GREENHOUSE GAS REMOVALS: MANAGING RESIDUAL EMISSIONS SUSTAINABLY



CHALLENGE

Net Zero will require disruptive change to take place concurrently across multiple industrial sectors, a technological diffusion at a rate unprecedented in the post-industrial era. Most significantly, Net Zero will require the development of a UK greenhouse gas removal (GGR) 'solutions bank' involving nature-based and technological options that removes 60-90 megatonnes of CO₂ each year by 2050.

GGR solutions can come in many forms but are typically categorised as either nature-based or engineering / mechanical-based solutions. Either solution type will require substantive engagement with communities, society and industry to establish the necessary infrastructure and management practices.

An unprecedented level of investment will need to take place for GGR solutions to be realised at the scales required. The public, private and third sectors face an enormous challenge to ensure these technologies can be delivered effectively, promptly, sustainably and equitably.

There are many opportunities today to start removal of carbon from our atmosphere, mostly through Nature-based Solutions (NBS) but increasingly through emergent engineered solutions, such as Direct Air Capture systems.

Designing and deploying these solutions cost effectively requires a breadth of knowledge and expertise across many disciplines.

MAKE CARBON VISIBLE

We do not see carbon as clearly as we see cost. It is often invisible in the design and construction process and obscured in production behind more obvious concerns of throughput, quality and reliability.

To effectively tackle carbon we must see it, clearly and in all areas where it occurs, and quantify it such that we can prioritise our interventions and measure our success. Atkins' carbon accounting tools ensure that construction and operational carbon is visible in the

end-to-end process, upstream in material and component supply and downstream in distribution and endof-life recycling.

We extend this visibility across the entire team to enable a proactive, Carbon Value Engineering (C-VE) focus on major contributors. Our detailed carbon budgeting allows success to be measured, inspiring our people and demonstrating commitment to customers, society and our world.

Nature-based Solutions -System Optioneering

There are many NBS options that can be applied on- and off-shore and in many contexts. Our team has experience in appraising and designing solutions that factor a wide range of considerations needed to identify the optimal solutions.



Green Integrator and Sustainable Finance

We act as the green integrator, ensuring whole-system thinking delivers optimised results for all desired value outcomes. In turn we can support our clients to structure their schemes and attract investment to support this new area of work.



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Net Zero Energy Systems Decarbonising existing energy systems or implementing new and innovative Net Zero energy solutions on any scale of project.



Net Zero Buildings and Cities Decarbonising new or existing buildings, campuses, estates or cities and the associated enabling

infrastructure systems



Net Zero Transportation

Decarbonising new or existing transport systems across road. rail and aviation and developing new and novel Net Zero transportation for any scale of project.

Net Zero Industry and Infrastructure Decarbonising new and existing industrial processes and process emissions from a wide range of sectors, including manufacturing water processes, steel and cement production

Policy

GR technologies are immature, but evolving. We understand best practice and the regulatory landscape to help ensure success. GGR technologies are im

GGR Project Consenting

Any GGR solutions will likely require impact assessment, planning and consenting. Our EIA and consenting teams understand some of the unique challenges GGR solutions will face and are mindful of potential trust issues associated with large-scale land-use change and new technologies.











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