Foreword

As bp transitions from an integrated oil company (IOC) to an integrated energy company (IEC), there is an opportunity for business leaders in America to identify and deliver new integrated energy solutions for cities, corporates and industries by bringing together capabilities, products, and services from across bp to create value.

The US is a significant market for bp, with multiple business and external stakeholder touchpoints. To this end, a country wide business forum that meets on a quarterly basis has been created to foster alignment and integration. To enable alignment and integration, the US business leaders agreed to the creation of a **"US country book"**.

The objective of the US country book is to facilitate a common understanding and alignment around the most important priorities of the bp businesses in America.

In the short term, the US country book will help the facilitation of conversations that unlock ideas through a shared understanding of bp in America. It will also inform and shape advocacy that will maximize bp's position by leveraging the capability of bp in America.

In the medium term, the country book will provide input to the strategy and sustainability team to build an integrated country strategy that identifies distinctive integrated value proposition that will differentiate bp, as well as enable the identification of additional value that can be captured. The document will also support the regions, cities and solutions business development team further identify opportunities and synergies in America.

Each business entity that participated in the creation of this country book provided its respective business' information and has approved the data presented in this book.

Factsheets for each business represented in the US country book will be created. The US country book will be updated on an annual basis.

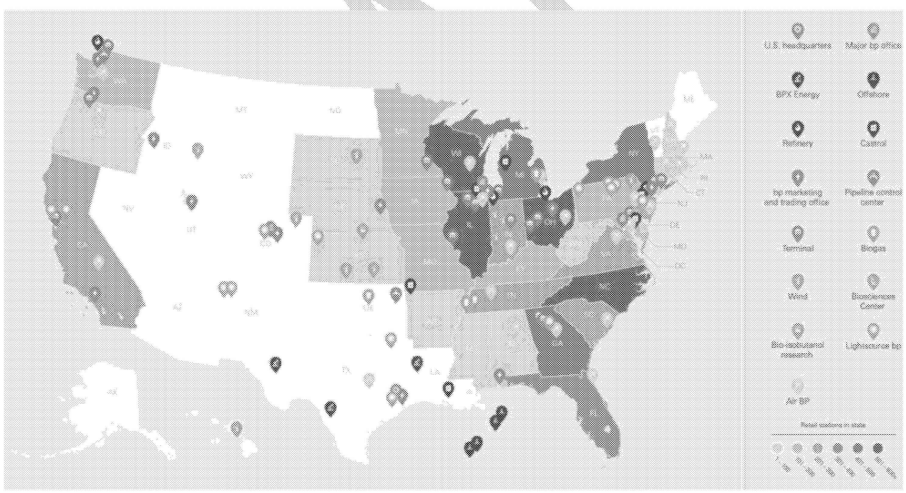
bp in America Overview

bp's operations in the US ("bp in America") spans 44 states and Washington D.C. bp in America employs approximately 10,500 people[1] and supports an additional approximately 115,000 jobs[2] in the United States. For close to 150 years, through heritage companies, bp in America has had an operational presence in the US.

bp in America's activities include:

- low carbon power generation (wind and solar)
- marketing and retail
- distribution and supply
- shipping and trading
- oil and gas exploration and production
- refining
- innovation and engineering, and
- technology research and development.

The corporate headquarters of bp in America are in Houston, TX, and there are three other major offices in Denver, CO, Chicago, IL, and Washington D.C.



There are **certain key holding and subsidiary companies** with activity in the US. BP America Inc. (BPAI) is the senior US bp entity and acts as a holding company for most of bp's interests in America. BPAI has approximately **350 direct and indirect subsidiaries**. These subsidiaries are primarily entities formed and doing business in America; however, for historical and other reasons, there are some entities in the chain that are US and non-US entities that engage in activities outside the US. BPAI generally does not

[1] Source: Information provide by bp people & culture
[2] bp in the US | Who we are | Home

engage in operational activities and should not enter into contracts with non-bp affiliated entities or undertake business activities.

Some of the key bp entities in America are:

Holding Companies:

- BP America Inc.
- BP Corporation North America Inc.
- BP Company North America Inc.
- Standard Oil Company

Subsidiary Companies:

- BP America Production Company
- BP Energy Company
- BP Exploration & Production Inc.
- BP Lubricants USA Inc.
- BP Pipelines North America Inc.
- BP Products North America Inc.
- BP Alternative Energy North America Inc.

Key US Financial and Operational Data by Strategic Focus[3]

Financial [4]	2018 FY	2019 FY	2020 FY	2021 Plan [5]
RCOP ($ mil)	1,879	(3,142)	(5,159)	3,464
Ops Cash ($ mil)	9,648	9,390	3,364	6,642
CAPEX ($ mil)	12,891	8,440	4,494	-

People [6]	2018 FY	2019 FY	2020 FY	2021 Plan
# of Employees	13,577	13,477	10,464	9,501

Low carbon electricity and energy	2018 FY	2019 FY	2020 FY	2021 Plan
Net operating capacity (GW) bpWE only	1.3	0.9	1.0	1.1

Convenience and mobility	2018 FY	2019 FY	2020 FY	2021 Plan
Customer touchpoint/day (mil)	-	-	>3	>3
Branded retail sites	7181	7207	7253	7593
Strategic convenience sites	389	393	609	628
Volume of crude sourced (mb/d)	703	737	693	821
Volume of fuel sold (bil gallons)	14	14	13	15
Volume of Castrol product sold (mm liters)	332	339	263	332
Miles of pipeline owned	4700	4700	4700	4700

[3] Chart compiled based upon information in the bp plc ARA/20F and information provided by businesses.
[4] Financial information provided by bp America Finance.
[5] 2021 financial forecast is for bp operations businesses in the US and not all US businesses. Forecast does not include I&E, Ventures & Launchpad, OB&C including Deepwater Horizon etc.
[6] Source: Information provide by bp people & culture

Trading and Shipping	2018 FY	2019 FY	2020 FY	2021 Plan
Gas Traded (bcf/d)	22	20	18	
Traded electricity (TWh)	164	159	130	
Crude Traded (mm bbl)	3001	2939	3356	
Distillates Traded (mm bbl)	2044	2405	2646	
Light Ends Traded (mm bbl)	1645	1647	1787	
Low Carbon Traded (mm bbl)	693	568	621	

Resilient and focused hydrocarbons	2018 FY	2019 FY	2020 FY	2021 Plan
Upstream production (mboe/d)	772	888	694	592 (excl. Alaska)
Refining throughput (mb/d)	703	738	693	733
Refining availability (%)	94	95	96	96

In 2020, bp in America produced 694 mboe/d, which represented ~29% of bp's global production output. The production came from offshore Gulf of Mexico, Alaska North Slope[7], onshore basins in the Permian and Eagle Ford basins in TX, the Haynesville basin in LA and TX, and the Wamsutter[8] basin in WY. bp in America has an estimated 2.7 billion barrels of oil equivalent of proven reserves.[9]

In 2020, bp in America's three refineries in Whiting, IN, Cherry Point, WA, and Toledo, OH (through joint venture with Huskey) had a combined throughput of approximately 693,000 barrels/day of refined products. This throughput represents approximately 43% of bp's global refining throughput. bp in America accounted for approximately 36% of bp's branded retail sites and 32% of bp's strategic convenience sites footprint in 2020.

In 2020, the bp Wind Energy business ("bp WE") operated approximately 42% of bp's global installed renewable power capacity and Gas and Power Trading Americas ("GPTA") traded approximately 77% of the total electricity traded by bp globally. Through BP Wind Energy North America Inc., bp invested a total of $1.1 billion in for a 50% interest in each of two joint ventures: (1) Empire (holding offshore wind leases off the coast of New York), and (2) Beacon (holding offshore wind leases off the coast of Massachusetts). The joint ventures are expected to have 4.4GW generating capacity when they become operational.

Externalities to Consider (Current Administration)

Within a week of his inauguration on January 20, 2021, President Biden signed two executive orders (EO) that will have an impact on the energy industry. The executive orders reflect the current administration's general positions with respect to an energy transition.

The executive orders are:

1. **EO 13990: Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis** includes but is not limited to:

[7] bp exited the Alaska Region in 2020.
[8] bp exited the Wamsutter basin in 2020.
[9] Source: bp plc ARA/20F 2020.

- directing the Secretary of the Interior to place a temporary moratorium on the Coastal Plain Oil and Gas Leasing Program in the Artic National Wildlife Refuge (ANWR);
- revoking the permit for the Keystone XL pipeline; and
- mandating a review of the actions and policies of all federal agencies taken during the previous administration to achieve consistency with the current administration's environmental objectives, including methane regulation.

2. **EO 14008: Tackling the Climate Crisis at Home and Abroad** includes but is not limited to:
    - directing the Secretary of the Interior to pause granting new oil and natural gas leases on public lands or offshore to the extent possible under law;
    - granting the siting and permitting of renewable energy on public lands and in offshore waters;
    - directing federal agencies to eliminate fossil fuel subsidies as consistent with applicable laws by 2022;
    - committing to the goal of conserving at least 30% federal lands and waters by 2030; use the federal government's buying power to procure carbon pollution free electricity and zero emissions vehicles; and
    - forming several energy and environmental policy councils.

On the March 31, 2021, President Biden[10] proposed the **American Jobs Plan** (aka infrastructure plan) and the **Made in America Tax Plan**. The American Jobs Plan provides for the **investment of $2 trillion over eight years** in projects ranging from repairing existing energy infrastructure and expanding the power grid. These projects are intended to lead to the creation of new jobs, growth of the economy, curbing of greenhouse gas emissions, and improvement of environmental justice through the allocation of 40% of the benefits of climate and clean infrastructure investments to disadvantaged communities.

In April 2021, President Biden announced a new target for the United States to achieve a 50 - 52 % reduction in greenhouse gases from 2005 levels by 2030.

Other Externalities to Consider

1. In the US, climate change policies are developed at both the state and federal levels, and therefore, may not align.
2. US LNG export is forecasted to grow through 2030 due to strong demand from Asia[11].
3. The speed of the energy transition will be a key factor. For example, the build out of electric vehicle (EV) infrastructure may lead states to declare milestones for the cessation of internal combustion engine sales and to consumer shift towards EVs.
4. Investors will increasingly work collaboratively with state and federal governments to develop policies and regulations to achieve decarbonization goals.
5. Public-private partnerships will form to construct infrastructure to decarbonize the economy.
6. The public's perception of industry's commitment to decarbonize will influence traditional oil and gas companies to become integrated energy companies.

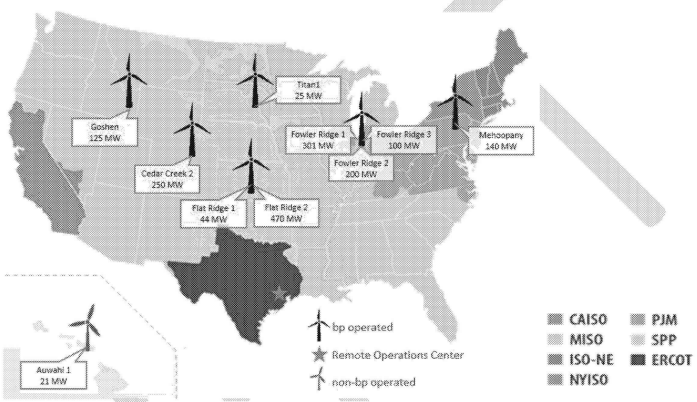
[10] FACT SHEET: The American Jobs Plan | The White House
[11] The future of natural gas in North America | McKinsey

7. ESG guided investment will lead to increased transparency with respect to decarbonization reporting, driving internal changes for public companies. This may also affect behaviors of privately held companies.

Low carbon electricity and energy

bp Wind Energy

By the end of 2020, bp had a net install renewable generation capacity of 3.3GW to final investment decision (FID)[12]. bp Wind Energy (bpWE) in America had approximately 1.1GW net generating capacity (~1.7GW gross installed generating capacity) in 2020[13]. bpWE has interests in 10 wind farms spanning 7 States, 9 counties and 4 independent system operators (ISO). bpWE operates 9 wind farms which are controlled from a remote operations center in Houston. The bpWE asset in Hawaii, Auwahi 1 is a non-operated joint venture (NOJV) in partnership with AEP Renewables. bpWE has just under 100 employees and engages between 100 and 300 contractors in their field operations on a daily basis.



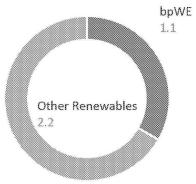
bp Wind Energy (bpWE) Gross Install Capacity 1.7GW

Key Financial and Operational Data[14]

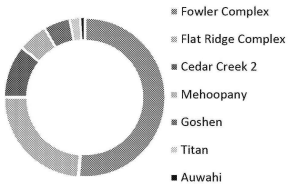
	2018 Actual	2019 Actual	2020 Actual	2021 Plan
Gross Margin ($ mil)	38.5	41.9	47.5	76.2
RCOP + PTC ($ mil)	52.6	40.9	42.5	45.5
Ops Cash ($ mil)	53.4	32.6	104.0**	55.2
CAPEX ($ mil)	13.8	15.5	40.4	14.3
Net Install Capacity (GW)	1.3*	0.9	1.0	1.1
Net Sold Electricity (GWh)	3,821	2,752.5	2,806	3,148
Capacity Retirement (GW)	0	0	0	0

*bpWE divested Texas assets in 2018 (.4 GW)
**includes cash settlement from Fowler 1 transaction with Dominion

[12] Source: bp Annual Report and Form 20-F 2020
[13] Source: bp Quarterly Report and 4Q 2020 Form 10-Q and bpWE
[14] Source: Information provided by bpWE



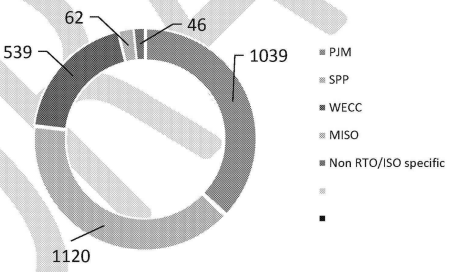
bp Developed Net Renewable Generating Capacity of 3.3 GW in 2020



bpWE Install Capacity Contributing Assets as of 2020

bp's ambition is to grow its net developed renewable install capacity from 3.3GW in 2020 to 50 GW in 2030. According to data from the American Clean Power Association (ACPA), the total installed wind capacity in the US as of the end of 2020 was approximately 118GW, mainly concentrated in the Midwest (e.g. Iowa and Kansas), Texas and California, compared to approximately 30GW of utility scale solar power. Texas has the largest installed wind capacity at 33GW.

In 2020 bpWE sold approximately 2806 GWh into the grid. Approximately 77% of the sold power was into the Southwest Power Pool (SPP) and Pennsylvania – New Jersey Interconnection (PJM) ISOs.



bpWE Wind Farms and Ownership

Fowler Complex

The Fowler Complex is located in Benton County, IN approximately 90 miles from northwest Indianapolis. The Fowler Complex gross install capacity is 600 MW (0.6GW), which is 20% of the wind power install capacity in Indiana. Fowler Complex is bpWE's largest install generation capacity, capable of powering 160,000 homes. A net 903GWh of generated power was sold into the grid in 2020 (841 GWh into PJM and 62 GWh into Midcontinent Independent System Operator (MISO)).

	Fowler Ridge 1[15]	Fowler Ridge 2	Fowler Ridge 3
Commissioning Date	2009	2009	2009
Gross Installed Capacity (MW)	301	200	99
JV Partner	None	AEP	None
Net bp Ownership (%)	100	50	100
Operator	bpWE	bpWE	bpWE
# of Wind Turbines	162	133	60
Offtake Agreement [16] (Years)	20	20	20

Flat Ridge Complex

The Flat Ridge Complex spans the intersection of Barber, Harper and Kingman Counties, KS and is located approximately 50 miles southwest of Wichita. The gross install capacity of this wind farm is 514MW (0.51GW), which is 7% of the total wind install capacity in Kansas. A net 1030GWh of power generated from Flat Ridge was sold into the SPP grid in 2020 making it bpWE's number 1 generator. The wind farm can power 140,000 homes.

	Flat Ridge I	Flat Ridge II
Commissioning Date	2009	2012
Gross Installed Capacity (MW)	44	470
JV Partner	None	AEP
Net bp Ownership (%)	100	50
Operator	bpWE	bpWE
# of Wind Turbines	20	294
Offtake Agreement [16] (Years)	20	20 – 25

[15] bpWE acquired 50% interest from Dominion Energy in 2020 to have full ownership

[16] bp T&S has no offtake agreement with bpWE

Other bpWE Wind Farms

	Mehoopany [17]	Titan I	Cedar Creek II	Goshen [18]	Auwahi [19]
Commissioning Date	2012	2009	2011	2010	2012
Location (County, State)	Wyoming, PA	Hand, SD	Weld, CO	Bonneville, ID	Maui, HA
Gross Installed Capacity (MW)	140	25	248	125	21
Net Power Sold 2020 (GWh)	136	89	339	200	45
JV Partner	AEP	None	AEP	Leeward	AEP
Net bp Ownership (%)	50	100	50	50	50
Operator	bpWE	bpWE	bpWE	bpWE	AEP
# of Wind Turbines	88	10	122	83	8
Offtake Agreement [16] (Years)	20	20	25	20	20
# of Homes Powered	38,000	6,700	65,000	33,000	14,500
Power Market	PJM	SPP	WECC	WECC	Hawaii

Externalities to Consider

1. Impact of eliminated production tax credits (PTC) on wind farms that start construction after 2021. 60% PTC of 2.5 cents/kWh will apply to projects that begin construction prior to year-end 2021. PTCs are much more prevalent in Onshore Wind than are Investment tax credits (ITC).
2. Impact of the reduction or elimination of ITCs on project economics. ITCs are eliminated for onshore wind for projects, for which construction begins after 31st December 2021. For Solar, the ITCs are subject to reduction from 26%, 22% and thereafter to 10% depending on when the solar project begins construction.
    a. Offshore Wind ITC capability has been materially enhanced with 30% ITC capability for offshore wind projects for which construction begins prior to 31st December 2026.
3. Over 30 states have implemented renewable portfolio standards (RPS)
4. Traditional PPA offtake agreement of 20 to 25 years is declining because of the increase in competition and innovation. Commercial contracts, shorter Power Purchase Agreements (PPA), hedges and merchant contracts are replacing traditional long term PPA.

Key bpWE Milestones/Projects for 2021

1. Execute Fowler Complex O&M Agreements with Vestas (1Q)
2. Updated JV agreements with AEP (1Q)
3. Deliver FID on Cedar Creek II repower (2Q)
4. Deployment of critical systems improvements (PF Drive, CMMS), associated business process, and integration with bpWE datalake and MI (2Q)
5. Agree path forward for FR2
6. Begin Site works on CC2 repower (3Q)

[17] Mehoopany wind farm is the largest wind farm in Pennsylvania

[18] Goshen wind farm is 13% of the installed wind capacity in Idaho

[19] Auwahi is a non-operated joint venture

7. Deliver FEED package on Fowler 1 repower (4Q)
8. Identify and define bpWE growth options, partners, targets and any necessary financial restructuring (2Q)
9. Execute re-structure of bp Wind footprint and model, including partnering and target acquisitions (4Q)
10. Define and launch next digital/technology step outs for bpWE (4Q)

Strategic Focus Areas

bp's low carbon energy business has a net renewables pipeline of 10.9 GW. 6.3 GW of the renewable pipeline is slated for the Americas.

Commented [MK1]: The pipeline will change regularly as deals are done, may be better to talk about the long term strategic intent – which is 20GW of the 50GW target will be in the US

bp CCUS/Hydrogen

CCUS (Carbon Capture Use and Storage)

CCUS is at the heart of bp's plans to deliver low carbon electricity and energy (decarbonized gas and fuels), and to contribute to the Company's net zero ambition. Through combining low carbon energy with CO_2 storage as a service, CCUS can play a key role to help hard-to-abate industries decarbonize and transition.

The CCUS strategy is demonstrated in the Net Zero Teesside project and the Northern Endurance Partnership in the UK. bp is leading these partnerships, working with ENI, Equinor, Shell, Total and National Grid.

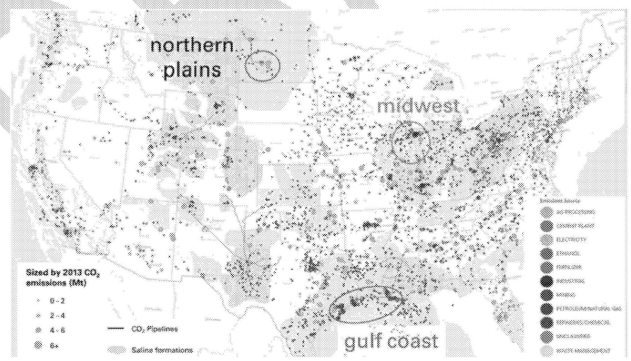
Hydrogen

By building on our low carbon businesses and our existing capabilities, bp intends to capture a 10% share of hydrogen in core markets by 2030. To achieve this, we are accessing new segments, such as the mobility and industrial sectors – including the decarbonization of our own refineries.

bp is determined to build a leading position in hydrogen through progressing opportunities in the USA, Europe, UK, and Australia.

CCUS in the U.S.

There are three U.S. regions of focus that offer favorable geology for storage, CO_2 sources with low capture costs and an established regulatory framework to develop safe, secure and reliable storage. Our short-term objective is to create a 5 million ton per annum (mtpa) CO_2 transportation and storage business by 2025.



Gulf Coast: The high concentration of petrochemical sources enables development of multiple storage locations through strategic partnerships, including JVs and OBOs, achieving the pace and scale required to meet bp's ambitions while reducing risks. The opportunities on the Gulf Coast can leverage existing CO_2 infrastructure at low cost and can readily enable blue hydrogen activities.

Midwest: The favorable geology in the Midwest allows development of multiple opportunities across the region that combine high concentration CO_2 sources with local storage requiring little transportation enabling fast, simple and replicable projects.

Northern Plains: Multiple geological formations are suitable for storage across the region, allowing development of standalone projects with high concentration CO_2, such as ethanol plants and biorefineries, that can minimize transportation costs and retain value.

Hydrogen in the U.S.

We believe that the US will be one of the largest global hydrogen markets with good resources for both green and blue hydrogen production.

In bp's Energy outlook (Rapid Transition scenario), we forecast c.1mpta of clean H_2 demand in the US by 2035 and c.8mtpa by 2035. The aim for bp is to have 10% of clean hydrogen market share in our target markets (including US).

Commented [MK2]: Typo here?

We are currently focused on 5 key use-cases for the development of the US hydrogen economy:

1. Mobility (hydrogen into Class 8 trucks likely to provide a better solution than BEVs)
2. bp refineries (where the required economics are accessible)
3. Industrial clusters (especially for decarbonizing other industries as both fuel and feedstock)
4. Power Generation (including storage and trading potential)
5. Export (as hydrogen or ammonia; longer term opportunity).

Four regional focus areas (West Coast, Gulf Coast, Midwest, East Coast) have been identified for deploying a hydrogen strategy in the U.S. The key drivers include existing federal support (e.g., 45Q/RINS), existing state regulatory/policy support (e.g., California's Low Carbon Fuel Standard (LCFS), direct funding, drayage projects), existing bp footprint (e.g., refining and retail), trading and shipping integration, areas of grey hydrogen/CCUS overlap and Wind/Solar business integration.

An end-to-end Hydrogen strategy is currently in development with expected delivery by May 2021.

External Factors: Policies and Regulations

Key federal and state incentives are in place to support the development of CCUS & H_2 in the U.S.

Federal 45Q Tax Credit allows $50/ton credit for storing CO_2 and can be claimed for 12 years after being placed in service. To qualify for the credits, projects must begin construction by January 1, 2026. 45Q provides incentives for both (1) capture/storage of CO_2, and (2) production of "blue" hydrogen.

California's LCFS is a policy put in place to reduce the lifecycle carbon intensity of CA transport fuel. The LCFS provides 2 key incentives:

1. The carbon intensity of existing transport fuels (e.g. ethanol) can be improved and monetized using carbon capture and storage through LCFS incentives
2. Clean hydrogen directly used in transportation will directly generate LCFS incentives

LCFS credit values are driven by supply and demand but bp internal modeling expect the values to remain robust in the $100 - $200/t range for the next 10 years, providing an attractive additional credit for those projects that qualify.

The US Federal Renewable Fuel Standard (RFS) provides the potential ability to generate "RINS" which provide a further layer of incentive for hydrogen used directly as a transportation fuel. An RFS hydrogen pathway would need to be approved in order to qualify for the RFS incentive.

EPA's Federal Class VI Underground Injection Control Permit establishes a regulatory framework to ensure safe and secure CO_2 storage. The program requires substantial data collection in the reservoir and overlying formations and long-term monitoring of the storage facility to demonstrate containment.

Priority Activities in 2021

Continue to progress opportunities in the priority areas – Gulf Coast, Midwest and Northern Plains and expand new ones.

Internal assessment and path forward on operating in Louisiana. Political leadership in the state has expressed a strong desire to lead on climate change and CO_2 emissions reduction and the state has several legislative provisions that make CCUS attractive (relative to TX).

Build a land position and appraise prospective CO_2 storage sites along the Texas Gulf Coast by drilling a test well in 4Q.

Bring forward a project through the CDO gate into GPO in 2Q 2021. Collect development seismic data in 4Q2021.

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Identify synergies with other bp businesses

- Land access and capabilities: bpx, Wind and LightSourcebp. Potential opportunities to collaborate to access same parcel of land (wind/solar on surface, CO_2 storage subsurface, entities aligned on long-term lease)
- Permitting: Leverage relationships with federal and state regulators; permitting experience (e.g., bpx, pipelines)
- T&S: feedstock supply, renewable power, renewable natural gas, product offtake
- Pipelines: permitting, construction, operations, etc. expertise and experience

Operating Model: Assess and determine new low-cost development and operating mindset

Gaps and General Challenges

Competition to secure CO_2 sources and, we believe, quality store sites is increasing; competitors include Oxy, Exxon, Shell, Schlumberger, Battelle; some emitters may look to develop their own projects either self-funded or backed by tax equity

Resolving uncertainty for the following items will allow movement at pace:

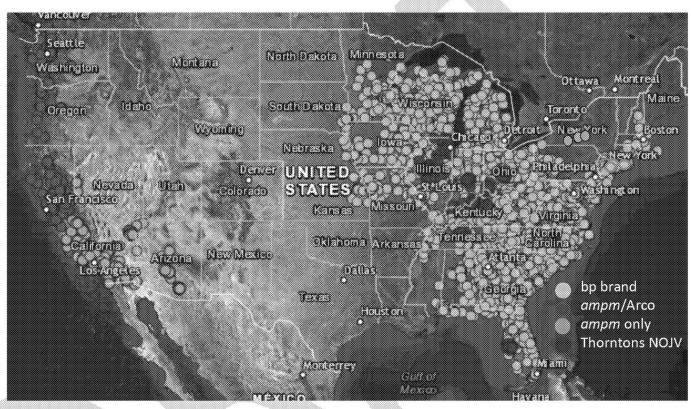
- Develop a fit-for-purpose execution strategy balancing risks and costs:
  - Clear project execution plan and operating model/s for CCUS project – fit for risk profile and low returns
  - Partnering with contractor/s; outsourcing to 3rd party service providers to increase cost competitiveness e.g. pipeline spurs
  - Redefining costs vs traditional bp model for a margin driven business
- Prioritization of organizational support (e.g., projects, subsurface) and allocation of resources to progress projects (e.g., bpx, land, legal)
- Clarification of decision rights and process on opportunity progression within reinvent organization

Convenience and mobility

bp M&C

bp C&P mobility and convenience (M&C) in America has approximately 7300 bp branded sites in the US. This is more sites than Target and Walmart US stores combined. M&C US accounts for approximately 35% of bp's global branded sites footprint.

M&C is comprised of different retail models across the US ranging from company owned retail sites, strategic partnerships, brand licensing, wholesale, B2B, dealer owned, and franchise owned. These sites span across 35 States and services more than 3 million customers daily. bp M&C brands in the US includes bp, Amoco, ARCO (bp has a licensing agreement with Marathon to use ARCO) and *ampm* (Marathon has a master franchise agreement to use *ampm*). bp branded sites in the US span the PADD1 (East Gulf Coast ~3000), PADD 2 (Midwest = ~3700), PADD 3 (~80) and PADD 5 (West Coast ~500 sites).



In 2020 M&C US had an RCOP of $610 million and sold approximately 13 billion gallons of fuel. Fifty-four percent of the sales volume was through bp branded sites. bp also sold 27 million cups of coffee and 75 million units of snacks.

In 2019, bp partnered with Archlight Capital Partners to acquire Thorntons LLC, thus forming the TLK Holding Company non-operating joint venture (NOJV) and now holds approximately 44% interest, as a minority shareholder non-operated JV.

Key Consolidated Financial and Operational Metrics (includes B2B) [20]

	2018 Actual	2019 Actual	2020 Actual	2021 Plan
Revenue ($ mil)	1047	1208	1270	1419
Gross Margin ($ mil)	1015	1240	1275	1673
Underlying RCOP ($ mil)	471	686	610	800
Volume Sold (bil gallons)	14	14	13	15

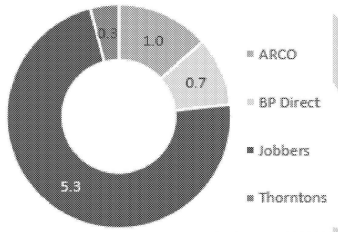
[20] Information provided by c&p mobility and convenience

Retail Sites

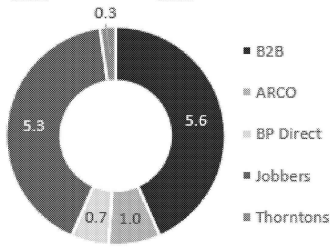
	2018 Actual	2019 Actual	2020 Actual	2021 Plan
Company Owned [21]	400	406	414	431
Strategic Partners [22]	389	393	609	628
Others	6392	6408	6230	6534
Total US Site Count	7181	7207	7253	7593

Volumes Sold

In 2020, approximately 7 billion gallons of fuel was sold through bp branded sites and Thorntons NOJV, as bp is the exclusive supplier to Thorntons. Another 6 billion gallons of fuel was sold to B2B customers making the total gallons of fuel sold in the US by bp approximately 13 billion gallons.



7 million gallons of fuel sold at in 2020



13 million gallons of fuel sold in 2020

The B2B customers are managed by the C&P midstream & supply (M&S) team. Some of bp's B2B customers include Kroger, CK, Benchmark, Murphy Oil and Safeway.

Retail Sites[23]

bp retail site exposure in the US is concentrated on the East Coast, Midwest, and West Coast. As of the end of 2020, bp had approximately 7300 retail sites in the US[24].

As of the end of 2020, bp has equity position 609 strategic convenience sites in the US existed comprised of *ampm* and Thorntons), which is 32% of bp's strategic convenience sites. A majority of bp branded sites in the US are operated by branded marketers also known as jobbers (~6047) such as Clipper Petroleum, Cary Oil, LSAA and Southeast Oil. A jobber is a company that purchases refined fuel from bp either for sale to retail or sale directly to users of those products.

[21] Sites owned by bp
[22] Sites that have a backcourt brand (ampm and Thorntons)
[23] Retail sites are primarily branded *bp, ARCO, Amoco and Thorntons*
[24] Source: bp Annual Report and Form 20-F 2020

As of the end of Q1 2021, bp had one EV charge point on the West Coast of the US and zero hydrogen filling points.

Strategic Focus Areas

	2020	2025	2030
Customer touchpoints/day (mil)	>3.0	>3.5	>4.0
Retail sites [25]	7300	7635	7612
Strategic convenience sites	609	723	864
EV charge points	1	>1000	>10000
Margin share from convenience and electrification	>25%	>30%	>30%

Externalities to Consider

1. Impact of policy and regulatory reform such as internal combustion engine (ICE) ban and/or carbon taxes.
2. Variation in ICE policy and reform in different US states.
3. Impact of cost of technologies such as battery costs. As battery cost declines and the total cost of ownership of an EV becomes lower than an ICE vehicle, service stations where fuel purchases account for a significant share of profits may see declining profits.
4. Learnings from past technology disruption experiences. What fuel alternative will customers settle on electric, hydrogen, hybrid, etc.?
5. Customer expectation from service convenience/retail stores.
6. Post COVID-19 new normal driving/transportation patterns.
7. Impact of infrastructure build out nationwide, as well as impact of ability to charge cars at home.

Key M&C Projects/Milestones (3-year roadmap)

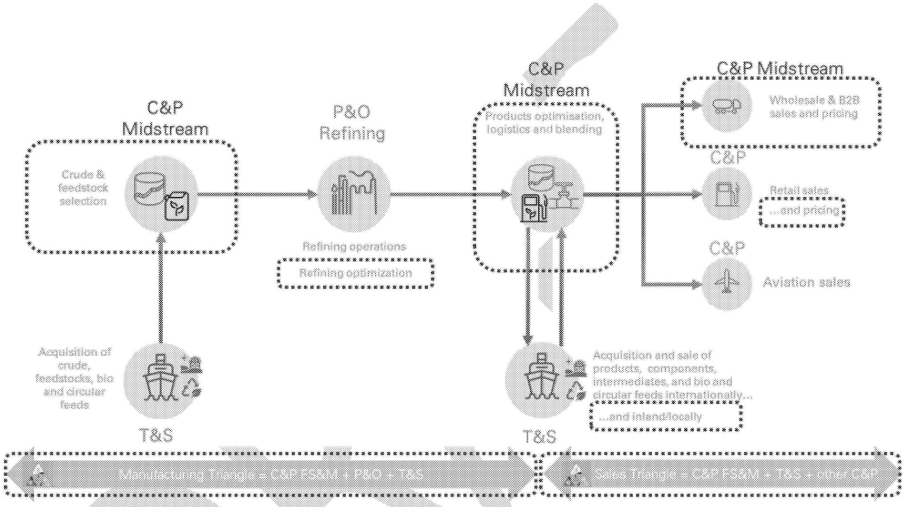
1. Convenience growth through integrated retail - Grow convenience businesses by adding new sites, developing differentiated offers for the WC and create a single integrated US retail business.
2. East Coast acceleration to fleet management and convenience growth - Define and execute future market participation across mobility and convenience for the East Coast direct business.
3. Customer loyalty offer - Engage customers and consumers through personalized offers and fuel pricing subscription services via a fully integrated digital platform solution.
4. Differentiated fuels strategy - Support premium fuels sales and differentiation of existing product slate via claims and advertising.
5. US disruptive fleet offering - Develop and execute an integrated disruptive US Fleet strategy including clear offer map and delivery model (organic, partnership, acquisition).

[25] This includes company owned, retail and others

6. Mexico growth and integrated supply - Develop integrated strategy based on optimized network, improved loyalty offering, winning in fleet card market, and redefining convenience.
7. Sustain and grow branded marketer business - Build tailored, relevant offers across customer experience, flexible contracting, capital services, and network expansion that enable growth and retention.
8. EV strategy is currently being defined

bp FS&M

bp's fuel supply and midstream (FS&M) in America plays a vital role of serving as the integrator of bp's fuel value chain, as well as managing the performance of owned pipelines and terminals, and directed truck and rail logistics. This includes managing the sourcing of feedstock coming into bp refineries and the commercial optimization of products to bp's varied customers in the US. FS&M partners with bp teams across T&S, P&O, and C&P to deliver performance of the integrated P&L from crude and feedstock sourcing to the end customer. While this document covers FS&M in the US, it should be noted that FS&M is a global organization and performs these similar activities across Europe and the US.



FS&M plans to source approximately 300M barrels of crude and feedstock for the bp refineries in the US, as well as coordinate the distribution of approximately 458M barrels of fuel for retail, aviation and B2B customers in 2021. Additionally, FS&M is responsible for sales to B2B customers in the US, which accounts for approximately 40% of the fuel sold by C&P in the US. Some of bp's B2B customers in the US include Kroger, CK, Benchmark, Murphy Oil and Casey's.

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FS&M manages the commercial performance of bp's operated pipeline systems (onshore and offshore, crude and product) and terminals, with accountability for operations sitting with the North America Terminals and Pipelines – NA T&P – organization in P&O. FS&M also represents bp's interest in multiple midstream joint ventures. bp has approximately 4,700 miles of pipeline, approximately the distance from Chicago to London, under management. These pipelines transport approximately 1.1 M barrels of crude and refined products per day.

Key Financial and Operational Data [26]

	2018 Actual	2019 Actual	2020 Actual	2021 Forecast
Volume of Crude Sourced (kb/d)	703	737	693	821
Aviation Fuels (kb/d)	160	154		135
Gasolines (kb/d)	766	778		870
Middle Distillates (kb/d)	151	148		185
Other Products (kb/d)	64	65		65
Miles of Pipeline	4700	4700	4700	4700
Number of Storage Tanks	4700	4700	72	72
Number of Terminals	2	2	1	1

Fuel Value Chain Operations

FS&M's role includes optimizing holistic integrated value across assets, commodities, geographies, time horizons, channels of trade, and business lines of hydrocarbon and low carbon value chains.

FS&M accountabilities in support of manufacturing (refining) includes:

1. Valuation of different crude and feedstock selection options for the refineries
2. Sourcing of optimum crude & feedstock, including biomaterial for co-processing
3. Optimisation of refinery production / yield
4. Midterm demand planning
5. Assessment of export alternatives
6. Integrated working capital management
7. Identification of commercial growth opportunities, including bio and low carbon
8. Drive for integrated margin optimization across P&O, C&P, T&S, and G&LCE
9. Commercial optimization of midstream asset ownership
10. Midstream Joint Venture representation
11. Assurance around Group regulatory compliance (i.e., FERC)

FS&M accountability in support of sales (fuels and aviation) includes:

1. Product sourcing
2. Bio compliance and optimisation
3. Negotiation of commercial agreements to access infrastructure
4. Commercial optimisation of terminal, pipeline and barge movements
5. Secondary transportation optimisation
6. Control and assurance of product quality
7. Channel of trade / demand management
8. Negotiation of supply deals with local players
9. Demand management through wholesale & B2B
10. Wholesale and B2B customer offer, including bio and low carbon

[26] Source: Information provided by bp FS&M

11. Pricing execution
12. B2B sales activities & Customer Relationship Management
13. HSSE responsibility for truck and rail operations in the US and Europe

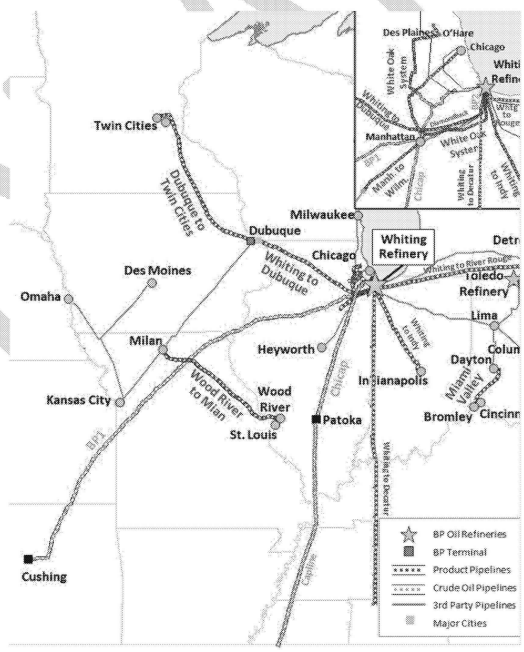
Pipelines and Terminals Operations

bp's pipeline and terminal operations and ownership is concentrated in the US Northwest, Midwest and Gulf of Mexico. The NA T&P team in P&O controls operations for the assets operated by bp from two control centers in Tulsa, Oklahoma and Renton, Washington.

FS&M has approximately 4,700 miles of pipeline under management in the US. NA T&P operates approximately 3,200 miles of pipelines and through non-operated joint venture agreements (NOJVs) has equity stakes in another approximately 1,500 miles of pipelines. The operated pipelines are concentrated in the Northwest and Midwest, while the NOJV pipelines are concentrated in the Gulf of Mexico. The pipelines transport approximately 1.1 million barrels of crude oil, natural gas, and refined products per day.

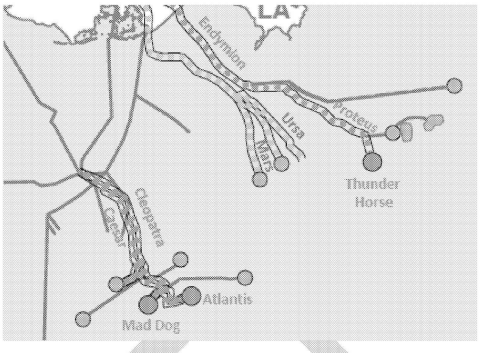
There are 72 above ground storage tanks supporting the NA T&P operations with an overall capacity of 5.3 million barrels of storage.

US Midwest Crude and Refined Product assets



Olympic Pipeline

US GoM Pipelines



Northwest Operations

NA T&P operates the 400-mile Olympic pipeline (and its ~561,000 barrel Bayview storage terminal) which transports approximately 290,000 barrels per day of gasoline, diesel and jet fuel from four refineries in the Puget Sound area (including bp's Cherry Point refinery in Blaine, Washington) to Seattle, Washington; Tacoma, Washington; and Portland, Oregon. bp, with its partner in the newly formed BP Midwest joint venture (bp has 51% ownership), owns 70% of the equity in Olympic.

bp has a 49% ownership stake in a joint venture owning two terminals (Seattle & Portland), which are operated by Trans Montaigne.

Midwest Operations

NA T&P operates approximately 3,000 miles of pipeline in the Midwest and interest in approximately 630 miles of a NOJV pipeline. The Midwest pipeline operations primarily supports bp's Whiting refinery in Indiana and is used for crude oil supply to Whiting and transportation of finished products from Whiting.

Crude Oil Supply

Four pipeline segments totaling approximately 1,600 miles transport crude oil, with three of the pipelines directly supporting Whiting. bp operates the three segments (BP1, BP2 and Chicap pipelines) supplying Whiting, with the fourth (Capline pipeline) operated by Marathon. Chicap and Capline are joint-venture pipelines, with bp owning approximately 56% and 13%, respectively.

The BP1 and BP2 pipelines are directly connected to Whiting and are the only two crude inlets into the refinery. BP1 is longer at approximately 686 miles (BP2 is 12 miles), while BP2's capacity is larger at approximately 475,000 barrels per day (BP1 is 100,000 – 175,000 barrels per day, depending on the pipeline segment). BP2 does not have any tank storage, while BP1 has approximately 1,900,000 barrels at two locations on its system. BP2 provides Whiting with crude oil off the Enbridge mainline system,

bringing volume from Alberta, Canada. BP1 brings volumes from Cushing, OK and Patoka, IL (via Chicap – see below). BP2 is owned within bp's MLP, BP Midstream Partners, while BP1 is owned within the newly formed joint venture: BP Midwest Products Pipelines LLC, where bp owns a 51% interest.

Originating in Patoka, IL, the Chicap pipeline mainline is approximately 203 miles and delivers to Manhattan, IL (where it connects to BP1 for volumes to reach Whiting) and to Mokena, IL (where it delivers to third-party Midwest US refineries and can access the Enbridge mainline to deliver to bp's Whiting and Toledo refineries). Chicap is a joint-venture where bp has approximately56% ownership interest through the newly created BP Midwest joint-venture. bp operates Chicap, including its approximately 1,600,000 barrels of storage at Chicap's Patoka and Mokena stations.

Finished Products Export

bp, through NA T&P, operates a vast network of 11 refined product pipelines spanning approximately 1,800 miles throughout the Midwest US. While most of the pipelines are capable of handling a Whiting produced refined barrel, the Miami Valley pipeline in Ohio (~94 miles) primarily supports the bp-husky refinery in Toledo, OH and the Wood River – Milan pipeline (~214 miles) receives volume from the KM Phoenix terminal near St Louis. This network has nearly 1,500,000 barrels of refined product storage split across Bromley, KY; Dubuque, IA and Manhattan, IL, with truck loading at Dubuque and barge loading/offloading at Bromley. bp's MLP, BP Midstream Partners owns the Whiting – River Rouge (~244 miles) and Diamondback (~42 miles, transporting diluent) pipelines. The remaining assets (except the ~570 mile Whiting to Decatur, AL pipeline which is being repurposed for refined product deliveries to Nashville, TN) are part of the newly formed BP Midwest joint-venture where bp owns 51%.

bp has a 25% stake in KM Phoenix which owns 13 terminals (~8,900,000 barrels of storage) in eight states and is operated by Kinder Morgan. bp's ownership interest is held within BP Midstream Partners.

Gulf of Mexico NOJVs

bp has equity interest in six pipelines transporting hydrocarbons approximately 600 miles from various offshore Gulf of Mexico (GoM) production platforms to the shore. bp has varying ownership in the six pipelines, which are predominantly owned within bp's MLP BP Midstream Partners and are all operated by Shell.

Externalities to Consider

1. The Biden administration's policies on renewable energy investments and requirements for low carbon fuels
2. Various state legislations on renewables and low carbon fuels
3. Product specification requirements

Key FS&M Milestones/Projects

1. New terminal in Nashville and repurposing an existing pipeline
2. Whiting to River Rouge pipeline capacity expansion

US Strategic Focus Areas

1. Growing biofuels business, from production to blending to customer offers
2. Partnering across bp to build value chains for new low carbon businesses (hydrogen, CCUS, RNG)
3. Leveraging strong business to business expertise to grow with key customers and enable bp integrated offers

Castrol

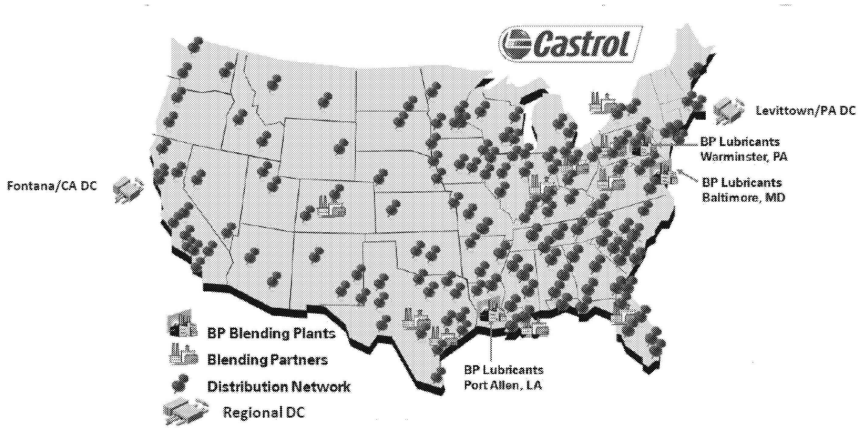
bp's global lubricant brand, is a global leader in lubricant technology, serving customers and consumers in over 140 countries in the automotive, marine, industrial, aerospace and energy production sectors. Castrol products are recognized globally for innovation and high performance through a commitment to premium quality products, highly responsive services and cutting-edge technology.

After more than 120 years Castrol's heritage of pioneering and delivering innovation which anticipates and meets customer needs still shapes the way Castrol does business today. Castrol take the time to understand the challenges its customers are facing and partners with them to achieve better solutions. Castrol's pioneering approach is no different when it comes to driving sustainability and the transition to lower carbon – whether that's improving its products to help reduce emissions and improve efficiency and reliability for the fast developing technologies found in electric and hybrid vehicles through to wind turbines or robots on production lines.

In America, Castrol is a top choice for motorists who change their own oil, as well as being the leading lubricant supplier to the rapidly growing wind industry. Castrol's metal working and machining fluids are critical to the production of components for the automotive and aerospace industries. And, its production fluids are at the forefront of oil exploration and production in the deepest waters of the US Gulf and our specialist greases and lubricants have played key roles in space exploration for many decades, including multiple applications on NASA's current Perseverance mission.

Castrol ON is Castrol's range of advanced e-Transmission Fluids, e-Greases, e-Thermal fluids and e-Coolants that work together to support today's electric vehicles. As EVs continue to evolve, Castrol's best brains are not only defining the fluids, but the way the fluids are defined: pioneering testing and monitoring methods, driving efficiency and economy going beyond the standard requirements of the fluids, taking consumer insights and engineering technical solutions; advancing technologies that will lead to breakthroughs for the transport of tomorrow. Globally, Castrol's e-Fluids are already used by more than half of electric and hybrid vehicle manufacturers.

Castrol products are manufactured in the USA and exported to Canada, Central and South America. Its manufacturing network consists of three owned blending plants capable of manufacturing 582 million liters of lubricant annually, as well as 11 third-party partner blending plants and 2 third-party distribution centers (DCs) located in Fontana, California and Levittown, Pennsylvania. The Castrol operated blending plants are in Port Allen, Louisiana, Baltimore, Maryland and Warminster, Pennsylvania. To manage product logistics, Castrol has a network of 84 distributors and 114 warehouse sites in the US.



Castrol's approach to Sustainability

To achieve the Paris climate goals, the world will need improvements in end use energy efficiency. In one estimate, these improvements can provide almost 40% of greenhouse gas (GHG) emissions reductions required. Today, around a quarter of the world's energy is lost to friction, corrosion and wear.

Ever since Castrol was born, it has been dedicated to delivering products that help save energy by fighting friction, reducing corrosion and minimizing wear, delivering high-performance with increased efficiency.

Castrol's new PATH360 strategy:

- Embraces circular thinking - looking at the life cycle of Castrol's existing and new products, to see how they can be improved, extended, reused or recycled.
- Supports new and growing sectors, like renewable energy and e-mobility with products and services.

Castrol PATH360's three focus areas and 2030 aims are:

1. Saving waste - continuing to help customers save energy, waste and commercial customers' water as well as halving Castrol's plastic footprint.
2. Reducing carbon – Castrol aims to halve the net carbon intensity per liter of its products.
3. Working to improve people's lives around the world, including through carbon neutral programs and other activities

Key Financial and Operational Data

Castrol does business in America as BP Lubricants USA Inc. a wholly owned subsidiary of bp.

Annual volume of products sold in the USA is approximately 330 million liters, with annual replacement cost profits approaching $250m and a capital investment program of around $25m, in addition to brand and technology investments of approximately $65m per year.

In America, Castrol employs approximately 620 people. Through our third-party suppliers, distributors, and customers, Castrol indirectly supports thousands of jobs in the USA.

Key Financial & Operational Data [27]

	2018 Actual	2019 Actual	2020 Actual	2021 Plan
Gross Margin ($ mil)	406	401	289	449
RCOP ($ mil)	244	223	130	251
Volume Sold (mil Liters)	332	339	263	332
Cash Flow ($ mil)	259	224	$129	238

Customer Segmentation

Castrol's marketing strategy addresses B2B customer and B2B2C consumer needs through a family of individual product brands. Castrol's products address a wide scope of customers including do-it-yourself (DIY), do-it-for-me (DIFM) and industrial customers. Castrol's iconic brands such as GTX are a favorite for American DIY'rs and almost half of Castrol's business is DIY sold through brick and mortar retailers and is rapidly expanding in ecommerce retailers. Castrol is the second largest brand in the passenger car motor oil (PCMO) customer category of the DIY segment. The Castrol strategy is to be reestablished as the top premium brand by growing market share from 17.5% to 25%.

In the do-it-for-me (DIFM) segment, Castrol holds a 5% market share. The DIFM segment is fragmented and dominated by independent workshops (IWS) such as auto repair shops, quick lubes and light service workshops accounting for 65% of this segment. This customer segmentation is a key growth opportunity and focus for Castrol.

Castrol has three major passenger car brands in the USA: GTX, Magnatec, and EDGE, each with differentiated products to reach a wide range of consumers.

[27] Source: Information provided by Castrol

Castrol® Brand	GTX® ECO*	GTX® / GTX® ULTRACLEAN	GTX® MAGNATEC®	EDGE®	GTX® High Mileage	EDGE® High Mileage
Market Position (at retail)	NA	#1	#2	#2	#1	#2
Product Differentiation	Carbon Dioxide Reduction	Helps extend engine life	Instant Protection from the moment you Start	Strength for pushing the boundaries of Performance	Phosphorous Replacement Technology	Strength to Perform for High Mileage Vehicles

Castrol expects the passenger car motor oil (PCMO) and industrial markets to grow between 2021 and 2025 following the contraction in 2020 due to the COVID-19 pandemic.

Castrol partners with industrial customers to develop solutions that drive increased efficiency for their business. The services Castrol provides the industrial customer segment include:

1. Liquid engineering to create premium industrial fluids that help optimize performance
2. Advanced analytics to enable data-driven maintenance and reduced equipment down time
3. Chemical management services to drive down total cost of ownership

Castrol's industrial customers cover the following industries: aerospace, automotive, machinery and metal manufacturing, mining, and wind. Castrol has a 4% market share of the metalworking fluid industry, which is number seven amongst the top competitors of a highly fragmented sector.

2025 US Strategy

1. The US lubricant market is the world's largest (China #2) and, while market volumes are expected to decline, the overall margin pool will continue to grow as more users migrate to higher performance products.
2. Castrol aspires to be one of the top two lubricant brands across all segments by 2025 by driving market share growth.
3. Castrol will continue to transform from a product to a service brand.
4. Castrol aspires to lead the motor oil category through the energy transition, embracing electrification as the premier e-fluids brand.

Top Castrol priorities

1. Become a net zero brand by 2050 or sooner, driving three focus areas: saving waste, reducing carbon and improving people's lives.
2. Support electrification and mainstream adoption of EV's through the launch of Castrol ON, Castrol's premium EV fluids product portfolio
3. Accelerate digital transformation including eCommerce
4. Growing the independent workshops (IWS) offering
5. Growing EDGE market share to 22% in the DIY segment
6. Enhance our industrial distributor capabilities and offer, focusing on four key segments to grow gross margins by 60%
7. Drive efficiencies in our cost of goods/cost to serve competitiveness
8. Invest in technology innovation and sustainability differentiation in line with bp's Aims and Ambitions
9. Enhance selling capabilities, build talent and improve employee morale

Externalities & Risks to Consider

1. Increasing demand for electric vehicles will impact the shape of the lubricant business as internal combustion engines give way to electric motors which require different and less fluids.
2. Competition
3. Regulation (packaging, used oil, data privacy & analytics, right to repair)
4. Acceleration of DIY to DIFM conversion
5. Accelerated EV conversion (mandates or incentives to remove ICE vehicles from the parc)
6. Technology
7. Raw material access (especially to re-refined base oil and other sustainability supporting options)

Trading and shipping

GPTA

Gas & power trading Americas (GPTA) is the largest natural gas marketer in America, as well as one of the top wholesale power marketers. GPTA is a customer facing organization serving over 2,700 [28] customers across the United States, Canada, Mexico, and Brazil to meet customers' energy needs. GPTA's deep product offering to customers includes natural gas, renewable gas, natural gas liquids, power (renewable and gas driven), and renewable energy credits through the diligent risk management of complex logistics (sourcing, transportation, and storage) to maximize value for bp and reliably serve its customers. GPTA also provides risk management products for these commodities as well as for crude and related products to its customers.

In 2013, GPTA became the first oil and gas major company to register provisionally as a swap dealer under the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010. This allows GPTA to make markets in swaps and / or enter swaps with counterparties. GPTA swap dealing is focused on providing customers with price risk management solutions.

Key Financial and Operational Metrics [29]

	2018 Actual	2019 Actual	2020 Actual
Gross Margin ($ mil)	905	889	811
RCOP ($ mil)	487	535	474
Electricity Traded (TWh)	164	159	130
Gas Traded (bcf/d)	22	20	18

GPTA serves in the capacity of an integrator within bp through activities such as:

1. Providing flow assurance for upstream entities (GOM and bpx), and refineries (Cherry Point, Toledo, and Whiting).
2. Affiliate support for Freeport LNG across gas & power. GPTA uses its firm transport capacity in support of Freeport LNG and has worked with the team to mitigate future power exposures. GPTA manages the Freeport LNG power needs of 175MW which is hedged through 2028.
3. Procuring advantaged wholesale power for affiliates. Examples include procuring of power for bpx in the Permian basin which contributed to the reduction of Scope 2 emissions by 94KteCO_2e, and putting in place an agreement for Whiting refinery to purchase electricity from the Whiting Clean Energy facility, which contributed 1MteCO_2e in Scope 2 reduction.
4. Acting as an integration partner for G&LCE LSbp evaluating potential renewable investments.
5. Acting as an integration partner for RC&S reaching existing municipal, corporate, and industrial customer relationships.

GPTA has ca. 475 employees, inclusive of enablers who are dedicated to supporting GPTA, to manage their business daily.

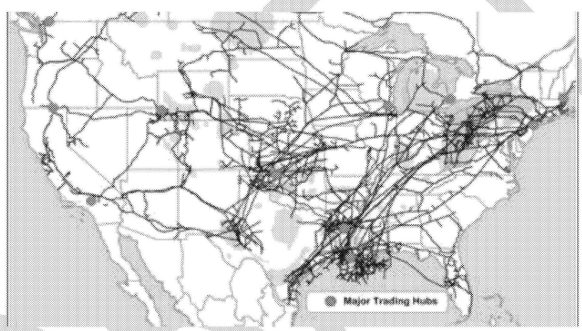
[28] GPTA is enabled to transact with over 5,000 customers. In 2020, GPTA transacted with over 2,700 of those customers.
[29] Source: Information provided by GPTA

Gas Marketing

GPTA has been the largest gas marketer in America since 2003. In 2020, GPTA marketed ~18 Bcf/d of natural gas to 2400 customers across the US. GPTA is active in every major US oil and gas production basin with access to more than 235 pipelines.

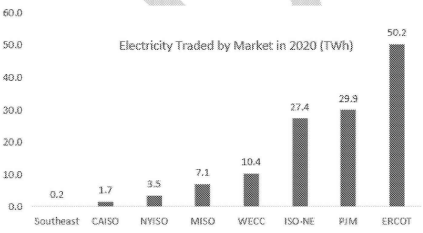
GPTA is customer-centric and integrates operations from the wellhead to the end user through a vast network of pipeline and storage positions throughout the US. The mix of GPTA customers ranges from commercial and industrial, local distribution companies, over 100 cities and municipalities, oil and gas producers and private equity portfolio companies.

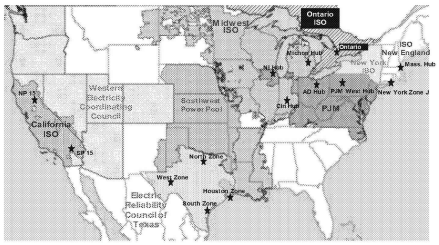
GPTA gas marketing serves both the needs of producers (through off-taking production, optimizing pipeline capacity held by producers, offering gas scheduling services, and offering price risk management solutions in the form of financial products) as well as consumers (through providing reliable supply, optimizing pipeline and storage capacity held by the consumer, and offering price risk management solutions in the form of financial products).



Power Marketing

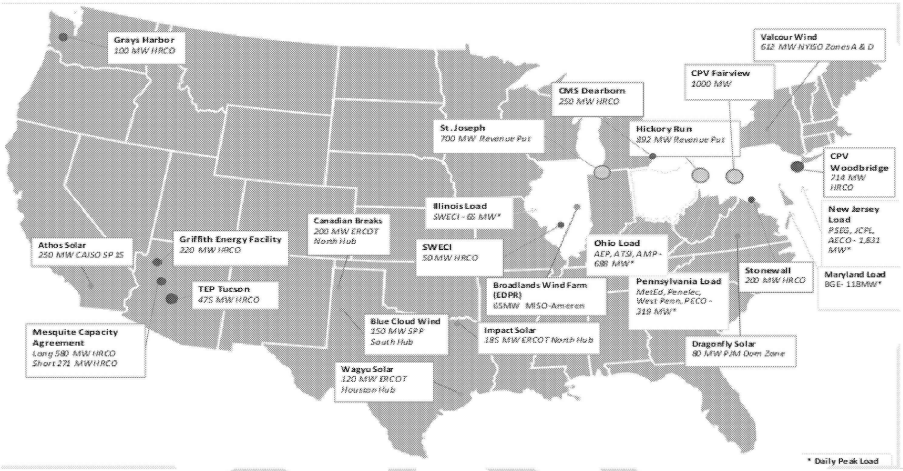
GPTA is active in several power market areas in the US. In 2020, GPTA marketed 130 TWh of electricity making it one of the largest wholesalers of electricity in the US.





GPTA manages a portfolio of long-term transactions including approximately 7,000 MW of electrical generation capacity (gas, wind and solar) and approximately 3,000 MW of load across US. While GPTA is

focused on wholesale customers, it has access to 20 retail markets by serving current Retail Energy Providers in unregulated states/regions. GPTA is also one of the largest traders of renewable energy credits (REC).



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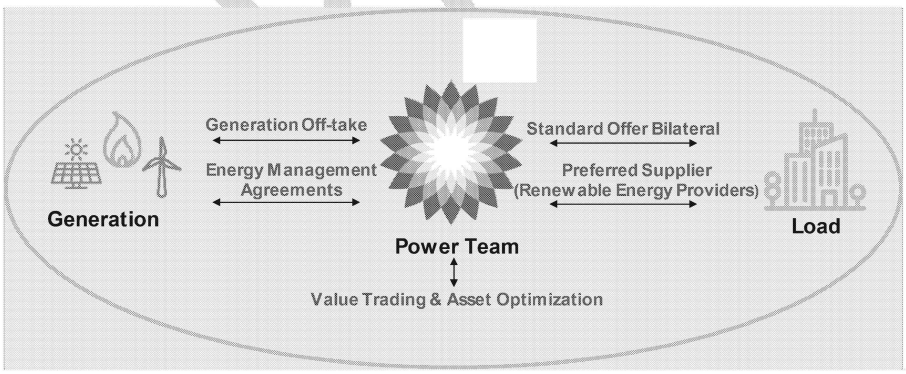
GPTA employs a virtual utility strategy, balancing transactions that replicate power generation (long) with holding transactions that replicate load (short).



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The Power team originates highly structured transactions on the generation side of the virtual utility strategy, including transactions with both thermal energy and renewable energy (wind and solar) developers. The load side of the virtual utility strategy includes load obligations and supplying retail energy providers. The Power team also purchases RECs from the renewable generators who create them and sells RECs to buyers who purchase them for regulatory compliance or corporate sustainability

goals. Essential to the virtual utility strategy is the team's ability to originate long-term transactions with generators, warehouse the long-term price risk, and originate transactions to lay off the risk over time.

Expansion into New Geographies

As the natural gas market in Mexico deregulated to allow access to competition, GPTA entered the marketplace and began serving natural gas customers in-county in 2017. GPTA now sells to over 20 gas customers in country, flows across all zones and on all major pipelines in Mexico, and exports from the US at every major border point.

In 2019, GPTA opened an office in Sao Paulo, Brazil to trade and market and trade power in-country. The Power team aims to replicate the success of its virtual utility strategy from the US in Brazil and target its marketing efforts to the commercial and industrial customers who have access to choose their electricity supplier. To date, the Power team has closed several milestone transactions in Brazil, including the first ever currency inflation hedge transaction in Brazil.

Externalities to Consider

1. Redacted - First Amendment
2. Promote need for energy infrastructure (incl. pipelines, transmission) and competitive markets for access to infrastructure
3. Promote role of gas alongside path to decarbonization (hydrogen, CCUS)
4. Shape and advocate for carbon pricing proposals at federal, state & provincial level in line with bp policy positions
5. Promote use of renewable & low carbon fuels in transportation & other sectors (i.e., heating)
6. Redefine U.S. state outreach program: power generation subsidies, role of gas, CES, gas hook up bans, retail competition, EV policy
7. Redacted - First Amendment
8. Represent bp on trade associations, incl. API, NGSA, CAPP (CN), EPSA, NPGA, AMGN (MX), ABRACEEL (BZ), FIA (among others)

Key Milestones/Projects

GPTA's 2021 milestones are:

- Businesses to embed the new group objectives into their strategies and annual plans to start implementation in 2022
- Delivery of low carbon transactions
- Continued ramp up of Run DMC business[30]; GM projected to grow in 2021
- Deliver at least two cross commodity transactions for T&S (P&L may or may not reside in GPTA)
- Get the core gas customer business back on track

[30] Run DMC is a series of transactions with EPIC midstream where bp is an anchor shipper on a new build y-grade pipeline and purchases y-grade from Permian producers to bring to markets in the Corpus Christi area

- Change ways of working, e.g., agile approach
- Further digitization and modernization of core business practices
- Alignment across group on improving the customer experience
- Develop effective ways of working across bp and enable integration value for G&LCE and RC&S
- Close on an acquisition of a material power C&I supplier
- Proactively engage with C&A to identify advocacy opportunities and assist in supporting bp's position

Commented [MK6]: This is under review currently as part of the Integrated Power and Trading strategy for the US. It may be in their plan but it's not necessarily the agreed strategic way forwards. I would suggest that we either take it out or change to "Acquire/develop licenses and capabilities to serve large C&I customers" which is how it is being described in the strategy– it's a bit tricky since we can't really change their plan….one to discuss?

RPTA

Refining & products trading Americas (RPTA) business **moves billions of gallons** of processed fuel every year. The people of RPTA supply gasoline, jet fuel, renewable natural gas, biofuels, chemicals, currencies, and other products to customers. bp's lower-carbon fuel sources include landfills and wastewater treatment plants.

RPTA is part of bp's trading and shipping organization, which is the commercial face to the traded markets. Its people offer unique expertise in physical supply and trading, innovative financial structures, and world-class analytics to deliver long-term value, from wellhead to end customer. RPTA also manages a number of **key interfaces with P&O and C&P** including marketing Gulf of Mexico production and the supply of feedstocks for bp's refineries.

RPTA has ca. 600 employees who manage the business

Key Financial and Operational Metrics [31]

	2018 Actual	2019 Actual	2020 Actual
Gross Margin ($ mil)	871	1141	1,407
RCOP ($ mil)	529	710	932
Crude Traded (mm bbl)	3,001	2,939	3,356
Distillates Traded (mm bbl)	2,044	2,405	2,646
Light Ends Traded (mm bbl)	1,645	1,647	1,787
Low Carbon Traded (mm bbl)	693	568	621

RPTA serves in the capacity of an integrator within BP through activities such as:

1. Grow refinery availability of advantaged crudes and improve access to unique feedstocks to support low carbon agenda (Co-processing)
2. Grow and improve capability to get products to and source from the highest valued homes, while keeping refinery out of containment and meeting retail demand
3. Support refinery TARs to maximize operations and manage supply needs
4. Manage Group environmental compliance obligations and exposure
5. Maintain flow assurance for bpx, GOM and Canadian Oil production

[31] Source: Information provided by RPTA

Crude Trading

RPTA plays a significant role in the trading and logistics of the hydrocarbon value chain in the Americas. In 2020, GPTA traded approximately 3.3B barrels of crude oil with 400 customers across the Americas. RPTA not only facilitates the physical delivery of Crude across the globe but operates as a fully integrated energy company purchasing all equity production and supplying all bp refineries in the Americas with a variety of crude oils.

Through our extensive network of pipeline and storage commitments, RPTA is able to service customers ranging from well-head producers, pipeline operators, other logistical providers, and maritime servicers. Relationship management is a key to the success of RPTA, providing flexibility in flow assurance, reliability in supply, and value optimization across the crude life cycle. RPTA collaborates with both large and small companies offering procurement, scheduling optimization, price risk management, waterborne access, blending expertise, and a variety of other specialized services.

RPTA is a key enabler in connecting crude flows across the world, facilitating the movement of barrels from the Americas to Europe, Asia, and host of other locations as well as placing barrels into the Americas from these locations.

Distillates Trading

The RPTA distillates team is one of the largest players in the trading and logistics space across North and South America. Our extensive expertise spans across low/high sulfur diesel, jet fuel, fuel oil, feedstocks, and marine bunker fuel, and we have an extensive logistics network to deliver barrels via pipe, vessel, and truck/rail. Because of this wide reach, the distillates team is able to monetize various location, time, and grade arbitrage opportunities not only domestically but internationally as well. We're also tasked with optimizing refinery production/feeds at our refineries in the Midwest and Pacific Northwest in the USA.

The team also manages the short for our extensive sales and marketing business, ensuring security of supply and maintaining BP's reputation as one of the most reliable fuel suppliers in the market today.

In addition, our RPTA distillates team is a major player in the renewable trading markets, trading both domestic and international barrels across both the renewable distillate and renewable feedstock complexes.

Light Ends Trading

The RPTA Light Ends Trading team touches a broad spectrum of products ranging from paper and physical instruments across gasoline, naphtha, ethanol, NGLs and LPGs, as well as being the largest bio trading arm for bp. The team actively trades across the US West Coast, Mid-west, Gulf Coast, New York, Caribbean, and international cargo trading. In 2020, RPTA traded approximately 1.8B barrels of gasoline across the Americas. Light ends trading interfaces with third party customers in wholesale transactions as well as operating as integrating with bp refinery production to optimizing supply to downstream rack supply for bp retail flows.

RPTA manages relationships and customers including bp direct retail, wholesale rack customers throughout the Americas, international low carbon renewable ethanol producers and third-party project developers/private equity investors. Light ends manage a complex logistic portfolios of storage tanks, pipelines, and vessels to optimize flows across the globe.

Low Carbon Trading

RPTA low carbon trading is one of the largest suppliers of renewable natural gas in North America and have developed a robust platform for growth through strategic acquisitions across the biogas value chain.

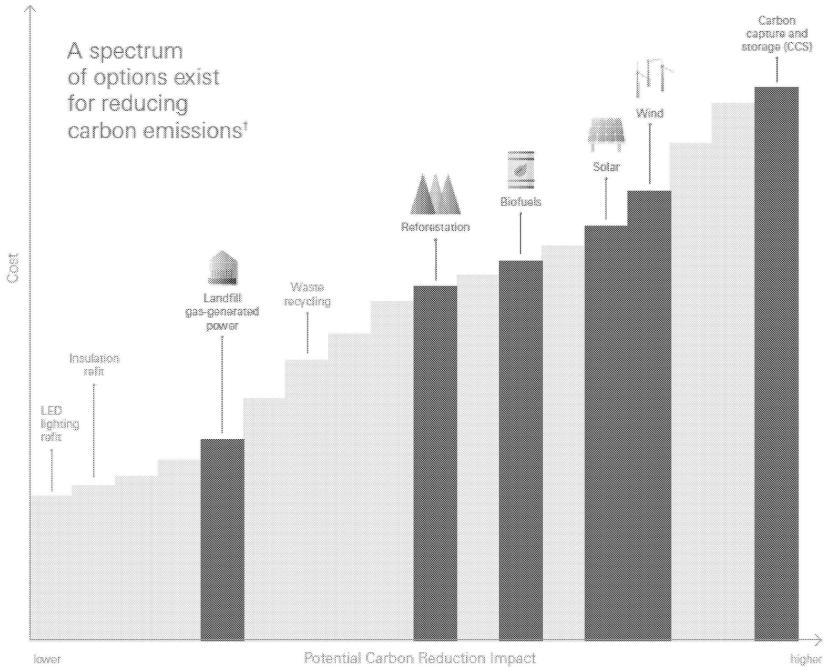
With 30 projects in 15 states, RTPA is a major generator of carbon offsets in the U.S.

bp sources renewable natural gas (RNG) from agricultural and food waste generation and are one of the largest suppliers of RNG or "biogas" to the U.S. transportation sector.

bp is one of the largest suppliers of compliance grade offsets in North America, and sources offsets for customers from our global portfolio of high-quality projects. RTPA adheres to a rigorous assessment and selection criteria process with the aim of ensuring the integrity of the emissions reductions.

RTPA has invested $5 million in US-based forest carbon management company Finite Resources Inc. to help incentivize sustainable forest management, financed by the demand for carbon offsets. Finite Carbon is the largest developer of forest carbon offsets in North America with more than 40 forest projects covering nearly three million acres

<u>bp's renewable natural gas collaboration with Clean Energy</u>
Clean Energy owns the largest network of compressed natural gas (CNG) fueling stations in North America, with more than 500 stations across the U.S. and Canada. In 2018, bp and Clean Energy signed a 10-year co-marketing agreement, making bp the sole supplier of renewable natural gas (RNG) to these stations. Additionally, Clean Energy is focusing its efforts on expanding their networks and will continue to convert fleet haulers, municipals, and private companies to CNG. This agreement has set the groundwork to substantially reduce greenhouse gas (GHG) emissions of the U.S. transportation sector. According to the U.S. Environmental Protection Agency, the project directly reduces close to 17,000 tons of methane and is equivalent to removing 1,800 passenger vehicles from the roads annually.



†Note: this chart is for depiction purposes only and not an exact representation of an abatement cost curve.

Externalities to Consider (for GPTA and RPTA)**

1. **Redacted - First Amendment**
2. Promote need for energy infrastructure (incl. pipelines, transmission) and competitive markets for access to infrastructure
3. Promote role of gas alongside path to decarbonization (hydrogen, CCUS)
4. Shape and advocate for carbon pricing proposals at federal, state & provincial level in line with bp policy positions
5. Promote use of renewable & low carbon fuels in transportation & other sectors (i.e., heating)
6. Redefine U.S. state outreach program: power generation subsidies, role of gas, CES, gas hook up bans, retail competition, EV policy
7. **Redacted - First Amendment**
8. Represent bp on trade associations, incl. API, NGSA, CAPP (CN), EPSA, NPGA, AMGN (MX), ABRACEEL (BZ), FIA (among others)

Key Milestones/Projects

RPTA's 2021 key milestones are:

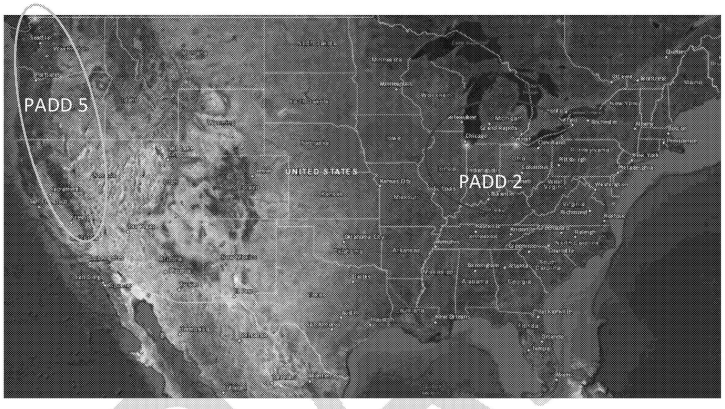
- Integration with P&O and bp refineries (crude)
- Differentiated crude offer: carbon offset & ESG transparency
- Continued customer focus: aviation, ground fuels, and industrial
- Asset footprint & value chain reinvention e.g., bio blending, co-processing, credit optimization & product sales
- Grow supply/offtake of Biodiesel & Biojet
- Build Petrochemical business & circular petchem offer
- Expand bio businesses: ethanol, naphtha, LPG & methanol
- Access low carbon advantaged feedstocks
- Grow biogas value-chain through RNG feedstock to supply biogas in regulated markets
- Target natural climate solutions (NCS) growth to generate low-cost carbon credits using Finite Carbon platform
- Develop bundled and customized product offers through Low Carbon Trading

RPTA's 2021 major projects include partnering with Fuels to build a midstream solution in Mexico to supply gasoline/distillate to Central Mexico (Sirius Project) and the continued work in identifying alternative feedstocks (Algae Oil, Biomass Wood Waste, Carinata Oil) to convert to distillate and jet fuel

Resilient and focused hydrocarbon

Refining

bp in America operates three refineries with net crude distillation capacity of approximately 771 kb/d as of the end of 2020[32]. This is approximately 40% of bp's global refinery capacity. bp has the ninth largest refining capacity in the US[33]. Three of the seven operated refineries in bp's portfolio are in the US. The refineries range in technical complexity and product manufactured which ranges from gasoline (~385 kb/d), diesel (~200 kb/d), jet fuel (~72 kb/d).



The three refineries are Cherry Point located in Washington state (PADD 5), Whiting located in Indiana (PADD 2) and Toledo located in Ohio (PADD 2), which is jointly owned with Cenovus. The Midwest (PADD 2) is home to Whiting and Toledo refineries, and holds approximately 67% of bp in the US crude distillation capacity. The bp PADD 2 operations is the second largest in the Midwest. Whiting and Toledo refineries process mainly heavy Canadian crudes, while the Cherry Point refinery mainly processes Alaska North Slope crude which is supplemented by Canadian Crude.

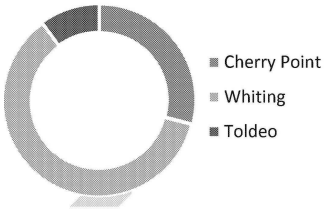
In 2020, the US refineries reported a throughput volume of 693 kb/d, which was approximately 43% of bp's global production.

Key Financial and Operation Metrics[34]

	2018	2019	2020	2021 Plan
Gross Margin ($ mil)	4,388.6	3,323.2	1,474.7	2,758.8
RCOP ($ mil)	1,790.9	599.3	(876.9)	129.3
Capacity (kb/d)	746	771	771	771
Throughput (kb/d)	703	738	693	733
Gasoline produced (kb/d)	374.5	378.5	371.5	384.9
Diesel produced (kb/d)	158.7	177.4	184.5	201.0
Jet fuel produced (kb/d)	90.5	98.7	66.6	72.6

[32] Source: bp Annual Report and Form 20-F 2020
[33] Source: HIS Markit BP Downstream Full Profile (September 2020)
[34] Source: Information provided by bp refining

771 kb/d refining capacity in 2020



693 kb/d refining throughput in 2020

Cherry Point Refinery

Cherry Point refinery has a crude distillation capacity of 251 kb/d and had a throughput of 203 kb/d in 2020. The refinery is 100% owned by bp and is strategically located to integrate with bp's retail operations. This refinery serves as supplier for bp's approximately 500 branded service stations in the Pacific Northwest and Northern California.

Refinery	State	Region	Equity	CDU	FCC	HCK	Coking
Cherry Point	Washington	PADD 5	100%	251 kb/d	0	65 kb/d	62 kb/d

Located in Washington State, just outside of Seattle, it is the largest plant in the Puget Sound refining hub, more than 50% larger than Shell's Anacortes (137 kb/d). The refinery is located on 3300 acres including 2500 of rural land that is managed for ecological restoration and habitat preservation.

Cherry Point refinery refines, processes and blends hydrocarbons to make gasoline, jet fuel, diesel, butane, propane and calcined coke. It is the only refinery in the Pacific Northwest capable of manufacturing diesel made from biomass-based feedstock, which are processed alongside conventional feedstocks in an existing ultralow-sulfur diesel unit.

Toledo Refinery

The Toledo refinery is 50/50 co-owned with Cenovus Energy. The refinery has an install capacity of 160 kb/d. bp's net capacity is 80 kb/d. bp's net throughput from the Toledo refinery in 2020 was 65 kb/d.

Refinery	State	Region	Equity	CDU	FCC	HCK	Coking
Toledo	Ohio	PADD 2	50%	80 kb/d	27.5 kb/d	16 kb/d	18 kb/d

Located in Northwest Ohio it is bp's smallest refinery in the US. The refinery refines, processes and blends hydrocarbons to make gasoline, jet fuel, diesel, LPG and asphalt. Toledo refinery primarily processes Canadian heavy sour grade crudes. It also processes a smaller quantity of light sweet crude oil. Products from Toledo is supplied to bp branded service stations in Ohio.

Whiting Refinery

The Whiting refinery is the largest refinery in the Midwest of the US, as well as bp's largest refinery in the world. The Whiting refinery currently has a crude distillation capacity of 440 kb/d. In 2020, Whiting refinery had a throughput of 424 kb/d and served as an anchor for bp's Midwest retail activities.

Refinery	State	Region	Equity	CDU	FCC	HCK	Coking
Whiting	Indiana	PADD 2	100%	440 kb/d	177 kb/d	0 kb/d	102 kb/d

Whiting is in Indiana, southeast of Chicago. The refinery processes and blends hydrocarbons to make gasoline, jet fuel and diesel. The refinery also produces about 7% of all asphalt in the US. In 2020, Whiting refinery reduced emissions by 1MteCO_2e and executed an agreement to purchase electricity from the Whiting clean energy facility thus reducing Scope 2 emissions.

Externalities to Consider

1. Impact of transition from ICE to EV/FCEV on the profitability of the refineries.

Strategic Focus Area

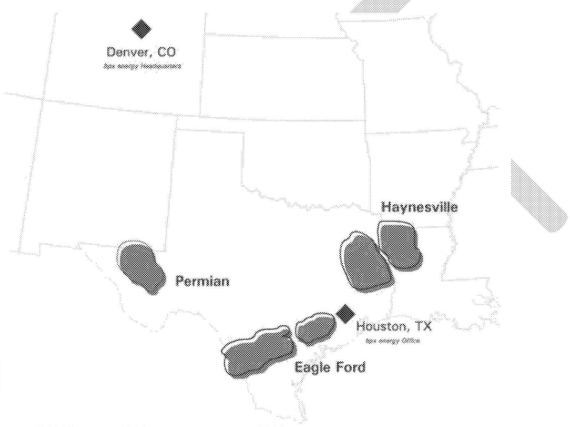
	2020	2025	2030
Refining Availability (%)	96	96	>96
Aim 1 (Scope 1&2 GHG MTe/yr))	21.3	18.9	TBC

Key Projects/Milestones

1. Deliver refining Availability of 96%
2. Take out 5 to 10 % costs beyond plan at all US refineries (Q4 2021)
3. Achieve breakeven net cash flow at $8 refinery marker margin (RMM)
4. Safe delivery of turnaround events at Cherry Point and Whiting refineries in (Q2 and Q4 2021)
5. Execute Toledo RISE (Reliability Improvement Program) (Q4 2021)
6. Drive GHG emissions down by 7 kte at the Cherry Point refinery (Q4 2021)

bpx energy

bpx energy is bp's US onshore oil and gas business. bpx has undergone a transformation since 2018 when bp acquired assets in Texas and Louisiana for $10.5 billion. The acquisition gave bpx access to high value resources in three premier US onshore basins: the Permian (TX), Eagle Ford (TX), and Haynesville (TX and LA). Since the acquisition, bpx has divested all its operated assets in Colorado, New Mexico, Oklahoma, and Wyoming to fully focus on the efficient development and operation of the newly acquired assets and to fund their acquisition.



bpx energy's operated assets are in the Permian, Eagle Ford, and Haynesville plays of Texas and Louisiana. bpx's portfolio consists of approximately 1.55 million net acres.

Key Financial and Operational Metrics [35]

	2018 Actuals	2019 Actuals	2020 Actuals	2021 Plan
Gross Margin ($mil)	1,952	3,065	1,809	1,779
RCOP ($ mil)	(677)	(718)	(998)	(262)
CAPEX ($ mil)	(1,074)[36]	(1,885)	(1,003)	(949)
Production (mboe/d)	349	499 [37]	373 [38]	271
Number of Rigs	9	13	5	7

[35] Source: Information provided by bpx
[36] CAPEX less provided properties
[37] 2019 production included legacy Colorado, New Mexico, Oklahoma, Texas, and Wyoming assets, as well as the Texas and Louisiana assets acquired in 2018
[38] 2020 production excludes Colorado, New Mexico, and Oklahoma assets divested

bpx's 2020 production averaged of 373 mboe/d (131 mbbls/d liquids and 1.4 bcf/d gas). bpx operated approximately 1800 wells and 6 central delivery points by the end of 2020.

bpx energy is one of bp's core assets. The bpx portfolio gives bp the flexibility of pace and timing of investment. And, bpx is characterized by relatively short investment payback periods. In 2020, bpx further defined its hydrocarbon resource base in the Permian through the appraisal of the Wolfcamp B zone in the Permian and Austin Chalk zone in the Eagle Ford. At the end of 2020, bpx had identified two thousand economic drilling locations which met an IRR of >25%.

Reserves and Lease Holding

bpx proved reserves is approximately 1.5 billion boe (proved developed reserves is ~424 million boe and proved undeveloped is 1.1 billion boe). bpx assets are concentrated in Texas, with some exposure in the Louisiana Haynesville play. bpx assets span approximately 696,000 net developed acres in our core operating areas and has identified approximately 6,200 undeveloped locations.

Basins

Permian Basin

bpx owns approximately 80,000 net acres primarily across two counties (Culberson and Reeves). bpx owned an interest in 235 wells in the Permian at the end of 2020. In 2020, bpx brought online the Grand Slam facility, a central delivery point (CDP), which has a capacity of processing 42 mboe/d of hydrocarbon, and the Squiggy water plant capable of treating and disposal of 100,000 bbl/d.

bpx operated an average of two drilling rigs and produced and average of approximately 57 mboe/d in the Permian in 2020.

Eagle Ford Basin

bpx owns approximately 370,000 net acres primarily in four counties (De Witt, Karnes, McMullen, and La Salle) and the play is characterized by primarily condensate and wet-gas production in the northeastern acreage, "Black Hawk", and primarily dry gas production in the southwestern acreage, "Hawkville". bpx owned an interest 600 wells, and five midstream facilities in the Eagle Ford at the end of 2020. bpx is the operator and 75% owner of a joint venture that owns approximately 1,000 miles of gathering and processing infrastructure in the Eagle Ford.

bpx operated an average of two drilling rigs and produced and average of approximately 114 mboe/d in the Eagle Ford in 2020.

Haynesville Basin

bpx owned approximately 1,100,000 net acres and interest in 1,000 wells in the Texas and Louisiana Haynesville plays at the end of 2020. bpx did not operate any drilling rigs and produced and average of approximately 121 mboe/d in the Haynesville in 2020.

Externalities to Consider

1. Flaring – currently pursuing an ambition to reduce and ultimately eliminate routine flaring by 2025.
2. Federal Methane regulation – federal rules regulating methane emissions may impact the costs for new and existing wells.
3. Produced Water Management – alternatives to underground injection of produced water remain a key focus for the business.

Strategic Focus Areas

	2020	2025	2030
Production (mboe/d)	373	558	683
Unit production cost ($/boe)	6.99	5.25	4.45
Aim 1 (M metric tonnes)	2.3	1.3	n/a
Aim 4 (%)	0.27	0.20	n/a

GHG Emissions

bpx delivered 245kteCO_2e of sustainable emissions reduction (SER) in 2020 through improved operational efficiencies; this was approximately 25% of the Groups SER. In the Permian asset approximately 100 kteCO_2e was delivered via the commissioning of a central delivery point and electrification of wells and facilities using renewable electricity. bpx has also implemented a quarterly aerial surveillance program to quantify emissions in support of Aim 4.

In 2021 bpx will further drive emissions down by continuing electrification of wells and by connecting base and wedge wells to low pressure gathering systems.

Key Milestones / Project

- Centralization, as appropriate
- Electrification, as appropriate
- Conversion of existing wells to low pressure gathering, as appropriate

bp Gulf of Mexico

Safety is a core value for bp, and managing our biggest process safety risks, including well control, is foundational to everything we do. Within this frame, bp manages one of the largest production operations in the Gulf of Mexico (GoM).

The GoM Business' mission is to be the best run hydrocarbon business in the world that safely and responsibly delivers strong cash flows to fund the energy transition and fuel our long-term future. bp's GOM strategy includes investing in our existing hubs and infrastructure to keep them full and operating well while continuing a disciplined focus on hub-scale renewal opportunities in high value and established plays like the prolific Miocene-age reservoirs we produce from.

Currently, bp operates four major facilities, 66 active wells and has a high-value non-operated position. Total GoM production is about 320 mboe/d net in 2021 and is on a growth trajectory to ~400mboe/d net by 2025. This production growth is underpinned by a robust reserves position >1.1 billion barrels, active wedge production activity, and major project activities like Na Kika Manuel that will start in June 2021 and the new Argos facility which will start in early 2022.

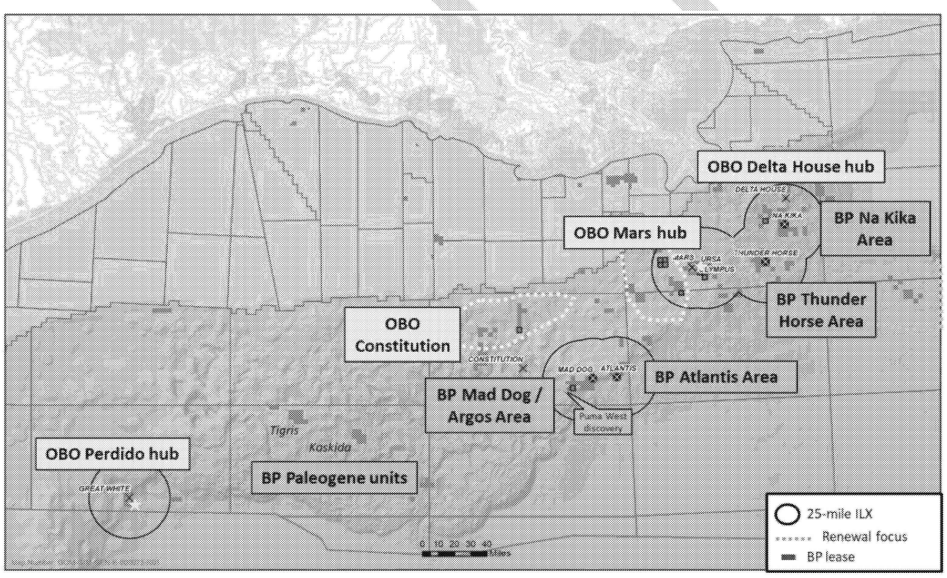


Figure 1: Map showing the GoM and bp's operated and non-operated areas

Key Financial and Operational Metrics [39]

	2018 Actuals	2019 Actuals	2020 Actuals	2021 (LE)
Ops Cash ($ mil)	4,994	4,554	2,402	2,815
FCF ($ mil)	3,005	2,194	34	924
RCOP ($ mil)	2,758	2,268	(2,447)	1,190
Production (mboe/d)	316	317	282	321
Sanctioned Tiebacks	1	3	1	2

Production

bp operates four platforms (Mad Dog, Atlantis, Na Kika and Thunder Horse) with a 5th facility (Argos) to be installed offshore in early 2022. bp also holds interest in three large Shell-operated Hubs (Mars, Olympus, and Ursa), a Shell-operated field (Great White which ties into the Perdido Hub) and two small fields (Constellation and Nearly Headless Nick). bp's GoM production is expected to grow about 10% from 2021 to 2022 and will reach approximately 400mboe/d net by 2025. About two-thirds of this high-margin production comes from bp-operated facilities and the remainder from OBO activity. Wedge activity is delivered via 3 MODU rigs (in 2022), platform drilling at Mad Dog and Thunder Horse, a riser-less intervention vessel and other intervention kit as needed.

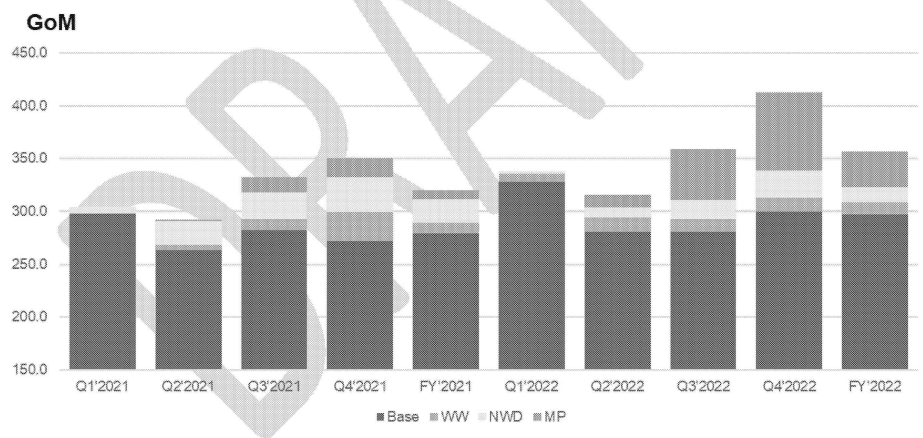


Figure 2: 2021 and 2022 GoM production wedges from bp operated and non-operated areas

BP-Operated Fields

[39] Source: Information provided by bp GOM

bp operates four platforms with processing capacity totaling approximately 830mboe/d gross (660mbo/d and about 1 bcfd). At the end of 2020 there were 66 operated producing wells. All bp operated fields produce from Miocene-age reservoirs and range in depth from 12,000 ft at Na Kika (Upper Miocene) to 28,000+ feet at Atlantis, Mad Dog and Thunder Horse (Middle and Lower Miocene reservoirs).

Na Kika (bp 50% and Shell 50%)

Na Kika is a semi-submersible production facility that reached first oil in 2003 following the first discovery at Kepler in 1987. The Na Kika platform processes hydrocarbons from seven Upper Miocene-age fields (Ariel, Kepler, Fourier, Herschel, Coulomb, Isabela and Santa Cruz). The Na Kika platform was bp / industry's first semi-submersible in GoM and was designed for a 20-year life. Facility life extension work is currently underway.

Na Kika was designed to process 225mboe/d gross hydrocarbons (oil 130mbo/d and 550mmscf/d gas). There are 12 producing wells and production is currently about 60mboe/d gross / 30mboe/d net.

The Na Kika area is undergoing a significant production increase through renewal efforts (85% success rate, at a finding cost of less than $2 per barrel) and third-party business and will return to nameplate production in 2021. Ariel 7 and Manuel, discovered in 2019 and 2018 respectively, demonstrate bp's strategy to keep this hub full through focused Infrastructure Led Exploration (ILX) and fast tie backs with Ariel first oil in 2020 and Manuel two well start up in June 2021. In addition to Manuel in 2021, bp will drill and produce Isabela-3 and two third-party wells managed by production processing agreements under individual PHAs. The original fields are nearing technical recovery, and future ILX and efficient tie back remains integral to the future of Na Kika. bp has a robust acreage position / ILX hopper and anticipates 2-3 ILX wells per year to sustain production.

Mad Dog (BP 60.5%, BHP 23.9%, Chevron 15.6%)

The Mad Dog field is the largest accumulation of hydrocarbons in the GoM and was discovered in 1998, with first oil in 2005. Production from the Middle to Lower Miocene field is processed on the Mad Dog Spar which is capable of supporting production and drilling operations. The Mad Dog Spar capacity is approximately 100 mboe/d and current production is about 70mboe/d gross / 38mboe/d net from 10 producing wells. Export from the Mad Dog Spar is comingled with production from the Atlantis and Holstein platforms.

Work is underway to renew the Life of Field (LoF) depletion strategy for Mad Dog. Options include additional drilling in underexploited areas to the north of the facility. Reservoir pressure support is also under evaluation in the northwest where a weak aquifer is observed, and additional production wells are planned in the west. There will also be an active intervention program with the A Spar rig to maintain well productivity, and late life options include slot recovery for further infill targets.

Argos (BP 60.5%, BHP 23.9%, Chevron 15.6%)

In December 2016, bp sanctioned the Mad Dog Phase 2 project to develop the southern and western segments of the Mad Dog structure, with first oil expected in 2Q22. The new Argos semi-submersible facility will be installed about six miles from the current Mad Dog spar and is expected to produce up to 140mboe/d gross through a subsea production system. The new facility provides an opportunity to create one of the most digitally enabled facilities in bp's portfolio, and the team is actively driving digital lighthouse projects for enhanced efficiency and cost reduction.

The Argos development includes bp's Lo-Sal™ water injection technology to provide reservoir pressure support and improved sweep through injection of low salinity water. The semi-submersible floating production unit (FPU) is one of bp's largest major projects this decade and will be the first new bp-operated production facility in the Gulf of Mexico since 2008. It will be bp's fifth operated facility in the GoM. The initial phase of drilling includes a total of 22 wells, 14 producers and 8 injectors and further infill wells will be required to reach benchmark recovery.

In addition to the current plan, we are evaluating further extensions to the southwest and additional water injection opportunities. An active well intervention campaign is anticipated to maintain well productivity and late life will require access to the shallower CC reservoirs. bp is also evaluating the 2021 discovery at Puma West, which is located to the west of the Argos area. In early 2022, there is an opportunity to test the deeper Paleogene stratigraphy, and this could add material incremental volumes.

Atlantis (BP 56% and BHP 44%)

The Atlantis field was discovered in 1998 in the Middle and Lower Miocene oil-bearing reservoirs. Atlantis achieved first oil in 2007. The Atlantis production platform is semi-submersible with the capacity to process 231mboe/d gross (200mbo/d and 180mmscf/d gas). Current production is about 105mboe/d gross / 55mboe/d net from 23 producing wells. Hydrocarbon export from Atlantis platform is commingled with the Mad Dog production and transported to shore using the same export pipeline system. There are currently 2 water injection wells supporting this production.

In January 2019, bp sanctioned the $1.3 billion Atlantis Phase 3 development project with first oil in 2019. This project utilizes state-of-the-art seismic imaging to identify eight infill well locations. Getting the right image of the subsurface is key and bp remains a basin leader in acquisition and processing technology and ocean bottom nodes (OBN) seismic acquisition. These data have underpinned an extra 400 million barrels of oil equivalent in place at the Atlantis field.

An Alternative Well Design project has yielded a more efficient well design and has achieved improved efficiency on well costs. Future activity includes additional water injection, an active riser-less well intervention program that manages skin and scale issues for improved well productivity, expansion of drilling centers and a Major Facility Expansion project which is under evaluation and will support further water injection and wells. There is a healthy hopper of ILX opportunities in the Atlantis area, and the Spinel exploration well will likely be drilled in 2022.

Thunder Horse (BP 75% and Exxon 25%)

The Thunder Horse platform is bp's largest offshore infrastructure. The field was discovered in 1999 and achieved first oil in 2008. The Thunder Horse platform has a nameplate/design capacity of 284mboe/d gross, (250mbo/d and 200mmscf/d gas), with a 25-year design life. Current production is about 185mboe/d gross / 125mboe/d net from 21 producing wells. There are currently 3 water injection wells. Water injection is key for production in the North Pink reservoir and further water injection is under evaluation for the South Pink and South Peach reservoirs.

Sand production is a significant challenge, but it is actively managed, and evaluation of further barriers is underway for implementation at the next TAR. In addition, skin and scale are actively managed through well intervention on the riser-less vessel to maintain productivity and a well service jumper will enable preventative treatments which will free up the PDQ rig.

The north area is mature, but the south is underdeveloped and will require significant additional wells. Recent 4D seismic investment resulted in a superior subsurface image and has enabled the addition of an incremental 1 billion barrels of oil equivalent which underpins the Thunder Horse South Expansion 2 (SX2) project. SX2 will increase production by about 50mboe/d gross and will achieve first oil in 2021. This project is on track and adds facilities for 8 subsea wells with the first well currently being drilled.

Additional opportunities include further infill drilling in the more mature North Pink and North Brown reservoirs, infill wells in South Pink and South Peach and further wells and potentially water injection in South Brown. There is a rich ILX hopper around the Thunder Horse facility with drill out timing linked to ullage requirements.

Operated By Others (OBO)

The GoM OBO portfolio is a material, long life business, aligned with bp's strategy of delivering returns-led growth through exposure to advantaged oil assets. It provides about 100mboe/d net production which generates >$1bn FCF per year @ QPF pricing and yields superior returns leveraging historic major facility investments.

bp's Gulf of Mexico OBO production portfolio consists of the 3 large Shell-operated production hubs – Mars, Olympus, and Ursa and the Great White tieback to the Perdido spar, and 2 smaller subsea developments - Occidental Petroleum-operated Constellation tieback to the Constitution spar and the Murphy-operated Nearly Headless Nick tieback to the Delta House semisubmersible floating production system (FPS).

OBO business is very active in the Shell-operated areas including new well delivery, tie backs and well work. Several significant investment decisions are expected in the next 12 months as the partnership evaluates Mars facility life extension, water injection adds to Olympus and a permanent seismic array for 4D monitoring. There has also been an active major project campaign with first oil expected from King Embayment in 2022.

OBO Facility Summary

	Mars	Olympus	Ursa	Perdido*	Constitution**	Delta House***
Operator %	Shell 71.5	Shell 71.5	Shell 45.39	Shell 35	Oxy 33.33	Kosmos 21.95
Partner(s)	BP 28.5	BP 28.5	BP 22.69 CoP 15.96 XoM 15.96	CVX 37.5 BP 27.5	BP 66.67	BP 20.25 Talos Energy 11.82 RW Energy 11.82 Crux1 7.31
Water Depth (ft)	2,900	2,900	3,800	7,800	4,500	6,600
Oil capacity (mboe/d, gross)	200	100	150	100	70	80
Gas capacity (mmcf/d/gross)	220	100	400	200	200	200
Discovery Date	1989	1989 (Mars)	1990	2002 (GW)	2015 (CNSTN)	2018 (NHN)
First Oil	1996	2016	1999	2010	2019	2019

*Great White (GW) field is a tieback to Perdido Regional Hub
**Constellation (CNSTN) field is a tieback to Constitution
***Nearly Headless Nick (NHN) field is a tieback to Delta House

Reserves and Renewal

bp has a robust portfolio of about 1.1 billion boe of reserves in the Gulf of Mexico, mainly from Miocene-age reservoirs and the Eocene-age reservoirs at Great White field. Proved developed reserves total accounts for 702 million boe, while proved undeveloped reserves total accounts for 405 million boe. On bp-operated facilities, Proved Developed Reserves to Production (R:P) ratios indicate stable production rates and only about 16% of hydrocarbons in place have been recovered from existing bp fields which is significantly below basin benchmarks and indicates longevity.

A rich hopper of ILX and New Hub renewal opportunities will be required to sustain the business beyond 2030. Continued seismic investment and accelerated drill-out of 2-4 New Hub wells per year between 2022 and 2024 within the plan frame of 3 MODUs underpins the ambition to sustain the business and fund bp's low carbon future. Furthermore, renewal activity to 2025 is underpinned by bp's current leasehold position. Additional running room for increased production will come from focused hub-scale Miocene renewal, establishing a renewal position in the proven Norphlet play, and unlocking technical challenges in bp's Paleogene discoveries.

The opportunity set is underpinned by ongoing renewal of bp's lease position. At the end of 2020, bp's lease hold in the GoM was 987,957 acres (gross). Approximately 100,000 acres are held by production (HBP). Most of the acreage is exploration leases and is transient. Exploration leases can be held between 5-10 years depending on the terms of the individual lease. bp actively manages its lease hold through bi-yearly lease sales and optimizes its working interest through trades and deals.

Hub and Export Infrastructure Graphic

bp has observed an increase in export deferrals in 2020 and 2021, and as bp's GoM production continues to grow, sensitivity to known vulnerabilities in export routes will increase. Activity is underway to manage increasing risk in this area and enhance barriers to ensure export stability and protection from disruptions.

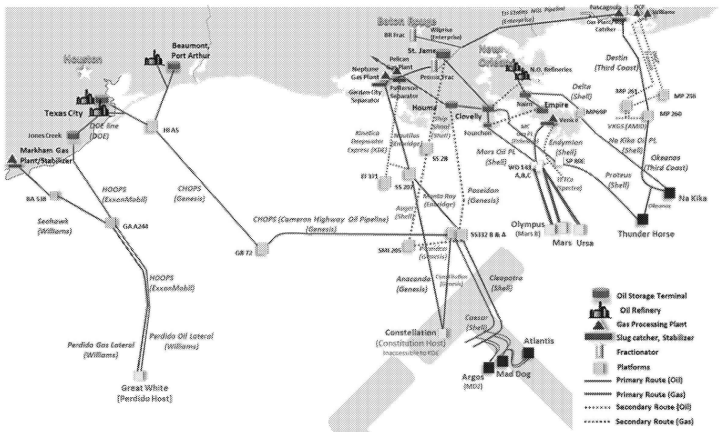


Figure 3: GoM export infrastructure

Externalities to Consider

1. President Biden's executive orders (EO) signed in late January 2021
    a. Additional changes in BSEE/BOEM permit review process following President Biden's executive orders (OE) in late January.
    b. Indefinite moratorium on new lease sales
2. Decommissioning practices and liability evaluation including financial assurance
3. Enhanced environmental review of Offshore activity, e.g. NEPA-type
4. BOEM/BSEE approval of new assignments/acreage swaps
5. Changes to BOEM/BSEE air quality rules
6. NPDES 5-year permit renewal (i.e. wastewater discharges)

Strategic Focus Areas

	2020	2025	2030
Production (mboe/d)	282	397	318
Unit production cost ($/boe)	9.7		
Plant Reliability (%)	93	96	>96
Aim 1 (metric tonnes)	1,149,319	861,989	603,392

Key Projects/Milestones

1. Puma West discovery and evaluation in 2021
2. Na Kika Manuel major project start up and commissioning in 2Q21
3. Completion of Paleogene seismic program in 2Q21
4. Thunder Horse SX2 start up and commissioning in 3Q21
5. Na Kika Isabela-3 start up in 4Q21
6. Mad Dog Argos major project start up and commissioning in 2Q22 (watch for key milestones throughout 2021)
7. Continued progress on Atlantis Phase 3 wells in 2022
8. Installation of additional Atlantis water injection in 2022

GHG projects

The 2021 SER target for GOM is 20,000 te CO_2 and the specific projects include:

a. Black Hornet Power Optimization Project to improve fuel efficiency. This uses Well Specific Operating Guidelines / Green dynamic positioning to take real time metocean data to optimize thruster and generator use.
b. Na Kika Field Gas Compressor (FGC) Speed Controller Addition on the recycle that will assist in slug management and minimize trips which leads to high amounts of flaring.
c. Atlantis Export Gas Compressor Variable Frequency Drive (EGC VFD) Optimization to minimize trips which leads to high amounts of flaring. This also contributes to power optimization and increases gas sales.

In addition to the 2021 projects, we are working to build the hopper of GHG projects that will help GoM contribute to our net zero ambitions support Aim 1 and 4. We will evaluate options including power from shore, engagement on water injection efficiency, and perform energy studies for the remaining assets (Atlantis, Thunderhorse and Mad Dog) in 3Q2021.