Press Release **London, Nice, Paris, Singapore – 3 November 2025**

EDHEC Climate Institute unveils ClimaTech: The science behind the hype in climate-alignment infrastructure technologies

New data reveals which strategies deliver real impact – and which fall short

Infrastructure investors and operators are under increasing pressure to identify credible, science-based pathways to decarbonisation and climate resilience. Yet most available information remains fragmented across technical reports, academic literature, and regulatory documents, leaving decision-makers without a single, comparable framework for action.

The ClimaTech project bridges this gap. Backed by two years of research and eight peer-reviewed papers, **ClimaTech provides the first and world's largest systematic, evidence-based repository of strategies to reduce both transition and physical climate risks to infrastructure assets**. It consolidates complex, cross-disciplinary research into a single, accessible platform combining engineering, financial, and regulatory perspectives.

What works – and what doesn't?

Drawing on over **100+ mitigation and adaptation strategies across eight infrastructure sectors**, ClimaTech quantifies the relative **effectiveness of alignment technologies.** Our research identifies the most impactful, effective and popular measures within this infrastructure asset class.

Using ClimaTech Research data, the below chart shows the relationship between frequency of use and efficiency, highlighting several striking insights:

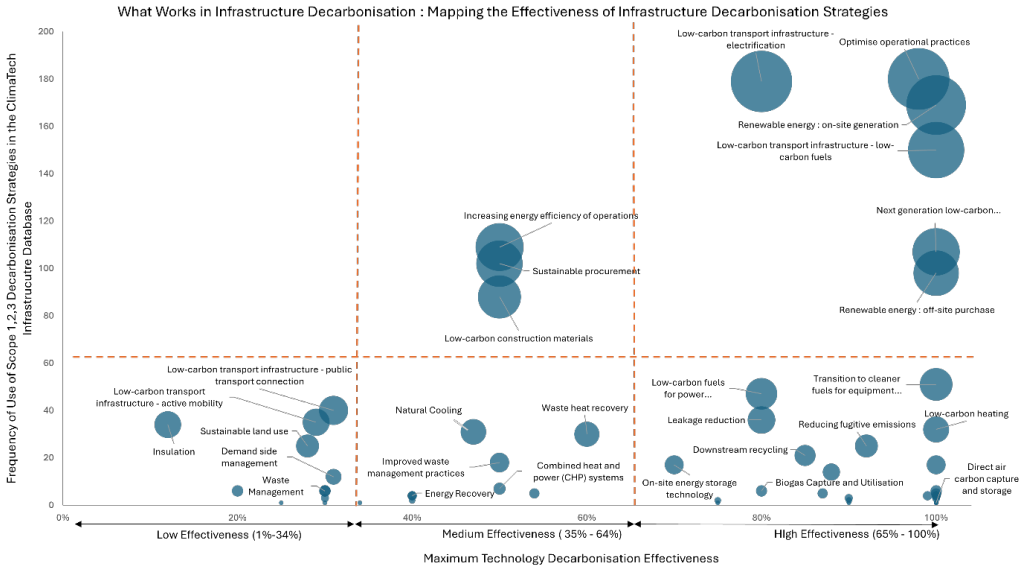

Figure 1: This figure presents 100+ Scope 1,2 and 3 decarbonisation strategies presented in the ClimaTech database for the infrastructure sector, plotting their maximum potential effectiveness (x-axis) against frequency of use across asset classes (y-axis). Effectiveness represents how well a strategy can perform within its applicable context, not its total decarbonisation potential. Actual impact varies depending on asset type, implementation design, and operating conditions.

"*Some technologies indeed receive disproportionate attention compared to their real impact, while others, less publicised, are essential for resilience*," says Nishtha Manocha, Project Lead of ClimaTech. "*Our data show that large-scale electrification, renewable integration, and well-designed flood- and heat-resilience systems consistently deliver the strongest and most measurable results, achieving up to 95% effectiveness in some contexts, while other popular measures have only marginal effects once implemented*."

A higher frequency of use does not necessarily correspond to greater effectiveness, and the reverse is also true

Across infrastructure, the most effective and widely applicable levers include renewable power (on- and off-site), low-carbon fuels, transport electrification, and those operational optimisation strategies that have been consistently recognised in IEA Net Zero by 2050, IRENA 1.5°C Pathway, and IPCC AR6 as central to decarbonising power, transport, and industry.

In contrast, several niche but powerful levers – such as carbon capture, biogas utilisation, and advanced co-firing fuels – achieve high effectiveness but are applied to relatively few infrastructure sectors due to cost, scalability, or technical constraints. Meanwhile, the more commonly used yet modest-impact measures – including waste management, demand-side management, and insulation – deliver only incremental gains, typically below 40% effectiveness. These represent mature practices that improve the emission profile of an asset without materially transforming carbon performance.

Notably, the analysis shows the absence of *any* strategies that combine high use with low effectiveness (see Figure 1). Such strategies *do* exist, because ClimaTech's methodology deliberately excludes symbolic or "green-signal" actions, where measurable climate performance is absent. These include the likes of "green" material sourcing and low-impact certifications in construction projects that tout sustainability through façade upgrades or recycled inputs but yield negligible lifecycle emission reductions. Other greenwashing examples include airport "efficiency retrofits" such as LED lighting and automation that barely dent total aviation emissions.

"*ClimaTech's framework intentionally filters out symbolic actions*," adds Nishtha Manocha. "*Our goal is to ensure that every strategy assessed reflects genuine decarbonisation or resilience potential, not just the prevalence of hype-driven narratives*."

The first global database of scientifically proven efficient strategies – all in one place

ClimaTech provides a sector-based matrix aligned with the TICCS® taxonomy used globally to classify infrastructure investments. Our researchers currently evaluate more than **1,800 applications across Conventional Power, Renewables, Transport, Networked Utilities, Data, Environmental Services, Social, and Water Infrastructure**. Each strategy is assessed for its **decarbonisation and resilience potential** – including the ability to reduce **Scope 1, 2, and 3 emissions** and mitigate physical damages. We are in the process of extending this to present alignment with global taxonomies such as the EU Taxonomy

To ensure scientific rigour and practical relevance, ClimaTech has established a Peer Review Committee to validate its database for robustness and value. Our Committee includes representatives from international financial institutions (World Bank, EIB, OECD), environmental and governmental bodies (WWF, Ofgem), engineering firms, investors, and academic partners.

"ClimateTech provides an essential resource for infrastructure developers, regulators and investors that are seeking to protect their assets and systems from physical and transition risks," explains Edwin Lau, Head of the Blue Dot Network Secretariat. "*Through a science and evidence-based approach it identifies the most effective interventions across a wide range of assets, thus ensuring that investments in mitigation and resilience yield the greatest value for money*."

"*In a context where greenwashing concerns are rising and disclosure obligations are tightening, ClimaTech enhances transparency and accountability*", adds Camille Angué, Deputy Director at EDHEC Climate Institute. "*It helps users identify strategies that are truly impactful, scientifically validated, and scalable, while explicitly addressing greenwashing risks such as the omission of key emissions sources, obfuscation of scope distinctions, or over-emphasis on marginal or speculative actions*."

Launch during Paris InfraWeek

The ClimaTech launch will take place during Paris InfraWeek 2025**.** The EDHEC Climate Institute – a Knowledge Partner of the event – will host a dedicated webinar titled *"What Really Works for Infrastructure Resilience and Decarbonisation?"* on **5 November**. We will explore how credible, science-based strategies can drive infrastructure resilience and decarbonisation, building on ClimaTech's findings.
Register here

For more information:
Access the webpage dedicated to ClimaTech at climateinstitute.edhec.edu/climatech-project.
Download the synthesis paper: Reducing Infrastructure Climate Risk Through Technology Measures: An Overview

Contact:
Maud Gauchon
Email: maud.gauchon@climateimpactedhec.com
Tel : +33 4 93 18 78 87
https://climateimpact.edhec.edu

About EDHEC Climate Impact Institute

Transforming Climate Research into Actionable Solutions

The EDHEC Climate Institute (ECI) focuses on helping private and public decision-makers manage climate-related financial risks and make the most of financial tools to support the transition to a low-emission economy that is more resilient to climate change.

It has a long track record as an independent and critical reference centre in helping long-term investors to understand and manage the financial implications of climate change on asset prices and the management of investments and climate action policies.

The institute has also developed an expertise in physical risks, developing proprietary research frameworks and innovative approaches. ECI is also conducting advanced research on climate transition risks, with a focus on supply chain emissions (Scope 3), consumer choices, and emerging technologies.

As part of its mission, ECI collaborates with academic partners, businesses, and financial players to establish targeted research partnerships. This includes making research outputs, publications, and data available in open source to maximise impact and accessibility.

The EDHEC Climate Institute gratefully acknowledges the support that the Monetary Authority of Singapore (MAS) has provided to its green infrastructure research.