

ZERO

Direct Air Capture Infrastructure and the Future of Zero Carbon Societies.

TOPIC

Zero will trace a two month net-zero carbon journey by boat and train across the world to capture a situated snapshot of international energy transitions to net-zero industry by 2030. The primary typology that will be investigated are emerging Direct Air Capture sites that are currently in development or proposed to scale carbon dioxide removal for the largest companies and economies in the world. The project will explore the impact of Direct Air Capture technology on the future of societies and infrastructure of carbon offsetting.

LOCATIONS

01. Drax Power Station, Yorkshire, UK
02. Carbfix / Climeworks, Hellisheidi, ICELAND
03. Carbon Removal, Øygarden, NORWAY
04. Climeworks, Hinwil, SWITZERLAND
05. Storegga, Scotland, UK
06. Carbon Engineering, British Columbia, CANADA
07. Global Thermostat, Alabama, USA
08. 1Point5, West Texas, USA
09. Global Thermostat II, California, USA

OBJECTIVE

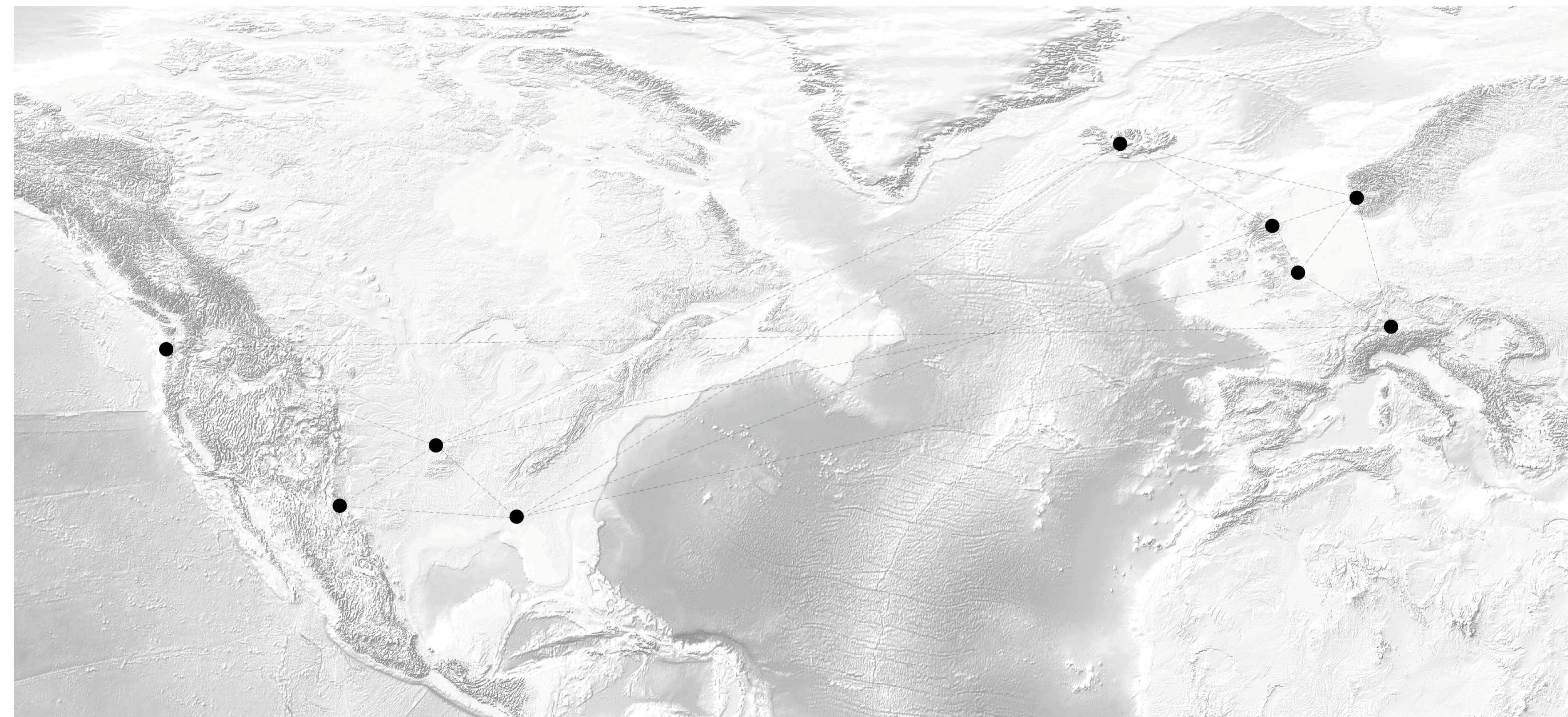
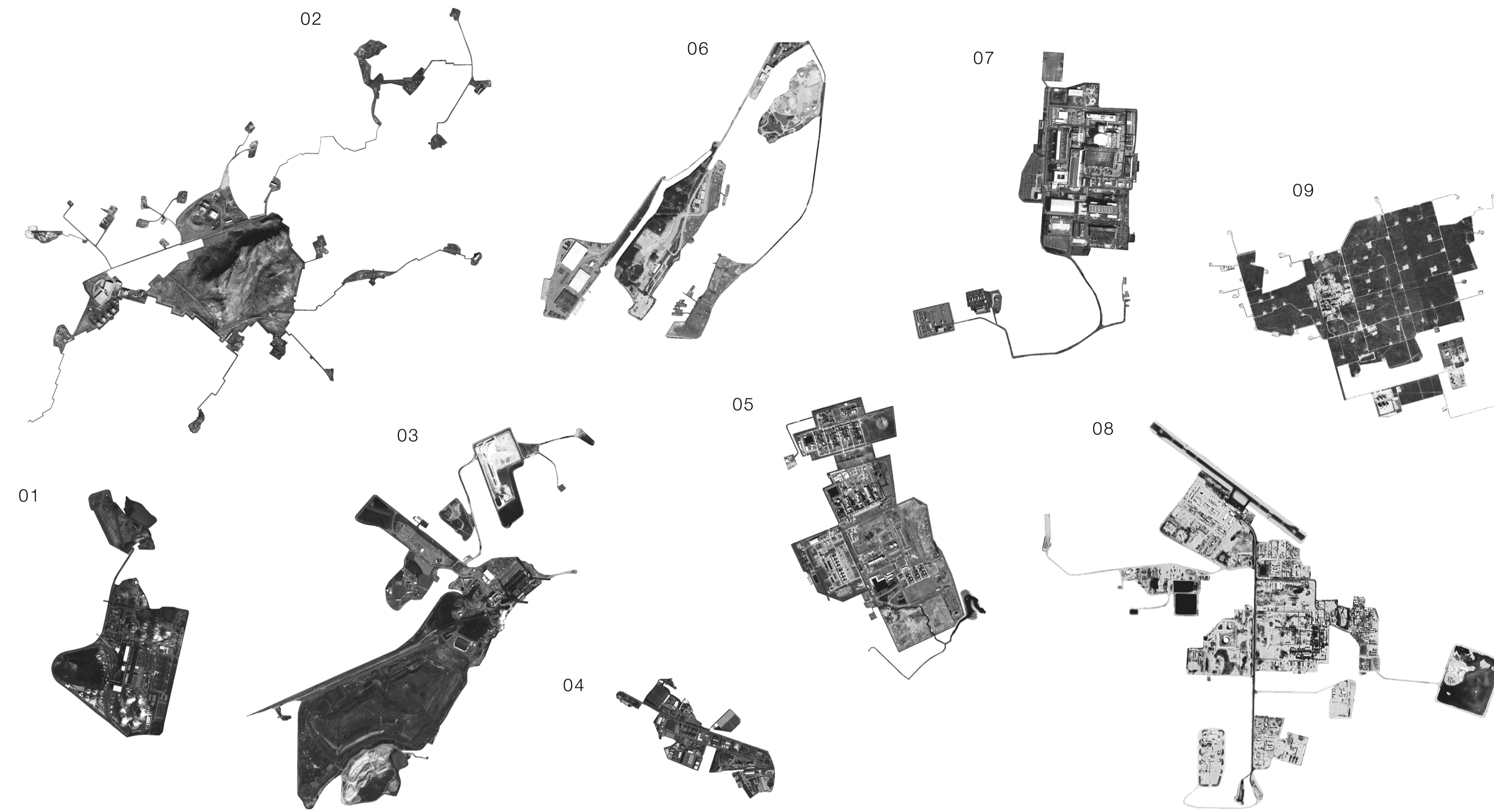
By 2050, the United Nations aims to decarbonise energy use in buildings and industry to net-zero emissions. This transformation of our environment will require a range of technologies applied in a variety of scales around the world. Beginning with Drax Power Station, this project journey will strategically document and map our inherited historical industrial energy landscapes and architectural typologies that face rapid climate adaption and social transformation. International energy and technology strategies and sites will be recorded to compare Direct Air Capture ambitions, as well as environmental and social impacts around the world.

METHODOLOGY

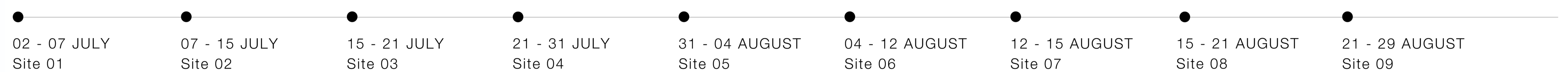
Interviews, photography and documentary film will be used to expand public awareness of the energy transition and the consequential impact and opportunities that Direct Air Capture technology presents within the built environment. Inspired by Reyner Banham, the process of film and travel within the architectural profession will be adopted to provide a deeper insight into the future intergenerational challenges.

MOTIVATION

I am motivated to address the urgent climate crisis through the decarbonisation of the built environment. After meeting with Sir Norman Foster in the Terra Carta competition final and being inspired by his lifetime of work, the project aims to highlight the urgency of Direct Air Capture and the energy transition in the built environment respond to the 'future of society' theme. The project will investigate carbon offsetting infrastructure and, consequently, reflect on the impact of past energy infrastructure projects to contemplate the future societal impact and ethics of the global transition to zero.








CALENDAR





DIRECT AIR CAPTURE

The most recent 2022 IPCC report indicated that Direct Air Capture technology would be vital component to meet the combined global net-zero commitments by 2050. This technology is evolving quickly and is predicted to scale over the next ten years. The impact of this technology is yet to be fully explored in terms of the effects on the built and on the ecological environments. As the radical shifts in renewable energy infrastructure emerge, it is vital to document existing energy landscapes and their potential with DAC to impact the future of net-zero society.

OUTPUTS

-  DAC Exhibition
-  Documentary Film
-  Journal Archive
-  Personal Interviews
-  Photography Book

TRAVEL

-  Boat Travel (N/O CO2)
-  Train (N/O CO2)