • PFI programme of the government invested in infrastructure to meet the EU regulatory targets. • Complex regulatory governance; DEFRA, EA. 	

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