

BRINGING ENERGY HOME

Labour's proposal for publicly
owned energy networks

Bringing energy home:

Labour's plan for publicly owned energy networks



Foreword, Rebecca Long Bailey

The UK stands on the cusp of a Green Industrial Revolution.

The Green Industrial Revolution will be as transformative as the first Industrial Revolution, but led by Labour, it will be anchored in dignity at work, social justice, equality and international solidarity. Furthermore, its central objective will be tackling the climate crisis at the scale and pace that science determines is necessary to avoid dangerous levels of global warming.

But we cannot just sit back and wait. Key to ushering in the Green Industrial Revolution, and the tremendous economic opportunities that come with it, will be the role of government in guaranteeing the right infrastructure is in place.

The energy sector is central to the UK's decarbonisation process. Yet energy networks are poorly placed to respond to the task at hand.

Since Thatcher's wave of privatisations, energy network companies have been able to post huge profit margins, overcharging customers to the order of billions of pounds, and failing to invest properly in infrastructure needed to accommodate the transition to renewable energy.

Though it is possible to identify specific regulatory failings, the truth is that the current system, in which natural monopolies are run for private profit, puts regulators and, by extension the public, at a structural disadvantage. Gaming and profiteering are not remediable glitches with the current system – they are intrinsic too it. Given the challenges facing the energy system, the status quo is no longer tenable.

In public hands, we can begin to address what is referred to as a 'trilemma' – providing energy that is low carbon, that is affordable, and that is secure. Energy networks that are owned by the public and responsive to the public interest will be able to prioritise tackling climate change, fuel poverty and security of supply over profit extraction, while working with energy unions to support energy workers through the transition.

That is why Labour is committed to bringing energy networks back into public ownership. This paper sets out in brief how we intend to do that, and I warmly welcome its publication.

Introduction

Many people would be surprised to learn that the cables and pipes that transport electricity and gas to their homes are owned by investment banks on Wall Street, multinational conglomerates from Hong Kong to the United States, and sovereign wealth funds from China to Qatar.

Ownership matters, because energy networks are infrastructure of national strategic importance that will be central to ushering in Labour's Green Industrial Revolution. Network costs represent over one quarter of energy bills. As the energy system becomes 'smarter', decarbonised and more decentralised, networks have an increasingly important role to play to balance the system, keep costs down, keep the lights on, and handle data sensitively.

Private ownership raises the question of whose interests these networks are being run to serve. Needless to say, achieving the highest possible return on investment does not naturally align with meeting the public interest of an energy system that is green, secure and affordable.

In fact, the evidence of the last 30 years suggests the opposite. Private ownership of energy networks has led to excess profiteering at the expense of investment in infrastructure. Regulators have been unable to keep in check the profit maximising that is a structural consequence of granting private ownership over natural monopolies.

Given the daunting challenges facing the energy system in the coming decades, and the central role of energy networks within it, society can no longer afford a model that puts the public at such a structural disadvantage. Given the increasing importance of energy networks, a system with such limited democratic oversight, control and public participation is no longer tenable.

That is why a Labour government will bring energy networks back into public ownership, for the interests of the many not the few. This paper sets out in brief how Labour intends to do that.

1. The proposal: what are transmission and distribution networks?

Gas and electricity transmission networks can be thought of like major arteries that transport gas and electricity long distances at high pressure/voltage across the country. Distribution networks meanwhile are for more localised transport of electricity and gas to and from end users. Most households and businesses depend on the grid for electricity and heating, and modern life would be unthinkable without it.

These networks were mostly built by the public sector – initially by local councils in the 19th and early 20th centuries, and then standardised and expanded dramatically when national government stepped in.¹ The Thatcher Government privatised the gas network in 1986 and the electricity network in 1990 as part of the infamous "Tell Sid"

campaign that promoted Thatcher's vision of a shareholding democracy. This vision has failed dramatically. Personal share ownership in the UK has halved since the 1980s, with energy networks owned by a small handful of investors, many international. The Labour Party intends to bring gas and electricity networks back into public ownership.

1.1. Electricity networks

The electricity transmission network is made up of high voltage wires and substations that transport electricity from power stations and large renewable energy generators across the country and, in some cases, to large consumers of electricity like factories. The electricity distribution network is made up of lower voltage electricity wires, substations and transformers that transport electricity from the transmission network, or from smaller scale renewable generators, to and from households and businesses. There are 14 regional distribution networks in Great Britain.

Historically, electricity has flowed in one direction – from power station through transmission and distribution networks down to end users. There has also been a lack of real time information about energy consumption – with forecasting used in the balancing of supply and demand. However, technological developments – including decentralised, small scale electricity generation and storage, smart meters that measure and communicate consumption, and artificial intelligence to optimise systems – are making it possible for electricity and information to flow both ways. This more dynamic, decentralised system is referred to as the 'smart grid'.

1.2. Gas networks

The gas transmission network is made up of compressor stations, storage facilities and high pressure pipes which transport gas from 'entry terminals' (e.g. gas terminals on the coast) across the country and to gas power stations and other large gas users. The gas distribution network is made up of smaller pipes at reducing pressure tiers which deliver gas to households and businesses. There are eight gas distribution networks in Great Britain.

The UK's gas networks will undergo significant changes as part of the decarbonisation process. For example, significant investment will be required for the storage and transport of hydrogen and other low carbon gases.

2. The rationale: why public ownership of transmission and distribution networks?

Public ownership of transmission and distribution networks will (i) deliver better value for the public, (ii) accelerate and coordinate the investments needed to roll out renewable and low carbon energy, (iii) provide democratic control over nationally strategic infrastructure and (iv) ensure decentralisation occurs equitably.

2.1. A better deal for the public

Network costs represent over one quarter of the cost of a gas and electricity bill.ⁱⁱ As networks are natural monopolies, the regulator, Ofgem, determines the level of

revenue that networks are allowed to generate from customers.

But customers have been getting a bad deal. Citizens Advice estimate that over an 8 year period network companies will make £7.5 billion in unjustified profits.ⁱⁱⁱ This is due to:

- i) Ofgem overestimating the business risk for investors
- ii) Ofgem assuming interest rates and returns for government bonds would be higher than they were
- iii) Companies inflating investment costs

A recent report by the Energy and Climate Intelligence Unit also found even more excessive returns captured by DNOs than Citizens Advice had predicted, with the six DNO parent companies posting an average profit margin of 30.4%.^{iv} This profiteering has occurred under the 'RIIO' price control system, introduced by Ofgem to respond to excess profiteering under the former system, which led to profit margins in the range of 25-39% per year.^v The electricity DNOs paid dividends to their shareholders during this time amounting to 15% of turnover – roughly half of the final profit. This equates to almost £1bn per year.

Further, the Committee on Climate Change identified higher network costs as a key reason UK businesses have faced higher electricity bills than European competitors.^{vi}

The means by which network operators have been able to game the system are complex.^{vii} But gaming is also the inevitable result of the 'cat and mouse' logic that arises from the attempt to reverse engineer market forces within natural monopolies. Regulators have an arguably impossible task, as regulated entities will always have better knowledge of their actual business costs, are likely to be better resourced, and are driven by clear financial incentives. Regulators meanwhile are responsible for operators' profit margins, and efforts to introduce tougher price control rules are checked by the responsibility of ensuring companies delivering an essential service do not fail.

A publicly owned and run energy network would reinvest or pass on to customers the money currently paid out in dividends. It would also save on regulatory oversight costs required to detect and deter gaming in the current system.

It would be possible to take system operation of the transmission network into public ownership, but leave ownership and maintenance of the infrastructure in the current private companies. However, Labour's position is that extending public ownership to transmission infrastructure, as well as the system operator, is the better option, with the greater costs of compensation offset by incoming revenues. This is because:

- i. The consistent over-charging by privatised transmission will not end unless the infrastructure itself is brought into public ownership. 93% of total expenditure is spent by the grid owners and only 7% by the system operator.^{viii} Excessive profiteering primarily takes place by the grid system owners.
- ii. The System Operator is primarily responsible for day-to-day system operation. But strategic long-term decisions about which grid infrastructure to expand, reinforce or retire are crucial to the process of decarbonisation. These decisions are made by the transmission owners.

2.2. Investment to tackle climate change

Decarbonising the energy system is central to tackling climate change, and will require energy networks to upgrade infrastructure and invest in flexible systems that can integrate tens of gigawatts of new wind, solar and tidal power.^x Labour has set out ambitious proposals including a seven-fold increase in offshore wind by 2030 and almost trebling solar power as part of a Green Industrial Revolution.^x Labour anticipates that the rollout of renewable energy generation will be driven by a mixture of public, private and community level investment.

However, while government intervention and subsidies have led to private companies investing significantly in renewable generation like offshore wind, private network companies have failed to deliver decarbonisation at the speed and scale required despite heavy incentivisation. They have been repeatedly criticised – including in the Cost of Energy Review – for prioritising dividend extraction over investment into infrastructure upgrades.^{xi} The amounts being invested by DNOs to modernise the UK power system and support the energy transition have been described as ‘pitiful’.^{xii}

Grid operators are notorious for delays in connecting new renewable generation and over-charging clean energy developers – effectively preventing community generators from connecting to the grid. Connection moratoria, long queues, unrealistic connection dates, high costs and lapsing connection offers have all been very common in the grid connection process.^{xiii} On a systemic level, electricity DNOs have allowed bottlenecks to local generation to emerge. Deployment of new solar generation in the south-west was effectively halted when the local distribution grid became overloaded and Cornwall struggled to export its electricity.^{xiv} National Grid has also been criticised for a lack of ambition in setting climate targets and delivering the infrastructure for the energy transition.^{xv}

Reaching the high levels of renewables deployment needed to meet Labour’s 60% target by 2030 and net zero emissions before 2050 will require a greater degree of network planning. Distribution and transmission networks will need to be pro-active, initiating electricity connections to parts of the country with high solar, wind and tidal potential. But market arrangements have created inefficiencies, such as a plethora of cables separately bringing to shore generation from different offshore windfarms, as opposed to higher capacity hubs offshore, into which individual windfarms feed.

Coordination and collaboration will require a long-term strategic approach that is not excessively focused on short term profit and revenue maximisation. Under Labour’s proposals, distribution operators will have the power and the direct responsibility to deliver electricity and heat with carbon intensity levels consistent with ambitious climate change targets. This will remove the transaction costs involved in devising and monitoring complex incentives for profit-maximising companies, and instead allow the efficiency gains of collaborative planning.

The energy transition will require the expansion of some forms of energy infrastructure, while higher carbon infrastructure will be utilised less. We cannot allow workers and communities that rely on high carbon energy for their livelihoods to be left behind. To ensure that energy workers receive new jobs on equivalent terms and conditions, we need public bodies with the institutional capacity to deliver this.

Since privatisation, there has also been a wholesale failure to invest in staff training

and development. This has created a demographic skills time bomb as experienced staff trained in the 1970s and 1980s are increasingly retiring, and there are too few to take their place.^{xvi} At a time of rapid technological transformation, this creates further bottlenecks.^{xvii}

2.3. Democratic control of a strategic resource

Energy networks are infrastructure of strategic importance to the UK. Decarbonisation and decentralisation mean they will play a more active role within the whole energy system, with DNOs increasingly tasked with grid reinforcement, managing demand side response, energy storage and energy efficiency measures.^{xviii}

Further, as we move to a smarter and more decentralised energy system, granulated data on energy consumption will take on far more importance than it does today. Data, machine learning and AI create the ability to optimise rather than just balance the system – and are sites of both innovation and profit.^{xix} It is in the public interest that this data is managed effectively – to boost innovation and decarbonisation, as well as guaranteeing digital security and managing data risks. Digitalisation and the advent of smart meters will also allow for connections to be turned on and off remotely.

In light of the above, it is imperative that energy networks be run transparently, in the public interest with democratic control and oversight. This is inconsistent with current ownership structures, in which electricity and gas distribution companies are owned and controlled by largely international investors including private investment banks, private equity funds, international pension funds and sovereign wealth funds.^{xx}

2.4. Equitable decentralisation

With increasingly decentralised energy generation, decentralisation of energy systems is inevitable. This has many benefits, including reduced network costs and increased community participation through control of local infrastructure. Yet decentralisation within a liberalised framework risks exacerbating inequalities.

Though decentralisation may create some initial space for community run cooperatives, it risks primarily expanding the private sector and strengthening the dominant market logic, creating the conditions to squeeze out community-owned companies.^{xxi} The fragmentation of larger energy companies can also weaken the ability of energy workers to organise collectively. Data-focused companies like Amazon and Google are moving into energy. A decentralisation process dominated by tech giants will leave both workers and communities disempowered.

Further, communities are not always open and democratic, and benefits and power can accrue to those who already have more wealth or time. For example, there is a risk of creating gated energy communities or ‘local energy islands’,^{xxii} where communities with the financial and physical resources to generate and supply electricity opt out of energy networks, leaving poorer communities with the disproportionate burden of financing wider infrastructure.

Public ownership is thus required as a backstop to community control, to ensure that decentralisation reinforces rather than undermines shared regional and national infrastructure, and allows for the pooling of resources needed to guarantee universality of supply most efficiently.

Bringing Energy Home

National Energy Agency

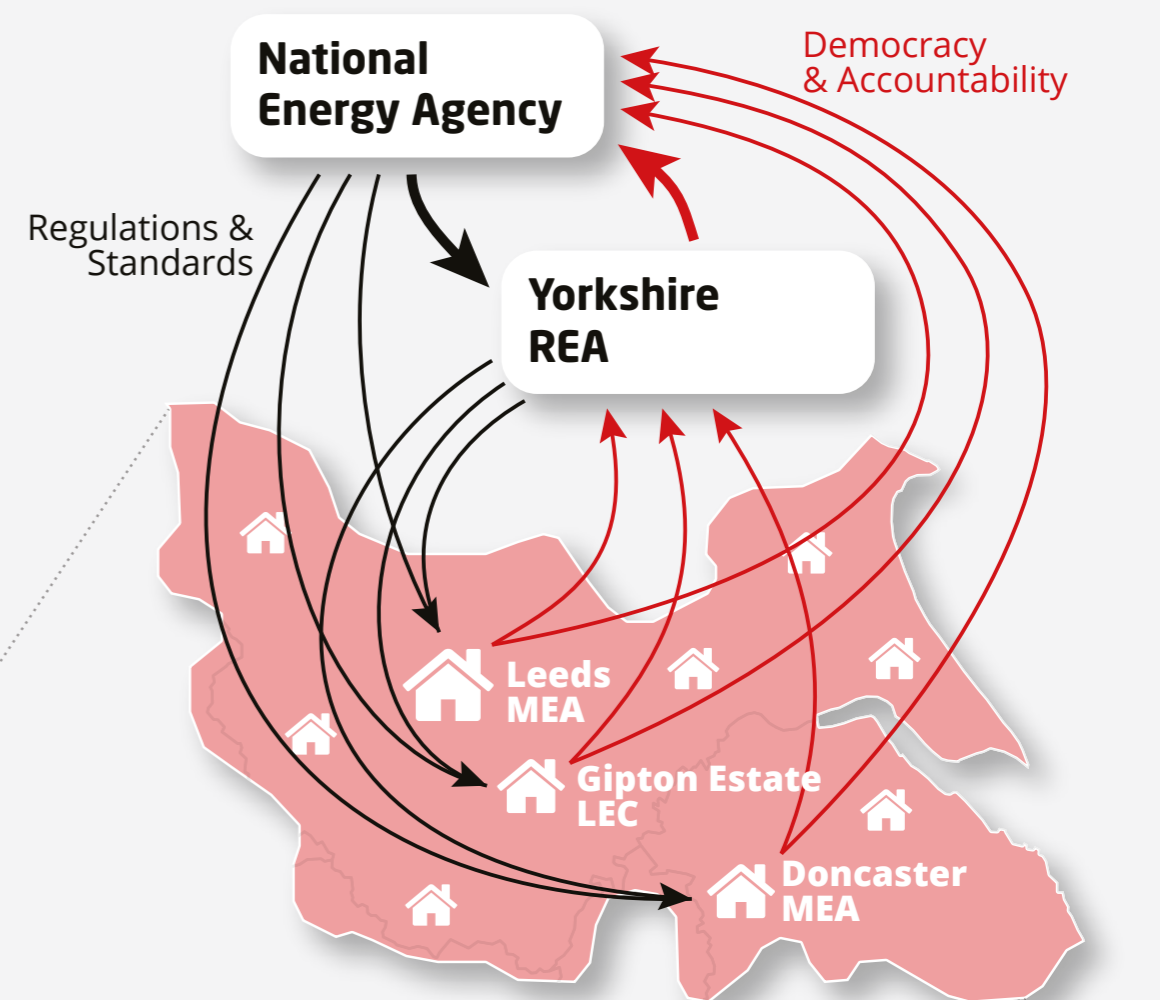
- Owns and runs high voltage transmission
- Regulates energy system
- Sets regional decarbonisation targets
- National skills & workforce planning

Regional Energy Agencies

- Own electricity and gas distribution
- Responsible for decarbonising heat and electricity
- Responsible for fuel poverty
- Drive regional industrial strategies
- Accountable to councils, workers and residents

Map Legend (REAs)

1	East England	8	North Scotland
2	East Midlands	9	South Scotland
3	London	10	South East England
4	N. Wales, Merseyside & Cheshire	11	Southern England
5	West Midlands	12	South Wales
6	North East England	13	South West England
7	North West England	14	Yorkshire



Municipal Energy Agencies

- Can own and operate local distribution and supply of energy, devolved down from the REA
- Established by pro-active cities, boroughs and parishes
- Accountable to residents and workers

Local Energy Communities

- Develop local renewables and engage with microgrid operation
- Community owned, at level of housing estates, villages or streets
- Receive training and resources from NEA

3. The set-up: what do the new institutions look like?

Labour proposes a nested system that combines decentralisation and local participation with central authorities that guarantee high standards, regional and national planning, and a fair allocation of costs. The guiding principle is subsidiarity, where decisions are taken as closely as possible to citizens and communities, with central authorities performing tasks not deliverable at more local levels.

This is not a return to the distant bureaucracies of the 1970s. Nor is this a Thatcherite “prosumer” model that promotes ownership for the rich, in which individual producer-consumers with access to generation and storage technologies trade energy on individually advantageous terms, exacerbating existing inequalities. Rather, Labour proposes a model of public ownership that is more decentralised, democratic, transparent and accountable than Britain has ever seen before.

3.1. National Energy Agency

Labour will establish a National Energy Agency (NEA) to provide an overall strategic compass for the energy transition, to guide public, collective and private forms of energy ownership. It will be set up on the existing institutional base of the National Grid.

3.1.1. Duties of the National Energy Agency

The NEA's duties will cover:

- Decarbonisation: Setting and overseeing the REAs' regional-specific targets for decarbonisation, to deliver a national target of 60% of energy from low carbon or renewable sources by 2030, and overseeing the rollout of the UK's EV charging network and development of energy storage capacity.
- Social objectives: Ensuring that access to electricity and heat is a human right, that REAs and other actors deliver on. This includes ensuring that costs are affordable, and redefining energy security to a household not a national level.
- Employment & Skills: Future skills and workforce planning as part of capacity building responsibility, and national oversight over employment and just transition processes.

The National Energy Agency will, inter alia:

- Own and maintain transmission infrastructure, build transmission connections to new large-scale generation, and act as system operator. This will include ownership and operation of the UK side of country-to-country interconnectors, and interconnectors that bring to shore generation from new offshore wind farms.
- Build capacity, provide resources and training to Regional Energy Agencies (REAs), Municipal Energy Agencies (MEAs) and Local Energy Communities (LECs).
- Oversee and invest directly in the development of energy storage capacity necessary to integrate intermittent renewable energy efficiently.
- Deliver pro-active transparency across the energy sector, by publishing detailed comparative insights into operations by public and private energy institutions.
- Incorporate some regulatory functions currently held by Ofgem, in a way that is

compatible with requirements for a legally separate market regulator as specified by EU law.^{xxiv} Ofgem has suffered from insufficient regulatory teeth and asymmetries of knowledge created by the lack of serious government energy institutions.

The NEA will have borrowing powers sufficient to invest appropriately to meet its duties, similar to the REAs.

3.1.2. Governance of the National Energy Agency

In line with the democratic public ownership consultation going through the National Policy Forum, the governance structure for the National Energy Agency should:

- Provide democratic oversight and accountability.
- Enable maximal public and worker participation.
- Deliver environmental, technical and economic effectiveness and efficiency.

The new public system should incorporate a public authority, with statutory responsibility, providing a democratic supervisory role over parallel operational companies or divisions. These operational companies would have professional management, and be owned by and accountable to the public authority.

The parallel operational companies will include:

- Transmission network owner and operator
- Strategic Planner
- Energy System Regulator
- Capacity builder (for REAs, MEAs and LECs)
- Climate and Energy Skills Agency

Day-to-day operational management of the NEA will be in the hands of professionals, both management and workforce. The board of the public authority should be in charge of the overall and strategic management of the companies, and be empowered to dismiss the executive management.

The National Energy Agency will need a systematic way of prioritising investments. Major investments decisions should not be driven by the public authority board members, although they will have a role in oversight and signing off on large decisions.

The public authority board members should include:

- Members appointed by the UK Secretary of State and Ministers in the devolved administrations
- Members from the Regional Energy Agencies
- Members elected by Local Energy Communities
- Members elected by workers in the National Energy Agency
- Members from civil society representing environmental and consumer interests
- Board representatives should include at least 50% women

Government appointments to the board will be made jointly by the Secretary of State for Business, Energy and Industrial Strategy and Ministers in the devolved administrations, following a recruitment process to identify appointable candidates as regulated by the Commissioner for Public Appointments. The relevant Select

Committee should also hold pre-appointment hearings with nominated candidates.

Democratic governance of the NEA will be boosted further by:

- Engaging the broader public over National Grid's strategic direction and plans through online processes and regular public meetings.
- All board meetings and sub-committee meetings to be public, live and online.
- Complete transparency of documents (that do not compromise the privacy rights of individuals) – akin to Denmark where all documents can be accessed.

3.1.3. Relationship of the National Energy Agency to the Secretary of State and Parliament

The National Energy Agency will be an independent, statutory Non-Departmental Public Body, sponsored by the Department for Business, Energy and Industrial Strategy. A senior departmental official within BEIS will act as the designated sponsor and be supported by a sponsorship team for day-to-day liaison between the department and the NEA.

The NEA will be accountable to government through its Annual Report and Accounts which it will be required to submit to the Secretary of State to table before Parliament. In addition to its annual report, the NEA will be expected to submit quarterly reports as directed by the Secretary of State, to be tabled before Parliament, and answer to the relevant Select Committees.

The responsibilities for the National Energy Agency will rest with the Secretary of State for BEIS, the Welsh Ministers and Scottish Ministers. The Secretary of State will account for NEA business to the UK Parliament. In the same way, the relevant Ministers in Scotland and Wales will be accountable to the Scottish Parliament and the National Assembly for Wales respectively.

The report and accounts shall be laid by the Secretary of State in Parliament and responsible Ministers in the devolved legislatures. The accounts should be prepared in accordance with the relevant statutes and specific accounts direction issued by the Secretary of State and Ministers in Devolved Administrations. The annual report must:

- Cover any corporate, subsidiary or joint ventures under its control.
- Comply with the Treasury's Executive Non-departmental Public Bodies: Government Financial Reporting Manual (FReM).
- Outline the main activities and performance during the previous financial year and set out forward plans in summary form.

3.1.4. Creation of the National Energy Agency

Some of the above functions are existing functions of energy transmission companies (e.g. owning and operating transmission networks), while others are new functions (e.g. decarbonisation, capacity-building).

On day one after nationalisation, the transmission company owned by the NEA will look near identical to the privatised electricity transmission operator, but in public ownership. Gradually, the assets and workforce of the gas transmission companies will

be transferred across to the NEA, merging electricity and gas networks. Alongside this, relevant staff and functions will be transferred from BEIS to the NEA, and new divisions will be launched and capacity built up within the NEA, to meet its new statutory duties.

3.2. Regional Energy Agencies

Labour will establish new Regional Energy Agencies (REAs) to own, maintain and run system operation of the distribution networks. Each REA will be set up on the institutional base of the local electricity Distribution Network Operator.

3.2.1. Duties of Regional Agencies

The new REAs will, inter alia:

- Own, maintain and run the distribution networks, including system operation.
- Hold statutory responsibility for decarbonising electricity and heat, including delivering a national minimum 60% of energy from zero-carbon or renewable sources by 2030. Those REAs with greater renewables potential within their regions will need to meet higher targets, to compensate for those with lower possibilities.
- Oversee and invest directly in the development of energy storage capacity necessary to integrate intermittent renewable energy efficiently
- Hold statutory responsibility for ensuring every household can access affordable energy, and reducing fuel poverty.
- Take responsibility for rolling out the UK's electric vehicle charging infrastructure in a planned, coordinated fashion.
- Be empowered to promote energy democracy.
- Support the delivery of energy efficiency insulation as laid out in Labour's existing policy.^{xv}
- Be empowered to take an active role in regional industrial strategy, using their procurement and planning powers to create jobs and economic activity.
- Take an active role in co-ordinating just transition pathways for workers and communities negatively impacted by declines in high-carbon energy within the region.
- Collaborate and coordinate closely with Municipal Energy Agencies and Local Energy Communities within the region.

REAs will have borrowing powers sufficient to invest appropriately to meet these duties. The new Regional Energy Agencies will aim to be credit-linked entities similar to Transport for London.

3.2.2. Governance of Regional Energy Agencies

In line with the democratic public ownership consultation going through the National Policy Forum, the governance structure for the new public energy bodies should:

- Provide democratic oversight and accountability.
- Enable maximal public, consumer and worker participation.
- Deliver environmental, technical and economic effectiveness and efficiency.

Each REA will consist of a public authority, with statutory responsibilities, providing a democratic supervisory role over legally distinct operational companies. These legally

distinct operational companies will have professional management, and be owned by and be accountable to the public authority.

Strategic decisions will be the responsibility of the boards of the REAs and day-to-day operational management of the REA will be in the hands of professionals, both management and workforce.

The public authority board members should include:

- Members representing the constituent local authorities and devolved governments within the area.
- Members elected by workers in the company.
- Members from civil society representing environmental and consumer interests
- Board representatives to include at least 50% women.

Democratic governance should be boosted further by:

- A participatory mechanism and budgeting cycle, to enable and encourage civil society organisations to engage actively and constantly on the whole system investment plans. Combining an obligatory cycle of public meetings in different locations with strong rights for organisations to raise issues.
- Engaging the broader public over the Regional Energy Agency's strategic direction and plans through online processes. All residents should be given opportunities for participation through assemblies held across the region.
- An online democratic forum for people to suggest, comment and vote on policy proposals and priorities for the company. This should learn from and build on existing models, such as Decidim Barcelona.

Full transparency should be ensured through measures including:

- All board meetings and sub-committee meetings to be public, live and online.
- Complete transparency of documents (that do not compromise the privacy rights of individuals) – akin to Denmark where all documents can be accessed.
- Real time information about the energy networks, including details on sub-contractors and works being conducted.

3.3. Municipal Energy Agencies

Where local authorities want to accelerate the energy transition locally they will be able to set up Municipal Energy Agencies (MEAs). Provided local authorities actively wish and have demonstrated capacity to run distribution networks at the county/metropolitan/borough level, Labour will oblige REAs to devolve ownership and operation of distribution networks to local authority led MEAs. MEAs will then own and operate distribution networks, enabling them to integrate networks with local generation and supply.

The Regional Energy Agency effectively devolves some of its power and control, but gains through accurate reporting at a more decentralised level, so that REAs can balance regionally before external supply from the transmission network is required to maintain voltage.

An MEA can be set up at scales as small as a parish council, or as large as a city like Manchester or Glasgow.

A Municipal Energy Agency could look like:

- Leeds Council taking over distribution and supply within the city of Leeds from the Yorkshire Regional Energy Agency.
- The borough of Hackney taking on supply from the London Regional Energy Agency.
- A parish in Cornwall running the local distribution grid and integrating solar and storage solutions.

3.3.1. Duties of Municipal Energy Agencies

MEAs will be able to engage in supply, distribution and/or generation of energy.

- All or part of distribution grid ownership and management and customer supply can be devolved down from the Regional Energy Agency, to counties, cities or parishes.
- By optimising the system at a more local level, an MEA can reduce strain on the overall grid.
- Vertical integration on a municipal level will enable MEAs to innovate and develop their own locally-appropriate transition solutions.
- Where an MEA cannot access enough value to fund paid skilled employees at a local scale, it can rely on existing REA staff to support its activities.

3.3.2. Governance of Municipal Energy Agencies

Local authorities will apply to the National Energy Agency for a license to set up an MEA. All MEAs must be wholly-owned by local authorities. They can be set up by an individual local authority, or by a federation of local authorities.

To operate, an MEA will need to demonstrate appropriate:

- Capacity and skills to operate infrastructure and deliver energy safely
- Access to capital
- Non-profit status
- Democratic accountability to energy users
- Democratic accountability to staff working for the MEA

The National Energy Agency will provide regulatory oversight. MEAs would need to submit annual audits to the National Energy Agency, as well as allow full transparency of all documents.

MEAs will be subject to fair wages clauses, and pay the same standard rates, pension contributions and so on to their workforce as across the sector.

To encourage the roll-out of MEAs across the UK:

- The National Energy Agency and Regional Energy Agencies will provide training, resources and skills-building.
- Cheap and long-term finance to invest in new generation will need to be available from the regional development banks and the Public Loan Works Board. This public financing should aim to crowd in private funding, similar to the Green Investment Bank's past success.

A network of MEAs will promote peer-to-peer skill-sharing and collective innovation.

3.4. Local Energy Communities

Labour will enable and support the creation of Local Energy Communities (LECs), vertically integrated bodies that can engage in supply, distribution and/or generation of energy at the micro level.

There are significant advantages to community energy. By optimising the system at the level of a street, housing estate or small village, community energy can reduce strain on the overall grid, increasing efficiency and reducing the need for grid reinforcements. Community energy can be a means to untap the resources and enthusiasm of residents that want to decarbonise their energy supply further and faster than the local distribution network. Increasing local control and participation in the energy system is also a powerful tool to build public support for the energy transition, and to foster a genuine community stake in publicly owned networks that is needed to lock-in the benefits of public ownership in the long term.

LECs are envisioned to operate at the scale of 100 to 200 homes, equivalent to the number of urban residences typically served by a secondary substation. LECs will be able to apply for a licence to:

- Generate and supply renewable electricity to members of the LEC.
- Aggregate energy demand on behalf its members.
- Provide energy storage and demand-response services to the REA or MEA.
- Take responsibility for the operation and maintenance of electricity distribution infrastructure (e.g. cables, meters).

Membership of a LEC will be voluntary. Communities that do not wish to form a LEC, or individuals within a community served by a LEC that do not wish to join, will be served by the REA or MEA and their energy supplier in the usual way.

The motivation for forming or joining a LEC will be twofold: (1) members are able to take action on climate change and access public support for small scale renewable generation, and (2) members may be able to reduce their electricity bills by using storage and low cost renewables at scale to reduce and shift their demand, and by exporting demand-response services to the REA or MEA.

To avoid the pitfalls of inequitable decentralisation set out in section 2.4, LECs will:

- Be constituted as wholly community owned (e.g. as a Coop or Community Benefit Society) and non-profit making.
- Be subject to fair wages clauses, with the same pay and conditions as across the sector. In practice, given their size, LECs would be unlikely to require full time employees, and would have access to staff working for REAs and MEAs.
- Remain part of the grid system. LECs would not go off-grid, and would contribute to system costs, as determined by the National Energy Agency.
- Be tied to a specific locality so that they are genuinely community-based organisations.

To qualify for a licence, LECs would have to demonstrate, inter alia, capacity and skills to operate infrastructure and deliver energy safely, administrative capacity, access to capital, community buy-in and support with a minimum number of participating members. LECs should not be restricted to more privileged communities, a challenge

with many current models of community energy in the UK. To encourage the roll-out of LECs across the UK:

- The National Energy Agency and Regional Energy Agencies will provide training, resources and skills-building.
- As well as sourcing private finance, cheap and long-term finance to invest in new generation will need to be available from the regional development banks. This public financing should aim to crowd in private funding, similar to the Green Investment Bank's past success.
- A network of LECs will promote peer-to-peer skill-sharing and collective innovation.

LECs will be an innovative feature of the energy system under Labour – an experiment in highly participative community energy as a means to allow a thousand different flowers to bloom. As such there will be an inevitable degree of experimentation and learning by doing in their rollout. It is recognised that it may take some years before a significant number take hold, and that their success will depend on the varying desire, engagement and capacities of communities across the country.

3.5. Principles for public management

The framework for the operation of the institutions set out above will be shaped by the following principles:

- Operation will favour financial equilibrium and not profit.
- Any surplus will be systematically reinvested in energy infrastructure, skills and staff, or used to reduce bills.
- Investment and operational decisions will be guided by a long-term perspective with key functions brought back in-house wherever possible.
- Pricing will be fully transparent and reflect only the cost of delivering energy - not dividends, executive salaries, or excessive interest payments.
- Purchasing will be carried out through entirely transparent processes, with bidding procedures that guarantee ethics and best value for money, widely defined.

4. The process: how do we transition

Energy distribution and transmission will be brought into public ownership immediately and in the short term will continue functioning on the same scale and broadly the same manner as before. The day after public ownership is implemented will look almost identical to the day before, with companies managed by the same professionals. The process of transforming publicly owned network companies into the nested, participatory, transparent institutions set out above will take longer, and will be achieved over the course of Labour's first term.

4.1. Asset acquisition and compensation

The formal legal structure for bringing assets into public ownership (as used in the nationalisations that occurred after the Second World War as well as that of Northern Rock) is an act of parliament with a two-step process:

- i. The assets to be nationalised are transferred to public ownership through an Act of Parliament.
- ii. Provision is made for compensating the former owners through a bond issuance by Treasury.

Existing shareholders will be compensated with bonds. This is cost neutral to the public purse, according to Office for National Statistics and international accounting standards, because the public sector exchanges a liability (the bond) for a profitable asset (the energy network companies).

The UK legal framework is clear that the level of compensation should be decided by Parliament. This was confirmed in 2012 by the UK Appeal Court and the European Court of Human Rights in relation to the nationalisation of Northern Rock. ^{xxv}

Parliament may seek to make deductions for compensation on the basis of: pension fund deficits; asset stripping since privatisation; stranded assets; the state of repair of assets; and state subsidies given to the energy companies since privatisation.

Existing debts of the companies will be carried over with the companies under public ownership and honoured in full. They will be refinanced over a period of time so that the costs of debt are reduced.

We expect public energy companies to get high credit ratings because both Moodys and Standard & Poors have a standard methodology for rating 'government-related entities'. This takes account of the profile of the business itself, including, for example, de facto monopoly position, and the presence of explicit or implicit government support.

4.2. Formation of the new public bodies

The proposed mechanism is an Act of Parliament that, inter alia:

- Creates the National Energy Agency with a remit to cover capacity-building, system optimisation and operation of necessary infrastructure (e.g. interconnectors), as well as owning, operating and expanding the National Grid.
- Creates new Regional Energy Agencies.
- Allows local authorities to form Municipal Energy Agencies to take on distribution (ownership and management) and supply from REAs, and invest in renewable generation and storage.
- Allows non-profit groups to form Local Energy Communities, to take on distribution services and energy supply from REAs/MEAs, and invest in renewable generation and storage.
- Nationalises and consolidates the following, compensating the shareholders and carrying over the debts of the companies:
 - Electricity and Gas Transmission > Consolidated into National Energy Agency
 - Electricity & Gas Distribution > Consolidated to Regional Energy Agencies

Each Regional Energy Agency will be set up on the institutional base of the local electricity Distribution Network Operator. Initial staff will include workers transferred under TUPE regulations across from the companies brought into public ownership. REAs will recognise existing collective agreements, and the process will be in negotiation with trade unions.

The National Energy Agency will be set up on the institutional base of National Grid Electricity Transmission plc, National Grid Gas plc, the various interconnector companies and Ofgem, incorporating their existing capacities, resources and skills.

Civil servants will be transferred from Ofgem to the NEA where roles and responsibilities are transferred. Staff working for National Grid, SP Transmission and Scottish Hydro Electric Transmission will be transferred under TUPE regulations across from these companies. The NEA will recognise existing collective agreements, and the process will be conducted in negotiation with trade unions.

The posts of senior executives and directors will be re-advertised on dramatically reduced salaries, capped by Labour's 20:1 pay ratio policy.

Conclusion

Public ownership in the energy system is overwhelmingly supported by the general public,^{xxvii} and it is not difficult to see why.

The latest figures show that excess winter deaths are at their highest levels since the 1970s. In 2018, 15,000 of these deaths were relatable directly to a cold home.^{xxviii} Evidently, privatisation has failed to address fuel poverty.

As public concerns mount regarding the threat of climate change, evidenced by the 'school strikes for climate', there is limited tolerance for the sluggish transition to renewable and low carbon energy, and bottlenecks in the system standing in the way of rapid decarbonisation.

And it remains the public's view that 'keeping the lights on' is a fundamental responsibility of government, not something that can be left to the vagaries of the market and unaccountable investors.

Set against that context, the arguments for privatisation of energy networks – a business model in which there is no competition, little risk, and in which profits are guaranteed by regulation – have become difficult to maintain. This is particularly the case as private companies have a track record of large unjustified profits, excessive dividend payouts, inflated salaries for senior executives and directors and historic underinvestment in infrastructure and the workforce. It is time to admit that this model has failed and to move on.

This paper sets out Labour's vision for a new model, one based on publicly owned, democratic and locally devolved institutions that are modern and transparent.

This new model will not be without challenges. It will be necessary to achieve both universality and reliability of service while fully capturing the benefits of decentralisation. The new model will have to balance efficiencies of long-term planning and central coordination with participatory decision making that is locally appropriate. The new public bodies will also inherit the legacy of thirty years of underinvestment in infrastructure and skills, while overseeing a step-change in the pace of decarbonisation.

But with the right structures and principles in place, Labour believes we can do more than simply overcome the challenges in our energy system; Labour believes that the energy system, managed properly, can kickstart a Green Industrial Revolution, powering Great Britain toward a future we all want to see – one that is sustainable, affordable and fair.

Annex

Affected companies

Transmission networks

Labour proposes establishing public ownership of the four licensed and regulated electricity and gas transmission companies and their subsidiaries, that own the networks and other assets in England, Wales and Scotland.

These companies can be precisely identified by sets of accounts relating solely to the regulated transmission business. National Grid Electricity Transmission plc is in the process of being split between the owner of the assets and the electricity system operator, with a new legally separate company to run the latter due to be set up by April 2019. This will need to be added to the list below once that process is complete.^{xxix}

Electricity Transmission Companies	Gas transmission companies
National Grid Electricity Transmission plc (NGET)	National Grid Gas plc
SP Transmission plc	
Scottish Hydro Electric Transmission plc	

Distribution networks

Labour proposes public ownership of the 19 licensed and regulated electricity and gas distribution companies and their subsidiaries, which own the networks and other assets in England, Wales and Scotland.

All of these companies can be precisely identified by sets of accounts relating solely to the regulated distribution business.

Electricity Distribution Companies	Gas Distribution Companies
Electricity NorthWest Ltd	Cadent Gas Limited
London Power Networks plc	Southern Gas Networks Plc
South Eastern Power Networks plc	Scotland Gas Networks Plc
Eastern Power Networks plc	Northern Gas Networks Limited
Western Power Distribution (South West) plc	Wales & West Utilities Limited
Western Power Distribution (South Wales) plc	
Western Power Distribution (West Midlands) plc	

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