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Workshop report – International workshop on public ownership of energy

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With the UK Labour party, Scottish National Party (and Government), and Plaid Cymru all proposing creation of publicly owned energy companies (POECs), this two-day workshop responded to the re-emerging European debate about public and private sectors roles in the economy. Academics and practitioners discussed the evidence and arguments for and against public ownership of energy networks, power generation, gas supply, energy retailing and energy services. Energy systems and clean energy are fundamental to economy and society, but there are questions about whether ownership matters to performance, costs, efficiency and carbon intensity. In Germany many, but not all, municipalities are bringing energy networks back into public ownership, with envisaged public benefits from control over types of investment, pricing and revenues. In Denmark the relation between commercial operation of municipal energy companies and the political objectives of their owners are debated and contested. UK opinion surveys find majority support for public ownership, but what should the objectives and business structures of any public enterprises be?

This report summarises workshop discussions, which were held under the Chatham House Rule. [The Workshop Programme](#) and presentations are available [on the Heat and the City website](#).

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1 Introduction

The report reflects on workshop themes, providing insight into the challenges and issues of public ownership. It does not draw conclusions about the desirability or effectiveness of public ownership as a solution to energy policy objectives. This reflects the diversity of opinion at the workshop, but is also a consequence of high-level features of the debate which we draw out here before engaging with specifics.

- There were divergent views on the pros and cons of public ownership, with some incommensurable arguments made. Technical, organisational and economic arguments are important, but the debate also concerns political beliefs and values. For example, there was much debate about the instrumental value of public ownership in terms of energy cost and environmental impact, but also discussion of ethical issues including the democratic value of public participation in energy planning.
- Views are often shaped by ‘deep-seated’ beliefs and assumptions concerning, for instance, the relative efficiency of public or private companies or the capacities of local authorities to act entrepreneurially; supporting evidence is either limited or absent.
- The complexity of energy systems and transitions to low carbon energy may contribute to the absence of clear-cut evidence to support either direction of argument. For example, there was disagreement about whether private energy systems are subject to any failures or dysfunctions; if there are areas of failure, are these attributable to ownership per se, or could they be resolved through more effective regulation and policy. Lastly, would public ownership necessarily be any better.

2 Forms of public ownership

Proposals and working examples of POECs covered different scales and activities including: supply companies competing in liberalised markets; municipal gas and electricity distribution networks and district heating systems; transfer of assets and infrastructure to public ownership, and public shareholdings in major European utilities. It was noted there are more examples of city scale (or smaller) POECs than national scale in part because establishing new ownership models at a larger scale is more challenging.

2.1 Publicly owned energy supply companies in the UK

UK publicly owned energy suppliers are small local authority companies (such as Bristol Energy and Robin Hood Energy), but there is also a proposal for a Scottish Government owned energy company¹, and a similar proposal in Wales².

Retailing energy was described as primarily an information business, comprising a complex web of customer-facing issues (metering, pricing, billing, load profiles and forecast demand) and interaction with the wider energy system (trading, balancing, and system use charges). As such, there was some suggestion that public ownership would give public authorities better access to aspects of this system-relevant information, enabling them to better target interventions (such as fuel poverty measures) or plan system change.

There were discussions about what public energy suppliers can do differently to private companies. Some of these activities build on the information assets of supply companies, while

¹ EY, 2018. Publicly Owned Energy Company: Strategic Outline Case (SOC) (Report prepared for the Scottish Government). <http://www.gov.scot/Resource/0053/00533962.pdf>

² Plaid Cymru, 2017. Ynni Cymru: Power for Wales. <http://www2.partyof.wales/ynnicymru>. Subsequent stakeholder workshops, however, concluded entry into the supply market was not appropriate for Welsh government (Darnton, A., 2017. An Energy Company for Wales? Stakeholder Engagement Events Summary Report. Welsh Government Decarbonisation and Energy Division. <http://gov.wales/topics/environmentcountryside/energy/publications/an-energy-company-for-wales/>)

others are integrated with customer relations. For example, Welsh Government's early discussion of a public supply company incorporated bulk procurement of domestic scale equipment (such as solar panels and batteries), a hire-purchase model for energy efficient appliances, and an R&D division that would certify the performance of new domestic equipment. Similarly some responses to Scottish Government's Energy Strategy consultation suggested a public supplier could support deployment of low carbon heat technologies, which are not being deployed at significant scale in current markets.

The relationship between public retail supply companies and energy efficiency policies was also touched on. A vertically integrated publicly owned model, it was argued, could balance low carbon investment across the energy system, rationally appraising the relative merits of reducing demand vs investing in supply in a way that unbundled models cannot. There is however potential for conflict of interest, with public ownership of supply motivating public authorities to maintain levels of demand. Alternative models, such as supplying energy *services* rather than energy, could in theory resolve this tension. There was some suggestion that public ownership would support a transition to energy service models through patient finance, and greater trust and willingness of households to enter longer term contracts with a publicly owned company. These assertions would need to be tested in practice.

2.2 Public Ownership of energy distribution networks

There was some discussion whether ownership of gas networks is an asset or a liability to public authorities. For example, UK policy scenarios for 2050 envisage a reduction in the number of buildings using gas. This raised a question about whether public ownership might afford a more orderly wind-up of parts of the gas network and better coordination with roll-out of alternative heating. Against this view, if parts of the gas network are to become stranded assets then transfer to public ownership is not economically attractive.

The 'public profit' arising from public ownership of networks includes facilitation of public policy objectives. Some participants suggested this might be quite limited, particularly for electricity distribution, in the absence of wider reform. This is because the activities of network operators are constrained by regulation, leaving little opportunity for a public owner to do things differently. This perspective came from Germany, and is dependent on the details of the regulatory model.

Established district heating systems, particularly in Germany, may be more attractive prospects for public ownership than gas or electricity, as they comprise generation (often CHP) as well as distribution infrastructure, and are less constrained by national network regulations. For the UK, public ownership of district heating could be a route to resolving issues that have arisen in more mature heat markets and likely to affect the UK in future. Heat networks concentrate bulky infrastructure and energy facilities in cities, forming a catalyst and focal point for local energy politics. Extension and interconnection of networks brings higher transaction costs where ownership is fragmented. Users also distrust commercial operators of natural monopoly networks, suspecting them of exploitation and finding company financial accounts opaque.

2.3 Synergies between energy and other local authority activities

Discussion of municipal approaches to energy highlighted various synergies with other local authority activities. For example, local authority housing services and relationships with other Registered Social Landlords can support company growth by tying in energy services (such as smart meter installation) with wider maintenance, and agreeing default supply arrangements when social housing units are void. Robin Hood Energy spends very little on marketing because council ownership generates considerable social and media publicity. Adaptation of existing systems and structures to minimise costs was reported to be common across a wide variety of local authority energy projects. While this can enable the establishment of local energy, it may also bring risks that UK municipal companies are restricted to specific niches.

Similarly, there are examples of German municipalities using or adapting existing arms-length company structures for POECs. Hamburg Energie is integrated with the municipal water company. As well as reducing setup and administration costs, this approach means the energy company can supply the water company directly without having to compete for an open tender (see section 3.1), giving some stability to its market position.

2.4 Contemporary public ownership structures

A recurrent theme was the relationship between ownership and governance, and how this is shaped by the organisation and regulation of POECs. Critiques of public ownership that focus on opaque governance and politically driven operational decisions do not transfer directly to contemporary practice, where such companies tend to have greater autonomy from their owners than in the past. For example, Danish municipalities historically ran district heating systems as in-house operations, but since 2002 have been required to separate district heating accounts from those of the wider municipality. In response most of them established separate municipal energy companies. More generally POECs operating in European liberalised markets have reformed their structures, including flotation on stock markets, and introduced accountability mechanisms which keep POECs at ‘arms-length’ from their owners. Benefits of such ‘arms-length’ relationships include ring-fencing of risk (shielding council budgets) and revenues (supporting reinvestment).

The arms-length structure, however, limits alignment between company activities and owner objectives. For example, in the past (pre-privatisation) although the Hamburg Government owned 75% of the city’s energy company³, an incoming political administration found it was not possible to stop planned investment in nuclear power. Contemporary UK energy companies owned by local authorities can also lack the voice in local policy and energy debates which they would have if they integrated into council structures.

Differing perspectives were presented on the pros and cons of independent regulation as either a complement, or alternative, to public ownership. Independent regulation ensured scrutiny and prevention of vested interests (whether public or private bodies). Against independent regulation were arguments that decisions made by regulators lacked democratic accountability. It was claimed that the British energy regulator (Ofgem) has been captured by the six major energy companies it regulates (the ‘Big Six’). The Norwegian company Statoil was cited as an example of a POEC being made democratically accountable through oversight and scrutiny processes (such as dedicated parliamentary committees) while maintaining its arms-length company form.

3 Challenges to establishing POECs

3.1 Liberalisation

The UK market was criticised as a ‘travesty of a market’ by one participant, citing high entry barriers, the failure of the market to send adequate investment signals and increasing volumes of ‘out of market’ generation (that is, receiving payment by a mechanism other than competitive markets, such as government subsidy). Others noted that rates of switching between suppliers by consumers remain low. Furthermore, it was argued that across Europe the layering of market-based capacity mechanisms over renewable support has increased transaction costs. Unbundling was criticised as both creating inefficiency by reducing scope for coordination and increasing risks faced by suppliers and generators which in turn push costs up by raising financing costs. The latter effect may be less significant in the UK given the vertical reintegration of generation and supply that produced the ‘Big Six’ companies that dominate the UK market.

The existence of the Big Six in the UK was identified as a challenge to independent energy supply companies, whether publicly or privately owned. It was suggested the Big Six exert

³ The remaining 25% of shares were held by individuals, predominantly company employees.

considerable market power and would be able to undermine new suppliers by pushing wholesale electricity prices upward. Not all participants agreed that continued dominance of retail markets was a viable strategy for the Big Six. Some noted low profit margins and suggested the proposed merger between SSE and npower reflects difficulties in this market. However, it was also noted that the Competition and Markets Authority is concerned that the merger would create unacceptable market power.

It was also argued small suppliers face a number of further disadvantages in energy markets structured around large suppliers. These include network codes (some of which were claimed to be anachronistic) and the fact that many large organisations require their suppliers to exceed a size threshold which locks small companies out.

Other challenges to POEC proposals stemming from liberalisation were noted. Constraints on State Aid and procurement rules limit what public authorities can do through ownership. One example was the recent award by Bristol City Council of its energy supply contract to a commercial supplier rather than the supply company it owned, based on a commercial offer 0.6% cheaper than Bristol Energy's. Procurement rules require the council to issue an open tender for its energy supply. Some suggested that intelligent use of procurement specifications could nevertheless be a means of achieving public objectives with POECs, for example by specifying criteria such as local benefit, but examples from Germany highlighted that this can be limited. Some German municipalities have tried to 'remunicipalise' distribution networks by adopting criteria in concession tenders that POECs are better placed to meet, but in some cases this has prompted challenge from commercial companies who dispute the legality of these criteria.

3.2 Costs of public ownership

The costs of compensating private owners of energy assets transferred into public ownership has generated wildly varying cost estimates, from a few billion to hundreds of billions of pounds. Differing estimates arise from adopting different valuation principles. These include valuing companies based on either their share price, or the regulated value of their assets, or the regulated value minus debt⁴. Whether shareholders should be compensated for future profit also affects valuation. It was argued that, were transfer to public ownership to take place in the UK, the UK Parliament would be legally entitled to set a price of its choosing. In principle paying below economic value could be justified on grounds of economic justice.

4 Advantages claimed for public ownership

4.1 Finance

A recurring argument put forward in favour of public ownership was the ability of states to borrow money at low interest rates. While State Aid rules restrict how this finance can support POECs, it was suggested that the ability of public authorities to recover investment over long periods, and their willingness to accept low returns on equity mean POECs can invest where private companies are unwilling. Indeed, it was suggested that Hamburg Energie, a publicly owned energy supplier with investments in generation, was able to rapidly expand renewables in Hamburg by 'scooping up' projects that fell below private investors' hurdle rates.

In long running debates around both energy and public-private partnership contracts, the higher cost of private finance is set against efficiency gains argued to arise from private sector involvement. However, during the workshop this position was questioned, with studies across a range of sectors finding no evidence to support a general distinction between public and private

⁴ Under this scenario existing debt would be transferred to the Government along with the assets. The Government would initially pay the private owner the regulated asset value minus debt, but over the longer term would pay the debt down, either via POEC revenues or public finances.

company efficiency. The Scottish water industry was presented as an example where significant efficiency savings had been made through a reorganisation of public ownership: merging separate water companies into a single (publicly owned) organisation produced scale and scope efficiencies that contributed to a 40% reduction in operating expenditure. UK municipal companies have made cost savings by exploiting synergies with other local authority activities or assets (see section 0), and by reducing expenditure relative to private sector counterparts. An example was given of a municipal company paying lower salaries and offering fewer employee perks (such as company cars), though it was noted this can make recruitment difficult.

Specific criticism of private sector financing models concerned high rates of leverage – private utilities taking on large levels of debt. A question was raised whether an economic shock could lead to one or more large private energy utility becoming insolvent. An analogy was drawn with the privatised water industry in England where levels of debt have grown to about the same level as the total dividend paid out since privatisation. However, different perspectives on this point were advanced. For some excessive profit-taking and financial precariousness were general characteristics of privatised utilities. For others these failings were the fault of regulation: if regulatory techniques maximise incentives for profit, then companies will act accordingly. However, views differed on whether private companies would be willing to invest under a regulatory model that did not incentivise profit maximisation.

4.2 Decision making

Decisions made by private energy companies were criticised as ‘financialised’ – focussed on maximising financial value to the detriment of wider social and environmental objectives. As a specific example it was claimed publicly owned district heating companies are willing to invest in network expansion to create opportunities for new supply even when the commercial case is weak or uncertain; by contrast private companies require certainty (or underwriting) of connections before they will invest. More generally various participants cited public objectives (or ‘public profit’) as shaping decisions made by POECs willing to accept lower returns in exchange for meeting policy objectives.

Some historical examples of poor decision making by POECs were also noted. For example, between 1994 and 2002 the water industry in Scotland was organised as three publicly owned companies covering different geographical areas. As public companies they were able to keep prices low by using public finance, but the political sensitivity of price meant companies also took additional cost-cutting measures. They delayed investment in environmental performance and increased debt (even borrowing to pay interest on existing debt), avoiding increased charges in the near term, but storing problems for the longer term. The example highlights the risk that public ownership can incentivise poor management. This was not considered an inevitability, since the existing Scottish publicly owned water company, it was claimed, has not kept prices artificially low or deferred necessary investment. In part, it was argued, this is because it is scrutinised by an independent regulator, and in part because the harmonisation of prices across Scotland contributed to depoliticisation, enabling these to be set at a sustainable level.

It was suggested that the technological strategy in the UK’s former nationalised electricity industry was a product of capture by engineering interests who pursued their preferred technologies to the exclusion of potentially more cost effective alternatives. Recognition that national ownership had in the past created an unaccountable power centre led current proponents of public ownership to argue for a multiplicity of public companies at a range of scales and with different forms.

4.3 Localism

Greater local control of energy systems, particularly systems with a high level of public ownership, was associated with a number of benefits. From the local community’s perspective retention of energy payments strengthens the local economy. At a local level, coordination across

networks and with local authority policies were suggested to be more achievable. For example a French municipal operator was able to implement smart grid innovations, connect renewable energy and coordinate these with investments in energy efficiency. In the UK it was suggested that local authority supply companies can support local generation by offering power purchase agreements which would not interest large commercial suppliers. A further virtue attributed to local control was more scope for transparency in decision making, though it was argued this is not an inevitable consequence of public ownership. European experience of local public ownership underlined the importance of independent oversight, with examples cited of political corruption and exploitation of monopoly assets arising in the absence of regulation.

Balanced against arguments in favour of greater localism were arguments about the benefits of scale. Scale was suggested to bring a number of economies: avoiding duplicated effort and resources, favourable terms in large-scale procurement of equipment, access to lower cost finance and capacity to bear industrial risk. However, it was suggested that smart meters could reduce specific scale advantages, including the absorption by large energy suppliers of risks arising from inaccurate end-user metering and difficulties anticipating load profiles. Other arguments centred on the scale over which system costs, particularly fixed costs, are shared. Again, the Scottish water industry was raised as an example with per-connection costs varying hugely between rural and urban areas, but these being shared evenly across all users. In France debate about whether locally owned electricity networks should be locally operated or let as concessions to the national public operator⁵ include distributional questions, with the benefits of localism to local economies set against the benefits of a financially strong national champion and the sharing of costs as an expression of national solidarity. In addition to scale arguments, discussion of the French example highlighted that the public sector is not a homogeneous entity with unified purpose. It can comprise competing interests, with potential tensions between large scale public ownership as a route to better coordination across a country, versus small scale public ownership as a route to local control.

Challenges to municipal energy companies in the UK are associated with relationships between local and central government. These include: misalignment of local and national objectives and priorities; the power of central government to shape conditions for local energy (for example, by setting financial incentives or recruiting local government to its programmes); reductions in local government funding by central government; and a degree of scepticism at central government level of the capacity and entrepreneurialism of local authorities. However, it was also noted that a powerful discourse of devolution is shared across governance levels in the UK, and that some cities, such as Greater Manchester, were attempting to direct City Deal investment toward energy.

One prospective model suggested for the UK was the transfer of existing assets to public ownership under the principle of subsidiarity, with ownership of energy networks disaggregated and passed down to communities. As the first step in this approach would be to first take existing regional networks into public ownership it was described as ‘top-down creation of bottom-up control’. Devolving control to local communities resonated with EU proposals to support creation of Local Energy Communities integrating local electricity generation and consumption. There was some debate about what such communities would look like, based on doubt about the appetite of the UK public to engage directly with public ownership, and whether more bottom-up control could in practice be created from the top. The greater opportunity of wealthy communities to invest in ‘community energy’ projects was noted as foreshadowing a risk that only wealthier areas would have the resources needed to take control of local grids.

⁵ Enedis, a subsidiary of EDF

4.4 Distribution of economic resources

Tensions between localising energy economies and sharing costs across society were just one distributional issue discussed. Proponents argued that public ownership could be a direct route to redistributing wealth and income, and that investment returns effected an ongoing transfer of wealth from the population to private shareholders, particularly because returns to private capital are higher than the returns taken under public ownership. The example of English private water companies whose dividend payments seem to track the growth of company debt can be interpreted as representative of this extractive model of private ownership.

5 Outcomes of public ownership

5.1 Bills and environmental performance

A central question was whether evidence supported the contention that POECs lead to lower bills and/or higher environmental standards. Examples of both effects were presented within mixed public/private markets. Robin Hood Energy's fuel poverty tariff was credited with lowering bills in the East Midlands. Hamburg Energie had made significant investment in renewable electricity generation in the city. Econometric evidence was also presented, showing the presence of publicly owned companies in European electricity markets correlated with progress in decarbonisation.

However, it was also noted that public ownership does not guarantee either high environmental performance or low bills, as POECs can have a variety of objectives. One German case of minority public ownership in a network company was discussed as having had very little impact on deployment of renewables. Historically, international evidence indicates POECs have been among the more polluting energy companies, with this being attributed particularly to public investment in low cost energy in developing countries. In Germany where limited district heating regulation leads to wide variation in prices, it was argued that some municipal companies levy high tariffs as a means of generating revenue for public budgets thus avoiding more visible tax rises.

Some participants argued that the dominant paradigm for decarbonisation policy, based on governments incentivising commercial investment in low carbon energy, was a failure.⁶ These participants viewed public ownership as a more effective alternative. There were, however, differences of opinion on whether an investment deficit for low carbon energy really exists, given the interplay between scaling up deployment, technological innovation and cost uncertainties. It was suggested that, while the UK government had made some mistakes in the past, it was becoming a more 'intelligent procurer' of low carbon electricity generation. For example competitive mechanisms such as auctions are now proving effective in reducing subsidies to support low carbon energy. The surprisingly low strike price for offshore wind in the most recent round of CfD auctions was cited in support of this position. A counter argument returned to the lower cost of capital available to public owners, meaning resources spent on incentivising investment would go further. It was also noted that around half of the UK's offshore wind capacity is publicly owned (so potentially benefits from public financing), but by public authorities from other countries.

5.2 Knowledge

The concentration of technical and commercial knowledge about energy systems in private companies was argued to be detrimental to governments' capacity to understand and shape energy system development. The public sector was described as having to go 'cap in hand' to private companies to access data and learning. Trade associations were also criticised for treating

⁶ For example, some participants noted the Trade Unions for Energy Democracy account of a global low carbon investment deficit <http://unionsforenergydemocracy.org/resources/tued-publications/tued-working-paper-10/>

knowledge as private property to selectively pass on to public decision makers. POECs were argued to be more willing to share knowledge, contributing both to informing public debate on energy and to catalysing successful approaches. Robin Hood Energy was cited as a specific example of a POEC actively engaging with other public bodies keen to set up supply companies. The company was also exploring ways it could develop new knowledge resources, such as local fuel poverty maps, that would support its owner's policy objectives.

5.3 Industrial strategy

It was suggested that greater public ownership would contribute to returning the 'commanding heights' of the economy to public control. In particular, it was argued, public ownership of energy infrastructure and assets would allow more effective steering of the economy. In addition POECs were suggested as a route to 'on-shoring' manufacturing and reduced reliance on imported energy system components. Low levels of UK manufacturing of offshore wind turbines was cited as an example which POECs could address through procurement policies, though there are some restrictions on the circumstances under which these would comply with EU rules.

6 Conclusions

The workshop highlighted the diversity of models for public ownership and an associated broad range of arguments for and against each. Feedback from workshop participants indicated the international scope of the workshop was beneficial in exposing this breadth, and one suggested line for further work was systematic mapping and comparative analysis of ownership models, both internationally and across UK local authorities.

Complexity was a theme that ran through the workshop, leading to a suggestion that debate about public ownership would benefit from a 'whole systems' perspective encompassing interactions between policy, regulation, markets and infrastructure. Development of such a perspective is another area for future work. Linked to this could be development of new 'system architecture' proposals that would facilitate an effective role of new ownership models in delivering social and environmental policy objectives. Some participants underlined the importance of institutional and political analysis in making such proposals realistic.