

<b>Committee(s):</b> Board of Governors of the Guildhall School of Music & Drama	<b>Date(s):</b> 23 September 2019	<b>Item no.</b>
<b>Subject:</b> Guildhall School Carbon Reduction Strategy	<b>Public</b>	
<b>Report of:</b> The Director of Operations and Buildings, Barbican / Guildhall School of Music & Drama	<b>For Decision</b>	
<p><b><u>SUMMARY</u></b></p> <p>The Guildhall School's original Carbon Reduction Strategy was first approved and published in February 2011. This latest update continues to show the progress achieved against the School's carbon reduction targets.</p> <p>This version of the strategy maintains the same format as in previous versions.</p> <p>One of the major drivers in first developing this strategy was the requirements from Higher Education Funding Council England (HEFCE) for all HE institutions to develop and maintain a carbon reduction strategy. In 2018 HEFCE closed and responsibility for funding the HE sector fell to the Office for Students (OfS). Although it has closed HEFCE continues to be referenced throughout the document as those were the requirements in place during the majority of the time that the strategy was in place. At this time it is unclear what requirements OfS will have in relation to institutions maintain a strategy and what the long term sector targets might be.</p> <p>This strategy runs until the end of the academic year 2019/20 and any new strategy from 2020 will be drawn up in line with the most recent funding body requirements when known, the current legislative framework and in consultation with our colleagues from the City of London. We are currently working with the City of London's teams to develop a consistent approach to carbon management including monitoring and measurement of current and previously unmeasured sources which include scope 3 from procurement. Any new version of the strategy will be streamlined.</p> <p>An important development in 2018 was the decision by the City of London to procure 100% renewable electricity from October 2018 onwards, this now being supplied to the Guildhall School. The Higher Education Statistics Agency (HESA) have advised that electricity supplied through "green tariffs" will not be considered zero carbon and the average grid electricity carbon factor will be applied. For the purposes of reporting and in the interests of consistency we will continue to use the average grid electricity carbon conversion factor.</p>		

It should be noted that the original carbon reduction targets within the Strategy are predicated on the School Estate prior to the commissioning and operational use of the Milton Court Building in September 2013.

This report and associated update of the Carbon Reduction Strategy 2011-2020 (Annex A) is the fifth revision. It includes:

- An update on progress achieved so far, showing that against the 2005 baseline of 2047.545 Tonnes, the total scope 1 and 2 direct greenhouse gas emissions were reduced to 1,331.236 Tonnes in 2011/12 a 35% reduction against the baseline, this exceeding the first milestone of a 31% reduction.
- For the period 2015/16 the total scope 1 and 2 direct greenhouse gas emissions for the estate excluding Milton Court were further reduced to 1,166.477 Tonnes a 43% reduction against the baseline, again exceeding the second milestone of a 38% reduction.
- For the period 2017/18 the total scope 1 and 2 direct greenhouse gas emissions for the estate excluding Milton Court were further reduced to 1,002.530 Tonnes a 51% reduction against the baseline, which exceeds the final milestone and target of 43% by 2019/20.
- In light of these successes we have reviewed the target for the total scope 1&2 direct greenhouse gas emissions for the estate excluding Milton Court for 2019/20 to be a 55% reduction against the 2005/06 baseline.
- In addition the strategy has been updated to show that the Milton Court Building scope 1&2 carbon emissions. The building which became fully operational from September 2013. For the purpose of showing the total emissions for the enlarged estate the report shows the Milton Court emissions separately. With the addition of Milton Court a sharp increase in the total campus scope 1 & 2 emissions from all sources can be noted.
- Milton Court has yet to date to perform to the design estimates. This is attributed to commissioning difficulties and more intensive and extended use of the building when compared to the original model.
- For Milton court the data shows the actual emissions for 2013/14 was 998.851 Tonnes an increase of 366.297 Tonnes, 57% over the design estimate and in 2017/18 830.411 Tonnes which although still over the design estimates is a decrease in actual emissions of 16.86% compared with 2013/14. This represents an average annual decrease of 4.22%, if we continue with this trajectory we should see the annual emissions for Milton Court in 2019/20 being 761.909 we have therefore revised the 2019/20 target for Milton Court and the enlarged estate to this figure.
- The results of the November 2015 staff travel survey show an overall increase in carbon emission arising from staff travel when compared to

previous surveys. However when the increase in staff numbers is accounted for there is a decrease in the carbon impact.

- The total indirect greenhouse gas emissions (scope 3) in academic year 2014 arising from student transport activity amounted to 990.812 tonnes. When adding staff commuter travel and staff and student business travel from the 2014 survey a grand total of 1751.819 tonnes is reached for total emissions arising from all travel. This is an increase on previous years.
- A student travel survey was sent out in Autumn 2018, a disappointing response was received so we are unable to accurately calculate the emissions. Student and staff surveys are planned for Autumn 2019, a communications plan is being developed to ensure maximum participation. Once data from the planned surveys has been analysed targets will be redrawn as appropriate therefore the school continues to work towards the reduction target of 8% by 2020 for indirect greenhouse gas emissions arising from transport.
- The targets for waste, water and waste water were a reduction of 30% against a 2010/11 baseline.
- We have now better and increased water data, including estimates for Milton Court, with metered data being collected from September 2018. Due to the increased and more accurate data we see a major increase from the 2010/11 baseline. We have now redrawn the target to a more realistic 2013/14 baseline to include Milton Court with a target of 15% reduction against this baseline therefore by 2019/20 emissions relating to water and waste water should not exceed 28.844 tonnes.
- We have exceeded the 2019/20 target for waste achieving in 2017/18 a 93% reduction. This is mainly due to waste previously being sent to landfill now being sent energy recovery which has a much lower carbon factor than landfill. Waste tonnages were previously estimated by our contractor, however in 2018 a new contractor was appointed with the promise to provide actual weights.
- In light of the substantial decrease in emissions from waste and the promise of more accurate data, which may mean we see an increase in the amount of waste, we have set a conservative new target of 90% reduction by 2019/20 against the 2010/11 baseline meaning that emissions should not exceed 15.434 tonnes.
- These successes have contributed to the School increasing its People and Planet University League rating by 60 places placing the School at 77<sup>th</sup> out of 154 institutions in the league table which means the School is now top half of the UK and first amongst specialist conservatoires and drama schools.
- We have also updated the document to reference the following changes:

- Reference to HEFCE closing and being replaced by OfS.
- Updates to the Climate Change Act which resets the UK 2050 target from carbon reduction of 83% by that date to net zero carbon by 2050,.
- The Carbon Reduction Commitment to which the School is currently subject coming to an end following the 2018/19 compliance year, this will partially be offset by an increase in Climate Change Levy.
- Update to 2017/18 FTE student numbers as reported via EMR to HESA
- Update to the implementation plan to show project and initiatives current status.

As previously required by the Higher Education Funding Council for England and a key assessment criteria by People and Planet, Carbon Reduction Strategies and their revisions should be approved by the HE institution's governing body.

### **Recommendation**

It is recommended that the Board of Governors approves the revised Carbon Reduction Strategy attached at Annex A.

## **MAIN REPORT**

1. This strategy was developed first in 2011. Key driving factors behind the strategy were: funding requirements from the main funding body, at the time HEFCE; the current legal framework including the UK Climate Change Act 2008; financial incentives relating to the reduction in cost from decreased use of resources and generation of waste plus the moral and reputational imperatives to act to reduce climate change.
2. The UK Climate Change Act of 2008 created legally binding targets to reduce carbon emissions by 34% by 2020 and by 80% by 2050 against a 1990 baseline. In 2019 the Climate Change Act was amended to set a new target of Net Zero Carbon by 2050.
3. The HE sector had resolved that it must be in the vanguard of efforts to achieve these targets and, after widespread consultation, HEFCE had facilitated the setting and adoption of sector-level carbon reduction targets for scope 1 and 2 emissions of 43% by 2020 and 83% by 2050, both against a 2005 baseline. It is likely that in light of the revision to the Climate Change Act that any new sector target between 2020 and 2050 will be at least to achieve Net Zero Carbon by 2050 and could even stretch that target to an earlier date. We are yet to be informed of the new HE sector targets from 2019/20.
4. Although it has now closed HEFCE continues to be referenced throughout the document as those were the requirements in place during the majority of the time that the strategy was in place. At this time it is unclear what

requirements OfS will have in relation to institutions maintain a carbon reduction strategy and what the long term targets might be.

5. HEFCE had required that each HE institution put in place a carbon reduction strategy, containing targets that are in the context of the overall sector targets but which are realistic for each institution. Institutions that did not have an approved Carbon Reduction Strategy in place by 31 March 2011 were at risk of 40% of their capital funding from HEFCE being withheld. HEFCE would also monitor on annual basis how well institutions were performing against their carbon reduction targets. Although HEFCE has now closed and we have yet to hear any requirements from OfS we continue to report our carbon emissions annually via HESA through the EMR.
6. The Guildhall School has analysed its historical data and, in the first version of this strategy published in February 2011, agreed to set a carbon reduction target for scope 1 and 2 emissions arising from its existing estate of 30% by 2020. Having already achieved extremely good reductions in these emissions by 2010/11, the second revision of the strategy increased the target for these emissions to 43% by 2020. This reduction to be measured against a 2005 baseline, i.e. the School's scope 1 and 2 emissions in 2020 must be 43% lower than the equivalent emissions were in 2005.
7. The School also set interim milestones towards achieving its 2020 target as follows:
  - 31% reduction by 2011/12, equating to a maximum of 1,412.806 tonnes
  - 38% reduction by 2015/16, equating to a maximum of 1,269.478 tonnes
  - 43% reduction by 2019/20, equating to a maximum of 1,167.101 tonnes
8. Following analysis of the data we can see that in 2015/16 the total scope 1 and 2 direct greenhouse gas emissions for the estate excluding Milton Court were further reduced to 1,166.478 Tonnes a 43% reduction against the baseline, again exceeding the second milestone of a 38% reduction and in 2017/18 the total scope 1 and 2 direct greenhouse gas emissions for the estate excluding Milton Court were further reduced to 1,002.53 Tonnes a 51% reduction against the baseline, which exceeds the final milestone and target of 43% by 2019/20.
  - In light of these successes we have reviewed the target for the total scope 1&2 direct greenhouse gas emissions for the estate excluding Milton Court for 2019/20 to be a 55% reduction against the 2005/06 baseline.
  - The last update of the Carbon reduction strategy made some estimates from the design engineers on the annual greenhouse gas emissions for the new Milton Court site at 632,554 Tonnes of CO<sub>2</sub>.

- We have analysed the data for Milton Court from 2013 and results show a marked increase in the design estimates. This is mainly attributed to system commissioning difficulties and more intensive and extended use of the building space and facilities when compared to the original model.
  - The data related to Milton court shows the actual emissions for 2013/14 were 998.851 Tonnes an increase of 366.297 Tonnes, 57% over the design estimate and in 2017/18 830.411 Tonnes which is a decrease in actual usage of 16.86% compared with 2013/14. This represents an average annual decrease of 4.22%, if we continue with this trajectory we will see the annual emissions for Milton Court in 2019/20 being 761.909 Tonnes we have therefore revised the 2019/20 target for Milton Court and the enlarged estate to this figure.
9. The School's overall emissions increased with the addition of Milton Court. However, it can be noted that in 2017/18 the total emissions for the enlarged estate is still below the 2005 baseline. Once the increased size of the estate is taken into account, the carbon emissions per m2 of estate reduced from 0.091 tonnes to 0.054 tonnes, a reduction of 41%.
  10. The second revision of the strategy also included a carbon reduction target of 8% for scope 3 emissions arising from transport and of 30% arising from water and waste. These reductions were to be measured against a 2010 baseline.
  11. This update of the strategy reports that the Guildhall School's total indirect greenhouse gas emissions (scope 3) in academic year 2014 arising from student transport activity amounted to 990.812 tonnes. When adding staff commuter travel and staff and student business travel from the 2014 survey, a grand total of 1751.819 tonnes is reached for total emissions arising from travel.
  12. A student travel survey was sent out in the Autumn of 2018, a disappointing response level was received therefore we are unable to accurately calculate the emissions at that time. Student and staff surveys are planned for Autumn 2019, a communications plan is being developed to ensure maximum participation. Once the results from the new surveys have been analysed new targets will be drawn up therefore the school continues to work towards the reduction target of 8% by 2020 for indirect greenhouse gas emissions arising from transport
- This update of the strategy reports that from 2013 we now have better and increased water data, including metered data for Silk Street and estimates for Milton Court, with metered data for Milton Court being collected from September 2018. Due to the increased and more accurate data we see a major increase from the 2010/11 baseline. We have now redrawn the target to a more realistic 2013/14 baseline to include Milton Court with a target of 15% reduction against this baseline therefore by 2019/20

emissions relating to water and waste water should not exceed 28.844 Tonnes.

- We have exceeded the 2019/20 target for waste achieving in 2017/18 a 93% reduction. This is mainly due to waste previously being sent to landfill now being sent to energy recovery which entails a much lower carbon conversion factor than landfill. Waste tonnages were previously estimated by our contractor, however in 2018 a new contractor was appointed with the promise to provide actual weights.
  - In light of the substantial decrease in emissions from waste and the promise of more accurate data, which may mean we see an increase in the amount of waste, we have set a conservative new target of 90% reduction by 2019/20 against the 2010/11 baseline meaning that emissions should not exceed 15.434 tonnes.
13. This and/or any future strategy will be further revised in the future to include a target for emissions arising from procurement, once a sector-wide approach has been agreed.
14. Implementation plans have been created to achieve these targets, which include behavioural change as well as technical interventions.
15. Projects and activity since the last review include review include:
- Installation of variable speed drive pumps: reduces the pressure on the pumps and valves as the water flows around the systems. With the use of the Building Energy Management System (BEMS) to control them, the electricity used to drive the pumps is reduced.
  - Introduction of low energy and LED lamps
  - Review and testing of movement sensors on lighting and air-conditioning
  - Upgrading lighting in certain areas of Milton Court to LED
  - Undertaking a Building Energy Management System survey
  - Enhanced awareness activity
  - Servicing and replacement of all key equipment
  - Introduction of Computer Aided Facilities Management System (CAFM) to ensure planned preventative maintenance schedules are in place.

### **Consultees**

16. The original strategy was created in close consultation with the City of London's Energy Management Team in the City Surveyor's department. We continue to work closely with the City's Energy Management Team and have representation on their Energy Board. Monitoring and review of this document is carried out by the School's Sustainability Steering Group.

**Contact:**

Jonathon Poyner, Director of Operations and Buildings, Barbican / Guildhall  
School of Music & Drama,

T: 020 7382 7291, [Jonathon.Poyner@barbican.org](mailto:Jonathon.Poyner@barbican.org)