



Ecopetrol



July 2020

Picture: Chuchupa Field





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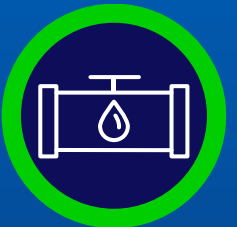
ECOPETROL IS AN INTEGRATED OIL & GAS COMPANY

UPSTREAM



- **5** countries: Col, US (GoM and Permian), Mexico, Peru, Brazil
- **20** exploration wells in 2019
- Production **725** mboed

MIDSTREAM



- 5 companies: CENIT, Ocesa, ODL, ODC, OBC
- Installed evacuation capacity:
 - Oil pipelines: **~1,300 kbd**
 - Product pipelines: **~ 340 kbd**

DOWNSTREAM



- **2** refineries: Barrancabermeja and Cartagena. Installed capacity **400 kbd**
- Esenttia, Bioenergy, Ecodiesel



Incumbent position of the Group in Colombia*

68 years of operation

gives us a deep knowledge of the environment in which we operate

56.7 BBOE

de HCIIP

1,893 MMBOE

of Proven Reserves

400 mbod

99% of crude oil refining capacity belongs to Ecopetrol

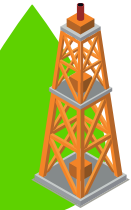
**Sustainability of
the Core Business**

82%

of oil pipelines capacity belongs to Ecopetrol, directly or through subsidiaries

100%

of product pipelines belongs to Ecopetrol



Plan responds to crisis and protects pillars of 2020+ Strategy



RESERVES AND PRODUCTION GROWTH

- ✓ **Existing Fields:** enhanced recovery technology and focus in opportunities that generate the most value
- ✓ **Exploration in Colombia:** drilling of +30 wells during 2020-2022
- ✓ **Unconventional:** PPII* in the MMV** program is ongoing; optimized Permian development plan
- ✓ **International:** investments in development of areas with high potential (Brazil and Permian)

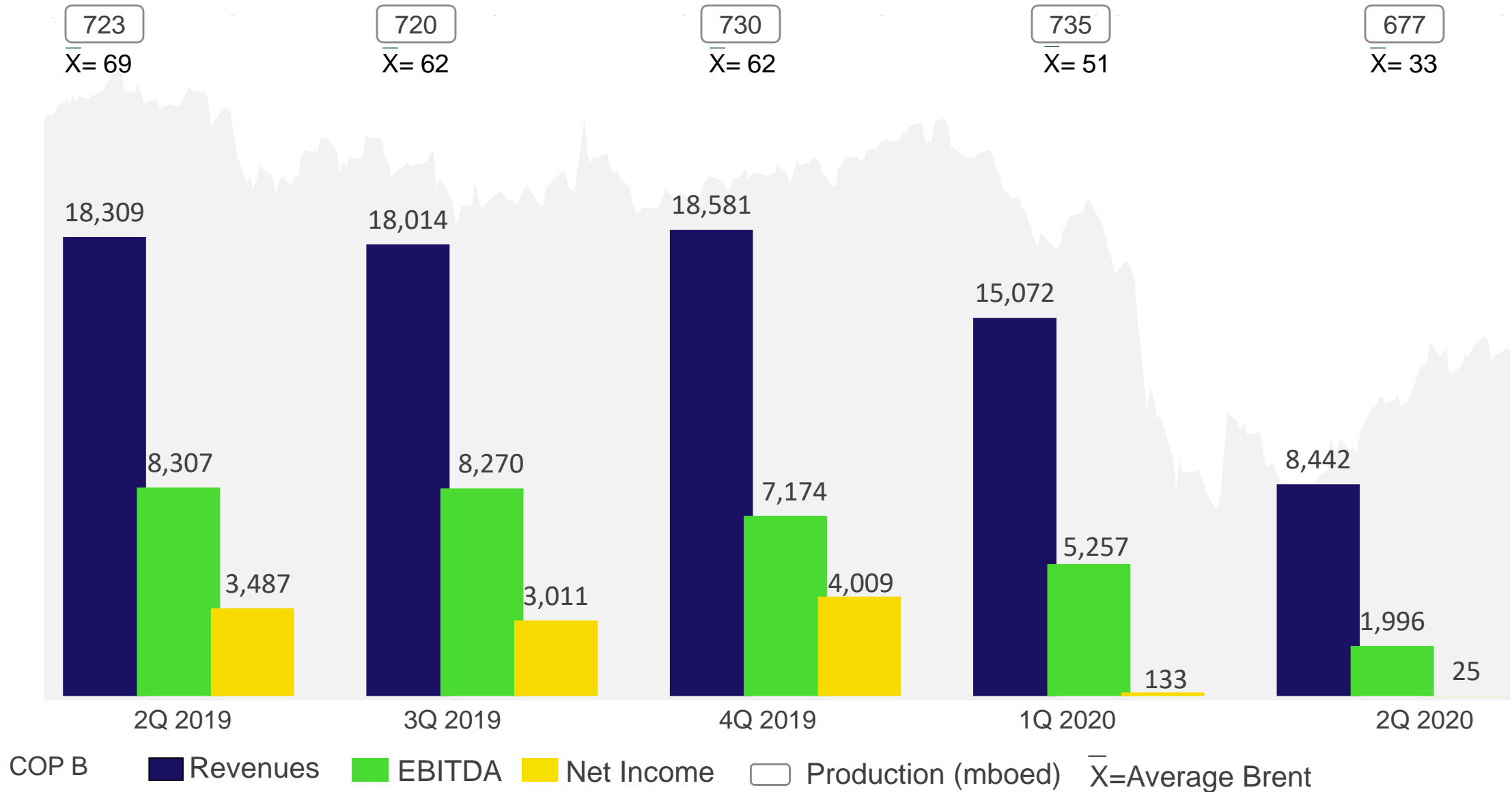


PROGRESS IN ENERGY TRANSITION

- ✓ **Gas:** investments in Piedemonte, Caribbean Offshore and existing fields
- ✓ **Energy efficiency,** decarbonization and renewable energies



Results impacted by market conditions



Operating milestones

Exploration

Colombia

- ✓ Merecumbre-1 gas well discovery*

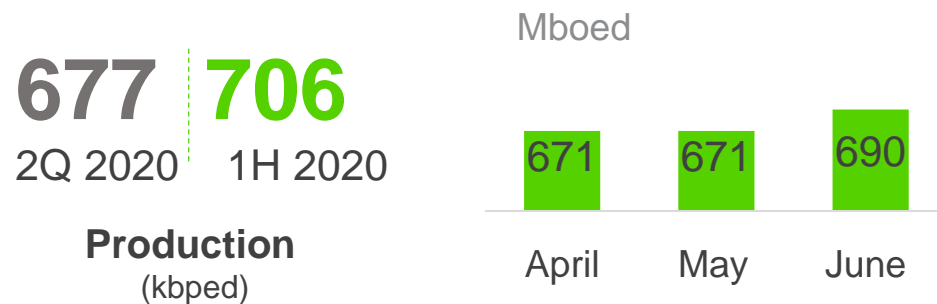


International

- ✓ Ecopetrol's entry in Gato do Mato discovery formalized

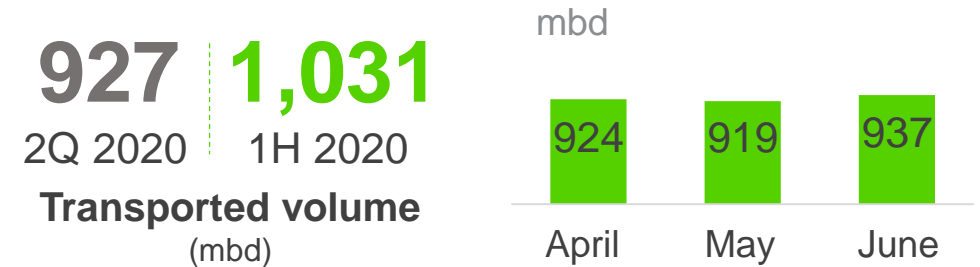


Production



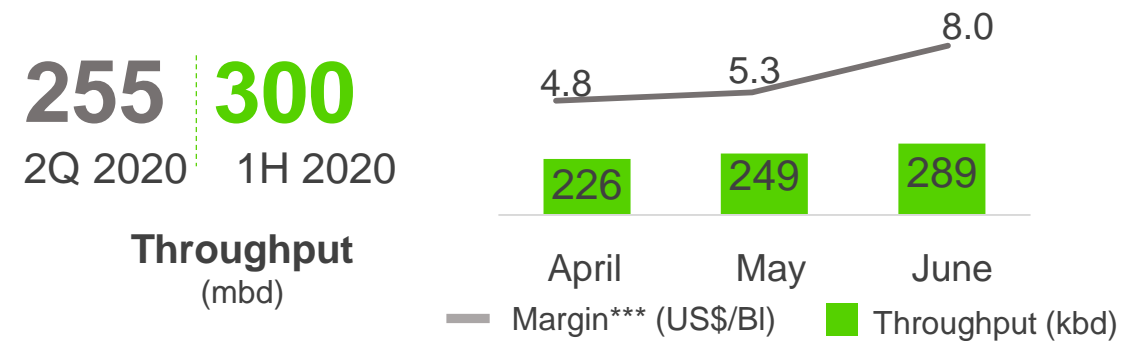
- ✓ Hocol's operation of Guajira asset (43%)**
- ✓ Profitable production at <30 US\$/BI

Midstream



- ✓ Relief to producers to incentivize demand
- ✓ Stable volumes

Downstream



- ✓ Operational continuity with minimum vital

* Well drilling completed in July 2020. **43% Hocol, 57% Ecopetrol. *** Refining gross margin

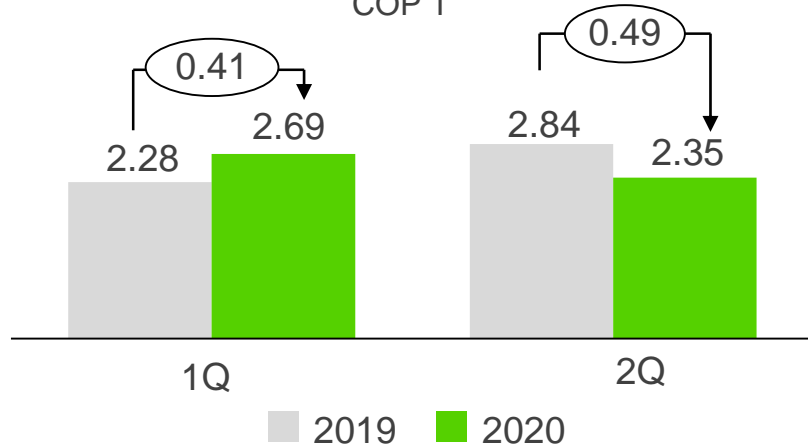


Interventions reflected in cost trend change

Group operating costs and expenses*

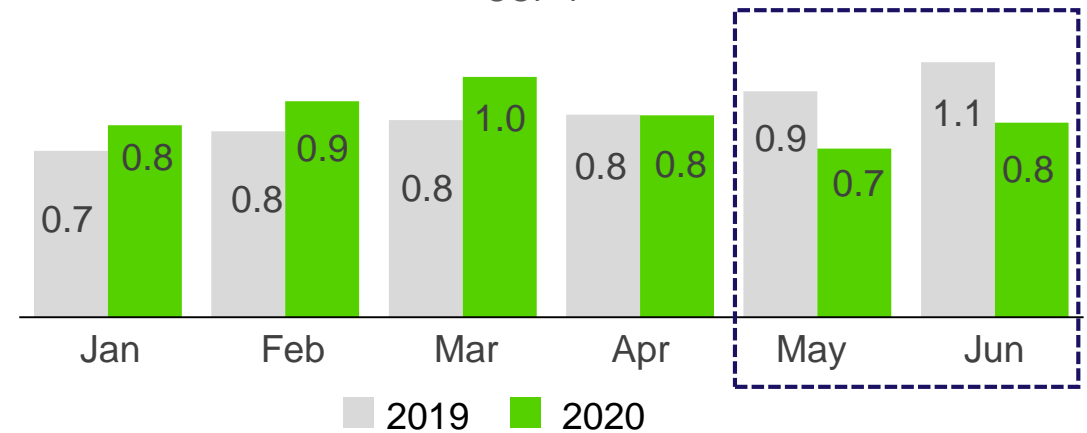
Quarterly trend

COP T



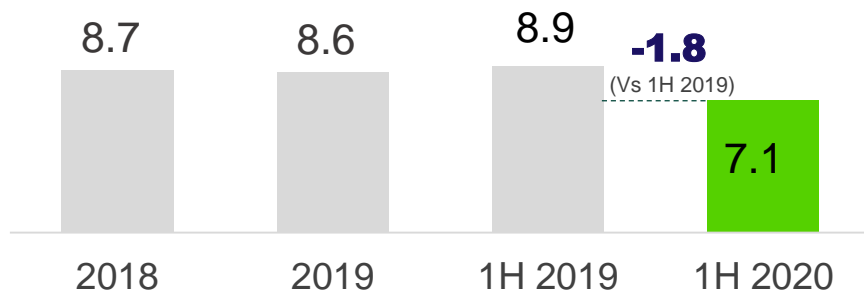
Monthly trend

COP T



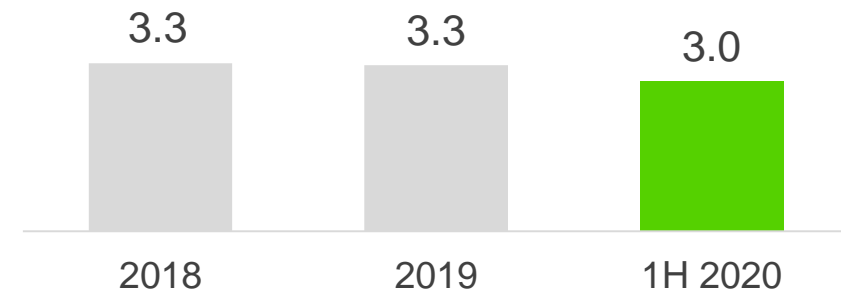
Lifting cost

(US\$/BI)



Transportation cost per barrel

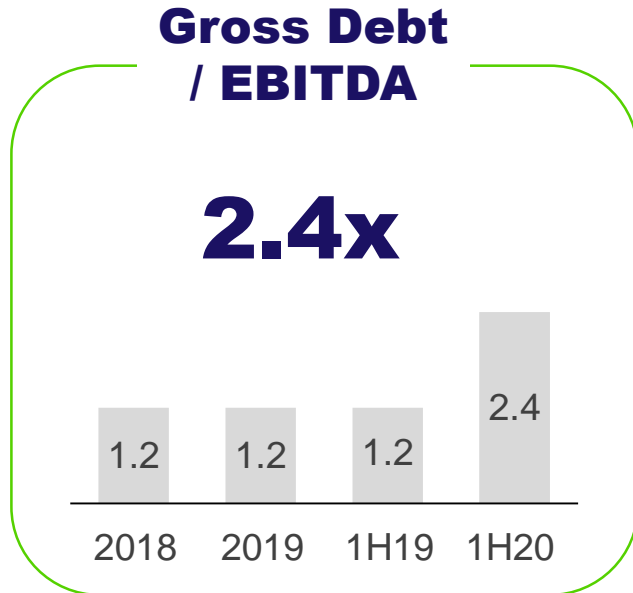
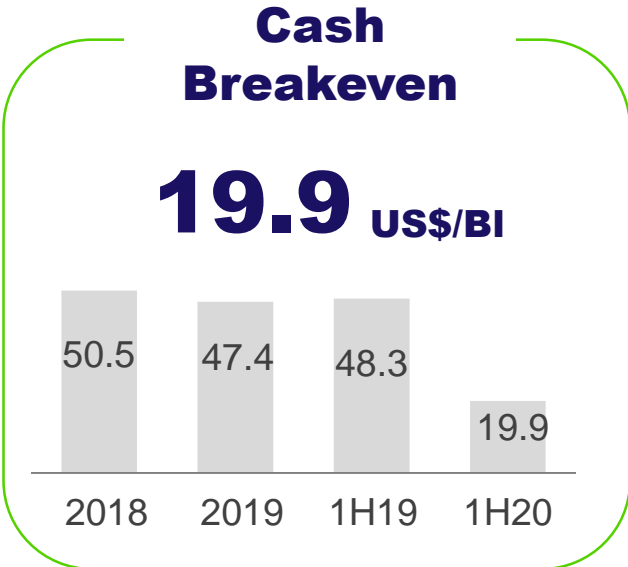
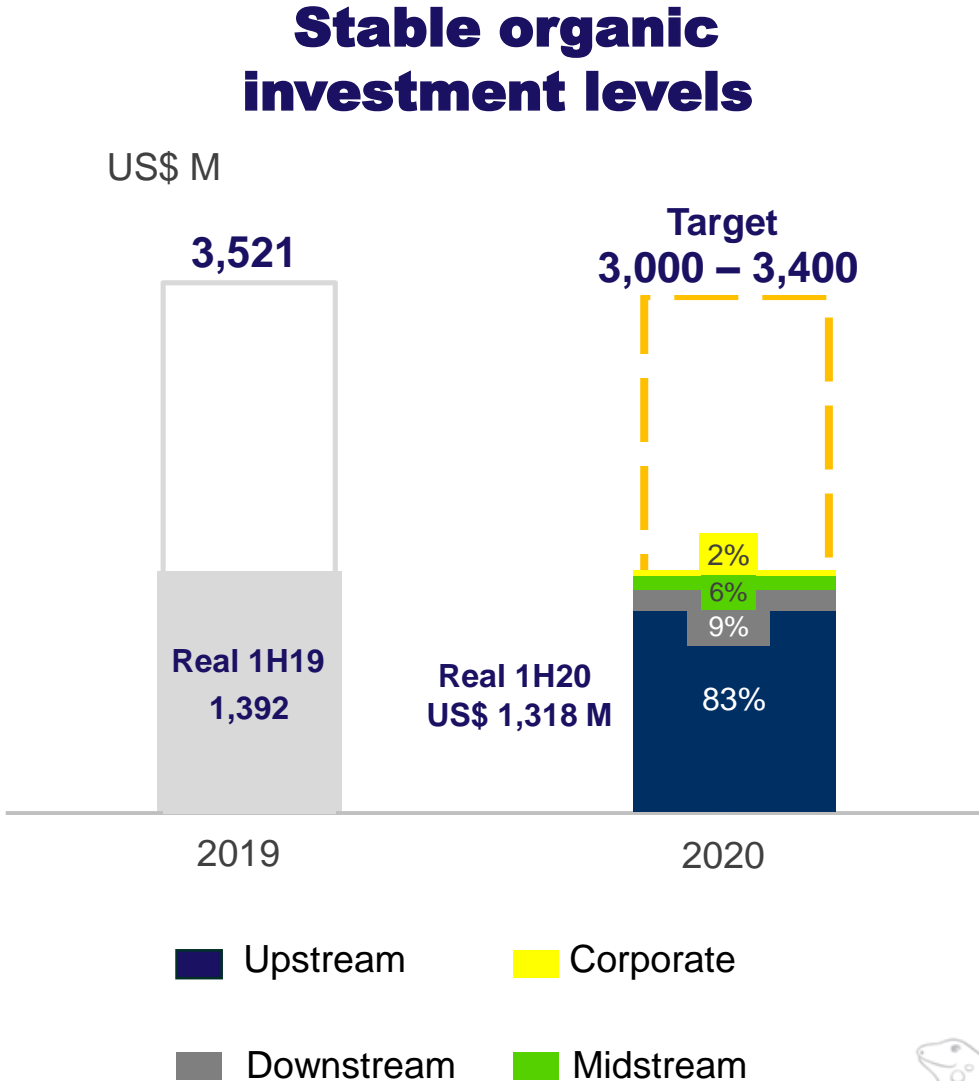
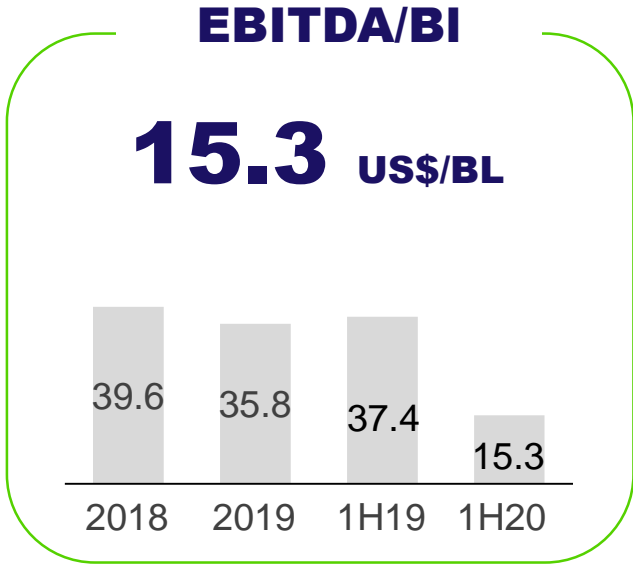
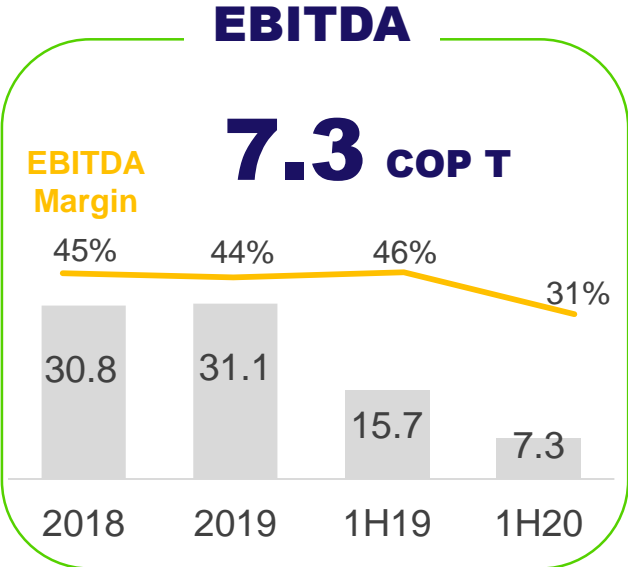
(US\$/BI)



*Operating costs and expenses excluding depreciation, amortization, taxes, labor costs, purchases and imports of crude oil and products



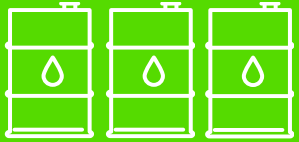
Financial metrics adjusted to current juncture



Upstream



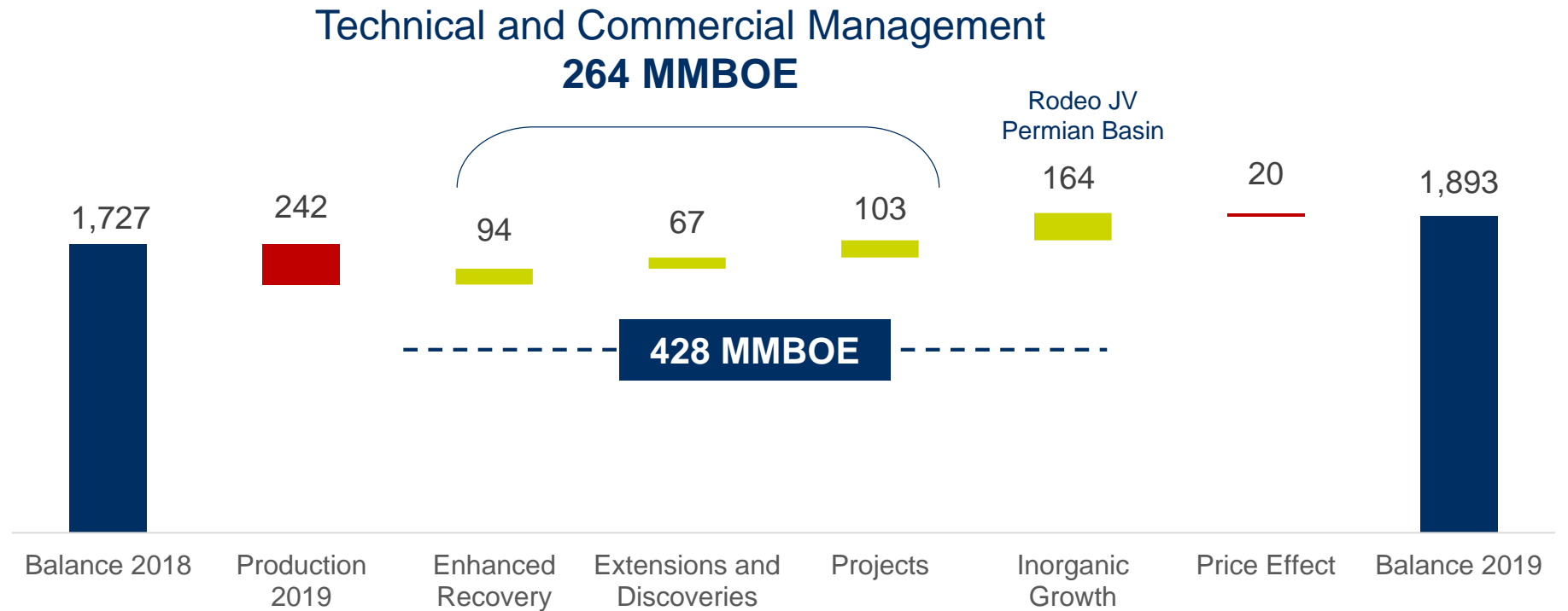
Consistent reserves growth



Incorporated Proven Reserves
408 MMBOE

Reserves Replacement Ratio
169%

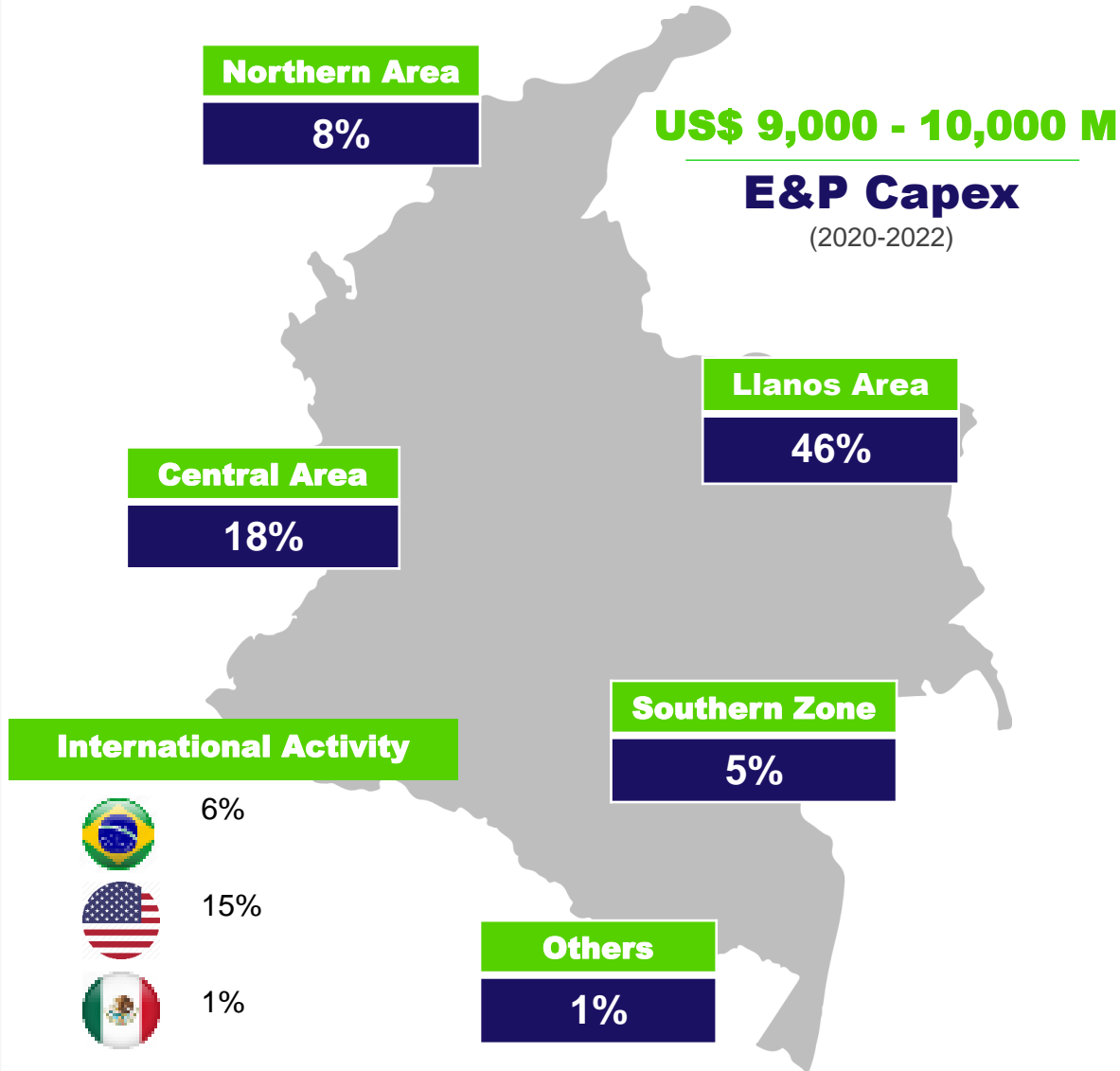
Average Reserve Life
7.8 Years



*Disciplined organic and inorganic incorporation
+33% vs. 2018 incorporation*



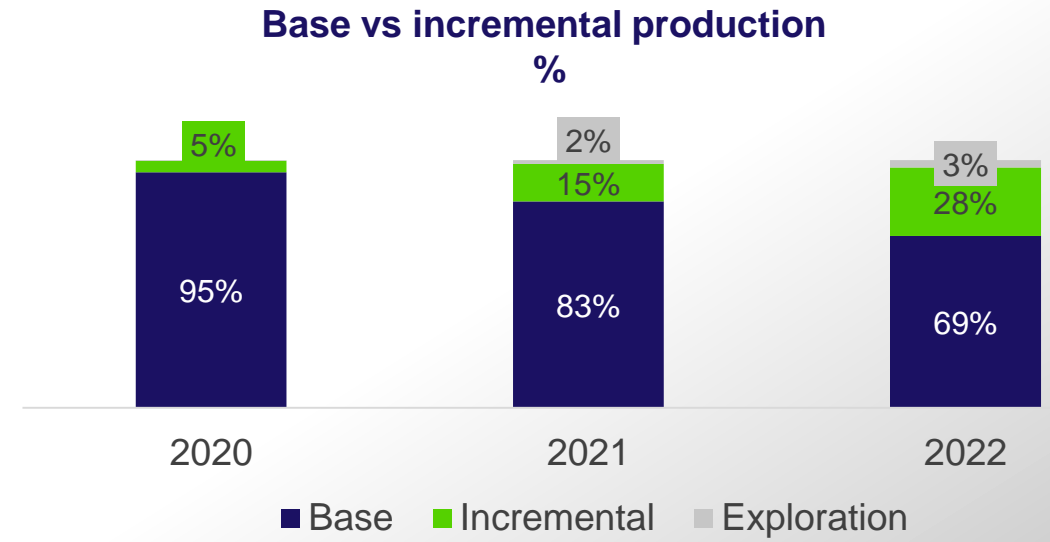
Upstream investments focused on sustainability



Exploratory wells (2020-2022) **+30** **Resources to delimit (2020-2022) mmbob** **+400**

PRODUCTION

700-720 mboed (2020-2022)

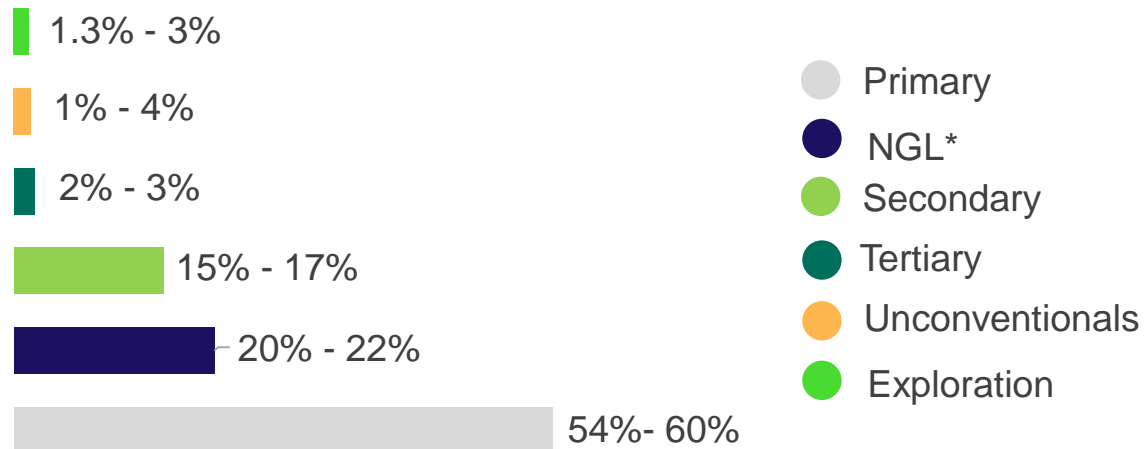


Note: % share Exploration and Production Investment

Profitable production and reserves protection

FOCUS ON VALUE AND OPTIONALITY

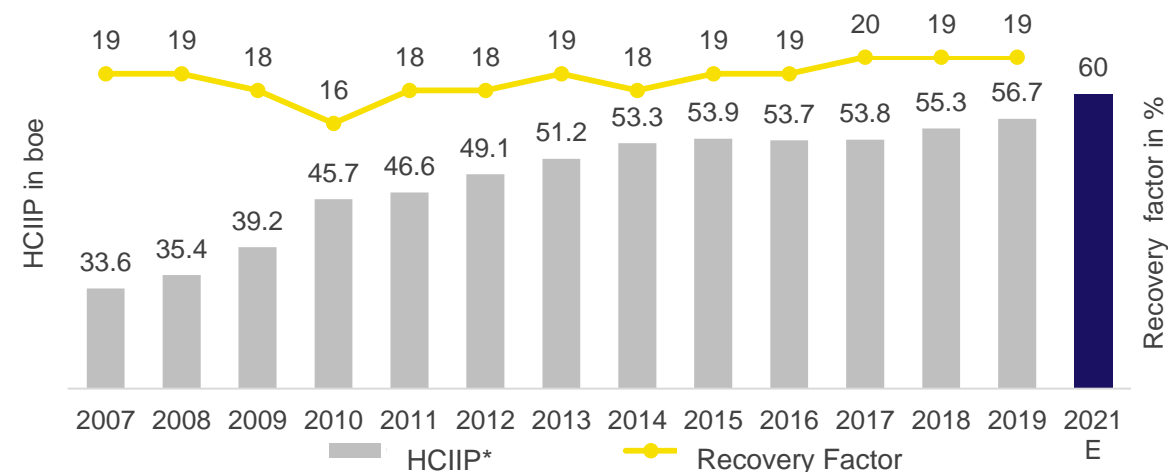
(%) Percentage share in production volumes 2020-2022



*Includes NGL production by secondary recovery

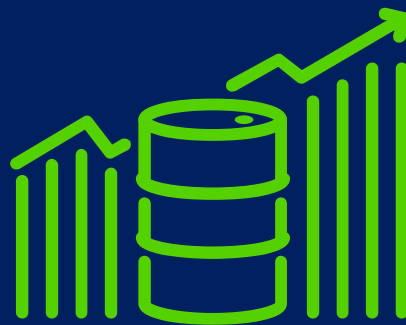
RESERVES POTENTIAL UNCHANGED

**HCIIP and Recovery Factor - Ecopetrol S.A.-



**HCIIP: Hydrocarbons Initially In Place

MAIN ASSETS
CONTRIBUTING TO RESERVES ADDITION:



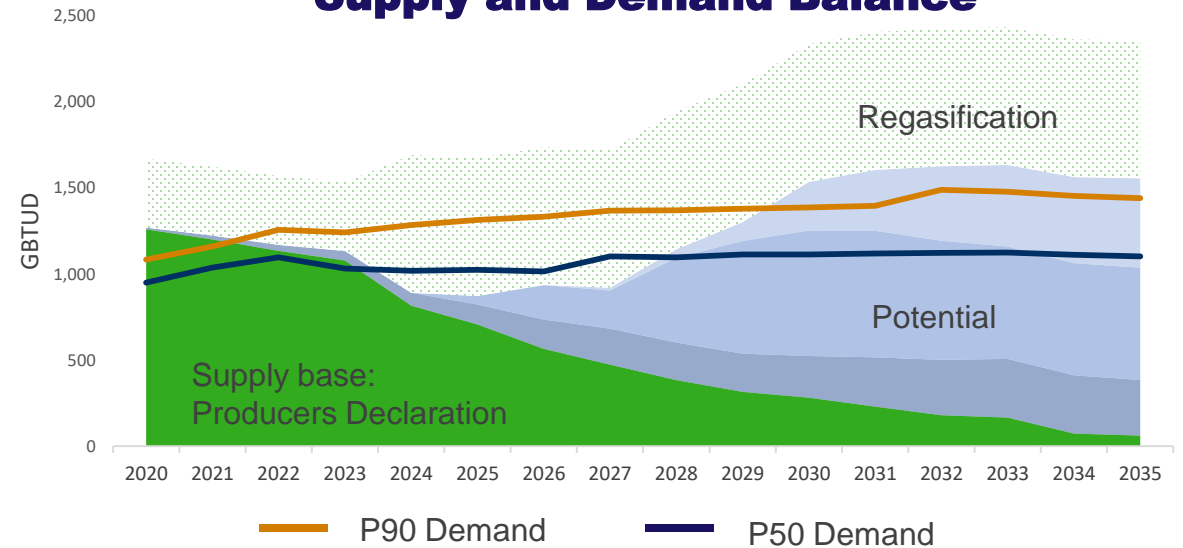
- ➔ Tren Piedemonte
- ➔ Water injection in Castilla, Chichimene, Apiay, Llanito and Yariguí
- ➔ Near Fields
- ➔ Gato do Mato and Permian

Gas is a strategic priority

FOCUS:

- Development of Piedemonte
- Strengthening of Guajira assets
- Development of Offshore Colombian Caribbean
- Time to Market

Supply and Demand Balance*



US\$
780-870 M
2020 - 2022

INVESTMENTS

- Piedemonte (Casanare, Arauca and Boyacá)
- Continental Caribbean Coast (Atlántico, Guajira and Sucre)
- Colombia Offshore

EBITDA margin

53%
2 Q 2 0 2 0

Gas Prices

Colombia
4.4**
US/MBTU
2 0 2 0 - 2 0 2 2
Henry Hub*** @ Cartagena
1.8 - 3.1 **3.5- 7.0**

*Source: MME (Gas Production Statements 2020), UPME (Regasification), Ecopetrol's estimates (Potential)
** Average natural gas price in Colombia as reported by the Market Manager *** Source: IHS Agency



Progress in unconventional reservoirs

PPIIs*



MID - MAGDALENA VALLEY (VMM)

Prospect Area
1.3 m acres

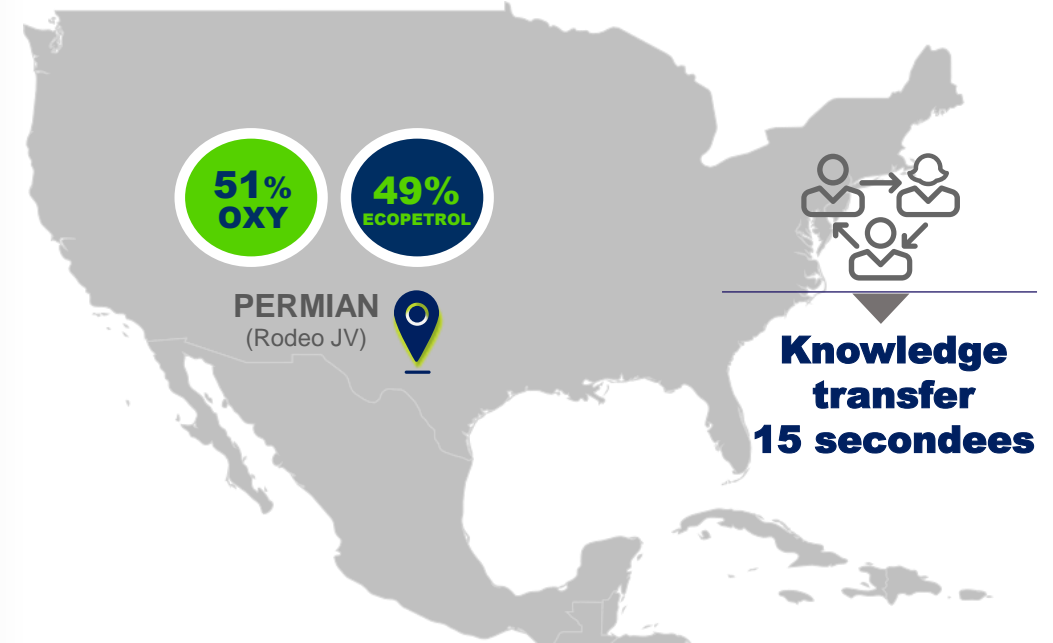
Ecopetrol Area
~730 k acres

- ✓ Preliminary agreement with ExxonMobil
- ✓ PPIIs' technical regulations
- ✓ Structuring Social & Environmental investment plan

CAPEX
2020 - 2022

~127 USD M

PERMIAN



2020

~5.5
mboed

Ecopetrol's average net production

~22

Wells to be drilled in 2H 2020

~221

Net Capex ECP US\$ M

~22

Producing wells as of 1H 2020

*Comprehensive Research Pilot Projects for Unconventional Reservoirs in Colombia

Note: 2 rigs in operation expected by year-end 2020





Midstream

Focus on integrity and reliability of supply

STRATEGIC PRIORITIES

- Integrity and reliability of infrastructure
- Logistical flexibility and efficiency in transportation of heavy crudes
- Cost Efficiency

INVESTMENTS

- Maintenance
- Geotechnics
- Reliability of tanks
- Operating storage of refined products

US\$
780-830 M
2020 - 2022



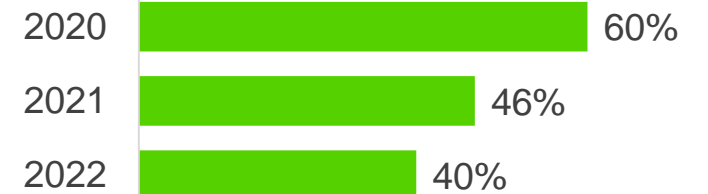
2020 - 2022 TARGETS

1,000 - 1,025

Transported volumes (kbd)



EBITDA contribution to EG*



Downstream

Competitiveness in low price environment

STRATEGIC PRIORITIES

- Initiatives to improve margin and capacity
- Reliability of the operation
- Maximizing value of existing assets
- Cost efficiency

INVESTMENTS

US\$
1,200-1,300 M
2020 - 2022

- IPCC*
- Quality of fuels
- Major maintenance
- Waste water treatment plan in Barrancabermeja Refinery

TARGET 2020-2022

300 - 380

Throughput (mbd)

Cartagena Refinery

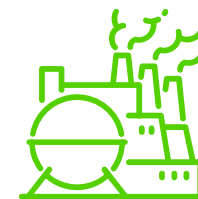
Current

With IPCC*

Throughput capacity (kbd) **150** ▶ **200**

Processing units **34** ▶ **35**

Heavy and medium crude throughput



Quality of Fuels

Gasoline with less than 50 ppm in Colombia by 2021

*IPCC: Interconnection of Cartagena Crude Units



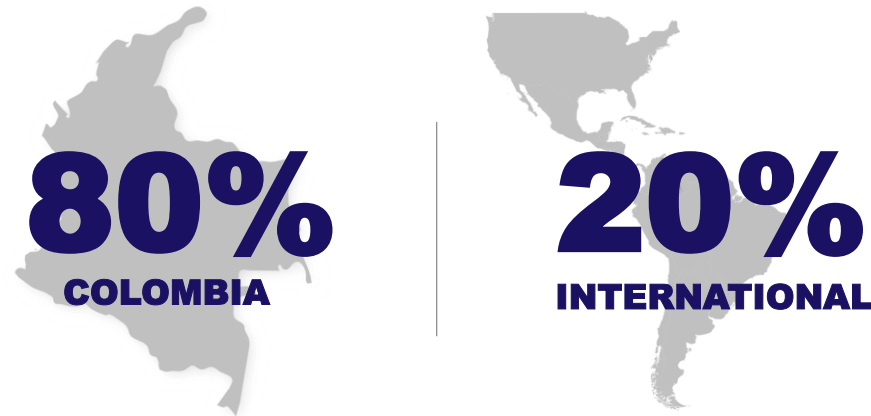
Financials

Optimized portfolio that safeguards value proposition

- ✓ Safe, reliable and profitable production
- ✓ Cash flow protection
- ✓ **STRATEGIC THEMES:**
gas, energy transition and unconventional

INVESTMENT PLAN 2020-2022

11,000 – 13,000
2020 -2022 (US\$ M)

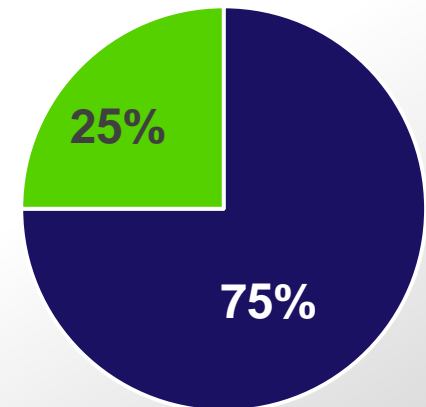
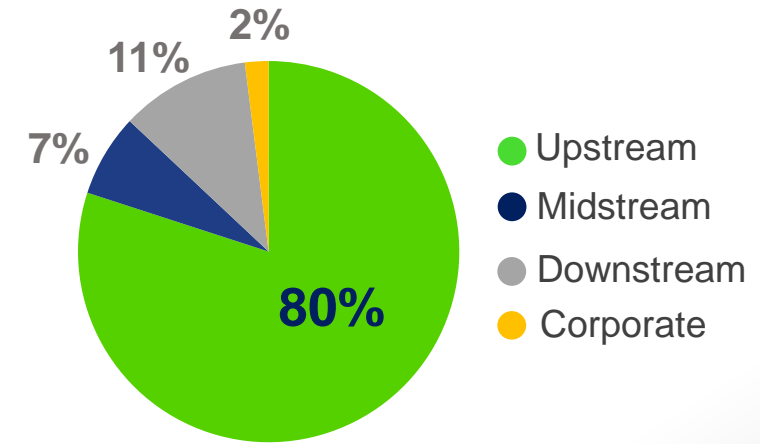


90%

ONSHORE

10%

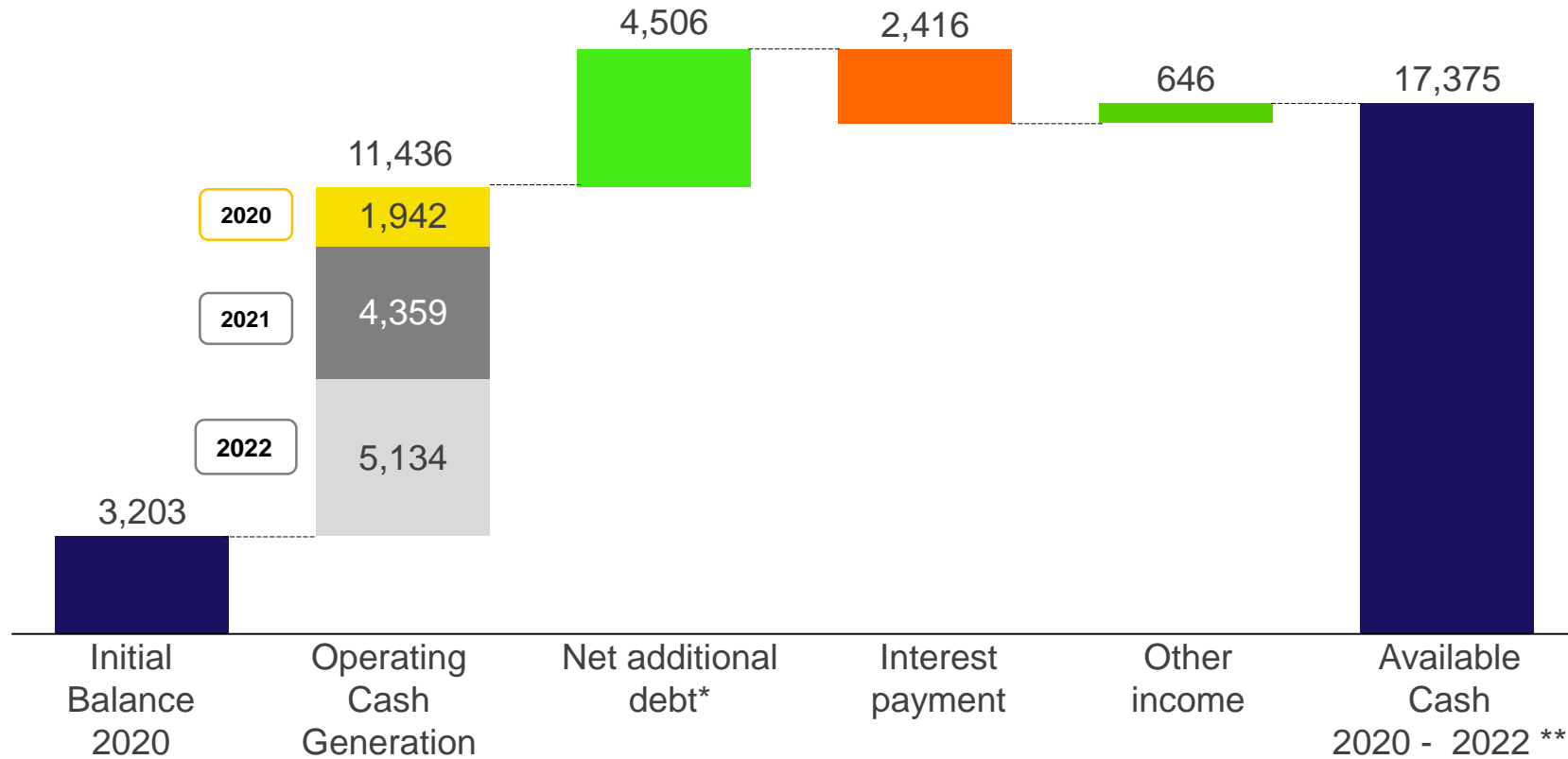
OFFSHORE



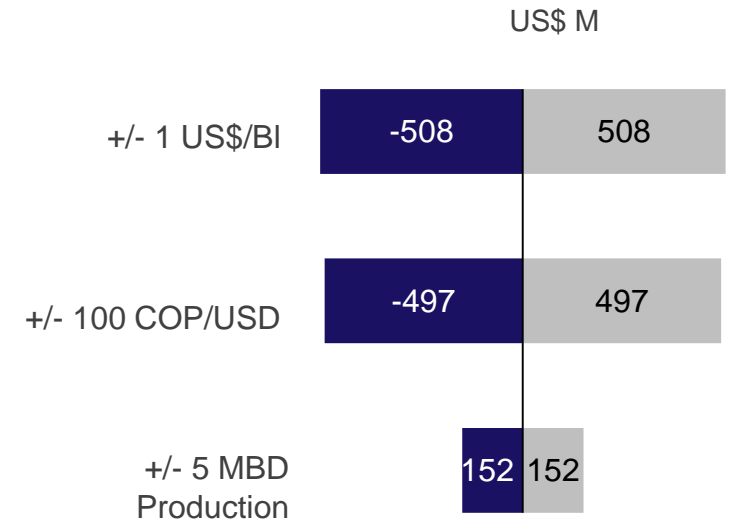
- Growth opportunities
- Reliability and integrity

Investment plan underpinned by cashflow growth

2020-2022 Cashflow (US\$ M)



Cashflow Sensitivity



Assumptions

	Brent	FX
2020	38	3.743
2021	45	3.600
2022	50	3.500

*Includes financing raised in 2020 for US\$ 3.1 B and debt repayments 2020 - 2022. ** Cash available for Capex and dividends.



Intensified focus on cost efficiency

2020 COST SAVINGS

GROUP - WIDE

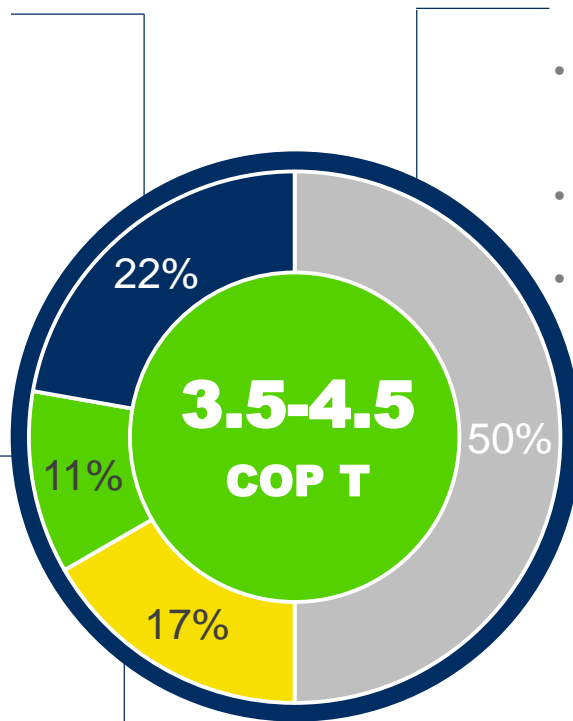
- Austerity measures
- Remote work
- Headcount

UPSTREAM

- Synergies between segments (dilution strategy)
- Contract renegotiations
- Digital petrotechnical systems

DOWNSTREAM

- Energy, gas, chemical and catalyst consumption
- Maintenance efficiencies prioritizing integrity and reliability



MIDSTREAM

- Efficiencies in energy sources and optimization
- Time optimization in pumping stations

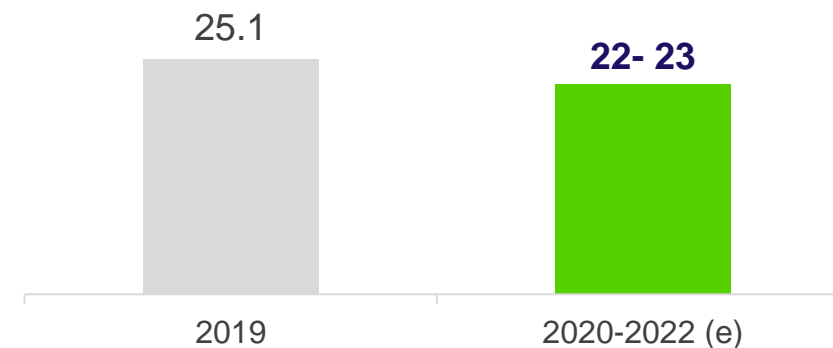
INCREMENTAL TARGET BY 2022

2.5 – 3.0

2021 -2022 (COP T)

TOTAL COST PER BARREL*

US\$/BI






*Includes: Cost of Transportation, Operating expenses and Operating Costs, calculated on barrels sold and normalized with 2020 Plan prices (Brent 38 TRM 3,743).



Growing value creation

TARGET

METRIC		2020	2020- 2022
FINANCIAL 	Organic Investments	US\$ 3,000 – 3,400 M	US\$ 11,000 – 13,000 M
	Operating Cashflow	~US\$ 1,900 M	US\$ 11,000 M – 12,000 M
	Cash Breakeven*	< US\$30 /BI	US\$ 30 - 40 /BI
	Gross Debt / EBITDA (x)	<3.5x	<2.5x
OPERATIONAL 	Production (mboed)	~700	~700 - 720
	Transported Volume (mbd)	~1,000	~1,000 - 1,025
	Throughput (mbd)	300 - 320	~300 - 380
TESG** 	Decarbonization		
	1.8 – 2.0 MtCO2e/ by 2022		
	Social & Environmental investment	COP\$ 1.7 T 2020 - 2024	Innovation and Technology ~US\$ 158 M 2020 - 2022

BRENT (US\$/B)	2020	2021	2022
	38	45	50

*Calculated as the Brent price variation that will drive year end cash balance, after operating cash generation, capex, dividend and financing, to its minimum level, as defined by Ecopetrol.

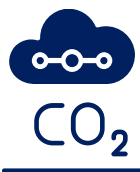
**Technology, Environmental, Social and Governance. Estimated Exchange FX 2020: 3,743. 2021: 3,600. 2022: 3,500



ESG Initiatives

TESG* commitment

DECARBONIZATION



Reduction of
CO₂ 20% emissions by 2030

Initiatives in place:



Renewable energy portfolio:
300 MW** by 2022



3% increase in energy
efficiency by 2022

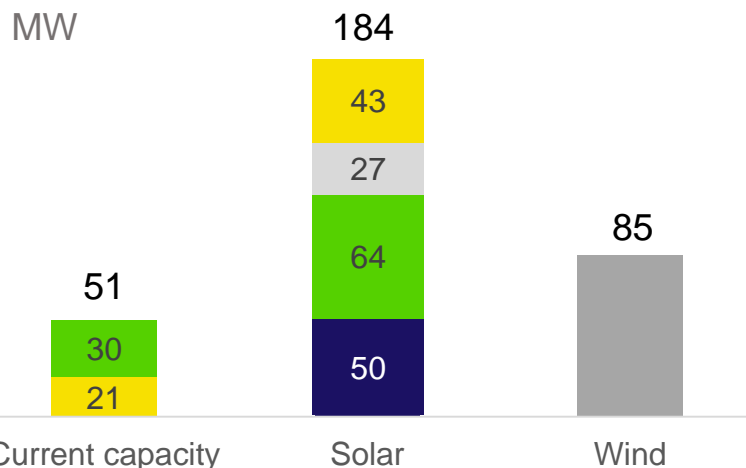


Zero Routine Flaring***
by 2030



Nature based solutions
to capture CO₂

RENEWABLE ENERGY



- Castilla solar farm
- San Fernando
- Rubiales
- Brisas, Yaguará and Mangos
- Others
- Purchases



Approval of fugitive
emissions (CH₄)
management strategy

INNOVATION AND TECHNOLOGY

INVESTMENT 2020-2022

~158
US\$ M

SOCIO-ENVIRONMENTAL INVESTMENT



COP 1.7 T
2020-2024

ESG REPORTING AND DISCLOSURE



Making Progress in Diversity and Inclusion

Gender

- Women participation in leadership and core positions
- Work/life balance
- Gender based violence prevention

72%

Vacancies of leadership positions with women as final candidates

38% in 2018

Disability

- Inclusive labor environment
- Taking care of Caregivers
- Moving from integration to inclusion

7.6%

People with disability*

Victims of Internal Conflict, Veterans and Ex-Combats

- Economic, social and cultural inclusion
- Equal opportunities

2.9% **0.2%**

Victims of internal conflict*

Veterans*

Ethnicity and Other Social Conditions

- Cultural awareness
- Equal opportunities and entrepreneurship

4.0%

of people identify themselves as part of an ethnic minority group*

Sexual Orientation

- Awareness, training and information
- Friendly labor places for SOGI community free of discrimination
- Equal opportunities







6

Ongoing initiatives with 28 volunteers



Fully Committed to Best Corporate Governance Practices

Board of Directors

	Orlando Ayala Independent
	Luis Guillermo Echeverri Independent
	Juan Emilio Posada Independent
	Sergio Restrepo Independent
	Luis Santiago Perdomo Independent
	Esteban Piedrahita Independent
	Germán Quintero Non Independent
	Hernando Ramírez Independent
	Carlos Gustavo Cano Independent

Board Oversight	Ethics and Compliance	Protection of Minority Shareholders	Corporate Governance Model
<ul style="list-style-type: none"> • Best Corporate Governance Practices • Remuneration and Nomination • HSE • Innovation and transformation to digital leadership • Strategy and New Business • Succession planning policy 	<ul style="list-style-type: none"> • Commitment to Transparency • Training in Ethics aspects • Multiple venues to look for guidance or whistleblowing • Preventive surveillance to prevent money laundering and terrorism financing • Fair and confidential investigation process 	<ul style="list-style-type: none"> • Independent directors: from four in 2008 to eight in 2019 • A position in the Board of Directors nominated by the ten largest minority shareholders • A position in the Board of Directors nominated by hydrocarbon producing regions in Colombia • No director with ministerial rank following OECD recommendations • Clear and timely information to shareholders • Shareholder´s Office 	<ul style="list-style-type: none"> • New Corporate Governance Model that underpins the execution of the business plan



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Definitions

Acronym	Definition
bboe	Billion barrels of oil equivalent
Bl	Barrel
boed	Barrels of oil equivalent per day
CAGR	Compound Annual Growth Rate
CEOR	Chemical Enhanced Oil Recovery
CFFO	Cash Flow From Operations
EOR	Enhanced Oil Recovery
ESG	Environmental, Social and Governance
Gbtud	Giga BTU per day
GHG	Greenhouse Gas
HCIP	Hydrocarbons Initially In Place
JV	Joint Venture
KtCO2e	Thousand Metric Tons of Carbon Dioxide equivalent
mbd	Thousand barrels per day
mboe	Thousand barrels of oil equivalent
mboed	Thousand barrels of oil equivalent per day
Mbtu	Million BTU
Mmboe	Million barrels of oil equivalent
mm3	Million Cubic Meters
MtCO2e	Million Metric Tons of Carbon Dioxide equivalent
MW	Megawatts
NFE	Near Field Exploration
PPIR	Pilot Projects for Integral Research
PPM	Parts Per Million
ROACE	Return on Average Capital Employed
RRR	Reserves Replacement Ratio
SOGI	Sexual Orientation and Gender Identity
TCF	Trillion Cubic Feet
TRIF	Total Recordable Case Frequency
US\$ B	Billion dollars
US\$ M	Million dollars

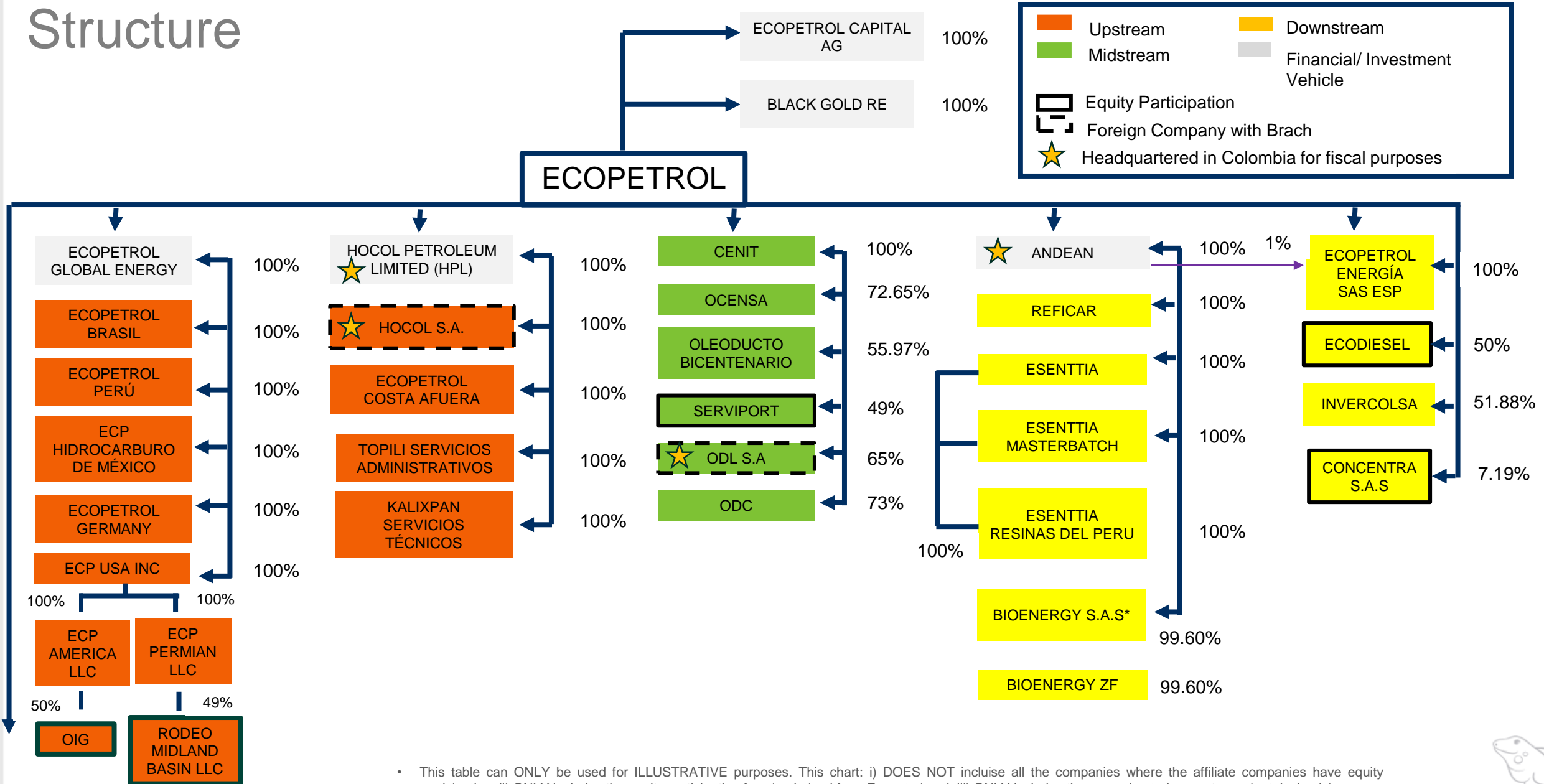




DE TODOS, PARA TODOS

ecopETROL

Ecopetrol Corporate Structure



• This table can ONLY be used for ILLUSTRATIVE purposes. This chart: i) DOES NOT include all the companies where the affiliate companies have equity participation; ii) ONLY includes the equity participation from/or derived from Ecopetrol and; iii) ONLY includes the approximated percentage (not decimals).
 • 2019 Figures



Subsidiaries



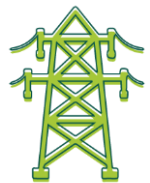
Upstream



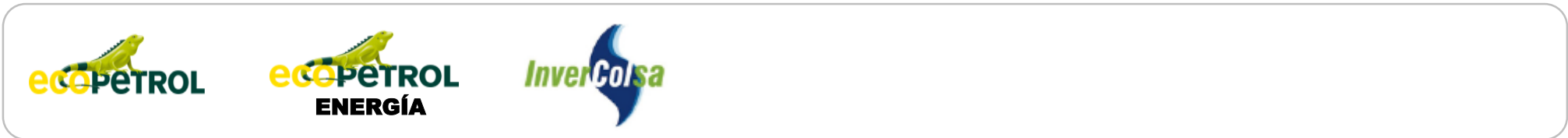
Midstream



Downstream



Comercialización





OIL AND GAS INFRASTRUCTURE

