



ClimaTech, a world-first climate-asset lens

Part 1

ClimaTech was born from a realisation...

Climate change is already disrupting our infrastructure.

All infrastructure assets are exposed to:

Physical risks



Transition risks



Potential losses of physical risks of exposed assets **can amount to 54 %** in a "Hot House" scenario by 2050.

Yet, current tools are often **too generic** to help understand local vulnerabilities and design appropriate strategies.

Hence the idea of creating a **unique** platform gathering **granular** information. →

What is ClimaTech?

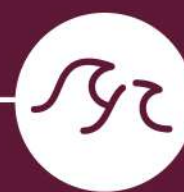
It is the largest global climate-asset platform of technologies and strategies to...



Mitigate climate change



Identify the most effective solutions **to decarbonise** infrastructure.



Adapt to its consequences



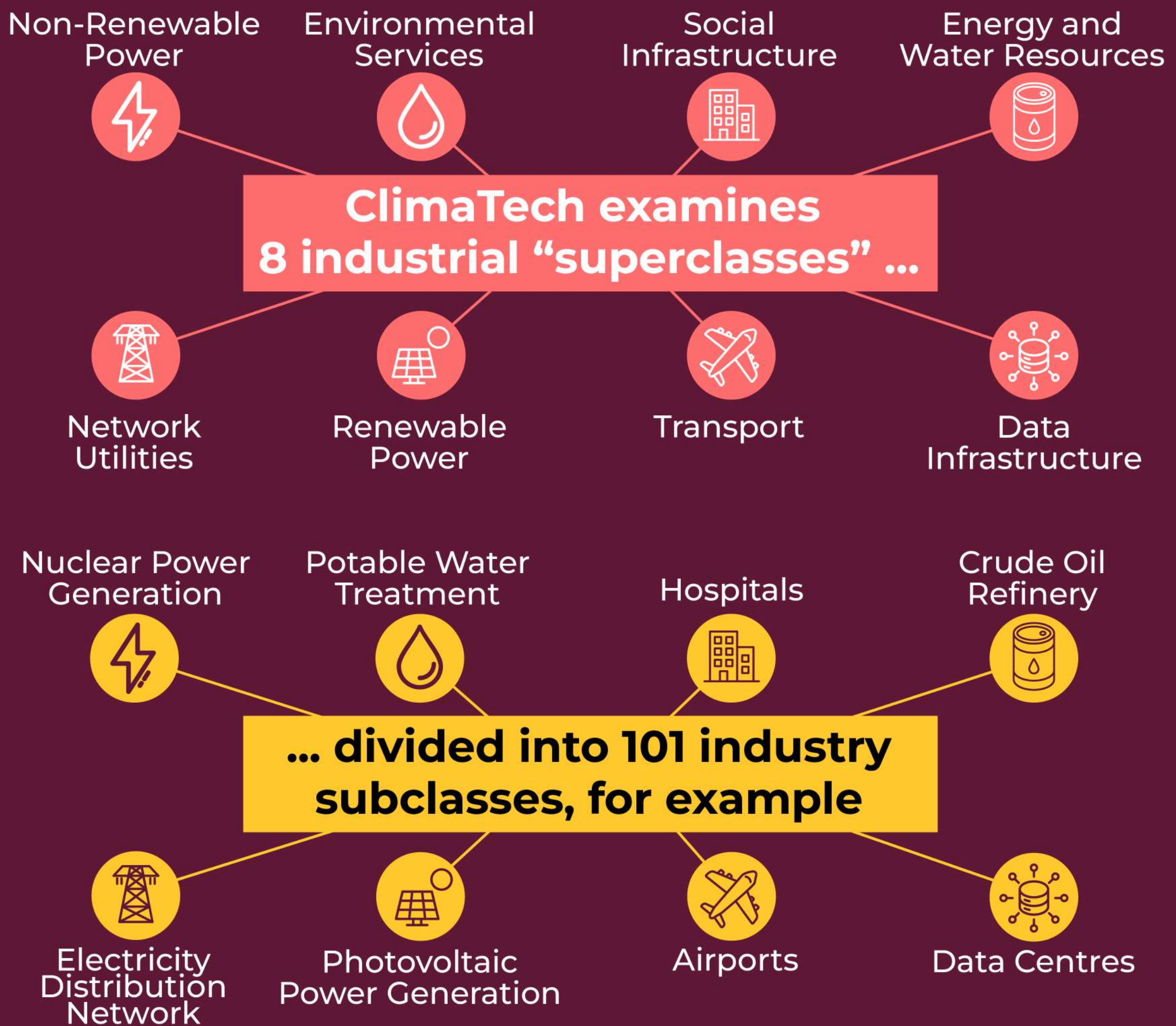
Understand the **physical risks** each type of infrastructure faces and assess the best **resilience measures**.

Which **infrastructure assets** are we talking about? →

Overview of the ClimaTech database available online

Search								
TICCS			Category		Effectiveness			
Search a strategy or key technology			TICCS	1	Category	3	All	
TICCS Superclass	TICCS Class	TICCS Subclass	Category	Strategy	Description	Key Technologies	Effectiveness	Reference
Transport	Port Companies	Container Port	Decarbonisation S1	Increasing energy efficiency of operations	Making port operations more efficient by using advanced technologies, automation and process control strategies to reduce fuel usage across the site.	Smart lighting systems, AI-driven climate control for HVAC and cooling systems, efficient cargo handling equipment, advanced energy management systems, waste heat recovery systems.	Medium	Alamouh, A. S., Ballini, F., & Ölçer, A. I. (2020). Ports' technical and operational measures to reduce greenhouse gas emission and improve energy efficiency: A review. Marine Pollution Bulletin, 160, 111508.

Which infrastructure assets are covered?



For each asset class, you'll find data on both decarbonisation and physical risks. →



For Decarbonisation

ClimaTech breaks down emissions by Scope 1, 2 and 3

Scope 1 → Direct emissions from on-site operations.

Scope 2 → Indirect emissions from purchased energy.

Scope 3 → Other indirect emissions across the value chain.

For each infrastructure asset type we assess the effectiveness of decarbonisation strategies

Presented on a scale informed by underlying quantitative analysis:



Example: Container Port



- Category: Scope 3
- Strategy: Upgrading port infrastructure with facilities to power docked ships with an electrified link from the shore as opposed to burning fossil fuels in ship engines.
- Effectiveness: High

For Resilience

ClimaTech distinguishes potential damages by type of risk:



Flood



Heat



Storm



Wildfire

For each infrastructure asset type we assess the effectiveness of resilience strategies and level of protection.



Very low

Low

Medium

High

Very high

Example: Container Port

- Risk: Storms
- Strategy: Large structures such as causeways, breakwaters and moles, either offshore or onshore, that protect assets from strong winds and associated wave action.
- Level of Protection: High
- Effectiveness: Medium



ClimaTech also provides a series of sectoral analyses

These analytical research papers offer sector-by-sector insights into how these strategies are being implemented.



Non-Renewable Power



Environmental Services



Social Infra



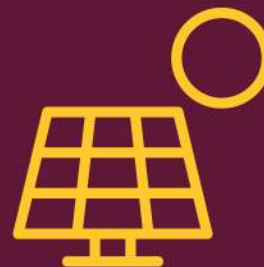
Energy and Water Resources



Data Infra



Transport



Renewable Power



Network Utilities

Who is ClimaTech for?

For all who need reliable and comparable data on the real effectiveness of actions.



Civil society:



Journalists



NGOs



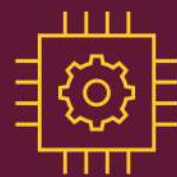
Researchers



Professionals:



Investors



Engineering firms



Multilateral financial institutions

Ultimately, ClimaTech could also serve as a basis for assessing whether listed strategies and technologies comply with **sustainable finance standards such as the EU Taxonomy.**



What does ClimateTech rely on?



200+ academic papers, technical documents, and government reports.



A team of specialised researchers and engineers.



The ClimateTech Review Committee Members

It brings together experts from academia, private sector, consulting firms, private equity, investment banks, fund management, international organisations and NGOs.

Who is behind ClimaTech?

EDHEC Climate Institute

This independent research centre combines scientific expertise, economic analysis, and advanced climate risk modelling.

Overview of the ClimaTech database available online

<div> <div>Search</div> <div>TICCS</div> <div>Category</div> <div>Effectiveness</div> </div>								
<input type="text" value="Search a strategy or key technology"/>			<input type="text" value="TICCS"/> <div>1</div>		<input type="text" value="Category"/> <div>3</div>		<input type="text" value="All"/> <div></div>	
TICCS Superclass	TICCS Class	TICCS Subclass	Category	Strategy	Description	Key Technologies	Effectiveness	Reference
Transport	Port Companies	Container Port	Decarbonisation S1	Increasing energy efficiency of operations	Making port operations more efficient by using advanced technologies, automation and process control strategies to reduce fuel usage across the site.	Smart lighting systems, AI-driven climate control for HVAC and cooling systems, efficient cargo handling equipment, advanced energy management systems, waste heat recovery systems.	Medium	Alamouch, A. S., Ballini, F., & Ölçer, A. I. (2020). Ports' technical and operational measures to reduce greenhouse gas emission and improve energy efficiency: A review. Marine Pollution Bulletin, 160, 111508.

For more information, visit

<https://climateinstitute.edhec.edu/climatech-project>