

Future of skills in a low-carbon circular economy

March 2020

Executive Summary

A core aspect of the Mayor's commitment to making London a zero-carbon city by 2050 is the need to transition London to a low-carbon, circular economy. A 'low-carbon circular economy' acts contrary to the traditional linear economic model of 'make, use, dispose'. Its characteristics are to minimise the carbon intensity of the activities that drive it. It uses fewer resources (products, parts and materials) at the highest possible level, for as long as possible, to maximise value and reduce waste.

To achieve the target of being zero carbon by 2050, London will have to reduce emissions from the current 34 megatons, to near zero.¹ While the Mayor has many drivers that support this intention – including the UK Government's commitment, as demonstrated by the enshrining of a net zero carbon emissions target into law – there are fundamental questions regarding how the Mayor will translate this ambition into reality.^{2 3}

This transition will require a deeper understanding of what it takes to build a low-carbon society, as well as a workforce with new skills.

Alongside the transition to a low-carbon economy, there are other powerful trends at play that will reshape the skills needed for businesses of the future. Automation technologies are considered among the most important of these trends, with estimates that they could displace up to 30 per cent of the global workforce by 2030.⁴

London should embrace the productivity benefits that new technologies and the transition to a low-carbon economy can bring, but it is crucial that workers are supported in making this transition, through avenues for reskilling and accessing new employment opportunities.

London will also need a dynamic and responsive skills system that can meet the ever-changing demands of businesses and provide Londoners with a fair chance to access new employment opportunities. The mayoralty should use its influence to bring together representatives of workers and businesses to drive better solutions to these challenges together.

¹ Mayor of London, [London Environment Strategy](#), May 2018

² Prime Minister's Office, [PM Theresa May: we will end UK contribution to climate change by 2050](#), June 2019

³ Department for Business, Energy & Industrial Strategy, [Law for net zero emissions begins passage through Parliament](#), June 2019

⁴ PWC, [Will robots really steal our jobs?](#), 2018

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Moving towards a low-carbon economy

Climate change will impact London

There is overwhelming evidence of climate change⁵ and a growing understanding of its likely impacts,⁶ many of which could be ‘catastrophic’.⁷ In May 2019, the government declared a ‘climate emergency’,⁸ following the London Assembly and the GLA along with many other councils across the UK. There was almost universal agreement at a global level under the Paris Agreement to reduce emissions and keep global warming within 2 °C and ideally 1.5 °C.⁹

⁵ <https://www.metoffice.gov.uk/weather/learn-about/climate-and-climate-change/climate-change/index>

⁶ Greener UK and the Climate coalition poll June 2019

⁷ <https://www.un.org/en/sections/issues-depth/climate-change/>

⁸ <https://www.bbc.co.uk/news/uk-politics-48126677>

⁹ [London Assembly Economy Committee meeting](#), 10 September 2019

While climate change is a global issue, London is not immune to its impacts.

- Rising temperatures and more intense heat-waves, combined with London’s ‘urban heat-island’ effect, have and will continue to pose a threat to productivity.¹⁰
- If the global climate rose by 1.5°C, tidal flooding in London would become more likely, putting an estimated 37,359 homes and 1.25 million Londoners at risk.¹¹

There are opportunities from encouraging the transition to a low-carbon economy

London has strengths in key sectors for the transition to a low-carbon economy, such as finance and business services. London’s low-carbon and environmental goods and services sales grew by 20 per cent in the two years from March 2016, worth £39.7 billion in 2017-18.¹²

Londoners are ‘working on projects that are important in the low-carbon transition, not here but literally around the world’.¹³ Estimates on the size of the global market for low-carbon financial services see it

¹⁰ Environmental Audit Committee, [Heatwaves: adapting to climate change](#), July 2018

¹¹ Caroline Russell AM, [Climate Change Risks for London](#), April 2019

¹² https://www.london.gov.uk/sites/default/files/london_low_carbon_market_snapshot_-_2019.pdf

¹³ Richard Howard, [London Assembly Economy Committee meeting](#), 10 September 2019

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growing from less than £50 billion per year now to as high as £280 billion by 2030.¹⁴

The challenge of driving a transition to a low-carbon economy

Driving the transition towards a low-carbon economy will require action at all levels of society, including national government regulation, consumers making informed choices, and adequate support for businesses innovation.¹⁵

As highlighted in this investigation, a key challenge is ‘a lack of incentives for individuals and companies to pursue low-carbon opportunities.¹⁶ Despite the growing appreciation that more should be done there is insufficient pressure for action. The Mayor has made a start towards driving such incentives through his Responsible Procurement Policy. This outlines desirable practices and behaviours for firms wishing to work with the GLA, such as “giving priority to circular procurement options and business models that maximise value from products and services for as long as possible”. The Mayor should encourage other organisations to follow suit.

¹⁴ <https://www.theccc.org.uk/wp-content/uploads/2017/03/ED10039-CCC-UK-Bus-Opportunities-Draft-Final-Report-V7.pdf>

¹⁵ [London Assembly Economy Committee meeting](#), 10 September 2019

Recommendation 1

The Mayor should further build upon the environmentally sustainable procurement practices within the ‘improving environmental sustainability’ section of the GLA Group Responsible Procurement Policy and lead businesses by example. The policy on environmentally sustainable procurement should be promoted Londonwide in a similar manner to the Good Work Standard, with a commitment to doing so by March 2020.

Future trends for skills and work

People need the right skills to lead the low-carbon transition

Once firms have the incentives to transition to a low-carbon economy, they will need workers with the appropriate expertise to make it happen. There has already been significant growth in the number of employees in the low-carbon and environmental goods and services sector, from 156,000 in 2007-8 to 246,000 in 2017-18.¹⁷ Further growth could depend on the rate that people acquire the necessary skills.

¹⁶ Ibid

¹⁷ Greater London Authority, [London’s low carbon market snapshot](#), June 2019

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'...we need to be making sure that we are threading education for sustainable development and climate awareness right through the training programmes of a whole range of occupations and professions.'

Graham Petersen (Secretary, Greener Jobs Alliance)

Through its investigation, the Economy Committee heard that the process of getting businesses to adapt to climate change or mitigation policies is a 'change management exercise', which further provides a growing need for soft skills to manage the transition. These soft skills include project management techniques and communication skills to manage the transition. There is also likely to be growing demand in areas such as carbon accounting, which is the process of "measuring" the amount of carbon emitted by entities, as well as in supply chain management, data management among other sectors which will see a transition in jobs.¹⁸

The construction sector is key

The changing demand for skills will not only be for workers with specific education in 'sustainable development and climate awareness'. While people with that expertise may lead the transition in management and strategic roles,¹⁹ the resultant changes to business models and goods

and services demanded will have pervasive impacts across the labour market²⁰.

The Committee's panel of experts identified the construction industry as an example of a pivotal area for the transformation to a low-carbon economy, likely to experience a significant disruption to skills demanded.²¹

Advancements in the application of modular construction practices enable building units to be constructed in factories, then shipped to construction sites to be assembled, cutting build times from months to a few weeks. It maximises reusability and recyclability as the prefabricated sections can be assembled and reassembled depending on specific needs and circumstances.²² This approach is likely to increase productivity and potentially increase the number of projects being delivered. This will help to close the infrastructure and housing gap where needs exceed the capacity of the industry to deliver.²³ The construction industry will require new skills to deliver these projects and provide opportunities for a workforce with a more diverse set of skills.²⁴

¹⁸ [London Assembly Economy Committee meeting](#), 10 September 2019

¹⁹ [Ibid](#)

²⁰ https://www.ilo.org/wcmsp5/groups/public/---dgreports/---cabinet/documents/publication/wcms_644145.pdf

²¹ [London Assembly Economy Committee meeting](#), 10 September 2019

²² <https://www.jll.co.uk/en/trends-and-insights/cities/modular-construction-housing-crisis-answer>

²³ McKinsey & company, [Modular construction: from projects to products](#), June 2019.

²⁴ <https://www.gov.uk/government/news/new-high-skills-jobs-open-up-as-uk-construction-sector-transforms>

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Retrofitting existing buildings to be more energy efficient will also create jobs.²⁵ Energy can be saved by improving the quality of insulation,²⁶ improving design to maximise passive heating, and transitioning towards the use of more energy efficient forms of heating such as heat pumps.²⁷ The International Labour Organisation estimates that job creation as a result of decarbonisation will be 'led by construction', with a global increase of 6.5 million jobs by 2030.²⁸

Adult Education Budget

The transition to a low-carbon, circular economy requires society to transform the way products, services and systems are created and is dependent on how businesses and its employees learn and apply the skills required to work in this economy. Support is needed from the Mayor to ensure employees and employers in London are equipped with the skills and training required to work in a low-carbon, circular economy.

The Mayor took over delegated responsibility for the Adult Education Budget (AEB) as of the 1 August 2019. The AEB funds education and training for adults aged 19 and above. The devolution of the AEB gives the Mayor a direct lever to play an integral role in providing Londoners with the skills and training for a low-carbon, circular economy. The AEB can be used to specifically target reskilling and retraining to make the skills transition easier for Londoners.

²⁵ [London Assembly Economy Committee meeting](#), 10 September 2019

²⁶ Ibid

²⁷ <https://www.greenmatch.co.uk/blog/2015/09/boilers-vs-heat-pumps>

Recommendation 2

The Mayor should use the Adult Education Budget to provide funding for retraining employees with a view to assisting London's transition to a low-carbon economy, and to provide detail on how he will work with employers to ensure the delegated AEB and wider technical and vocational education system delivers for the London economy, as promised in his Skills for Londoner's Framework.

Ensuring workers have the right skills for the future

It is important to manage the transition

The transition to a low-carbon economy should be encouraged, and past examples of technological booms such as the agricultural revolution indicate that societies should embrace automation technologies to realise the productivity benefits. However, the transition can be hard for

²⁸ https://www.ilo.org/wcmsp5/groups/public/---dgreports/---cabinet/documents/publication/wcms_644145.pdf

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some, and many people could endure significant periods of unemployment if not adequately supported.²⁹

It is important to maintain flexible labour market settings, such as trial periods.³⁰ These help firms by reducing the associated risks from employing new workers and allow easier movement between jobs to improve the matching between skills sets a person has and those their job requires. However, alongside this, the Organisation for Economic Co-operation and Development (OECD) raise that it will be increasingly important to ensure adequate income support for those negatively impacted³¹ – not only for their own welfare but to minimise the length of time spent out of work, which can have a detrimental effect on future job prospects. It is also important to ensure that flexibility in the labour market does not come at the cost of adequate protection for workers and employment rights.

The skills system needs to be responsive

With jobs expected to change faster, the skills system will need to be more responsive, ensuring more efficient matching between workers and jobs.³² This will require clear communication from businesses and a dynamic education system in which everyone from education providers

to curriculum designers are empowered to respond to business' needs while ensuring workers can gain the skills needed to access new and innovative employment opportunities.

A 'lifelong learning' system is gaining prominence.³³ This emphasises that although early investment in education still has the greatest return for employment outcomes,³⁴ continued investment in retraining will be required. There has also been a shift in focus towards skills development through informal or on-the-job learning rather than purely through formal qualifications. This can make upskilling a faster and more targeted process. It also encourages worker participation because it reduces 'one of the most significant costs of learning to individuals – foregone earnings'.³⁵

Businesses will have an important role to play in upskilling their employees. The need to refine skills to meet business requirements also means that there is a need for employers to invest in skills training. In the United States, large businesses are starting to recognise the need to take responsibility for investment in their workforce. For example, AT&T partnered with Georgia Tech to help set up an online computer science programme and provide it to all employees.³⁶

²⁹McKinsey & Company, [Jobs lost, jobs gained: workforce transitions in a time of automation](#), December 2017.

³⁰ <https://www.oecd.org/employment/employment-outlook-2019-highlight-en.pdf>

³¹ Ibid

³² McKinsey and <https://treasury.govt.nz/sites/default/files/2019-11/fow-forum-aug-4204590.pdf>

³³ <http://uil.unesco.org/lifelong-learning/lifelong-learning-policies>

³⁴ https://www.unicef.org/earlychildhood/index_69851.html

³⁵ <https://treasury.govt.nz/sites/default/files/2019-11/fow-forum-aug-4204590.pdf>

³⁶ McKinsey & Company, [Jobs lost, jobs gained: workforce transitions in a time of automation](#), December 2017.

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Recommendation 3

The Mayor should produce an action plan to show commitment to help London make a transition to a low carbon economy, including detail on how he will:

- explore the employment and workforce skills challenges London faces in the context of the coming challenges;
- provide an avenue for firms and unions to communicate their skills needs, enabling the skills system to be more responsive;
- consider commissioning research to support key sectors in making the transition to a low carbon economy.

Recommendations

Recommendation 1

The Mayor should establish a Green Procurement Standard, a benchmark for environmentally sustainable procurement practices. This should include all the features within the 'improving environmental sustainability' section of the GLA Group Responsible Procurement Policy. The standard should model the Mayor's Good Work Standard and include funding to support businesses with accreditation.

Recommendation 2

The Mayor should use the Adult Education Budget to provide funding for retraining employees with a view to assisting London's transition to a low-carbon economy, and to provide detail on how he will work with employers to ensure the delegated AEB and wider technical and vocational education system delivers for the London economy, as promised in his Skills for Londoner's Framework.

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About the Economy Committee



During the 2019/20 Assembly year when the investigation was carried out, the membership of the Committee was: Leonie Cooper (Chair), Susan Hall AM (Deputy Chairman), Shaun Bailey AM, Caroline Russell AM, Onkar Sahota AM and Fiona Twycross AM.

The Economy Committee scrutinises the work of the Mayor and investigates issues of interest to the public relating to economic and social development, wealth creation, the arts, sports and tourism in London.

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For further information about the work of the Economy Committee, and to see our current investigations, visit [our website](#).

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The London Assembly holds the Mayor and Mayoral advisers to account by publicly examining policies and programmes through committee meetings, plenary sessions, site visits and investigations.

As well as examining the Mayor's actions and decisions, Assembly Members act as champions for Londoners by investigating issues that are important to the capital.

Assembly investigations are carried out by cross-party committees which cover vital areas like transport, policing, housing and planning, the economy, health and the environment. The Assembly can press for changes to national, Mayoral or local policy.