

BTG Pactual  
Latam CEO Conference  
**ENERGY THAT  
TRANSFORMS**  
**2040 STRATEGY**

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# ENERGY THAT TRANSFORMS

2040 STRATEGY

## *Leader in energy diversification in the Americas*

- 1** Hydrocarbons
- 2** Low Emissions Solutions
- 3** Energy Transmission, Toll Roads and Telecommunications



## *Just Energy Transition*

*Commitment to energy security, the environment and our contribution to society*

# 6

## Topics have changed



**Confirmation of greater gas potential**  
in the Colombian Caribbean Offshore



**No hydrocarbon development in**  
unconventional reservoirs in  
Colombia



**Enhanced recovery**  
outperformance



**Better results**  
in Permian



**Capturing value**  
through greater commercial activity



**ISA's better performance**  
versus the acquisition case

# The 2040 Strategy remains, with an emphasis on a Just Energy Transition

## 4. COMPETITIVE RETURNS

EBITDA **13-14 BUSD<sup>2</sup>** in 2040: 50% hydrocarbons and 50% diversification<sup>3</sup>

Maintain **transfers** to the Nation  
**13-20 TCOP** average per year 2022-2040

**Capital allocation** by business segment: 60% hydrocarbons and 40% low emissions by 2040



## 1. GROW WITH THE ENERGY TRANSITION

Maintain aspirational strategy of **production levels** of **~700-750 (mboed)** to 2040

**Acceleration of renewable energy** incorporation  
goals: **900MW<sup>1</sup>** by 2025  
Vs. initial goal of 1,000 MW<sup>1</sup> by 2030

**Growth** in transmission and **new energy businesses** in ISA; **~22%-26%** of the Group's EBITDA by 2040

## 3. CUTTIING-EDGE KNOWLEDGE

**20-30 BUSD** of cumulative EBITDA enabled by Science, Technology and Innovation by 2040

Incorporation of **big data and artificial intelligence** to improve the recovery factor of our assets

Technological **reconversion** of our generation park

## 2. GENERATE VALUE THROUGH TSEG

**~0.6 TCOP** per annum of **social investment** that transforms the territories where we operate

**55% reduction** in methane emissions to 2030

**Energy efficiency:** Internal energy consumption optimization of 25PJ<sup>4</sup> by 2030

1. To met our own needs | 2. Calculated on resilient scenario Brent price \$55/bl | 3. Gas included | 4. Cumulative goal between 2018 y 2030 in petajoules. Corresponds to 20% of the energy demand of the direct operations of Ecopetrol Colombia in 2022 (123.6 PJ).

# 2040 strategy implementation results



## Growing with the energy transition

## Infrastructure that underpins energy security

## Competitive refineries & TEGS

## TEGS Operation

728 mboed  
2Q23 production that underpins growth with the energy transition

Increase in transported volumes (+1.9% vs 2Q22)

Cartagena Interconnection Crude Plant operational +50 mbd capacity

Announced commitment to reduce 45% our methane emissions by 2025 and 55% by 2030

Advancing the gas strategy with tangible investments USD 263 millions 1H23

25% of EBITDA participation of hydrocarbons segment in 2Q23

Record production of cleaner fuel oil (+18% vs 2Q22)

Reduction of GHG emissions achieved, period 2020-2023, ~1.3 MtCO<sub>2</sub>e<sup>2</sup>

7 exploration wells declared successful in 2023<sup>1</sup>

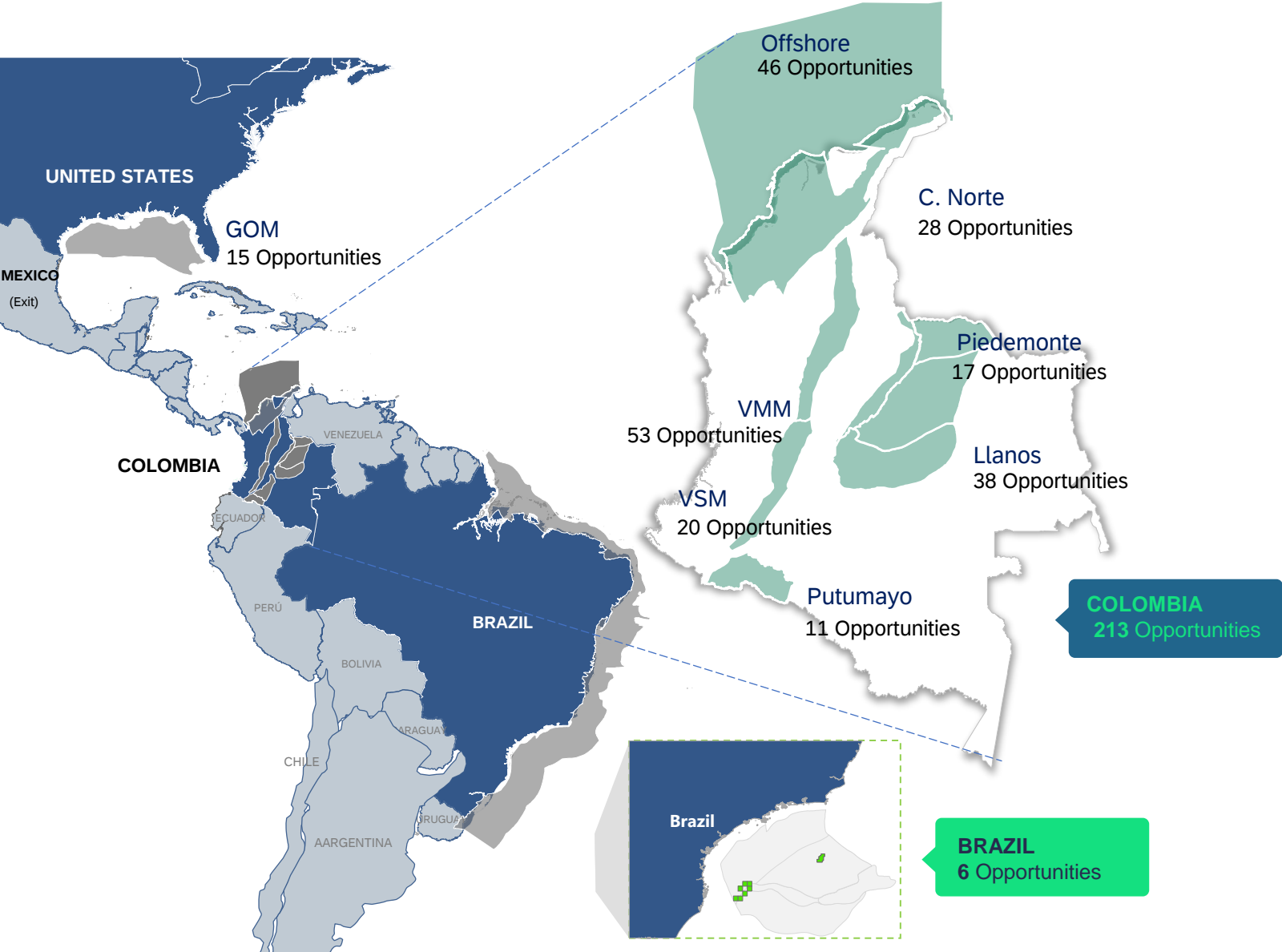
Diversification through new businesses with existing infrastructure

Progress in the maturation of biofuels and sustainable aviation fuels (SAF) projects

Permian JV ~7.1 KgCO<sub>2</sub>e/boe Low emission intensity

1. Tinamú 1, Tororoi 1, Arrecife N1, Alqamari-2, Zorzal-1, Saltador-1, Kimera-1. | 2. Compared with 2025 goal of 1.6 MtCO<sub>2</sub>e

# Diversified exploratory portfolio adds to the Upstream competitiveness



### Exploratory Potential

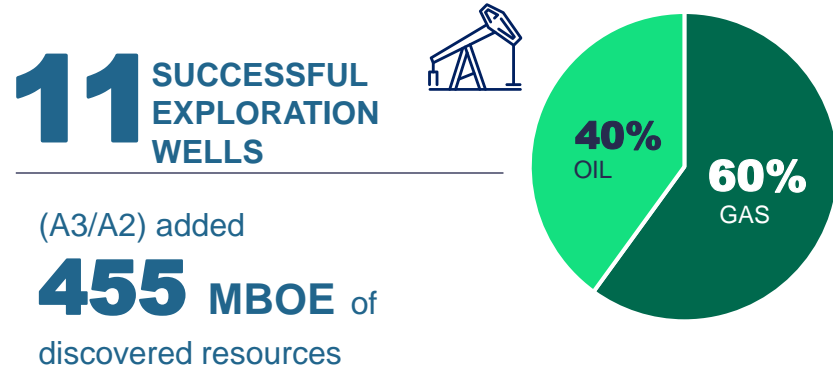
Prospective Resources	+6 BBPE
Discovered resources and contingents	+1 BBPE
(Upside) Leads*	~6 BBPE

103

Blocks

*\*Leads in the maturation process*

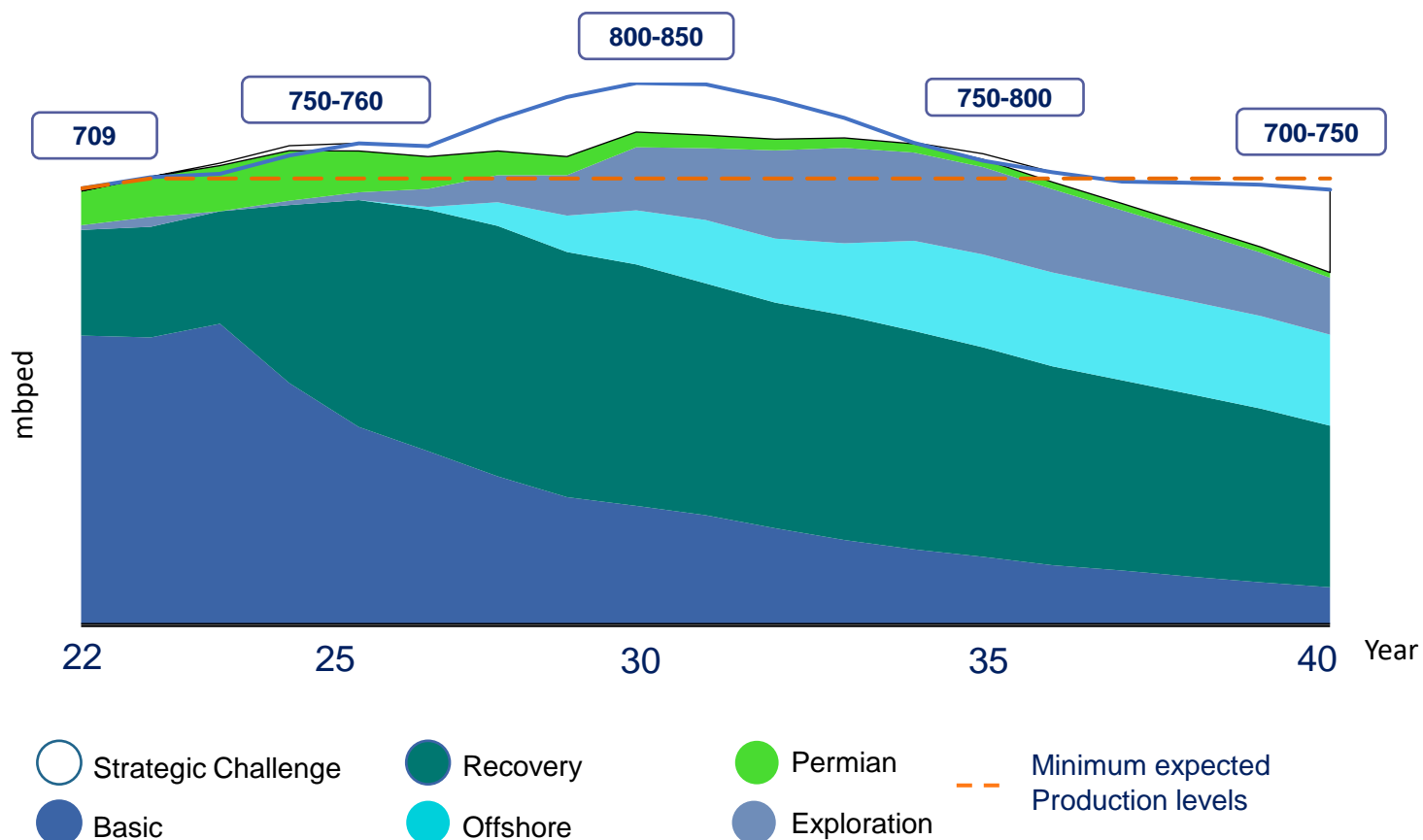
## Exploratory Success (2021-2022)



BBPE: Billions of barrels of oil equivalent

Opportunity: Leads, prospects and discoveries

# Efficient portfolio management that maximizes asset's potential



- Portfolio eases uncertainty through the confirmation of the Caribbean offshore potential
- Higher potential in actuals fields through enhanced recovery
- Non-development of hydrocarbons in unconventional fields in Colombia

## Levers

Production	Current	<ul style="list-style-type: none"> <li>• Greenfield Development</li> <li>• Accelerate <i>Time-to-market</i></li> </ul>
	Recovery	<ul style="list-style-type: none"> <li>• Maximize value of recovery program</li> <li>• Technology implementation to enhance recovery factor</li> </ul>
	International non conventional	<ul style="list-style-type: none"> <li>• Maximize value of current assets</li> </ul>
Exploration	Offshore	<ul style="list-style-type: none"> <li>• Maximize discoveries' potential</li> </ul>
	Onshore	<ul style="list-style-type: none"> <li>• Maximize value of current assets</li> <li>• Accelerate lead maturation</li> </ul>
	International	<ul style="list-style-type: none"> <li>• Develop asset portfolio in Brazil</li> </ul>
	Commercialization	<ul style="list-style-type: none"> <li>• Increase the value of our products by capturing better commercialization margins</li> </ul>



# Robust Caribbean offshore portfolio contributing to energy security

**11 offshore exploration contracts**

(Represent the 28% of the Colombian Caribbean area)

Total volumes (gross)  
TPC: Tera cubic feet

Volume discovered:

North ➔ 2 – 5 TPC

South ➔ 2.5 – 7 TPC

**MILESTONES**

**2023**

Glaucus-1 drilling (currently under evaluation)

**23-24**

Well drilling Orca Norte-1

**24-25**

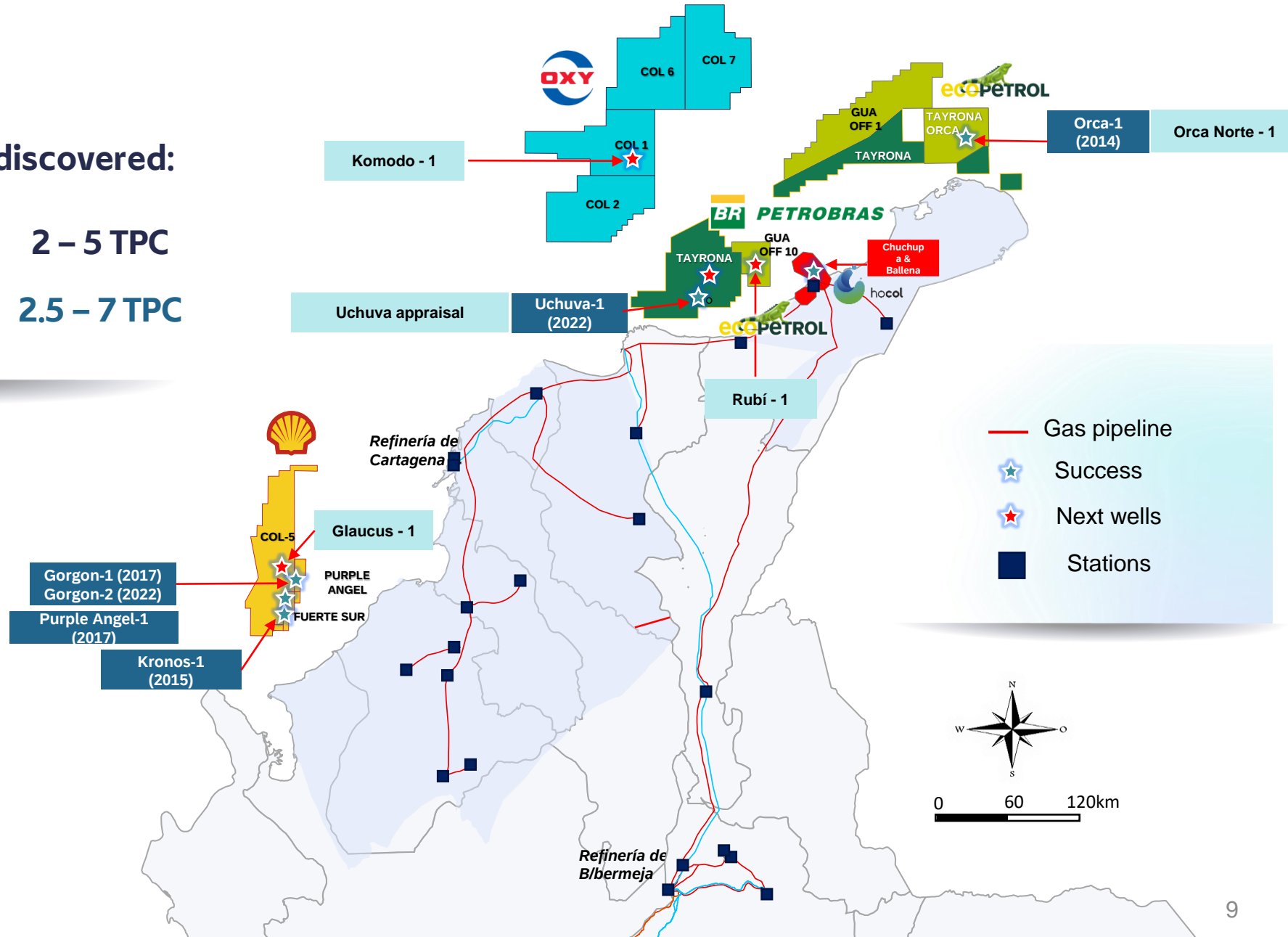
Exploration drilling campaign Tayrona, includes Uchuva delimitation

**24-25**

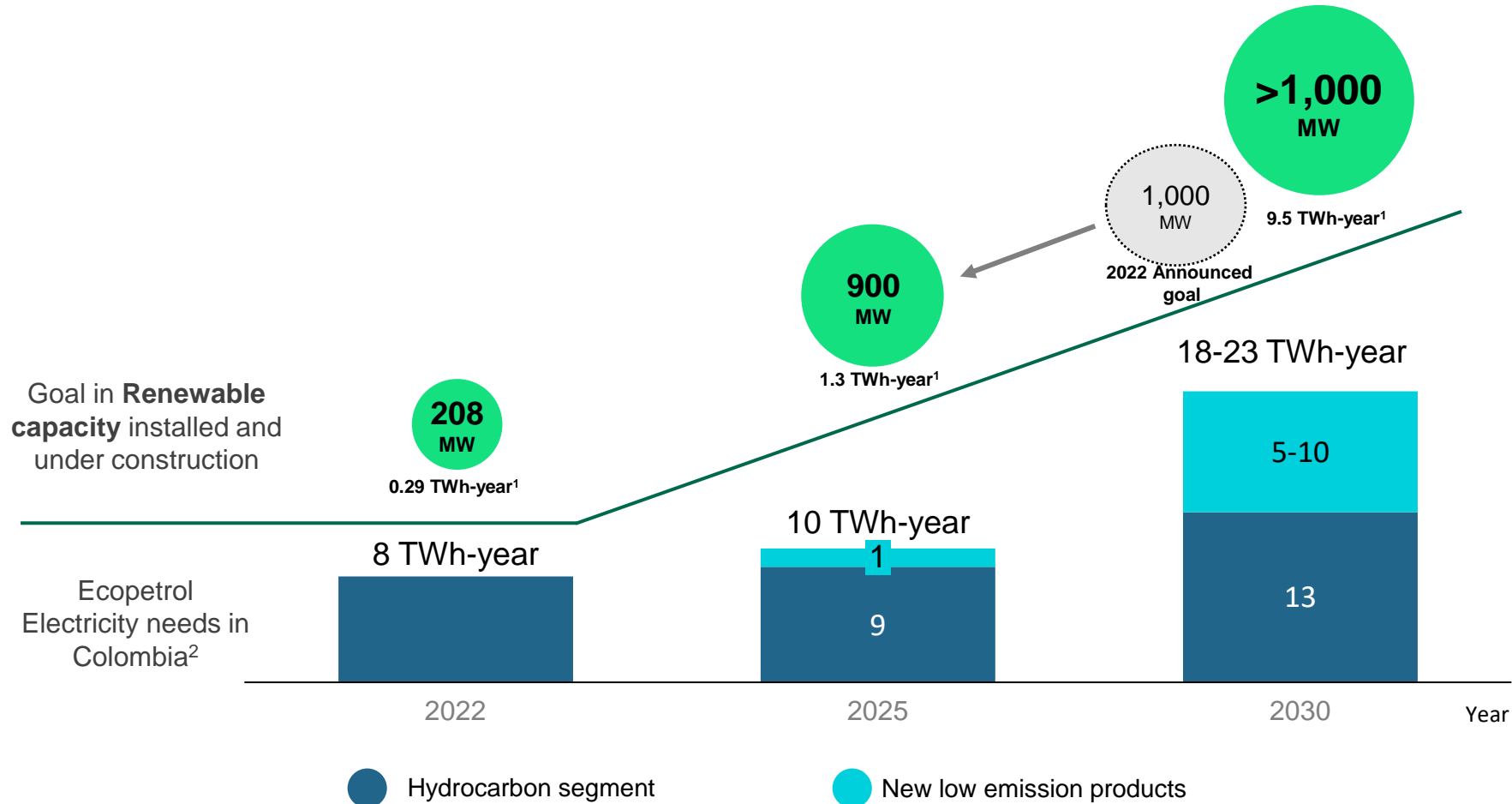
Start drilling area Col-1  
1 exploration well Komodo-1

**27-29**

First offshore gas



# We accelerate the pace of renewables to ensure competitiveness of our portfolio



Growing energy requirement of the Ecopetrol Group

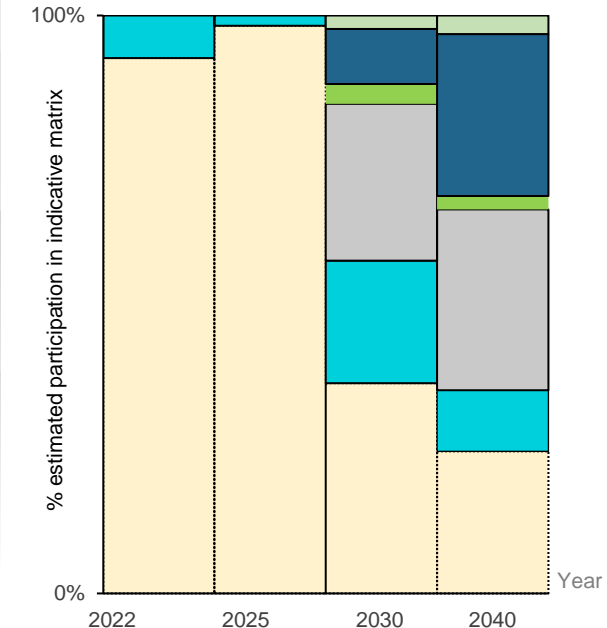
Competitiveness of the hydrocarbons business

Enabled low emissions solutions

Decarbonization

Indicative renewable energy matrix<sup>3</sup> with current portfolio

● Solar   
 ● Hidrogen   
 ● Wind   
 ● Biomass  
● Biogas   
 ● Geothermal



1. Projection of energy to be incorporated with renewable sources. | 2. Correspond to the size of the ambition and incorporates the uncertainty of the maturation and closing of the business case of the projects. | 3. Ecopetrol internal analysis – Low Emissions Vicepresidency

# 1 million tons of low-emission hydrogen by 2040 is our goal

## Important milestones of our plan

- 1st molecule of green hydrogen
- Start of white hydrogen sampling
- Start of mobility pilots
- Opening of Caribbean Innovation Center
- Industrial Scale
- National market synthetic fuel tests
- Blending test H2 + natural gas
- Production of low emission hydrogen
- Green Ammonia production
- Production of synthetic fuels

**130 k**  
Ton/year

**1M**  
Ton/year  
@2040

### Aspiration @2040

- ✓ Low-emission H2 production with export vocation<sup>1</sup>

### Green Hydrogen Focus

**+2,500 MUSD projects<sup>2</sup>**  
**+400 MUSD EBITDA<sup>2</sup>** (average year)

#### Testing and Learning

#### Scaling

#### Maturity

2022      2023-2025      2025-2030      2030-2040      Year

### Strategic alliances @2023



### Priority uses

- ✓ Own operations
- ✓ Gas Blending
- ✓ Sustainable mobility
- ✓ New low-emission projects

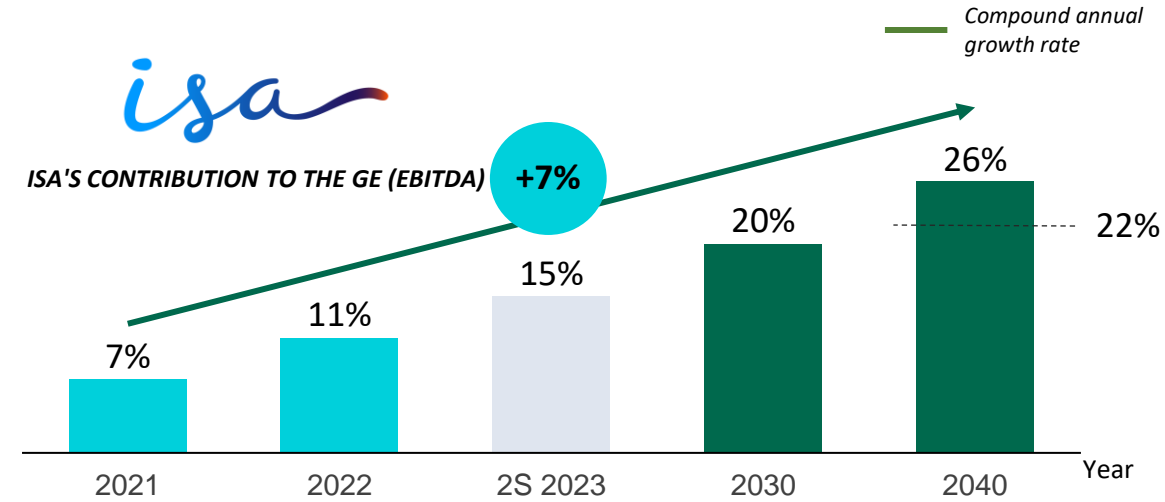
1. Includes eMethanol and ammonia. | 2. Does not include required investments and estimated returns on hydrogen production for export.

# The growth of transmission and new energy businesses in ISA will contribute with 22%-26% of EBITDA by 2040

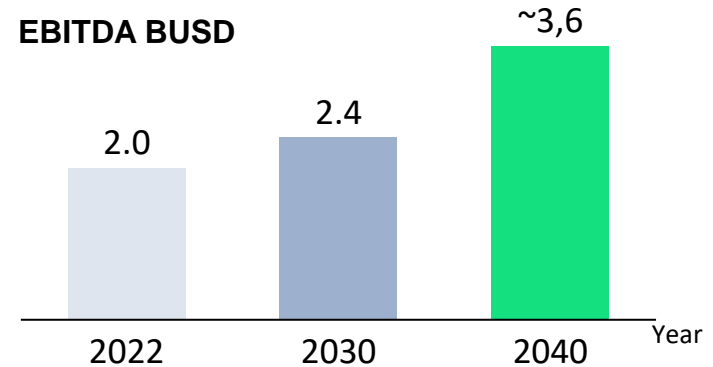
## Strategic acquisition rationale

- 1 **GE diversification towards low-emission businesses**
- 2 **Electricity transmission growth**  
 48,776 km of circuit (installed)  
 +  
 7,136 km additional (projects)  
 3.9 BUSD
- 3 **New energy businesses enabling GE's energy transition**  
 Large-scale storage  
 Distributed energy solutions

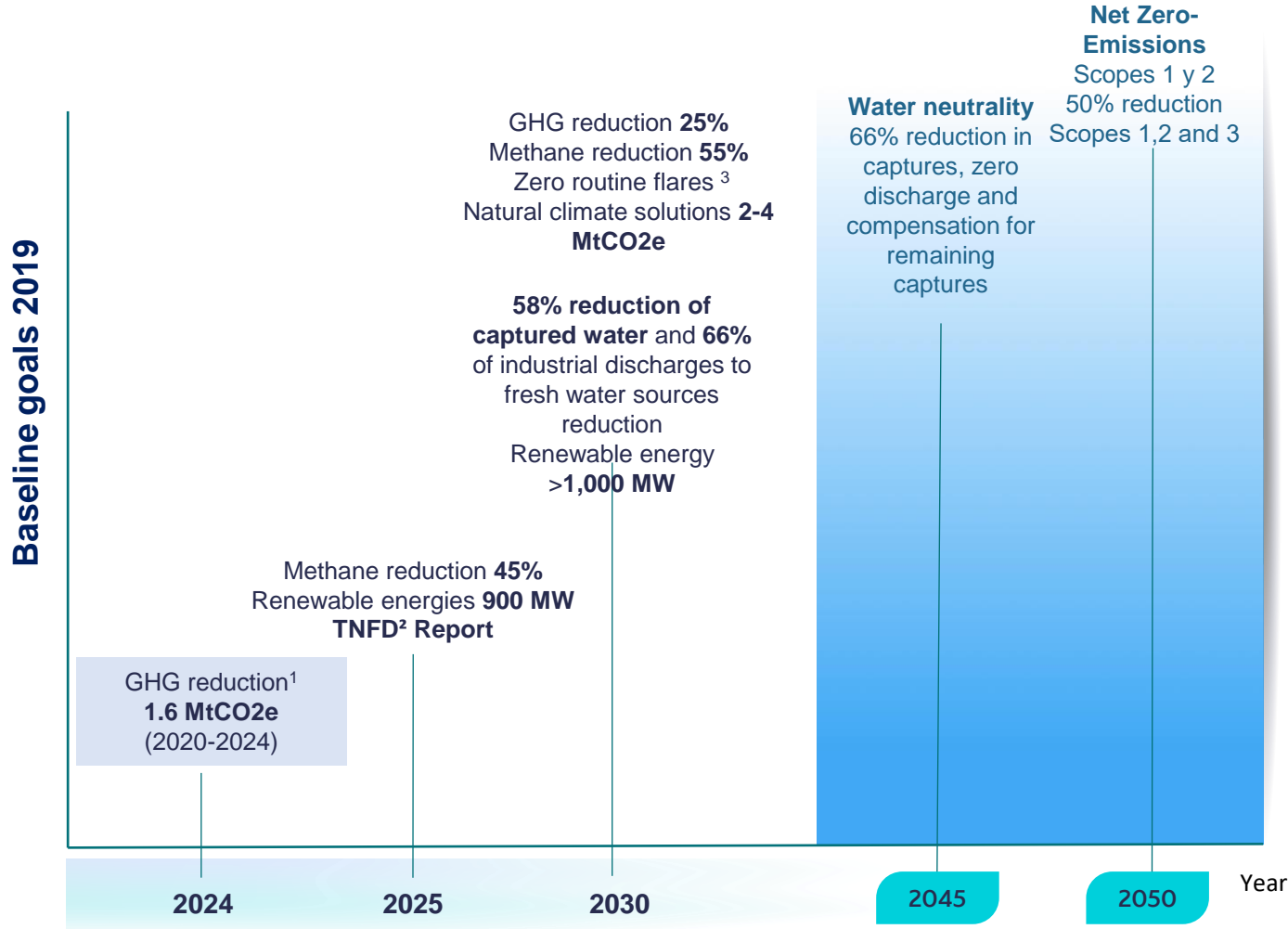
1. Subject to the approval of the ISA Board of Directors.



## Aspiration from the GE for 2040<sup>1</sup>



# We ratify our commitment to water neutrality by 2045 and net zero emissions by 2050



## Outstanding Achievements



**20% reduction in the volume of water captured** for industrial use vs 2019.



**10 million barrels of Castilla Blend® carbon compensated crude oil** sold to the Asian, European and American markets



GHG emission reductions achieved, period 2020-2023, ~1.3 MtCO<sub>2</sub>e<sup>4</sup>



The already built portfolio of Natural Climate Solutions (NCS) will contribute with ~1.5 MtCO<sub>2</sub>e for 2030



**Reuse of 2.62 Mbed** of water required to operate.

<sup>1</sup> Greenhouse Gases <sup>2</sup> Taskforce on Nature-related Financial Disclosures <sup>3</sup> world bank Initiative "Zero Routine Flaring" <sup>4</sup> Projeition at the end of 2023

# Develop ST+i solutions to solve the GE's strategic challenges

**\$20-30**

BUSD

Cumulative impact on EBITDA to 2040

Potential Value in EBITDA by 2040 of strategic focuses enabled with technology and innovation

**\$2.5**

BUSD

Captured between 2018 and 2022

## Transition and Decarbonization

Capture and Use of CO2  
Clean energies  
CNS  
Hydrogen  
E-fuels  
Biofuels

~\$13 BUSD

## Resilient Assets

Crude Mobility  
Teca Nare  
Non-Thermal Recovery  
Thermal Recovery  
ISA infrastructure

~\$5 BUSD

## TESG and Circular Economy

Water  
Chemical Recycling

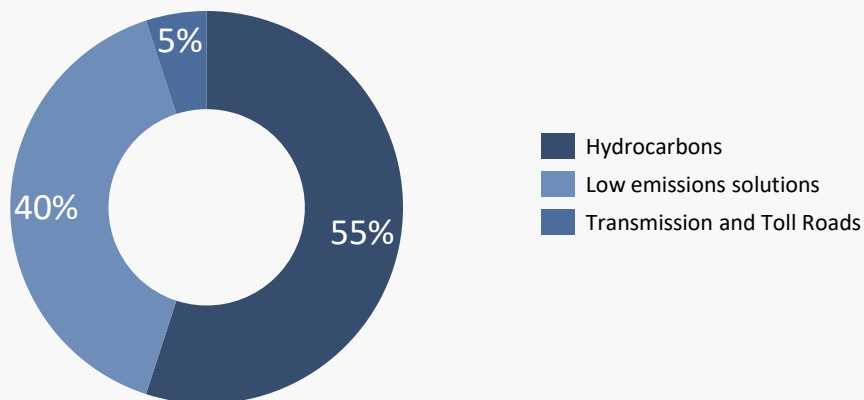
~\$1 BUSD

## 5TH Industrial Revolution

Assisted fields  
5<sup>TH</sup> Downstream  
Agile exploration

~\$1 BUSD

## Participation in EBITDA leveraged by ST+i<sup>1</sup>



## Transformation of the Innovation and Technology Center – ITC for the energy transition

AUTOMATION

ROBOTIZATION

DIGITAL TRANSFORMATION

KNOWLEDGE + SKILLS



## ECONOVA NETWORK

5 centers operating

+800k USD

Mobilized for the network

90 related actors

18 M USD investment in 3 years

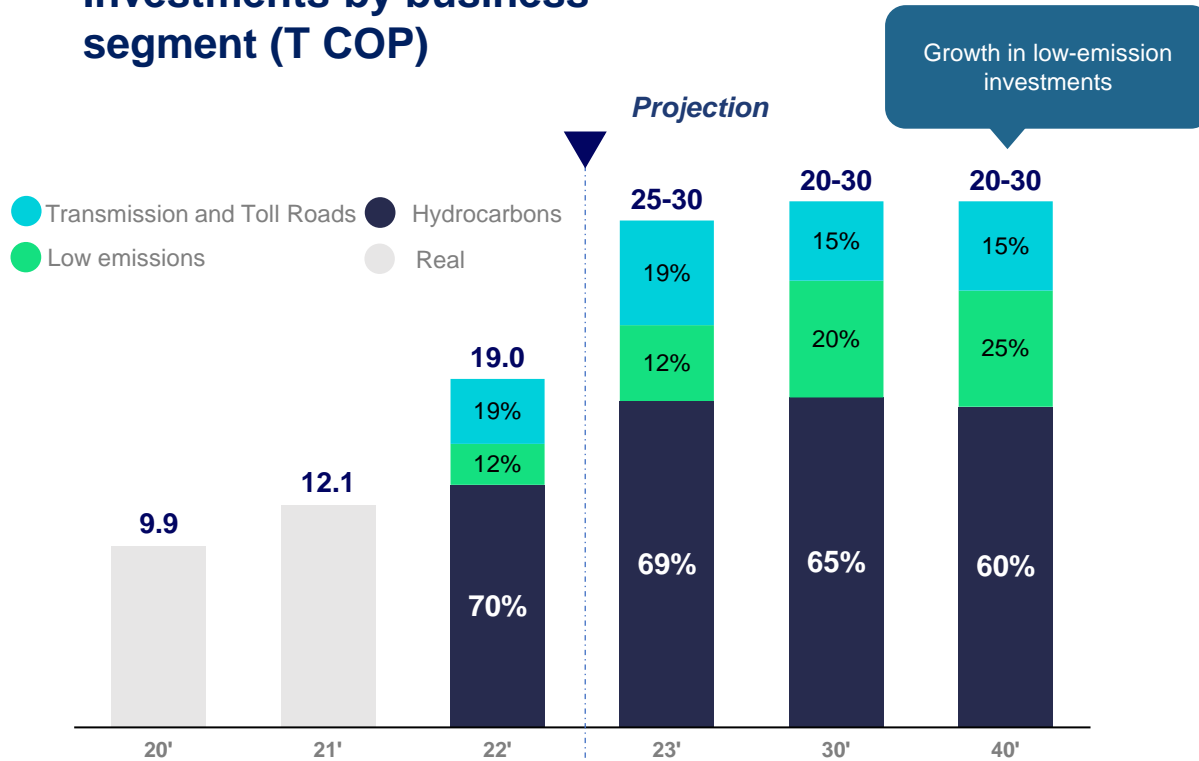
+600 companies and ventures impacted

1. ST+i: Science, technology and innovation

# Capital allocation based on balance and efficiency

## Capital discipline and efficient use of resources

### Investments by business segment (T COP)



### Differentiated criteria by business segment



#### Discount rates

- Tailored to maturity and historical business returns
- Adjusted for financing, seeking new sources of capital
- Aligned with regulated businesses
- Acknowledge challenges in technology maturity levels (TRL)



#### Other criteria

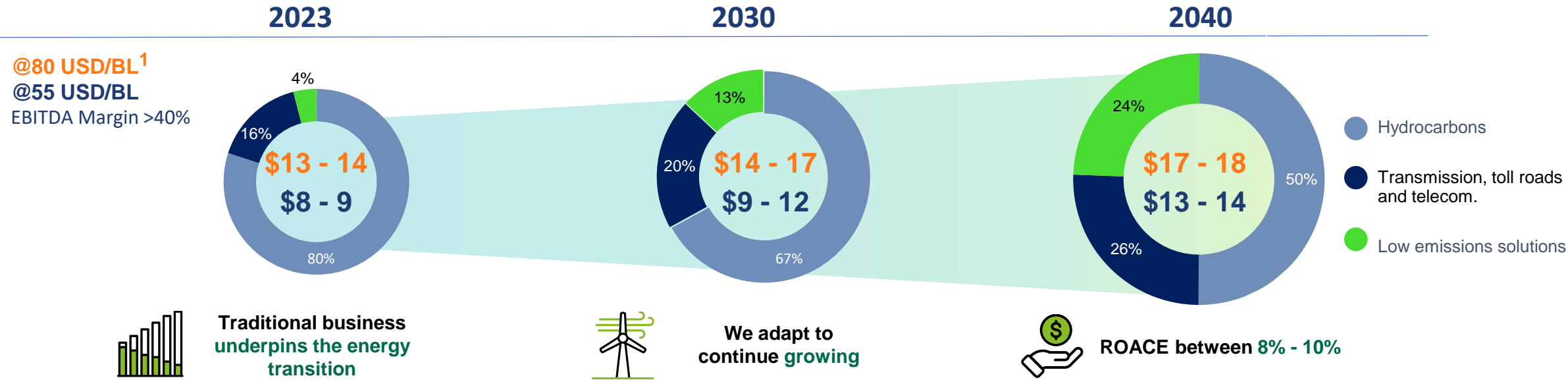
**Internal CO2 price:** to promote low emissions businesses

**Geography:** Maximize the return of the domestic value chain (70-80%)

# EBITDA growth and greater diversification

## Competitive returns, capital discipline and cash protection

### Growth through EBITDA Diversification (\$BUSD)



### Sustainable capital structure

- Long-term **Gross Debt/EBITDA < 2.5x**
- Inclusion of alternative financing sources
- Improvement of working capital conditions due to lower FEPC impact

### Committed to contributions to society

TESG value generation

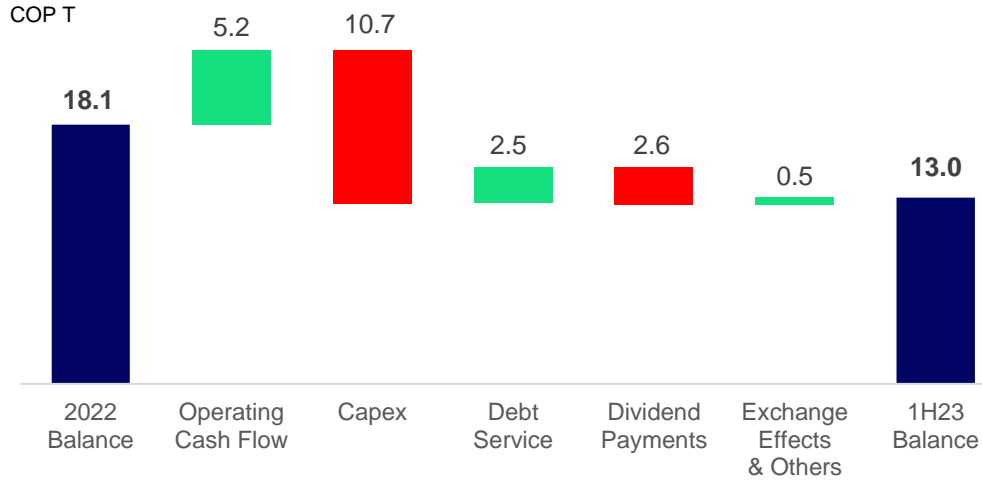
Shareholders	Nation
<b>Payout: 78%</b> Average last 5 years Dividends in line with operational results	<b>Royalties + taxes + dividends</b> 2023e: ~46 T COP 2024-2040: 13-20 T COP/year

1. Indicative calculation of EBITDA performance with a higher Brent

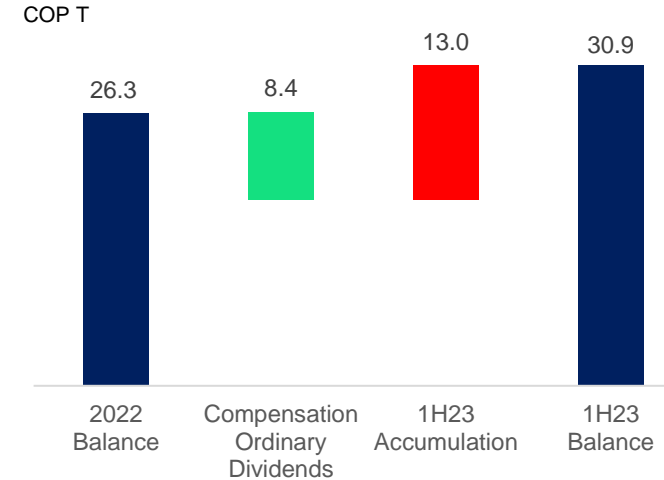


# Effective mitigation of balance sheet risks

## Cash Balance

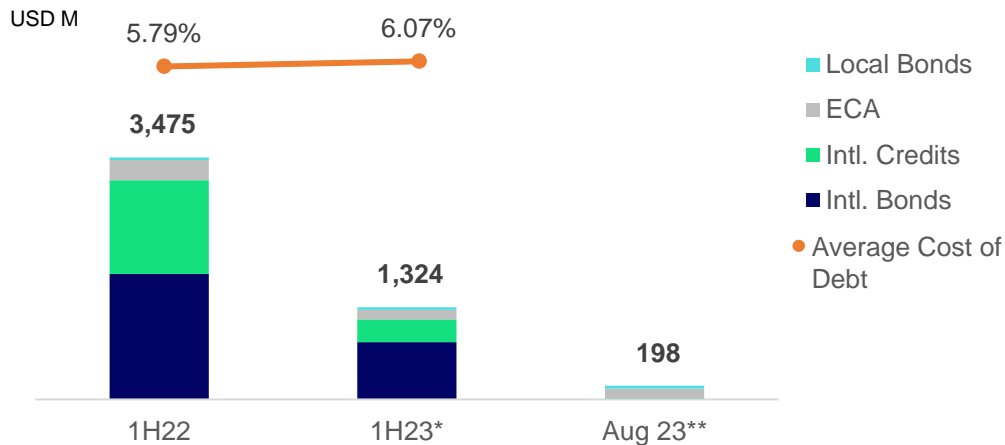


## FEPC Balance

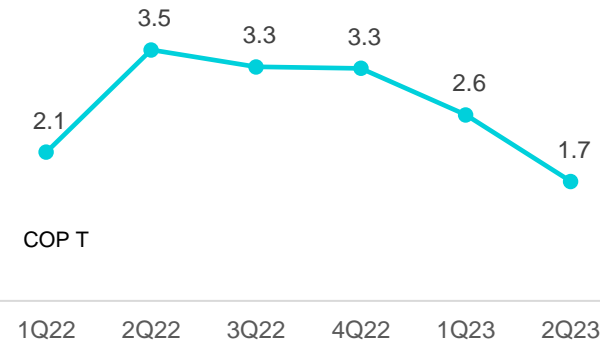


➤ Pending compensation of the FEPC balance for COP 13.2 T, with dividend payment to the Nation

## 2023 Debt Management



## Monthly Average Accumulation FEPC



➤ Lower FEPC accrual ratio

➤ 2023 Fiscal Framework defines payment scheme of the 2022 FEPC account: compensation with dividends + cash payment

# Key takeaways

1



The promise of the 2040 Strategy is **upheld**, preserving the value of the hydrocarbon business and accelerating new low-emissions energy businesses

2



Firm **commitment** to a **just and equitable energy transition**

3



We **accelerate** our goals for the integration of **unconventional renewable energy** as a fundamental input of the **hydrogen chain**

4



ISA's strong **performance** and **better outlook** leverages **diversification** into **electric power**

5



Strict **capital discipline** to ensure **sustainable returns**

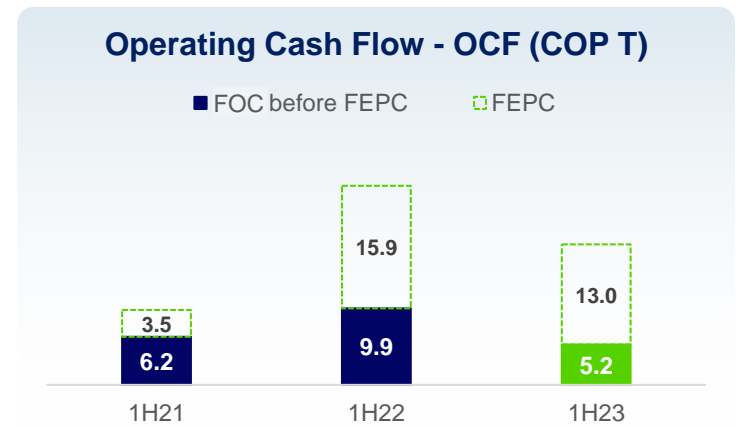
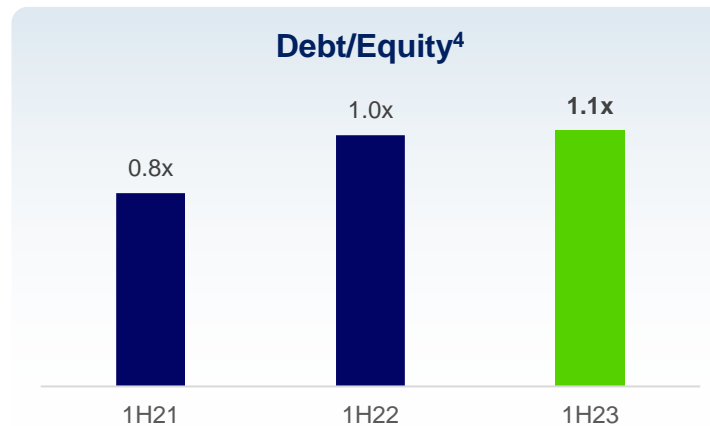
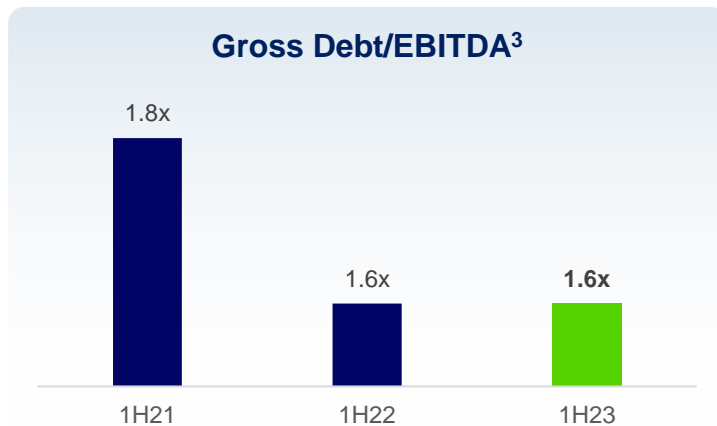
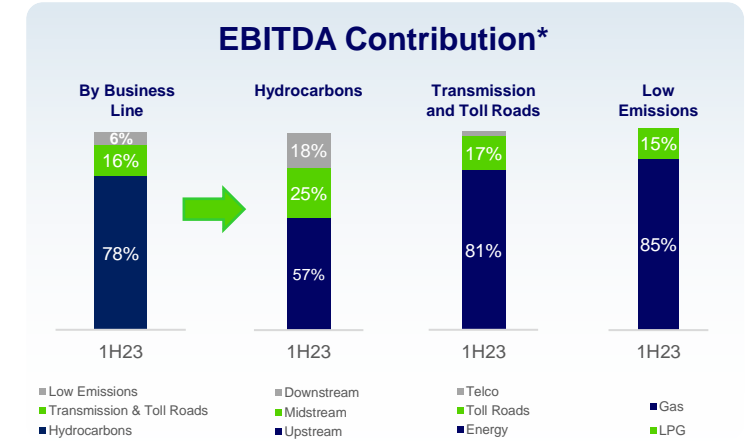
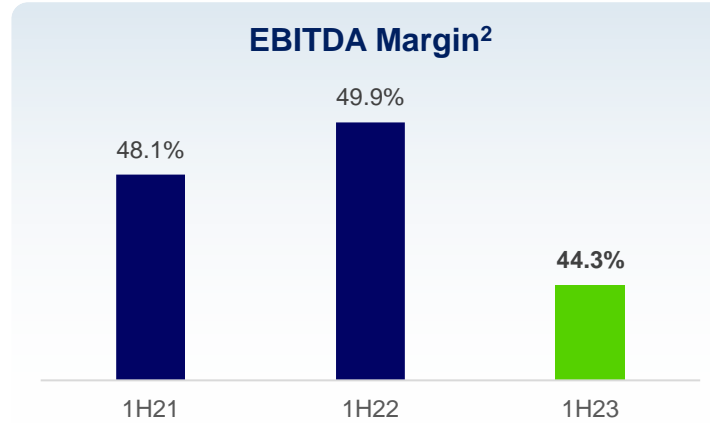
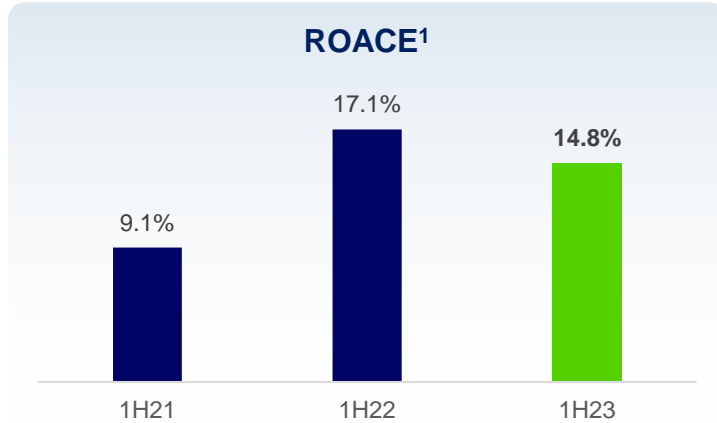


**WE ARE ENERGY**  
THAT TRANSFORMS  
COLOMBIA

# Robust financial indicators adjusted to new market variables



## Ecopetrol Group's Indicators 1H23

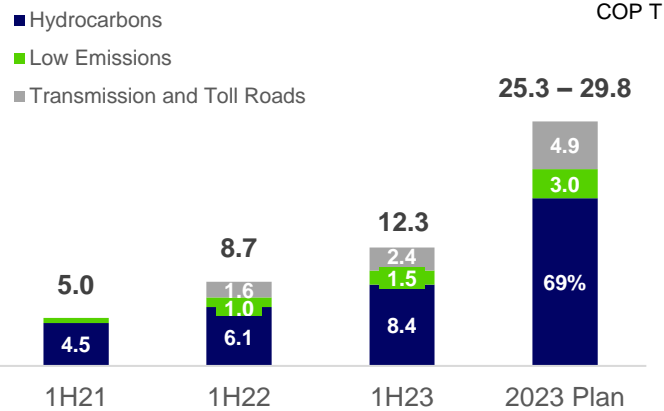


\* Proforma figures. 1. Return on Average Capital Employed. 2. Calculated using Ecopetrol's Group methodology (incorporation of results of co-controlled companies). 3. LTM EBITDA. 4. Accounting Equity. Note: Among the peer companies analyzed are Chevron, Exxon, PTTEP, Repsol, Shell, Total, Marathon, Eni, Equinor, Oxy, BP, Hess, Pemex and Gran Tierra.

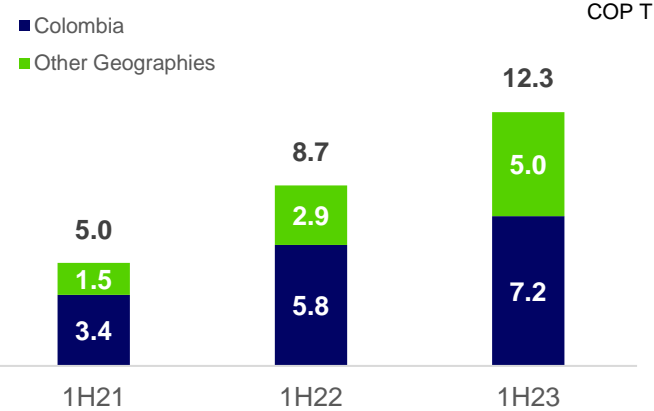
# Historical execution of the 2023 Investment Plan



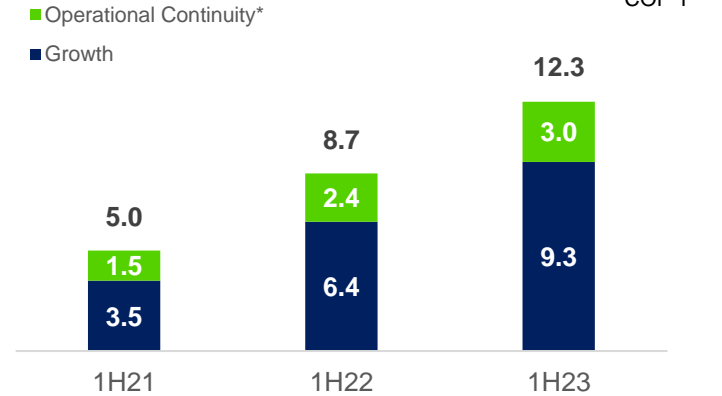
## Business Line



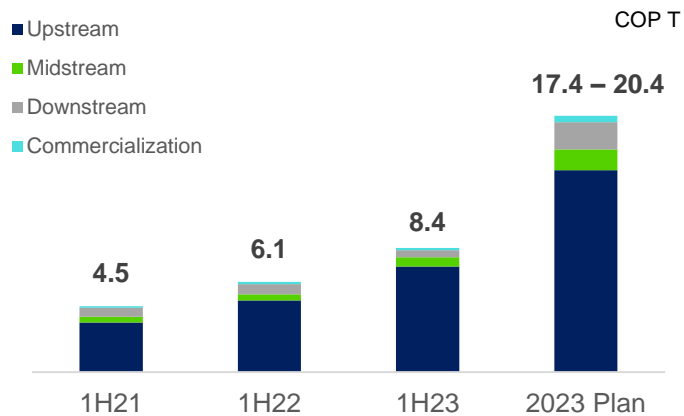
## Geographic Location



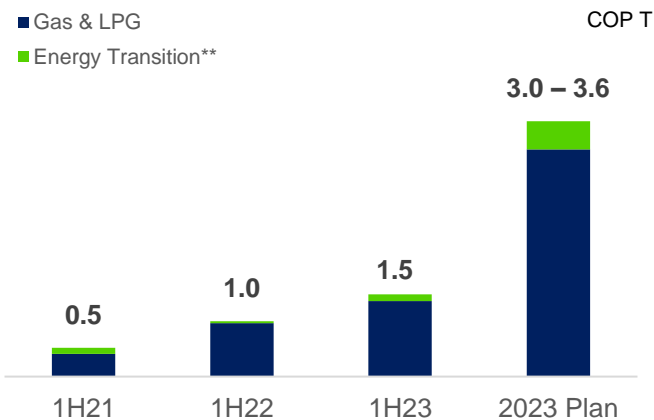
## Type of Investment



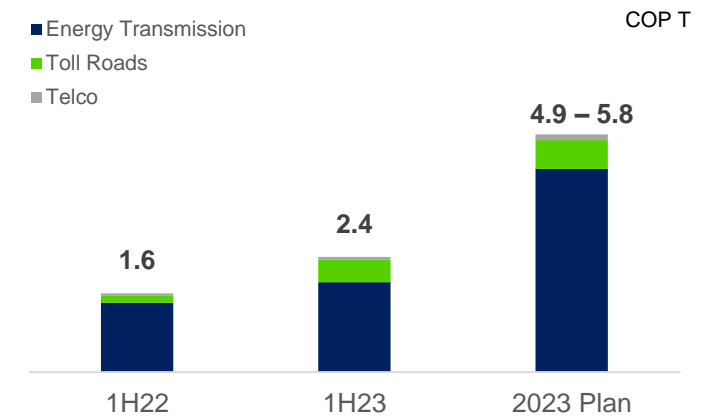
## Hydrocarbons



## Low Emissions



## Transmission & Toll Roads



Note 1: Cumulative figures for the first half of the year. Note 2: Figures for the first half of 2021 do not include the Transmission and Toll Roads business line. \* Investment opportunities that allow for business continuity by mitigating operational, environmental, regulatory, contractual and/or integrity risks. \*\* Includes renewables, hydrogen, CCUS and energy efficiency.