

CARBONTECH

AND THE NEW CARBON ECONOMY

The Business Case for CCUS (especially utilization)

Carbon180

formerly Center for Carbon Removal

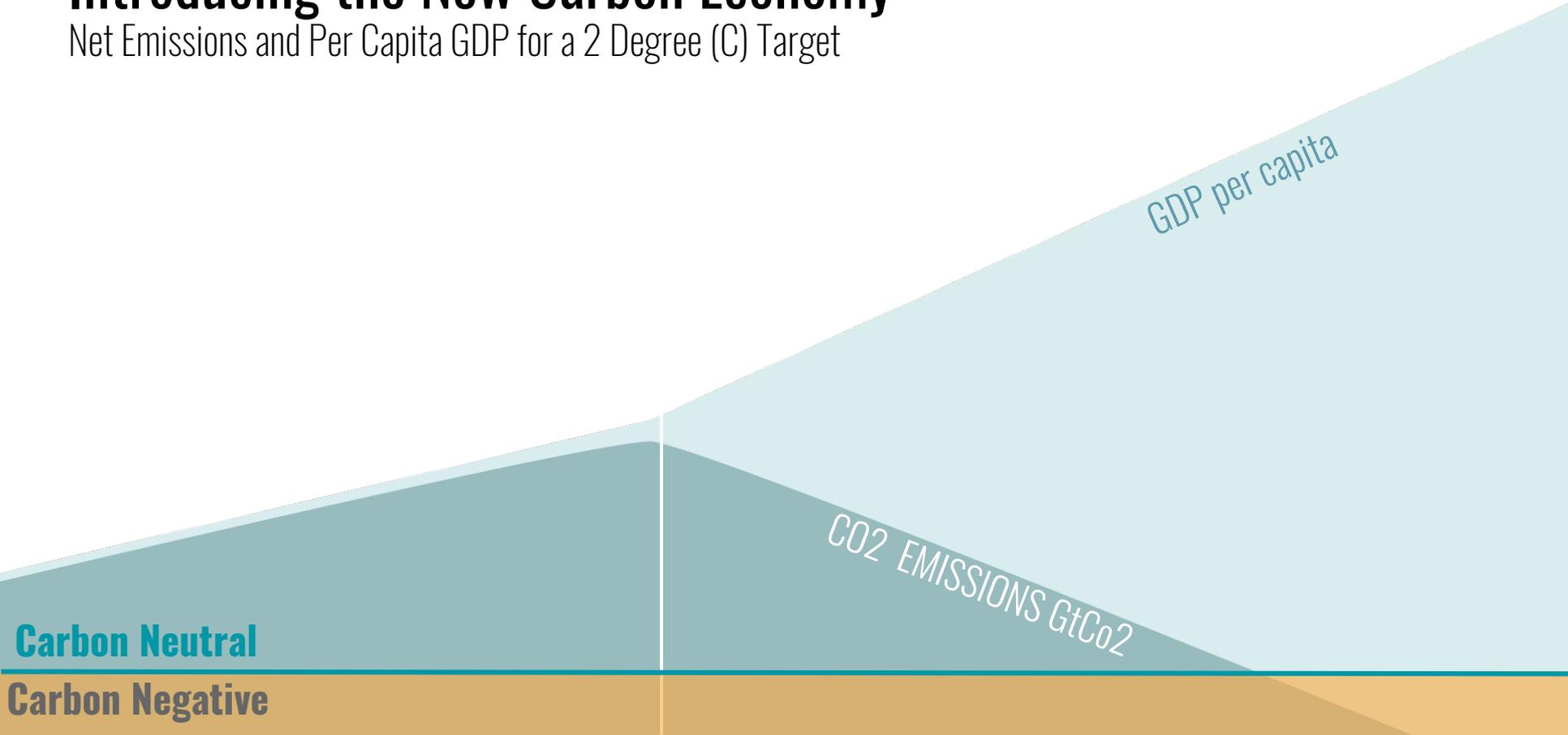
Mission

Catalyze development of carbon removal solutions



Introducing the New Carbon Economy

Net Emissions and Per Capita GDP for a 2 Degree (C) Target



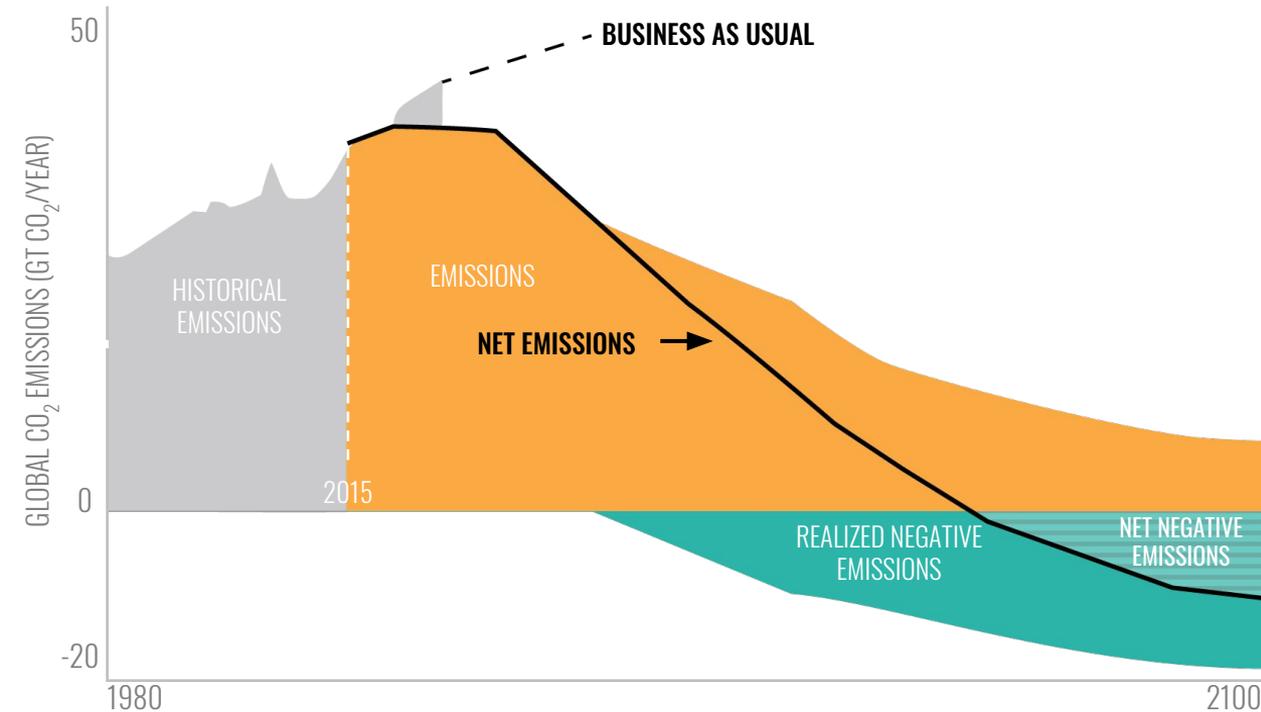
GDP per capita

CO2 EMISSIONS GtCo2

Carbon Neutral
Carbon Negative

A DOUBLE-BOTTOM-LINE INVESTMENT

Carbontech offers the path to profitably convert carbon waste to value, while developing technology, markets and policy to reverse climate change



“

[Carbontech] can remove over 10% of the emitted CO₂ [and can] keep temperature increases well below a 2°C increase.

Excerpt from McKinsey study commissioned by Global CO₂ Initiative

CHANGING LANDSCAPE FOR CARBON CAPTURE

From “Is carbon capture possible?” to “How big will it be, and when?”

Petra Nova [TX]
Post-combustion coal power plant + EOR

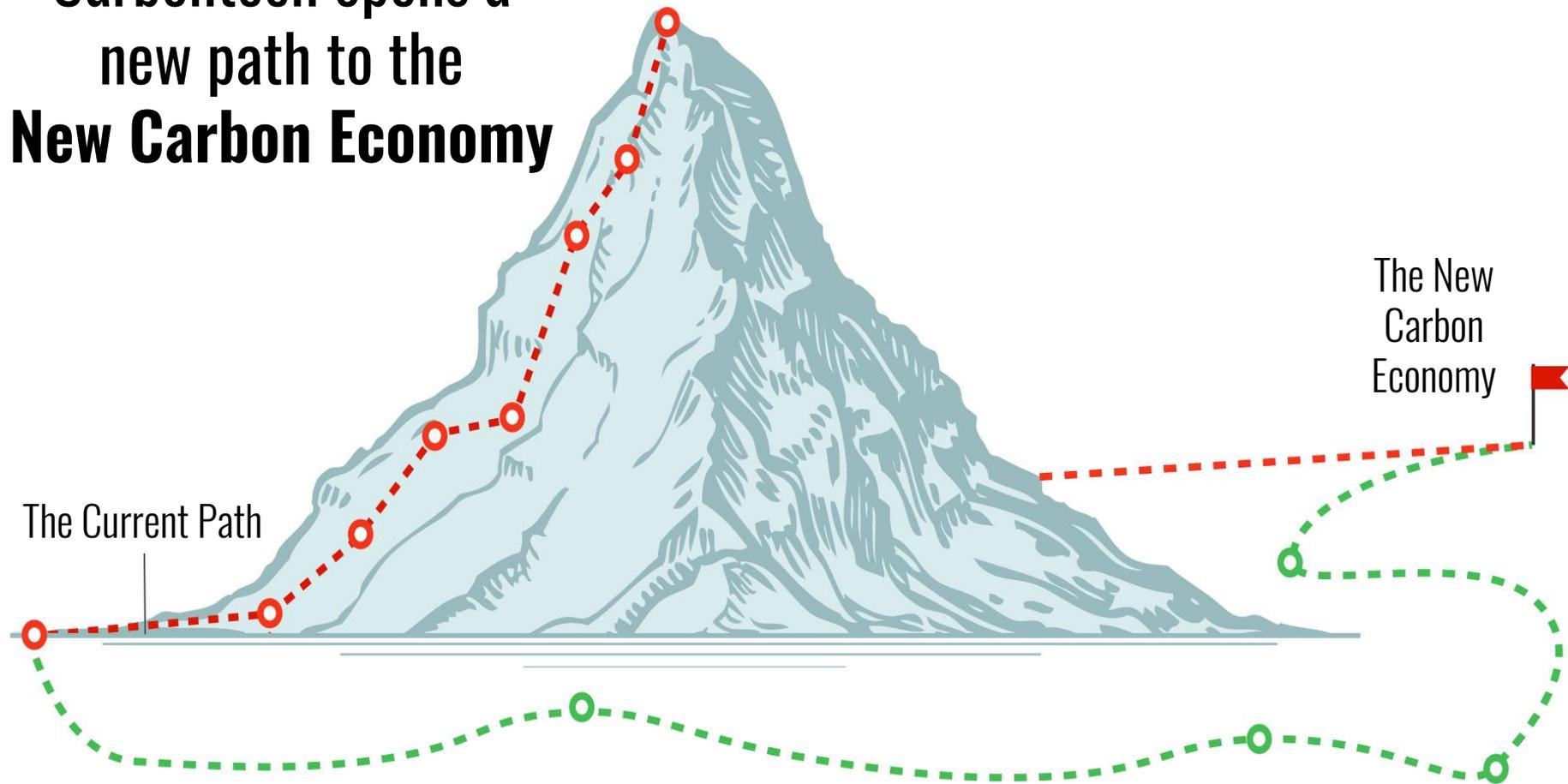


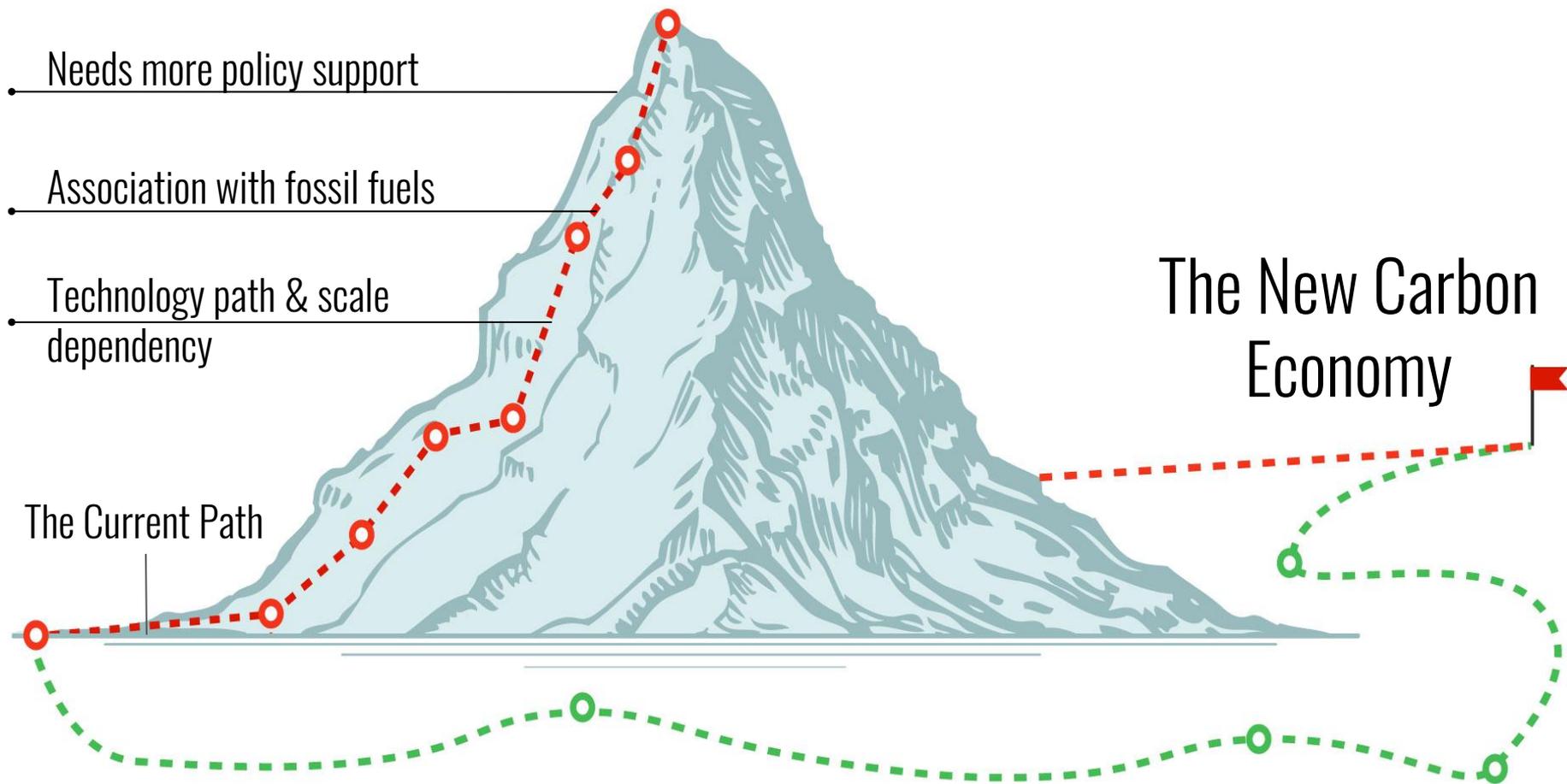
ADM Decatur [IL]
Ethanol + geologic sequestration

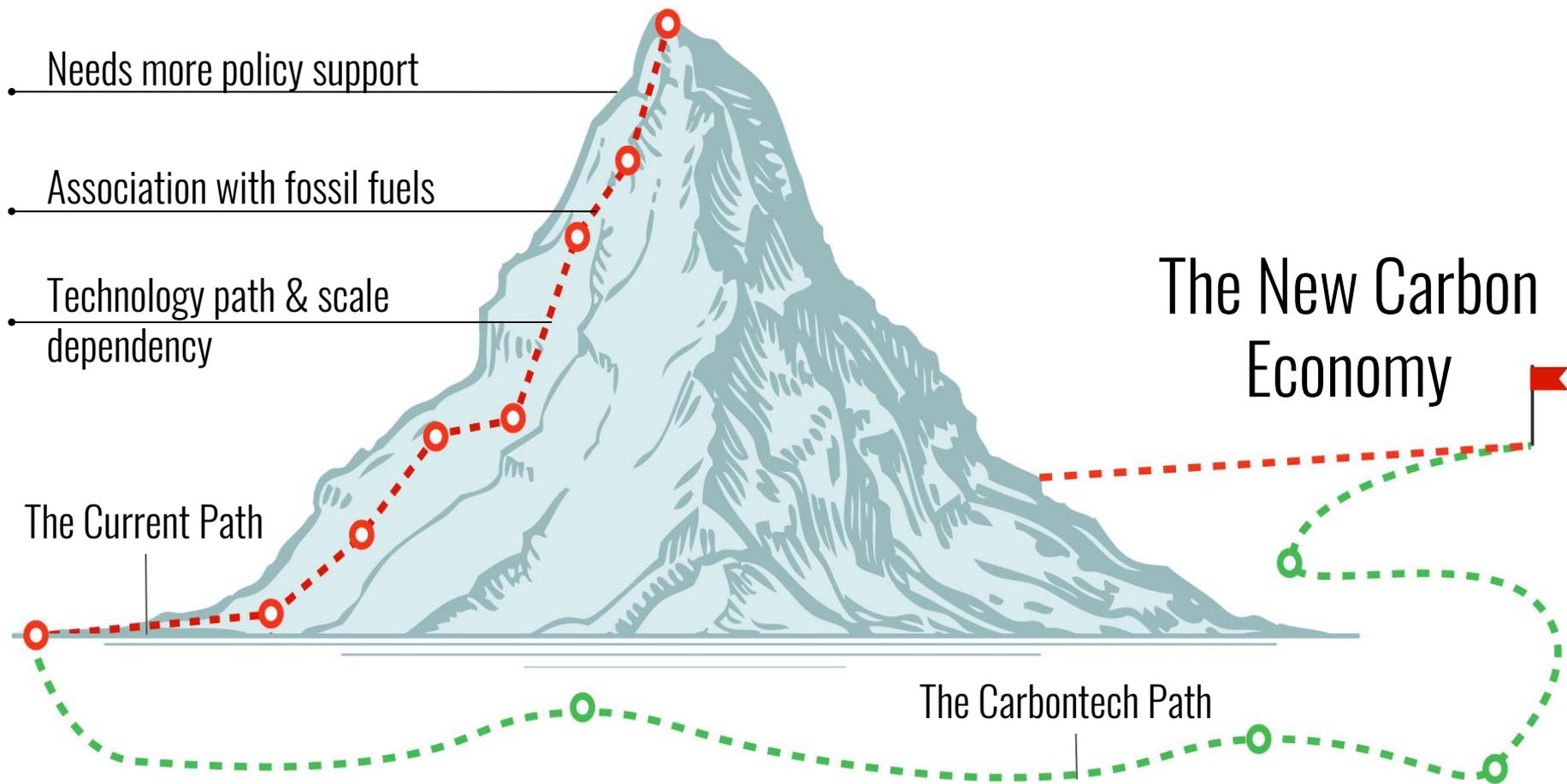
Air Products [TX]
Hydrogen generator + EOR



Carbontech opens a new path to the New Carbon Economy





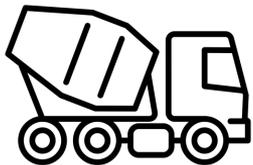


WHAT IS CARBONTECH?

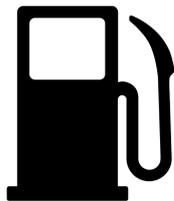
carbontech

an emerging industrial sector that captures, transports, and converts different forms of 'waste carbon' into a diverse array of valued products and services in a climate-beneficial way.

CARBONTECH PRODUCT EXAMPLES



CONCRETE



FUELS



VODKA



PLASTICS



DIAMONDS



AGGREGATE

CARBONTECH PRIMER: ECONOMIC + CLIMATE OPPORTUNITY

\$1.1T Annual market opportunity

~McKinsey & Co.

Carbontech offers the *only* path to:

- Profitably convert carbon **waste to value**
- First step in developing technology, markets, and policy to **reverse climate change**



CARBONTECH'S FLEXIBILITY IS A STRENGTH

Feedstocks



CO₂



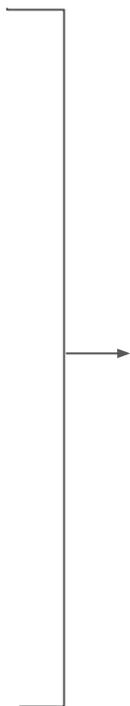
Biomass
residues



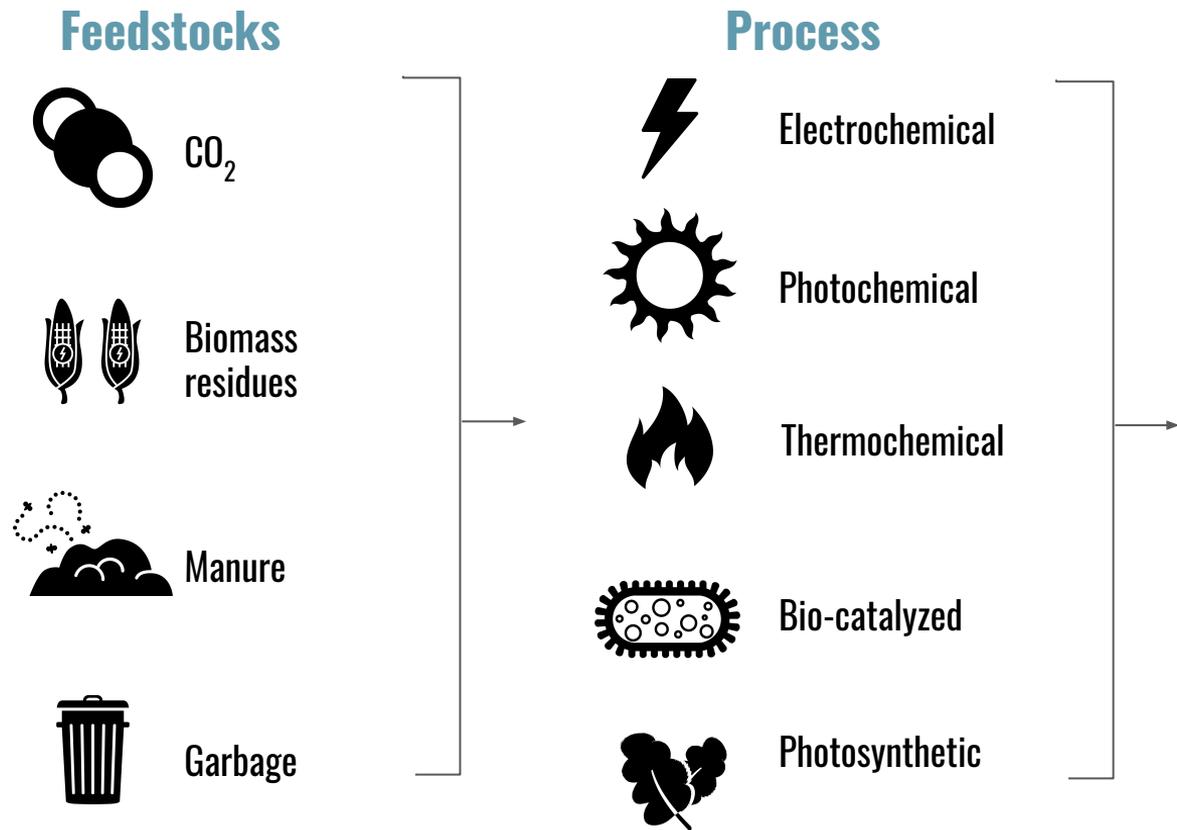
Manure



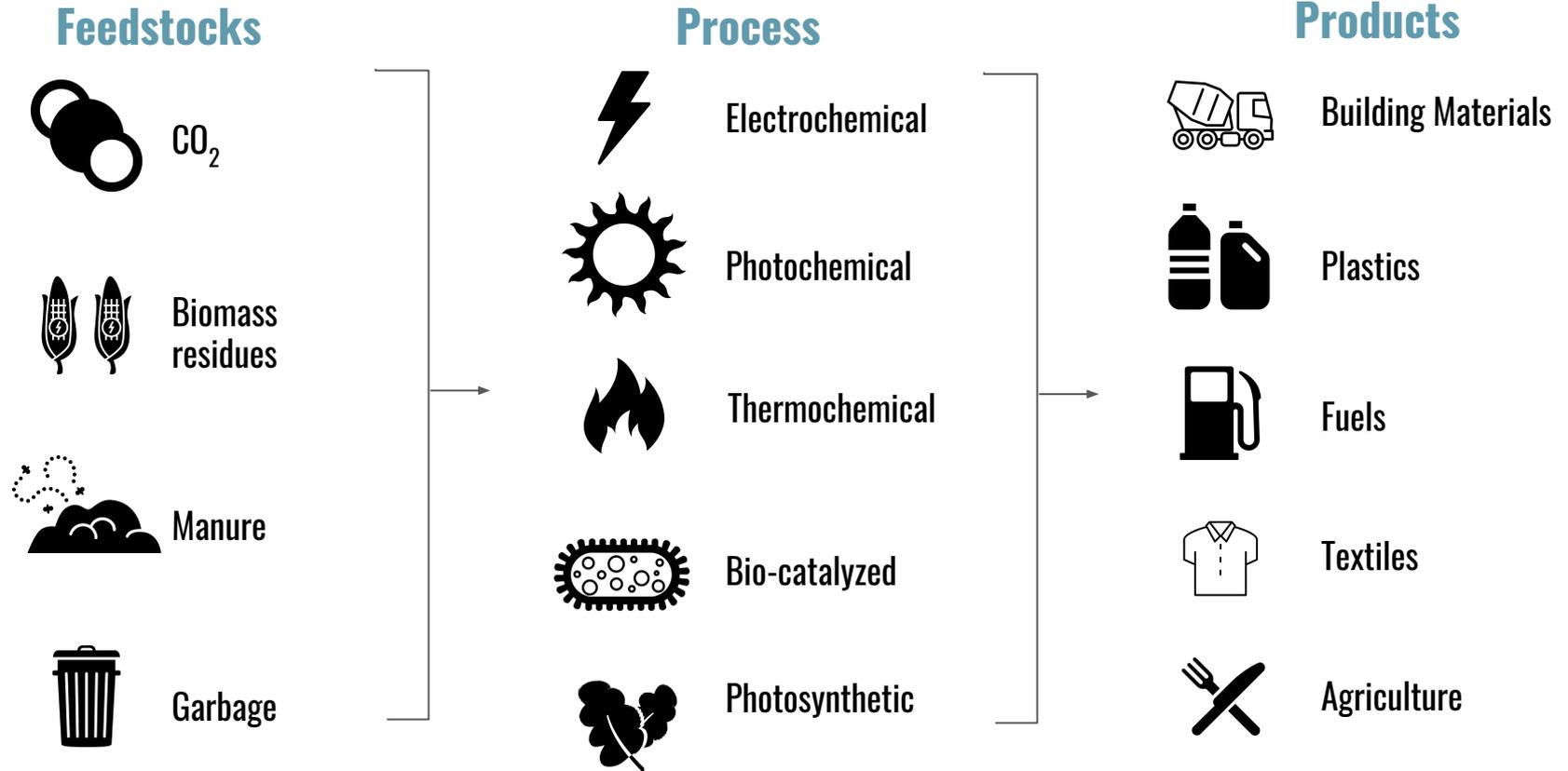
Garbage



CARBONTECH'S FLEXIBILITY IS A STRENGTH



CARBONTECH'S FLEXIBILITY IS A STRENGTH



CARBONTECH IS A \$1T+ US MARKET OPPORTUNITY

Carbontech market includes major products + high-value consumer goods.

\$480B
Transportation Fuels
Gasoline, Diesel, Jet



\$313B **Agriculture**
Fertilizer, Feed

\$99B **Built Environment (Non-Wood)**
Cement, Concrete, Asphalt, Aggregate

\$37B **Plastics**
Polyethylene, Polypropylene

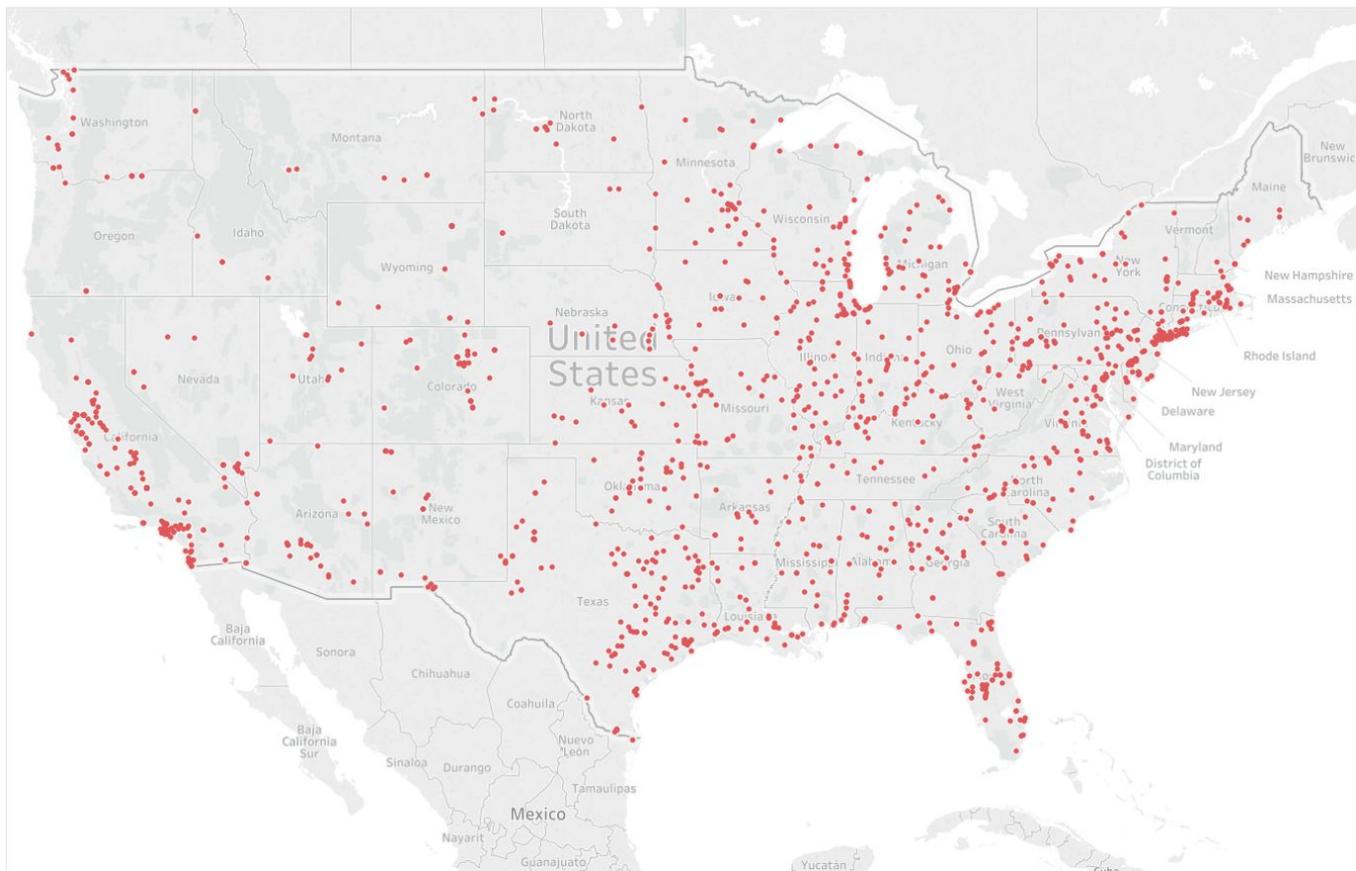
\$27B **Consumer products**
Diamonds, Spirits, Guitars, Furniture

\$7B **Engineered Wood Products**

\$1B **Industrial Gas**

CARBONTECH IS A GEOGRAPHICALLY DISTRIBUTED OPPORTUNITY

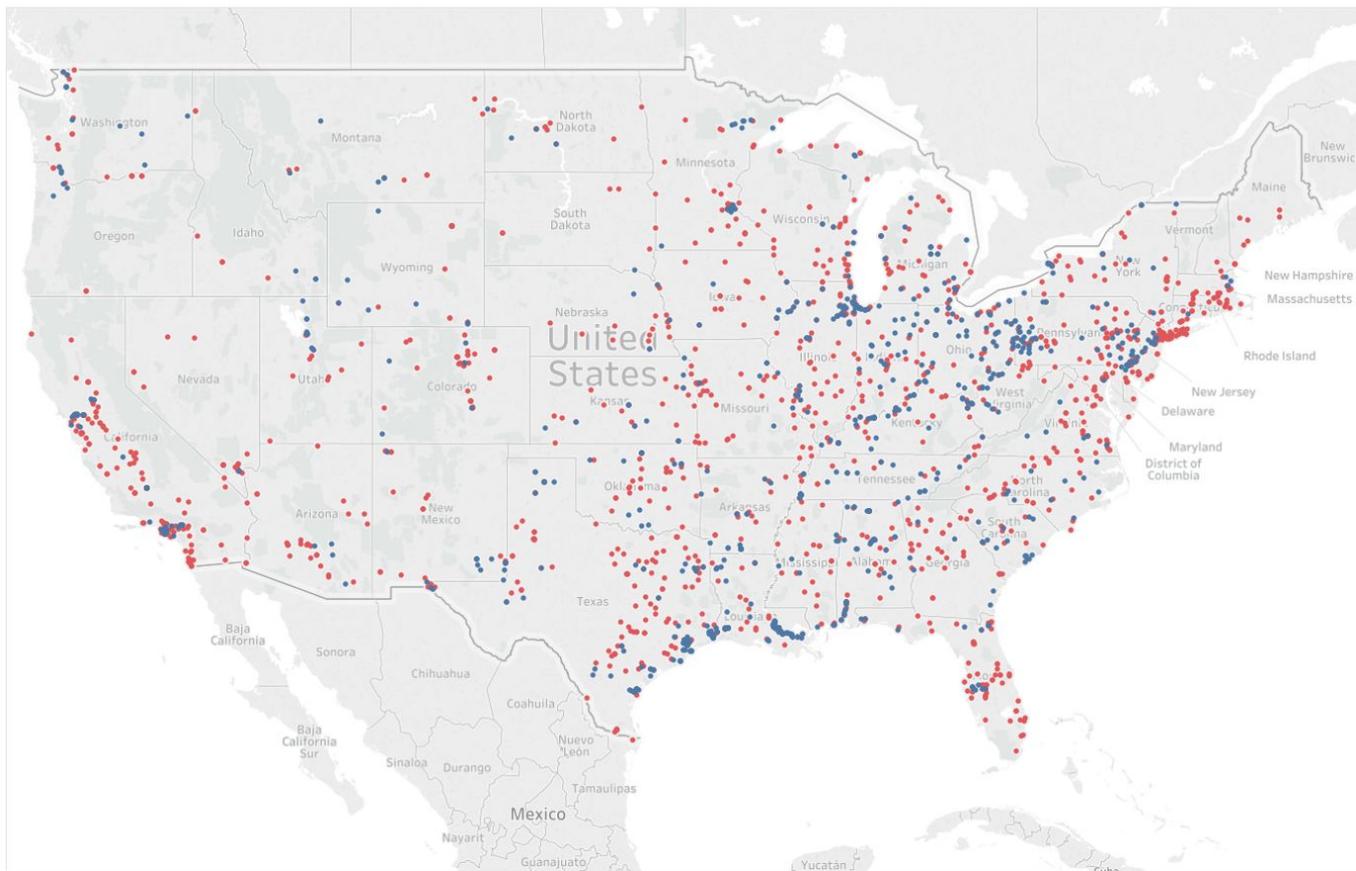
EPA GHG Inventory 2016



■ ELECTRICITY

CARBONTECH IS A GEOGRAPHICALLY DISTRIBUTED OPPORTUNITY

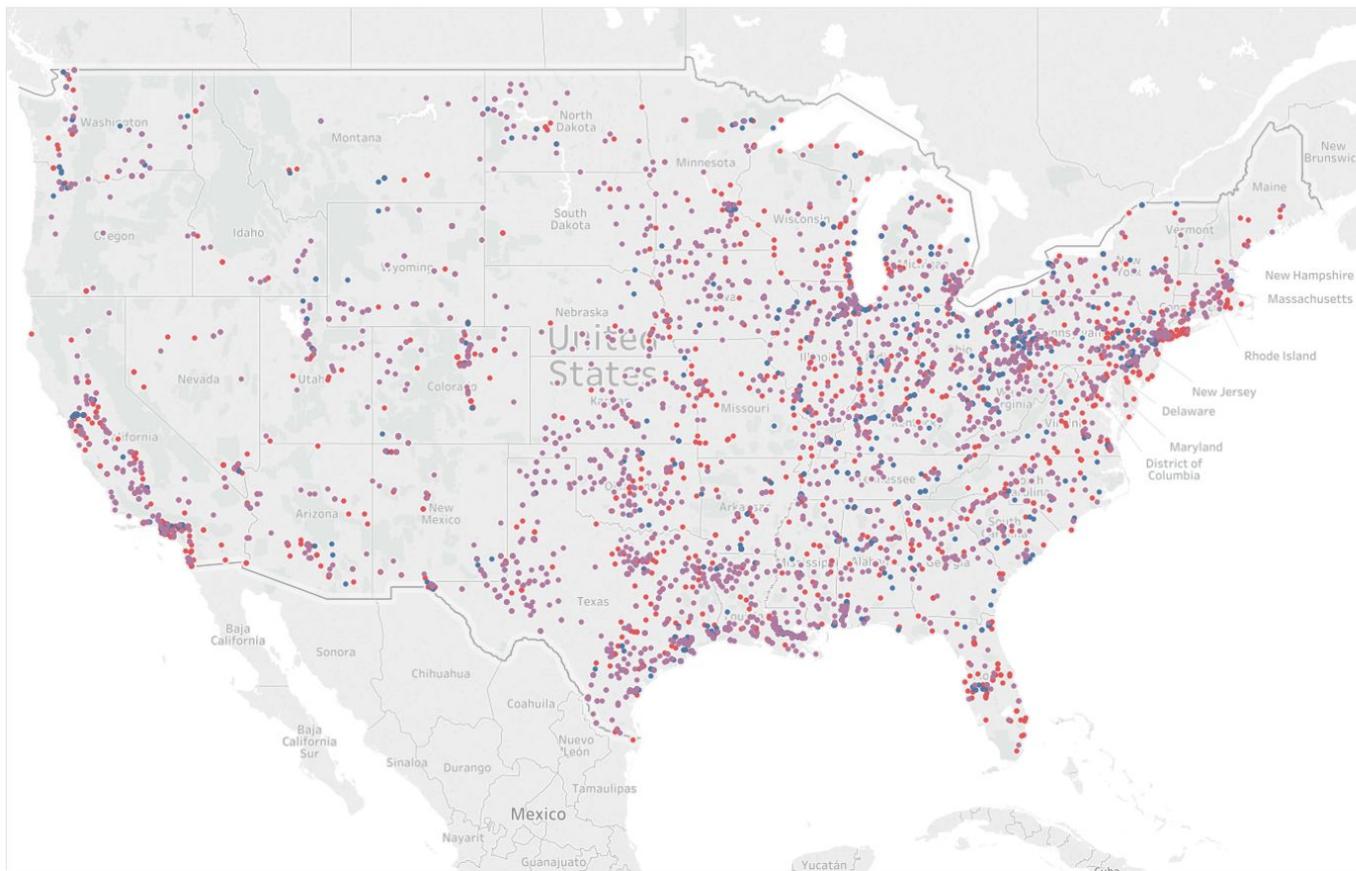
EPA GHG Inventory 2016



- ELECTRICITY
- INDUSTRY

CARBONTECH IS A GEOGRAPHICALLY DISTRIBUTED OPPORTUNITY

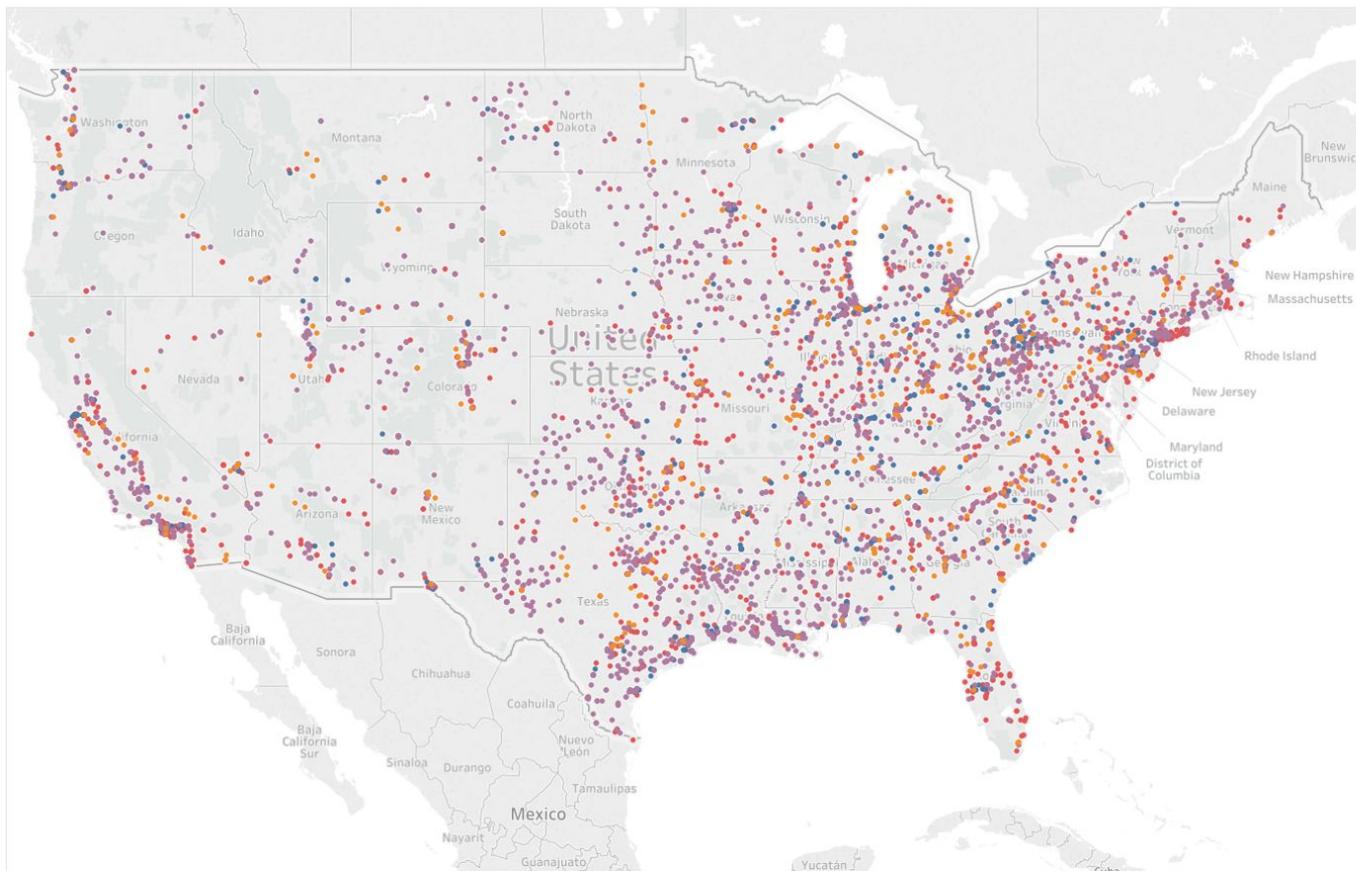
EPA GHG Inventory 2016



- ELECTRICITY
- INDUSTRY
- FOSSIL FUEL PRODUCTION & USE

CARBONTECH IS A GEOGRAPHICALLY DISTRIBUTED OPPORTUNITY

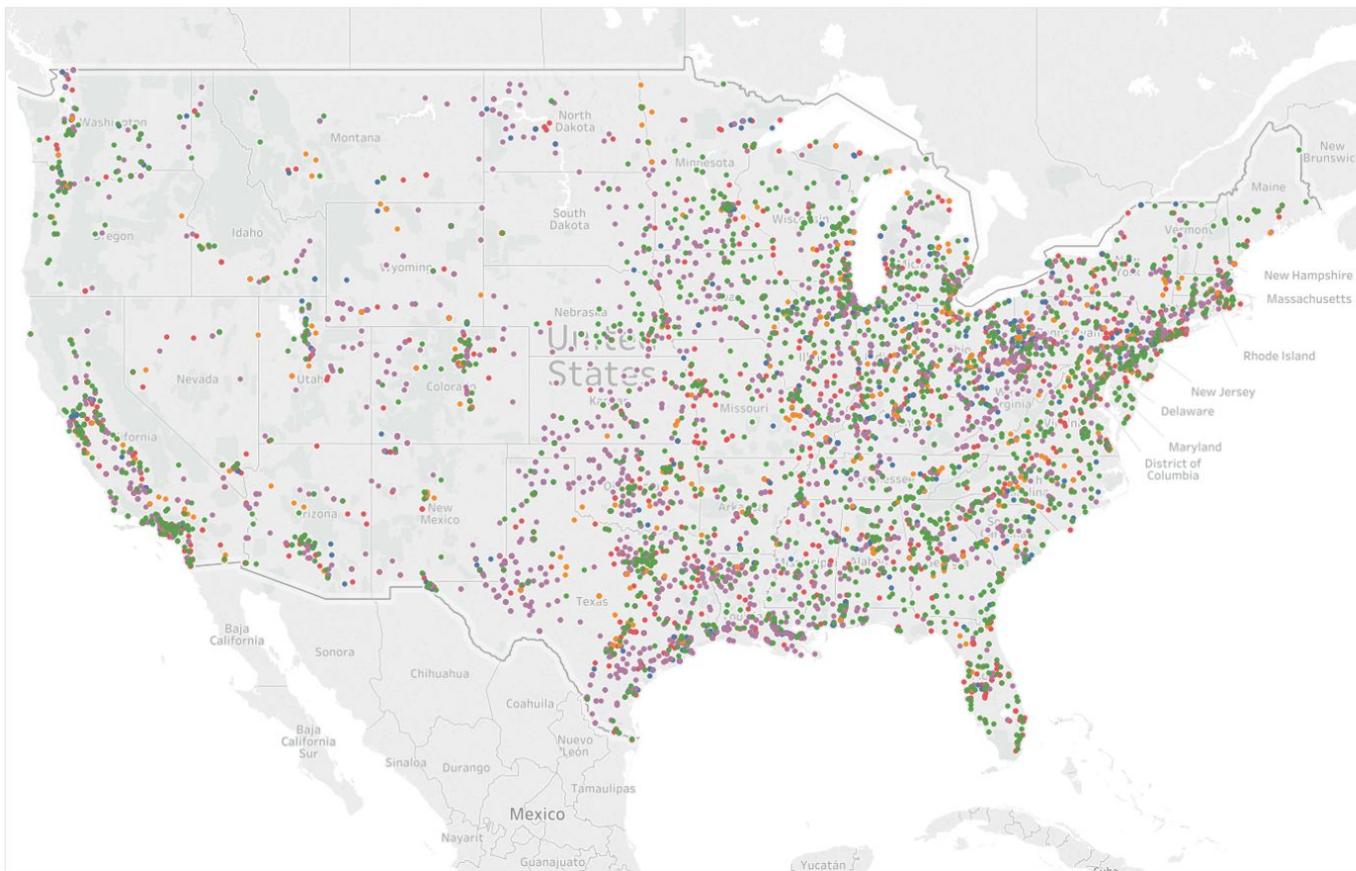
EPA GHG Inventory 2016



- ELECTRICITY
- INDUSTRY
- FOSSIL FUEL PRODUCTION & USE
- MINERALS

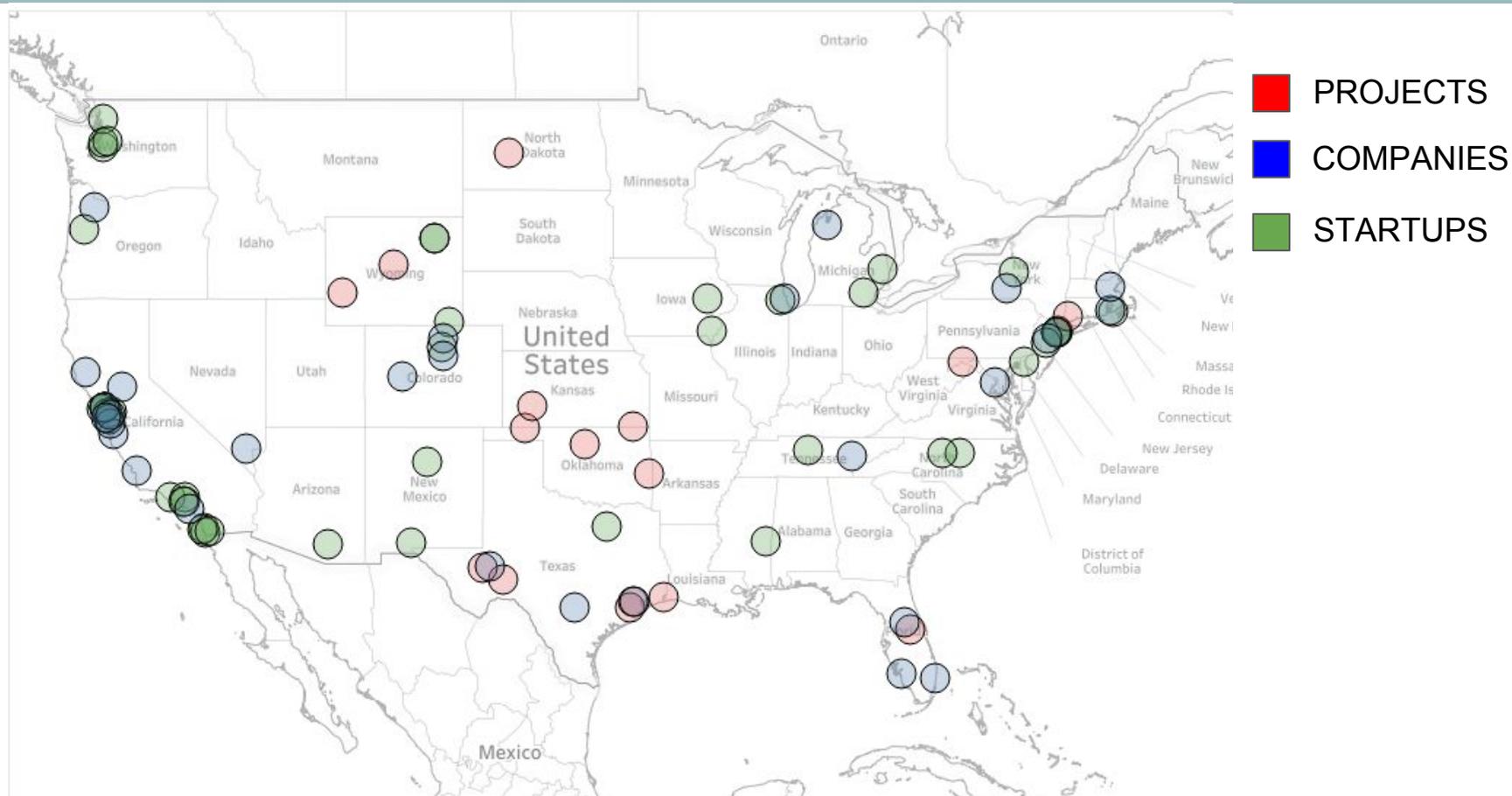
CARBONTECH IS A GEOGRAPHICALLY DISTRIBUTED OPPORTUNITY

EPA GHG Inventory 2016

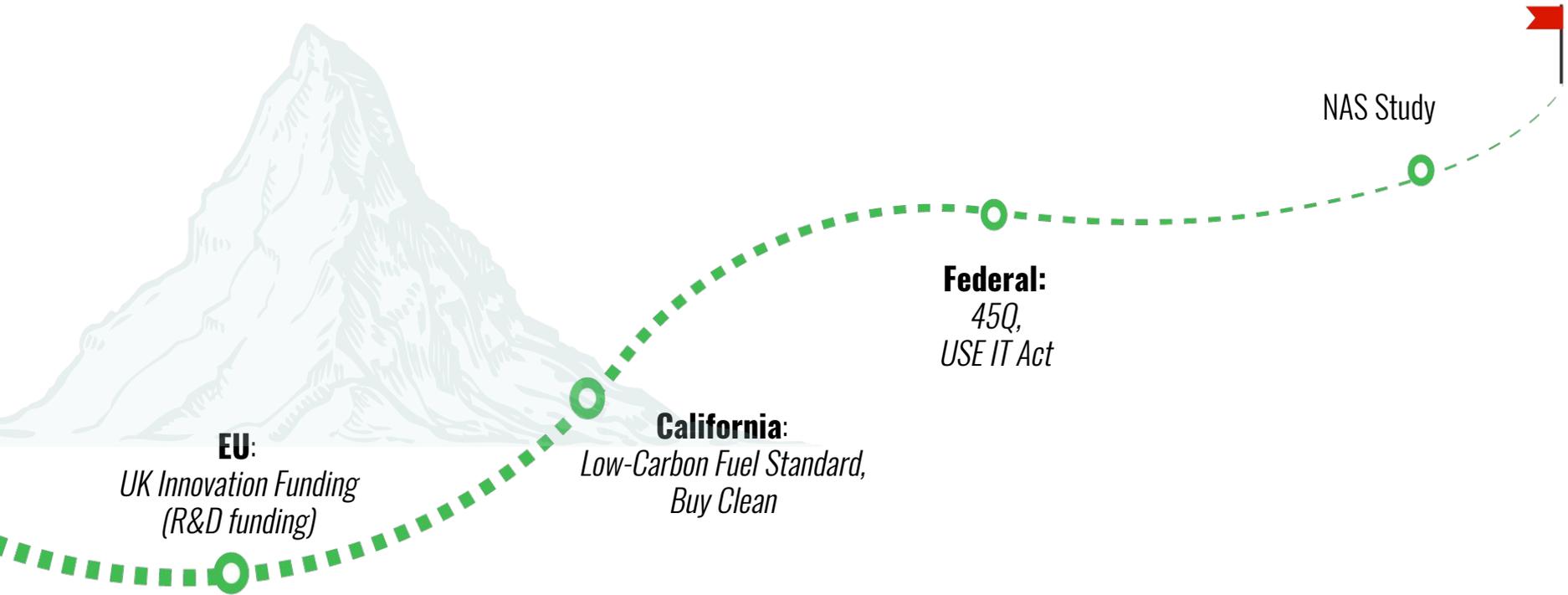


- ELECTRICITY
- INDUSTRY
- FOSSIL FUEL PRODUCTION & USE
- MINERALS
- BIOGENIC

CARBONTECH OPERATIONS ARE WIDELY DISTRIBUTED



Research leadership and policy support are growing



45Q TAX CREDIT: QUICK FACTS

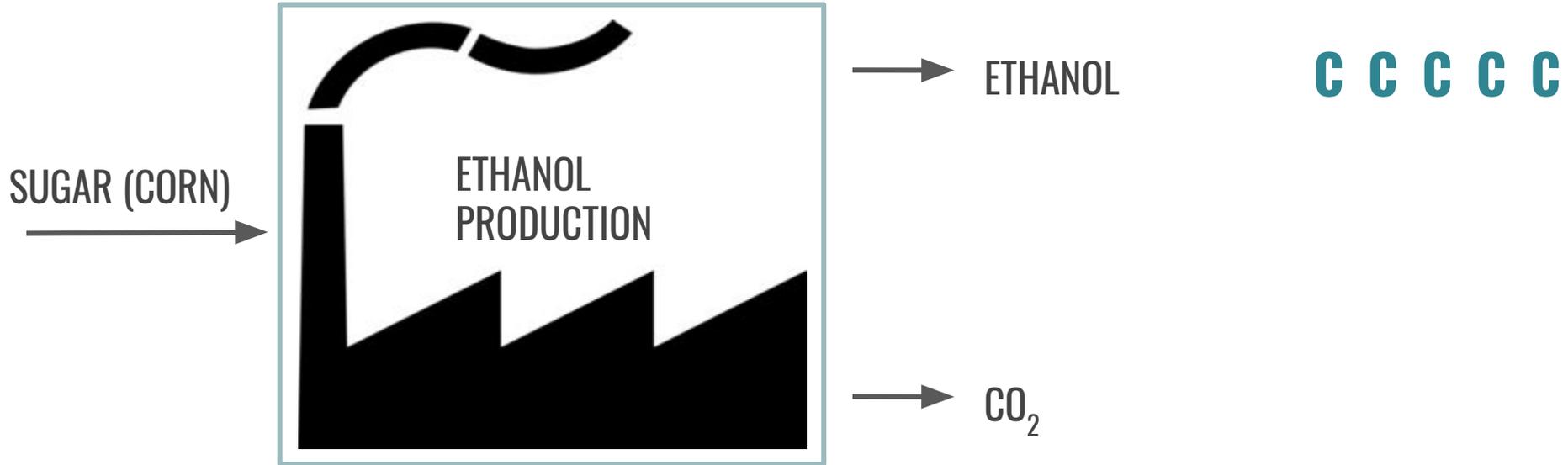
45Q KEY FACTS

- Federal tax credit
- **\$35/ton** for CO₂ captured and used in EOR or Carbontech
- **\$50/ton** for CO₂ captured and sequestered
- Credit can be claimed for **12 years** from when operations begin
- Construction must **begin by Jan 1, 2024**

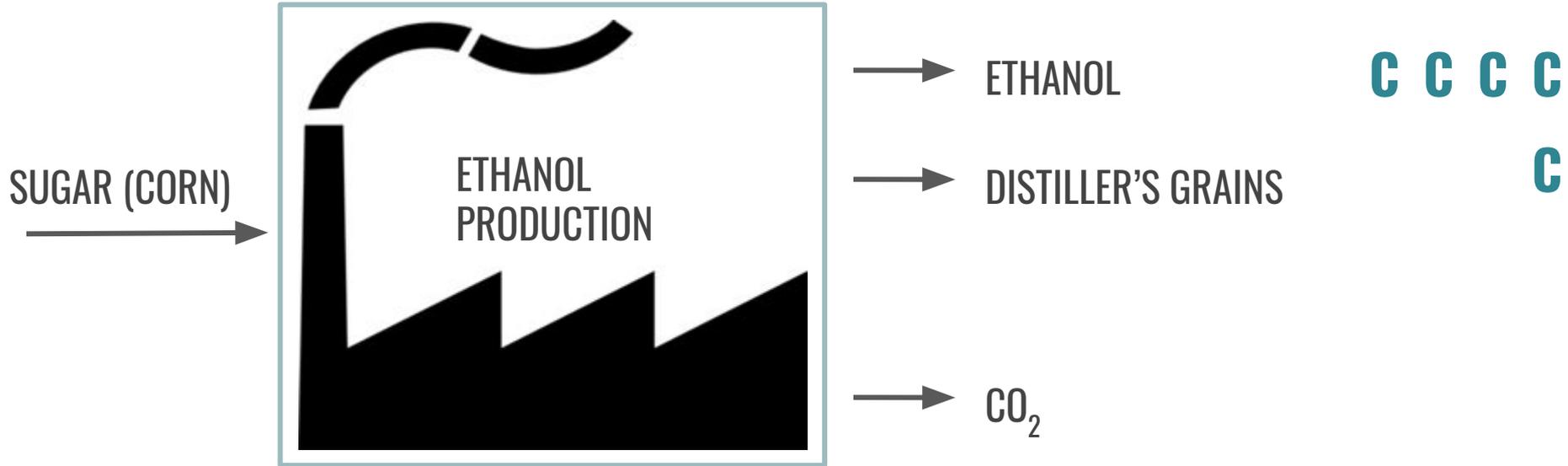
45Q WHY IT MATTERS

- First incentive for carbon capture
- Bipartisan support
- Promotes double bottom line: economy and climate

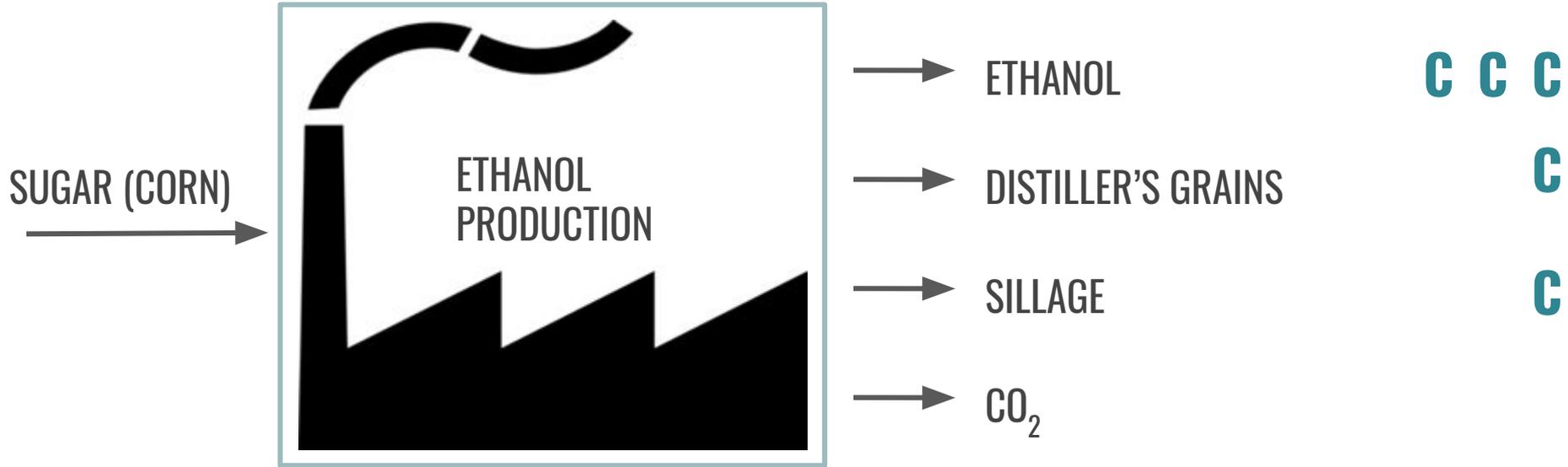
COUPLING THE LOW CARBON FUEL STANDARD WITH CARBONTECH



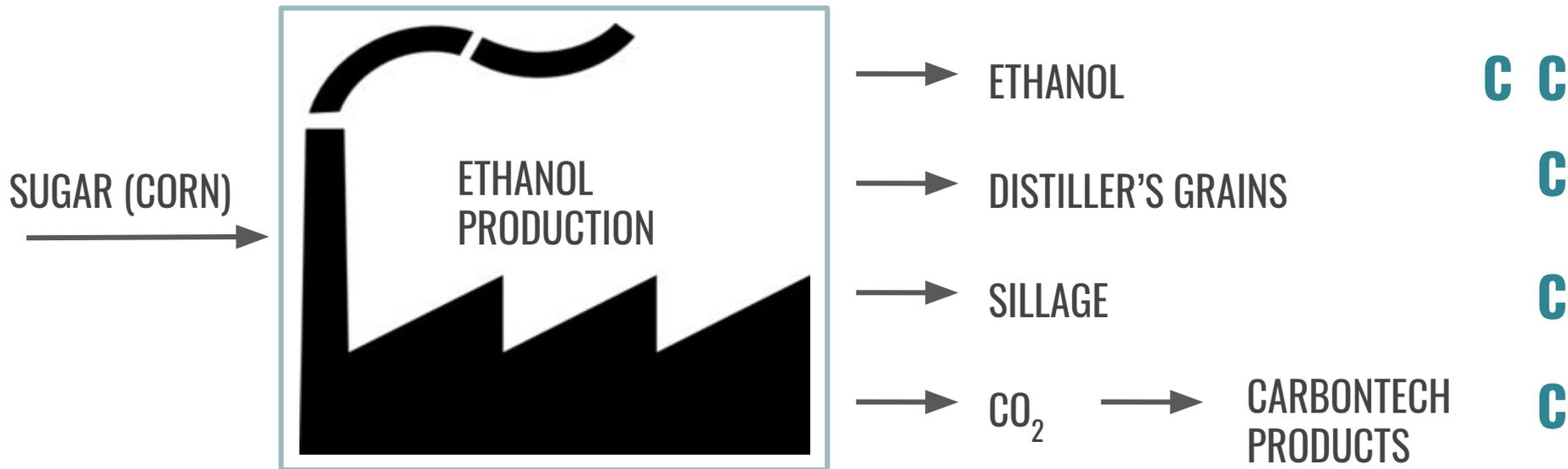
COUPLING THE LOW CARBON FUEL STANDARD WITH CARBONTECH



COUPLING THE LOW CARBON FUEL STANDARD WITH CARBONTECH



COUPLING THE LOW CARBON FUEL STANDARD WITH CARBONTECH



Carbon180

formerly Center for Carbon Removal

Mission

Catalyze development of carbon removal solutions



NEW CARBON ECONOMY CONSORTIUM



Read the Innovation Plan for a New Carbon Economy:
www.carbon180.org/newcarboneyconomy

Carbon180
ADVANCED CENTER FOR CARBON REMOVAL

BUILDING A NEW
CARBON ECONOMY

An Innovation Plan

A Product of the New Carbon Economy Consortium

CARBONTECH LABS - WHY AN ACCELERATOR?

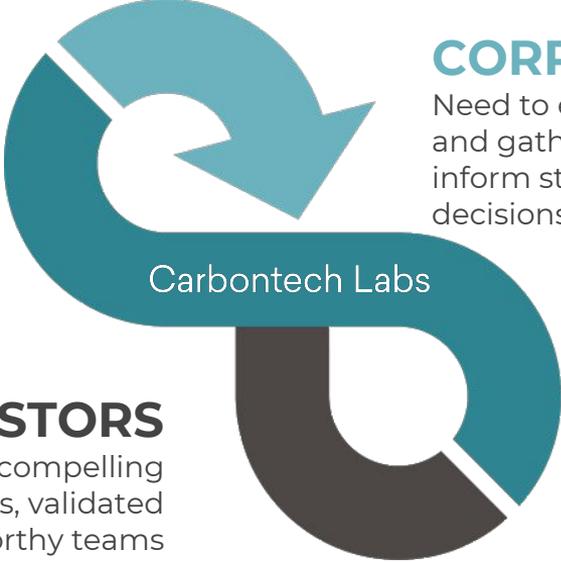
Accelerators are the most efficient way to nucleate business ecosystems for emerging industries, solving multiple stakeholder challenges

ENTREPRENEURS

Require a comprehensive suite of support to bring their innovations to market, specifically connections to customers + investors

CORPORATES

Need to externalize high-risk research and gather perspectives on innovation to inform strategy and partnership decisions



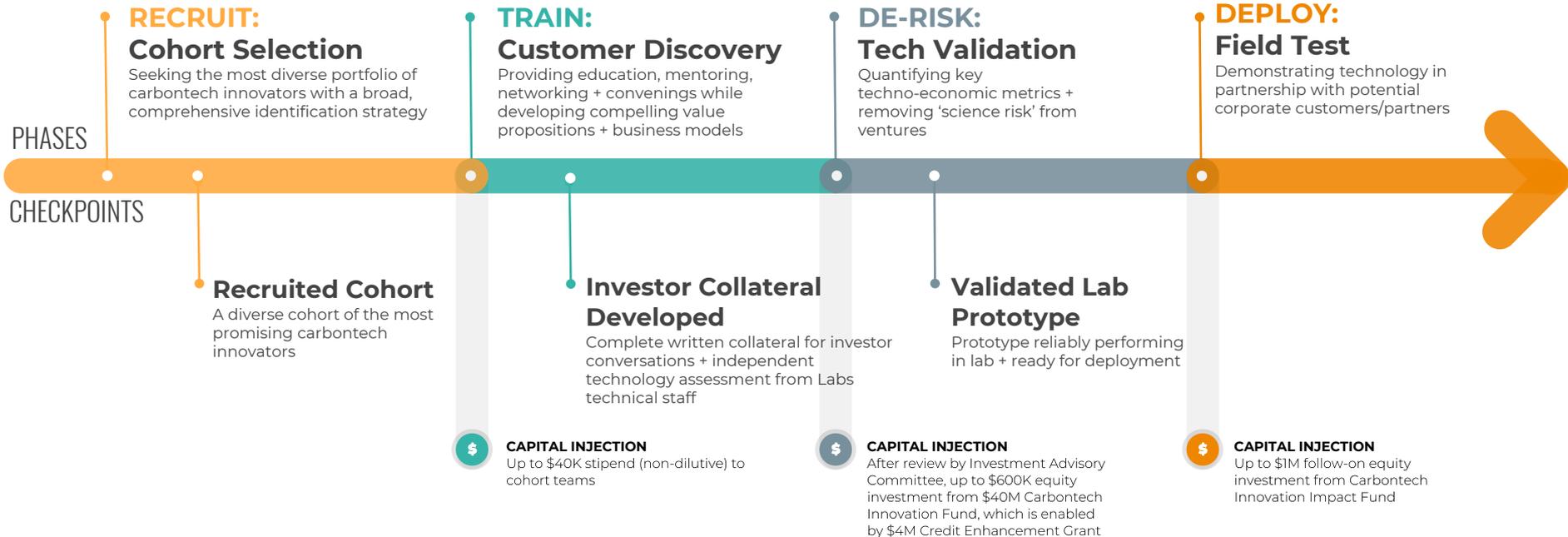
Carbontech Labs

INVESTORS

Seek quality deal flow with compelling value propositions, validated technology + trustworthy teams

CARBONTECH LABS - PROGRAM STRUCTURE

Multi-phase investment-driven program for entrepreneurs with clear checkpoints to maximize impact + provide deal flow to investors and corporates



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