NET ZERO TRANSPORTATION: UNLOCKING NET ZERO THROUGH SYSTEMIC CHANGE

CHALLENGE

Our transport systems are the great enablers of our societies, connecting people and goods with places and markets, supporting vibrant local, regional and global economies. Mobility and connectivity have delivered economic prosperity, massive social benefits and have shaped the way we live. However, for many countries around the world, including the UK, transport is now the single largest source of GHG emissions.

So how can we decarbonise our transport systems, while maintaining the level of mobility and connectivity our society and economy demands?

This is a substantial challenge, which, when addressed, uncovers a wide variety of interrelated issues and challenges. Strategic priorities will be focused on:

• Accelerating the shift to low- or zero-carbon modes, especially for local movements — electric vehicles, active travel and low-carbon, mass-transit solutions
• Decarbonising road traffic through a rapid transition to electric vehicles
• The decarbonisation of longer-distance passenger and freight movement, with greater use of electrified railways, and new technology for heavy goods vehicles, planes and shipping
• Encouraging behaviours that rapidly change travel patterns, reducing carbon because we use zero-carbon modes, make shorter or less frequent trips, or don’t make trips at all. Alongside these strategic challenges there are critical issues that need to be addressed on how we plan, build and operate our transport system, including:

• Understanding the current carbon baseline, targets and Net Zero pathways
• Driving Net Zero thinking into all aspects of infrastructure planning, design, construction and operation
• Stress-testing large infrastructure projects and programmes to check alignment with Paris Agreement
• How the transport system adapts to rapid electrification and shift to low-carbon modes
• Building consensus across all stakeholder groups about the changes likely to be required to how our transport system operates
• How to attract and secure funding and financing, especially post-COVID. These challenges are significant but so too are the opportunities. However, unlocking them will require leadership and funding from government, with policy certainty that enables the private sector to invest with confidence in the infrastructure and technologies needed to decarbonise the transport systems. For those who lean in and embrace this challenge there are substantial opportunities, with the opportunity to become a world leader in decarbonising transport systems that can deliver a cleaner and sustainable society.

MAKE CARBON VISIBLE

To manage climate risks we first have to understand the type of risks faced by different projects, and how these will change in the future. A clear understanding of both existing and emerging risks allows for an informed assessment of what combination of risk-management measures are needed to build resilience.

Our climate data tools allow us to apply the latest climate model data in detailed risk assessments, which then inform the selection of measures to increase the resilience of infrastructure projects. We have also developed climate risk-management systems that allow clients to successfully identify, manage, and disclose climate risks in their operations, and portfolios of assets.

- Decarbonising existing energy systems or implementing new net-zero carbon energy solutions on any scale of project.
- Decarbonising new or existing buildings, campuses, estates or cities and the associated enabling infrastructure systems.
- Delivering industry-leading roadmaps and pathways to decarbonise Net Zero futures.
- Delivering large-scale solutions on varying scales to help clients adapt and use and integrate nature-based offsetting solutions into the built environment. We also provide GDR technologies expertise.

Policy Advisory

Setting the standards for best practice and providing strategic advisory support to writing the legislation and standards that govern industry.

Green Design

Reducing carbon embedded in new and legacy transport infrastructure. Our role is to support and help create a core component of our approach to digital design, considering carbon throughout the infrastructure project lifecycle.

Smart Asset Management

Management of new and legacy transport infrastructure and assets that focuses on minimising carbon in operation, maintenance and renewal, while optimising the asset management plans.

Green Infrastructure

Promoting and delivering the infrastructure required to rapidly embed zero-carbon technologies, such as electric vehicles and rail and related services, within the transport system.

Green Energy Systems

Promoting and delivering the infrastructure required to rapidly embed zero-carbon technologies, such as electric vehicles and rail and related services, within the transport system.

Sustainable Travel Patterns

Optimising travel patterns to reduce carbon emissions and encourage travel by zero-carbon transport modes, such as active travel and low-carbon transport modes.

Net Zero Buildings

Decarbonising and delivering new or existing buildings, campuses, estates or cities and the associated enabling infrastructure systems.

Net Zero Energy Systems

Decarbonising existing energy systems or implementing new net-zero carbon energy solutions on any scale of project.

Net Zero Masterplanning

Planning and designing future low-carbon transport systems required to ensure low-carbon and sustainable travel patterns and behaviours, rapidly shifting travel away to zero-carbon transport modes.

Multimodal Transition Planning

Providing industry-leading perspectives, insights and support around dynamic changes, dynamic and modal transition as the transport systems of the world move to a Net Zero future.

Stuart McLaren
Director – Net Zero Infrastructure
Stuart.McLaren@atkinsglobal.com
+44 1454 66 2477