

EDITORIAL PREFACE

COP 26 'NET ZERO BY 2030': ARE THE DESIGNERS PREPARED?

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The UK hosted the 26th UN Climate Change Conference of the Parties (COP26) in Glasgow recently. About 120 world leaders gathered for this two week of global discussions to assist in taking urgent action needed to avoid catastrophic climate change. Participants include members of government, environmental advocates and activists, scientists, climate change and energy experts, architects and designers too. In fact, during this COP26, for the very first time an entire day was dedicated to Cities, Regions and Built Environment to look into the built environment and to the effects of the current climate emergency on architecture and on cities.

At present, the world is far below the required 12.9% per year decarbonisation rate needed to reach the 1.5°C target in the Paris Agreement in 2015 during COP21. COP26 calls on all countries to present stronger national action plans next year, instead of in 2025, which was the original timeline. With this, most countries have now set or are considering a target of reducing emissions to net zero by mid-century. Though net zero is a critical longer-term goal, immediate emissions cuts – especially by the largest greenhouse-gas emitters – are essential in the next 5 to 10 years in order to keep global warming to no more than 1.5 °C and safeguard a liveable climate. It is also well known that buildings consume a third of the energy produced and are responsible for nearly 40% of global carbon emissions. With these issues, how can designers and built environment professionals such as architects, landscape architects, planners etc. could contribute towards COP26 goals through research, practice and innovations?

The role of designers and built environment has evolved immensely since the beginning of this century. Many designers and built environment professionals are learning to see things from other perspectives. Professions such as architects, landscape architects and designers etc. have started designing not only for aesthetically pleasing but looking into new roles to support mitigating environmental issues such as climate change, urban heat island, habitat fragmentation including in CO₂ reduction. Those in the field of design and built environment should play their roles in contributing towards COP26 goals particularly in CO₂ reduction in their own ways through their

designs, research and innovations. This also relates back to the Sustainable Development Goals (SDG) where designers have impact not only at the local level but at international. Designers have to seek for distinct ways in reducing CO₂ by perhaps using approaches such as 'biomimetics' and 'biomimicry'. For instance, researchers investigated the termite's ability to maintain virtually constant temperature and humidity in their termite mounds in Africa despite outside temperature which can go up to 40oC. This has inspired many architects to build more sustainable buildings in the cities by imitating the nature. Similarly in the fashion industry, a revolutionary biodegradable fibre was invented because the global textile market produces 1.2 billion tons of CO₂ equivalent per year and uses dyes that are responsible for 20% of global wastewater. Basically, a group of scientist identifies protein structures found in nature, such as the red fluorescent protein found in some species of Discosoma, a coral relative. They then grow fibres that are reliant on these proteins, creating textiles without the need for toxic dyes, finishes, and petroleum-based synthetics. Just as among the landscape architects, it is vital to have knowledge on the vegetation and how they function in the environment. It is not just placing some trees or shrubs at the site for the sake of having some sort of vegetation during the design stage, but the landscape architects need to also equip themselves with other valuable knowledge such as ecology, horticulture, arboriculture etc. in order to create a functional space. Ultimately, the designers need to work closely with other professionals in order to mitigate CO₂ at local and international level at the same time be equipped with information regarding environmental issues.

I thank all of the authors who contributed to this issue. Seven articles have been published where some of these articles are directly or indirectly related to issues related to COP26. It is timely, designers need to engage themselves in resolving global issues e.g. towards the reduction of CO₂ through research, practice and innovations. It is also hoped that in the future ALAM CIPTA would like to receive more issues related to how designers solve environmental issues in the future. On behalf of the editors, I would like to acknowledge my gratitude to all the authors and reviewers who have contributed to this issue.