GLAECONOMICS

London's Economy Today

Issue 218 | October 2020

Social distancing restrictions raised in London as evidence points to falls in employment

By **Gordon Douglass**, Supervisory Economist, and **Eduardo Orellana**, Economist

With rising infection levels in the capital, London was placed into a Tier 2 lockdown by the Government on 17 October. These restrictions bar the mixing of households in indoor places and come on top of the restrictions already in place such as the "rule of six". This came at a time when evidence was mounting for the challenges facing Londoners as the economic costs of the pandemic rise.

The Office for National Statistics (ONS) published data on the number of PAYE employees, actual hours worked, vacancies and redundancies this month. This showed that in September there were 146,000 fewer people in paid employment living in the capital relative to March 2020. London also experienced the largest regional decrease (3.5%) in employee growth compared to the same month last year.

Also in this issue

Datastore

The main economic indicators for London are available to download from the London Datastore.

Looking at the claimant count, since March 2020, the number of claims by residents aged 16+ in the capital has gone up 165% (304,750), reaching a total of 489,800 claims. This was the highest regional proportional and nominal increase. And between August and September the number of claims in London increased by 12,620 – the highest in the UK. Comparing September 2020 against September last year, workers aged 25-29 saw the largest proportional increase in claims in the capital (246%), followed by the 30-34 age group (221%). All age groups in London experienced a larger proportional increase than their UK counterparts (Figure 1).

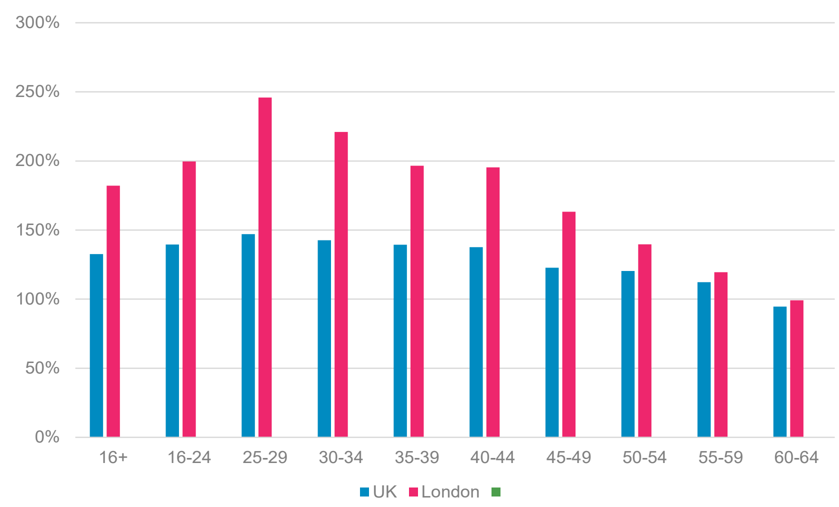


Figure 1: Claimant count change (%) by age groups, September 2019 – September 2020 , UK and London

Source: ONS
Note: an increasing number of people became eligible for unemployment-related benefit support, although still employed. Consequently, changes in the Claimant Count will not be due wholly to changes in the number of people who are unemployed.

Labour market situation likely to remain challenging into the new year

Prior to the tightening of the lockdown a study by the Recruitment & Employment Confederation (REC) and KPMG found that London was only one of four English regions where a majority of recruiters saw activity declining in September. By contrast the UK as a whole saw the strongest month on month improvement in recruitment activity in two years.

Looking forward it is likely that further job loses will happen in the coming months despite the announcement of the Job Support Scheme (JSS) in the Chancellor's Winter Economic Plan at the end of September. The JSS replaces the Job Retention Scheme (JRS), which will finish at the end of this month. The Chancellor then announced further changes to the JSS scheme on 22 October, which reduced the employers proposed contributions and the minimum percentage of normal hours worked.

The Chancellor has also announced further support for workers in firms that are forced to close under the tier system of lockdowns. Thus, from 1 November workers in firms forced to close will get 66% of their usual wages from the Government up to a maximum of £2,100 per month. While, employers will only have to cover national insurance and pension contributions, without having to contribute towards wages as in the JRS. The scheme will last until January when it will be reviewed. Funding is also to be provided to local authorities to provide grants of up to £2,100 "to cover businesses in particularly affected sectors in high-alert level areas".

Public-facing firms continue to struggle

October saw further signs of the problems being experienced by a number of firms during the pandemic. So, pub chains have been reporting job losses, venue closes and losses over the month. For example, Young's have announced that it will make 500 of its 4,200 staff redundant by the end of the month, while Fuller's said 500 jobs (10% of its workforce) were at risk, mainly in its central London sites. Elsewhere, Greene King announced it would close 11 of its 22 Loch Fyne restaurants, while JD Wetherspoon announced its first loss since 1984. Cineworld also announced the temporary closure of all its screens in the UK. While on the high street further job losses were announced with, for example, Pret a Manger announcing the closure of six stores and the loss of 400 jobs, and the Edinburgh Woollen Mill the closure of 50 of its 1,100 stores and the loss of 600 jobs. Aviation also continues to suffer with EasyJet announcing the first annual loss in its history, Ryanair has said it was scaling back its winter schedule as bookings fall, IAG the owners of British Airways has reduced planned flights for the last three months of the year to 30% of their 2019 levels down from a previous planned 40% after making a loss of more than €1bn in the third quarter, and United Airlines announced a $1.8bn third quarter loss. And Heathrow announced that passenger numbers were down by almost 80% while it had made a loss of £1.5bn in the year so far.

There also appears to be further signs of long-term structural changes to working patterns, with Deloitte planning to close 4 of its 50 offices in the UK without job losses. Workers at its offices in Gatwick, Liverpool, Nottingham and Southampton will instead be offered full-time remote working instead.

In London, there were some optimistic signs for the economy before the recent tightening of the lockdown rules. For instance, for Q3 2020 the Capital 500 Quarterly Economic Survey from the London Chamber of Commerce and Industry (LCCI) found "tentative signs of recovery over the summer, as the lockdown measures were eased, and government support schemes encouraged increased consumer spending. Domestic demand was moderately stronger and expectations for the coming year ahead had become somewhat less sanguine. There is a small divergence between inner and outer London businesses in terms of performance. Indeed, Central London's businesses, who rely in large part on tourism – and to a lesser degree, commuters – continue to report severely depressed footfall and revenues", according to Richard Burge, the Chief Executive of the LCCI.

However, looking forward a study commissioned by the Heart of London Business Alliance from Arup showed the problems facing the West End. This found in its worst-case scenario that Arts and culture businesses could see GVA fall by 97% by 2024 against their 2019 baseline. In the best-case scenario, the sector would still see a 10% fall in 2024 compared with 2019. And a scenario with seasonal COVID-19 and economic restrictions short of lockdowns would see output decline by 82% by 2024. More widely there are also signs that having picked up over the summer some recreational activities have dropped back in recent weeks in the capital (Figure 2).

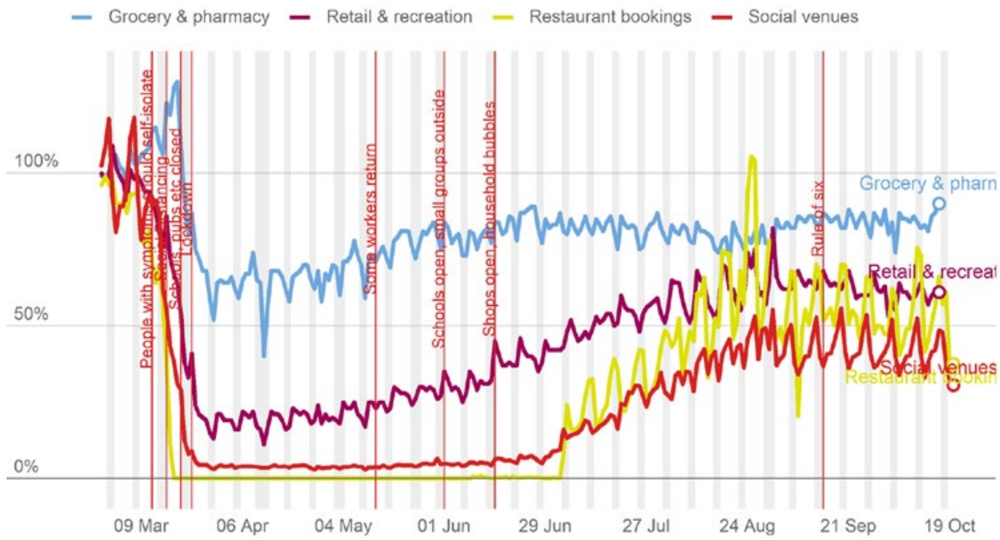


Figure 2: Retail and recreational activity in London

Source: Grocery and retail metrics from Google Mobility, social venues (bars, event spaces etc) from Purple public Wifi and restaurant bookings from OpenTable

Note: Vertical red lines show changes in social distancing rules. Vertical grey bands show weekends and public holidays.

IFS warns of possible future tax rises

The Institute for Fiscal Studies (IFS) in their 2020 Green Budget document warned in October that UK taxes would need to rise by more than £40bn by 2025 to stop public debt rising. This came after it estimated that borrowing would hit £350bn, or 17% of GDP, in this financial year, with it expecting debt to be nearly 100% of GDP, or in its worst-case scenario up to 130% of GDP, in 2024-25. This was due to the poor economic prospects for the UK economy underpinning its analysis, with GDP expected to be nearly 5% below its pre-pandemic trend at the end of 2024. Elsewhere the Chancellor, Rishi Sunak, announced in October that the comprehensive spending review which was due this year would be postponed again, with instead a one-year review of government spending due in late November.

Picking up on the poor prospects for the economy data from the ONS showed that the UK economy grew more slowly than expected in August. The data showed that in August the economy grew by 2.1%, the fourth consecutive monthly increase but lower than the 6.4% growth seen in July and 9.1% seen in June. The economy remains 9.2% below its pre-pandemic peak (Figure 3).

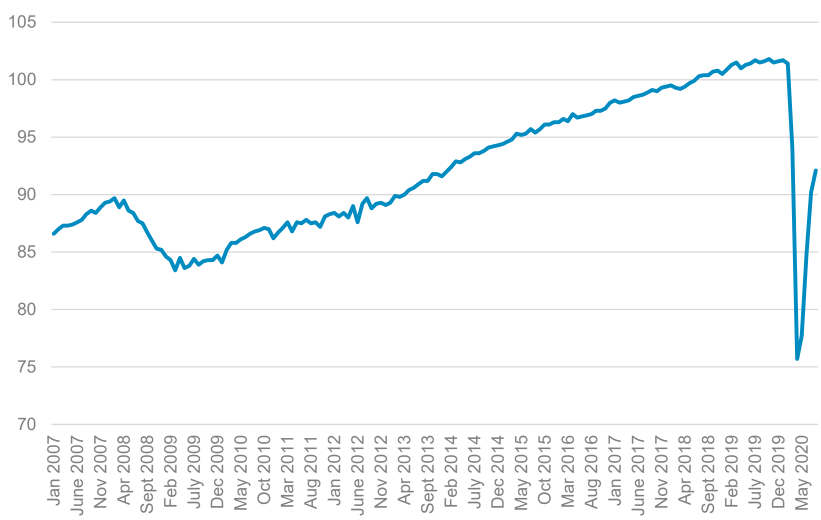


Figure 3: UK GDP, Monthly index, January 2007 to August 2020

Source: ONS

Reflecting these weak prospects, the credit rating agency Moody's downgraded the UK's credit rating by one notch to Aa3 on 16 October. In commenting on its decision, it said that growth was now expected to be "meaningfully weaker" than it had thought and that the economy had been struggling prior to the pandemic. It also pointed to "the weakening in the UK's institutions and governance". Adding that "while still high, the quality of the UK s legislative and executive institutions has diminished in recent years".

IMF improves its global forecast, but recovery prospects are mixed globally

The International Monetary Fund (IMF) published its latest World Economic Outlook (WEO) forecast in October. This forecasts that global growth would be -4.4% this year an upgrade of 0.8 percentage points (pp) on their June forecast, with growth of 5.2% expected in 2021 (a downgrade of 0.2pp). Most but not all countries saw their 2020 forecast upgraded to be slightly less negative, although most also saw their 2021 forecast downgraded. Thus, the UK is forecast to see growth of -9.8% this year (a 0.4pp upgrade), with growth of 5.9% in 2021 (a 0.4pp downgrade). However, the IMF did warn that the pandemic will do "lasting damage" to peoples living standards around the world. It further observed that "many countries already face difficult trade-offs between implementing measures to support near-term growth and avoiding a further build-up of debt that will be hard to service down the road". While, "tax and spending measures should privilege initiatives that can help lift potential output, ensure participatory growth that benefits all, and protect the vulnerable". With it also calling for further international cooperation given the global scope of the pandemic and help for some emerging market economies in terms of their debt.

October also saw the publication of GDP growth figures for China for the months July to September 2020 which saw its economy grow by 4.9% compared with the same quarter in 2019. Although this was slightly below what economists expected.

Brexit trade deal talks continue past the 15 October deadline

October saw the UK's deadline for a trade deal with the EU pass without any deal being reached by the 15 October date the Government had set. This resulted in the UK saying that businesses should prepare for no deal while the EU offered to intensify talks. However, talks again resumed on 22 October after a period of hiatus. While, elsewhere the European Commission has started formal proceedings against the UK due to the Internal Market Bill, which it says violates the UK's Withdrawal Agreement with the EU.

Despite the Government warning about a 'no-deal', the British Chambers of Commerce has said only 52% of UK firms had carried out a risk assessment ahead of the end of the transition period. Still, preparations for the end of the withdrawal agreement continue for many sectors. So, the Financial Conduct Authority (FCA) has announced that city firms will have 15 months after the end of the transition period to meet most of its new domestic rules. Firms will thus have to comply only with the EU requirements until 31 March 2022, whilst getting ready for the new UK-only rules. Concerns however remain for the prospect for services after the end of the transition period. This was shown in analysis published by the House of Lords' EU services subcommittee, which concluded that contracts and jobs for professional services' firms could be at risk if the government gets its preferred Canada-style trade deal. The report thus called for an agreement on exporting UK services with it observing that "without a UK-EU agreement, UK lawyers may become unable to operate in the EU under UK-specific corporate structures, in particular limited liability partnerships".

City of London Corporation launches their post COVID vision

Looking forward the City has published its vision for its role in the post COVID-19 world. The report, London Recharged: Our vision for London in 2025 (which was produced in partnership with Oliver Wyman and Arup), recommended amongst other things the creation of "spaces to innovate, akin to start-up incubators focused on a specific theme" and "pilot transformation of London's office stock to support new uses, including the development of 'hyper flexible spaces'". It also made recommendations on transport including the option of creating a flexible working season ticket and that there should be "a regulatory review of listing structures to ensure the UK's competitiveness relative to other listing locations".

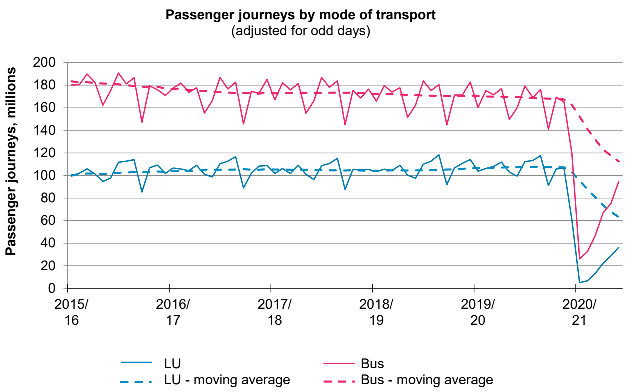
Also published in October, was the latest Global Financial Centres Index from Z/Yen and the China Development Institute. This found that London remained in second place as a global financial centre behind New York although it "has made up ground in the ratings, now [standing] only four points behind the leader". Thus, despite the massive uncertainty faced by London currently, it maintains a number of advantages. These and the challenges the capital face will continue to be analysed by GLA Economics and this analysis will be published and found on our publications page.

Economic indicators

In the period 23 August to 19 September, passenger journeys in London continued to recover slowly

- 131.0 million passenger journeys were registered between 23 August and 19 September this year, 27.1 million more than in the last period (26 July – 22 August) but still very low from a historic perspective. As a reference, passenger journeys in February – when there were no lockdown restrictions – were 271.4 million.
- In the period 23 August to 19 September, 36.3 million of all journeys were underground journeys and 94.7 million were bus journeys.
- The 13-period-moving average in the total number of passenger journeys continued to fall from 185.4 in the period 26 July - 22 August 2020 to 175.5 in the period 23 August - 19 September 2020.

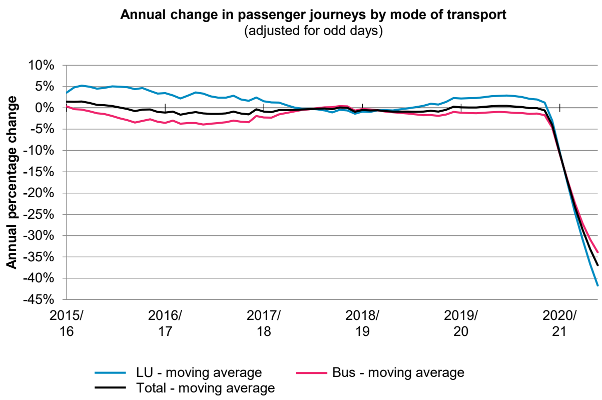
Source: Transport for London
Latest release: October 2020, Next release: November 2020



The moving average annual change in passenger journeys in London reached a new historic low in the period 23 August - 19 September 2020

- The 13-period moving average annual growth rate in the total number of passenger journeys was -37.0% in the period 23 August - 19 September, down from -33.2% in the period 26 July - 22 August
- The moving average annual growth rate of bus journeys decreased from -30.9% to -33.9% between the above-mentioned periods. Likewise, the moving average of underground passenger journeys went down from -36.7% to -41.7% between those periods.
- The reduced demand on both modes follows from the Government advice not to use public transport except for essential journeys.

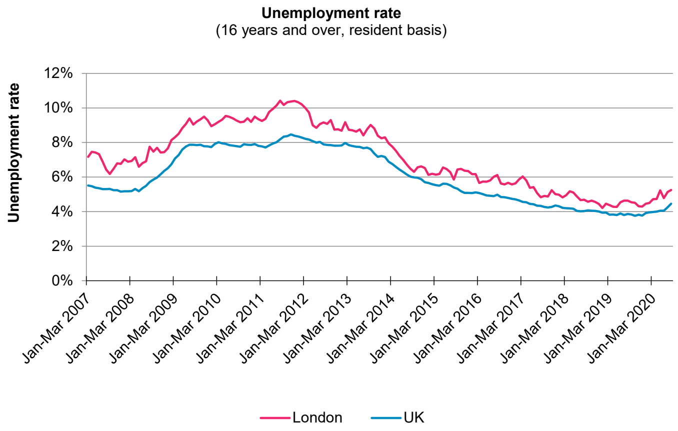
Source: Transport for London
Latest release: October 2020, Next release: November 2020



In the three-month period June - August 2020, London's unemployment rate rose to 5.3%

- 266,700 residents 16 years and over were unemployed in London in the period June to August this year.
- The unemployment rate in London was 5.3% in that period, up from 5.2% in the previous period March to May 2020 largely because the Coronavirus Job Retention Scheme prevented thousands of London workers from becoming unemployed.
- The UK's unemployment rate increased more than in London – from 4.1% to 4.5% - between the periods March – May and June – August 2020.

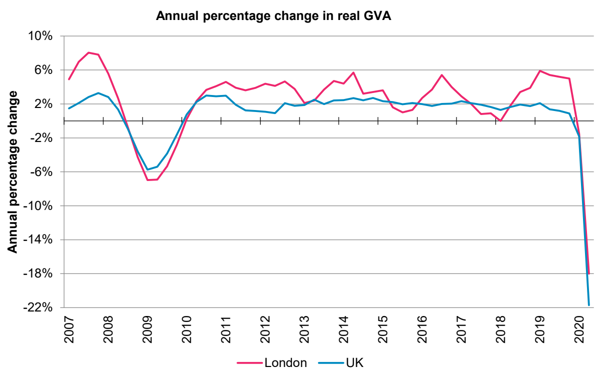
Source: ONS Labour Force Survey
Latest release: October 2020, Next release: November 2020



London's economy is estimated to have fallen by 18.0% on an annual basis in the second quarter of this year, following an annual contraction of 1.5% in Q1 2020

- London's real GVA registered the deepest contraction of the historic series in Q2 2020 (-18.0% annually), which adds to the -1.5% annual growth rate seen in the first quarter of the year. Both rates are GLA Economics estimates. This historic negative shock caused by the Covid-19 outbreak took place after London's real output grew by 5.4% in 2019 – according to ONS data - which is the highest growth rate since 2007 despite last year's Brexit-related uncertainty.
- The UK's real GVA annual growth rate for Q2 2020 was -21.7% - also the lowest rate of the historic series – which adds to an annual fall by 1.8% in the first quarter of the year.
- London's real GVA quarterly estimates for both the period Q1 1999 to Q4 2012 and the two most recent quarters have been produced by GLA Economics. Estimates for the intervening period are outturn data from the ONS, which does not publish quarterly estimates for London's real GVA prior to 2013.

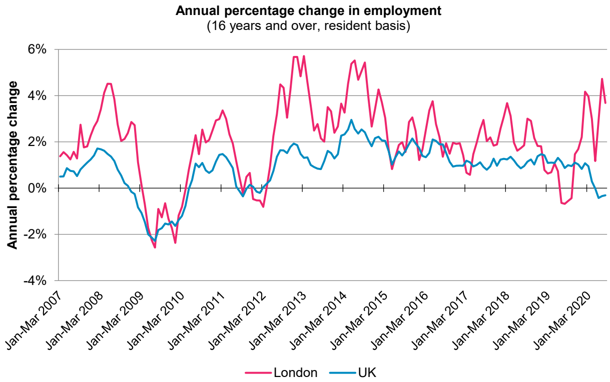
Source: ONS and GLA Economics calculations
Latest release: August 2020, Next release: November 2020



London's employment annual growth rate was 3.7% between June and August this year, showing a recovery as lockdown eased in the capital

- 4.81 million London residents over 16 years old were in employment during the three-month period June – August 2020.
- The rate of employment growth in the capital was 3.7% in the year for the mentioned period – 2.5 percentage points above the same rate in the period March and May this year. This increase coincides with the end of the lockdown imposed by the Central Government since 23 March. Yet, ONS data show that 557,000 persons in employment in London (equivalent to 13% of all employed workers) were furloughed workers under the Government's Coronavirus Job Retention Scheme as at 31 August.
- In contrast, between June and August 2020, UK's employment annual growth rate was -0.3% which is 0.3 percentage points below the same rate in the period March to May 2020.

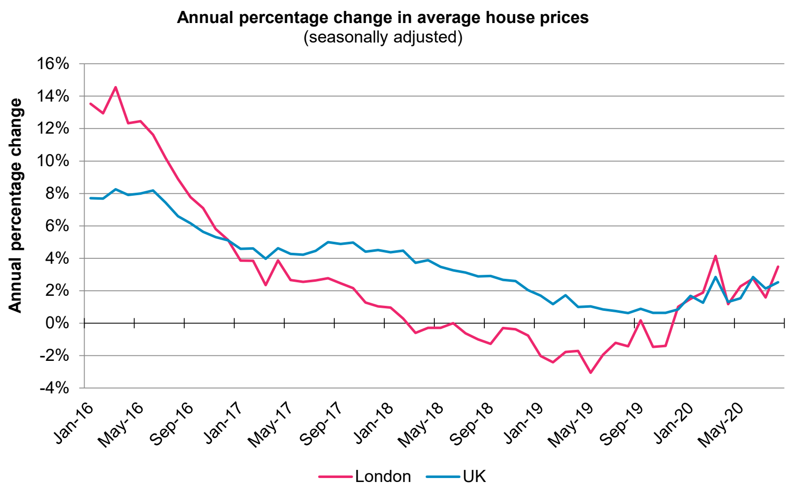
Source: ONS Labour Force Survey
Latest release: October 2020, Next release: November 2020



London house prices increased by 3.5% in annual terms in August

- In August 2020, the average house price in London was £484,342 while for the UK it was £234,679.
- The annual growth rate in average house prices in the capital was 3.5% in August, up from 1.6% in July.
- Average house prices in the UK rose by 2.5% in annual terms last August, 0.4 percentage points above the same rate in July.

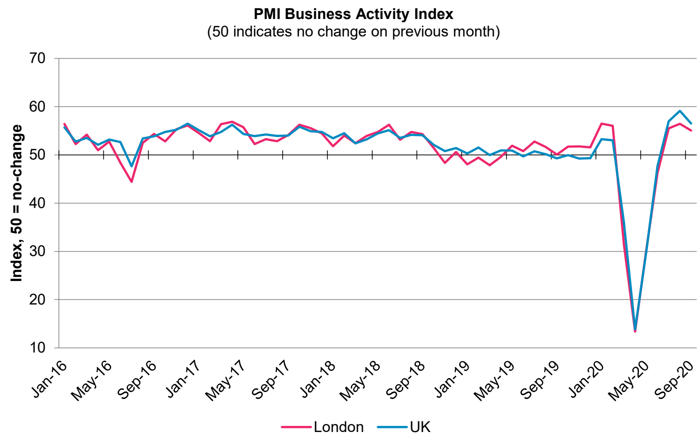
Source: Land Registry and ONS
Latest release: October 2020, Next release: November 2020



In September, London's PMI business activity index decreased compared with August, although sentiment remained positive

- Business activity PMI index for London private firms went down from 56.4 in August to 55.1 in September. This is similar to July.
- The UK index dropped from 59.1 in August to 56.5 in September.
- The Purchasing Managers' Index (PMI) survey shows the monthly business trends at private sector firms. Index readings above 50 suggest a month-on-month increase in activity on average across firms, while readings below 50 indicate a decrease.

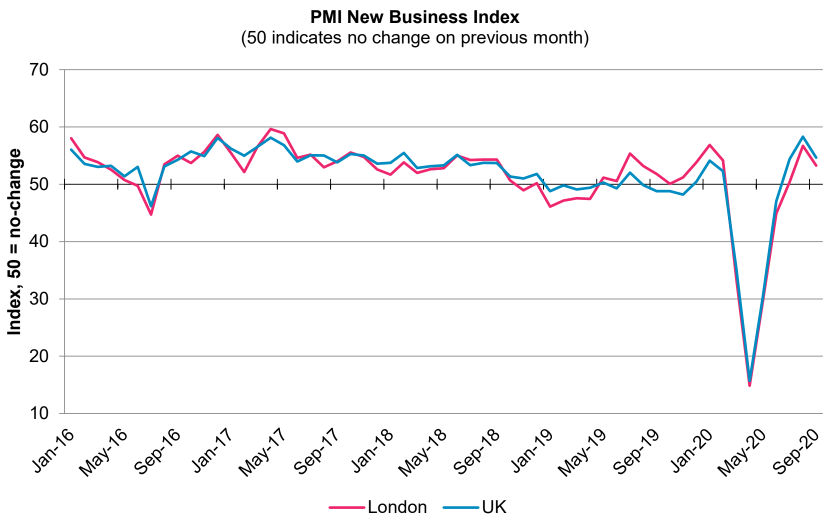
Source: IHS Markit
Latest release: October 2020, Next release: November 2020



In September, PMI new business index decreased in London, although sentiment remained positive

- The PMI new business index in London went down in September (53.3) from 56.7 in August.
- The UK index also decreased in September (54.7) from 58.3 in August.
- An index reading above 50.0 indicates an increase in new orders from the previous month.

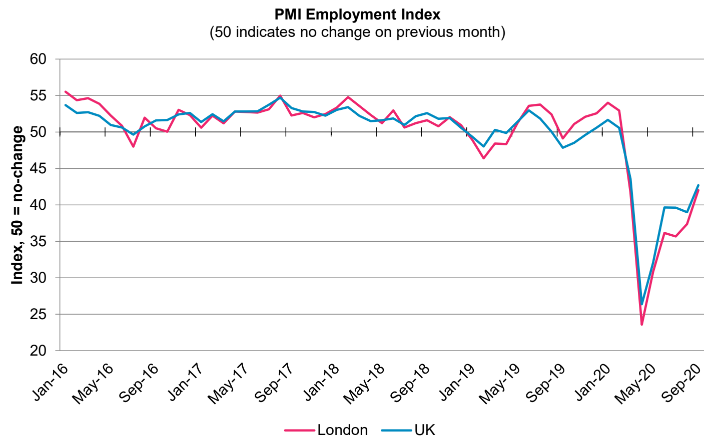
Source: IHS Markit
Latest release: October 2020, Next release: November 2020



PMI employment index in London remained very weak in September, if marginally higher than the previous month

- The Employment Index for London increased in September to 42.0 from 37.4 in August, still well below the neutral figure of 50.0. Since March, the majority of firms have been reporting monthly a worsening of their employment prospects.
- This index was 42.7 for the UK in September, up from 39.0 in August.
- The PMI Employment Index shows the net balance of private sector firms of the monthly change in employment prospects. Readings above 50.0 suggests an increase, whereas a reading below 50.0 indicates a decrease in employment prospects from the previous month.

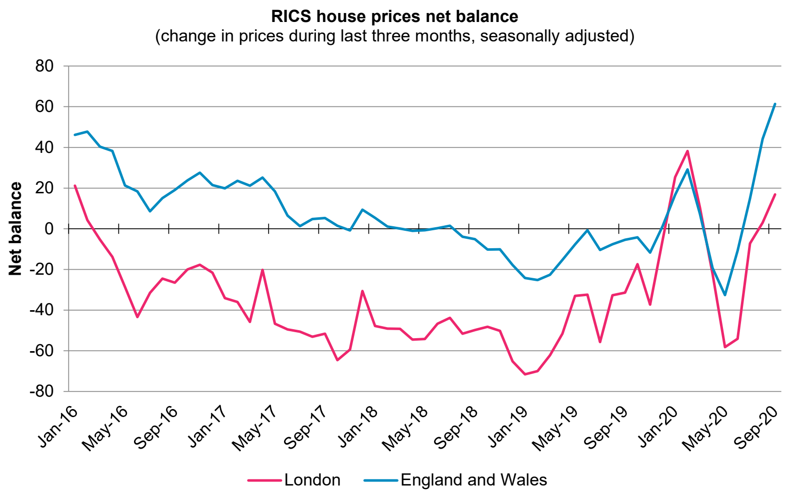
Source: IHS Markit
Latest release: October 2020, Next release: November 2020



The net balance of property surveyors reporting a rise in house prices in London recovered to its March level

- In the three months to September, the net balance of property surveyors reporting a rise in house prices was 17. This level not only implies an increase from August (3) but also the highest figure in this index since February.
- For England and Wales, the RICS house prices net balance index was 61 in September, up from 44 in August.
- The net balance index measures the proportion of property surveyors reporting a rise in prices minus those reporting a decline.

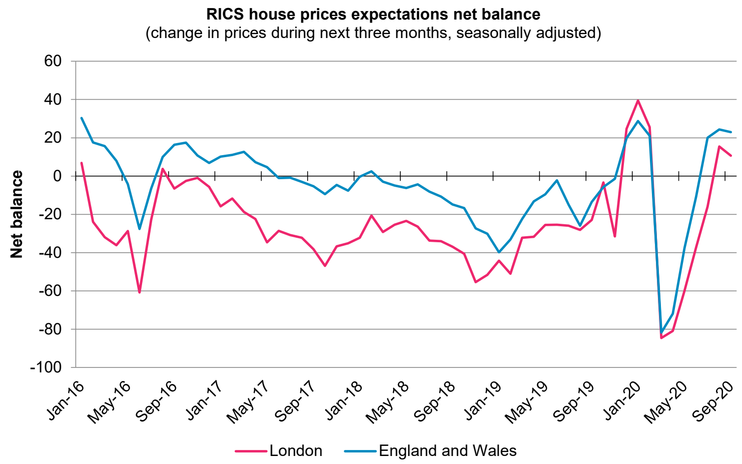
Source: Royal Institution of Chartered Surveyors
Latest release: October 2020, Next release: November 2020



In September, expectations of future house prices in London were positive for the second consecutive month

- Between July and September, surveyors reported positive expectations with regards to London house prices (11) although lower than in the previous three months (15). This index had shown negative figures between March and July.
- Sentiment in England and Wales was similar (23) in September and August (24).
- The net balance index measures the proportion of property surveyors reporting a rise in prices minus those reporting a decline.

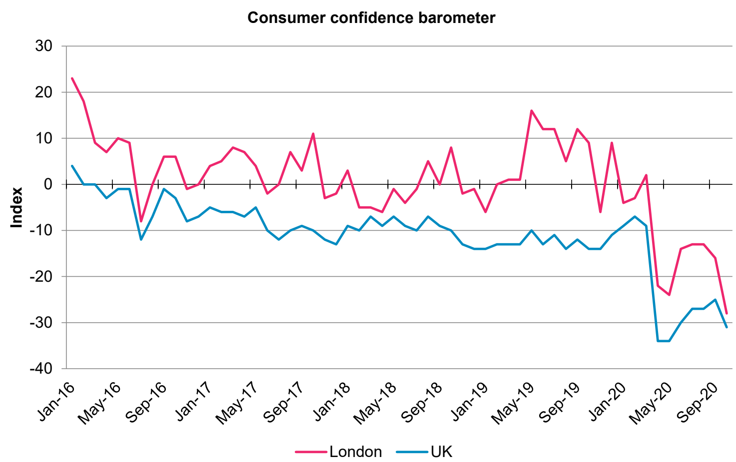
Source: Royal Institution of Chartered Surveyors
Latest release: October 2020, Next release: November 2020



In October, consumer confidence in London continued to fall and reached an eight-year low

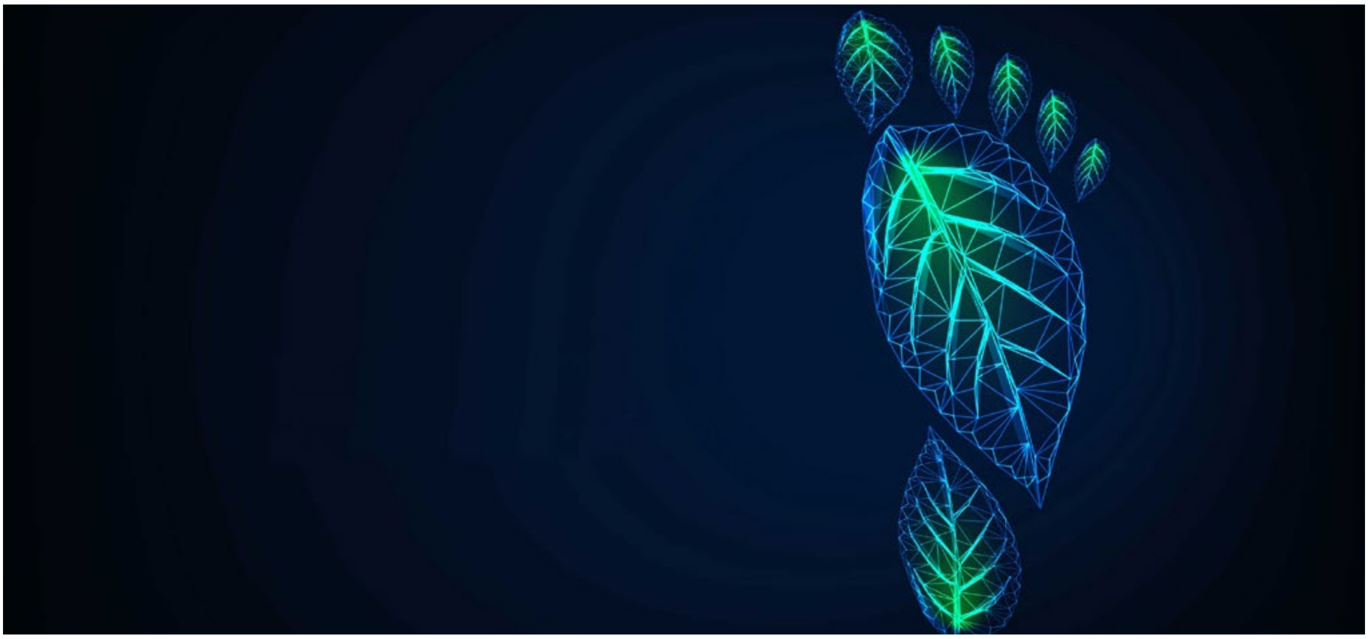
- The consumer confidence index in London fell further to -28 in October from -16 in September. The October level represents the lowest level of this index since October 2012. It has been negative since April.
- Similarly, the sentiment for the UK in October decreased to -31 from -25 in September. The UK has not shown a positive index score since January 2016.
- The GfK index of consumer confidence reflects people's views on their financial position and the general economy over the past year and in the next 12 months. A score above zero suggests positive opinions; a score below zero indicates negative sentiment.

Source: GfK NOP on behalf of the European Commission
Latest release: October 2020, Next release: November 2020



The transition to a net-zero carbon economy for London: a sectorial analysis

By **Gabriele Piazza**, Economist



Introduction

The UK is the first major economy to have committed to bring all greenhouse gas (GHG) emissions to net-zero by 2050. London has also made this commitment and is looking at committing to net-zero by 2030.

The transition to a net-zero carbon economy has the potential to create hundreds of thousands of new jobs in the UK, facilitate the recovery and trigger the development of new business models:

- According to research by kMatrix, the number of employees in London's Low Carbon and Environmental Goods and Services sector grew by 58% between 2007/08 and 2017/18. In 2017/18 there were 246,073 employees in this sector in London.
- Analysis by Ricardo Energy and Environment suggests low-carbon industries could grow from around 2% of UK GDP in 2015 to 8% in 2030 and 13% by 2050.
- Development Economics found that to get the UK to net-zero, the energy sector must recruit for 400,000 jobs by 2050 – 260,000 new roles and 140,000 replacing those who left.
- The Government estimates that the £3 billion green investment package, part of the Plan for Jobs, could help support 140,000 jobs.

But job creation in some sectors may be offset by job losses and adjustments in others:

- For example, in order to meet the target, all UK coal plants are expected to close by 2025. Research by the Grantham Research Institute suggests that 10% of UK workers would need reskilling to participate in the Green economy (this was also 10% of London workers or 519,000). According to this analysis, construction (30%), transport (26%) and manufacturing (17%) are the sectors in the UK that could require the greatest reskilling.

To inform the debate, GLA Economics has produced some analysis on which areas of London's labour market are likely to be most affected by this transition.

Scope of the work

In order to understand the impact that the transition to a net-zero carbon economy will have on London's labour market in the short and medium-long term, this research addresses the following questions:

- Which sectors account for the largest share of greenhouse gas emissions and energy consumption in London?
- What share of London's employment and output do these sectors account for? How has this changed over time?
- What is the spatial distribution of these sectors across London's boroughs?
- What is the profile of workers in these sectors?

This research also highlights areas for further research that could give a more thorough understanding of the sectorial impact of the transition.

Interpretations and limitations

In order to estimate the impact of the transition to a net-zero carbon economy we used a wide range of data sources and when interpreting the results, we need to be mindful of data-related caveats and limitations.

Interpretations

- In order to estimate the impact on London, we used ONS Annual Population Survey data on a residence basis to apportion the GHG emissions and energy consumption UK data. This means that the figures in the first part of the analysis refer to the number or share of Londoners working in the sectors that are most likely to be exposed to the transition to a net-zero carbon economy, regardless of their workplace location. To give a concrete example, our estimates will include people living in London and working at any airport, even Stansted and Gatwick that are located outside London's administrative boundaries. However, they will exclude those people working in one of London's airports (Heathrow and London City Airport) but living outside the capital.
- When looking at the exposure of different boroughs to the transition we use BRES jobs data on a workplace basis (see Figure A3). This means that our estimates also include those jobs that are based in London but are held by people working outside the capital. Using again the Air transport sub-sector as an example, our figures will include the jobs at Heathrow Airport even if held by people living outside the capital. In contrast, it will exclude the jobs at airports that are located outside the Greater London Authority boundaries even if the people in those jobs live in the capital.

Limitations

- We use employment data to apportion GHG and energy consumption data. To do this we assume that the emissions (energy consumption) per worker within the same sector are the same across the country. In reality, the occupational structure of an industry will vary across regions. While our approach provides a good approximation, the figures in the slides should be treated with a degree of caution.
- Our analysis only looks at direct emissions and it does not take into consideration indirect emissions across supply chains and emissions from consumption as it was not possible to apportion these using employment data. Further research should look at the impact of reducing indirect emissions on different sectors in London.
- London plays an important economic role in the Greater South East, beyond its administrative boundaries. The transition to a net-zero carbon economy is likely to affect workers who work in the capital but live outside London's boundaries. Our analysis mostly looks at workers living in the capital.
- Our spatial analysis only allows to look at where the jobs most likely to be affected by the transition are located. However, in order to devise the appropriate skills policy response, it will be important to understand where people in these jobs live. Unfortunately, the available data did not allow the required geographical breakdown. We identified this as an area for further analysis

Key findings

Greenhouse gas emissions (GHG)

Our analysis of GHG emissions for London's sectors confirms that the sectorial composition of GHG emissions in London is different from the rest of the country. In 2018:

- Transport & Storage was the sector that accounted for the largest share (35%) of emissions in London followed by Electricity & gas (15%) and Manufacturing (12%). These three sectors accounted for 62% of the GHG emissions in London. Looking at a more detailed breakdown reveals that Air transport accounts for more than half (53.2%) of the Transport emissions in London and almost a fifth (18.5%) of all the GHG emissions in the capital.
- In contrast, Finance & Insurance, Real estate activities, Arts & entertainment and Information & communications were the sectors responsible for the smallest shares of GHG emissions in the capital – each of them accounting for less than 1% of the emissions. Previous GLA Economics analysis showed that these are some of the sectors in which London specializes. Although all sectors are expected to see a change in the way they operate, our analysis suggests that these adjustments might not affect London's competitiveness.
- Looking at the UK, Electricity & gas (23%) was the sector that accounted for the largest share of GHG emissions, followed by Transport & storage (20%) and Manufacturing (20%). Finance & insurance, Real estate activities, Arts & entertainment, Information & communication also accounted for the smallest shares.

These sectors might be indirectly responsible for direct and indirect emissions in other parts of the UK and the world but are not captured by our analysis.

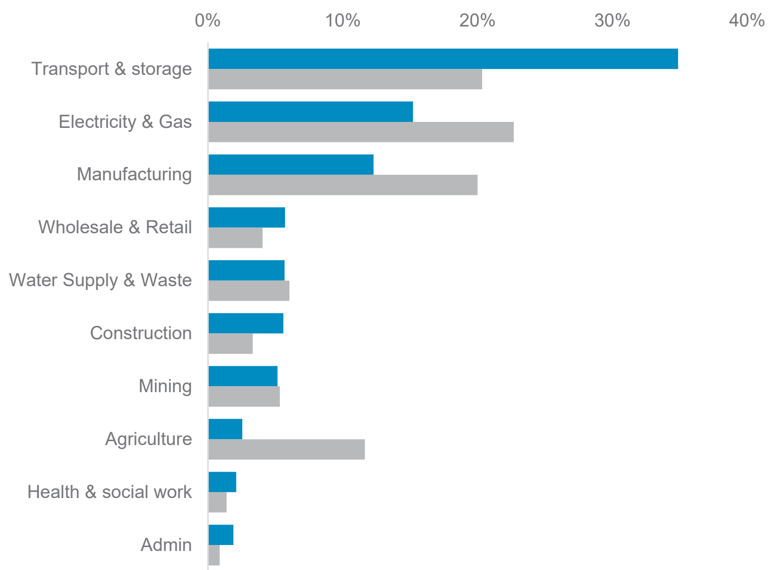


Figure A1: % of total GHG emissions,10 highest emitting sectors in the capital, London and UK, 2018

Source: ONS Environmental Accounts, ONS APS. GLAE calculations.

London's economy specializes in services and this means that the sectors that are most responsible for GHG emissions account for a relatively small share of London's employment.

- For example, in 2018, Transport & storage accounts for 35% of London's GHG emissions but only 4.7% of London's employment. A more detailed breakdown shows that Land transport was the biggest employer, accounting for 60% of the employment in Transport and 2.8% of the employment in the capital. Air transport accounted for only 0.2% of the employment in London, although it might support more jobs through its supply chain, employed across a variety of sectors[1].

1 Our estimates only include GHG emissions (domestic and international) from airline companies registered in the UK. These are British Airways, CargoLogicAir, DHL, easyJet, Flybe, Jet2.com, Jota Aviation, Norwegian UK, Ryanair, Tui Airways, Titan Airways, Virgin Atlantic and West Atlantic.

- In contrast, Professional services accounted for around 12% of London's employment but 1.5% of the capital's GHG emissions. Similarly, Health & social work, the sector with the second highest share of employment (11%), accounted for 2.1% of London's emissions.

Energy consumption

We also looked at energy consumption for London's sectors and this shows that in 2018:

- Transport & storage was the sector that accounted for the largest share (33%) of energy consumption in London, followed by Manufacturing (16%) and Wholesale & retail (9%).
- In contrast, Other service activities, Arts & entertainment and Real estate were the sectors responsible for the smallest shares of energy consumption in the capital – each of them accounting for less than 2% of the total.
- Looking at the UK, Manufacturing (32%) was the sector that accounted for the largest share of energy consumption, followed by Transport & storage (24%).

Change in energy consumption and GHG in the capital

We also looked at how this energy consumption and GHG emissions have changed over time in the capital. Our analysis suggests that between 2012 and 2018, energy consumption has gone up in most sectors in London:

- Transport and storage (+2.6 millions of tonnes of oil equivalent (Mtoe)) saw the largest increase, followed by Mining (+0.5million tonnes) and Construction (+0.4million tonnes).
- Health & social work (-0.1million tonnes) and Wholesale & retail (-0.1million tonnes) saw falls in energy consumption over this period.

While GHG emissions have gone down in the last 20 years, they have not gone down across all sectors. Our analysis shows that in London, between 2012 and 2018:

- Electricity & gas has seen the largest reduction in GHG emissions (-6.4m tonnes of carbon dioxide equivalent), followed by manufacturing (-0.2m tonnes).
- In contrast, Transport & storage has seen the largest increase over this period (+0.9m tonnes), followed by Agriculture (+0.5m tonnes)[2] and Construction (+0.3m tonnes). These sectors are likely to see the biggest changes in order to meet the net-zero target.

The relationship between economic growth and environment in London

The relationship between economic growth and the environment has become complex and the evidence on this is mixed. Looking at the relationship between the change in employment in London and the change in energy usage at the UK level between 2012 and 2018 (Figure A2) shows that:

- Transport & Storage and Construction, two of the sectors responsible for the largest share of energy use in London, have experienced a modest increase in the energy consumption at the UK level of 1 and 3% respectively, and an increase in employment in the capital of 14 and 15%, respectively. However, this was lower than the employment growth for all sectors (17%).
- The sectors in which London specializes and that have seen a rise in employment have also experienced a reduction in energy usage at the UK level. For example, Professional services has seen a fall in energy at the UK level (-22%) but an increase in employment (+26%). Similarly, Real estate (-10%) and ICT (-11%) have seen falls in energy consumption at the UK level and an increase in employment in the capital of 33% and 20%, respectively.

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2 The type of activities in the Agricultural sector in London is likely to be less energy-intensive than in other parts of the country and responsible for a lower amount of the GHG emissions than reported here. The changes will also reflect changes in employment due to the approach we used to apportion GHG emissions to London.

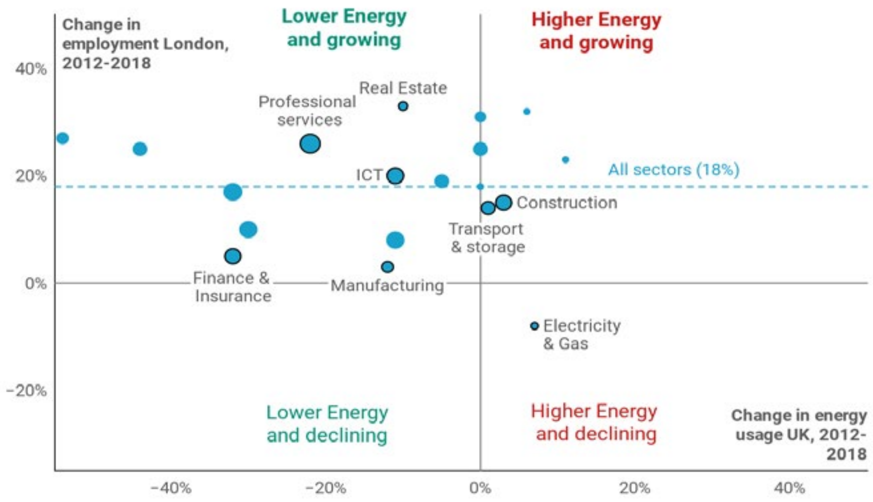


Figure A2: Change (%) in London's employment and Change (%) in UK energy reallocated usage, by sectors, 2012-2018

Source: ONS Environmental Accounts, ONS APS. GLAE calculations

Our analysis shows that the relationship between GHG emissions and employment, shown in Figure A3, is complex.

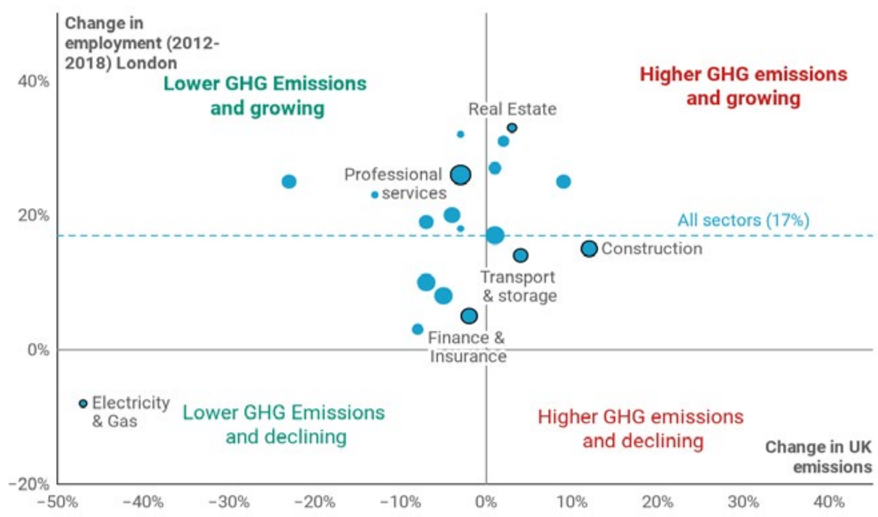


Figure A3: Change (%) in London's employment and Change (%) in UK emissions, by sectors, 2012-2018

Source: ONS Environmental Accounts, ONS APS. GLAE calculations. Note this chart excludes Agriculture and Other services.

Between 2012 and 2018:

- At the UK level, the Electricity & gas sector has seen a fall in GHG emissions (-47%) and a fall in employment (-8%) in the capital.
- Professional services has also seen a fall in GHG emissions (-3%) but employment in the capital has gone up over the same period (+26%), reflecting the specialization patterns in the capital. This increase was higher than the increase for all of London's sectors (+17%).
- Some of the highest-emitting sectors, Construction, Transport & storage and Agriculture have seen an increase in both GHG emissions and employment over the same period.

Impact on Londoners

The adjustments required to meet the net-zero target are likely to be felt differently across London and London's population. For example, looking at the employment by ethnicity in some of the highest-emitting sectors in the capital shows that half of the workforce in Transport & storage, one of the highest emitting sectors, are from a BAME background.

London boroughs have adopted a variety of targets in respect of reducing council-generated emissions, though the majority have adopted a target of net-zero emissions by 2030. But this target will be more challenging for those boroughs that rely heavily on these jobs as sources of employment.

Looking at the jobs in the top 10 highest emitting subsectors[3] as share of total jobs in the borough shows that:

- With 34.0% of the total jobs in the borough, Hounslow, where Heathrow Airport is located, was the most reliant on jobs in these sectors, followed by Newham (27.4%), Croydon (27.3%) and Barking and Dagenham (26.3%). All these boroughs are in Outer London.
- In contrast, the City of London (4.9%), Tower Hamlets (10.6%) and Islington (11.0%) were the least reliant on these type of jobs

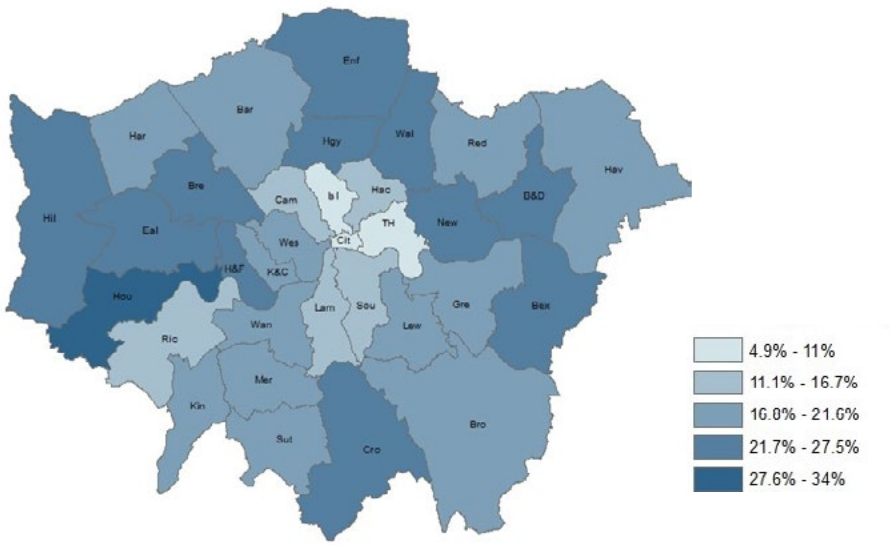


Figure A4: Share of jobs in high emitting sub-sectors, by borough

Source: ONS BRES. GLAE calculations.

Areas for further research

This is just an overview of the likely impact of the transition to a net-zero carbon economy on London's sectors. During our analysis, we have identified areas that will give a better understanding of how this transition will affect London and Londoners. These include:

- Supply chain analysis for the highest emitting sectors such as Aviation. This could give us insights on how adjustments in these sectors will affect the rest of the economy.
- Geographical distribution of workers in high-emitting sectors on a resident basis (where they live rather than where they work). We have only looked at this on a workplace basis. This could improve the targeting of possible policy interventions.
- Occupational impact of the transition. This is crucial to understanding which skills will be needed in a net-zero carbon economy.
- Diversity. Demographic analysis of workers in high emitting sectors (age, gender, disability, qualifications etc.).

GLA Economics will look at these other important aspects as part of its Just Transition programme which will be found on our publications page.

3 In 2018 the highest-emitting sub-sectors in the capital were: Air Transport, Electricity & Gas, Land transport, Waste collection, Water transport, Retail trade, Wholesale trade, Crop and animal production, Manufacture of chemicals, Public administration.

Our latest publications

We publish regularly on the state of London's economy, providing the latest economic data for London and interpret how this may affect policy. This includes analysis of recent developments in London's economy and forecasts for the next couple of years.

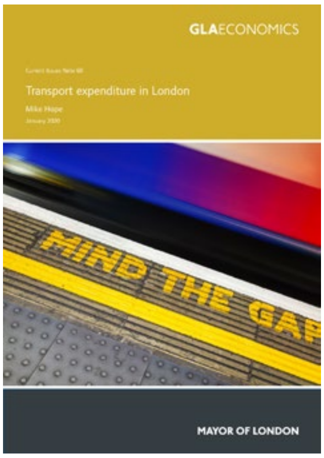
We provide analysis on sectors of the economy including tourism, retail, housing, health, science, technology and more.

We analyse recent developments in London's labour market, by sector and borough.

View all the GLA Economics publications on our website.

The Evidence Base for London's Local Industrial Strategy - Final report
This is the final report on the evidence base that is informing and supporting the development of London's Local Industrial Strategy, following on from the interim report published in August 2019. It presents clear, robust and comprehensive evidence on London's economy with a view to supporting the overall objective of achieving inclusive growth in London. It reports on London's strengths, key constraints, issues and risks for the five foundations of productivity introduced by the Industrial Strategy White Paper (Business Environment, People, Infrastructure, Ideas and Place), while also highlighting the linkages between the economy of London and the rest of the UK.

Download the full publication.



Transport expenditure in London
This current issues note looks at the case for continuing transport expenditure in London.

London spills over its administrative boundaries, and there are 2 million more people in it every day than its 8.8 million residents. The city relies on public transport, and so public investment – 58% of all journeys on public transport in Britain are at least in part in London. People make far more use of public transport than elsewhere in the country, and increasingly so.

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Download the full publication.

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ISSN 1740-9136 (print) ISSN 1740-9195 (online) ISSN 1740-9144 (email)

London's Economy Today is published towards the end of every month. It provides an overview of the current state of the London economy, and a selection of the most up-to-date data available. It tracks cyclical economic conditions to ensure they are not moving outside the parameters of the underlying assumptions of the GLA group.

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About GLA Economics
GLA Economics provides expert advice and analysis on London's economy and the economic issues facing the capital. Data and analysis from GLA Economics provide a sound basis for the policy and investment decisions facing the Mayor of London and the GLA group. The unit was set up in May 2002.

MAYOR OF LONDON