

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



# 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

**16**

- 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



## US Context

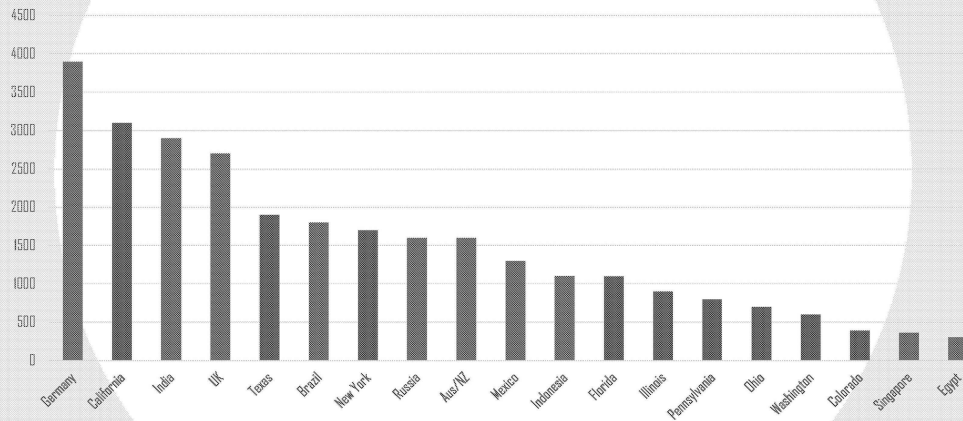
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## The USA: 50 separate GDPs and opportunities



GDP (2019 US\$ million)



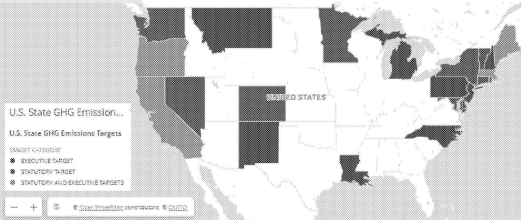
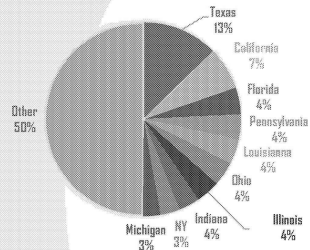
\*Excludes China (\$14200) for scale

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## Where is the opportunity at scale in the US?

ANNUAL CO2 EMISSIONS (2016)



Total Carbon Footprint (Mt CO2)



- 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	GBLCE
US Strategy in place?	Integrated growth in existing markets; targeted geographic and technology inorganics	Trading, asset optimization		
Priorities	<ul style="list-style-type: none"> <li>Maximize integrated value</li> <li>Increase customer touch points, including convenience</li> <li>Expand offerings to include EV, renewables, hydrogen, and lower-carbon solutions</li> </ul>	<ul style="list-style-type: none"> <li>Green offering</li> <li>Unique customer solutions</li> <li>Expansion further down the value chain</li> <li>Technology as a growth driver</li> </ul>		
Solutions	<ul style="list-style-type: none"> <li>Targeted customer offering, from branded convenience stores to EV stations to large customers</li> <li>Renewable products or blended hydrocarbon and low carbon solutions</li> <li>Strategic partnerships leveraging bp expertise</li> </ul>	<ul style="list-style-type: none"> <li>Carbon Offset Natural Gas, "CO2iQ" and Carbon offset propane, "CO2P"</li> <li>Renewable energy credits, "RECs"</li> <li>Helping solutions to consumers and producers in new communities</li> <li>Serving and use Commercial and Industrial (C&amp;I) customers in power and gas</li> <li>Access opportunities CO2 storage</li> </ul>		

## 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  
dependence on foreign oil  
since 2005

**45,500**  
Megawatts of net generating  
capacity

**945%**  
Total shareholder return  
over the last 10 years

**Thousands**  
High-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

Enhancing your company's energy approach, whether the result of a tactical improvement or a strategic shift in approach, is something our team can deliver in ways uniquely suited to your challenges and energy management goals. Experience and expertise are powerful allies in the energy market.

Our expertise  
Renewable Energy  
Services

Our expertise  
Energy Efficiency  
Services

Our expertise  
Sustainability  
Management

Our expertise  
Electricity &  
Natural Gas  
Strategy

Our expertise  
Utility Bill  
Management

- Market cap larger than XOM
- Largest utility in the US
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## US Competitors v2



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

	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

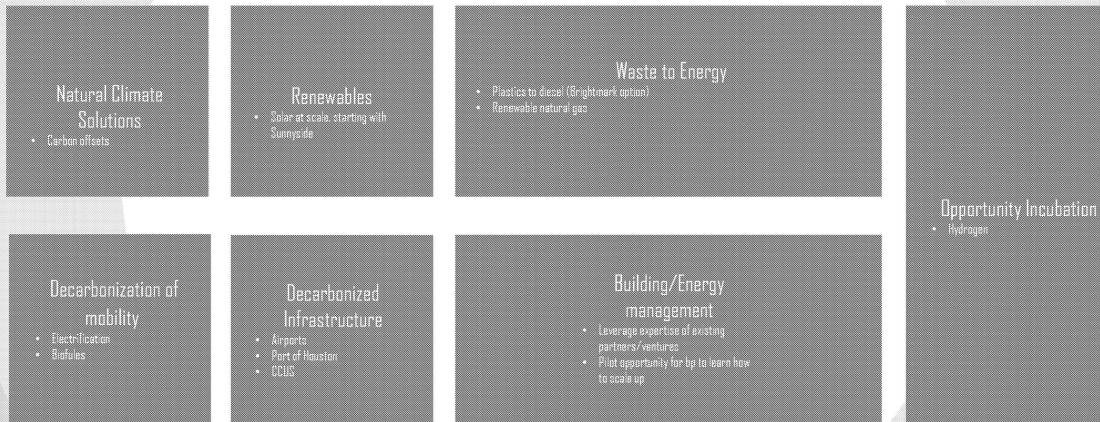
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# Houston Integrated Offer (working model)



Implemented over time

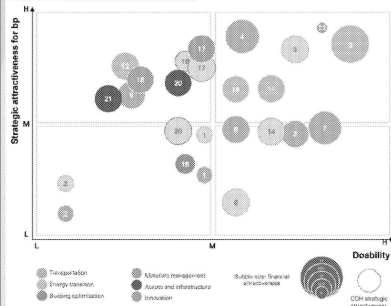


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# Illustration of an integrated offer – Houston draft



KPMG draft analysis of Houston integrated offer of solutions

## Clear winners

'No-brainers' and/or potential quick wins to demonstrate success and drive momentum

1. Support EV charging infrastructure roll-out and strategy at municipal property and on-street
2. Develop rapid EV charging hubs for B2B fleets
3. Provision of a basket of low emission fuels to the city's public transport network / METRO fleets
4. Develop grid-scale solar farm projects for key residential areas e.g. Sunnyside
5. Assist the City on Carbon offset programs e.g. facilitate carbon credit scheme between city and corporates
6. Provide renewable energy supply to large corporate companies through private wire arrangements

## Good fit

Will take longer to commercialise but align with bp capabilities and future vision

16. Improve and optimise energy efficiency in Houston's private and public property through e.g. changing and upgrading heating systems, smart energy use/AI
17. Explore waste to energy opportunities
22. Work with other portfolio companies to help address other parts of CAP

## Big bets

Currently high risk but with high potential returns subject to level of integration

15. Develop CCUS solutions to decarbonise industrial activities e.g. Houston Ship Channel, gas capture at landfill
20. Explore Port decarbonisation opportunities

## Opportunity backlog

De-prioritised as immediate priorities but could be revisited in future

1. Finance the conversion of the municipal fleet to EVs
2. Finance the conversion of taxis to EVs
3. Provision of a basket of low emission fuels to medium and heavy duty municipal fleets e.g. biofuels, CNG, RNG
7. Explore hydrogen (green and blue) role in zero carbon transportation
18. Provision/development of low-carbon jet fuel from biowaste
21. Explore Airport decarbonisation opportunities

Transportation Energy transition Building optimisation Materials management Assets and infrastructure Innovation Build-out: Transit and attractiveness CO2 strategic attractiveness

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## 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	<ul style="list-style-type: none"> <li>Dallas (5)</li> <li>Houston (9)</li> <li>San Antonio (28)</li> <li>Austin (33)</li> </ul>	Focus areas
2.	California	<ul style="list-style-type: none"> <li>Los Angeles (2)</li> <li>San Jose (8)</li> <li>San Diego (18)</li> <li>Sacramento (24)</li> </ul>	
3.	Florida	<ul style="list-style-type: none"> <li>Miami (4)</li> <li>St Petersburg (30)</li> </ul>	
4.	Pennsylvania	<ul style="list-style-type: none"> <li>Philadelphia (7)</li> <li>Pittsburgh (32)</li> </ul>	
5.	Louisiana	<ul style="list-style-type: none"> <li>New Orleans (31)</li> </ul>	
6.	Ohio	<ul style="list-style-type: none"> <li>Cleveland (20)</li> <li>Columbus (25)</li> </ul>	Focus areas
7.	Illinois	<ul style="list-style-type: none"> <li>Chicago (3)</li> </ul>	
8.	Indiana		
9.	New York	<ul style="list-style-type: none"> <li>New York (1)</li> </ul>	
10.	Michigan	<ul style="list-style-type: none"> <li>Detroit (6)</li> </ul>	Focus areas

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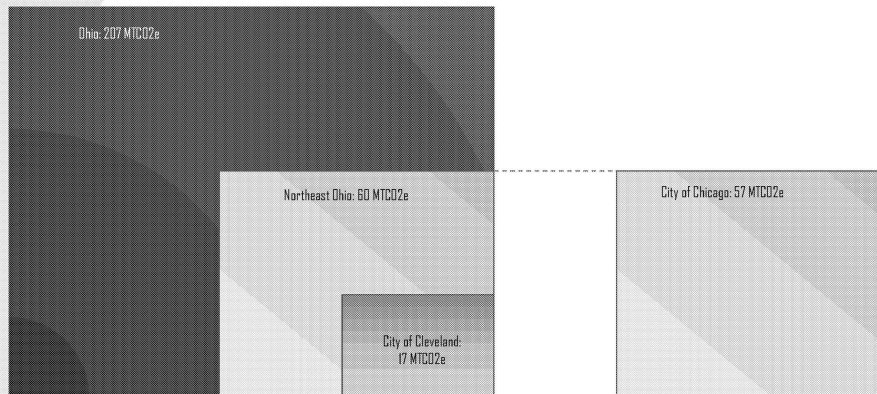
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## Region versus City scale of opportunity



*Important to see scope of opportunity above the city level*



## 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 ●
California	Moderate ●	Yes: statutory ●	Yes ●	●	Yes ●
Florida	No ●	No ●	Yes ●	●	No ●
Pennsylvania	No ●	Yes: Executive ●	Yes ●	●	No ●
Louisiana	Yes ●	Yes: Executive ●	No ●	●	No ●
Ohio	Yes ●	No ●	Yes ●	●	Yes ●
Illinois	Yes ●	No ●	Yes ●	●	Yes ●
Indiana	Yes ●	No ●	No ●	●	No ●
New York	Yes ●	Yes: statutory ●	Yes ●	●	Potentially ●
Michigan	No ●	Yes: Executive ●	Yes ●	●	No ●

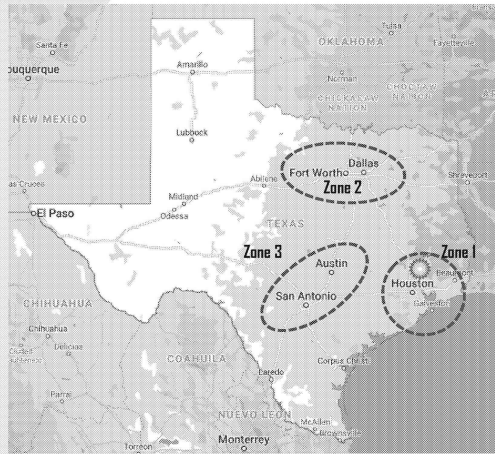
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## Regional emission hub Texas

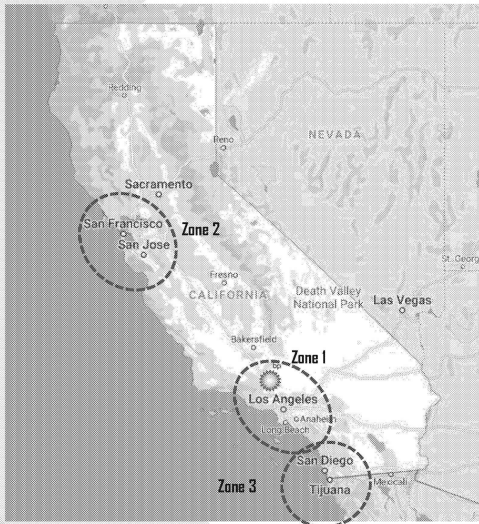


- **Zone 1: Houston/Harris County**
  - Focus in 2021
  - 140+ MT CO<sub>2</sub>e emissions
  - Includes bp retail and former refining assets
  - Corp HQ 21 companies including Sysco, Waste Management, United Airlines hub
- **Zone 2: Dallas/Fort Worth**
  - Focus in 2022
  - 125+ MT CO<sub>2</sub>e emissions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

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## Regional emission hub California: centers of city and corporate opportunities

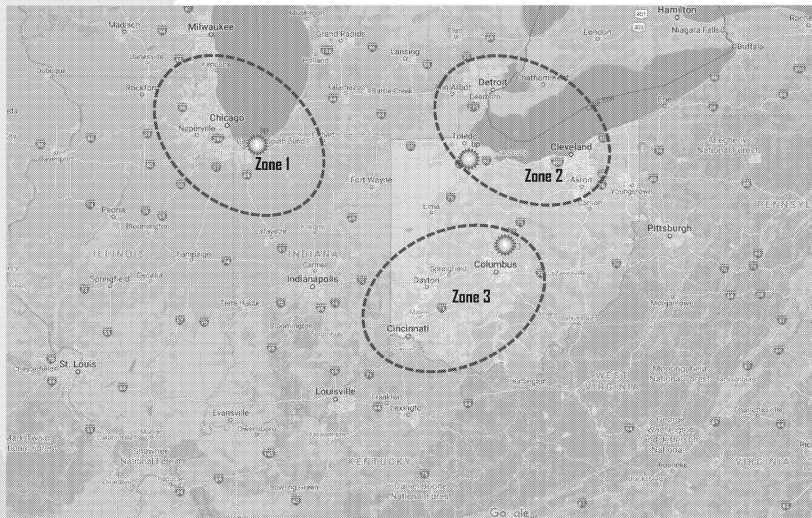


- California is home to 53 Fortune 500 companies
- Zone 1: Los Angeles
  - Focus in 2021
  - 200+ MT CO<sub>2</sub>e emissions
  - Includes bp retail and former refining assets
  - Corporate HQ for AECOM Tech, Reliance Steel, A Mark Precious Metals; and 3 international/2 domestic airports (LAX owned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

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

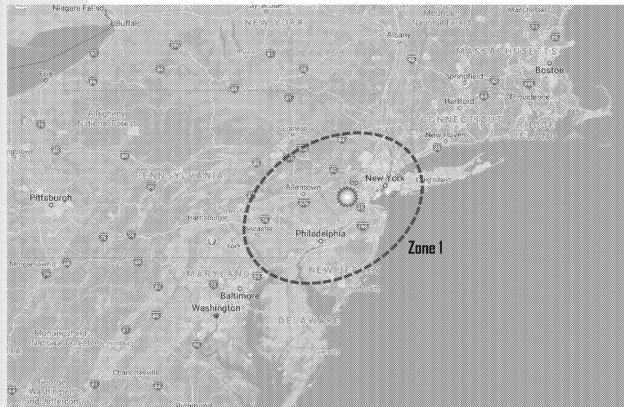


- **Zone 1**
  - Focus in 2021
  - 160+ MT CO<sub>2</sub>e emissions
  - Includes Whiting refinery
  - United Airlines hub
- **Zone 2**
  - Focus in 2022
  - 170+ MT CO<sub>2</sub>e emissions
  - Includes Toledo refinery
  - Corp HQ for 8 Fortune 500 companies inc. General Motors, Ford, DowDupont, Goodyear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

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## Regional emission hub NYC/Newark/Philadelphia

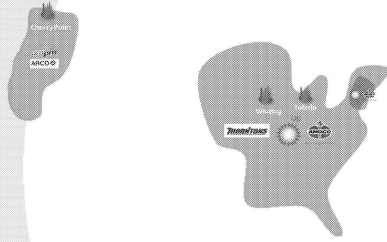


### Illustrative regions

- Zone I
  - Focus in 2021 (Corporates first)
  - 400+ MT CO<sub>2</sub>e 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

## 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 data)	Corporate Focus	Corporate Targets in 2021 & 2022	Existing bp business
<b>Northeast Zone</b>	Newark (2021) *Philadelphia (2022) *New York City (2022)	Consumer Goods & Heavy Transport	<ul style="list-style-type: none"> <li>Port Authority of NY/NJ</li> <li>Verizon</li> <li>Major banks</li> </ul>	<ul style="list-style-type: none"> <li>US Castrol HQ</li> <li>TGS NY office</li> </ul>
<b>California Zone</b>	*Los Angeles (2021) *San Francisco (2022)	Consumer Goods & Heavy Transport	<ul style="list-style-type: none"> <li>Ports of LA and Long Beach</li> <li>Airports of LA</li> <li>Reliance Steel</li> </ul>	
<b>Texas zone</b>	*Houston (2020) Dallas (2022)	Heavy Industries & Heavy Transport	<ul style="list-style-type: none"> <li>United Airlines</li> <li>Waste Management</li> <li>Port of Houston</li> <li>Houston airports</li> </ul>	Houston offices
<b>Midwest Zone</b>	*Chicago (2021) Cleveland (2022)	Heavy Industries & Heavy Transport	<ul style="list-style-type: none"> <li>Ford</li> <li>Goodyear</li> <li>Cleveland-Cliffs</li> </ul>	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	Cell S	H <sub>2</sub>
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	
	2020-2030	2035-2050
<b>now</b>	<b>2020</b>	<b>2035-2045</b>
Achmea	Bank of America Corp.	BT Group
Alliant	Bosch Group	Danone
Alphabeta	L'Oréal	Deutsche Post DHL Group
Australia & New Zealand Banking Group		Electricité de France
BNP Paribas		Enel
Capital One Financial		Fujitsu
Credit suisse Group	<b>2022-2025</b>	<b>2035-2045</b>
Deutsche Bank	Copa Group	Centrica
Goldman Sachs Group	Morgan Stanley	Danone
ING Group	Novartis	Deutsche Post DHL Group
La Poste	SAP	Electricité de France
MetLife		Enel
Microsoft	<b>2030</b>	Fujitsu
Munich RE Group	E.ON	GlaxoSmithKline
National Australia Bank	ENI	Iberdrola
Swiss Re	LG Electronics	Maersk Group
Tokio Marine Holdings	Schneider Electric	Panasonic
Toronto-Dominion Bank	Siemens	Sony
Zurich Insurance Group	State Bank of India	Tesco
	Unilever	Toyota Motor
		Volkswagen

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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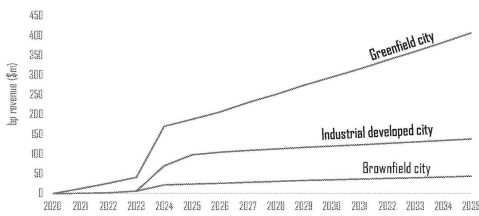
## Partner screening criteria

- X
- Y
- Z

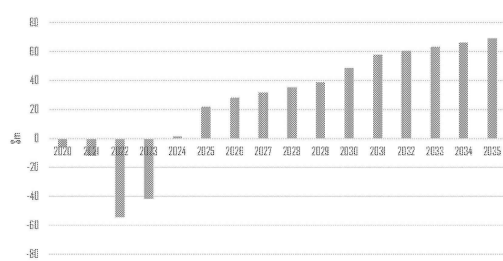


## The value from integrated solutions for cities will depend on the archetype

Cities - potential bp revenue range per integrated solution



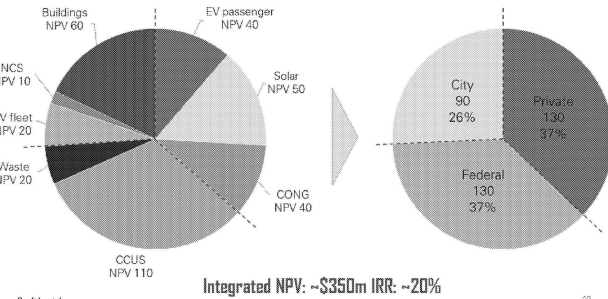
Cities - pre-tax cashflow for an industrial developed city



### 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:



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## Corporate Targets



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

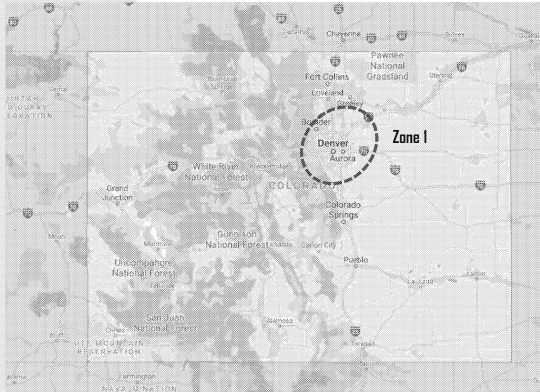


## City Targets



Priority Cities 2021	Debt rating	Economic health indicator	Public commitments to net zero
Chicago			
Los Angeles			
Newark			

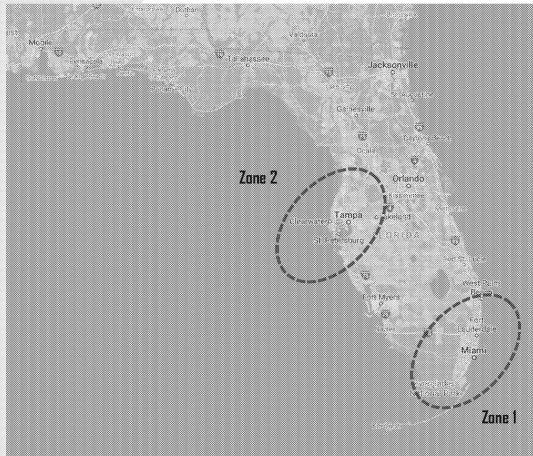
## Regional emission hub Colorado



### Illustrative regions

- Zone 1: Denver
  - 130+ MT CO<sub>2</sub>e emissions
  - Headquarters to BPX
  - Corporate headquarters to Arrow Electronics, McKesson, Newport Mining; major hub for United airlines; one major international airport

## Regional emission hub Florida



### Illustrative regions

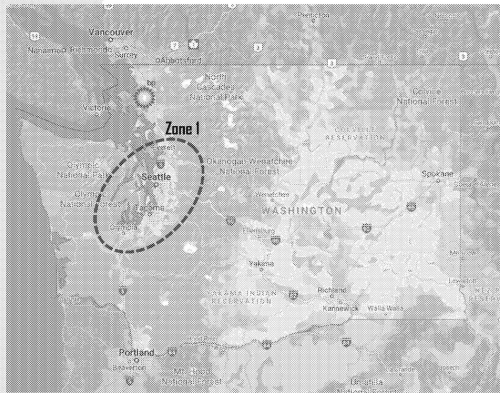
- Zone 1: Miami
  - 90+ MT CO<sub>2</sub>e emissions
  - Proximity to [bp asset]
  - Corporate headquarters to Office Depot and World Fuel Services; one international airport and 16<sup>th</sup> largest seaport in North America
- Zone 2: Tampa Bay
  - 65+ MT CO<sub>2</sub>e emissions
  - Proximity to [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 CO<sub>2</sub>e 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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