

Draft v5



RC&S US Strategy

December 2020

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Executive Summary

- In addition to impacting emissions, solutions need to be **integrated, scalable and replicable**
 - Integrated: Cross-business, with incremental value
 - Scalable: Material cash delivery, with upside potential
 - Replicable: Common approach for multiple customers; cannot "reinvent the solution" for every partner.
- Opportunities at scale in the US are more likely identified within **Low Carbon Opportunity Zones**, where there is a significant overlap of government and corporate activity, as well as opportunity for government policy incentives.
- Value upside will require integrated solutions around **anchor customers**, much like upstream development is anchored around a major field, with overlapping region and corporate options.
- Most large emission sources, and industrial clusters, tend to be concentrated at **major air and marine ports**, e.g. New York, Los Angeles



Priorities in 2021

- Deliver cash generating options in Houston
- **Originate relationships in the following Low Carbon Opportunity Zones:**

- Chicago
- Los Angeles
- Northeast region (corporate first, then cities)

Further refine targets and pursue relationships with:

- One major consumer brand, e.g. Verizon
- One major industrial, e.g. Reliance Steel
- One major transportation, e.g. Port Authority of NY/NJ

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Supporting RC&S cash delivery in the US



RC&S will need to progress a sizable hopper of opportunities

Global RC&S Cash delivery by 2030

\$1bn/yr

US RC&S cash delivery by 2030
(40% of global; in line with rest of business)

\$0.4bn/yr

Average cash delivery est. per city/corporate

\$25m/yr

Projects required to deliver US cash target

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- In order for US Region to support delivery of 40% of global RC&S cash delivery by 2030, 12-16 projects will need to reach FID with an average cash delivery of c.\$30m/yr
- Delivery of 12-16 projects by 2030 will require:
 - Material scale for each option
 - Ability to leverage, or replicate, 80% of the “integrated option structure” from one project to the next
- A hopper of options 6-8 times larger, i.e. 70-80 projects being incubated, in order to deliver quality at scale by 2030

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US Context

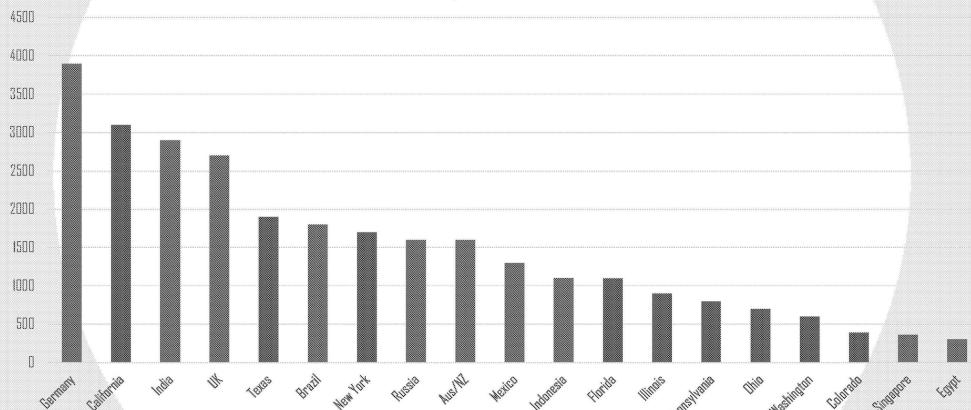
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The USA: 50 separate GDPs and opportunities



GDP (2019 US\$ million)

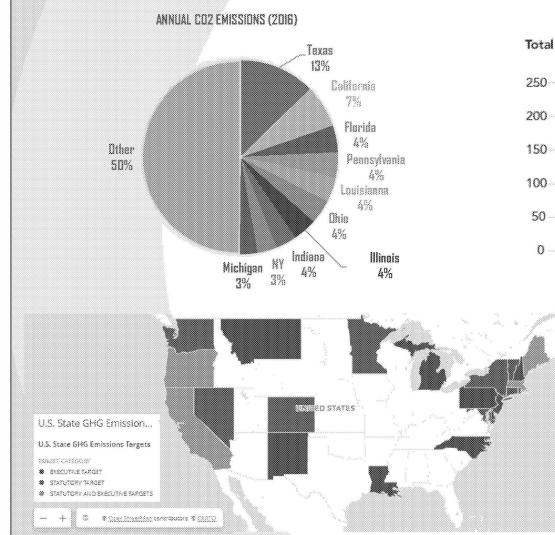


*Excludes China (\$14200) for scale

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Where is the opportunity at scale in the US?



- Ten states account for half of all US emissions
- NY, LA and Chicago represent a global-scale footprint
- Western and Northeastern states have the most binding, i.e. statutory, commitment to reducing emissions.
- Only 2 of 10 top emitting states (NY and CA) have statutory commitments to reducing emissions.

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Key Takeaways

- X
- Y
- Z

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Individual bp business/enabling strategies in the US



	C&P	GPTA	RPT	G&LCE
US Strategy in place?	Integrated growth in existing markets; targeted geographic and technology inorganics	Trading, asset optimization		
Priorities	<ul style="list-style-type: none"> Maximize integrated value Increase customer touch points, including convenience Expand offerings to include EV, renewables, hydrogen, and lower-carbon solutions 	<ul style="list-style-type: none"> Green offering Unique customer solutions Expansion further down the value chain Technology as a growth driver 		
Solutions	<ul style="list-style-type: none"> Targeted customer offering, from branded convenience sites to EV stations to large customers Renewable products or blended hydrocarbon and low carbon fuels Strategic partnerships leveraging bp expertise 	<ul style="list-style-type: none"> Carbon Offset Natural Gas, "CO2" and Carbon offset programs, "CO2" Renewable energy credits, "RECs" Refining solutions: to consumers and producers in new geographies Serving end-use Commercial and Industrial (CII) customers in power and gas Access opportunities CO2 storage 		

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US Competitors v1

Placeholder



Top 20

In the world for innovation, according to Fortune

\$50-55 billion

Planned investments in American infrastructure through 2025

98%

Reduction in our dependency on foreign oil after 2001

45,500

Megawatts of net generating capacity

118

Total shareholder returns over the last 15 years

Thousands

Highest paying American Jobs created through our investments

- Market cap larger than XOM
- Largest utility in the US
- Largest generator of solar and wind power in the US
- Fortune Top 25 innovating companies
- More energy storage capacity than any other US company



Energy advisory services

There's nothing more powerful than the right energy team

Engineering your company's energy approach, whether it's a result of a special implementation or a strategic shift in approach, is something our team can deliver. In doing uniquely well to your challenges and energy management goals, experience and expertise are powerful allies in the energy market.



- Market cap larger than XOM
- Largest utility in the US
- Largest generator of solar and wind power in the US
- Fortune Top 25 innovating companies
- More energy storage capacity than any other US company

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US Competitors v2



There is no one doing what bp is doing, at scale and with breadth

	bp	NextEra	NRG	Shell	Siemens	Air Liquide
Carbon Offsets	✓					
RNG	✓					
Differentiated Diesel	✓	✗	✗			
Renewables	✓	✓	✓			
Waste to energy	✓					
Building energy management	✓					
Hydrogen	✓					
CCUS	✓					

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City of Houston Integrated Solution

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Houston Integrated Offer (working model)



Implemented over time

Natural Climate Solutions

- Carbon offsets

Renewables

- Solar at scale, starting with Sunnyside

Waste to Energy

- Plastics to diesel (Brightmark option)
- Renewable natural gas

Decarbonization of mobility

- Electrification
- Biofuels

Decarbonized Infrastructure

- Airports
- Port of Houston
- CCUS

Building/Energy management

- Leverage expertise of existing partners/ventures
- Pilot opportunity for bp to learn how to scale up

Opportunity Incubation

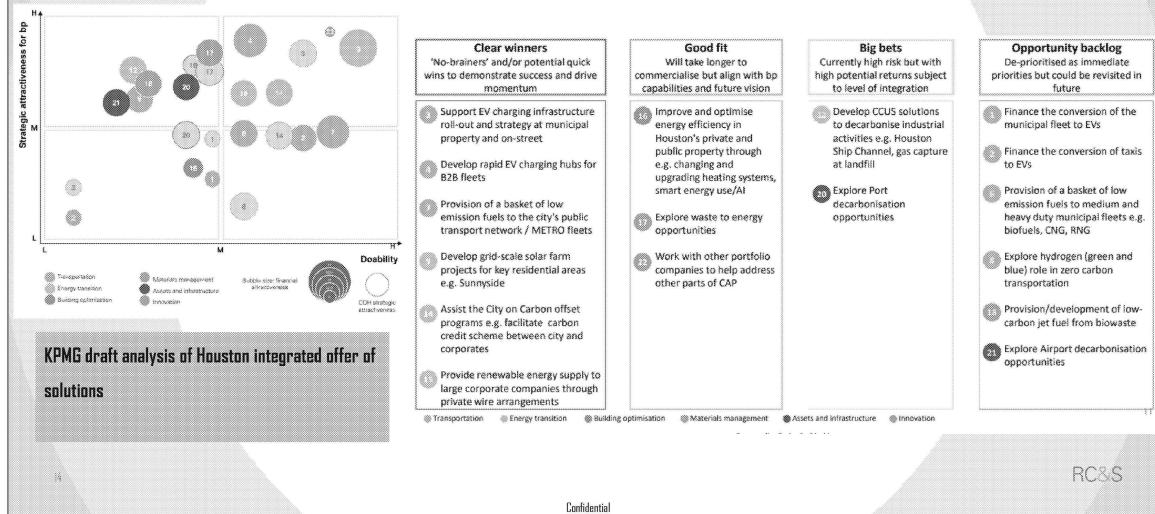
- Hydrogen

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Illustration of an integrated offer – Houston draft





Regional Focus Areas

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Regional focus areas and approach



Top ten states with highest CO2 emissions (and cities in top 35 in US)

1. Texas
 - Dallas (5)
 - Houston (9)
 - San Antonio (28)
 - Austin (33)

Focus areas
2. California
 - Los Angeles (2)
 - San Jose (8)
 - San Diego (18)
 - Sacramento (24)
3. Florida
 - Miami (4)
 - St Petersburg (30)
4. Pennsylvania
 - Philadelphia (7)
 - Pittsburgh (32)
5. Louisiana
 - New Orleans (31)
6. Ohio
 - Cleveland (20)
 - Columbus (25)

Focus areas
7. Illinois
 - Chicago (3)
8. Indiana
9. New York
 - New York (1)
10. Michigan
 - Detroit (6)

Focus areas

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Region versus City scale of opportunity



Important to see scope of opportunity above the city level

Ohio: 207 MTCO₂e

Northeast Ohio: 60 MTCO₂e

City of Cleveland:
17 MTCO₂e

City of Chicago: 57 MTCO₂e

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State focus areas in 2021/2022

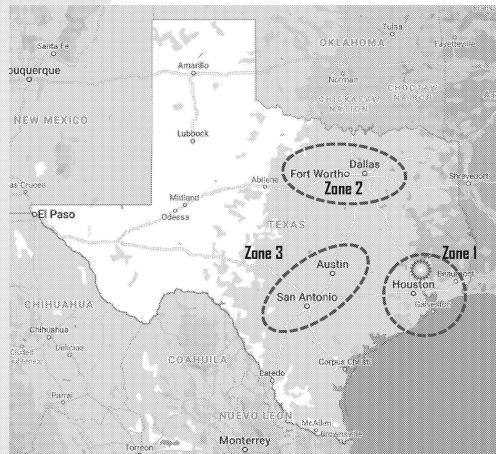


State (Ranked by emissions)	Material BP Presence	Emissions Reduction Target	Material Corporate presence	Presence of ports	Candidate in 2021/2022?
Texas	Yes	No	Yes	Yes	Yes
California	Moderate	Yes, statutory	Yes	Yes	Yes
Florida	No	No	Yes	Yes	No
Pennsylvania	No	Yes, Executive	Yes	Yes	No
Louisiana	Yes	Yes, Executive	No	Yes	No
Ohio	Yes	No	Yes	Yes	Yes
Illinois	Yes	No	Yes	Yes	Yes
Indiana	Yes	No	No	Yes	No
New York	Yes	Yes, statutory	Yes	Yes	Potentially
Michigan	No	Yes, Executive	Yes	Yes	No

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Regional emission hub Texas

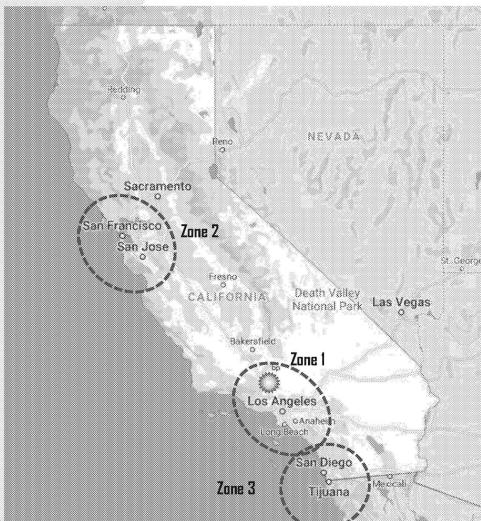


- Zone 1: Houston/Harris County
 - Focus in 2021
 - 140+ MT CO2e emissions
 - Includes bp retail and former refining assets
 - Corp HQ 21 companies including Sysco, Waste Management, United Airlines hub
- Zone 2: Dallas/Fort Worth
 - Focus in 2022
 - 125+ MT CO2e emissions
 - Corp HQ for 12 Fortune 500 companies inc. AT&T, Jacobs Engineering, T-Mobile, American Airlines and Southwest Air hubs
- Zone 3: San Antonio/Austin
 - Future potential
 - 115+ MT CO2e emissions
 - Corp HQ for Valero, Dell

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Regional emission hub California: centers of city and corporate opportunities



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- California is home to 53 Fortune 500 companies
- Zone 1: Los Angeles
 - Focus in 2021
 - 200+ MT CO2e emissions
 - Includes bp retail and former refining assets
 - Corporate HQ for AECOM Tech, Reliance Steel, A Mark Precious Metals; and 3 international/2 domestic airports (LAX owned by the City)
 - Two largest seaports in the North America managing 28%+ of market
- Zone 2: Bay Area
 - Focus in 2022
 - 50+ MT CO2e emissions
 - Corp HQ for Apple, Alphabet, Wells Fargo
- Zone 3: San Diego
 - Future potential
 - 50+ MT CO2e emissions
 - Corp HQ for Qualcomm, Valero

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Regional emission hub Chicago/Ohio: centers of city and corporate opportunities

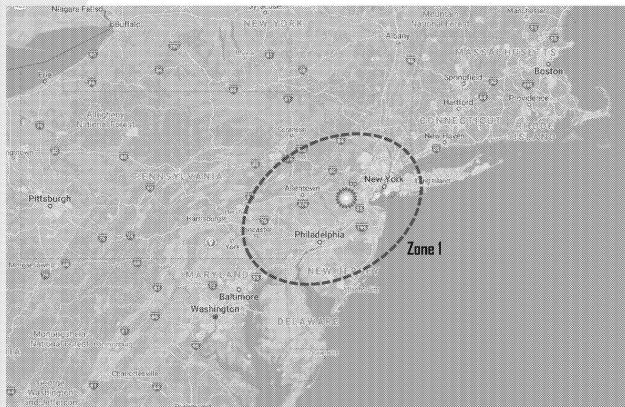


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- Zone 1
 - Focus in 2021
 - 160+ MT CO2e emissions
 - Includes Whiting refinery
 - United Airlines hub
- Zone 2
 - Focus in 2022
 - 170+ MT CO2e emissions
 - Includes Toledo refinery
 - Corp HQ for 8 Fortune 500 companies inc. General Motors, Ford, DowDuPont, Goodyear Tire, Owens Corning
- Zone 3
 - 70+ MT CO2e emissions
 - Corp HQ for 10 Fortune 500 companies inc. Kroger and Procter and Gamble

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Regional emission hub NYC/Newark/Philadelphia



Illustrative regions

- Zone 1
 - Focus in 2021 (Corporates first)
 - 400+ MT CO2e emissions
 - Includes material M&T position
 - HQ for Castrol US
 - Corp HQ for 80 Fortune 500 companies inc. Verizon, Merck, Comcast, Johnson & Johnson, Avis
 - Third largest seaport in the US managing c.12% of North America market

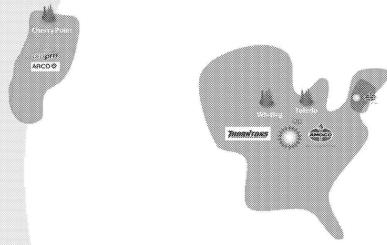
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Overlap of bp assets within focus zones

M&C Portfolio of Brands & Businesses



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Summary and Next Steps

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The Integrated Picture



Priority Opportunity Zones	Focus Cities (and engagement date)	Corporate Focus	Corporate Targets in 2021 & 2022	Existing bp business
Northeast Zone	Newark (2021) *Philadelphia (2022) *New York City (2022)	Consumer Goods & Heavy Transport	<ul style="list-style-type: none"> ▪ Port Authority of NY/NJ ▪ Verizon ▪ Major banks 	<ul style="list-style-type: none"> ▪ US Castrol HQ ▪ TGS NY office
California Zone	*Los Angeles (2021) *San Francisco (2022)	Consumer Goods & Heavy Transport	<ul style="list-style-type: none"> ▪ Ports of LA and Long Beach ▪ Airports of LA ▪ Reliance Steel 	
Texas zone	*Houston (2020) Dallas (2022)	Heavy Industries & Heavy Transport	<ul style="list-style-type: none"> ▪ United Airlines ▪ Waste Management ▪ Port of Houston ▪ Houston airports 	Houston offices
Midwest Zone	*Chicago (2021) Cleveland (2022)	Heavy Industries & Heavy Transport	<ul style="list-style-type: none"> ▪ Ford ▪ Goodyear ▪ Cleveland-Cliffs 	Chicago offices: Whiting and Toledo refineries

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*C40 cities

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The Integrated Picture



	NE Solutions	Renew. Power	Mobility	Waste to Energy	CCUS	H2
NE Zone	●	●	●	●	●	●
California	●	●	●	●	●	●
Texas	●	●	●	●	●	●
Midwest	●	●	●	●	●	●

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Back-up slides



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Corporate emission reduction targets in the US



Table 2: List of Fortune Global 500 companies that have made a public commitment that they are, or will be, carbon neutral.

Today	Future
now	
Achmea Allianz Alphabet Australia & New Zealand Banking Group BNP Paribas Capital One Financial Credit Suisse Group Deutsche Bank Goldman Sachs Group ING Group La Poste MetLife Microsoft Munich Re Group National Australia Bank Swiss Re Tokio Marine Holdings Toronto-Dominion Bank Zurich Insurance Group	2020-2030 Bank of America Corp. Bosch Group L'Oréal
	2035-2050 BT Group Daimler Verizon Communications
	2022-2025 Coop Group Morgan Stanley Novartis SAP
	2030 E.ON EHI LG Electronics Schneider Electric Siemens State Bank of India Unilever
US companies with carbon neutral commitment	

Other major US companies with carbon reduction targets (less than carbon neutral)

- Xerox
- Whirlpool
- Walmart
- Union Pacific
- Port Authority of NY and NJ
- Kraft
- Heinz
- Hershey
- Coca Cola
- Starbucks
- Schlumberger
- Republic Services
- Procter & Gamble
- Pepsi
- Owens Corning
- McDonalds
- LA Dept of Water and Power
- HP
- Hilton
- HP
- General Mills
- Ford
- Dell
- CSX Corp
- Crown Holdings
- CVS Pharmacies
- Conagra
- Cisco
- Best Buy
- Ball Corp
- AMD

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Proposed approach to identifying corporate candidates

Corporates in the US are being assessed within two broad categories: **federal players** and **opportunity zone players**

- **Federal players** hold a nationwide presence and opportunity, and the relationship with bp can be developed independent of a regional relationship, e.g.:
 - Microsoft
 - Amazon
 - FedEx
 - Delta
- **Opportunity zone players** hold primarily a regional presence and opportunity, and the relationship with bp can be developed or benefit from leveraging regional relationship, e.g.:
 - United (hubs in Houston, Chicago and Denver)
 - Goldman Sachs
 - Goodyear in Ohio where bp has a major refinery

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Partner screening criteria

- X
- Y
- Z



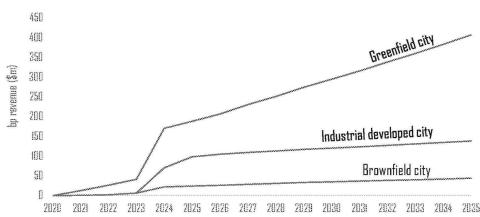
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The value from integrated solutions for cities will depend on the archetype

Cities - potential bp revenue range per integrated solution

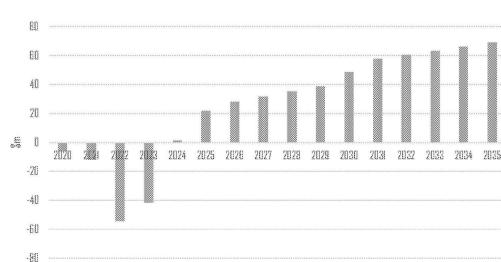


Assumptions

- City population of ~2 million
- Scale and source of value differ by city archetype:
 - Industrial developed cities may include offers like CCUS, EV charging, solar energy, renewable natural gas, carbon offset natural gas (CONG), NCS and building efficiency solutions
 - Greenfield city solutions don't include CCUS but have scaled up assumptions for other offers

Cities - pre-tax NPV by source of value & by stakeholder for an industrial developed city:

Cities - pre-tax cashflow for an industrial developed city



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Integrated NPV: ~\$350m IRR: ~20%

Source of Value:

Source	NPV
Buildings	NPV 60
EV passenger	NPV 40
Solar	NPV 50
CCUS	NPV 110
CONG	NPV 40
NCS	NPV 10
EV fleet	NPV 20
Waste	NPV 20

Stakeholder:

Stakeholder	NPV	Percentage
City	90	26%
Private	130	37%
Federal	130	37%

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Corporate Targets



Priority Opportunity Zones	Consumer Goods	Heavy Transport	Heavy Industries
Northeast Zone	<ul style="list-style-type: none"> ▪ Goldman Sachs ▪ JP Morgan ▪ Verizon 	<ul style="list-style-type: none"> ▪ Port Authority of NY/NJ 	<ul style="list-style-type: none"> ▪ tbd
California Zone	<ul style="list-style-type: none"> ▪ tbd 	<ul style="list-style-type: none"> ▪ Ports of LA and Long Beach ▪ Airports of LA 	<ul style="list-style-type: none"> ▪ Reliance Steel
Texas zone	<ul style="list-style-type: none"> ▪ Waste Management 	<ul style="list-style-type: none"> ▪ United Airlines ▪ Port of Houston ▪ Houston airports 	<ul style="list-style-type: none"> ▪ tbd
Midwest Zone	<ul style="list-style-type: none"> ▪ Goodyear 	<ul style="list-style-type: none"> ▪ tbd 	<ul style="list-style-type: none"> ▪ Owens Corning ▪ Cleveland-Cliffs

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City Targets



Priority Cities 2021

Debt rating

Economic health indicator

Public commitments to net zero

Chicago

Los Angeles

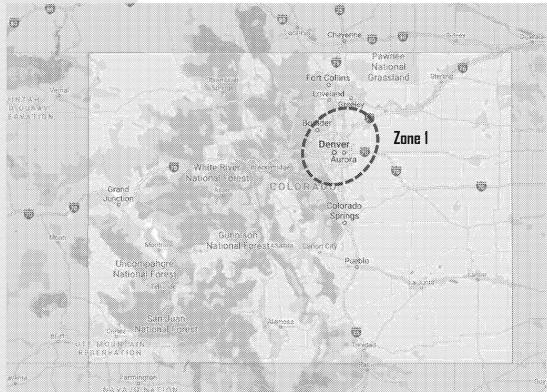
Newark

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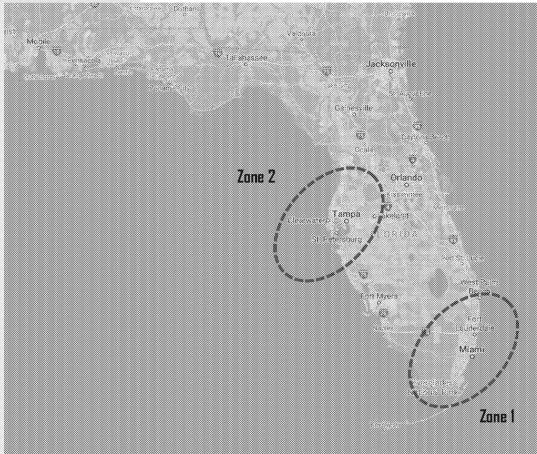
Regional emission hub Colorado



Illustrative regions

- Zone I: Denver
 - 130+ MT CO₂e emissions
 - Headquarters to BPX
 - Corporate headquarters to Arrow Electronics, McKesson, Newpont
 - Mining: major hub for United Airlines; one major international airport

Regional emission hub Florida



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Illustrative regions

- Zone 1: Miami
 - 90+ MT CO₂e emissions
 - Proximity to [bp asset]
 - Corporate headquarters to Office Depot and World Fuel Services; one international airport and 16th largest seaport in North America
- Zone 2: Tampa Bay
 - 65+ MT CO₂e emissions
 - Proximity to [bp asset]
 - Corporate headquarters to Publix Supermarkets, Jabil, and Tech Data Corp; one major airport

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Regional emission hub: Washington



Illustrative regions

- Zone 1

- 70+ MT CO2e emissions
- Proximity to Cherry Point refinery
- Major corporate presence by Microsoft, Starbucks, Boeing, Alaska Airlines and Costco
- One international airport and one major seaport managing c.5% of North America market

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