

## **Feasibility report commissioned by London Assembly member Jenny Jones**

### ***Establishing a London Energy Company within London government: Issues for consideration (Dec 2015)***

#### **Executive Summary**

The Mayor is currently in the process of developing a junior electricity supply licence operation, also known as Licence Lite, which will allow the GLA to procure electricity from decentralised energy (DE) generators in London, selling this output to Transport for London (TfL), the largest electricity consumer in the capital.

Supporting the growth of decentralised energy is a key to the achievement of the Mayor's strategy to reduce London's CO<sub>2</sub> emissions by 60 per cent by 2025 (from a 1990 baseline).

This paper explores issues around London government going beyond Licence Lite and instead establishing a fully licensed not-for-profit energy supply business. For the purposes of this paper, this new operation has been called the 'London Energy Company' (LEC).

It is proposed that the LEC would manage TfL's significant and growing electricity requirements, and extend supply services to London's homes and businesses.

Establishing a LEC could potentially provide a better-resourced delivery vehicle for the Mayor's energy and climate programmes, funded through an income stream generated from the sales of energy.

Operating as a fully licensed electricity supplier is a complex and costly process, however, the last six months has seen new two new municipal energy supply operations start-up, which could provide a template for the LEC.

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## Introduction

The following paper considers some key questions around the rationale and potential for Transport for London (TfL) to establish an energy supply operation, which we have called for the purpose of this exercise, the London Energy Company (LEC). The list of issues considered below is not meant to be comprehensive, but does attempt to address some of the main areas that policy makers across London government would have to examine as part of a process for TfL to sell electricity and gas to London homes and businesses.

### Why would the Mayor want TfL to become an energy supply company?

Through establishing a new LEC the Mayor would potentially be able to address the following:

#### Helping reduce Londoners energy bills

There are growing concerns about costs of energy, based on a doubling of electricity and gas prices over the past five years<sup>1</sup>, and projections of continued pressure on energy bills over the coming decade. A new LEC would in principle be able to provide lower cost energy tariffs to London homes by:

- Creating a business with lower overheads and operating costs than incumbent major energy suppliers;
- Operating as a not for profit company;
- Being able to direct profits to helping reduce energy bills for consumers instead of paying shareholders dividends; and
- Establishing a strong London-brand, helping attract a large number of Londoners to switch to the LEC and, critically, who decide to remain a long-term customer on the basis of a better service being offered

The LEC could take a longer-term more energy service oriented strategy on the supply of energy to Londoners. Once established, it could use income generated to reduce energy bills through funding energy efficiency investment programmes, supporting the uptake of decentralised generation or providing specialist advice to help London households struggling to pay bills, or those on pre-payment meters<sup>2</sup>. Energy suppliers are already working closely with the Department for Work & Pensions (DWP) in order to identify households eligible

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<sup>1</sup> Wholesale energy costs, which make up around half of a household energy bill, are estimated to have contributed between around 56% and 71% of the increase in household energy bills between 2010 and 2013. See 'Estimated impacts of energy and climate change policies on energy prices and bills' DECC November 2014

<sup>2</sup> Around to 20% of London households are estimated to be on pre-payment meters – see MQ 2015/1857 17 June 2015

for benefit support through the Warm Homes Discount Scheme<sup>3</sup>. Benefit Entitlement Checks (BECs) were highly successful in London when undertaken under the government's previous (and now defunct) Warm Front programme<sup>4</sup>, where the average increase in unclaimed benefits to qualifying London households was an incredible £1,938 a year. BECs were also undertaken under the Mayor's RE:NEW project<sup>5</sup>, however, it is not clear if the current RE:NEW Phase 3 programme (which operates very differently to previous phases) undertakes such checks, and hence the LEC could potentially provide such a service, extending activity beyond that currently in operation by energy suppliers with the DWP [it should be noted that increasing activity on BECs is one of the key recommendations made earlier this year by the Government's Fuel Poverty Advisory Group<sup>6</sup>].

### Improving consumer satisfaction

There has been a widely acknowledged loss of trust by consumers in the 'Big 6' energy companies.<sup>7</sup> A better targeted energy supply and service offer from the LEC, more appropriate to Londoners needs, would help build consumer confidence and satisfaction in energy services, and at the same time build opportunities to engage consumers in messaging around other related environmental priorities for the Mayor e.g. water efficiency, public transport, recycling etc.

### Supporting decentralised energy growth and security of energy supply in London

Initial studies from the Mayor's London Infrastructure Plan suggest demand on **energy** supplies is set to increase by 20 per cent during a period where demand on **electricity** supplies is forecast to more than double<sup>8</sup>. Concerns over energy security of supply in London have been raised by a number of organisations over the past few years, including the West End Commission<sup>9</sup>, London First<sup>10</sup>, and the City of London<sup>11</sup>. The Mayor has also written directly to government over energy supply issues<sup>12</sup> and established a High Level Electricity Working Group to look at

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<sup>3</sup> See DECC website - <https://www.gov.uk/the-warm-home-discount-scheme/eligibility>

<sup>4</sup> For further information see <http://www.energyforlondon.org/london-loses-under-warm-front-again/>

<sup>5</sup> See MQ [2013/3766](#) 23 October 2013

<sup>6</sup> See recommendation 4 - Fuel Poverty Advisory Group (for England) Annual Report, February 2015

<sup>7</sup> [Trust in the Energy Sector and Billing](#), Citizens Advice, March 2015

<sup>8</sup> [Mayor of London issues stark wake-up call on capital's infrastructure requirements](#), GLA Press Release, 30 July 2014

<sup>9</sup> <http://www.westendcommission.com/>

<sup>10</sup> 'Energy Security Keeping the lights on: A guide for security and resilience managers', London First, March 2014

<sup>11</sup> [The Future of London's Power Supply](#), City of London, April 2014

<sup>12</sup> [Mayor of London letter to the Secretary of State for Energy](#), DECC, 10 July 2013 (see Appendix 6)

the potential of energy supply constraints impacts on business in the capital<sup>13</sup>, with discussions going as far as Number 10<sup>14</sup>.

A LEC could help support and accelerate the development of new low carbon generation in London (including the development of council-owned or community-owned low-carbon generation assets) through the provision of power purchase agreements (PPAs) to these generators which provide a fairer market price, or longer term contract, than those offered by the electricity supply market at present. This is similar to the rationale being adopted by the Mayor for his Licence Lite programme (detailed below), however, a LEC would increase the volumes of electricity needed beyond that just required by TfL, as a result of an increased customer base<sup>15</sup>.

Additionally:

- The LEC could also expand to develop, invest and operate its own new major decentralised energy generation plant (such as CHP, wind or large scale solar) as electricity suppliers Ecotricity<sup>16</sup> or Good Energy<sup>17</sup> have done. The LEC would have the added advantage of siting such developments on GLA Group (GLA, TfL, LFEPA, Metropolitan Police) land and would also have access to lower public sector rates of borrowing. [It should be noted that Islington Council have invested, designed and developed their own council-owned CHP plant – and numerous councils across the UK have similarly done so with solar projects].
- The LEC could also support further generation capacity through the uptake of domestic solar installations in London. This could either be through improved PPAs as mentioned previously; through innovative tariff offers to households where PV could be installed free of charge, in return for securing a long-term supply contract<sup>18</sup>, or develop new solutions, based around Demand Side Response (DSR) or electricity storage, that could arise through the introduction of smart meters.

### Supporting innovative low carbon energy (heat, green gas) solutions

The LEC could explore opportunities to support the growth of low carbon heat supply, through entry to, or collaboration with, London's growing district heating market. The Core Cities groups have highlighted that "*By obtaining [an*

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<sup>13</sup> <https://www.london.gov.uk/priorities/planning/london-electricity-high-level-working-group>

<sup>14</sup> Meeting at Number 10 6 May 2014, Note of meeting available on the [GLA website](#)

<sup>15</sup> Additionally, TfL's main demand for electricity is for high voltage supplies, provided by the national grid, whereas most decentralised energy supply would be supplied at low voltage.

<sup>16</sup> <http://www.ecotricity.co.uk/our-green-energy/our-green-electricity>

<sup>17</sup> <http://www.goodenergy.co.uk/our-wind-and-solar-farms>

<sup>18</sup> An offer recently introduced in the UK by SunEdison through their Energy Saver Plan

*electricity supply] licence Core Cities can improve the commercial viability of heat networks through vertical integration i.e. the generation and sale of heat and power. In addition the current installation of heat networks is often limited in the commercial sector by short-term single company commercial reward and risk criteria. Local authorities can take a more strategic and long-term view within their project assessment criteria.”<sup>19</sup>*

The LEC could also link with Mayoral waste policies and help drive the uptake of renewable gas production in London (from anaerobic digestion/waste gasification projects) through long-term contracts for the purchase of output from green gas to grid projects, which could then be sold on to consumers.

### Improving levels of switching

London has some of the:

- Lowest levels of household energy tariff switching of any region in the UK,<sup>20</sup>
- Highest proportion of consumers in England on home energy supplier contracts<sup>21</sup> and
- Low levels of direct debit payment, which typically provide lower transaction charges from suppliers;<sup>22</sup> and
- The highest regional average annual gas bill (see Appendix 1).

There are a number of reasons why this might be the case such as a more transient population than other parts of country; high levels of rented accommodation; and a greater incidence of flatted accommodation. A LEC could look to publicise the issue of tariff-switching levels in the capital – encouraging Londoners to look for better energy supply deals. It is unlikely that the LEC would be able to provide the best energy supply offer to each and every customer if solely based on price, however, the LEC should be able to offer a competitive deal with the added advantage of attracting customers to a new London not-for-profit municipal energy brand, with a strong social remit and potentially to access incentives of interest to Londoners (ie discounts for the use London’s tube or buses; incentives to use TfL’s cycle hire scheme; access to sporting/cultural events the Mayor provides support to, etc). If not always successful in gaining each new customer that switches, the LEC would at the very least be ensuring Londoners are not over-paying for their energy.

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<sup>19</sup> *Power Up Cities*, Core Cities Group, November 2013

<sup>20</sup> DECC’s [Quarterly Energy Prices](#) (September 2015 latest issue) report that “Overall, customers in the London region were the least likely to have switched, with around 50 percent still with their home supplier”

<sup>21</sup> A ‘home supplier’ here refers to those energy companies operating in the London region before privatization, which, in many instances offer the least competitive offers to London households. See Table 2.4.1 of [Quarterly Energy Prices Tables Annex: June 2015](#), DECC

<sup>22</sup> *ibid* – see Tables 2.4.2, 2.5.1 and 2.5.2

### Accelerating the roll out and use of smart meters

The number of smart meter installations in the capital to date is not known, however, the overall national programme is running slow and behind schedule<sup>23</sup> with a real risk that its 2020 deadline target will be missed<sup>24</sup>. London has a set of recognised challenges in relation to the roll-out (number of flats, rented properties, diverse communities, etc) and it is highly probable that suppliers will face difficulties in organising smart meters installs in the capital. With over 3 million households in London, the smart meter programme, which begins in earnest in 2016, will need to replace some 100,000 gas and electricity smart meters a month in London to achieve the 2020 deadline. Londoners will potentially risk missing out, or be delayed, in accessing the potential benefits and services that government state smart meters could provide<sup>25</sup>.

Depending on time taken to establish (discussed below), the LEC could build on its existing relationships across the capital (being part of the GLA group) to help provide a targeted roll out of meters in London through collaboration with London councils, community groups, housing providers, and other organisations. The LEC could also explore new products that could be offered to Londoners as a result of installation of smart meters – such as demand response or time of use tariffs, sale or storage of solar PV electricity and cheaper electric vehicle charging or buy-back services.

### Developing ESCO/energy efficiency services

Creating an energy supply proposition would also provide an opportunity for the Mayor to extend the LEC's services to take on an Energy Supply Company (ESCO) role. This could involve the LEC expanding existing Mayoral energy programmes, such as RE:NEW (home energy efficiency retrofit), RE:FIT (public sector building/SMEs energy efficiency retrofit) and the Mayor's decentralised energy programme, to offer/broker services such as energy efficiency retrofit and the provision of low carbon heat through district heating schemes, to London homes and businesses.

The LEC's ability to secure an income stream through sales of energy, together with mechanisms such as the London Energy Efficiency Fund (LEEF), would also allow for it to explore offers it could develop such as low interest loans or bulk purchase offers for solutions such as new gas boilers, solid wall insulation, or solar panels.

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<sup>23</sup> *Smart meters: progress or delay?* Energy & Climate Change Select Committee, 7 March 2015 concluded that ongoing “policy problems are symptomatic of a national programme that the Government has left largely to suppliers and failed to drive forward effectively. Consequently, we do not believe that near-universal smart meter roll-out will be achieved by 2020.”

<sup>24</sup> The roll-out of smart meters in the UK is due to take place between 2015 and 2020 with an estimated 53 million devices to be installed by energy suppliers in 30 million homes and businesses. DECC estimates that the roll- will cost around £10.9 billion with these costs passed onto consumers.

<sup>25</sup> See SmartEnergy GB website [here](#)

The LEC could also explore opportunities for an ‘able to save’ energy efficiency programme, such as the government attempted to do through the Green Deal, but provide a more attractive loan offer and a simpler, more coordinated service for Londoners to access retrofit services (the complexity for homeowners to arrange building works was another key failure of the government’s Green Deal programme; the RE:NEW and RE:FIT programmes has already provided the GLA with experience in bringing energy service companies together under a framework agreement to provide a simplified retrofit delivery route). Such ‘able to pay’ initiatives will be critical in terms of engaging ‘owner occupier’ sector in improving the energy efficiency of their buildings. It will also provide a route for landlords to fund improvements into the energy efficiency of their properties as the Government’s Private Rented Sector Energy Efficiency Regulations come into effect in April 2018.

It should be noted that – on current regulations - the LEC will not be included in the Government’s Energy Company Obligation (ECO) until it achieved a threshold of 250,000 customers. On one hand this is advantageous, as the LEC will not need to add the ECO cost to consumer’s levies (very roughly - £60 per household per year) allowing it to offer lower tariff rates than its competitors, which will be useful in its start-up phase. However, being outside the ECO programme will also limit the Mayor’s ability to shape energy efficiency delivery in London through the ECO. The Chancellor announced in his Autumn Statement 2015<sup>26</sup> that a new version of the ECO will operate from April 2017 for four years, but at a reduced annual budget of £640m. A consultation will follow in 2016 which will set out how the new supplier obligation will operate, and this will provide an opportunity for the Mayor to lobby London interests.

A key factor for the Mayor will be finding the right balance between how to reconcile any objectives in place to set lower tariffs to protect those struggling to pay energy bills, against other opportunities listed above.

**It should be noted that the Mayor could also explore some of the secondary potential actions listed above without necessarily having to form a LEC. These include supporting the smart meter roll-out in London; provision of low interest energy efficiency loans; bulk purchase offers; promotion of solar to London households and supporting energy tariff switching. The LEC could however allow a central focus for these activities, and provide a new income stream through sales of energy, which could help drive these actions. But the Mayor could also adopt and add these as priorities to his energy strategy.**

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<sup>26</sup> Para 1.139 Spending Review and Autumn Statement, HM Treasury, 25 November 2015

## Aren't the services the Mayor will be offering through his Licence Lite the same as establishing a LEC?

The Mayor's 'Licence Lite' initiative began in January 2010 with an aim to secure a new form of junior electricity supply licence, *"designed to enable organisations that are not resourced to manage the costs risks and complexities of the electricity market and to whom electricity supply is not a core function, to supply electricity in order to support their business or policy. In the case of the GLA, the objective is to enable decentralised energy generators to receive better value for the electricity they generate and thereby to support the development of decentralised energy systems in London."*<sup>27</sup>The Licence Lite option had been introduced by Ofgem in 2009 but has not been utilised by any organisation to date. The GLA is the first – and still appears to be the only – applicant to apply to Ofgem for this licence arrangement.

Central to the process to obtaining a License Lite approval from Ofgem, is a requirement on the Licence Lite party to enter into an agreement to secure the services of a **fully** licensed electricity supplier who is able to deal with the *"complexities of the electricity market"*, as mentioned above. Following a tender process in 2014<sup>28</sup> for a fully licensed supplier to support the GLA's application to Ofgem, a December 2014 GLA Investment & Performance Board (IPB) paper<sup>29</sup> informs that a *"successful tenderer"* has been appointed, however, as the paper goes on to say, *"No announcement has yet been made of the tender award."* Though details of the successful party have been held back from the public document as a reserved matter, it has been stated at industry meetings that Npower have entered into an agreement with the GLA<sup>30</sup>.

A January 2015 GLA press release<sup>31</sup> went on to state that *"The Mayor expects to be able to give **small electricity producers up to 30 per cent more for their excess energy than existing suppliers do**, which he will then sell on to TfL, the Met and others at cost price. London will be the first public authority in the country to receive a brand new type of 'junior' electricity licence, and the Mayor expects to be buying and selling power by later this year."*

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<sup>27</sup> ['Junior Electricity Supply Licence Update'](#) Paper to the GLA Investment & Performance Board, 18 December 2014

<sup>28</sup> See <https://www.publictenders.net/node/2529627> for further details

<sup>29</sup> See footnote 7.

<sup>30</sup> It is unclear if the announcement made on 1 December 2015 by Npower's parent group, RWE, to split its business, will impact on the Mayor's Licence Lite initiative. See ['RWE is building the innovative, decentralised energy group of the future: renewables, grids and retail activities are being transferred into a new subsidiary and listed on the stock market'](#) RWE press release

<sup>31</sup> [Mayor & TfL launch 21st century low carbon future for historic Greenwich Power Station](#), GLA Press Release, 8 January 2015

A further tender<sup>32</sup> was issued in December 2014 to source low carbon electricity from London generators. The Mayor provided an update on this process in July 2015<sup>33</sup>:

*“The level of response to the GLA's prequalification questionnaire to decentralised energy generators received in June 2015 is encouraging and indicates that the prospects of licence lite helping to bring forward substantial amounts of new decentralised energy are promising.*

*A target building up to 100 MW of new decentralised energy capacity by the end of the first three years of licence lite operation would not be unreasonable, but that would not limit future expansion when feasible.”*

The IPB December 2014 paper states that *“The timing is for the remaining arrangements for licence lite operation to be put in place for a request for a Mayoral Decision to proceed to be made in February 2015, with a view to operation beginning in May 2015, subject to the decision being positive.”* The Mayor's Licence Lite plans have, however, been delayed and more recently the Mayor has stated:

*“I expect to make an announcement about Licence Lite by January 2016. The procurement process involving the electricity generators has taken longer than originally anticipated.”<sup>34</sup>*

As highlighted in Mayor's statement in the January 2015 press release, the principal customers to the GLA, as a licence lite electricity supplier, will be TfL and the Met. It is not the purpose – and has never been the purpose – of this application to sell electricity beyond the extent of the GLA group. The Mayor has stated:

*“The date when the first power can be supplied to TfL is currently being negotiated with TfL and their current electricity suppliers. Power will be supplied in stages, as TfL's current supply arrangements are released. Discussions are directed at beginning the supplies during the autumn of this year.*

*The objective is that supplies to TfL will build up to about 10MW during the first year of operation, amounting to approximately 23 per cent of their low voltage electricity requirements.”<sup>35</sup>*

The details of exactly what generators are currently in negotiation with the GLA have not been specified, but the context of the Mayor's Licence Lite application has always been in relation to sourcing power from (pre-dominantly) gas-fired

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<sup>32</sup> See <http://ted.europa.eu/udl?uri=TED:NOTICE:433512-2014:TEXT:EN:HTML> for further details

<sup>33</sup> MQ [2015/2349](#) 15 July 2015

<sup>34</sup> MQ [2015/3395](#) 21 October 2015

<sup>35</sup> MQ [2015/2348](#) 15 July 2015

Combined Heat and Power (CHP) schemes.<sup>36</sup> It is not clear if the output from solar power installations, community energy projects, anaerobic digestion plant or other renewable forms of generation in London have also been encouraged to apply.

Hence, it must be noted that Licence Lite:

- Has never claimed to be a proposal to establish a LEC, and is far removed from the system that would need to be put in place to operate as a fully licensed electricity supplier (as is detailed in the following section). Recently asked why the GLA had not taken forward an application for a full electricity supply licence (as Nottingham City Council has done), the Mayor responded:

*“Nottingham City Council’s initiative is to supply homes as well as businesses, acting as a fully licensed electricity supplier. My Licence Lite initiative is different. Using for the first time a new regulatory framework and business model, Licence Lite will open up the market to generators of low and zero carbon electricity through a junior electricity supply Licence. It will not involve supplying homes, nor being in direct competition with mainstream electricity suppliers. Londoners will benefit through the enhanced growth of locally produced low and zero carbon heat. The objective is to begin supply operations early next year.”<sup>37</sup>*

- As is currently designed to operate, will not offer any direct benefits to Londoners (apart from the possibility of a reduction in energy costs to TfL, which may be passed through to customers. There has been no indication if this is in fact the case – and even if it was so, savings are likely to be modest in relation to TfL’s overall energy bill).<sup>38</sup> (It is worth noting that the Mayor’s 2015 update to the London Climate Change Mitigation and Energy Strategy (CCMES) also refers to NHS hospitals being supplied<sup>39</sup>).
- Is principally an initiative to secure better prices for the sale of exported electricity from decentralised energy generators, to help provide an improved financial return on output and hence support the uptake of DE in London. It should be noted there has been a recent amendment to the GLA’s strategy on Licence Lite which has set out: **“that the GLA should not restrict tenders for purchase of electricity for its operations to London sources only.”**<sup>40</sup> This change has come about as a result of discussions between the GLA and Ofgem, and it is not clear if this change will impact on the Mayor’s

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<sup>36</sup> See GLA press release ‘[Mayor to become London’s smallest electricity supplier](#)’ 25 April 2014

<sup>37</sup> Mayoral Question 2015/3891, 18 November 2015

<sup>38</sup> It should be noted that [DD 1416](#), dated 2 November 2015, has extended the definition of non-domestic sites that the GLA can sell electricity to, but the “GLA may still keep the scope of its supply activities to within the GLA area”

<sup>39</sup> page 16 The Mayor’s Climate Change Mitigation and Energy Annual Report, 2013-14, June 2015

<sup>40</sup> See [DD 1416](#), 2 November 2015

strategy to source and promote **London-based** decentralised generation, as this change suggests that future tenders will have to consider proposals from generators outside the capital as part of the competitive process.

- It is not clear if the GLA is looking beyond securing electricity supplies from gas-fired CHP, and looking to support solar projects or community energy projects.
- Has taken considerable time to progress. With an announcement now expected in January 2016, the initiative has taken a full five years to develop<sup>41</sup>. It should also be noted that over the same time period, two city authorities have now established fully licensed municipal energy supply companies, (as detailed below), however, at a much greater cost of around £1m each to set up. In terms of which approach is the most effective, both the Licence Lite approach, and the municipal energy company initiatives, are yet to prove that they can operate successfully in the energy marketplace.
- Will, according to the GLA's website<sup>42</sup> "*bring in more than £300 million of investment for 22 new heat and power projects in London. By 2025, it could create £8 billion of investment and around 850 jobs every year*". These are bold statements<sup>43</sup>.
- Is a positive initiative to be taken forward by the GLA, welcomed by both DECC and industry regulator Ofgem, and has created a template that other public sector bodies could use if they wish. However, the lead officer at Bristol City Council, who have recently launched their own fully licensed electricity supply company, Bristol Energy has stated "*The GLA has been trying to do [Licence Lite] for the last four or five years and hasn't really got anywhere. It's not an area I would encourage any local authorities [to try]*".<sup>44</sup>

### Why should Transport for London (TfL) consider becoming an electricity supply company?

- **TfL's demand for electricity is growing**

As an organisation, TfL is currently the single biggest consumer of electricity in London and one of the top 10 electricity consumers in the UK<sup>45</sup>. TfL's use of electricity is projected to increase on the underground as a result of growing passenger numbers as London's population itself grows; a recent GLA press release states "*With London's population expected to grow by an additional 1*

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<sup>41</sup> Mayoral Question Question 2015/3895, 18 November 2015

<sup>42</sup> See <https://www.london.gov.uk/priorities/environment/energy/energy-supply>

<sup>43</sup> Mayoral Questions 2015/3893 and 2015/3892, 18 November 2015 provides some detail on how these numbers have been estimated.

<sup>44</sup> Interview with Bill Edrich, Director of Bristol City Council Energy Service, *New Power*, page 28/29 Issue 77, July 2015

<sup>45</sup> TfL [website](#)

*million in the next ten years, demand for electricity in the capital is expected to grow by up to four per cent a year.”<sup>46</sup>*

TfL’s electricity consumption will also rise as a result of the expansion of its existing underground network, an increased frequency of trains (including the introduction of the night tube) and the start of major new Crossrail services. Increased cooling requirements on the tube network are also likely to increase electricity consumption, as a result of more modern train services being introduced, and due to cooling services being retrofitted to underground stations in response the projected impacts of the urban heat island effect.

A further demand for electricity will arise as London’s surface transport network switches from its use of diesel buses to diesel-electric hybrid and fully electric single deck and double deck buses. This is likely to happen sooner than originally planned due to concerns over the contribution by buses to reducing London’s air quality. By 2020, as part of the Ultra Low Emission Zone, TfL is committed to ensuring all 300 single decker buses operating in central London are zero emission (e.g. electric or hydrogen), and all 3,000 double deck buses are hybrid.<sup>47</sup>

The extent of TfL’s electricity consumption growth can be seen when looking at their energy bill over the past few years. The following MQ from 2012 provides data on TfL’s actual electricity use and up projections for the year 2013/14 and 2014/15.<sup>48</sup>

Financial Year	2008/09	2009/10	2010/11	2011/12	2012/13	2013/2014	2014/2015
Cost of supply £M	86.0	87.4	103.9	96.0	104.9	125.5	130.2
Power requirement GWh	1,322	1,298	1,316	1,360	1,448	1,503	1,554

A further MQ from 2014 provides five year projected costs to 2020.<sup>49</sup>

Financial Year	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Estimated Total TfL cost based on 14/15 Consumption £millions -	134.4	139.9	143.4	156.5	160.1	162.2
Estimated Average Pence per kWh	8.49	8.83	9.05	9.88	10.11	10.24

In 2013/14 TfL’s actual electricity bill was £105m<sup>50</sup> (lower than the projected £125.5m), and the total spend for 2014/15 was £123m<sup>51</sup> (lower than the

<sup>46</sup> [Mayor & TfL launch low carbon future for Greenwich Power Station](#), 8 January 2015

<sup>47</sup> [More than 50 all-electric buses to enter service in London](#), TfL Press Release, 15 July 2015

<sup>48</sup> MQ [4239/2012](#) 19 December 2012

<sup>49</sup> MQ [2014/2729](#) 23 July 2014

<sup>50</sup> MQ [3185/2013](#) 11 September 2013

projected range indicated from tables above of £130 – 134m). The 2019/2020 projected figure stands at £162.2m – **if correct this will represents a near doubling of the £86.0m spend in 2008/09.**

The additional electricity consumption projected as a result of the start of Crossrail is not well documented, however the following MQ provides some useful information.

*“The estimated peak traction demand is projected to be 149 mega-volt amperes (MVA) when full Crossrail services commence. A further 30 MVA will supply the central section stations, shafts and portals. Energy demand is currently projected to remain at these levels beyond 2030.”<sup>52</sup>*

This level of demand is equivalent to an approximate 25 per cent additional increase in London Underground’s power requirements. Very roughly this is equivalent to a further £30m increase in TfL’s annual costs at present-day prices.

At present, TfL outsources the purchase of nearly all of its electricity and gas requirements:

*“TfL has outsourced 99 per cent of its energy purchasing (circa £130 million per annum) to the Crown Commercial Service (CCS), which acts as TfL's Risk Manager and Framework provider. The current framework suppliers are EDF (electricity) and Corona (gas). Purchases are managed by CCS on a 30-month forward rolling basis taking a tiered approach, where CCS places purchase order levels with suppliers on a monthly, quarterly and seasonal basis based on a minimum volume profile, which is where TfL is essentially "hedging" its future risk to changes in wholesale energy prices. The ability to agree pricing in advance is on the wholesale element only of around 60 to 70 per cent of the total cost, whilst the remainder is made up of various taxes and levies which cannot be hedged.”<sup>53</sup>*

More recently, TfL’s Finance and Policy approved *“the contract with CCS for the purchase of electricity and natural gas from 2017 to 2020 pan-TfL, with a value of up to £600m”<sup>54</sup>* (ie around £150m a year).

The sustained and increased demand for electricity that TfL are experiencing should allow for a review of its future energy supply strategy. Whilst most local authorities follow a route similar to TfL and contract CCS to purchase their energy supplies<sup>55</sup>, it should be noted that it is not beyond public sector expertise

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<sup>51</sup> MQ [2014/5817](#) 17 December 2014

<sup>52</sup> MQ [2015/1882](#) 17 June 2015

<sup>53</sup> MQ [2015/0319](#) 21 January 2015

<sup>54</sup> *TfL Energy Purchasing 2017 to 2020*, TfL Finance and Policy Committee paper, 14 October 2014

<sup>55</sup> Many other local authorities and public sector organisations also use the Laser Energy Buying group, which was originally established in 1989 to manage Kent

to interface directly with the energy market. Islington Council have over 25 years experience through Islington Energy Services<sup>56</sup> in buying gas and electricity for a portfolio of clients including schools, academies, further education colleges and leisure centres both inside and outside of the borough. Islington is also managing the *sales* of its electricity from its Bunhill CHP scheme, and is also examining options for establishing its own electricity company<sup>57</sup>.

TfL state that the reason they do not go directly to the market is as a result of the following:

*“The main alternative to remaining with CCS is to tender this requirement direct to the supply market with the likely respondents being the so called ‘Big Six’ energy suppliers. This would enable TfL to evaluate and award to a supplier of its choice and to select an alternative risk management strategy should it wish to do so.*

*While this option would give TfL a greater level of control, the disaggregation of TfL’s volume from CCS volumes and the adjustment in relative proportion of peak time usage would result in TfL paying more than necessary for its energy. TfL would also be unable to achieve the same level of flexibility on volume tolerance, which could hinder any future directly connected low carbon sourcing opportunity. In addition, TfL would see an increase in risk management cost and associated services.*

*A further alternative would be to source multiple direct connections with local generators, but this would not be practicable or cost effective for 100 per cent of TfL volume. TfL is currently sourcing medium scale low carbon direct connections to complement the CCS strategy and TfL’s carbon reduction objectives where it is cost effective to do so”<sup>58</sup>*

However, these risk and reward arguments need to be tested against a proposal to own and operate a LEC within the GLA group - as well as the opportunity for TfL to begin expanding its role and investing in developing its own generation assets, an area considered further below.

### **TfL has failed to progress in using its procurement power creatively**

To date, the majority of TfL’s activity in relation to securing renewable and low carbon power for its electricity use has been in simply specifying to Crown

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County Council’s energy purchasing. See <http://www.lasereenergy.org.uk/about.aspx> for further info.

<sup>56</sup> <http://www.islington.gov.uk/services/parks-environment/sustainability/energy-services/Pages/unique-energy-services.aspx>

<sup>57</sup> [Islington Labour Plans People's Energy Company](#), Islington Labour Party press release, September 26 2014.

<sup>58</sup> *TfL Energy Purchasing 2017 to 2020*, TfL Finance and Policy Committee paper, 14 October 2014

Commercial Services (CCS) that they wish to purchase 'green tariffs', the full details of which remain commercially confidential<sup>59</sup>.

TfL have long-stated that they will use their significant procurement power to contract directly with London-based low carbon generators. Establishing long-term contracts with TfL could help existing generators support generators maximise their output and also – importantly - stimulate new generation capacity to be built. This route can be seen to work elsewhere as CCS has undertaken a similar initiative for the Cabinet Office, under its 'Energy for Growth' programme, to use *"government's combined buying power, entering into contracts directly with generators to supply electricity over the long term."*<sup>60</sup> TfL stated in 2012<sup>61</sup> they were looking at this option, but no further information on progress made in this area has been subsequently released.

In terms of using their procurement power to drive renewable and low carbon generation in London, TfL and the Mayor have announced the following over the past decade:

- TfL's 2006 Environment Report states that it will *"develop programmes to stimulate renewable electricity generation capacity."*<sup>62</sup>
- London Underground's 2011 Environment Strategy set out that *"We will use our position as a major power consumer to work with and influence our power suppliers. We will also work with energy stakeholders to identify energy generation opportunities in London."*<sup>63</sup>
- In January 2012 the Mayor stated that: *"LU is actively pursuing local solutions in London to source energy from renewable and low carbon sources. Currently, it is in commercial negotiations with partners to deliver schemes in the short to medium term which are projected to provide up to 20 per cent of LU's current peak demand."*<sup>64</sup>
- The Mayor's Climate Change and Energy Mitigation Strategy set out that *"TfL is actively pursuing opportunities to deliver large-scale low carbon energy directly to its network, and is engaged in a procurement exercise which will identify immediate opportunities as well as possible longer-term developments. TfL aims to initiate implementation of the immediate opportunities before the end of 2011-12."*<sup>65</sup>
- In December 2012, the Mayor stated: *"TfL has been developing strategic partnerships with local power suppliers in London to directly source low-carbon electricity. These discussions are currently commercially confidential."*<sup>66</sup>

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<sup>59</sup> MQ [2015/0670](#) 23 February 2015

<sup>60</sup> See [Energy for Growth \(Power Purchase Agreements\)](#), Cabinet Office website

<sup>61</sup> MQ [2012/4240](#) 19 December 2012

<sup>62</sup> Environment Report TfL 2006

<sup>63</sup> *London Underground Environment strategy 2008 – 2013*, revised in 2011.

<sup>64</sup> MQ [0281/2012](#) 25 January 2012

<sup>65</sup> *Delivering London's Energy Future*, GLA, October 2011

<sup>66</sup> MQ [2012/4238](#) 19 December 2012

- The following month the Mayor confirmed, *“TfL is currently negotiating with three low-carbon electricity suppliers in London, but is not yet sourcing electricity from any Power Purchase Agreements (PPA) arrangements.”*<sup>67</sup>
- In May 2013 the Mayor stated, *“As well as looking at opportunities via the National Grid, a key focus is on sourcing low carbon and renewable energy from local generators in London. Currently, commercial negotiations are continuing with two partners, which are projected to provide up to 20 per cent of LU's current peak demand”*<sup>68</sup>

However, no substantive progress appears to have been made in this area and TfL have now switched focus to await the outcome of the GLA's work on Licence Lite to act as their bridge to contract with London low carbon generators.

The Mayor's Climate Change Mitigation and Energy Strategy update of 2015 reports that TfL are working towards meeting the Mayor's target of generating 25 percent of the capital's energy from local sources by 2025 by purchasing electricity sourced from London's low and zero carbon electricity generators, *“so long as there is no extra cost to London's tax and fare payers”*<sup>69</sup>. TfL state in the Strategy update that by 2020 all of TfL's low-voltage demand would be met by low and zero carbon generators located in London. All of this is to be achieved through the Licence Lite route.

It should be noted that TfL's strategy to procure green tariffs to help reduce carbon emissions of electricity used for transport is not succeeding. TfL's most recent environment report states: *“Figure 9 shows that there was a 10 per cent rise in the carbon intensity of the grid mix in 2014/15. This means that our electricity-based CO<sub>2</sub> emissions results are indicating a similar level of increase.”*<sup>70</sup>

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<sup>67</sup> MQ [0379/2013](#) 30 January 2013

<sup>68</sup> MQ 2013/1618 22 May 2013

<sup>69</sup> Climate Change and Mitigation Energy Strategy, GLA, October 2011

<sup>70</sup> Health, Safety and Environment Report, TfL, November 2015

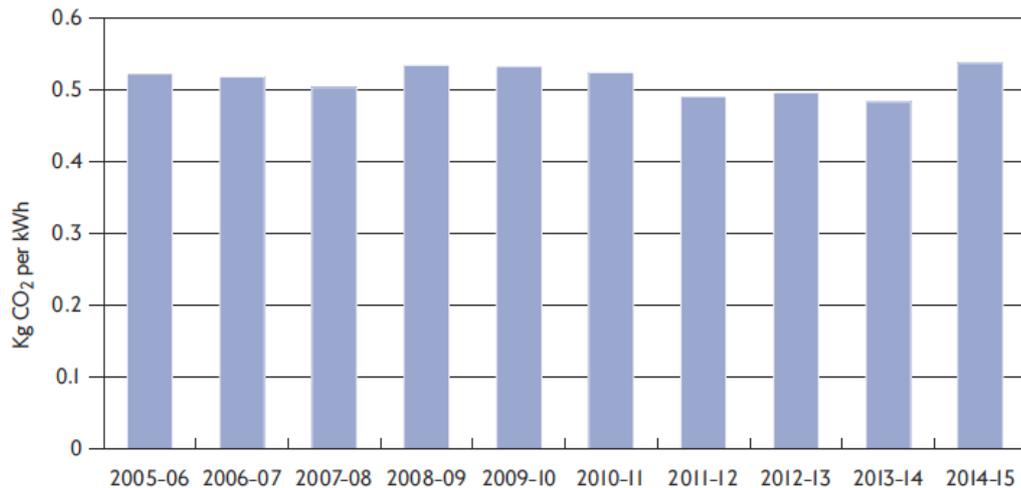


Figure 9: Rate of Kg CO<sub>2</sub> emissions per kilowatt hour grid electricity generated

From Health, Safety and Environment Report, TfL, November 2015

The is further highlighted in the report that 2014/15 CO<sub>2</sub> emissions increased on the DLR by 13 per cent, on London Overground by 5 per cent and Tramlink 15 per cent.

The timetable for decarbonising the electricity grid remains highly uncertain, and recent decisions take by the government since May 2015 to reduce the take up of solar and onshore wind generation, the cancellation of Carbon and Capture Storage (CCS) projects and questions over when/if the proposed Hinkley C nuclear power plant will actually be developed all add to this uncertainty. In addition, the Secretary of State for Energy has recently called for a major programme of new fossil gas generation plant to be built<sup>71</sup> – which will increase the carbon emission factor of grid-supplied electricity (it should also be noted that future government plans for gas heavily rely on either imported LNG or fracked gas – both of which have a higher carbon emission factor than UK continental shelf (UKCS) gas).

**Finally, with the Chancellor’s recent announcement in the Summer Budget 2015 to remove the Climate Change Levy (CCL) exemption from the sales of renewable power<sup>72</sup>, the ability to purchase green tariffs products have effectively now been removed from the market. Hence if TfL is committed to reduce the carbon impact of its electricity consumption and work to the Mayor’s target of a 60 percent CO<sub>2</sub> reduction by 2025 (from a 1990 baseline), it now needs to reevaluate the strategy it has had in place for the last decade and examine new opportunities, including the potential – as this paper argues - to establish a LEC.**

<sup>71</sup> Government launches new dash for gas power stations, Construction Enquirer, 18 November 2015

<sup>72</sup> [Climate Change Levy: removal of exemption for electricity from renewable sources](#), HMRC, 8 July 2015

### TfL has started investing in electricity generation

TfL's 2009 Environment Report highlighted that just 0.03% of TfL's renewable electricity was generated onsite<sup>73</sup>. The proportion has not changed over the past five years, with TfL reporting that it only has a total of 11 solar PV arrays installed across its estate with an installed capacity of circa 250kW<sup>7475</sup>.

It should be remembered that London's transport management is not unfamiliar to owning and operating generation assets. London Underground in fact had the responsibility for operating and maintaining the generation of and procuring the supply and delivery of electricity so as to enable it to operate the Underground Network until 1998, when it decided to pass on these responsibilities to a contractor<sup>76</sup>.

London's tube network once used to supply the vast majority of its electricity needs through a number of fossil fuel power plant which goes as far back as the 3MW Stockwell<sup>77</sup> generating station (closed in 1915), and the 20MW Neasden Power station (ceased generation in 1968). The majority of London Underground's power was in fact supplied by TfL's 100MW Lots Road Power Station<sup>78</sup> in Chelsea up until the 1990s, the output of which was eventually ramped down that decade to be replaced by grid supplied electricity. Lots Road went on to operate as a back up facility and did not cease operation until October 2002.

TfL still owns one generating plant - Greenwich Power Station<sup>79</sup> - which operates as London Underground's Central Emergency Power Supply. In contrast to decisions previously made to move away from owning generation assets, TfL announced<sup>80</sup> this year to invest and upgrade Greenwich Power Station and "*once established the new technology will substantially increase the power station's use and by 2025, the new engines would provide up to 155,000 megawatt hours of electricity, around 13 per cent of the Tube's annual requirement.*" With this investment, TfL are looking beyond only supplying electricity, and the new gas engines to be installed onsite will be designed to operate in CHP mode, providing

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<sup>73</sup> p. 45 - Environment Report 2009, Transport for London

<sup>74</sup> *Bring me sunshine!: How London's homes could generate more solar energy*, London Assembly Environment Committee, October 2015

<sup>75</sup> The output of this 250kW capacity is equivalent to around 0.01% of TfL's present electricity consumption.

<sup>76</sup> As set out in a contract undertaken by lawyers Herbert Smith dated 13 August 1998 between London Underground Ltd, EDF Energy Powerlink and Power Asset Development Company Ltd.

<sup>77</sup> Further information here: [http://www.swehs.co.uk/tactive/\\_S43-1.html](http://www.swehs.co.uk/tactive/_S43-1.html)

<sup>78</sup> <http://www.20thcenturylondon.org.uk/lots-road-power-station>

<sup>79</sup> Built in 1906, Greenwich is one of the oldest operational power stations in the world. It continues to fulfil an important role as an emergency back-up supply for the London Underground, to enable safe evacuation of passengers and staff should the National Grid go down.

<sup>80</sup> [Mayor & TfL launch 21st century low carbon future for historic Greenwich Power Station](#), GLA Press Release, 8 January 2015

heat to a new district heating network operating in the Royal Borough of Greenwich.

An increase in the use CHP in the capital has been identified by the GLA as the major contributor to the achievement of the Mayor's 25 per cent 2025 decentralised energy target. London has huge potential for CHP – close to 2,000MW of generation capacity when linked to large and small-scale heat networks<sup>81</sup> which is over 10 times existing CHP use<sup>82</sup>.

The Mayor's forthcoming London Energy Plan aims *"to develop a spatial map of London's energy supply and demand to 2050 and options for the required supporting infrastructure. The Plan will include projections of heat and electricity infrastructure, retrofitting of the built environment to reduce demand, and electrically-powered transport."*<sup>83</sup> The Mayor could utilise the Plan to look to where a new LEC could develop larger scale generation capacity, similar to the CHP generation TfL is currently developing at Greenwich Power Station, which would not only provide power to TfL, but also potentially affordable heat and support the achievement of London's 2025 decentralised energy target.

In addition to CHP, solar PV should be a key technology for TfL to explore, however it has been slow in realising opportunities to retrofit PV generation across its existing developments, despite having control over 31 Head Office buildings, three London Transport Museum sites, Victoria Coach Station, 61 car parks and several hundred London Underground sites. It should be noted that other parts of the GLA groups have in fact been more successful in installing solar PV than TfL, with the London Fire Emergency Planning Authority (LFEPA) in particular taking an active early role in adopting the use of PV (and mini-CHP) across a large number of London fire stations. The Mayor could therefore drive solar not only across the extensive number of TfL locations, but also look across the full GLA Group's estate including LFEPA, the Mayor's Office for Policing and Crime (MOPAC) and the London Legacy Development Corporation (LLDC).

In 2011 TfL stated it was in the process of establishing a framework for the installation of solar on its properties<sup>84</sup>, however, the Mayor subsequently set out the reason for TfL's lack of progress on solar was down to government changes to the FIT regime reducing the financial viability of projects<sup>85</sup>. As a result, TfL's approach to solar has been to only consider its use as part of its Carbon and Energy Efficiency Plan assessments of **new** projects and programmes (ie as compared with retrofit)<sup>86</sup>. Consequently only 250kW of PV in total has been

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<sup>81</sup> See [Decentralised energy capacity study](#), GLA, October 2011

<sup>82</sup> *Combined Heat and Power in Scotland, Wales, Northern Ireland and the regions of England in 2014*, DECC, September 2015

<sup>83</sup> GLA website <https://www.london.gov.uk/what-we-do/business-and-economy/better-infrastructure/energy-infrastructure-0>

<sup>84</sup> page 231, *Delivering London's Energy Future, The Mayor's Climate Change & Energy Strategy*, GLA, October 2011

<sup>85</sup> MQ [2014/5038](#) 17 December 2014

<sup>86</sup> MQ [2014/5037](#) 17 December 2014

installed by TfL to date across their buildings, which, as has been pointed out, is less capacity than a single car park PV installation at the Olympics site<sup>87</sup>.

TfL has only now committed to examine the potential for PV across their existing buildings roof spaces- including car parks.<sup>88</sup> And following on from an innovative study conducted by Network Rail<sup>89</sup>, TfL have stated they will examine the potential for trackside solar PV installations<sup>90</sup>.

The government's recent proposals to reduce the levels of support to PV in their 2015 FIT consultation will clearly impact on the delivery of new TfL solar projects. However, TfL are now strengthening their strategy to maximise the commercial potential of their building assets and land (of which TfL owns 5,700 acres)<sup>91</sup> and are looking to increase the commercial revenue from their stations, through leasing more space for retail use, to getting more directly involved in property development. TfL admit much of this brownfield land may be challenging to develop as housing/commercial development – but this new drive to realise the financial potential of the organisation's assets should also extend to examining the potential of developing new low carbon and renewable generation capacity.

#### **What are some of the governance, legal, political barriers and any other relevant considerations?**

So far this study has largely considered the LEC's supply of electricity (and possibly heat), but if London government were to become a credible energy supplier, the LEC would also have to become a gas supply company, in order to provide dual fuel tariff products to customers, and hence would also need to obtain a gas supply licence. This process appears to be much more straightforward than obtaining an electricity supply licence, with both Camden<sup>92</sup> and Lambeth<sup>93</sup> Councils securing a gas supply licence over the past few years.

The rationale for the Mayor's application for a junior electricity licence as opposed to a full electricity supply licence is down to the complexity and costs of securing the latter. As Ofgem's Fact Sheet on Licence Lite sets out "*A Licence Lite direction relieves the applicant of their obligation to be a direct party to a number of industry codes. Often the regulatory costs incurred by complying with these*

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<sup>87</sup> MQ 2015/0826 25 March 2015

<sup>88</sup> MQ 2015/2057 15 July 2015

<sup>89</sup> [Trackside Solar Panels could save Network Rail £150m in CP6](#), WSP Group Press release 10 February 2015

<sup>90</sup> MQ 2015/1680 17 June 2015

<sup>91</sup> TfL releases land for 10,000 homes across the capital, TfL press release, 20 October 2015

<sup>92</sup> London Borough of Camden - [Notice of Grant of a Gas Supply Licence](#), Ofgem, 3 July 2013

<sup>93</sup> London Borough of Lambeth - [Notice of application for a gas supply licence](#), 16 December 2011

*codes are disproportionately high for smaller suppliers. They often require substantial up-front investment and ongoing resourcing.”<sup>94</sup>*

Key elements to establishing a fully licensed electricity supply business include – but are not limited to - the following:

- Application to Ofgem to secure a supply license
- Becoming a party to the Balancing and Settlement Code (BSC)
- Investing in a communications link with the central electricity settlement systems – and arranging certification with this system
- Arranging a Connection and Use of System (CUSC) Agreement with National Grid
- Arrange and accredit a Master Registration Agreement (MRA)
- Purchase customer management and billing system software
- Arrange energy imbalance services
- Arrange a ‘Grid Master Trade Agreement’ and controlled market entry procedure <sup>95</sup>
- Agree ongoing credit, cash and collateral arrangements during the company’s operation.

The electricity sector consultancy expert group, Cornwall Energy has highlighted *“Stand-alone market entry costs are to the order of £500,000 even for a small scale supplier, and on-going costs for participating in the trading arrangements, including costs associated with credit provisions, are non-trivial. Trading requirements, either directly or through a third party, are also onerous in markets that are generally considered to have limited liquidity<sup>96</sup>.”*

Points to consider in relation to establishing a LEC:

- The Mayor would need to authorise funding for the set-up phase of the LEC. Bristol City Council allocated £1.575m (£0.5m of which is contingency funding) to establish the Bristol Energy Company and Nottingham City Council invested a similar sum – around £1m - in setting up Robin Hood Energy <sup>97</sup>. The Mayor’s Licence Lite application has, to date, cost approximately only a quarter of this sum.
- Developing a comprehensive business strategy. In a recent interview Robin Hood Energy have said that this process took approximately nine months to from concept to full approval from the city council and that the ongoing

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<sup>94</sup> [An introduction to Licence Lite](#), Ofgem, April 2015

<sup>95</sup> A period of system testing involving small numbers of live customers, known as Controlled Market Entry (CME), to ensure that its systems and processes are robust.

<sup>96</sup> *Creating Local Electricity Markets: A Manifesto for Change*, Cornwall Energy July 2014

<sup>97</sup> [Nottingham City Council to set up energy company to rival 'big six'](#), Nottingham Post 10 March 2014

process to establish the energy supply business was “*not easy ...especially in terms of regulation and compliance*”.<sup>98</sup>

- Both Bristol and Nottingham’s energy supply operations – and also major new corporate entrants to the UK supply market (Co-operative Energy, OVO and Dong Energy) – used a ‘supplier in a box’ solution where many of the actions needed to interface with market code mechanisms were undertaken by a specialist provider. All the above have used Utiligroup, which helps facilitate market entry and has built up expertise in providing services to so-called ‘challenger supplier’ companies who have come forward over the past few years. It is likely that the LEC would take such a route to support its market-entry phase.
- A London Energy company would need to ensure that it would make a satisfactory return on investment and hence develop customer take up scenarios – the key profitability driver for the LEC.
- Related to this, the LEC would need to design comprehensive marketing and acquisition strategy.
- Arrange the purchase of a relevant IT trading system.
- Develop a comprehensive energy trading approach. Experience from other new entrant supplier companies has indicated that parental guarantees may also be required.
- Establish a governance structure, which ensures that the Mayor as the shareholder can set out the social, environmental and economic goals of the LEC, while allowing the company to compete in the commercial marketplace. The LEC would also need to appoint a scrutiny committee and non-executive directors.
- Recruit permanent staff (and allocate council staff time and other appropriate resource spend in establishing the company as a loan on the company’s accounts to be repaid). Robin Hood Energy have an operation of around 40 staff at present.
- Locate office accommodation for LEC and staff.

IPPR illustrated the findings of their study into city energy options via the following graphic, using a traffic light system in which green indicates ‘positive’, yellow ‘average’ and orange ‘negative’ stating it “*will be up to cities to determine for themselves which of the models to adopt, taking into account how much risk they are willing to take on for a particular level of reward, and what their key objectives are.*”<sup>99</sup>

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<sup>98</sup> [Can council-run energy companies help tackle fuel poverty?](#) Public Sector Executive, 13 October 2015

<sup>99</sup> *City Energy: A new powerhouse for Britain*, IPPR, July 2014

Comparative strengths and weaknesses of the five options for cities to engage in the energy supply market

	Fully licensed supplier	Joint venture	Licence lite	Partnership	White label
Ease of set-up	Orange	Yellow	Yellow	Green	Green
Start-up costs	Orange	Yellow	Yellow	Green	Green
Operational complexity	Orange	Yellow	Yellow	Green	Green
Risks	Orange	Yellow	Green	Green	Yellow
Income generation potential	Green	Yellow	Yellow	Yellow	Orange
Control	Green	Green	Yellow	Yellow	Orange
Ability to promote local generation and set local tariffs	Green	Green	Green	Green	Orange

Despite the risks indicated with establishing a licensed electricity supply company, it is useful to note that Bristol’s financial modelling and business plan indicates that almost all scenarios show that Bristol Energy becomes profitable within five years and only shows a cumulative loss after five years in the ‘disaster’ scenario. Based on the output of Bristol Energy’s business plan, the rate of return of the company is 12% at year five and 35% at year ten, representing a credible long term investment proposition for the Council.<sup>100</sup>

### Conclusions

This paper has highlighted that there are potentially significant benefits to London that could be delivered through the establishment of a new publicly owned, not-for-profit London Energy Company, but concerns over the complexity and cost of establishing a fully licensed electricity supply company are well-founded.

However, the recent launch of Bristol Energy and Robin Hood Energy clearly show that the public sector is more than capable of creating such operations. In addition, the start up costs to establish a LEC, circa £1m, is now just a very small proportion of TfL’s significant and ever-growing electricity bill – around £600m over the period 2016 – 2020.

The electricity supply sector has recently become a highly dynamic area, with a growing number of new independent ‘challenger suppliers’ entering the market – though it must be noted that the ‘Big 6’ still control around 90 per cent of energy supply to UK homes. A number of local authorities have also stated that they are exploring municipal energy supply operations including, in London, Islington Borough Council, and recently a housing provider, Places for People,

<sup>100</sup> *Establishment and trading of an Energy and Technology company*, Bristol City Council Cabinet paper, 6 July 2015

announced the start of their own energy supply operation<sup>101</sup>. The energy supply sector is hence becoming one of increasing choice and competitiveness, which needs to be taken into account with regard to any decision on establishing a LEC. And other initiatives such as the recent collective switching scheme, the Big London Energy Switch, may also have an impact on the viability for the LEC to attract customers. The forthcoming conclusions of the Competition and Markets Authority (CMA)<sup>102</sup> investigation into the energy market, expected in April 2016, may also have an impact on the supply side sector and will need to be taken into consideration.

Consequently, there are potential risks of financial and reputational damage to the Mayor and city if the LEC cannot attract significant numbers of customers or fails to deliver the LEC's strategic objectives. It should be noted that the previous Mayoral administration did launch the London Climate Change Agency in 2006 – which was closed down by the current Mayor in 2008.

Municipal energy is however growing, and this is in part due to the range of demand side action that local government can now manage and invest in. Bristol Energy have indicated that they are confident that their energy supply business can provide benefits to the city and are in fact looking to go beyond the supply business and are considering taking on electricity distribution assets. Manchester is discussing energy as part of their devolution deal with HM Treasury. These all strongly point to the Mayor exploring opportunities for London to have its own energy supply side operation.

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<sup>101</sup> Places for People unveils energy company, Inside Housing, 26 October 2015

<sup>102</sup> The CMA is investigating the supply and acquisition of energy in Great Britain, see <https://www.gov.uk/cma-cases/energy-market-investigation>

## Appendix 1 Average Annual domestic gas bills for GB regions

From DECC Quarterly Energy Prices annexes A-D: June 2015<sup>103</sup>

London can be seen to have the highest average unit cost (5.21p/kWh) and highest annual gas bill - £781.

**Table 2.3.3 Average annual domestic gas bills in 2014 for GB regions with average unit costs based on consumption of 15,000kWh/year<sup>(1)</sup>**

Payment type Region <sup>(2)</sup>	Pence per kWh and pounds							
	Credit		Direct debit		Prepayment		Overall	
	Unit Cost	Bill	Unit Cost	Bill	Unit Cost	Bill	Unit Cost	Bill
East Midlands	5.20	780	4.71	706	5.23	784	4.91	737
Eastern	5.30	795	4.79	719	5.30	795	5.00	750
<b>London</b>	5.43	814	4.93	739	5.39	808	5.21	781
Merseyside & North Wales	5.29	794	4.82	722	5.28	792	5.03	755
North East	5.20	780	4.71	706	5.19	778	4.91	737
North Scotland	5.24	786	4.80	719	5.21	781	4.98	746
North West	5.26	789	4.77	715	5.27	791	4.99	748
South East	5.36	803	4.85	727	5.32	797	5.04	755
South Scotland	5.26	790	4.76	714	5.22	783	4.97	746
South Wales	5.28	793	4.86	729	5.24	786	5.04	757
South West	5.23	784	4.80	720	5.20	779	4.97	745
Southern	5.44	815	4.95	743	5.40	810	5.12	768
West Midlands	5.34	801	4.79	719	5.32	798	5.03	755
Yorkshire	5.29	794	4.71	707	5.31	796	4.97	746
<b>Great Britain<sup>(3)</sup></b>	<b>5.31</b>	<b>796</b>	<b>4.80</b>	<b>721</b>	<b>5.29</b>	<b>793</b>	<b>5.02</b>	<b>752</b>

(1) All bills are calculated assuming an annual consumption of 15,000 kWh. Bills and unit costs reflect the prices of all suppliers and include standing charges and VAT. Bills relate to the calendar year, i.e. covering consumption from Q1 to Q4 of the named year. Unit costs are calculated by dividing the bills shown by the relevant consumption levels.

(2) The regions shown indicate which Public Electricity Supply (PES) region these bills apply to. From 2013 onwards, data on regional gas bills are shown based on (PES) regions as opposed to selected towns and cities within Local Distribution Zones (LDZs), as most energy suppliers now charge for gas according to PES area.

(3) DECC have ceased publication of maximum and minimum bills, as proposed in Energy Trends article;

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/323447/Energy\\_price\\_variation\\_in\\_the\\_domestic\\_energy\\_market.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/323447/Energy_price_variation_in_the_domestic_energy_market.pdf)

<sup>103</sup> <https://www.gov.uk/government/statistics/quarterly-energy-prices-june-2015>