

# Net-zero

## Helping to shape a net-zero carbon future

Climate change is one of the most important challenges of the 21st century. To overcome it, humanity must reduce global carbon emissions to 'net-zero' by 2050 whilst also adapting to the changes in our climate that are already unfolding. The coming decades will require a transformation of society, our infrastructure systems and our built environment; and if we respond in the right way – with ingenuity and passion – we can harness these changes to build a prosperous future for society and business.

Mott MacDonald is committed to tackling climate change and building a net-zero economy. By bringing together expertise in infrastructure delivery, climate change, digital innovation and social outcomes, we support clients to find new opportunities and tackle the biggest challenges they face.



Net-zero represents an opportunity for forward-thinking businesses, as well as a threat to those that fail to respond.

### What is net-zero and why does it matter?

Net-zero means that emissions of greenhouse gases to the atmosphere are balanced by removals over a specified period. Achieving net-zero requires the reduction of emissions across all sectors of the economy over the next three decades, with any residual emissions counterbalanced by nature-based or engineering solutions that can sequester carbon from the atmosphere.

The global framework for net-zero is set by the 2015 Paris Agreement which commits countries to limiting global warming to well below 2°C above pre-industrial levels, with an aim of 1.5°C. This has led to an increasing number of national, city and organisational level commitments to net-zero which are driving fresh approaches to delivering economic prosperity.

Net-zero will be a key driver of future economic development. Organisations that assume a leadership position in eliminating carbon will enjoy new opportunities for growth, increased revenues and reduced costs. In contrast, those that lag behind will face increasing financial, reputational and stranded asset risks. Investors and insurers are pulling out of projects that are not consistent with net-zero ambitions.

### What is required in our infrastructure systems and built environment to achieve net-zero?

**Build the right infrastructure.** We must transform our infrastructure systems to reduce emissions across our economy and supply chains. This means promoting 'no-build' solutions and minimising construction; more efficient buildings; accelerating deployment of renewable energy; electrifying our transport and heat systems; and opting for lower carbon fuels such as hydrogen where possible.

**Build infrastructure right.** This means reducing operational and capital carbon in all infrastructure assets that we build, upgrade and repurpose. We must accelerate the decarbonisation of the infrastructure value chain and fully embed carbon management in the way we plan, deliver and operate infrastructure.

**Sequester carbon from the atmosphere.** To balance residual emissions that may be impossible to eliminate, we must harness nature-based solutions such as reforestation and peatland renewal, and invest in new technologies such as bio-energy with carbon capture and storage.

Making net-zero a reality requires a clear understanding of how to align decarbonisation with other socially and environmentally desirable outcomes, like economic development or air quality. Digital technology and innovation will underpin net-zero strategies, enabling smarter, data-driven decisions and catalysing behaviour change among infrastructure users.

### How Mott MacDonald can support clients

We can help you to:

- define what net-zero means for your organisation in its national, regional and sector context
- understand your current emissions and develop a net-zero strategy and action plan
- integrate whole-life carbon into your infrastructure decision-making, using our in-house tools (eg Moata Carbon Portal).
- assess decarbonisation solutions, including energy infrastructure and supply, demand management strategies, nature-based solutions and financial, digital and policy enablers
- develop least-regrets pathways and investment programmes, working through trade-offs with wider social outcomes, resilience and affordability
- introduce the principles of PAS 2080, a standard we co-authored, as a tool to align your net-zero objectives with your supply chain
- integrate carbon and transition planning in your business case development, investment appraisal and procurement
- assess climate-related risks of existing or new investments, in accordance with the TCFD

### Some examples of our work

- We lead a UK infrastructure industry coalition working with government on how to deliver the infrastructure for UK net-zero by 2050
- We helped Water UK, the Environment Agency and the UK's Department for Transport develop net-zero roadmaps and strategies
- We helped the UK and Norwegian governments and the European Commission to advance GHG removal technologies such as CCUS
- We manage and provide technical advice to the UK Government's Energy Innovation Programme
- We developed a tool for the Leeds City Region to screen and assess the impact of projects in light of the climate emergency and net-zero target
- We help countries develop net-zero pathways through our role leading the UK Government's International 2050 Carbon Calculator programme

## Opening opportunities with connected thinking.

### Talk to us

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