

Public ownership of the UK energy system – benefits, costs and processes

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1 Introduction and executive summary

The possibility of a return to public ownership of the energy system has increased since Jeremy Corbyn was elected leader of the Labour party. This paper sets out the advantages of public ownership; the extent of public ownership in other countries; how the process of returning to the public sector could work in the UK – taking full account of EU law; and calculates realistic estimates of the cost, the possible impact on debt, and the scale of the benefits. It is intended as a contribution to debate.

The reasons for bringing the electricity and gas systems into public ownership are to improve the achievement of important public objectives: development of renewable energy (and control of non-renewable generation), universal coverage, affordability, efficiency, and democratic accountability.

Public ownership of electricity and gas companies is common in many countries, including European countries and the USA. There is a trend back to public ownership, especially in Germany, driven by the same public objectives – renewable energy, affordability for consumers, and democratic control.

Under the present system in the UK, the transmission, distribution, generation and supply functions are carried out by private companies, most of which are owned by multinational companies, overseen by a regulator with little political accountability. A new public system could provide much better achievement of public objectives, but must avoid the problems of remoteness, unresponsiveness, and unaccountability associated with 20th century nationalised industries. The new public system should include three key elements: public ownership of the natural monopolies of the transmission and distribution grids; regional or local public sector bodies responsible for expanding renewable energy generation, and maintenance of other generating capacity; and establishing public sector suppliers of electricity and gas available to all consumers.

Two elements of the system are natural fits for central government: the policy and information functions of the regulator; and the ownership and management of the transmission grid. But new regional and local public sector bodies, accountable to elected councillors, and subject to strong transparency requirements, should be created for the ownership and management of distribution grids, renewable generation, non-renewable generation, and supply to customers.

This would involve buying the transmission and distribution companies, and some proportion of non-renewable generators – but not buying the supply companies. New legislation would create local/regional public supply companies, and a new framework for renewable generation, with a central role for the local/regional public sector.

A firm of stockbrokers, Jefferies, claimed in 2015 that a return of the energy industry to public ownership would cost as much as £185 billion, because of stock exchange rules on takeovers.² The paper identifies a number of errors and inconsistencies in Jefferies' claim, and a misunderstanding of UK law concerning the compensation of owners of companies brought into public ownership. A more realistic estimate, is that the actual cost of compensation could be about £24bn. But the savings from the reduction in the cost of capital by not paying dividends would be about £3.2bn per year - a return of over 14% on the compensation.

2 The economic, social and environmental gains from public ownership

2.1 Climate change and renewable energy

The most prominent public objective for energy policy is developing the use of renewable energy to replace fossil fuels for electricity generation. Renewables have increased their share of electricity production in Europe in the last decade, but this has been driven by public finance (in the form of feed-in tariffs). The overwhelming majority of renewable energy has been developed by public sector or non-profit organisations, not by private companies such as the RWE, E.on, and EDF. And the liberalised markets for electricity, which were designed for private companies to trade power generated by fossil fuel plants, are unsuited to renewables. As a result, the IEA summarises: “Market-based, unsubsidised low-carbon investments have been negligible.”³

Moving to public ownership therefore makes it easier to develop renewable energy systems, rather than using public money to offer financial ‘incentives’ for private companies to choose investments in renewables sold through a dysfunctional market system.

2.2 Universal coverage

This objective was achieved in the UK long before privatisation at the end of the 1980s. It now has to be maintained, but private suppliers have no incentive to support customers who find it hardest to pay: although few are cut off by the companies, many are forced onto prepay meters, so that customers often effectively cut themselves off if they are unable to feed the meter.

Even if the development of renewables results in much greater decentralisation of generation, the public commitment to universality depends on public finance guarantees, maintaining backup systems in case of failure, and protecting consumers from the potential behaviour of private actors, for example by landlords, or by landowners who operate solar or wind installations.

2.3 Affordability and efficiency

The price of gas and electricity is a source of great public discontent in the UK. The real price of gas and electricity has increased by 133% and 67% respectively since the year 2000, and the pre-tax price of electricity for residential consumers is the highest in the EU.⁴ There is a widespread belief that the private suppliers take excessive profits out of the system through the payment of dividends to shareholders and interest payments to creditors, by charging higher prices than necessary, and by using obscure contracts with complex tariffs.

2.3.1 Lower cost of capital

Since the energy sector is a capital-intensive business, these dividends and interest payments – the cost of capital – represent a significant part of the cost of electricity. One of the greatest benefits of public ownership is reducing this ‘cost of capital’, because governments can raise capital by borrowing at far cheaper rates than any company or person.

Public ownership thus creates an immediate gain to consumers. A report by Corporate Watch in 2015 calculated that the annual savings from bringing the energy, water and rail sectors into public ownership could be £6.5 billion – equivalent to £248 each year for every household in the UK ⁵

The simple economic principle here was stated by the senior economics journalist on the Financial Times, Martin Wolf: “Britain's utility model is broken...the transfer of monopolies into the hands of regulated companies that own, run and develop the assets is flawed. This is excessively costly to consumers. It is also an obstacle to investment in risky long-term assets such as airports, nuclear power, electricity and gas networks..... It seems obvious that the finance of assets is a suitable function for the public sector, which has one huge advantage – the ability to borrow cheaply....”⁶

2.3.2 Lower prices: non-profit-maximising, efficiency

Publicly owned companies need not maximise profits, and so the incentive to over-charge and confuse customers is removed. The prices of public sector electricity suppliers in the USA are about 12% lower than the prices of private companies⁷, and municipal energy companies are more trusted than large private companies in Germany⁸. With natural monopolies like transmission and distribution there is no possibility of competition, so public ownership of such networks removes the commercial incentive to abuse such monopolies.

Unbundled and liberalised electricity systems were expected to be more efficient because of the competition resulting from the creation of wholesale and retail markets. In practice, as in other sectors subject to privatisation and/or liberalisation, the empirical evidence does not show that the private sector is more efficient: there is no significant difference in operating efficiency between public and private energy companies. Indeed, there are often significant improvements in productivity when separate parts of a system are merged under public ownership, because transaction costs are reduced.⁹

2.4 Democratisation

The simple advantage of public ownership of the energy system is that it enables democratic control and public planning of a system providing an extremely important public good. Because the public interest is so significant, it is not good enough to rely on individual consumer choices, especially when effective competition is absent, and consumers suffer from imperfect information.

One problem with private companies is that they have an incentive to secrecy. Information could be used by competitors to gain business, and so companies argue that ‘commercial confidentiality’ is important. But in practice companies are often more concerned to withhold information which could be used by regulators or politicians to reduce their profits.

In the past, state-owned companies were also non-transparent, bad at releasing information, and remote from local accountability since they were brought under national ownership. New public companies can be subjected to different demands, including: a statutory duty to publish regular reports on all aspects of their work for public scrutiny; the obligation to hold board meetings open to the public; and a duty to release all information, except personal data, both to customers and to the public at large, as well as elected representatives. This level of scrutiny can create a constant public pressure for greater efficiency.

2.5 Strengthening local economy

A return to public ownership at local level would also have the effect of strengthening local economies. A higher proportion of the work would be carried out in local suppliers, public corporations would pay more taxes, and lower costs would increase the spending power of consumers.

2.6 Public ownership of energy companies is normal and growing

Public ownership of electricity and gas companies is common in many countries, including European countries and the USA. There is a trend towards public ownership, especially local public ownership, most notably in Germany, driven by the same objectives as spelt out above – renewable energy, affordability for consumers, and democratic control.

2.6.1 EU: public ownership legal and widespread

EU directives currently require member states to break up electricity and gas systems and enable wholesale and retail markets. These rules prevent the creation of monopoly suppliers, but EU law does not prevent public authorities, or companies owned by public authorities, from operating

transmission or distribution grids, generating electricity, or supplying electricity and gas to households. Indeed, a clause of the European treaty explicitly states that EU law must always remain strictly neutral on the question of public or private ownership.¹⁰

There are however EU legal constraints against governments or local governments subsidising individual operators through ‘state aid’: in effect any subsidies must be available to all operators alike, public or private.

Public ownership of energy companies exists in many European countries. Many of the transmission, distribution and generating companies are owned and operated by the public sector, and many suppliers of electricity and gas (and other services such as heating, cable TV, water, waste and public transport) are owned by municipalities (see annexe).

This already affects the UK, because a number of large European public sector companies already own parts of the UK electricity system, including nearly 20% of total UK generating capacity.¹¹

Table 1. Table: Existing (foreign) public sector ownership in UK energy sector

Group	Country	% owned by public sector	Type of owner	UK presence
Dong	Denmark	76%	National/municipal	Elec generation
EdF	France	84.5%	National	Elec and gas supply, elec generation
ESB	Ireland	100%	National	Elec generation
Fortum	Finland	61.9%	National	Elec generation
Engie	France	35%	National	Elec generation
RWE (nPower)	Germany	15% ¹²	Municipal/regional	Elec and gas supply, elec generation
Vattenfall	Sweden	100%	National	Elec generation

Source: Seris 2012¹³

2.6.2 USA

About 48 million Americans, in over 2000 cities and districts, get their electricity supplied by public sector companies, at a price which is on average 12% lower than the price charged by private energy companies. This represents 14.5% of the total market – and a further 13% are supplied by electricity co-operatives.

Public sector utilities are seen as a protection against the risks of electricity markets. Unlike the EU, individual states are not compelled to set up a retail market for electricity. California decided to do so, but in 2000 experienced months of blackouts and price spikes, as a result of cartels operated by Enron and others: the only part of California to escape the blackouts was the city of Los Angeles, which continued to be supplied by a public sector utility.¹⁴

2.6.3 Germany

The role of the public sector in the German electricity system has increased sharply in the last decade. Over 80% of the distribution networks are now owned and run by organisations owned by the regional and municipal public authorities. Municipal organisations – ‘Stadtwerke’ – supply half of all the electricity in Germany to households. Stadtwerke have also developed a greater role in generation of electricity, mainly in order to develop renewable energy much faster than the private sector, but also in some cases by buying or extending fossil fuel generators. As part of this process, over 72 new Stadtwerke have been created since 2005. The factors behind this trend include commitment to developing renewables, strengthening local democratic control, and strengthening the local economies.¹⁵

3 The forms and process of a return to public ownership

3.1 Different elements in the present system

Under the present system in the UK, all the transmission and distribution, and the great majority of generation and supply functions are carried out by commercial companies. Generation and supply are dominated by the Big 6 - EDF, RWE, E.on, Iberdrola, SSE and Centrica, with some smaller companies, community organisations, co-operatives and municipal initiatives involved mainly in renewable generation, or supply, e.g. Robin Hood Energy, Brixton Energy.¹⁶

In a transition to public ownership the different elements of the system need to be treated differently.

- A. The transmission and distribution networks are simplest: they are natural monopolies, and the private companies can be brought back into the public sector with the expectation that these monopolies will not exploit their position as they have done under private ownership.
- B. Renewable generation should be treated differently. Current commercial presence in this sector is relatively small, so buying existing private generators would have little point; and the example of Germany has shown that cooperative and community initiatives have a significant role to play, as well as municipal generators. If future generation is to be mainly renewable, there need to be new public bodies promoting renewable energy generation in a wide range of ways, as well as public bodies generating renewable energy directly.
- C. Non-renewable generation should be treated differently again. With a commitment to developing renewable energy, fossil fuel generation will decline, and in any case start playing a different role as backup to renewables. There will however be a need for the new public sector supply companies to draw on non-renewables for some time, and so public ownership of selected non-renewable generation would be necessary. This process could be managed through purchase of selected power stations.
- D. Supply companies should also be approached differently. Municipal suppliers could not be set up as monopolies, under current EU law, but could be expected to capture up to half of the market, as is the case in Germany, by actively gaining public trust through transparent pricing, and using their natural advantages, including a lower cost of capital. The setup costs for the new municipal suppliers should be quite small, as supply companies, under the present system, do not themselves own or construct power stations or networks: they are simple office-based selling operations. As a result, it would be pointless and wasteful to buy the existing supply operations. The new public sector suppliers could and should be able to establish themselves against the existing Big 6 supply companies. In any case, the cost of buying these companies could be wasted, because under EU law the Big 6 could simply set up new supply subsidiaries. This paper therefore does not propose the purchase of the supply business of the Big 6, and this further reduces the cost of public ownership compared with the estimates of both Corporate Watch and Jefferies.
- E. Regulation is carried out by OFGEM. The role of the regulator has however declined in recent years, and instead there has been a resurgence of active planning, financing and commissioning by central government, including the Energy Act 2013, which provides little role for OFGEM.¹⁷ Like other regulators, OFGEM is said to be independent of government, but is better seen as an element of non-democratic government: a report by the House of Lords concluded that the formal constitutional status of the regulators is 'government

department without a minister’¹⁸. The absorption of Ofgem’s policy functions into government and/or local government would thus be a clear part of democratisation.

3.2 EU legislation and democratic change

The possible forms and functions of a public accountable energy system are constrained by existing EU law, notably the Electricity and Gas Directives, which require a liberalised market open to competing electricity suppliers. The proposals in this paper are designed to comply with existing law, for example by maintaining separation between distribution, supply and generating companies, and not seeking to prevent private companies from continuing to sell electricity to households. As noted above, nothing in EU law prevents public ownership of all or any parts of the electricity and gas systems. German experience has shown that distribution networks can return smoothly to public ownership; that public sector energy suppliers have the great advantage of being more trusted; and that the development of renewable energy can be led by municipal and non-profit organisations, and by local businesses.¹⁹

Possible changes to current EU law are not discussed in this paper, but there are many arguments for changing it: for example, there is a widespread view that it conflicts with the development of electricity based on renewables. EU directives are not a body of eternal truths, they are current legislation as approved by representatives of member states, and changeable through democratic processes: the original gas and electricity directives of 1996 and 1998 have already been significantly revised twice. The new importance of renewable energy objectives means that EU law, and UK law, has already had to change, and will continue to do so.²⁰

3.3 New public system: regional and local accountable operators, national policy and transmission

A new public system should be based on the new objectives, including the development of renewable generation, and avoid the problems of remoteness, unresponsiveness, and unaccountability associated with 20th century nationalised industries. The new structures would be more accountable and responsive to local conditions and demands through ownership at regional and/or municipal level (with three specific exceptions).

As outlined above (section 3.1) this new system will require 5 different types of public entities to be created for: the transmission network; the distribution networks; supply to end customers; renewable generation; and non-renewable generation. All of them should include the strongest possible requirements for transparency and for public participation in policy-making, as well as accountability to elected bodies. The lack of regional government in England means that these would have to be created by forming inter-municipal associations.

However, three elements of the system remain better suited to ownership and management at a national level, though again subject to much greater transparency: the policy and information functions of the regulator; ownership and management of the transmission grid, which remains an essential part of a system for guaranteeing universal continuous access to electricity; and ownership and management of the legacy nuclear reactors.

Such a new public system would be broadly similar to the structure of ‘civic energy’, as set out in the working paper “A transition to a civic energy future” of the Transition Pathways research project.²¹

3.4 Process of establishing public ownership and control

The process of bringing these elements under public ownership, democratic accountability, and non-profit operation, would consist of a set of measures to:

- purchase some of the private companies,
- create new public sector companies
- give new powers and duties to local government (and regional or inter-municipal levels)

The key measures would include:

- purchase by government of existing transmission grid and distribution networks companies. This would end private exploitation of these monopolies and return them into public control.
- legislation that would require local councils, either separately or jointly, to create fully transparent regional/local public sector energy suppliers, accountable to elected local authorities, to provide a secure non-profit option for customers. The UK could consider introducing a regulated retail price for electricity – as in a number of other countries – which would be offered by default by all public sector suppliers. ²²
- legislation to provide greater stimulus for renewable energy, making local councils/regional bodies responsible for promoting this development, including through local cooperatives and/or community initiatives, and also requiring local councils, either separately or jointly, to create fully transparent regional/local public sector generators of renewable energy.
- selective purchase of existing fossil fuel power stations, to ensure the new regional/local supply companies have access to adequate power while renewables are being developed. The purchase should be selective in order to avoid public support for a declining element in overall power generation.
- the creation of fully transparent regional/local public sector entities, accountable to elected local authorities, to own the selected non-renewable generators and invest in any new non-renewable generation.
- the creation of fully transparent regional/local public sector entities, accountable to elected local authorities, to own distribution networks
- The creation of national public sector bodies to run the transmission grid and existing nuclear power stations
- some functions of the regulatory bureaucracy can be transferred either into a reformed Department of Energy and Climate Change (for the system as a whole and transmission) or into the new regional/local government structures.

The processes and end-states are summarised in the table below, along with the estimated cost of compensating shareholders (see next section for details).

Table 2. Forms of return to public ownership and accountability

Element of system	Current status	Process	Cost of compensation	New status
Transmission	Private plc	Public sector purchase	£6-8bn	National transparent public company
Distribution	Private plcs	Public sector purchase	£4-6bn	Regional/local transparent public network companies
Generation: fossil and nuclear	Private plcs	Selective public sector purchase	£14-22bn	Regional/local transparent public generating companies; national transparent public nuclear company
Generation: Renewables	Private plcs, coops	Encourage investment by public companies, coops, and others	Setup costs	Regional/local transparent public renewable generating companies

Supply	Private plcs, coops	Create public sector supply companies	Setup costs	Regional/local govt transparent public supply companies
National policy and information	OFGEM	Re-democratisation	transfer costs	Absorb into national/regional/local public structures

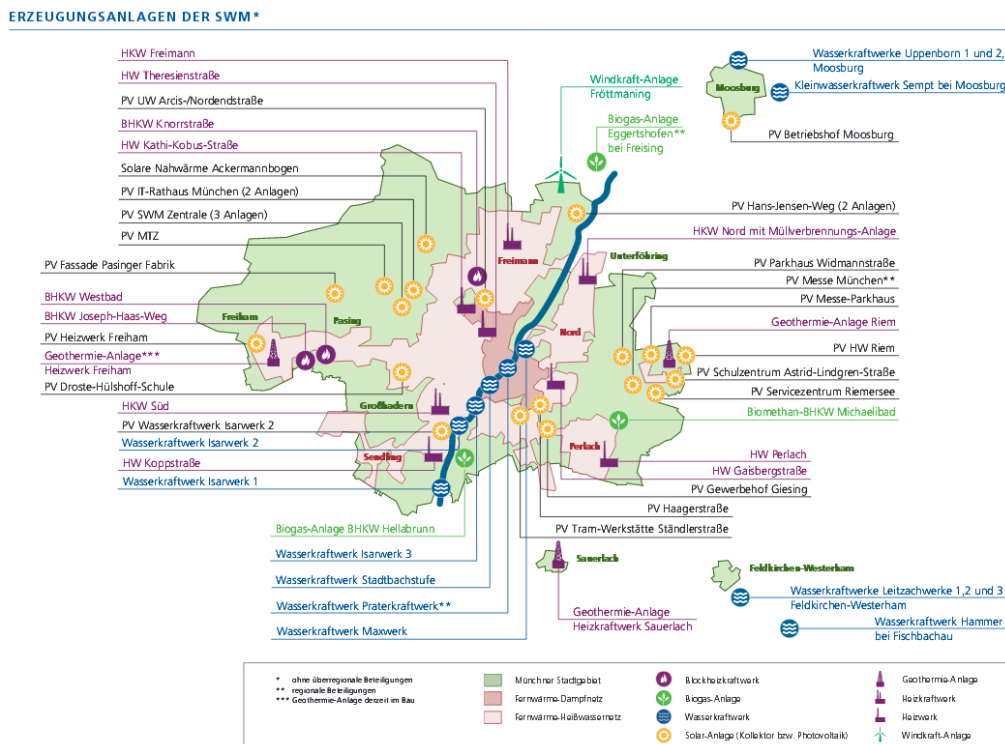
Box A. The Munich model

This form of local public provision of energy is similar to the systems in place in many parts of Germany, for example the city of Munich. A utility company, Stadtwerke Muenchen (SWM), which is 100% owned by the city council, generates electricity and supplies electricity and gas to the great majority of households in the city.

In 2008, the city council decided that SWM should plan to generate enough renewable energy in its own plants to supply all of Munich’s private households, subways and trams combined by 2015, and by 2025 enough to supply the entire municipality, including business and commerce. The 2015 target has already been achieved. SWM works with local welfare organisations to provide free energy advice to low-income households. SWM also provides public transport, water, district heating, telecoms and cable services to the whole city.

“Today, energy supply is characterized by oligopolies of private energy suppliers. There is practically no competition on price. The transition to renewable energies is made rather reluctantly. By 2025, our utility company aims to produce so much green energy, that the entire demand of the city can be met. That requires enormous investments around 9 billion euros by 2025 and can only be successful if the long-term goal is sustainable economic success rather than short-term profit maximization ... German cities and towns are currently trying to correct the mistakes made in their privatization policies of the past. There are many examples of newly established or revived municipal utility companies, especially for energy and water supply, or of the repurchase of municipal transport services.”

Dieter Reiter, Mayor of Munich: Welcome address to Munich Economic Summit May 2011. <http://www.cesifo-group.de/DocDL/Forum-3-2011.pdf> ; <https://www.swm.de/english/company/about/annual-report.html>



4 Cost of transition to public ownership

This section estimates that the cost of this transition to public ownership could be around £24bn. This estimate is based on the definition in the previous section of which private companies will be

brought into; on the established law on compensation for the ownership of companies taken into public ownership; and on examples of actual negotiations.

A firm of London stockbrokers, Jefferies, claimed in 2015 that a return of the energy industry to public ownership could cost as much as £185 billion.²³ Jefferies have declined to release a paper outlining their calculations, but an examination of the figures attributed to them reveals a number of errors and inconsistencies, for example assuming the purchase of substantial assets outside the UK itself, and wrongly assumes that UK law on compensation is based on stock exchange rules for takeovers. (see annexe 5.2 for details).¹

4.1 Compensation principles –public interest is paramount

In the UK and the rest of the world, property owners always want as much compensation as possible when they lose their property as a result of a political decision. They have often been remarkably successful: when slavery was finally abolished in British colonies in 1833, UK slave-owners were paid £20million compensation – 40% of total government annual spending at that time – based on the actual value of slaves in different colonies.²⁴ More recently, company shareholders were compensated by UK governments when various sectors were brought into public ownership in the 20th century.

But there is no simple set formula in UK law for such compensation. In each case, the compensation paid has been the result of negotiations between the owners and the government of the day. Even the owners are not consistent in their preferred basis for compensation: for example, the shareholders of an aircraft company taken over by the government in World War II argued that the actual share price was the *wrong* basis for valuation. So the actual practice has involved a range of different formulae.²⁵

Specifically, it is wrong to assume that the process of taking companies into the public sector follows the same rules as corporate takeovers. Jefferies estimate the ‘market value’ of companies, i.e. the total value of all shares in the company according to their value on a specific date, and also their ‘enterprise value’, on the grounds that takeovers of listed companies normally pay a premium over the listed market price, to cover the debt of a company as well. They also argued that “*under stock exchange rules, once a stock holding hits 30% an offer for the whole company must be made. Therefore, we assume that all of the equity would be acquired.*”²⁶

But the UK legal framework for compensation for the former private owners has no connection with the stock market rules. It allows parliament to set its own rules in each specific case, taking account of public interest considerations, as determined by the democratic process. This principle was confirmed in 2012 by the UK Court of Appeal and the European Court of Human Rights (ECHR), in relation to the rescue of Northern Rock in 2008, where the shareholders were awarded zero compensation. Some shareholders brought cases arguing that this was unfair, because the share price was £0.90, not zero. However, these cases were unsuccessful: the evaluation process used by the UK government was validated as entirely legitimate by the High Court, the Court of Appeal²⁷, and, for the same reasons, by the European Court of Human Rights.²⁸

¹ The six months Jefferies’ estimates were reported has shown another uncertainty involved in such valuations, as the share prices of major European energy companies RWE, E.on and EdF – all part of the Big 6 in the UK - have fallen sharply. In February 2016, the share price of RWE and E.on had fallen to such an extent that the market valuation of both companies in their entirety – including their operations in Germany, the rest of Europe and the world – was only £18 billion. FT 17 Feb 2016 RWE: divided we stand <https://next.ft.com/content/c6d29344-d586-11e5-8887-98e7feb46f27> .

The Court of Appeal stated:

“the court would only interfere if it were to conclude that the State's judgment as to what is in the public interest is manifestly without reasonable foundation..... if the assumptions indeed produce a nil value, that can only be because the business is shown to be worthless without the support put in by government”²⁹

The ECHR re-stated the general principle that there was no right to full market value compensation if public interest objectives, including social justice and economic reform, lead to a different conclusion:

‘Legitimate objectives in the “public interest”, such as those pursued in measures of economic reform or measures designed to achieve greater social justice, may call for less than reimbursement of the full market value.’³⁰

This is not a new doctrine. The same principle was used by the English courts and the ECHR over 20 years previously, in rejecting claims for higher compensation by former shareholders of the shipbuilding and aerospace companies in 1977:

“A decision to enact nationalisation legislation will commonly involve consideration of various issues on which opinions within a democratic society may reasonably differ widely.... It would, in the Court's view, be artificial in this respect to divorce the decision as to the compensation terms from the actual decision to nationalise, since the factors influencing the latter will of necessity also influence the former.” (*Lithgow and Others v. the United Kingdom* (1986) 8 EHRR 329).³¹

It was also used to reject a claim by the Duke of Westminster, the largest landowner in Britain, against a new law introduced by a Labour government in 1967 allowing leaseholders to buy freeholds at much less than the market value. (This may be of further interest to Corbyn, in relation to his proposal to introduce right to buy legislation for private tenants). The courts noted that:

“such legislation had been part of Labour Party policy for some years. It was regarded as a necessary social reform, required to right an injustice....”

and again that, with ownership of property as well as with shares,

“Legitimate objectives of 'public interest', such as pursued in measures of economic reform or measures designed to achieve greater social justice, may call for less than reimbursement of the full market value”. (*James and Others v UK* [1986] 8 EHRR 123)³²

It is also worth noting that even in the USA, the principles for calculating compensation are not fixed, e.g. in Alaska: “Courts have accepted multiple valuation methods in eminent domain proceedings to determine just compensation, including fair market value, replacement value, and reproduction value.”³³

Estimates of shareholder value or enterprise value should thus be seen as a negotiating position by shareholders, rather than an accurate forecast of the final result. To take a recent example from overseas, when New Zealand reversed the privatisation of its rail system in 2008: the NZ government first offered NZ \$350m., the private owners asked for over NZ\$1,150bn., but ended up settling for NZ\$690m: a little less than 2/3 of what they originally claimed as the market value.³⁴

Three key points are worth emphasising:

- It is not true, either as a matter of law or as a matter of practice, that compensation to shareholders must be based on the stock market value of the shares, or the enterprise value, or reflect stock exchange rules on private takeovers.
- On the contrary, the courts have consistently confirmed that public policy considerations are paramount, and that there is no general right to full market value as compensation.³⁵
- The basis for compensating shareholders is decided by government and parliament on a case by case basis, taking account of a range of relevant matters, including public interest objectives, and the particular circumstances of each case.

4.2 A better estimate of the cost of compensation

A better estimate of the likely costs of compensation can be constructed by looking at the actual equity value in the companies to be brought into public ownership, and recognising the legal framework and negotiating realities.

The Corporate Watch (CW) 2014 study of the costs and savings from public ownership of energy, water and rail companies provides a more precise way of assessing the value of private investments. It uses the shareholder equity, dividends, debt and interest payments as shown in the accounts of each company (e.g. Northern Powergrid, Scottish Power), rather than its parent group (e.g. Berkshire Hathaway, Iberdrola). Thus the data is not confused with other operations of the same group in other countries or sectors. The full set of data used in these calculations is attached at annexe 5.3.

The table below uses CW data to calculate the value of the owners' equity for all the transmission and distribution companies, and for 50% of the 'big 6' generation and supply companies (to reflect the proposal for selective transfer of generating capacity of non-renewable generation, but not of supply companies). The total value of the equity of these companies is £36billion.

However, these figures only represent a realistic initial bargaining position by shareholders: the government can and should seek to ensure that the criteria used reflect fairness to the public interest, as noted above. Using the New Zealand case as a guideline, the final settlement could be about two-thirds of the equity value claimed by the owners. In this case, that suggests a realistic prediction of the settlement figure is two-thirds of the initial valuation of £36m., which implies payment of £24billion in compensation. The actual price of compensation in the UK will depend partly on the resolve of the future UK government: for example, to take account of the gift to some energy (and water) companies of 25 years notice before termination of licences.³⁶

- **A realistic estimate of the cost of compensating shareholders for bringing most of the energy system into public hands is thus about £24bn.**

Table 3. Equity value and projected compensation for energy companies (£bn.)

	Equity
Transmission	8.3
Distribution	5.5
Generation and supply (Big 6)	44.4
Generation and supply (Big 6) (50%)	22.2
Total of transmission, distribution and 50% of Big 6	36.0
Estimate of negotiable compensation (2/3 of equity value)	24.0

Source: annexe 5.3

4.3 The benefit of public ownership

The clearest quantifiable benefit of public ownership is the reduced cost of capital. Profits can be retained instead of being extracted by external private shareholders, and the costs of borrowings by governments are usually significantly lower. This section follows the conservative assumption of the Corporate Watch report that the UK government would finance the purchase of the companies by issuing 30-year bonds (if 10-year bonds were used, for example, the savings would be higher).³⁷ The table below estimates the net savings resulting from the return to public ownership, by the elimination of dividends, offset by the annual cost to government of the £24bn. bonds.

The annual net saving is remarkably high, at £3.2bn. This is equivalent to a 13% return on the initial cost of £24bn. cost of buying the companies (and would still represent a return of nearly 9% if the companies obtained £36bn. from the government). It could finance a reduction in energy bills of an average of £120 per household, or a 10% cut in the average energy bill.

Table 4. Savings from public ownership (transmission, distribution and 50% of Big 6 generation and supply)

Negotiable compensation (£bn.)	24.0
Dividends saved (annual value) (£bn.)	3.9
Annual cost of gilts @3% to finance purchase (£bn.)	0.7
Net annual saving (£bn.)	3.2
% return on negotiable compensation of £24bn.	13.3
%return on equity face value of £36bn.	8.8
Annual saving per household (£)	120.3
Value per household (as % of average gas and electricity bills)	-10.9

Source: annexe 5.3

There will be other costs, on a smaller scale, including:

- the costs of creating the professional, technical, managerial and accountability capacity for the new regional/local companies
- transferring current employees of private companies: experiences in France and Germany have shown the importance of assuring workers in existing private companies that their employment and conditions will be fully protected through the transition.

There are also other benefits not quantified above, notably:

- greater accountability and transparency
- reduced transaction costs
- enabling households to get electricity from suppliers who are not trying to maximise their profits through obscure contracts.

Subsequent investments by the new public operators, for example in new renewable generating capacity, will of course have to be financed. But this investment is required anyway, it is not a cost of transition. And such investments should be less costly through the public sector, because of the lower cost of capital.

4.4 International evidence: public ownership means lower prices

This estimate of annual savings from public ownership worth about 10% of average UK energy bills is consistent with the statistical evidence from Europe and the USA. The estimate is in fact lower than the difference observed in the USA, where the prices paid by households to public providers is about 12% lower than the prices paid by customers of private companies; and much lower than the evidence from Europe, where the prices charged by predominantly public electricity and gas systems are 20% to 30% lower than those charged by private companies.

Table 5. Public-private price differences: USA, Europe and UK potential estimate

	Public energy provider price is lower than private company price by:	Source
USA	-12%	APPA 2015
Europe (EU15)	-20% to -30%	Florio 2014 , Florio and Florio 2013
UK (potential)	-10.3%	this paper

Note: EU15= EU member states before 2004, western Europe

4.5 Potential further savings from refinancing companies' debts

In principle there are further savings available from refinancing the debt of companies brought back into public ownership. The debt of these companies currently stands at £44.5bn., on which the companies are paying about £2bn. in interest every year (see annexe 5.3 table 10 for details). If refinanced with debt raised by government at lower rates, the annual interest bill could fall by £0.7bn., a saving worth £25 per year to every household. After the companies have been brought into public ownership, this saving will in effect be gradually realised, as existing debt expires and is replaced with new debt issued by a government owned company. As these benefits will gradually accrue, it is not worthwhile refinancing all the debt immediately by issuing £44bn. of gilts.

4.6 Impact on government, public and corporate debt

Finally, it is worth discussing the impact on government and public debt. The rules are used by different institutions in defining government and public sector debt, and so the impact of the return to public ownership varies according to the definition used.

The IMF rules (and the traditional UK rules) on public sector debt include the debt of publicly owned companies. Under these rules, the £24bn. bonds issued to pay for the equity, and the existing (privately issued) £44bn. debt of the companies, would both be counted as increasing public sector debt by a total of £68 billion.

The UK government however now operates a modified version of these rules which excludes the debt of the banks which were rescued by nationalisation in the financial crisis. This exclusion reduces the apparent public sector net debt (PSND) by £280bn., about 15% of GDP. The figures for the level of debt can also be affected by other administrative changes: the reclassification of bodies such as Network Rail and TFL, for example, has also affected the figures for UK debt.³⁸

EU rules on public debt and deficit, however, concern central and local government, and exclude the debts of all public sector trading companies: so it makes no difference to government debt whether a company moves from private to public ownership (or vice versa). In effect, the EU applies to all public sector trading companies the rules that the UK government applies only to the banks. The companies' debt would thus remain debt of the companies, not of the government, and so would not affect the EU definition of government debt.³⁹

Table 6. Impact on government debt under different accounting conventions

	Impact on government debt		
	Bonds issued to buy equity	Existing debt of companies	Total
IMF/UK trad rules	+ £24 bn.	+£44.5bn.	+£68.5bn.
UK ex-bank rules	+£24bn.	0	+£24bn.
EU rules	+£24bn.	0	+£24bn.

5 Annexe

5.1 Corbyn's statements

During his campaign for the Labour Party leadership, Jeremy Corbyn published a policy document 'Protecting our planet' which includes a section on energy policy. It includes a section on 'Socialising our energy supply', setting out commitments to renewable energy, energy efficiency and expansion of public transport. It contains no explicit commitment to public ownership of any specific elements of the energy system. It does state that:

“As leader I would establish an Energy Commission to draft a fundamental shift in UK energy thinking.

....The Commission will be charged with bringing new partners into energy policy making. These will include local authorities, communities, energy co-operatives, and 'smart' technology companies that are already working on tomorrow's 'virtual' power systems and new energy thinking.

.... We must socialise our energy supply and move toward breaking-up the failing energy cartel. Instead, I want to look at the role of the state as guarantor of last resort; with more direct responsibility for the nation's back-up generation, high voltage grid and interconnectors ; directly ensuring that Britain's 'lights never go out'.”

https://d3n8a8pro7vhmx.cloudfront.net/jeremyforlabour/pages/119/attachments/original/1438938988/ProtectingOurPlanet_JeremyCorbyn.pdf?1438938988

Corbyn also made a speech in August 2015 to a Greenpeace meeting in which he stated:

“I would want the public ownership of the gas and the National Grid... . I would personally wish that the big six were under public control, or public ownership in some form You can do it by majority shareholding; you can do it by increased share sales, which are then bought by the government in order to give a controlling interest.”

Separately, he told the Financial Times that he did not want national government to control the entire British power supply. But he said: “With a national investment bank, new infrastructure — like energy — should be publicly owned, whether that's at community, municipal or national level.”

<http://labourlist.org/2015/08/jeremy-corbyn-i-support-taking-the-big-six-energy-companies-into-public-control/>; FT 07 August 2015 Jeremy Corbyn backs nationalising 'big six' energy suppliers <https://next.ft.com/content/f72d0ee6-3c4f-11e5-bbd1-b37bc06f590c>

5.2 Jefferies estimates: errors of scope and method

A Guardian article in August 2015 reported the stockbroking firm Jefferies as saying that Corbyn’s plan in his Greenpeace speech to bring the energy sector into public ownership “would see a minimum £124bn bill...we assume that all of the equity would be acquired... acquiring the UK assets of the big six generators plus National Grid, the cost would be £124bn.” The article also shows a graphic in which Jefferies estimate the ‘enterprise value’ - which includes company debt as well as the market value of shares - of all the companies, including the distribution companies, at £185bn..⁴⁰

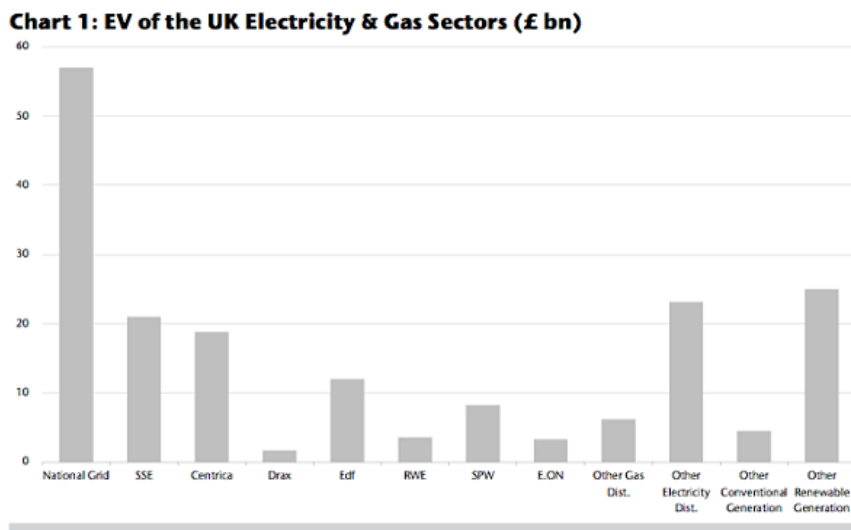
The Daily Telegraph carried a report on the same day with similar quotes ⁴¹. And a Financial Times article claimed that “these proposals could lead to taxation rising by hundreds of billions of pounds in the next parliament” ⁴².

Jefferies has however published nothing on this subject, except a chart in the Guardian, and refused a request to release any paper which might justify their quotes into the public domain, explaining that they only distribute papers to clients and selected journalists. Thus the only public item from Jefferies is the chart reproduced by the Guardian, together with the claims attributed to them.

However, an examination of the press reports and the graphic shows that their reported analysis:

- overstates the ‘market value’ of the UK energy operations of the companies, as a result of errors in scope and inconsistency in calculation
- fails to recognise that the rules governing compensation –reaffirmed as recently as 2012 by the courts – are very different from stock market rules on takeovers, and do not require that shareholder compensation should be based on full market value, let alone enterprise value
- fails to recognise the significant savings to consumers from the reduction in the cost of capital that result from public ownership
- does however serve as a warning that legislation to bring entities into public ownership is a better policy than buying shares on the stock market.

Chart A. The Jefferies chart of value



Source: Guardian 07 August 2015

5.2.1 Too many companies

The first obvious flaw in Jefferies analysis is the inclusion of too many companies. Corbyn only listed National Grid, and the ‘big 6’ energy suppliers/generators ⁴³.

But Jefferies graphic which presents their estimates of ‘enterprise value’, adding up to £185bn., includes many other companies - smaller electricity generating companies, renewable generators, and gas and electricity distribution companies.

- **Excluding companies not on Corbyn’s list would reduce Jefferies upper estimate of £185bn. by nearly a third, to £125bn.**

5.2.2 Enterprise Value or market prices for lower estimate?

This highlights the second flaw. Jefferies states that its lower figure of £124bn. is for National Grid and the big 6, but based on the assumption “that shares are bought at current prices and not at ... an enterprise value”. But this is the total in the graphic for these same companies, which includes debt – so the figure for market prices alone must be smaller than the EV figures, which include debt. The figures in the graphic for National Grid, Centrica and SSE, for example, total about £96bn, far above the current stock market value of all the shares of these three companies, which totals about £60bn. as at the end of July 2015 ⁴⁴ So their lower estimate should be reduced by at least £36bn. below the EV figures, to be in line with the market value of these three companies. This amounts to a reduction of about one quarter in their lower estimate, to less than £88bn.

- **Correcting for inconsistent methodology reduces Jefferies lower estimate by £36bn.**

5.2.3 Overseas activities

The third flaw is that Jefferies do not appear to realise that only UK operations would come into public ownership. Both National Grid ⁴⁵ and Centrica ⁴⁶ do over half their business outside the UK, mainly in the USA. Excluding the overseas businesses in line with their share of company revenues reduces the figures for both upper and lower estimates by £23bn. ⁴⁷

- **Excluding the USA and other overseas businesses of National Grid and Centrica reduces the market value of shares attributable to UK-owned energy companies by £23bn., in both estimates**

5.2.4 Combined effect of Jefferies internal errors: halving estimates

The combined effect of correcting these errors is to roughly halve Jefferies estimates of the cost of Corbyn’s proposals – to an upper estimate (based on EV) of £102m., and a lower estimate, based on market value of shares, of £65bn.

- **Adjusting for these three errors means that Jefferies figures should be almost halved, to an upper estimate of £102bn. based on enterprise value, and a lower estimate of £65bn. based on share market values.**

Table 1: Correcting errors of methodology and scope in Jefferies estimates of cost of Corbyn proposals

	Lower estimate (£bn.)	Upper estimate (£bn.)
Implied basis	Market price of shares	Enterprise value
Jefferies estimate	124	185
Correction 1: excluding companies not on Corbyn list	-	-60
	124	125
Correction 2: to use market value not EV for lower estimate	-36	-
	88	125
Correction 3: excluding overseas business of UK-listed companies	-23	-23
Corrected Jefferies estimates	65	102

Source: see text.

5.3 Ownership, equity, debt, dividends and interest of UK energy companies

These tables present data compiled by Corporate Watch in December 2014 on the equity, debt, dividends and interest payments of the operating companies in the UK (as opposed to the equity and debt of the parent groups. The CW data on the supply and generation companies has been modified by PSIRU estimates of equity and debt of British Gas and E.on, and dividends of Northern Powergrid and nPower.

These figures are used in section 4.2 above in the construction of an estimate for the cost of compensation, modified by the proposal to buy only 50% of the assets of the supply and generation companies; and in the estimate of the savings from bringing the companies into public ownership.

Table 7. Ownership, equity, debt, dividends and interest of transmission companies

	Owners	Equity	Debt	Dividends	Interest	Div+int
		£bn	£bn	£m	£m	£m
National Grid Electricity Transmission Plc	National Grid Plc	2.0	6.6	300.0	179.0	479.0
National Grid Gas*	National Grid Plc	6.4	9.2	600.0	303.0	903.0
TOTAL		8.3	15.8	900.0	482.0	1382.0

Source: [Corporate Watch 2014](#) Energy, rail and water privatisation costs UK households £250 a year; detailed report and tables

Table 8. Ownership, equity, debt, dividends and interest of distribution companies

	Owners	Equity	Debt	Dividends	Interest	Div+int
		£bn	£bn	£m	£m	£m
Western Power Distribution (South Wales and South West)	PPL Corporation	0.7	1.6	31.0	93.0	124.0
Western Power Distribution (West and East Midlands)	PPL Corporation	2.0	2.8	47.0	153.0	200.0
Electricity North West	JP Morgan Infrastructure Investments, Commonwealth Bank of Australia	0.1	2.1	67.0	120.0	187.0
UK Power Networks	Cheung Kong Group, Li Ka Shing	2.4	4.7	213.0	288.0	501.0
Northern Powergrid	Berkshire Hathaway: Warren Buffett	1.6	1.6	157.0	88.0	245.0
Northern Gas Networks	Hutchinson Whampoa, Power Assets Holdings, SAS Trustee Corporation	-0.2	1.4	251.0	49.0	300.0
Scotia Gas Networks	SSE Plc, Ontario Teachers Pension Plan Board, OMERS pension fund	-0.8	4.0	60.0	244.0	304.0
Wales and West Utilities	Cheung Kong Group, Li Ka Shing	-0.4	1.5	42.0	131.0	173.0
TOTALS		5.5	19.7	868.0	1166.0	2034.0

Source: [Corporate Watch 2014](#) Energy, rail and water privatisation costs UK households £250 a year; detailed report and tables and PSIRU calculations: Northern Powergrid dividends estimated as 10% of equity.

Table 9. Ownership, equity, debt, dividends and interest of generation and supply companies

	Owners	Equity £bn	Debt £bn	Dividends £m	Interest £m	Div+int £m
EDF	Electricite de France Sa	16.3	1.6	807.0	37.0	844.0
SSE	SSE Plc	5.5	6.3	790.0	243.0	1033.0
Scottish Power	Iberdrola SA	5.1	3.1	917.0	127.0	1044.0
British Gas*	Centrica Plc	14.0	2.5	1400.0	98.0	1498.0
nPower	RWE	1.9	2.5	195.0	88.0	283.0
E.on*	E. on	1.6	2.2	160.0	87.0	247.0
TOTALS (Big 6, 90%)		44.4	18.2	4269.0	680.0	4949.0
50% of big 6		22.2	9.1	2134.5	340.0	2474.5

Source: [Corporate Watch 2014](#) Energy, rail and water privatisation costs UK households £250 a year; detailed report and tables and PSIRU calculations. Equity and debt for British Gas and E.on estimated by PSIRU from Corporate Watch data on the basis that dividends represent 10% of equity, and interest 4% of borrowings; nPower dividends estimated as 10% of equity; companies outside Big 6 excluded.

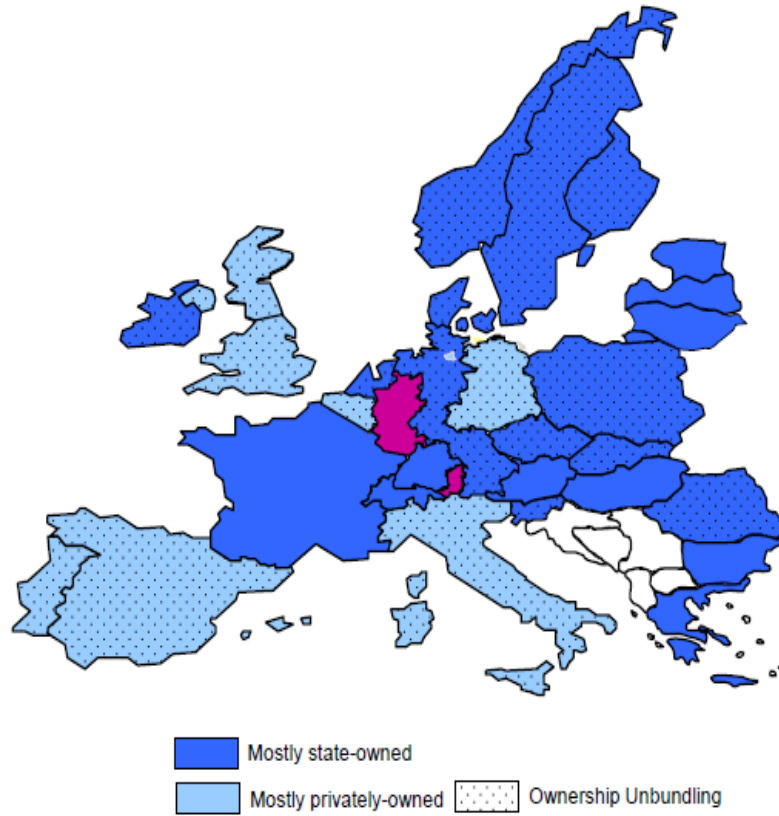
Table 10. Potential further savings from refinancing existing debt (transmission, distribution and 50% of Big 6 generation and supply)

Debt to refinance (£bn.)	44.5
Interest saved (£bn.)	2.0
Annual cost of gilts for refinancing @3% (£bn.)	1.3
Net annual saving (£bn.)	0.7
% return	1.5
Annual saving per household (£)	24.6
Value per household (as % of average gas and electricity bills)	-2.2

Source: calculated from previous tables, and Family Expenditure Survey 2012

5.4 Public ownership of energy operators in EU

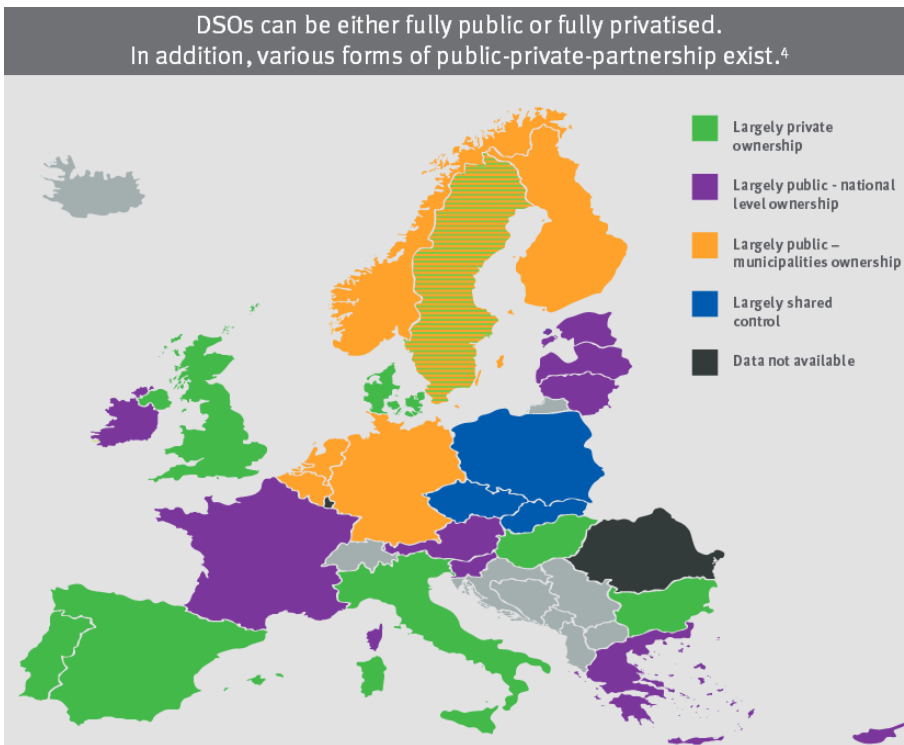
Chart B. Transmission in Europe: public ownership in many countries



10

Amprion 2015 Challenges for an Independent Transmission Operator in terms of ownership and system operation <https://www.iea.org/publications/freepublications/publication/REPOWERINGMARKETS.pdf>

Chart C. Distribution in Europe: public ownership in many countries

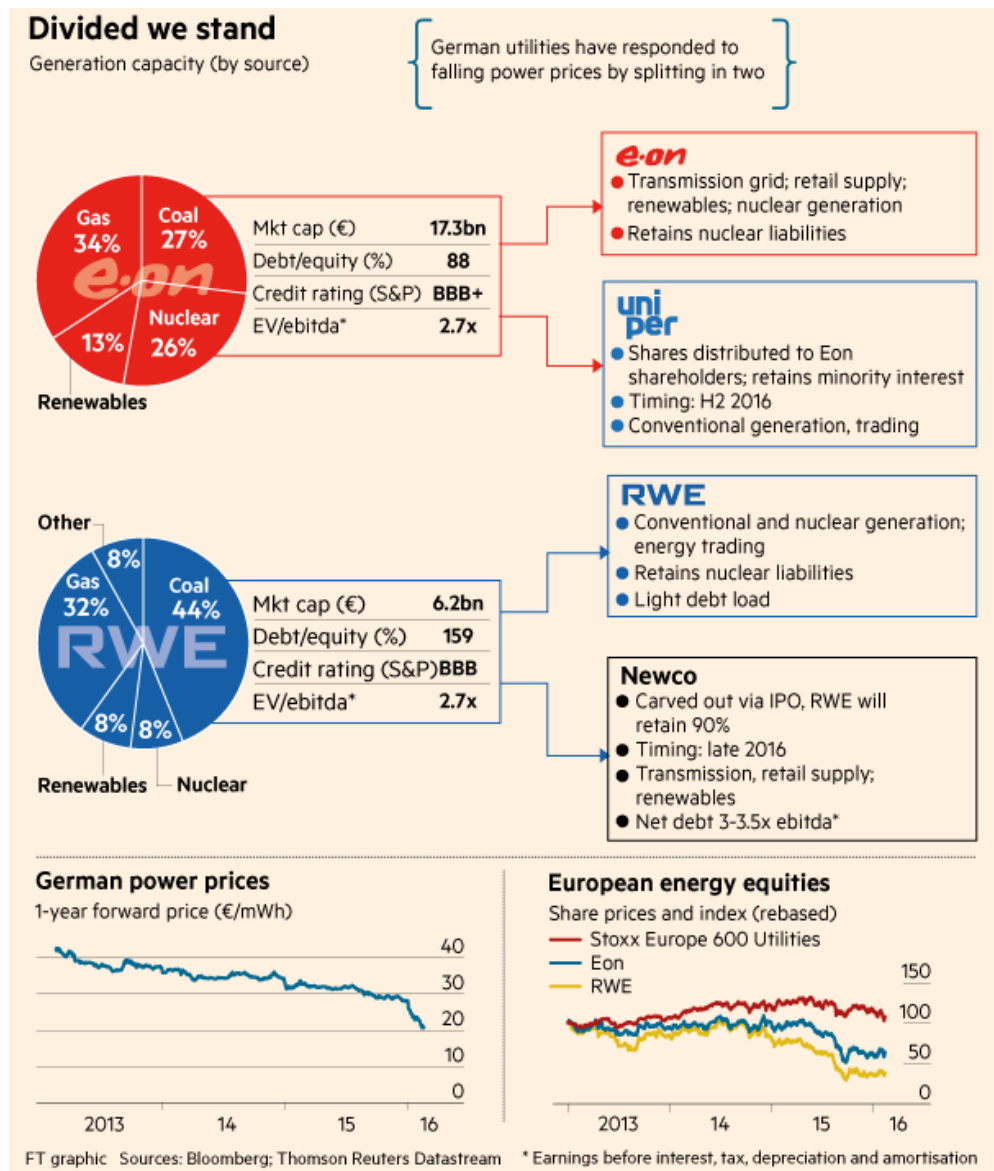


Eurelectric 2013 Power Distribution in Europe http://www.eurelectric.org/media/113155/dso_report-web_final-2013-030-0764-01-e.pdf

Table 11. Ownership of major generators in Europe: public/private ownership

Country	Company	State owned	Private owned
Austria	Verbund/EVN	51%	49%
Bulgaria	BEH EAD	100%	0
Czech republic	CEZ	70%	30%
Denmark	Dong	76%	24%
Estonia	Eesti Energia	100%	0
Finland	Fortum	62%	38%
France	EDF	85%	15%
France	Engie (GdF-Suez)	36%	64%
Germany	E.ON	0	100%
Germany	RWE	15%	85%
Greece	PPC	51%	49%
Hungary	MVM	100%	0
Ireland	ESB	100%	0
Italy	Enel	25.5%	74.5%
Latvia	Latvenergo	100%	0
Lithuania	Lietuvos Energija	100%	0
Norway	Statkraft	100%	0
Poland	PGE	58%	42%
Portugal	EDP	0	100%
Romania	Nuclearelectrica	100%	0
Slovakia	SE	34%	66%
Spain	Gas Natural	34%	66%
Spain	Iberdrola	0	100%
Sweden	Vattenfall	100%	0
UK	Centrica	0	100%
UK	SSE	0	100%

Chart D. Crisis for private energy companies



FT 17 Feb 2016 RWE: divided we stand <https://next.ft.com/content/c6d29344-d586-11e5-8887-98e7feb46f27>

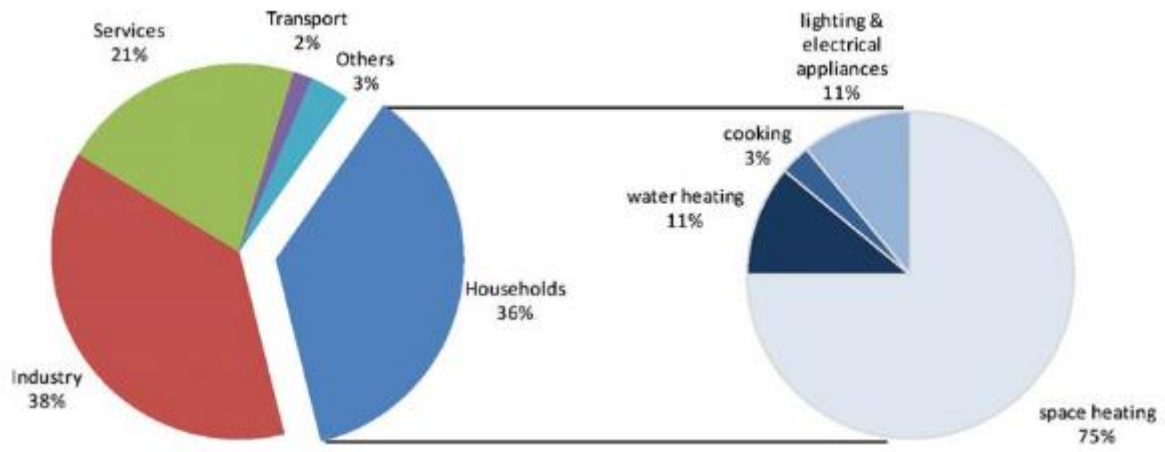
5.5 Sectoral data

Table 1. Demand for electricity and gas by economic sectors (EU, mtoe, 2010)

Sector	Electricity	Gas
Households	29.7	45.6
Industry	36.5	32.5
Services	29.4	18.0
Transport	2.4	0.9
Others	2.0	2.9

Source: Florio 2014

Chart E. Demand for electricity and gas: business sector, households, and household uses



Source: Florio 2014

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7 Notes

¹ I wish to thank Steve Thomas, Richard Whittall and Cat Hobbs for very helpful comments on earlier drafts. None of them are responsible for any errors or defects remaining in this paper.

² Guardian 7 August 2015 Jeremy Corbyn's bill for nationalising energy sector costed by City at £185bn by Jill Treanor <http://www.theguardian.com/business/2015/aug/07/jeremy-corbyns-bill-nationalising-energy-sector-185bn>

³ IEA 2016 Repowering markets <http://www.iea.org/publications/freepublications/publication/re-powering-markets-market-design-and-regulation-during-the-transition-to-low-carbon-power-systems.html>

⁴ DECC 31 March 2016 Consumer prices index UK: fuel components in the UK/relative to GDP deflator https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/511464/table_211_and_212.xls ;

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⁵ Corporate Watch 2014 Energy, rail and water privatisation costs UK households £250 a year <https://corporatwatch.org/news/2014/dec/08/energy-rail-and-water-privatisation-costs-uk-households-%C2%A3250-year>

⁶ Financial Times, 13 June 2008-06-19 <http://www.ft.com/cms/s/0/e31abc7a-38e0-11dd-8aed-0000779fd2ac.html#axzz3jA5tnShf>

⁷ http://www.publicpower.org/files/PDFs/Forming_QA_2013.pdf

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<http://www.publicpower.org/files/PDFs/PublicPowerCostsLess1.pdf> ; other statistics on market share etc

<http://www.publicpower.org/files/PDFs/USElectricUtilityIndustryStatistics.pdf> ; further details at

<http://www.publicpower.org/Topics/Landing.cfm?ItemNumber=38510>

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<http://www.treasury.govt.nz/publications/informationreleases/rail/purchase/pdfs/rp-rm-ont-9sep08.pdf>

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- the licence of National Grid: "3. This licence, unless revoked in accordance with Schedule 2, shall continue until determined by not less than 25 years' notice in writing given by the Authority to the licensee." <https://www.ofgem.gov.uk/ofgem-publications/53954/nget-rollover-special-conditions.pdf> ;
- of electricity distributors e.g. Norweb: "3. This licence, unless revoked in accordance with the terms of Schedule 2, shall continue until determined by not less than 25 years' notice in writing given by the Authority to the licensee" http://secfilings.nyse.com/filing.php?ipage=2861045&DSEQ=&SEQ=424&SQDESC=SECTION_PAGE
- of water companies e.g. United Utilities: "Duration of licence 4. —(1) Subject to the following provisions of this paragraph, this licence comes into force on 4 January 2007 and, unless revoked in accordance with the Standard Conditions of Water Supply Licences (which set out the conditions of revocation), continues in force until it is terminated by not less than 25 years' notice served by the Secretary of State on the Licensee." https://www.ofwat.gov.uk/competition/wsl/wsllicensees/lic_wsl030107_nwt.pdf

³⁷ Corporate Watch report note on E.on: Corporate Watch 2014 Energy, rail and water privatisation costs UK households £250 a year <https://corporatwatch.org/news/2014/dec/08/energy-rail-and-water-privatisation-costs-uk-households-%C2%A3250-year>

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<http://www.ons.gov.uk/economy/governmentpublicsectorandtaxes/publicspending/bulletins/eugovernmentdeficitanddebtreturnincludingmaastrichtsupplementarydatatables/2015-10-16> ; on Network Rail reclassification, see

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<http://www.theguardian.com/business/2015/aug/07/jeremy-corbyns-bill-nationalising-energy-sector-185bn>

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