INVESTOR DAY

ENERGY THAT TRANSFORMS

2040 STRATEGY

GRUPO ecopetrol

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Welcome Message

Saúl Kattan
Board of Directors Chairman

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Ricardo Roa
Chief Executive Officer

Milena López
Designated Chief Financial Officer

Alberto Consuegra
Chief Operating Officer

Nicolás Azcuénaga
VP Strategy and Businesses Development

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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

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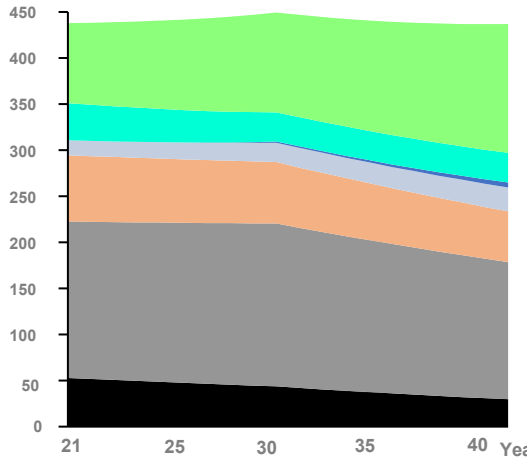
Colombia is committed with a growing clean and diversified energy mix

WORLD — Final energy consumption

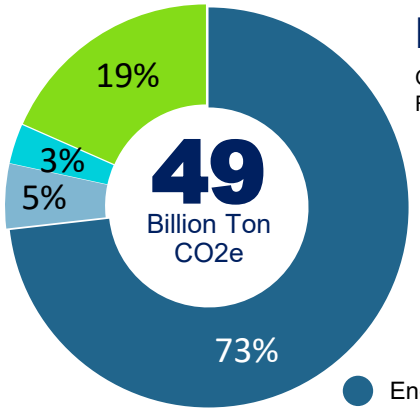
International Energy Agency – Scenarios APS



	EJ[2] @22	EJ[2] @40	% @22	% @40
Renewable Energy	89	140	20%	32%
Biomass & Firewood	39	32	9%	7%
Hydrogen	0	5	0%	1%
Others[4]	17	26	4%	6%
Gas	71	55	16%	13%
Oil and Derivatives	171	149	39%	34%
Coal	52	30	12%	7%

Green House Gas Emissions

OurWorldinData; Climate Watch, the Resources Institute (2020)



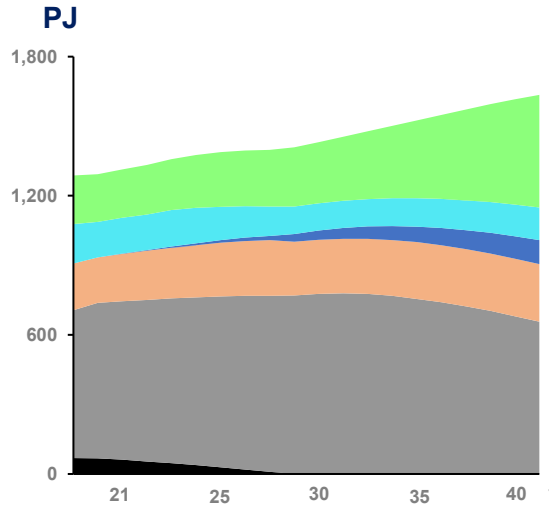
Projection 2040[5]

40 Billion Ton CO2e

Energy · Industry · Waste · Agriculture and land use

COLOMBIA — Final energy consumption

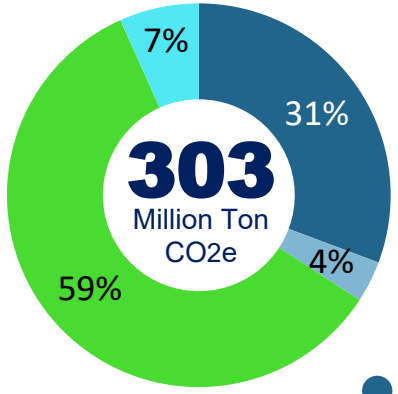
Colombia UPME – National Energetic Plan 2022 - 2052



	PJ[3] @22	PJ[3] @40	% @22	% @40
Renewable Energy	206	485	16%	30%
Biomass & Firewood	153	140	12%	9%
Hydrogen	0	104	0%	6%
Gas	197	248	15%	15%
Oil and Derivatives	670	657	52%	40%
Coal	68	0	5%	0%

Green House Gas Emissions

Institute of Hydrology, Meteorology and Environmental studies (IDEAM, 2018)



Projection 2030[6]

169 Million Ton CO2e

Energy · Industry · Waste · Agriculture and land use

1. Announced pledges scenario | 2. EX: Exajoules | 3 PJ: Petajoules | 4. Biomethane, heating | 5. Monitoring climate action | 6. NDC Colombia. Calculated against the 2015 baseline

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6

Topics have changed

Confirmation of greater gas potential
in the Colombian Caribbean Offshore

No development of hydrocarbon from
unconventional reservoirs in Colombia

Improved performance
in enhanced oil recovery

Stronger results
in the Permian Basin

Value capture driven by
increased commercial activity

ISA´s improved performance
versus the acquisition business case

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The 2040 Strategy remains in place, with a strong emphasis on a Just Energy Transition

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[1] by 2025**
Vs. initial goal of 1,000 MW[1] by 2030

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

2. GENERATE VALUE THROUGH TESG

~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[4] by 2030

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

4. COMPETITIVE RETURNS

EBITDA **13-14 BUSD[2]** in 2040: 50% hydrocarbons and 50% diversification[3]

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. 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).

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2040 strategy implementation results

Growing with the energy transition

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

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

7 exploration wells declared successful in 2023[1]

Infrastructure that underpins energy security

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

25% of EBITDA participation of hydrocarbons segment in 2Q23

Diversification through new businesses with existing infrastructure

Competitive refineries & TESG

Cartagena Interconnection Crude Plant operational +50 mbd capacity

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

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

TESG Operation

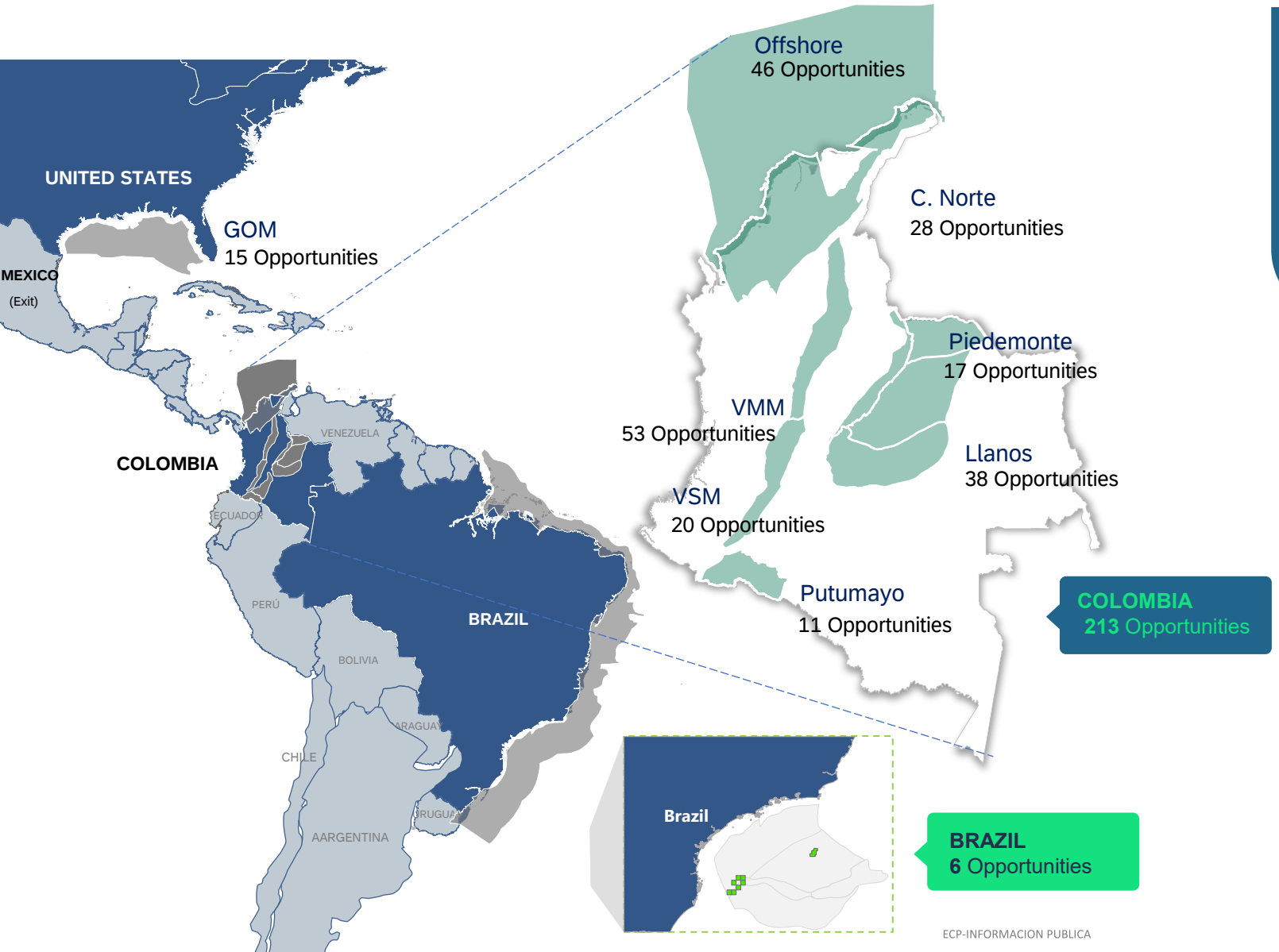
Announced commitment to reduce 45% our methane emissions by 2025 and 55% by 2030

Reduction of GHG emissions achieved, period 2020-2023, ~1.3 $MtCO_2e$[2]

Permian JV
~7.1 $KgCO_2e/boe$
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 $MtCO_2e$*

A diversified exploration portfolio enhances upstream competitiveness



Exploratory Potential

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

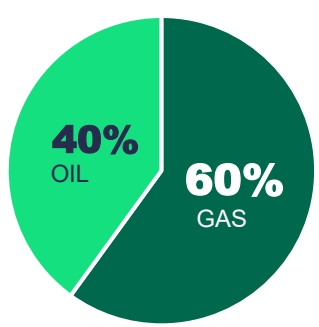
103 Blocks

**Leads in the maturation process*

Exploratory Success (2021-2022)

11 SUCCESSFUL EXPLORATION WELLS

(A3/A2) added **455** MBOE of discovered resources



BBPE: Billions of barrels of oil equivalent

Opportunity: Leads, prospects and discoveries

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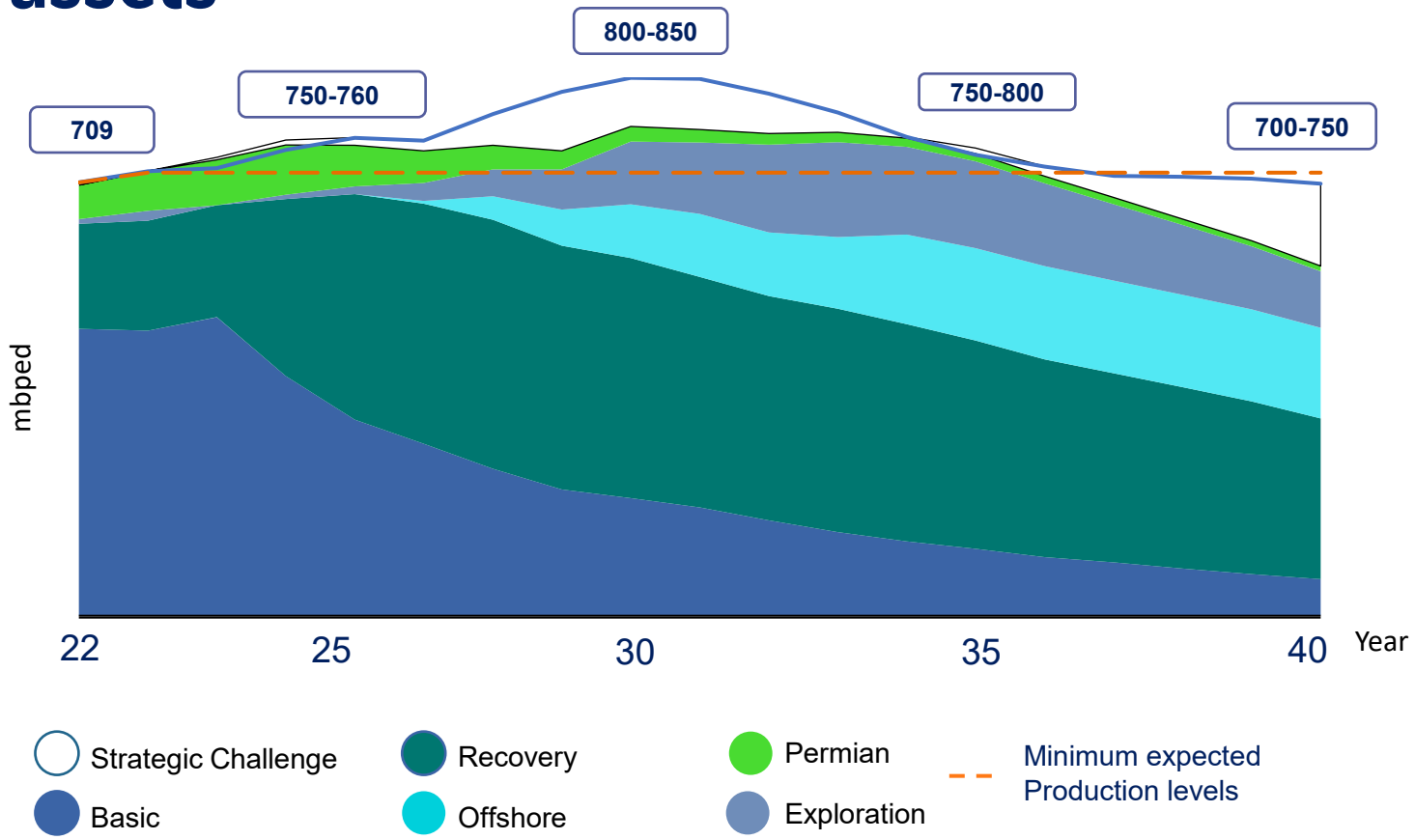
Efficient portfolio management that maximizes the potential of our assets



- Reduced portfolio uncertainty through confirmation of the Caribbean offshore gas potential in the potential in the Colombian Caribbean
- Increase potential in existing fields through enhanced oil recovery (EOR)
- No development of hydrocarbons from unconventional reservoirs in Colombia

Strategic Levers

Production

Current	• Greenfield Development • Accelerate *Time-to-market*
Recovery	• Maximize the value of the recovery program • Deploy technologies to enhance the recovery factor
International Unconventional	• Maximize the value of existing assets

Exploration

Offshore	• Maximize discoveries' potential
Onshore	• Maximize value of current assets • Accelerate lead maturation
International	• Develop the asset portfolio in Brazil
Commercialization	• Increase the value of our products by capturing higher commercial margins

Note: Calculations associated with the potential of the portfolio and the technical development exercise

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A Robust Caribbean offshore portfolio that contributes to energy security

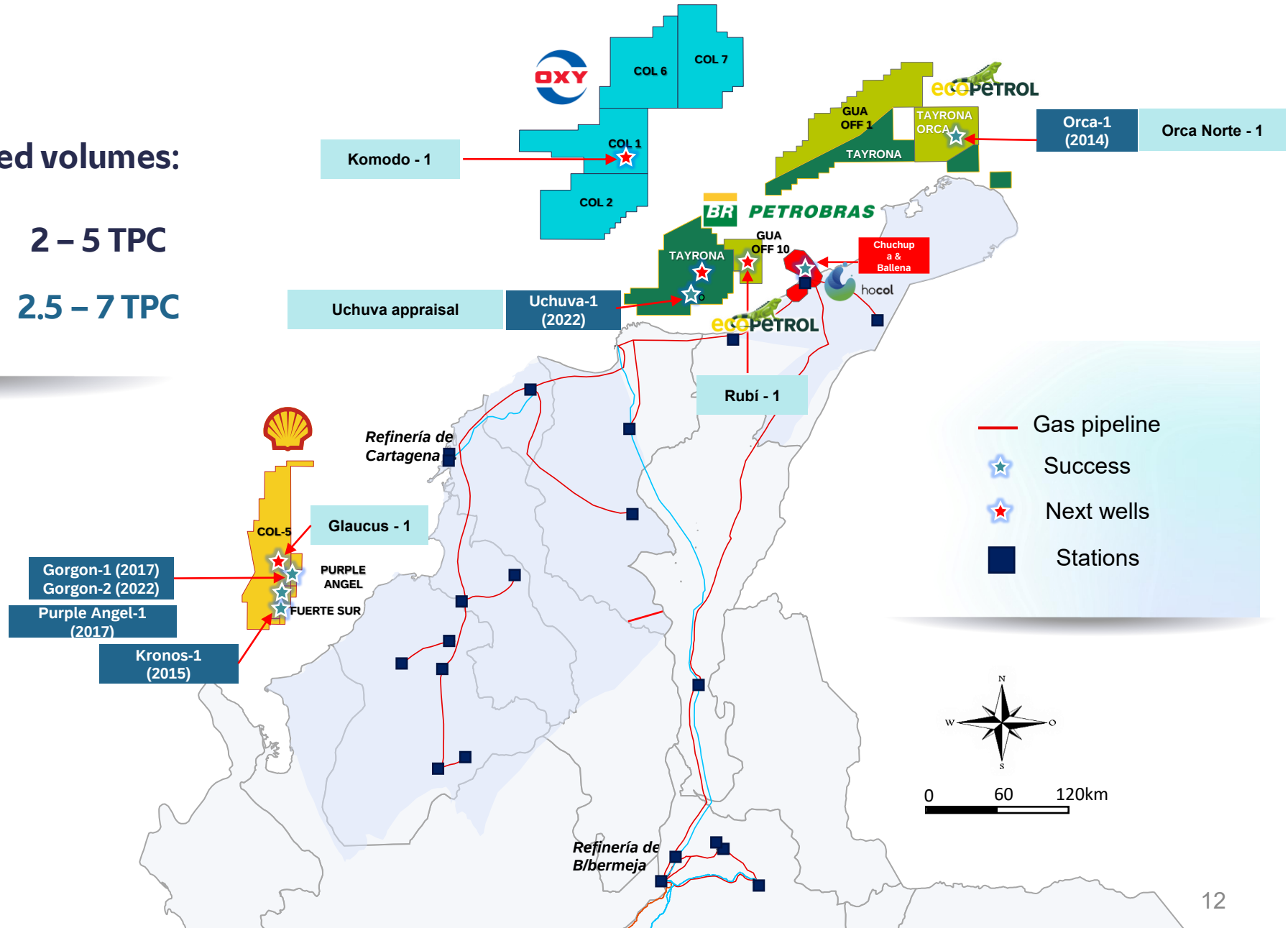
11 offshore exploration contracts
(representing 28% of the Colombian Caribbean area)

Total volumes (gross)
TPC: Tera cubic feet

Discovered volumes:

North ➡ 2 – 5 TPC

South ➡ 2.5 – 7 TPC



MILESTONES

2023
Glaucus-1 drilling (currently under evaluation)

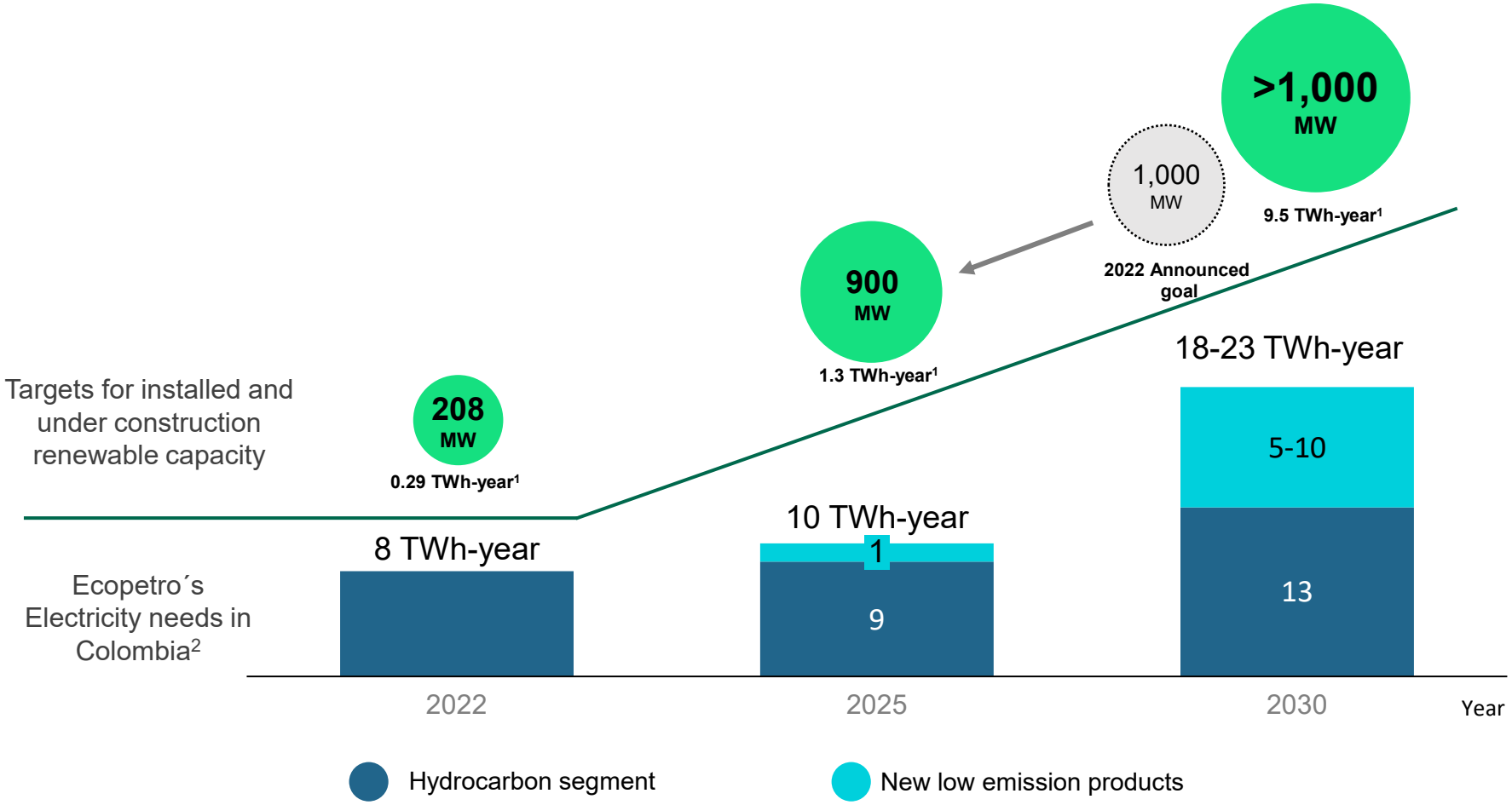
23-24
Orca Norte-1 exploration well drilling

24-25
Tayrona exploration drilling campaign, including Uchuva appraisal

24-25
Start of drilling activities in the area Col-1 1 exploration well in Komodo-1

27-29
First offshore gas

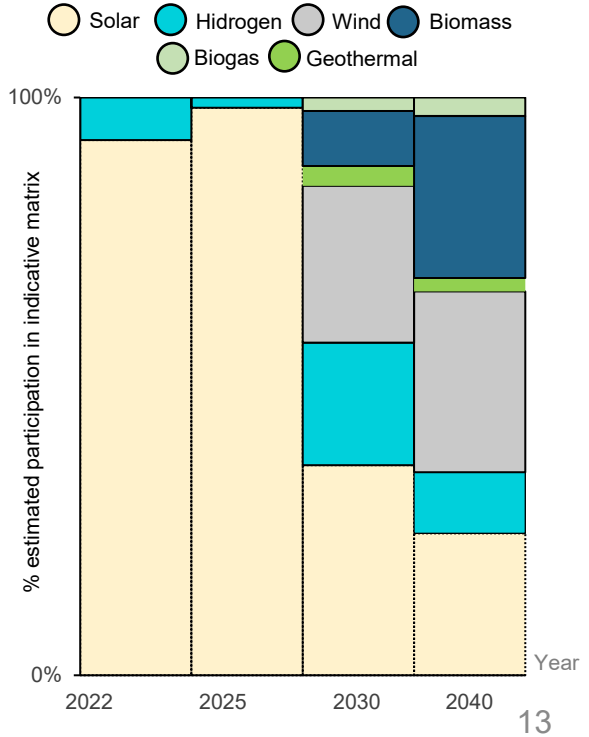
We accelerate the incorporation of renewables sources to ensure the competitiveness of our portfolio



Growing energy demand of the Ecopetrol Group

- **Competitiveness** of the **hydrocarbons** business
- **Enabling** low emissions solutions
- **Decarbonization**

Indicative renewable energy mix[3] with current portfolio



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

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

Important milestones of our plan

130 k Ton/year

Testing and Learning (2022 – 2023-2025)

- 1st molecule of green hydrogen
- Start of white hydrogen sampling
- Start of mobility pilots
- Opening of Caribbean Innovation Center

Scaling (2025-2030)

- Industrial Scale
- National market synthetic fuel tests
- Blending test H2 + natural gas

Maturity (2030-2040)

- Production of low emission hydrogen
- Green Ammonia production
- Production of synthetic fuels

Year

Aspiration @2040

1M Ton/year @2040

- Low-emission H2 production with export vocation[1]

Green Hydrogen Focus

+2,500 MUSD projects[2]
+400 MUSD EBITDA[2] (average year)

Strategic alliances @2023

SIEMENS energy · H2B2 · EDF · TOTAL eren · EMPATI · MITSUI&CO.

Priority uses

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

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

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Contribution of transmission and New Energy Businesses at ISA to EBITDA by 2040 (22%-26% by 2040)

Strategic acquisition rationale

1. **Diversification of the Group toward low-emission businesses**

2. **Electricity transmission growth**

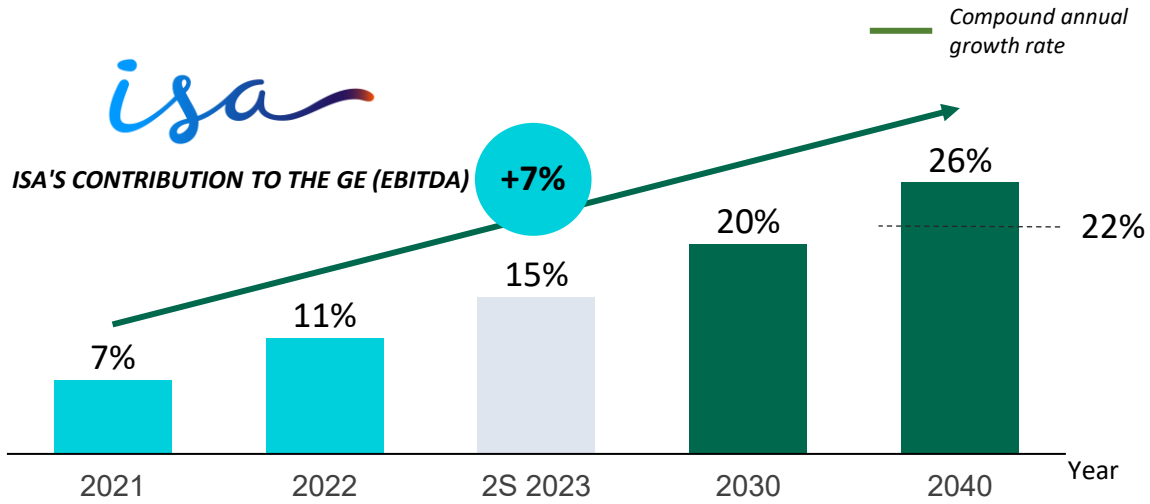
48,776 km of installed circuit

+

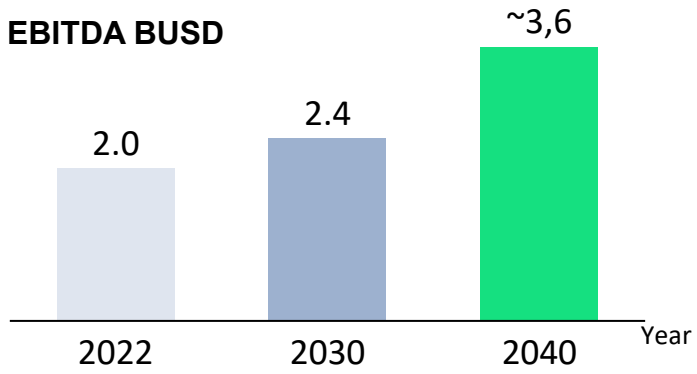
7,136 km og additional (projects)
3.9 BUSD

3. **New energy businesses enabling GE's energy transition**

- Large-scale energy storage
- Distributed energy solutions

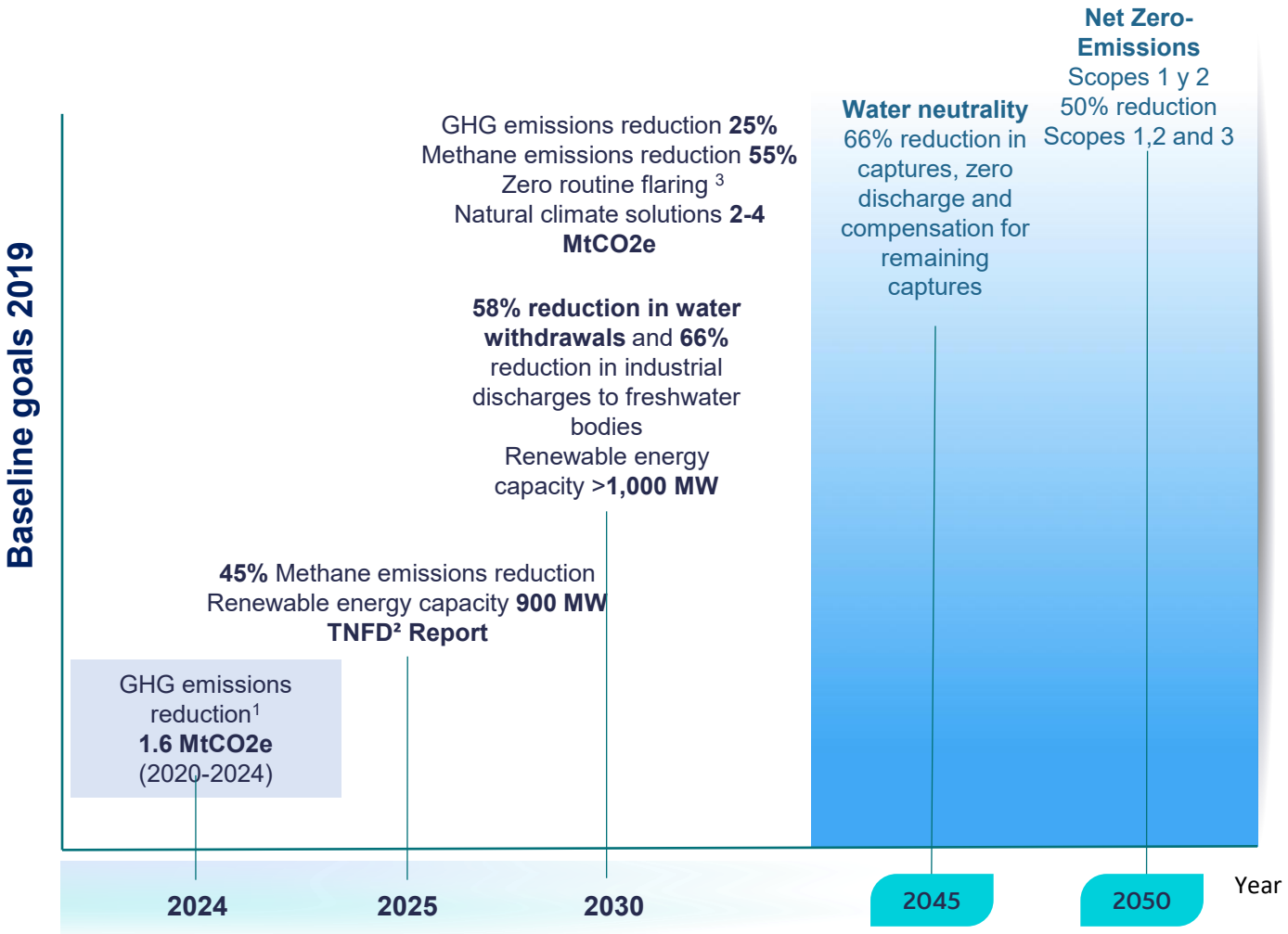


Aspiration from the GE for 2040[1]



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

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



Outstanding Achivements

20% reduction in the industrial water withdrawals compared to 2019.

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

GHG emission reduced **~1.3 $MtCO_2e$**[4] over the 2020-2023 period

The current Natural Climate Solutions (NCS) portfolio is expected to contribute ***~1.5 MtCO2e for 2030***

Reuse of 2.62 Mbed of water, equivalent to 79% of the water required for operations

[1] Greenhouse Gases [2] Taskforce on Nature-related Financial Disclosures [3] world bank Initiative "Zero Routine Flaring" [4] Projetion at the end of 2023

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

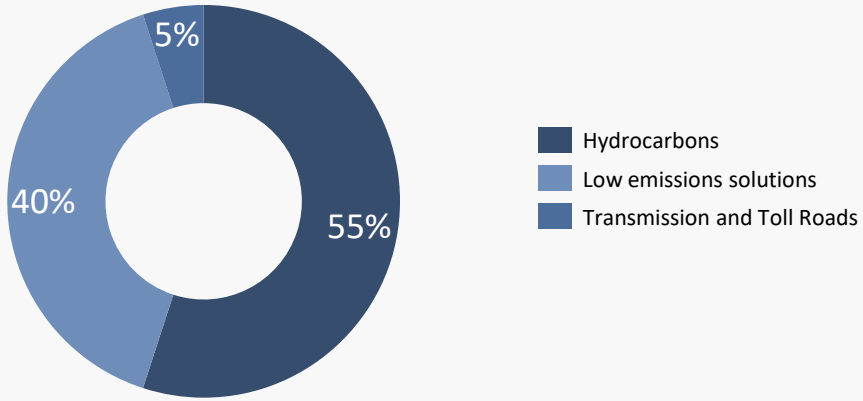
$20-30 BUSD — Cumulative impact on EBITDA to 2040

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	Resilient Assets	TESG and Circular Economy	5TH Industrial Revolution
Capture and Use of CO2 Clean energies CNS Hydrogen E-fuels Biofuels **~$13** BUSD	Crude Mobility Teca Nare Non-Thermal Recovery Thermal Recovery ISA infrastructure **~$5** BUSD	Water Chemical Recycling **~$1** BUSD	Assisted fields 5TH Downstream Agile exploration **~$1** BUSD

Participation in EBITDA leveraged by ST+i[1]



1. ST+i: Science, technology and innovation

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

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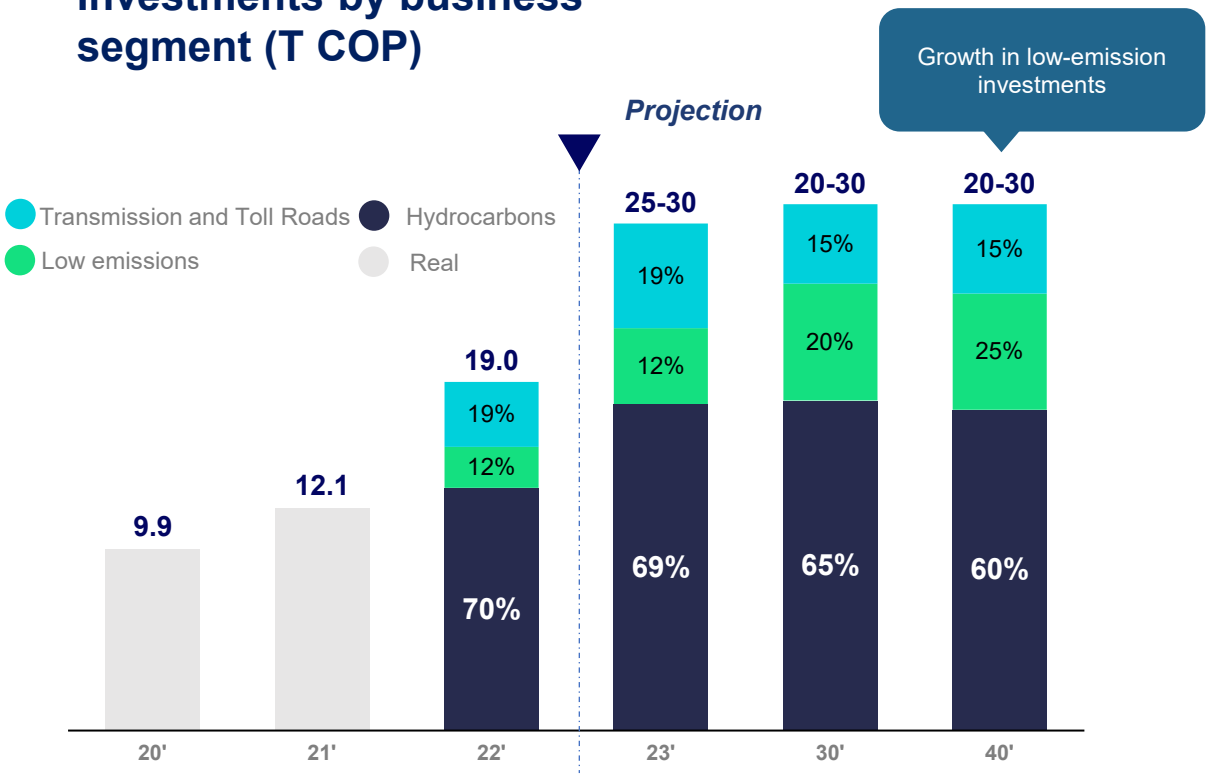
Capital allocation focused on balance and efficiency

Capital discipline and efficient use of resources

Investments by business segment (T COP)



Differentiated criteria by business segment

Discount rates

- Based on business maturity and historical returns
- Adjusted for financing structures, enabling access to new sources of capital
- Aligned with regulated businesses
- Reflect technology maturity levels (TRL)

Other criteria

Internal CO2 price: to incentivize low-emissions businesses

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

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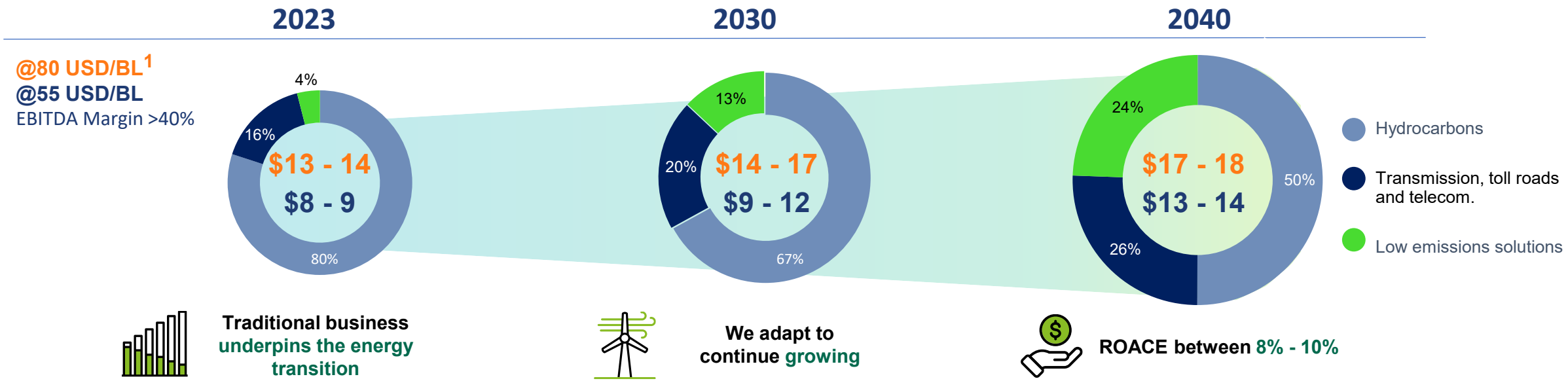
EBITDA growth and greater diversification

Competitive returns, capital discipline and cash protection

Growth through EBITDA Diversification ($BUSD)



Traditional business underpins the energy transition

We adapt to continue growing

ROACE between 8% - 10%

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

1. Indicative calculation of EBITDA performance with a higher Brent

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Key takeaways

1

The promise of the 2040 Strategy remains on track, **preserving the value of the hydrocarbon business while accelerating the growth of new low-emissions energy solutions**

2

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

3

Acceleration of our targets for the **integration of unconventional renewable energy,** as a critical enabler of the **hydrogen value chain**

4

ISA's strong **performance** and **improved outlook** underpin its **diversification into electric power**

5

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

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WE ARE ENERGY

THAT TRANSFORMS COLOMBIA