

# Carbon Footprint Reporting in Higher Education Institutions in Cairo, Beirut and Cape Town: A Story of Leadership in Carbon Reporting

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## 1.0 Introduction

Cities in developing countries are leading in carbon footprint reporting, and have the potential to accelerate the climate change agenda. Selecting three HEIs in developing countries as case studies (in Cairo, Beirut, and Cape Town), the paper examines whether the reporting takes into account urban climate risk analysis.

The research uses interviews with sustainability experts within the selected HEIs to collect novel insights into how the institutions led the efforts in their respective regions to establish rigorous carbon footprint reporting as well as their interpretations of the strategic values of this practice.

## 2.0 Comparative Case Study Methodology

The role of three higher educational institutions (HEIs) within urban centers in the Middle East and African regions are analysed for their efforts to promote sustainability initiatives, climate change adaptation and mitigation efforts with a special focus on carbon footprint reports.

The justification for choosing the three respective case studies is in their geographic proximity and climatic zone similarity, alongside their significance as strategic urban centers within the region.

Selected cases:

- The American University in Cairo (AUC)
- The American University in Beirut (AUB)
- University of Cape Town (UCT)

The comparative analysis is largely qualitative: reviewing climate policy literature, analysing published secondary report documenting sustainability initiatives, and interviewing Sustainability Directors within the respective institutions.

## 5.0 Conclusion

The sustainability and carbon footprint reports published by the selected HEIs provide enough evidence regarding their urban leadership within their local context. The selected HEIs taken steps towards developing sustainable practices on campus, such as implementing energy-efficient technologies, promoting sustainable transportation options, and reducing waste. The CF publications set an example on how to implement data-driven analysis to reduce the carbon emissions related to campus operations and exhibit recommendations that show knowledge of the immediate contextual climate risks occurring in their respective countries. The periodic CF publications by the three selected HEIs lack advanced urban climate risk analysis, and the type of mitigation and adaptation actions taken to that effect are not developed enough.

There is ample opportunity for HEIs to have a more influential role in propelling the climate change agenda within their urban network, given their academic set-up. In conclusion, AUC, AUB, and UCT have demonstrated leadership in climate mitigation through their CF reporting and their efforts to reduce emissions. While there is room for improvement, the institutions serve as an example for other universities.

Research recommendations:

Establishing stronger partnerships between academic institutions and the private sector to disseminate climate risk assessment knowledge;

Steering the collective network of stakeholders to tackle identified urban climate risks by implementing adaptation and mitigation strategies;

Normalizing the data-driven approach of carbon footprint reporting to push it into the mainstream of both the public and private sector

Setting realistic targets for reducing the educational facility's carbon footprint, thus creating a better strategy to reduce GHG emissions on the long-run.

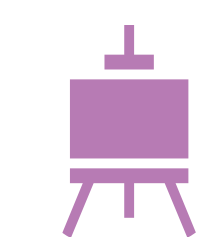
## 3.0 Discussion

Can the carbon footprint statistics of the selected HEIs be compared to one another?



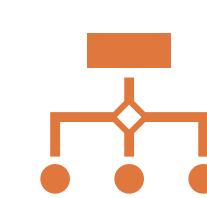
The comparison between HEIs' carbon footprint reports is not without its limitations. Scale, geography, operational load are among the limiting factors.

How can the institutional culture at selected HEIs be described? What type of data management processes are in place?



Trial and error as well as experimentation are among the attributes of the institutional culture. Data collection is a fragmented process.

What are some of the drivers for the selected HEIs to report on their carbon emissions? On the other hand, what are examples of barriers they face?



Drivers include: advancing their status on the international ranking system, green-lighting financial flows, decreasing the campuses' operational costs, as well as achieving sustainability related-targets. Barriers are both internal and external.

Do policy and legislation mandate an obligatory responsibility for universities to report? Furthermore, is there a framework for universities to help one another?



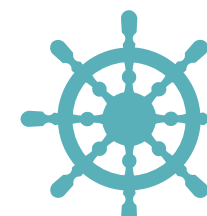
Reporting is a voluntary initiative. No formal partnerships has been formed to disseminate technical knowledge on the carbon footprint reporting endeavour

Are universities reporting improvements? Are reports met with little to no change? If so, how are they using the reports to improve?



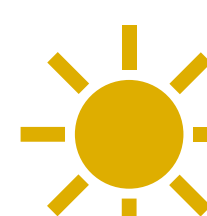
To the larger part, the selected HEIs are just reporting on the carbon emissions, and no significant reductions are evident.

Are the selected case studies establishing leadership in reporting?



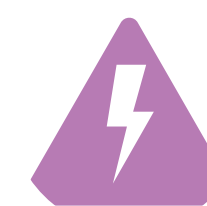
Corroborating to the influential nature of HEI in engaging society at large there is accumulating evidence that HEIs are meant to establish leadership in reporting.

Does the reporting include some sort of climate mitigation? Are they looking at urban climate risks?



To some degree there are adaptation and mitigation efforts described within the carbon footprint report – evidence on adaptation action and mitigating carbon, but more so are the sustainability reports issued by the three institutions.

What climate risks are prioritized according to their local context? What methods of risk assessment do they use?



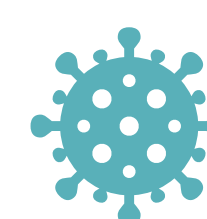
The specific climate risks that are prioritized by universities in Cairo, Beirut, and Cape Town vary depending on the cities' respective context and specific climatic conditions.

What are the urban challenges they are facing? Which of these challenges they are taking into consideration?



The selected HEIs face a range of urban challenges – characteristic of cities in middle and lower income countries - including: rapid urbanization, aging infrastructure, inefficient public transportation, water scarcity and air pollution

How the universities adapted during COVID? And what were the carbon footprint trends pre and post COVID?



The COVID was a learning situation for the three institutions, in which their operational capacities were tested, and a better understanding of their base loads came to light.

## 4.0 Results and Study Limitations

The study is confronted with limitations on a number of fronts.

- The HEIs in question differ in their management system – both public (UCT) and private (AUC, AUB).
- The methods of carbon footprint calculations vary slightly.
- The scale of case studies also differ – regarding the population and campus area.

However, the study is meant to learn from such imminent differences and context, as well as shed light on the barriers and drivers in which they operate.

## Acknowledgments

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## Important Note

The full research paper is submitted to AUC Symposium (May 2023) and to be prepared for Urban Climate Journal – Special Issue: Cities and Climate Change in Developing Countries.

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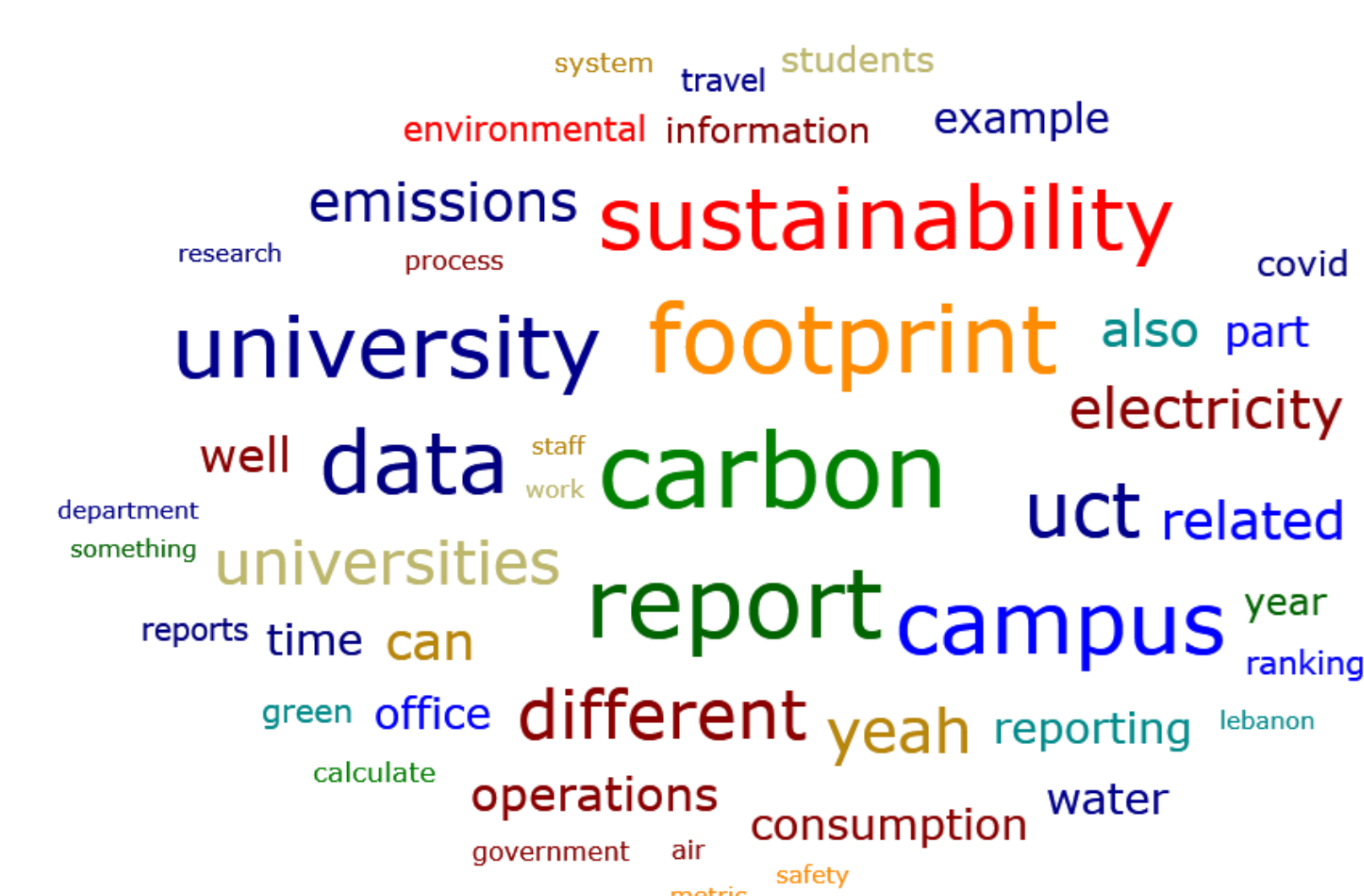


Figure 1: Word Cloud - Image Produced by Atlas.ti Software - Interview Transcriptions