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Executive Summary

This briefing is designed to introduce and expose the issue of **Manchester Airports Group** and **Manchester City Council** continuing to promote and expand a carbon-intensive asset (Manchester Airport), which is part-owned by Manchester City Council, in the time of a climate emergency with an ever-shrinking carbon emissions budget for the city and its residents.

The report has been produced by Climate Emergency Manchester for two audiences:

- 1) **Councillors** (especially, but not only those who sit on Manchester City Council's Environment and Climate Change Scrutiny Committee).
- 2) **Other interested groups and individuals in Mancheste**r outside the council (e.g. citizens, campaigning groups) in Manchester

Climate Emergency Manchester believes we can (and must) accelerate local action on climate change. Manchester Airport and aviation emissions is a significant part of the <u>city-wide carbon budget</u> adopted by Manchester Climate Change Agency in 2018.

The key recommendations of this report are:



1. Introduce a moratorium on airport expansion, including car park spaces and commit to create a departure tax levied by MCC / GMCA for frequent flyers. MAG's growth strategy is not compatible with the target to align aviation emissions with the Paris agreement, particularly in light of the Climate Change Committee's proposed Sixth Carbon Budget, which recommends that aviation emissions in 2030 should be 20% below 2019 levels, without carbon offsetting or removal. In addition, car parking is one of the most important sources of revenue for MAG. This incentivises MAG to prioritise and expand the most environmentally harmful way of travelling to airports and is incompatible with reduction of direct emissions of CO₂. Lastly, sustainable aviation technology is not advanced sufficiently to significantly reduce emissions before 2030. You can't expand the airport in the next decade without increasing emissions going against the climate emergency declaration.



Introduction

Manchester City Council (MCC) set a science-based "carbon budget" in 2018 via support from the **Tyndall Centre** at University of Manchester. This gave the city 15 million tonnes of CO_2 for the rest of the 21st century. In July 2019, the 96 councillors voted unanimously to declare a climate emergency.

Since then it has been difficult for citizens and many councillors to identify or understand what effective action MCC, or its arms-length 'agency' (the **Manchester Climate Change Agency**) has taken to support city-wide emissions reductions or the pathway it has chosen to rapidly reduce carbon emissions. The "partnership" model currently employed may improve dialogue between different organisations (if they are deeply embedded within their communities) and actors within the city. But this has not equated to improve accountability or ambition. Or much actual action.

The city is getting through this science-based carbon budget at an alarming rate - <u>about 40% of</u> <u>the total has been used in the last 3 years</u> and <u>86% of the 2018-22 interim budget</u>. Since the "end of lockdown" in July 2021 there is no evidence that post-COVID emissions will be permanently or significantly lower - <u>car traffic is now back to pre-pandemic levels</u>. Manchester will almost certainly exceed the first interim budget.



MAG has committed to be net-zero by 2038 as a member of the "Manchester Climate Change Partnership". Net zero is widely <u>defined</u> as essentially reducing to zero all direct emissions of fossil fuels from its own activities including electricity and neutralising any residual emissions that remains unfeasible to eliminate via permanently removing atmospheric CO_2 . However, the situation remains confusing for an airport owner and operator

considering aircraft will continue to burn fossil fuels well beyond 2038. How can such a large emitter in the city and enabler of even further emissions continue to grow as they plan whilst also delivering on an ambitious target to be net zero by 2038.

This report looks to provide an introduction to those who are trying to understand and explore the relationships between Manchester City Council (MCC), Manchester Airports Group (MAG) and the science-based carbon budgets committed so that the city can make a fair contribution to meeting the goals of the United Nations Paris Agreement - striving to give us a 50% chance of keeping average global temperature below 1.5C and a more habitable planet for the future.

Who and what is MAG?

400

INCOME

- Owns substantial property business (over £640m of investment property assets)
- Car Parking is
 MAG's fastest
 growing sector
- Manchester City Council received a £70m dividend for 2019-2020



revenue drop from £839m to £178m

And impact of pandemic

required loan of **£240m** from

stakeholder councils, due to

steep decline in passenger

numbers.

GROWTH VS REALITY?

MAG growth at approximately 3-5% per year, until 2020.
MAG's development master plan set out growth possibility of 45m passengers by 2030.
MAG's 2017 f1bp investment &

expansion programme built 10,000 new car park spaces. In Jun 2020, it acquired 100% of the share capital of **3 online airport parking aggregators**.

MANCHESTER AIRPORT -PASSENGER NUMBERS

4



Manchester Airports Group (MAG)

owns three airports: Manchester, Stansted and East Midlands.

MAG is owned 35.5% by Manchester City Council (MCC), 29% by the 9 other <u>Greater</u> <u>Manchester</u> councils and 35.5% by an Australian investment group called IFM investors.

Manchester Airport (or 'Ringway') opened in 1938. It was funded by Manchester City Council which has retained significant control over it ever since. It is now part of the Manchester Airports Group which also owns Stansted and East Midlands airports. It has a substantial property business, with over £640 million of investment property assets. It has a 50% investment stake in the £1 billion Airport City development at Manchester Airport and is a major employer in South Manchester. There was a prolonged legal and ultimately physical battle over the construction of a second runway battle between 1991-1999.

Conscious of its environmental image, Manchester Airport has been <u>talking about its "green</u> <u>credentials" since the 1980's</u> around noise and air quality but increasingly focussed on climate change as it became harder to avoid the elephant in the report related to the significant impact flying has on global heating. In 2013, the 10 Greater Manchester local authorities, including MCC, sold 35.5% of its equity in Manchester Airport to an Australian investment firm called <u>IFM Investors</u> whose funds mainly come from Australian pension pots known as super attenuation in order to raise the finance to buy Stansted Airport in Essex for £1.5 billion.

MCC now owns 35.5% of MAG and the other 9 local authorities collectively own the remaining 29%. Historically MAG has generated a significant amount of income in the form of an annual dividend when in profit to its investors. This was about $\pm 70m$ of income for the councils in 2019 of which about $\pm 41m$ would have gone to MCC. Following its $\pm 260m$ COVID-bailout the councils are not expecting to receive any income in the form of dividends or interest payments on loans for at least the next two years with the councils having to cover the cost of this financing.

Expansion - is the sky the limit?

MAG has a <u>Masterplan</u> that was last updated in 2016 and sets out its strategic direction for growth out to 2030. It was originally envisaged to handle 50 million passengers per annum (mppa) by 2030, but was revised down to 45 mppa in the updated 2016 and they branded this reduced growth target their "sustainable development plan". More supporting documentation can be found <u>here</u>.

The airport handled an increasing number of passengers each year, which peaked before COVID at 29 mppa growing by about 1 mppa each year, but still about 16 mppa short of their 45 mppa by 2030 aspirations. The airport is seen as one of the 6 key areas that <u>will deliver growth</u> as part of the City Region development Plan and roughly supports about <u>22</u> thousand jobs locally and 45 thousand indirectly within the wider region.



However many of the plans and modelling that continue to emphasise airport growth and expansion are at least 5 years old or in the case of MCC's <u>economic impact assessment</u> from 2008 or older.

A common theme throughout is the belief that expansion is possible as long as it can be done within "environmentally acceptable limits". These limits are never concretely defined and, in practice, are whatever continues to be acceptable for achieving planning consent. These limits are also linked to their "social licence to operate" i.e. what citizens and politicians are willing to accept along with their consequences.

With the pandemic, these plans are now extremely unrealistic, with no pre-COVID <u>recovery</u> <u>expected until "at least" 2024</u> according to the airport's Managing Director Karen Smart. The plans also do not take into account the UK Committee on Climate Change (UKCCC) <u>Sixth</u> <u>Carbon Budget</u> sector analysis on aviation (in which carbon offsetting can no longer be counted) or how the airport will make a fair contribution to the emissions cuts required within the United Nations Paris Agreement from 2015.

These "environmentally acceptable limits" must now have numbers in equivalent tonnes of CO₂ attached to them - especially if Manchester Airport wants to work as a credible member of the <u>'Manchester Climate Change Partnership</u>' and play its part in helping the city and wider region become zero carbon by 2038.

Understanding Manchester Airport's CO₂ emissions

Within the Manchester Climate Change Framework, there are currently two relevant, but separate climate goals for the City:

- 1. For the city to be net-zero by 2038 associated with a carbon budget that limits all further emissions from 2018 onwards to 15M tCO₂ (currently only applied to direct emissions)
- 2. For all flights from Manchester airport to be "in line with the Paris Agreement and a limited carbon budget for UK aviation emissions"

This can be related to the three main sources of emissions from Manchester Airport, each of which is accounted for in different carbon budgets:

- Airport buildings, services and operations emissions (these are included, but not explicitly stated in the city-wide direct emissions carbon budget)
- Other emissions such as staff and passenger journeys to and from the airport (only included in city-wide or GMCA direct emissions budget if staff or passengers live in Greater Manchester)
- Emissions from planes taking off, taxiing, landing and cruising at altitude (not included in city-wide direct emissions carbon budget - only considered at national level as the part of 37 % UK national carbon budget assigned to aviation and does not currently include international flights until 2035)

You can find out some more information from the <u>draft report on Manchester aviation findings</u> produced by the Tyndall Centre for Climate Research.

ТҮРЕ	DETAILS	BUDGET?	HOW ITS MEASURED
Direct (Operations)	Airport ground operations and building services: mainly energy consumed within buildings and by ground operations	MCCC Framework Direct Emissions	BEIS Data
Direct (Other)	Staff commuting and business travel. Passenger journeys to and from airport ('surface access') for residents and businesses within Manchester boundary	MCCC Framework Direct Emissions	BEIS Data
Aviation	Aircraft emissions: Landing Take- Off Cycle (LTO) (Landing (from 1000ft to ground), Taxiing), Take- Off (from ground to 1000ft)) and Cruise (Above 1000ft)	Inherited from UK budget based on 37% of UK Carbon Budget	Modelled by 'Aviation Sub- Group' using data from Civil Aviation Authority

How are aviation emissions calculated?

Based on the UK Carbon Budget for aviation being 37% (equivalent to 1200 Mt CO2 for 2020-2100), the Tyndall Centre for Climate Change Research recommended the following:

- Manchester Airport and Manchester City Council should work at a national level to ensure emissions remain within the 37% aviation emissions allocation from the UK Carbon Budget
- A carbon budget of 6.6Mt CO2 should be for Manchester residents travelling from either Manchester Airport or other UK airports between 2020 and 2100

There is, however, no published aviation budget for Manchester Airport. Neither Manchester City Council, the arms-length 'Agency' nor Manchester Airport as a member of the 'Partnership' currently collects data on the carbon emissions associated with flights taken by:

- a) By residents of Manchester
- b) By people, on behalf of businesses in Manchester

Instead, these emissions are inferred from the <u>Civil Aviation Authority's (CAA) passenger survey</u> by assuming that the UK's flight behaviour as a whole is representative of Manchester's flight behaviour.

This makes it very difficult to assess MCC or MAG's efforts to "<u>to ensure that all flights from</u> <u>Manchester Airport are in line with the Paris Agreement and a limited carbon budget for UK</u> <u>aviation emissions</u>." (pg.5) and very difficult to assess whether the flights taken by residents and businesses of Manchester are keeping to the carbon budget.

As a consequence, Manchester is unable to take its own decisions about how much of its carbon budget to allocate to aviation, and how much to use improving the lives of its residents and ensuring a just transition to a sustainable city; the Tyndall centre was forced to recommend inheriting the UK government's unambitious allocation of 37% of emissions to aviation - in essence, giving Manchester airport its own "pot" of carbon to spend freely - since regarding the budgets for aviation and non-aviation as "equivalent and exchangeable… could potentially create distortions" (pg.7).

Tyndall suggested in Jan 2020 an "<u>Alternative calculation method</u>" which "would enable a more accurate allocation of emission to Manchester's residents and better reflect any changes in the destinations served by Manchester Airport and the performance of aircraft on these routes." With this calculation, which could be done "within the Manchester universities" if the Council commissioned it, Manchester City Council could have full autonomy over its allocation of emissions and decide for itself how much of the city's carbon budget should be spent by residents, and how much by the airport. However, the most recent <u>MCCA Annual Report</u> in its section on Aviation Emissions for 2021 has no mention of whether such work has been commissioned or is in progress.

This has serious consequences for the decision about whether or not to approve airport expansion. If MCCA continues using the national government's allocation of carbon budget, then 37% of Manchester's budget is reserved exclusively for aviation, which is a generous allowance for the airport. On the other hand, with the ability to set its own allocation, the council would have the power to "use the budget" on other priorities that are harder to quickly reduce emissions such as retrofitting homes.

While under the current allocation method there is no explicit trade off, with a combined budget the true opportunity cost of airport expansion - the inability and embedded inequality to spend the carbon budget on Manchester's other priorities - becomes clear.

Manchester City Council should commission the Tyndall Centre to do the alternative calculation method suggested on p.6 of their <u>Aviation Emissions Review</u> and decide on their own carbon aviation emissions rather than abrogating responsibility to Westminster.

Consequences

There are currently has two relevant, but separate climate goals:

- 1. For the city to be net-zero by 2038 associated with a carbon budget that limits all further emissions from 2018 onwards to $15M \text{ tCO}_2$
- 2. For Manchester airport to be "in line with the Paris Agreement and a limited carbon budget for UK aviation emissions"

These are separate in the sense that the carbon budget for Manchester does not include all emissions from Manchester airport. The only emissions from flights included in Manchester's carbon budget are the emissions associated with flights taken by residents of Manchester and flights taken on behalf of Manchester based businesses.

Airport expansion would affect these two goals in a separate but interacting way. In particular, every extra flight taken by a non-resident of Manchester makes it harder to meet goal 2, while every extra flight taken by a resident (business) of Manchester makes it harder to meet both goals 1 and 2.

However, because of the data issues highlighted, the impact on goal 2 is only problematic if the 37% of the total carbon budget is in danger of all being used by aviation. This is likely to be the case given Tyndall's recommendation (pg 8):

Recommendation

Adopting a target for residents' total use of air transport (option 1a) whilst developing mechanisms to include business travel (option 1c) would reflect local and national actions and allow consistency with the national aviation carbon budget assumption to be assessed. The pathway and budget outlined do not necessitate immediate emissions reduction, however, if emissions increase in the near term there is a substantial risk that the total budget may not be achieved given the known technical limitations and slow rate of change in the aviation sector. Actions to achieve the national carbon budget of 1200 MtCO₂ to 2100 should be pursued through the City Council's part ownership of Manchester Airport Group in parallel with the local targets.

At the moment, that 37% is reserved exclusively for aviation, so even if aviation emissions could be reduced faster (ie. through 'demand management' aka flying less), there is no incentive to because the remaining budget cannot be used to improve Manchester in other ways.

Regardless of whether Manchester Airport has net zero operations by 2038, the fact that there will still be fossil fuel-burning aircraft using it in 2038 means it will still be contributing to the continuing crisis. This reduces the "global head space" for emissions from other areas of activity, and therefore when carbon budgets are updated, it will reduce them - not by calculation but by physics.

Jet zero or zero jets?



The UK government has a vision for the aviation sector to reach net zero aviation, or **jet zero**, by 2050. This can be achieved by either reducing emissions using technology or reducing flights through demand management according to the <u>scenarios</u> set out by the UKCCC. In the next decade to 2030, it is more likely to be a case of 'no more jets than pre-COVID levels' than jet zero. However, it is unlikely that any new technologies such as 'sustainable aviation fuel' or more efficient 'hybrid' planes are unlikely to be mature enough to have a significant impact until 2030 onwards, and therefore, according to their balanced net zero pathway, there will need to be a reduction in demand.

All the CCC alternatives to the baseline have forecast growth levels that range from -15% to +50% and their balanced net zero has no net expansion, which does not align with the Masterplan for Manchester Airport. These contradictions have to be addressed by MAG and MCC so that the associated climate-related financial risks can be understood, quantified and disclosed under the <u>Taskforce for Climate-related Financial Disclosure</u> requirements, as well as presented at the appropriate scrutiny committees.

Something significant that still remains a large elephant in the room is that the aviation sector under all UKCCC scenarios continues to be an emitter of fossil carbon, even under its most ambitious and optimistic 'tailwinds' scenario. Even under its balanced net zero scenario this equates to 23million tonnes CO_2 annually by 2050 - more than the whole of Manchester's 15million tonnes CO_2 carbon budget for the next century.

This means the aviation sector will have to rely on greenhouse gas (GHG) removals technologies that continue to be extremely expensive and untested at the scales required. The sector will have to carry the risks associated with that uncertainty as well as the costs to develop that technology or face the consequences of far greater reductions in demand than currently modelled.

Sustainable aviation fuels (SAF). These are "drop-in" replacements for fossil jet fuel, meeting international fuel specifications (and currently allowed to be blended at up to 50% by volume), and have nil accounting CO_2 emissions on combustion. SAF production routes considered include:

- Biomass to Fischer-Tropsch (FT) biojet, with or without CCS;
- Biogenic waste fats/oils to Hydroprocessed Esters and Fatty Acids (HEFA) biojet;
- Biogenic fraction of waste* to Fischer-Tropsch (FT) biojet, with or without CCS; and
- Synthetic jet fuel produced via Direct Air Capture (DAC) of CO₂ and low-carbon H₂.

Our analysis uses these four SAF options to displace fossil jet fuel, and each SAF option has its own deployment and cost profile, based on the availability of the feedstocks, efficiencies, input energy, capital and operating costs. Each route is discussed in more detail in the Fuel Supply chapter.

Table M8.1 Aviation scenario composition									
	Passenger demand growth by 2050 from 2018 levels	Average efficiency improvement 2018-2050 (%/year)	Use of biomass FT jet (TWh, % of liquid fuel demand in 2050)	Use of HEFA biojet (TWh, % of liquid fuel demand in 2050)	Use of bio- waste FT jet (TWh, % of liquid fuel demand in 2050)	Use of synthetic jet (TWh, % of liquid fuel demand in 2050)	Use of fossil jet (TWh, % of liquid fuel demand in 2050)		
Balanced Net Zero Pathway	+25%, with no net expansion	+1.4%	14 (11%)	8 (6%)	-	10 (8%)	94 (75%)		
Headwinds	+25%, with expansion	+1.4%	14 (11%)	11 (9%)	-	-	101 (80%)		
Widespread Engagement	-15%, no expansion	+1.6%	14 (16%)	4 (4%)	5 (5%)	-	61 (74%)		
Widespread Innovation	+50%, with expansion	+2.1%	23 (19%)	9 (7%)	-	30 (25%)	58 (49%)		
Tailwinds	-15%, no expansion	+2.1%	23 (33%)	12 (18%)	-	30 (44%)	4 (5%)		
Baseline	+64%, with expansion	+0.7%	-	-	-	-	205 (100%)		

Conclusions and recommendations

If glossy reports solved climate change, you wouldn't be reading this - everything would have been sorted long ago. Glossy reports don't do it.

"Political will" and leadership is required to take the necessary difficult decisions in order to set an example. This has to be matched with the necessary response to put policies in place that will both decarbonise the city whilst also tackling the basket of social inequalities that still blight many who call Manchester home.

This report has shown that Manchester Airport's outdated expansion ambitions up to 2030 are entirely misaligned with the reality of the scenarios presented by UKCCC that are required in order to meet its commitments under the UN Paris Agreement and to play its full part in allowing the city to stay within its carbon budget. Relying on offsets and carbon reduction technologies that do not yet exist at the scale required is an extremely risky approach to addressing this crisis and should be transparently described as such.

Our key recommendations are:



1 - A moratorium on airport expansion, including car park spaces and commit to create a departure tax levied by MCC / GMCA for frequent flyers. MAG's growth strategy is not compatible with the target to align aviation emissions with the Paris agreement, particularly in light of the Climate Change Committee's proposed <u>Sixth Carbon Budget</u>, which recommends that aviation emissions in 2030 should be 20% below 2019 levels, without carbon offsetting or removal. In addition, car parking is one of the most important sources of revenue for MAG. This is incompatible with reduction of direct emissions of CO₂. Lastly, sustainable aviation technology is not advanced sufficiently to significantly reduce emissions before 2030. You can't expand the airport in the next decade without increasing emissions.



2 - Create an integrated direct and aviation carbon budget.

Commissioning the "alternative calculation method" recommended by the Tyndall Centre in 2020 "would enable a more accurate allocation of emissions of Manchester's residents and better reflect any changes in the destinations served by Manchester Airport and the performance of aircraft on these routes.". The current carbon budget is based on the premise that emissions from flights departing UK airports remain at 2018 levels to 2030 and then decrease to zero. Furthermore, there is no accurate representation of the carbon budget for aviation and how it aligns with the 15MtCO₂ direct emissions budget. Budgets for aviation and non-aviation are not "equivalent and exchangeable". If aviation emissions increase, the direct emissions budget will need to decrease, impacting a just

transition for the majority of Manchester residents who do not frequently fly. As emissions that contribute to global heating are cumulative, they need to be reduced in the short term.



3 - More transparent assessment and disclosure of risks to profits, growth and impact of bailout costs/loan repayments on MCC's budget. With the pandemic far from over and increasing global pressure for quicker rates of decarbonisation, airport revenue streams may not be as reliable as they previously were - future investment will be at greater risk. Passenger numbers are expected to stay low for at least the next 3 years and may never reach pre-2020 levels. MCC's investment in MAG needs to be seen as a financial and environmental risk as well as a historic asset on the council's balance sheet.

Significant work is required by MCC and its partners to come up with a realistic understanding of the financial and environmental risks associated with the city relying on such a carbon-intensive asset for both financial and regenerative purposes in the next decade. This must be discussed in public rather than hidden behind veils of commercial sensitivity considering how significant this asset is to MCC and other GM councils as well as its other main shareholder being an investment manager of Australian public funds.

We need councillors who are willing and able to take off and get to cruising altitude on this issue as quickly as possible.

Disclaimer

This research is a "first pass" to introduce and expose the issue. It does not claim to be comprehensive, or the final word on Manchester Airports Group, its expansion plans and CO_2 emissions.