Discovering the Road to Net Zero

HAUC(UK)/TfL Lane Rental Industry Publication

Introduction

The world is in crisis.

Rapid population increases, historic industry practices and the human condition of excess, is placing acute stresses on Earth: the only planet in the solar system capable of supporting life.

With hectic modern lifestyles and technology enabling society to be permanently switched on, it's no wonder people have lost sight of all that nature provides and the consequences if neglected. The effects are already starting to be felt with ecosystems being destroyed, weather becoming more volatile and many species in danger of extinction.

Overconsumption in all areas of daily life is resulting in more resources being extracted from Earth than it can regenerate and greenhouse gases being emitted. This traps the sun's heat, increasingly raising the average temperature, resulting in global warming and ultimately climate change.

To avoid extreme climatic changes taking hold, global emissions need to reduce 43% by 2030 and completely by 2050, now commonly known as 'Net Zero 2050'.

To support the street and road works sector in its transition to zero HAUC(UK), together with Transport for London, set out to research the impact the sector has on climate change.

The Project

The UK makes up 1.1% of global emissions, with infrastructure generating 1 sixth of the UK total. This set against a repair backlog on UK roads and the number of street and road works continuing to grow, the sector needs to consider how net zero can be achieved.

The **Road to Net Zero** project was established to discover, design and deliver a strategy for the sector, last year, successfully procuring the University of Birmingham (UoB) and EA Technology (EA) as research partners to undertake the discovery phase. Supported by a diverse working group, the project set out to determine how best to maximise the sector's contribution, posing fundamental questions on sustainability, the use of resources, innovations, actions vs consequences and requirements for delivery of the following research areas:

- Climate Change Net Zero & Beyond
- Materials & Process Innovation
- Measuring Environmental Performance

The main deliverables for the discovery were: an initial estimate for sector emissions, a report establishing where benefits could be realised, established and active research areas and innovations, recommendations and road map. An Initial draft of a sector "Carbon Calculator" would also be developed, concluding in March 2023.

Outcomes

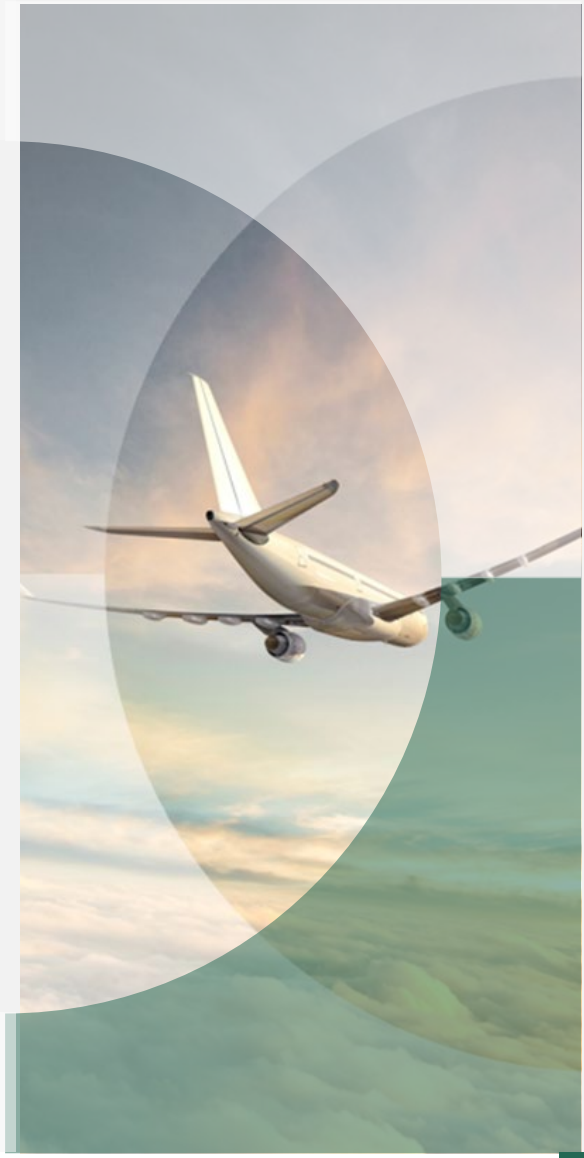
One of the main challenges of the project was locating the correct people and information, so additional information was sourced to assist the project and support the emissions calculation for the sector.

In addition, multiple carbon calculators were identified and reviewed, which found that all varied in content, highlighting the need for a consistent reporting approach.

An initial estimate of emissions was calculated for the 4 million works that take place on average each year, which was estimated to be between 30 and 38 million tonnes of carbon dioxide equivalent per annum. This is the same as 76,000 flights from London to New York, making up 9% of the total emissions generated by the UK.

The main areas for emissions were identified as: operations, temporary traffic management, materials and congestion. However, the associated demand for energy, was established to be the common theme across all areas and estimated to be 59 terawatt hours. This is the equivalent of 3.5 million homes (14% of homes in the UK) and if converted to electricity, would require an additional 17% of current supplies from the grid today.

Another area was major works. While they make up 17% of total works, they generate 43% of emissions.



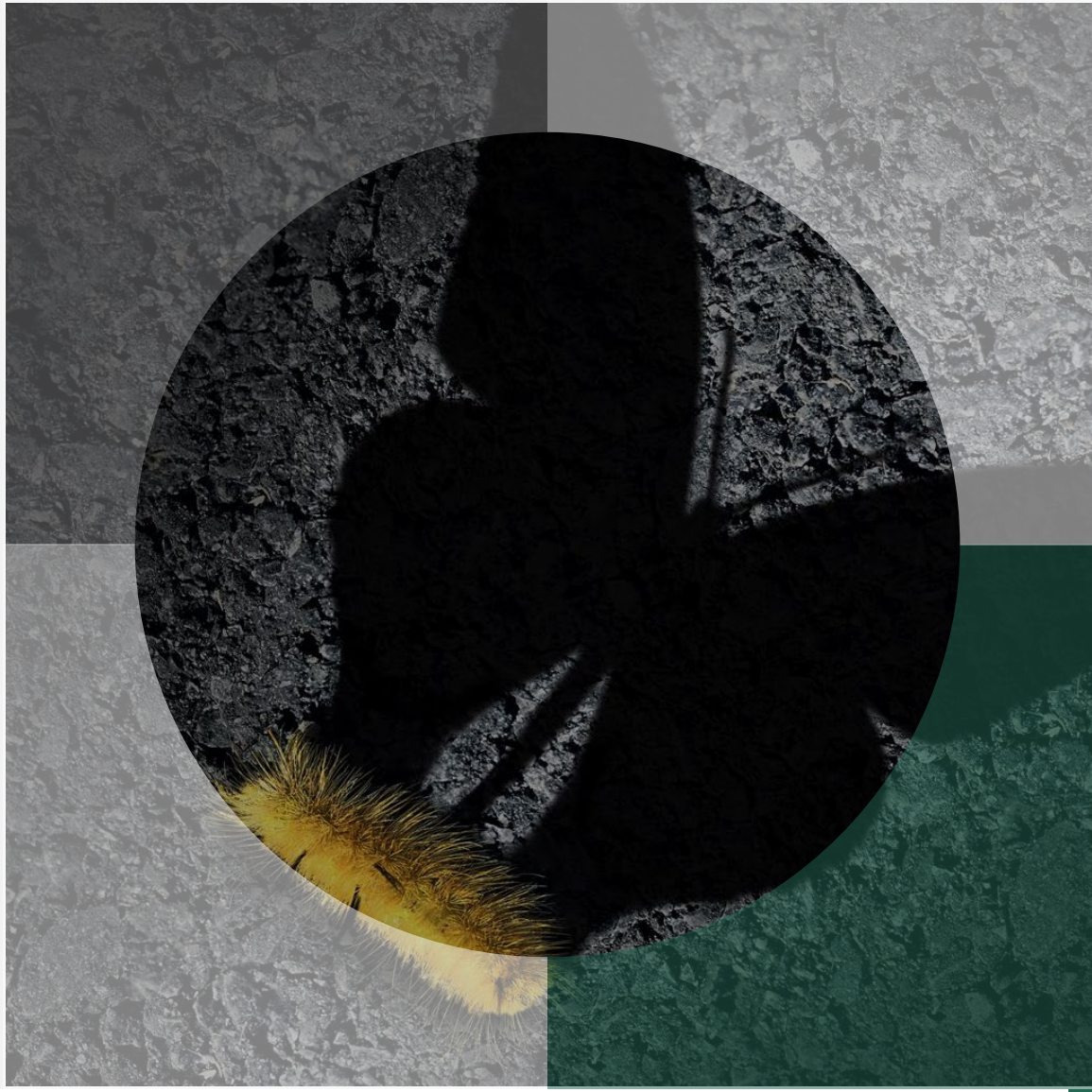
Steps for Change

As a result of the discovery, the following steps for change were identified:

- Reducing emissions from vehicles and machinery by utilising alternative fuel,
- Wider up take of new materials and processes, as even small changes can lead to big results,
- Using less and driving efficiencies to manage collective assets more effectively,
- Being more imaginative and adaptable when it comes to reusing and recycling materials, equipment etc.; and
- Increased utilisation of data to better inform decisions

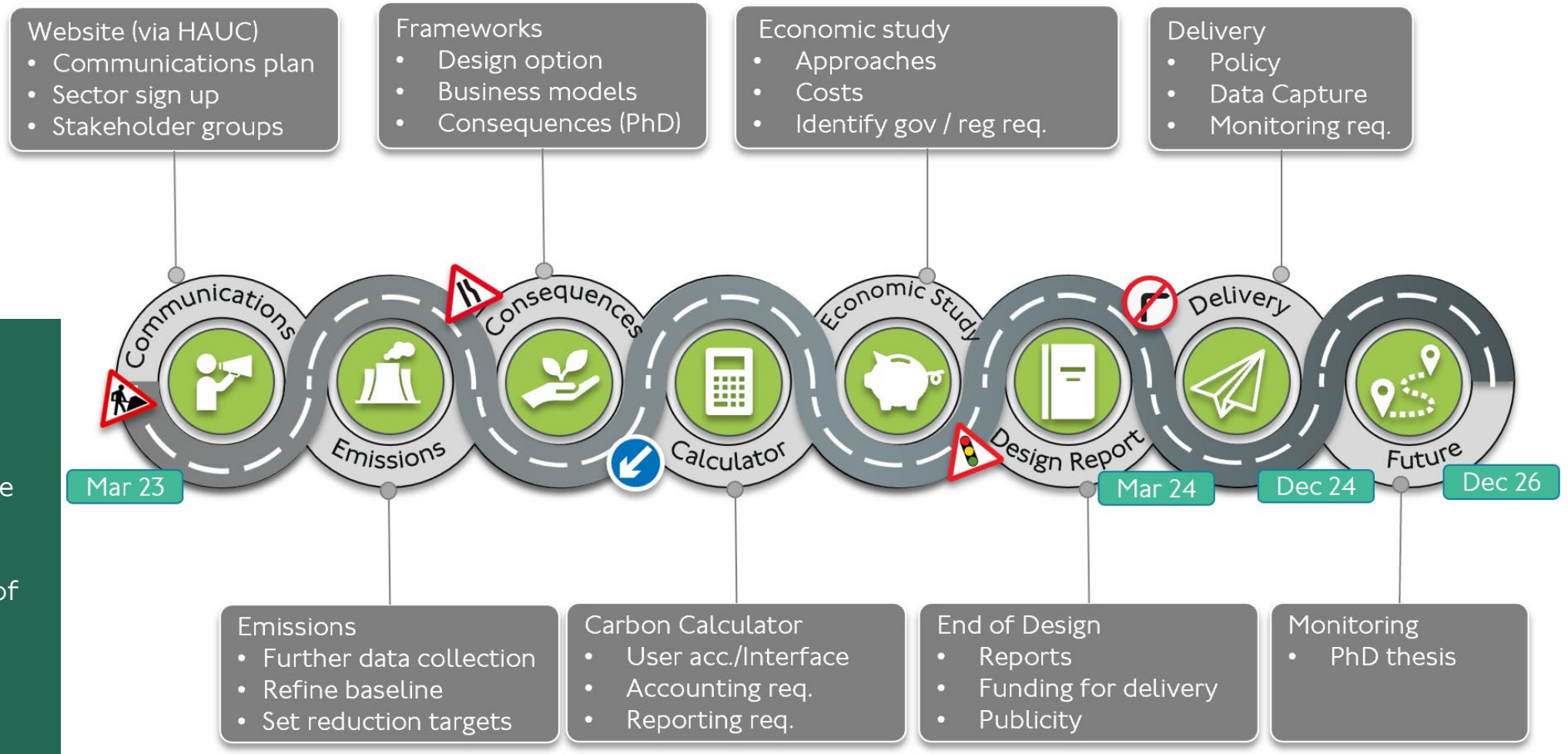
Based on these steps the project now needs to inform, prepare and influence stakeholders on the changes needed to transition, while ensuring that in doing so, the sector avoids other unintended consequences to the environment, society and economy occurring as a result.

This presents a unique opportunity for the sector to take charge of its destiny by developing a collective approach, which can inform governments and regulators of progress.



Roadmap

The project recently secured funding for the design phase and the roadmap (right) details the remaining phases of the Road to Net Zero project



Conclusion

The discovery phase proved to be successful in identifying the complexities of the sector and the high level steps required to make an impact for transitioning to zero.

The design phase is now commencing which needs greater sector involvement to be a success, enabling:

- The capture consistent data to track progress
- The ability to conserve time, energy and money by working together; and
- understanding what potential changes will mean to the respective industries so the best approach can be determined.

If utilities, highway authorities, contractors and suppliers all work together, it could be the biggest collaboration in the sector's history. Establishing a common calculation and reporting approach will enable the sector to understand the impact of its actions, expedite the transition to zero and deliver lasting change.

Commitment can be given to the project by signing the Charter via the project website or by scanning the QR code right. **Are you in?**

TfL Lane Rental Scheme

Optimising customer journeys through the delivery of safer, innovative and sustainable roadworks

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