

February 2016

## SETTING UP A LONDON ENERGY COMPANY

### SUMMARY:

- London is ready for a renewable energy revolution, and could supply 20 per cent of its electricity from solar power alone.
- A Green Mayor will set up a new London Energy Company, led by Transport for London.
- The company will ensure Crossrail is powered by 100% clean renewable energy, and go on to work with community groups, the public sector and businesses to install and support renewable energy generators across the capital.
- It will also support and help fund energy-saving measures for homes and businesses, such as insulation, smart meters and other smart technology.

### WHY LONDON NEEDS AN ENERGY COMPANY

London expects to miss its 2015 target for decentralised energy generation. This target forms an essential part of the Mayor's strategies to secure our energy supplies and tackle climate change. In focusing on a small number of big projects which are complicated and take time to develop, City Hall has made very slow progress.

There is huge potential in Greater London for a wide range of low- and zero-carbon technologies to be used to generate heat and electricity from the sun, the wind, the

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ground and air using heat pumps, gas created from waste, and from London's tides and river flows.

Boris Johnson hasn't even bothered to push solar PV. London has missed out on the UK's solar revolution, with cities in the north of England and Scotland installing more panels per home than the relatively sunny southern capital. We have just 71 megawatts of solar PV capacity installed, supplying 1 per cent of London's electricity needs, with just over 0.5 per cent of the city's 3 million homes benefitting from solar PV panels.

**Our not-for-profit London Energy Company will enable a Green Mayor to turn this situation around.**

## THE OPPORTUNITY

In 2011 City Hall estimated that there is technical capacity for renewable energy sources to meet 38 per cent of London's electricity needs and 75 per cent of its heat needs with generators within the capital by 2031. These estimates will now be out of date, with the pace of change in the renewables industry bringing costs down rapidly, and creating new opportunities.

The London Energy Company will work with other energy companies and community providers to at least reach these targets, and work with government to aim for 100 per cent of London's energy needs to be met with renewable technologies within and outside the capital by 2030.



Installing solar panels on an area equivalent to every roof in London could generate around 37,000 GWh of electricity a year, almost enough to meet the entire electricity needs of the capital. This is far higher than the technical potential of 20 per cent identified by the GLA. Not every roof will be suitable, but with other technologies in the mix, London could secure most of its electricity within its own borders. With the Government rapidly scaling down support for renewables and failing to provide coherent policies on energy efficiency, it's even more critical for cities like London to take the lead.

# WHAT THE LONDON ENERGY COMPANY WILL DO

Under Boris Johnson, the Greater London Authority (GLA) has spent years securing a 'Licence Lite', enabling it to buy energy from generators and sell that to TfL and the wider public sector. This is supposed to reduce commercial risks for new generators.



Our proposal is more ambitious, and is based upon research commissioned recently by Jenny Jones, a Green Party Member of the London Assembly.<sup>1</sup>

The Green Party proposes to create a London Energy Company as a wholly owned subsidiary of Transport for London. The set-up cost could easily be accommodated in its investment plans, and would more than return this investment over the period of the TfL business plan.

The company will have three functions:

## **1. Increase renewable energy generation in London**

It would aim to meet all of Crossrail's electricity needs from renewables by 2020, enable community energy companies to rapidly expand, and work with the wider energy sector to deliver at least 30 per cent of London's energy needs from low-carbon sources by 2030.

## **2. Sell low-cost, lower-carbon energy to Londoners**

We will offer Londoners a publicly owned alternative to the Big Six, using energy from the company's own generators and buying more from wholesale markets, as companies like Ecotricity and Good Energy do.

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<sup>1</sup> Proposal for a London Energy Company - Jenny Jones AM, 2015

<https://www.london.gov.uk/about-us/london-assembly/publications-jenny-jones/publication-jenny-jones-london-energy-company>

It will begin by providing the energy needs of TfL, City Hall, the Met Police and the London Fire Brigade, replacing their in-house and third-party arrangements for buying energy, and then begin to offer a competitive energy tariff for London's residents and businesses.

### **3. Roll out energy services to businesses and homes**

This will include measures to reduce energy usage such as insulation, repaid through their energy bills, and help installing smart meters and other smart technology to help Londoners manage and reduce their energy usage.

In this, London will follow Bristol and Nottingham, which have set up Municipal Energy Companies that will allow them to sell electricity to the public and to business, with the intention of generating energy in the near future. Their set-up costs were between £1 million and £1.5 million.

## **GREEN PARTY ACTION**

Our two Green Assembly Members, Jenny Jones and Darren Johnson, have led efforts over the past 16 years to increase low-carbon energy generation and roll out home insulation in London.

**Under Ken Livingstone and Boris Johnson, Green pressure saw the Mayor's climate change budget rise from £300,000 in 2003 to a peak of £26m in 2011.**

The developments funded included:

- **a Green homes service**, offering Londoners a helpline and advice on installing renewable energy technology and insulation;
- **a team in City Hall** to ensure new homes and commercial buildings met new requirements to install renewable energy technology, which led to a tripling of renewable energy in approved new developments;
- **a major decentralised energy programme**, providing analysis of energy opportunities across London and support for councils and developers to bring proposals forward.

Jenny Jones exposed Boris Johnson's failure to capitalise on these policies in 2014, revealing that London had a worse record on solar power than cities in Scotland and the

north of England. Darren Johnson followed this work up by leading an Environment Committee investigation into the problem, coming up with a series of recommendations to turn the situation around and start a solar revolution in London.

Jenny has also developed a detailed proposal to set up a Solar PV Delivery Unit, and won cross-party support for the idea in the 2015 budget process. She also commissioned research to explore setting up a fully licensed municipal energy company for London, which our policy for these elections draws on.

## **MEETING TRANSPORT FOR LONDON'S ENERGY NEEDS**

By taking the lead in developing this company, Transport for London (TfL) can also bring in a large source of revenue and reduce its energy costs, freeing up more money for investment in infrastructure and services. It currently spends £140 million per year on electricity, more than its entire cycling budget.



TfL is already becoming a property developer with its own land to shore up its finances. We believe it should also become an energy developer. As with the property development, a Green Mayor would ensure it balances revenue generation with wider social and environmental objectives - in this case, increasing renewable energy generation and supplying low-cost energy to Londoners.

When Crossrail fully opens in 2019, its energy needs plus growing demand from other trains and buses will see TfL's total energy demand rise by around 25 per cent, equivalent to 389 GWh of electricity each year. This will represent a further £33m increase in TfL's annual costs at present-day prices.

### **The TfL estate has enormous potential for low-carbon energy generation.**

It has around 300 sites across London spanning 5,700 acres. This includes tube, railway and bus stations, depots, offices, shops and other commercial units and brownfield sites.



Yet the Olympic Car Park has more solar power capacity installed than that installed on the whole of the TfL estate.

## Good examples of low-carbon energy generation already happening on transport infrastructure in London:

**Greenwich Power Station** (*right*). TfL is planning to install new efficient gas turbines to this power plant, generating 155 GWh of low-carbon electricity each year. It will also supply hot water and heat to local buildings.



**Vauxhall bus station**. In 2005, TfL installed 744 solar panels on the roof of the bus station, generating 0.039 GWh of zero carbon electricity each year.

**Blackfriars station** (*right*). Network Rail installed 4,400 solar photovoltaic panels, covering the 1.5 acre roof and generating 0.935 GWh of zero carbon electricity each year.



**City Road and Bunhill**. TfL is recovering waste heat from the Northern line between Angel and Old Street to help heat local homes, schools and leisure centres in Islington.

Once the Greenwich Power Station generators come online, TfL would need to install solar panels across just 7 per cent of its remaining estate surface area, covering 375 acres, to completely power Crossrail and the other growing energy demands from its own low-carbon power sources.

By 2020, TfL's total energy requirement will be approximately 1,943 GWh, up from 1,554 GWh last year. If it could install solar panels across its own estate, on large commercial roof spaces across the capital, and on solar farms on low-grade agricultural land on

London's fringe, it could meet its entire electricity requirement from 9 million solar panels covering 0.7 per cent of London's surface.

The London Energy Company would also roll out projects across its estate to capture waste heat from the tube to heat homes and other buildings on those sites, building on the successful example in Islington.

Vauxhall Bus station photo by Stephen Usher on Flickr