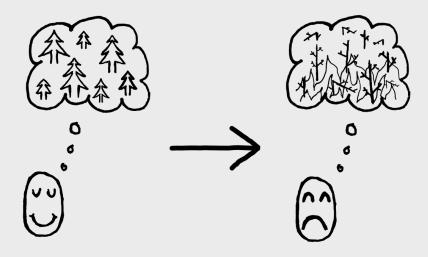
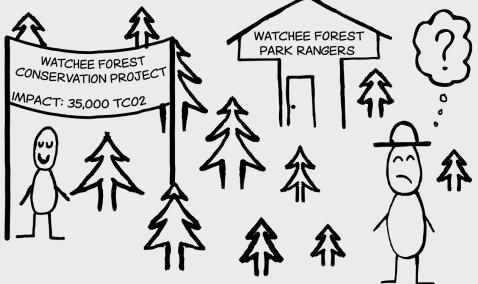


### CLIMATE ACTION IS HARD.

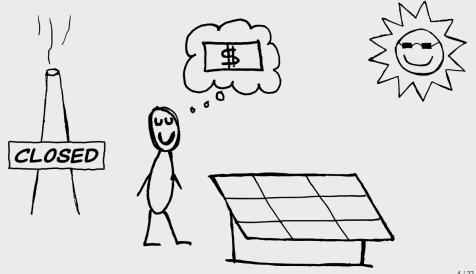
RESTORING NATURE IS RISKY (E.G. REFORESTATION)



CONSERVING NATURE IS FUTILE IF CONSERVATION WOULD HAVE HAPPENED ANYWAY.



### RENEWABLE ENERGY PROJECTS MAY HAVE HAPPENED ABSENT CARBON CREDIT FINANCING.



### Do Carbon Offsets Offset Carbon?\*

Raphael Calel Jonathan Colmer

Georgetown University University of Virginia

Antoine Dechezleprêtre Matthieu Glachant

London School of Economics MINES ParisTech

#### Abstract

We develop and implement a new method for identifying wasted subsidies, and use it to provide systematic evidence on the misallocation of carbon offsets in the Clean Development Mechanism—the world's largest carbon offset program. Using newly constructed data on the locations and characteristics of 1,350 wind farms in India—a context where it was believed, ex ante, that the Clean Development Mechanism could significantly increase development above baseline projections—we estimate that at least 52% of approved carbon offsets were allocated to projects that would very likely have been built anyway. In addition to wasting scarce resources, we estimate that the sale of these offsets to regulated polluters has substantially increased global carbon dioxide emissions.

# TWISTED INCENTIVES LEAD TO EXAGGERATED CLAIMS IN THE VOLUNTARY CARBON MARKET.

MORE CARBON CREDITS/OFFSETS SOLD = MORE \$\$\$

CARBON REGISTRIES

3RD PARTY AUDITORS

PROJECT DEVELOPERS

METHODOLOGY DEVELOPERS

CARBON OFFSET BOUTIQUES

### WHAT ABOUT CARBON REMOVAL?

### IT'S FASCINATING, NECESSARY, AND REALLY EXPENSIVE!

160 --

CORCCHAR
 Recall: of Index Weights

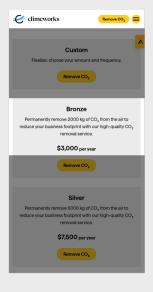
ALIG 24

- - CORCX

120

EUROS/

TCO2F

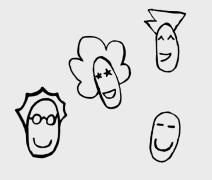


COMMODITY REFERENCE PRICE INDEXES **CORC Carbon Removal Price** Indexes The CORC Index family is the world's first indexes to focus exclusively on tracking the price of carbon removal from the atmosphere. Nasdaq in collaboration with Puro.earth have created three commodity reference price indexes, based on Puro, earth's Carbon Removal Certificates (CORCs). The objective is to increase transparency in the carbon removal market, helping corporates understand the cost of cutting their carbon emissions and supporting more informed project financing decisions. The Index family consists of a composite index that tracks the price of all carbon removal transactions as well as a separate index for biochar and bio-based construction materials. CO2 Removal Certificate Weighted Index Family (CORCX) Euro/Tons CO2 Removal Certificate Weighted Index Family (CORCX)

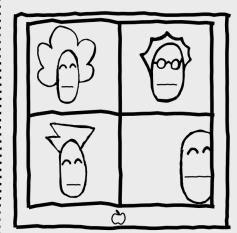
### WHAT'S LEFT:

IN-HOUSE EMISSIONS REDUCTIONS AND DIY OFFSETS

OFFICE CHRISTMAS PARTY
CIRCA 2019



### LAST CHRISTMAS PARTY



# LIRA (IVIX EXISTS TO GIVE YOU CLIMATE IMPACT THAT IS BIG AND SURGICALLY PRECISE

WITHOUT BREAKING THE BUDGET.



AT OUR CUSTOMERS' REQUEST,
WE REDUCE THE EMISSIONS OF SPECIAL U.S. POLLUTERS
THAT ARE UNDER CONTINUOUS EPA MONITORING.

## 

I (FRANCISCO DEL VILLAR) AM THE FOUNDER & CEO.

PHD, ECONOMICS, 2022



EX RESEARCH SCIENTIST



I LEFT TO DO THIS BECAUSE I DECIDED TO GIVE AN F.

### HOW WE REDUCE EMISSIONS.

WE ENTER THE WORLD'S BEST EMISSIONS CONTROL SYSTEMS

AND SINGLE-HANDEDLY REDUCE THE "CAP".



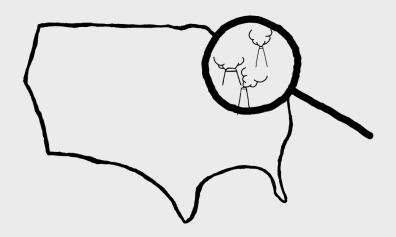
THERE ARE TWO CAP-AND-TRADE PROGRAMS IN THE US:

CALIFORNIA (+QUEBEC), AND. . .

THE REGIONAL GREENHOUSE GAS INITIATIVE (RGGI)

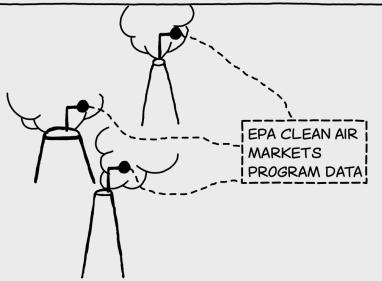
LET'S GO A BIT DEEPER.

STATE GOVERNMENTS IN THE NORTHEASTERN US\* REGULATE
FOSSIL-FUEL-FIRED POWER GENERATORS ABOVE 25MW.

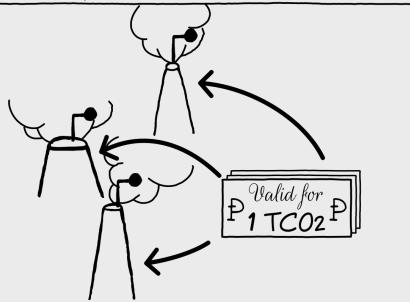


\* CONNECTICUT, DELAWARE, MAINE, MARYLAND, MASSACHUSETTS, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, RHODE ISLAND, AND VERMONT.  $_{12/22}$ 

THEIR EMISSIONS COME OUT THROUGH LARGE SMOKESTACKS.
INSIDE EACH SMOKESTACK IS A CONTINUOUS EMISSIONS
MONITORING SYSTEM CONNECTED TO THE FEDERAL EPA.



EVERY QUARTER, RGGI GIVES OUT POLLUTION PERMITS TO THE STATIONS, ACCORDING TO A SCHEDULE SET IN 2017.



# AFTER EVERY CONTROL PERIOD, STATIONS MUST SURRENDER AN AMOUNT OF PERMITS TO RGGI EQUAL TO THEIR EMISSIONS.

POWER STATION	TONS OF EMISSIONS	PERMITS OWED BACK TO GOV'T		
Α	5	5		
В	2	2		
С	3	3		

### 1 PERMIT ALLOWS 1 TON OF EMISSIONS.

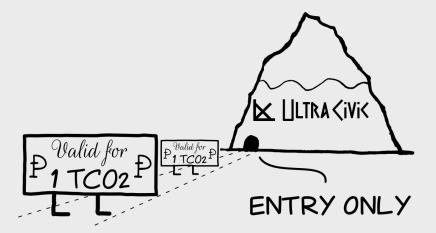
THE "CAP" IS THE NUMBER OF PERMITS IN CIRCULATION, AND IT IS HIGH, I.E. THERE'S LOTS OF PERMITS.

90 MILLION PERMITS IN 2022

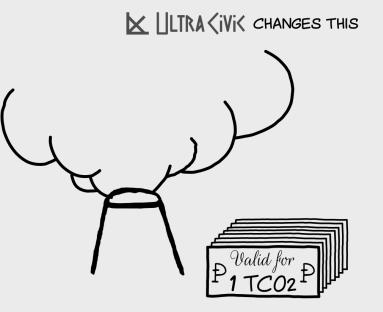
20% OF THE UK'S 2022 EMISSIONS.

### WE ARE MEMBERS OF RGGI, EVEN IF WE'RE NOT GENERATORS.

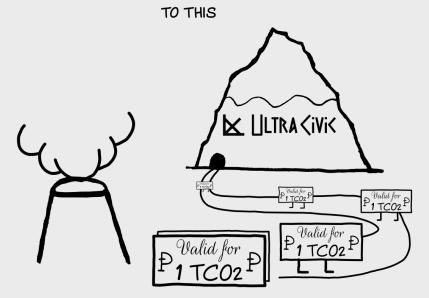
WE PERMANENTLY REMOVE PERMITS FROM CIRCULATION,
THEREBY LOWERING (CORRECTING) THE CAP.



### EVERY PERMIT YOU PAY US TO REMOVE IS ONE LESS TC02E.



### EVERY PERMIT YOU PAY US TO REMOVE IS ONE LESS TC02E.



### WE ALREADY OWN PERMITS FOR 1,000 TC02E.

# RGGI CO<sub>2</sub> Allowance Tracking System RGGI CO<sub>2</sub> Budget Trading Programs

	Account Number	Account Name	Authorized Account Representative	State	Allowances can be Transferred
•	GN10812	Climexchange	del Villar, Francisco	All States	Yes

#### 1 - 1 of 1

#### Allowance Holdings

Allocation Year	Туре	Originating State	Serial Range	Date Acquired	Frozen	Quantity
2023	Standard	NJ	2030185689 - 2030185693	12/16/2024	No	5
2024	Standard	DE	1891867971 - 1891868010	12/16/2024	No	40
2024	Standard	MD	2142884904 - 2142885078	12/16/2024	No	175

Total Allowances Available: 1000

### IF WE LOCKED THESE PERMITS AWAY, WE'D REDUCE EMISSIONS (IN TCO2E) LIKE SO:

