



**Energy
To the future**

DISCLAIMER

This presentation contains forward-looking statements that reflect the company management's current views with respect to certain future events.

Although it is believed that the expectations reflected in these statements are reasonable, they may be affected by variables and changes in underlying assumptions that could cause actual results to differ materially.

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LARGEST INDUSTRIAL COMPANY IN TURKEY

*PROVIDING TURKEY'S ENERGY **FOR 60 YEARS***



EUROPE'S 7TH
WORLD'S 30TH
LARGEST REFINING COMPANY

\$ 7 BILLION INVESTMENT

4 REFINERIES

30 MILLION TON CAPACITY

75% REFINING CAPACITY* OF TURKEY

AMONG **LARGEST** EXPORTERS
OF TURKEY

* SOURCE: EMRA



51% MARKET SHARE*

IN TURKEY

57% TOTAL STORAGE CAPACITY

WITH OPET

ONE OF THE

MOST COMPLEX REFINERIES

OF THE MEDITERRANEAN REGION

\$ 7 BILLION (SINCE ACQUISITION)

SOLID DIVIDEND PAYER

* SOURCE: EMRA

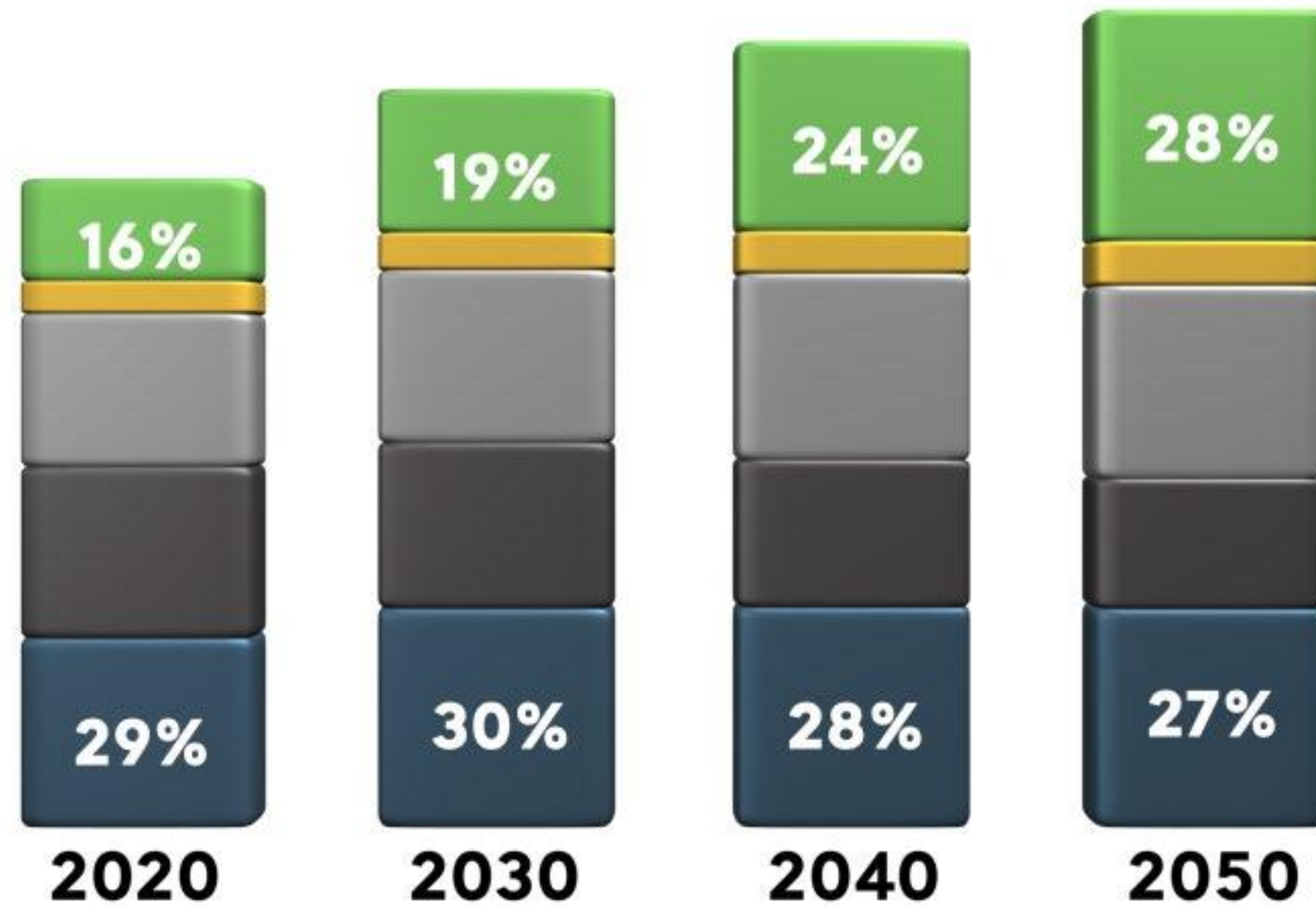


**WE WILL LEAD TURKEY'S ENERGY TRANSFORMATION,
BY CREATING A DIVERSIFIED PORTFOLIO**

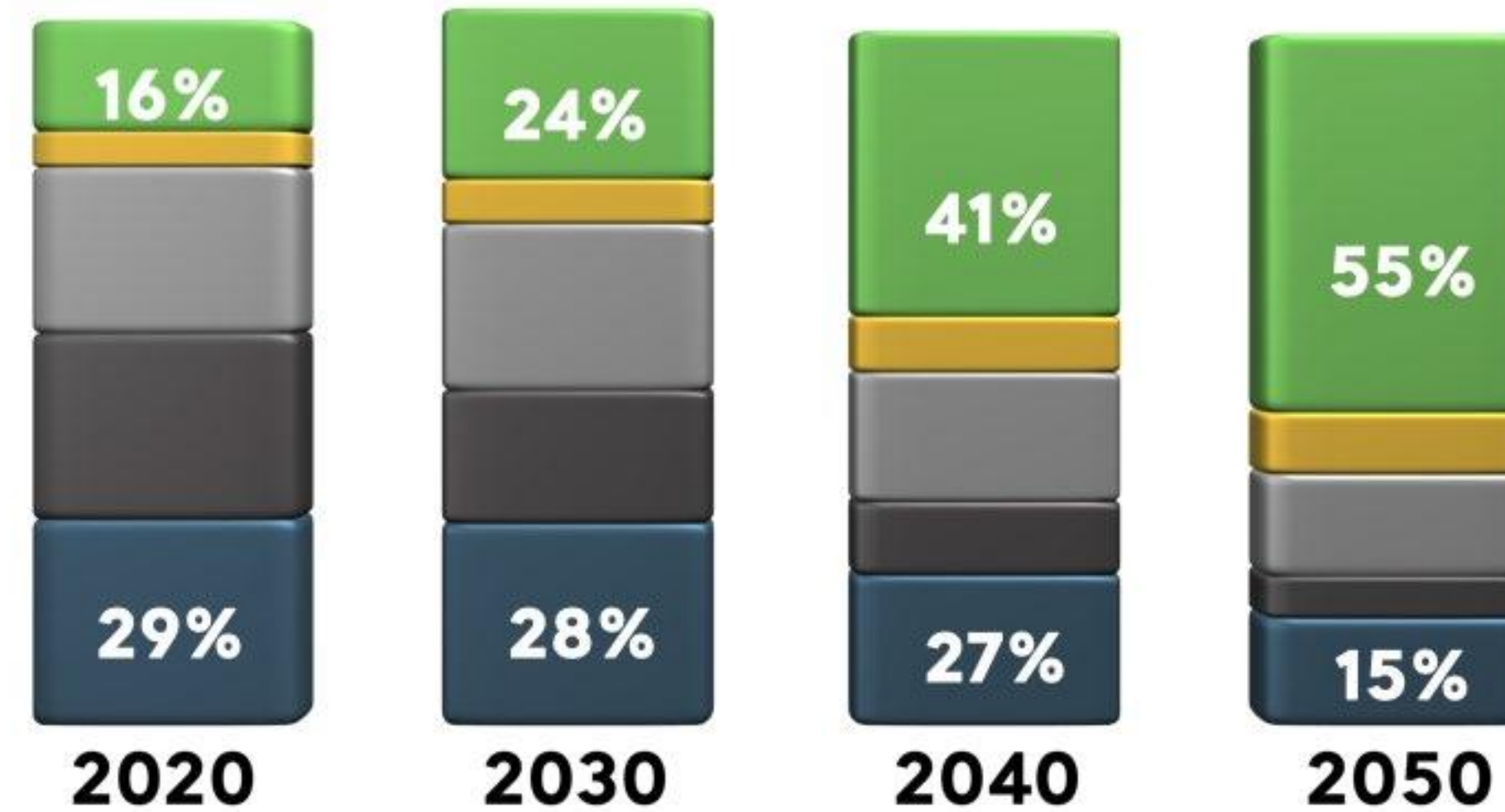


GLOBAL PRIMARY ENERGY DEMAND OUTLOOK

IEA Stated Policies Scenario
(STEPS)



IEA Sustainable Development
Scenario (SDS)



IEA
Net Zero



OIL



COAL



NATURAL GAS



NUCLEAR



RENEWABLE



* Source: IEA, "World Energy Outlook 2021", "Net Zero by 2050: A Roadmap for the Global Energy Sector"



Electricity is the backbone of reaching 'Net Zero', driving both electrification and green hydrogen production.



Oil, the energy source of humanity for ages, is gradually being replaced by **alternative energy sources**.

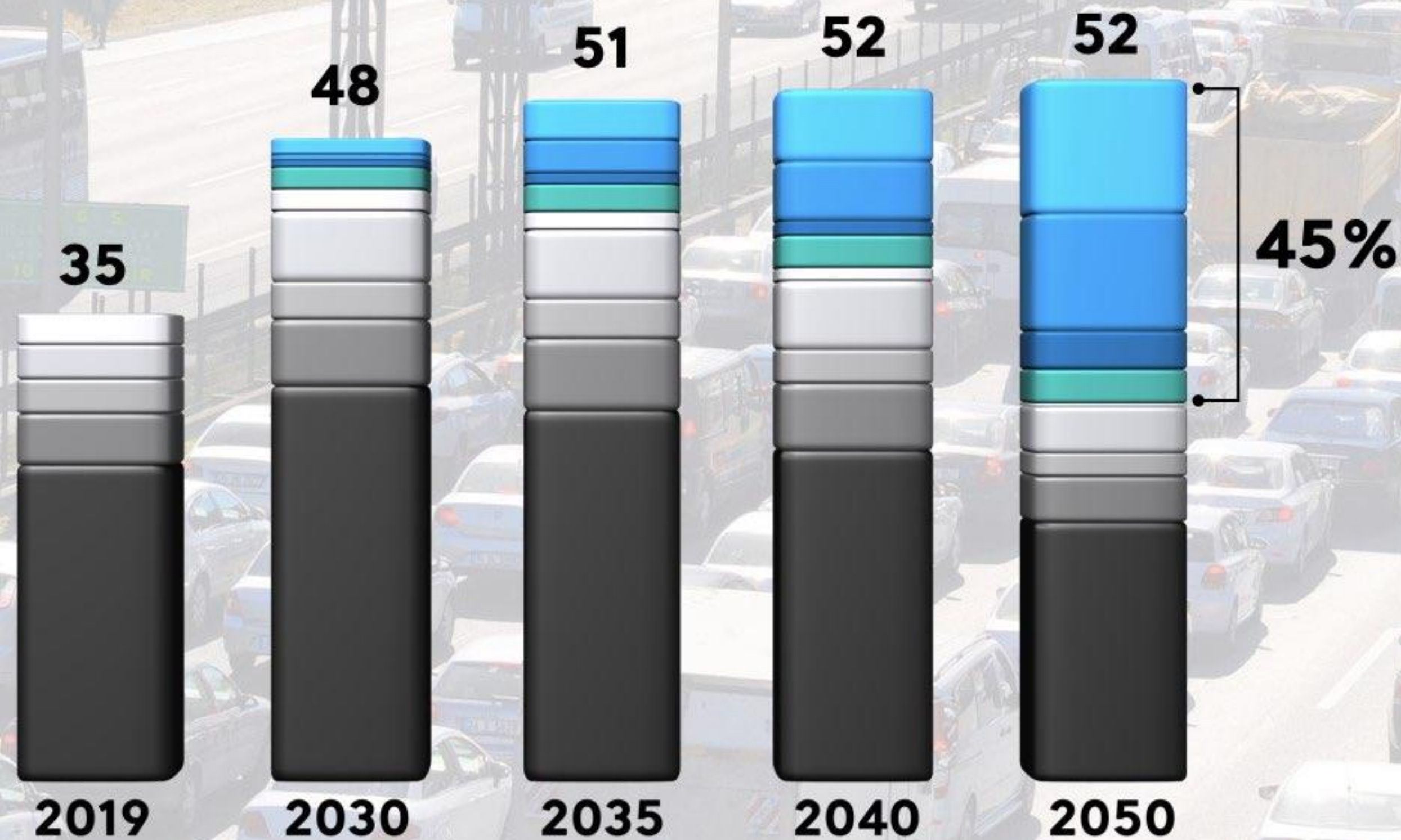


Oil demand moves onto a downward trajectory, but it will be the significant energy source during **transition period**.

Turkey's Transportation Energy Demand

in million tonnes of oil equivalent (mtoe)

■ Diesel ■ LPG ■ Gasoline
■ Jet Fuel ■ Marine Fuel ■ Alternative Marine Fuels
■ SAF, Other Jet Fuel Alternatives ■ Hydrogen ■ Electricity



OUR PROJECTIONS



Turkey's fossil fuel consumption **to peak in 2030**



Diesel to be partially **replaced by H₂**, for commercial vehicles existing domestic refining capacity will still be well positioned



In passenger cars, **EVs** to **lead new sales** starting early 2030s and become the **dominant powertrain** before 2040



H₂ to enter a **rapid growth phase** from 2030



Sustainable Aviation Fuel (SAF) to cover ~10% of aviation fuel by 2030



STRATEGIC TRANSITION PLAN

OUR AMBITION:

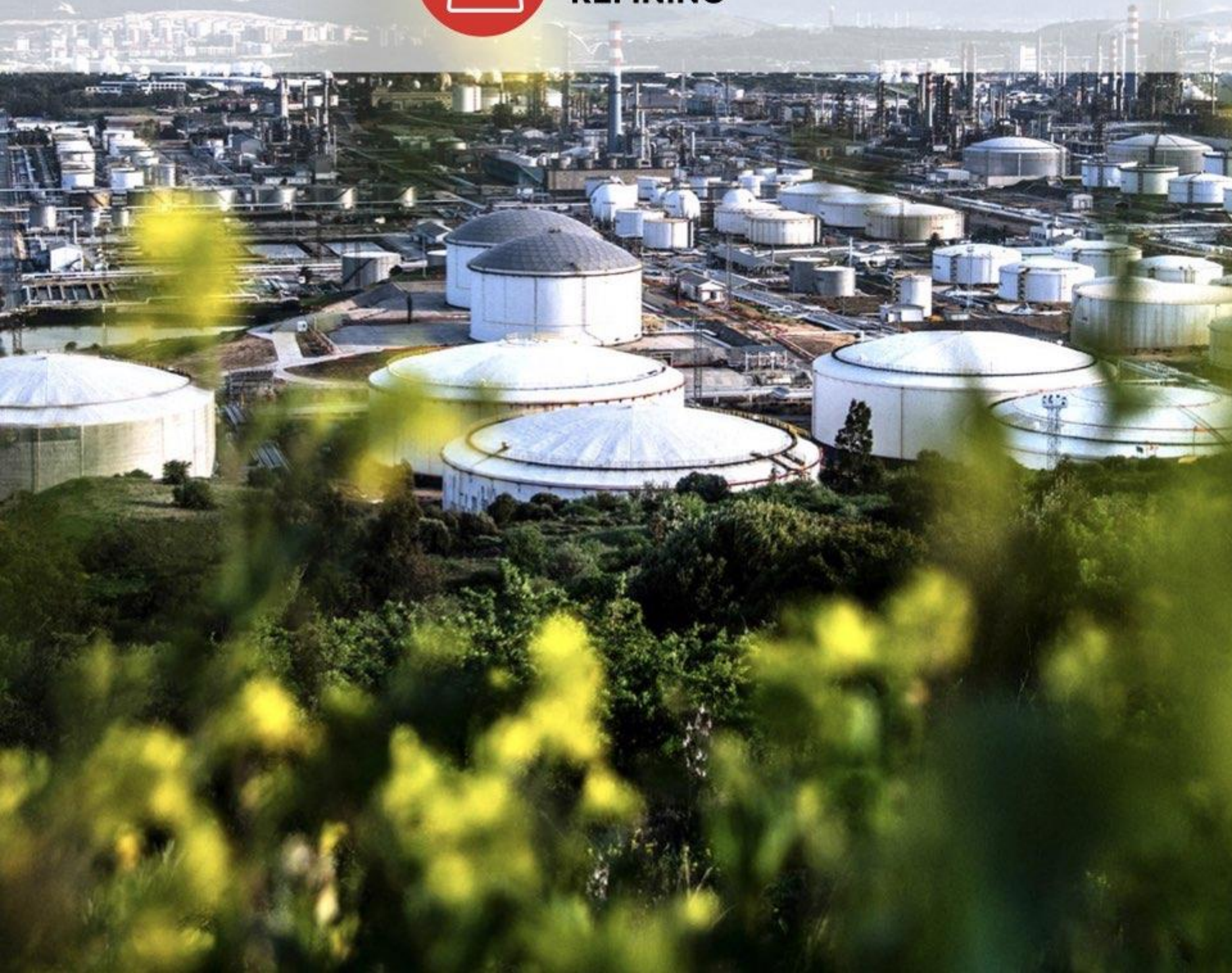
THE LEADER OF FUTURE ENERGY IN TURKEY

STRATEGIC PRIORITIES

MAKE EXISTING ASSETS MORE COMPETITIVE AND PROFITABLE TO FUND THIS TRANSITION



**SUSTAINABLE
REFINING**



INVEST IN NEW AREAS THAT WILL DELIVER STRONG PROFITS AND SUPPORT SUSTAINABILITY



BIOFUELS



**ZERO CARBON
ELECTRICITY**



**GREEN
HYDROGEN**



STRATEGIC ACTIONS



BECOMING THE LEAD
SAF PRODUCER IN TURKEY



BECOMING A
**LEADING ZERO CARBON
ELECTRICITY PRODUCER**



ELIMINATE
SCOPE 1&2 EMISSIONS
BY 2050



INVESTING FOR A
**SUSTAINABLE & PROFITABLE
REFINING**



CAPITALIZING HYDROGEN
KNOW-HOW TO CREATE A
GREEN VALUE CHAIN

TRANSITION PLAN TOWARDS BEING A CARBON NEUTRAL* COMPANY

2022-2030

2031-2035

SHARE IN CAPEX

SHARE IN EBITDA

SHARE IN CAPEX

SHARE IN EBITDA

Sustainable Refining

~60%

~90%

~30%

~70%

Sustainable Aviation Fuel

Zero Carbon Electricity

Green Hydrogen

~40%

~10%

~70%

~30%

BASE YEAR 2017

Scope 1 & 2 CO₂ Emission Reduction

27%

35%

* Scope 1&2

SUSTAINABLE & PROFITABLE TÜPRAŞ

2035

Average EBITDA
>\$1 bn per annum

Average CAPEX
~\$350 mn per annum

ROACE
> 25%

Net Debt / EBITDA
<2.0x

Avg. Dividend Payout
~80%



We will invest in
**energy efficiency & decarbonization
projects, green hydrogen & zero carbon
electricity usage in refining** to reduce
scope 1 & 2 emissions

EMISSION REDUCTION

SCOPE 1 & 2

— BASE YEAR —

SCOPE 1+2

7.2
MN TONNES

-27%

-35%

-49%

-100%

2017

2030

2035

2040

2050

STRATEGIC *TRANSITION* PLAN



**SUSTAINABLE
REFINING**



BIOFUELS



**ZERO CARBON
ELECTRICITY**



**GREEN
HYDROGEN**



SUSTAINABLE REFINING

SUSTAINABLE REFINING



**ENERGY EFFICIENCY
PROJECTS**



**DECARBONIZATION
PROJECTS**



**~\$2.3BN CAPEX
~\$13BN EBITDA****

- **REFINING WILL REMAIN AS A MAJOR EBITDA CONTRIBUTOR**

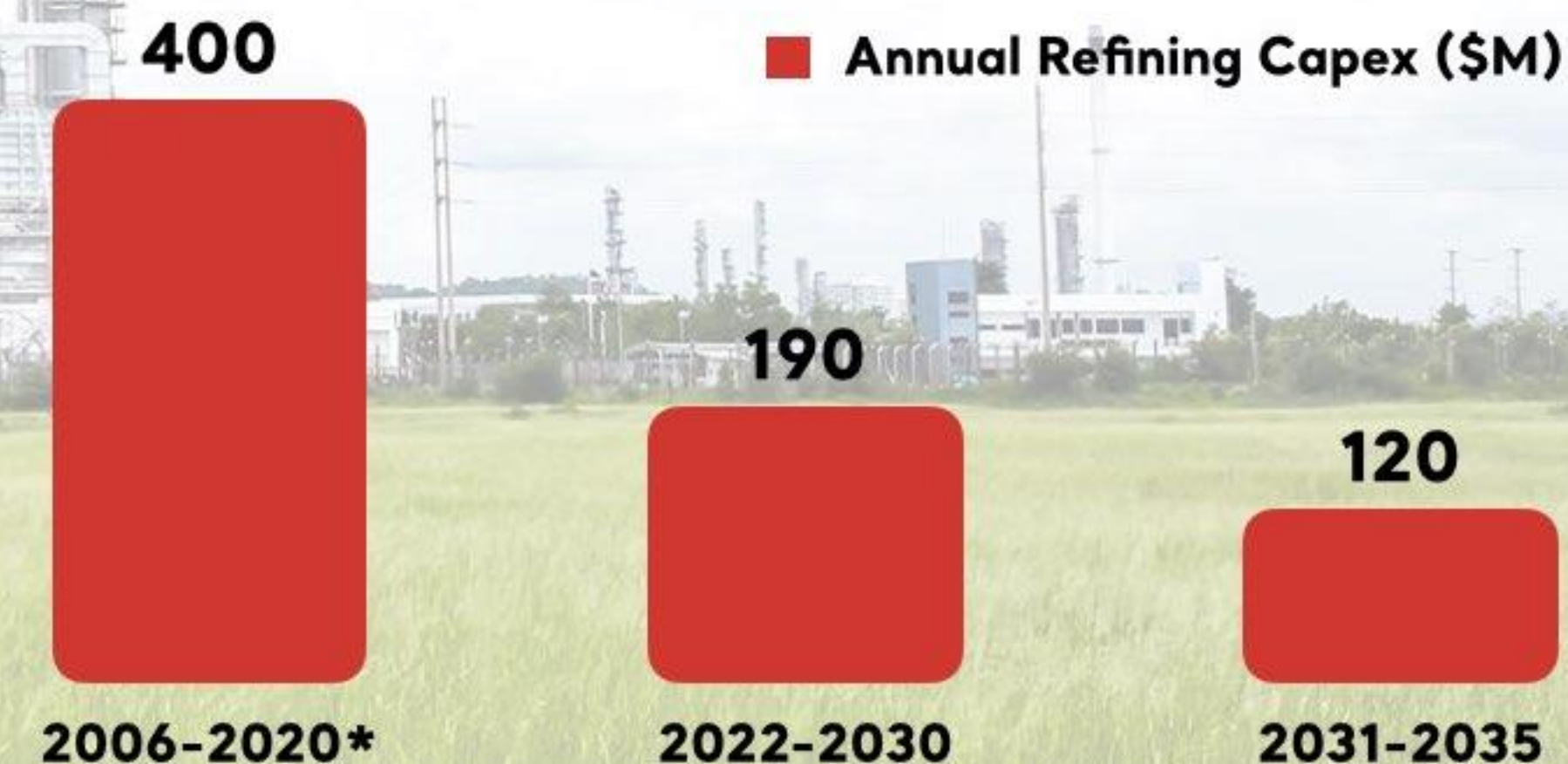
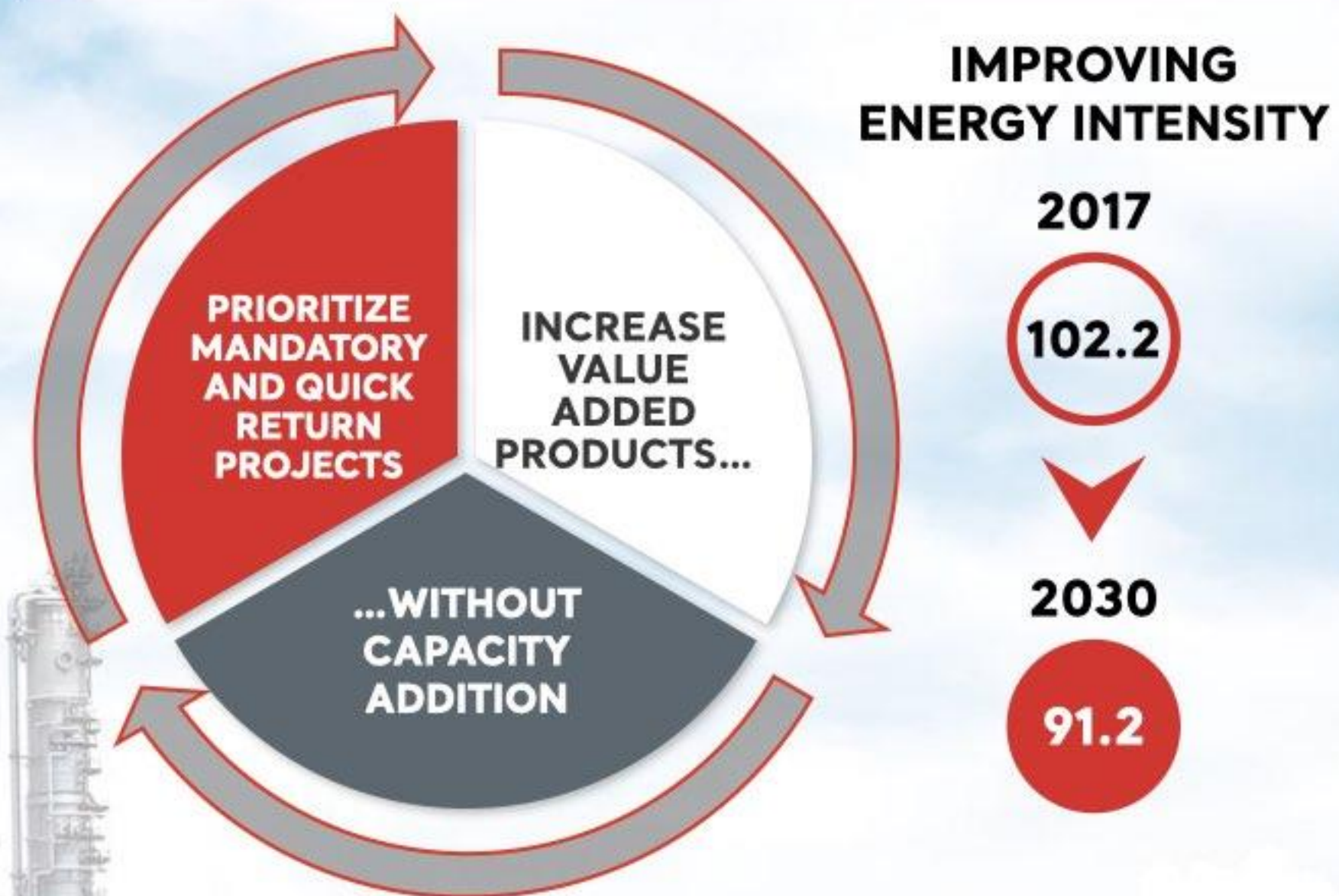
- **WE WILL CONTINUE TO INVEST TO**

DIVERSIFY PRODUCT PORTFOLIO THROUGH LIGHTER CHEMICAL STREAMS

IMPROVE REFINING PROFITABILITY

REDUCE SCOPE 1 & 2 EMISSIONS

REFINING INVESTMENTS



* Includes \$3.2 Billion RUP Investment

**Cumulative data between 2022-2035

SUSTAINABLE REFINING

ENERGY EFFICIENCY



20pps



30



713K TJ

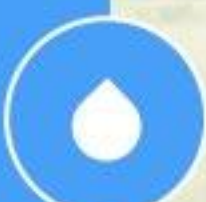


433K tons

WASTE WATER RECOVERY



102M m³



23%

ACHIEVEMENTS

Improvement in Energy Intensity since 2008

Energy efficiency projects in 2020

Annual energy saving in 2020

CO₂ emission reduction in the last 5 years

Waste water recovery in the last 5 years

Reduction in Crude Water Consumption unit of per crude oil processed

TARGETS

Energy Efficiency Roadmap



Operational Availability %



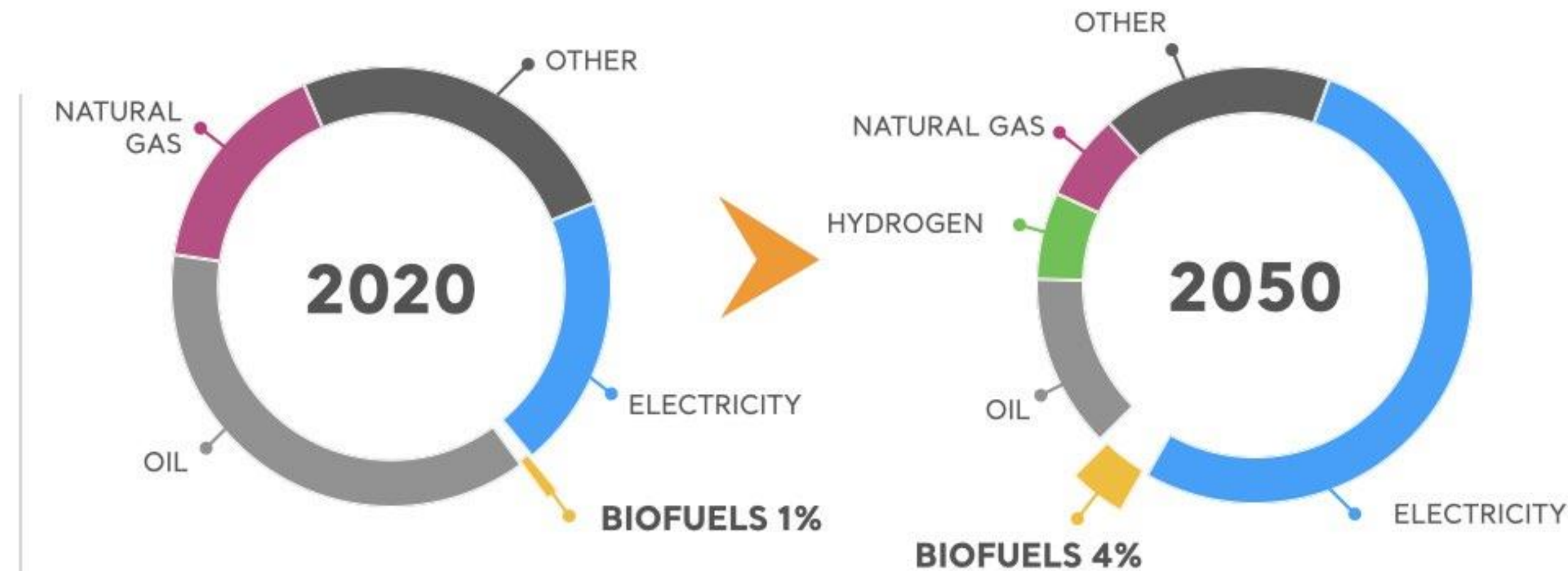


BIOFUELS

BIOFUELS

MARKET OUTLOOK

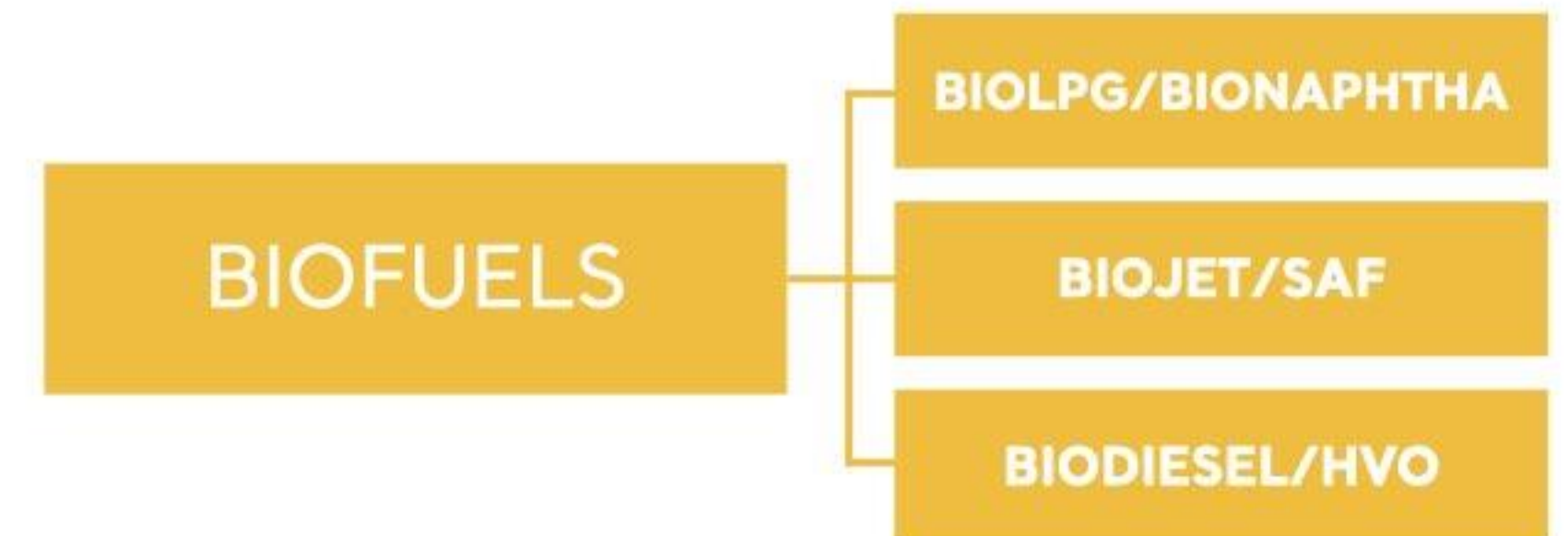
Global Biofuel Consumption* (EJ)



* Source: IEA, Net Zero by 2050: A Roadmap for the Global Energy Sector

FEEDSTOCK ALTERNATIVES

| | | | | | |
|--|---|---|---|---|---|
|  | 1ST GEN. BIOFUELS |  | 2ND GEN. BIOFUELS |  | 3RD GEN. BIOFUELS |
| | FOOD-BASED AGRICULTURAL PRODUCTS | | NON-FOOD RENEWABLE RESOURCES AND WASTE | | ALGAE AND SPECIALLY PRODUCED BIOMASS |





**OUR FOCUS: BECOMING THE
LEAD SAF SUPPLIER IN TURKEY**

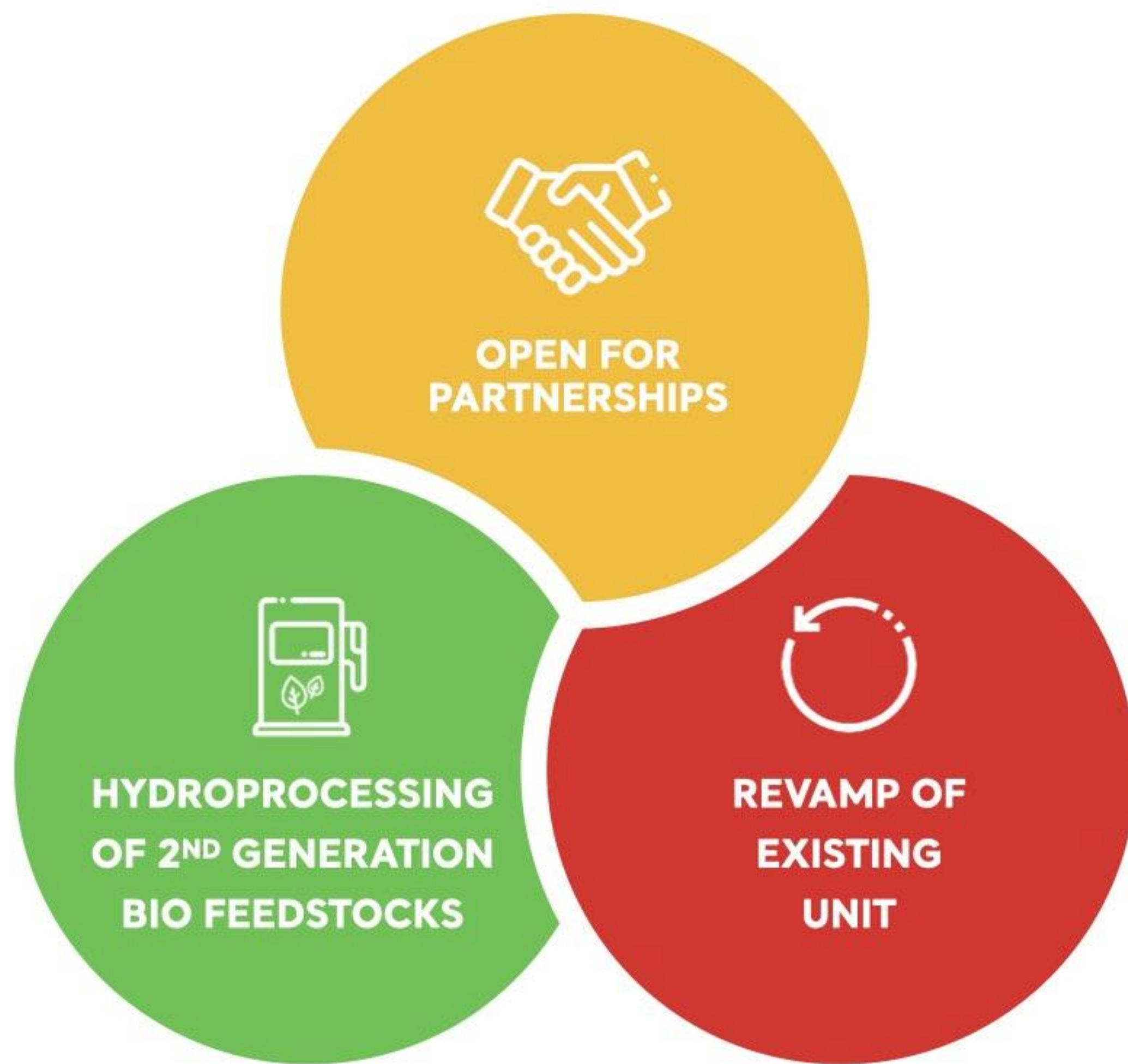
**OFFERS LONG TERM HIGH
PROFITABILITY**

**BEST "EMISSION REDUCING
ALTERNATIVE" FOR AVIATION**

**REDUCES GHG EMISSIONS MORE
THAN 50%* vs FOSSIL JET FUEL**

*** Source: Estimate based on CORSIA Eligible Fuels Life Cycle Assessment Methodologies**

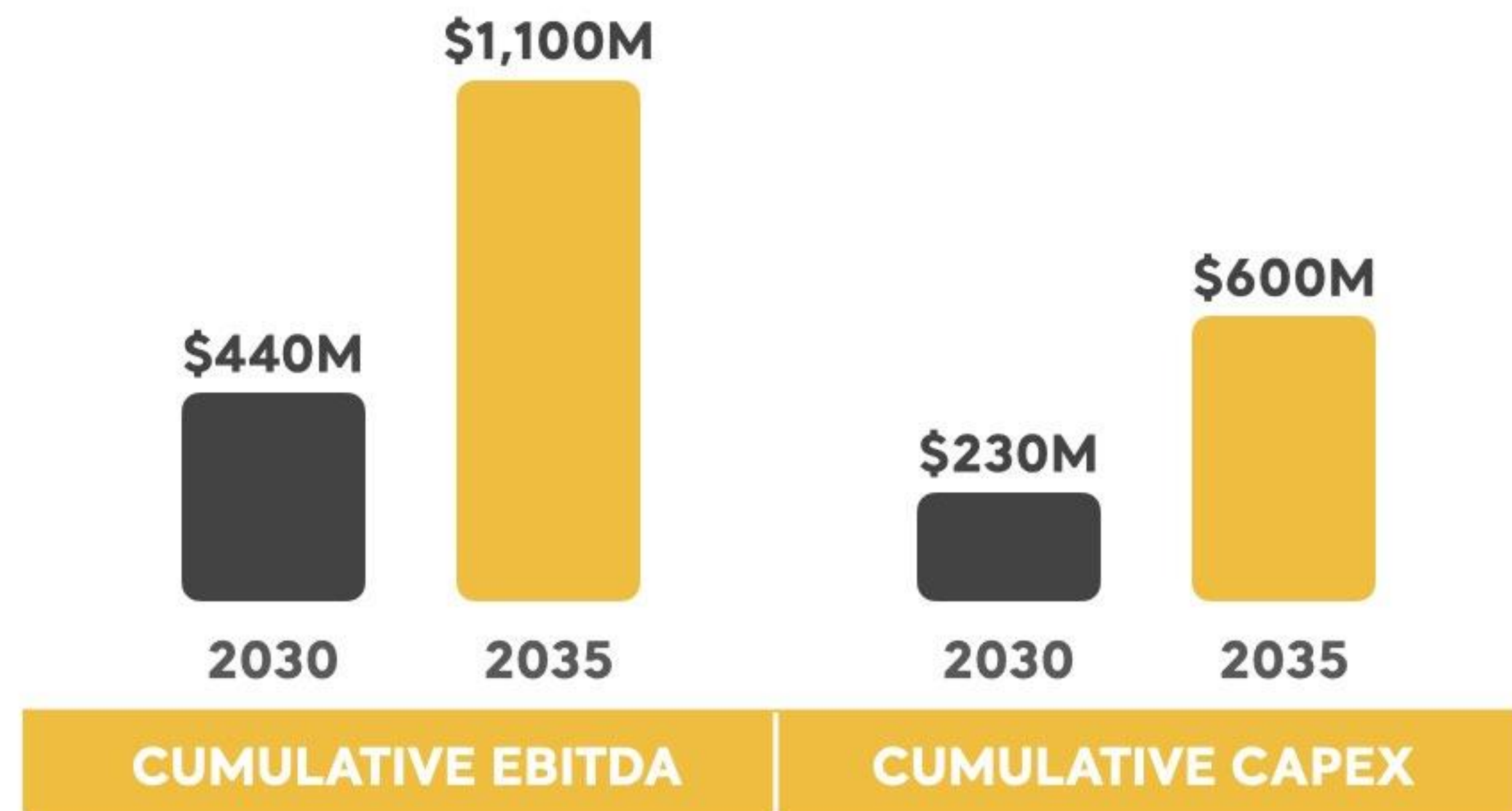
BIOFUELS BUSINESS PLAN



CONVERT EXISTING UNIT IN IZMIR WITH
~\$230M CAPEX TO BE FINALIZED IN 2026

- 400 kton/year biofuel production capacity at the first stage
- ~10% of our jet fuel sales will be **SAF by 2030**
- Reach **75% SAF production** yield in (~300 kton/year)

SAF PRODUCTION CAPACITY WILL TRIPLE BY
2035 WITH FRONT LOADED CAPEX

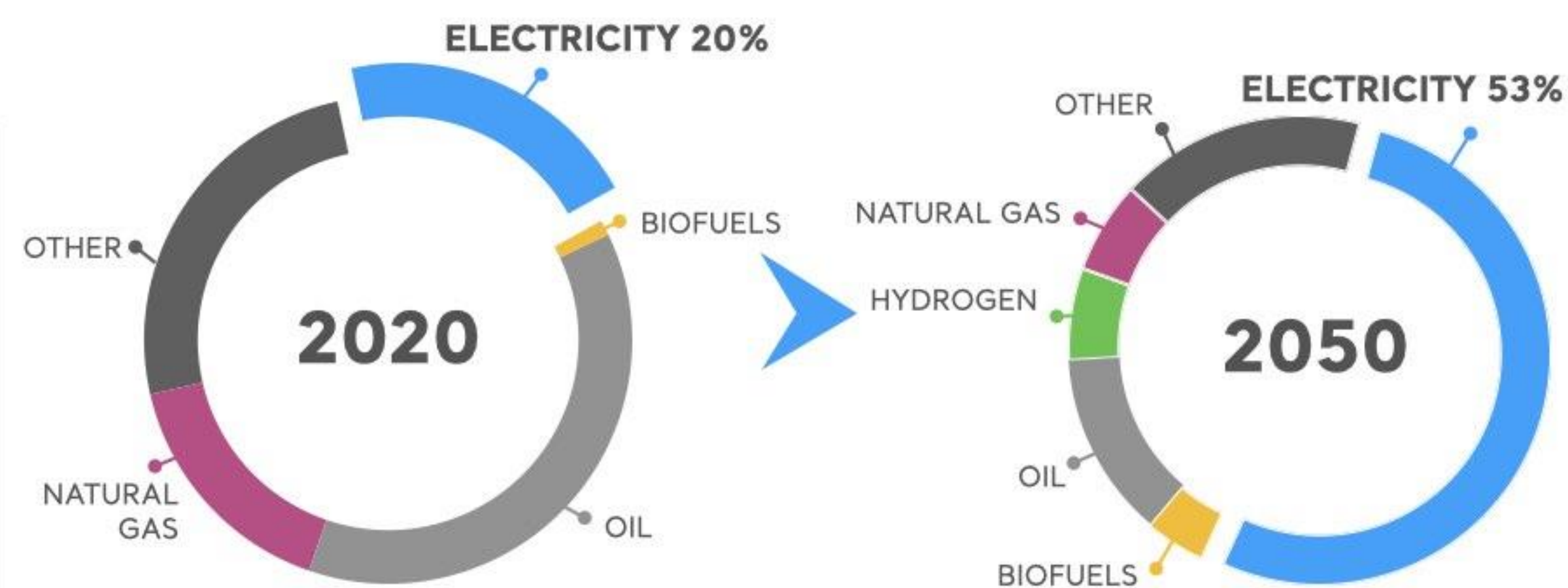
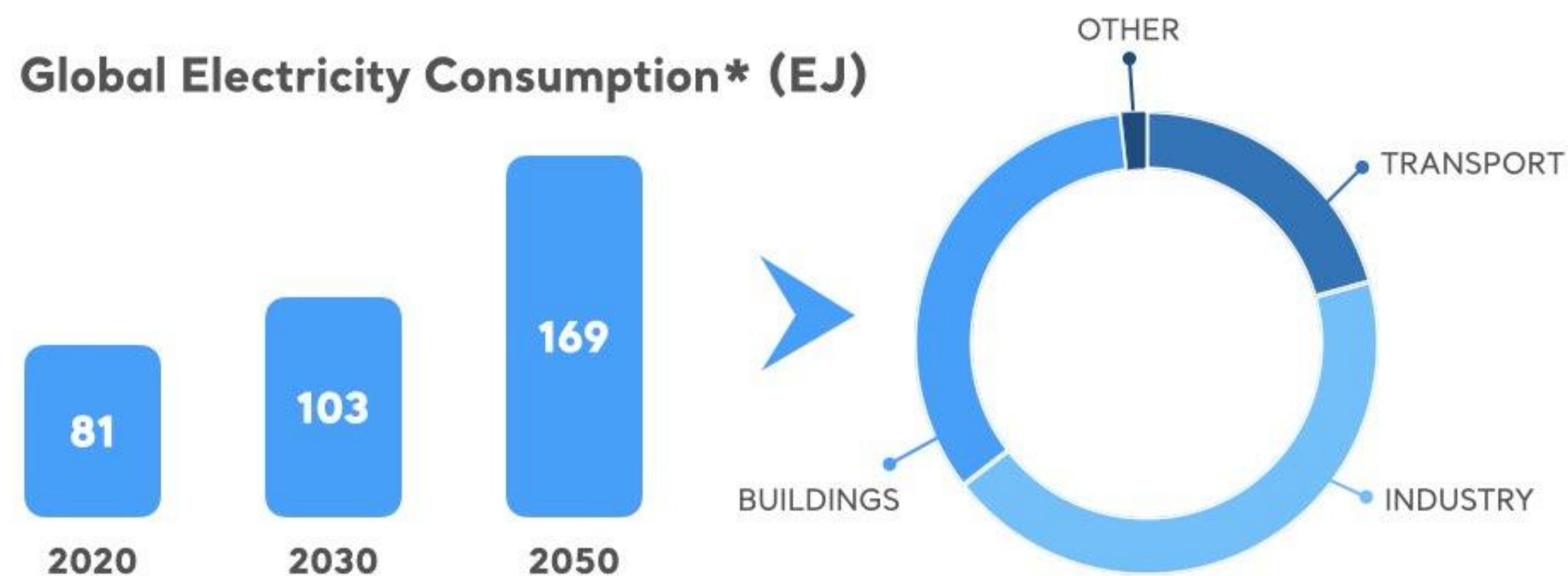


ZERO CARBON ELECTRICITY



ZERO CARBON ELECTRICITY

MARKET OUTLOOK



* Source: IEA, Net Zero by 2050: A Roadmap for the Global Energy Sector

OUR FOCUS

INTEGRATING **ZERO CARBON ELECTRICITY** TO PRODUCE **GREEN H₂**

ELECTRICITY

ZERO CARBON
ELECTRICITY

PPA

WIND

SOLAR

OTHERS

Note: "Zero Carbon Electricity" definition includes wind, solar, hydro, wave, nuclear etc.

ZERO CARBON ELECTRICITY BUSINESS PLAN

INVESTING IN ZERO CARBON ELECTRICITY

- Use majority of **zero carbon electricity** to produce **Green H₂** for our refinery processes and sales to heavy transportation and logistics
- Sell remaining **zero carbon electricity**
- **Procure zero carbon electricity** (~50% of total need) via PPAs to optimize capex/cogs balance



ZERO CARBON ELECTRICITY'S ROLE IN ENERGY TRANSITION

PRODUCTION OF
GREEN HYDROGEN

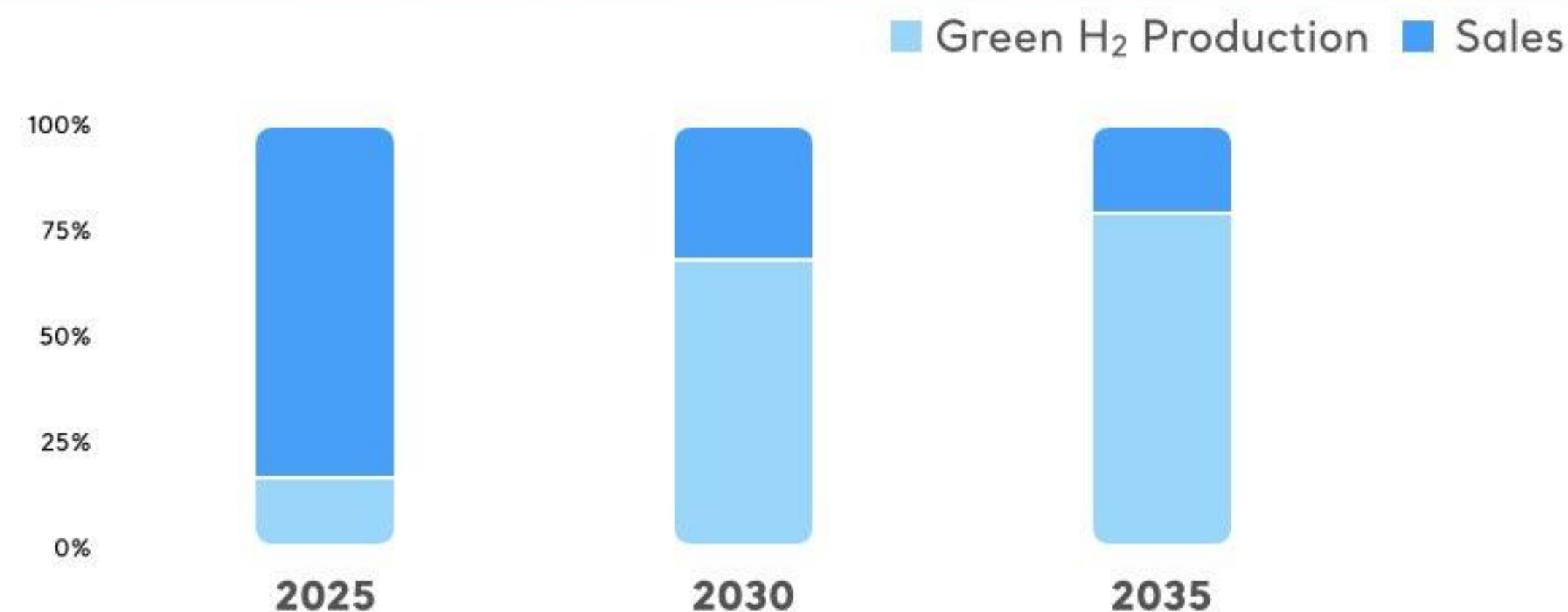
SELLING **ZERO CARBON
ELECTRICITY**

POWERING
**OTHER CLEAN
TECHNOLOGIES**

TUPRAS BATMAN SOLAR INSTALLATION



OUTLOOK FOR ZERO CARBON ELECTRICITY UTILIZATION





ZERO CARBON ELECTRICITY ACTIONS & TARGETS

- Completed study for **Solar** and **Wind** installations at our refineries (potential to install up to **300 MW**)
- Installed **2 MW Solar PV** to **Batman** In 2021, to be followed by **70 MW** in **Kirikkale**
- Exploring areas to **reduce CO₂ emissions** through **electrification of refinery processes**
- Main portion of profits from **zero carbon electricity** investments is included in integrated **Green H₂** margins

INSTALLED CAPACITY

BY 2030: **~1 GW** BY 2035: **~2.5 GW**



GREEN HYDROGEN



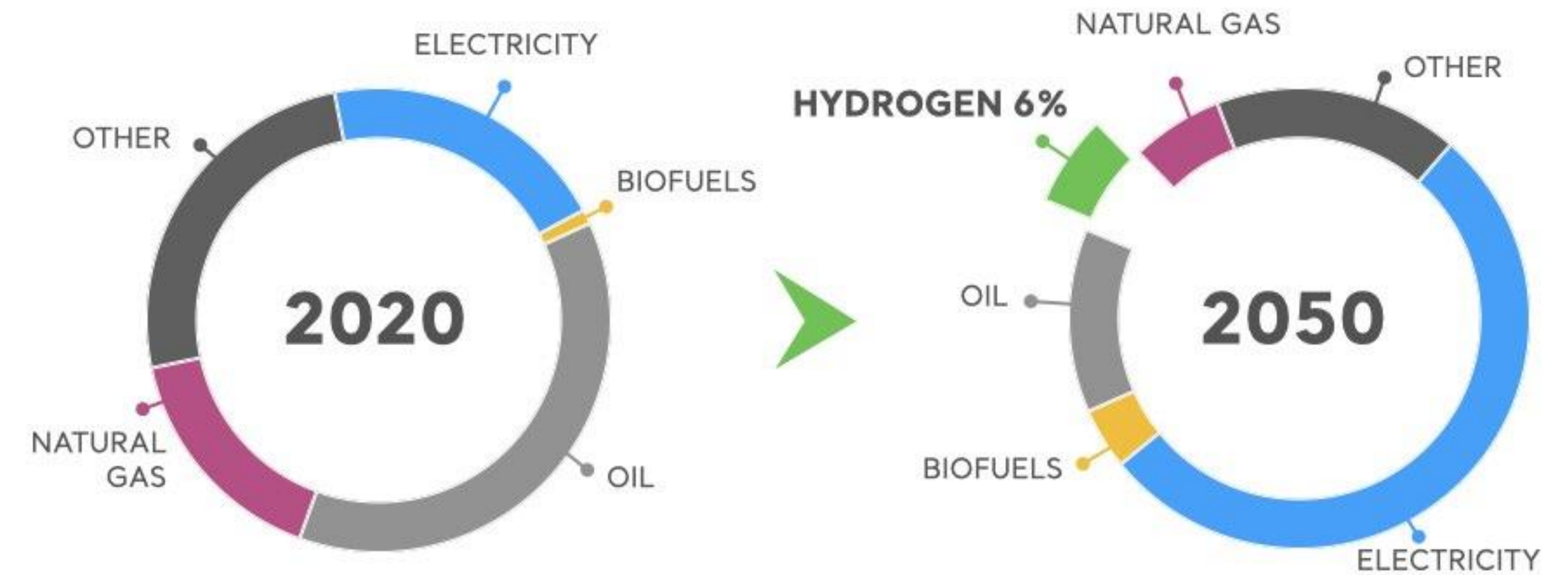
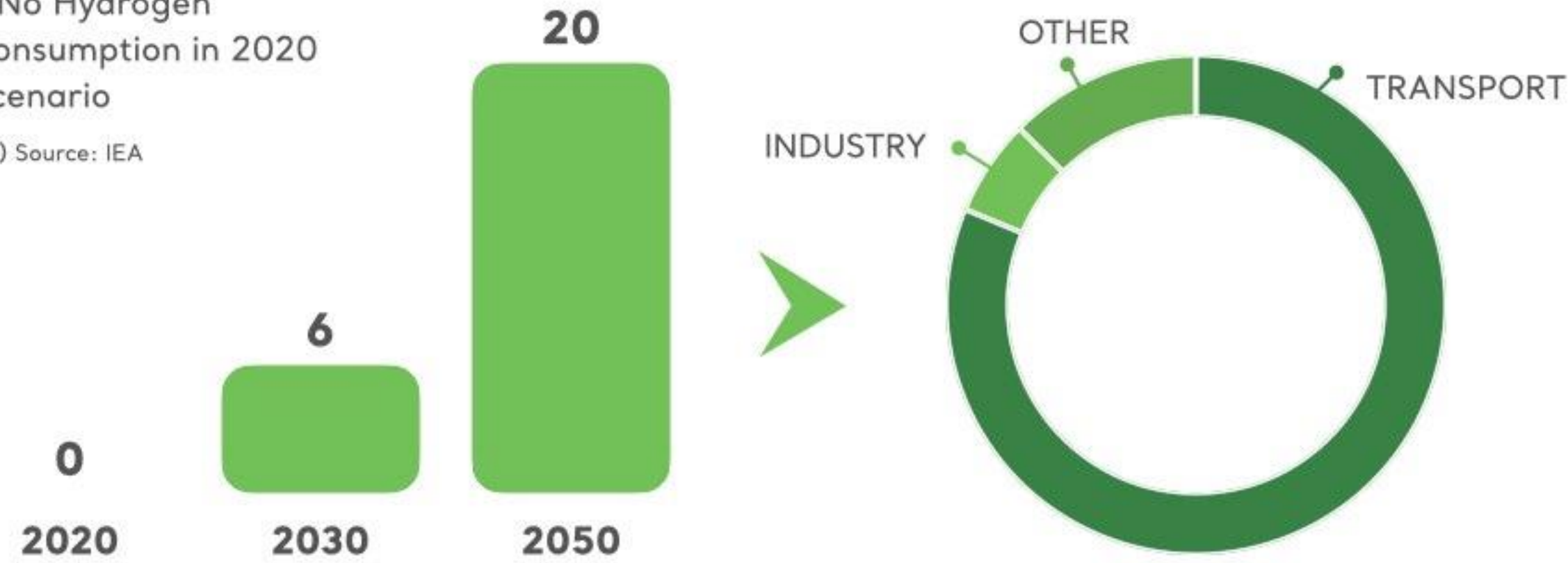
GREEN HYDROGEN

MARKET OUTLOOK

Global Hydrogen Consumption as Fuel* (EJ)

*No Hydrogen consumption in 2020 scenario

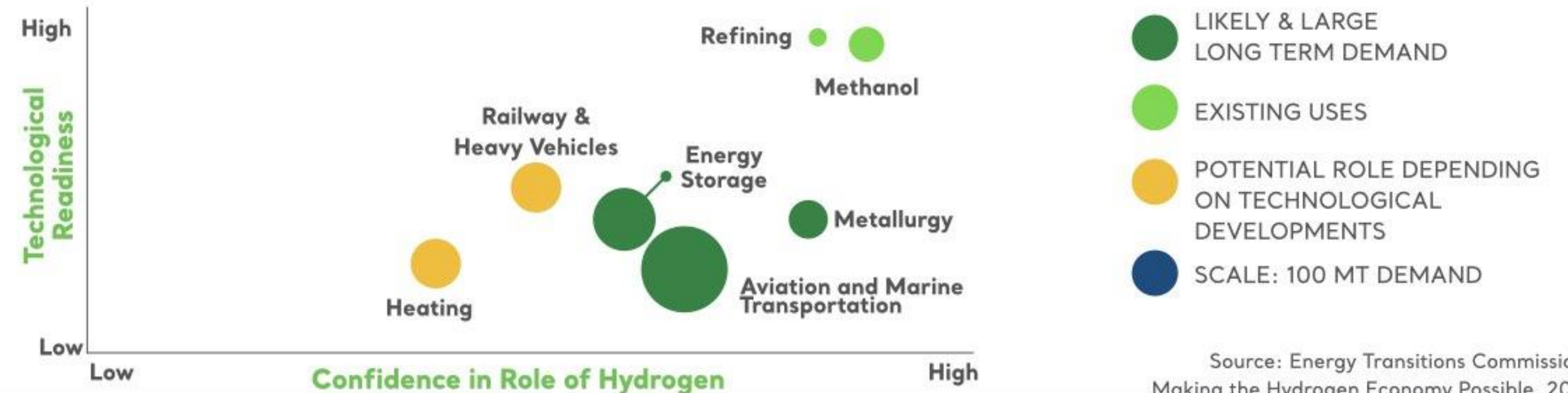
(*) Source: IEA



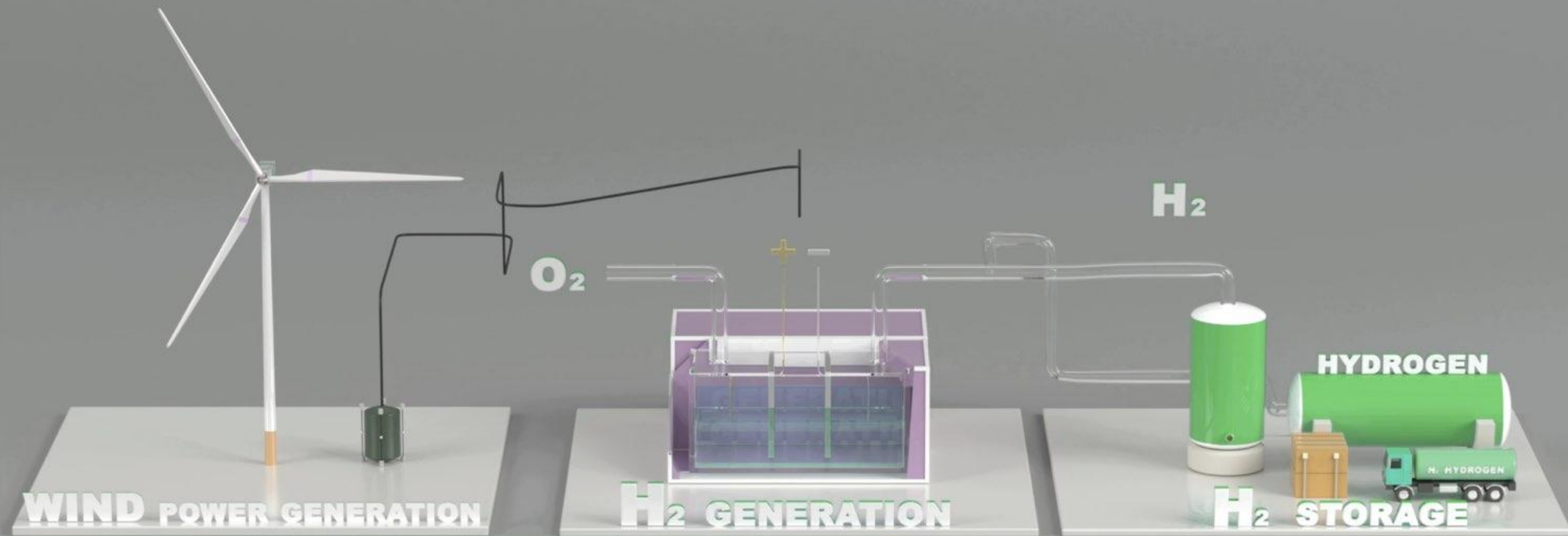
* Source: IEA, Net Zero by 2050: A Roadmap for the Global Energy Sector

POTENTIAL HYDROGEN USAGE

THE USES OF HYDROGEN WILL ALSO BE DIVERSIFIED WITH ENERGY TRANSFORMATION



Source: Energy Transitions Commission, Making the Hydrogen Economy Possible, 2021



OUR FOCUS: **GREEN HYDROGEN**



Capture **opportunities** in evolving markets such as **heavy transportation & logistics**



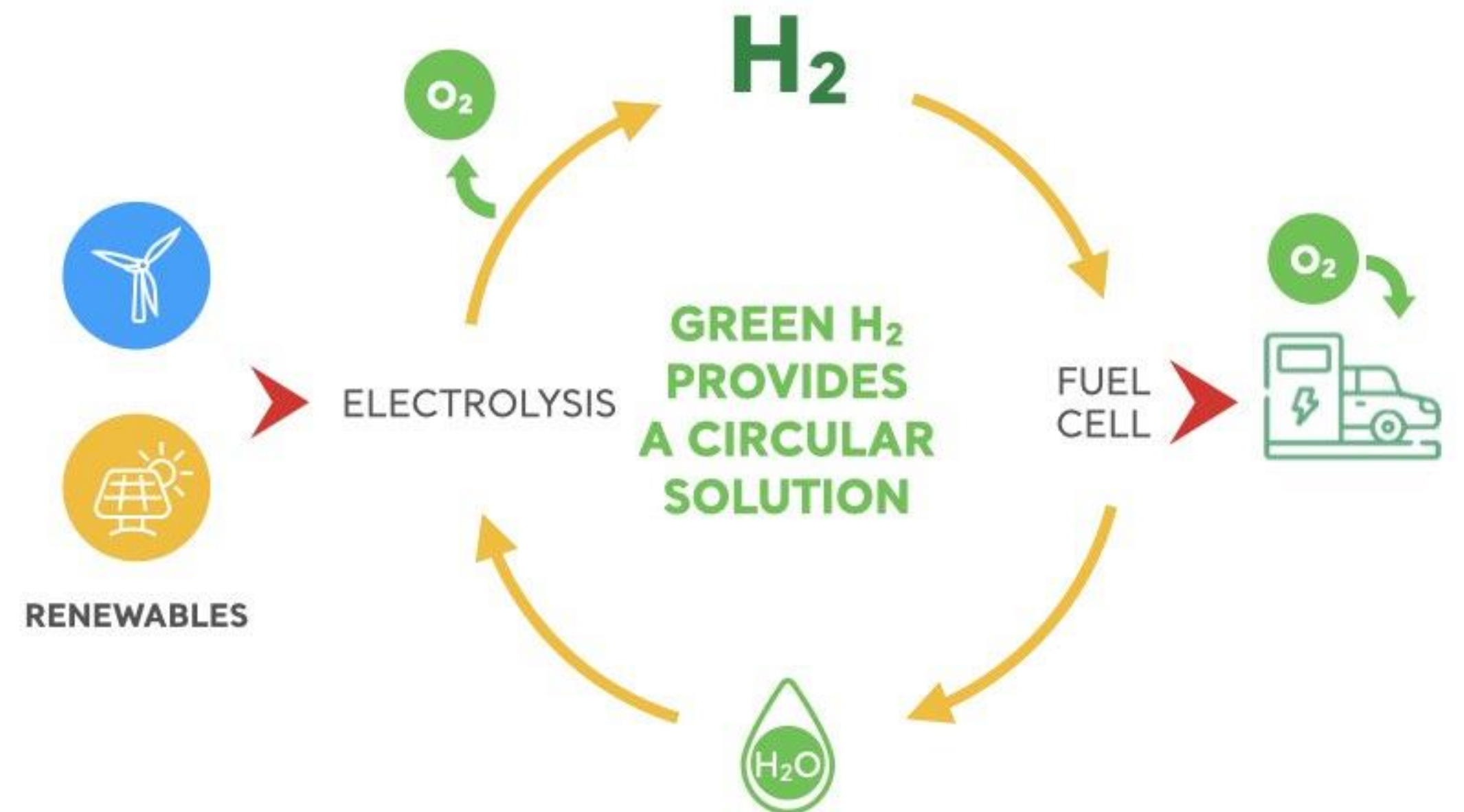
Reduce refining emissions from operations **by 25%** by 2040 with **H₂ unit conversion**

HYDROGEN

GREEN

CONVERT EXISTING
H₂ UNIT

TRANSPORTATION
FUEL



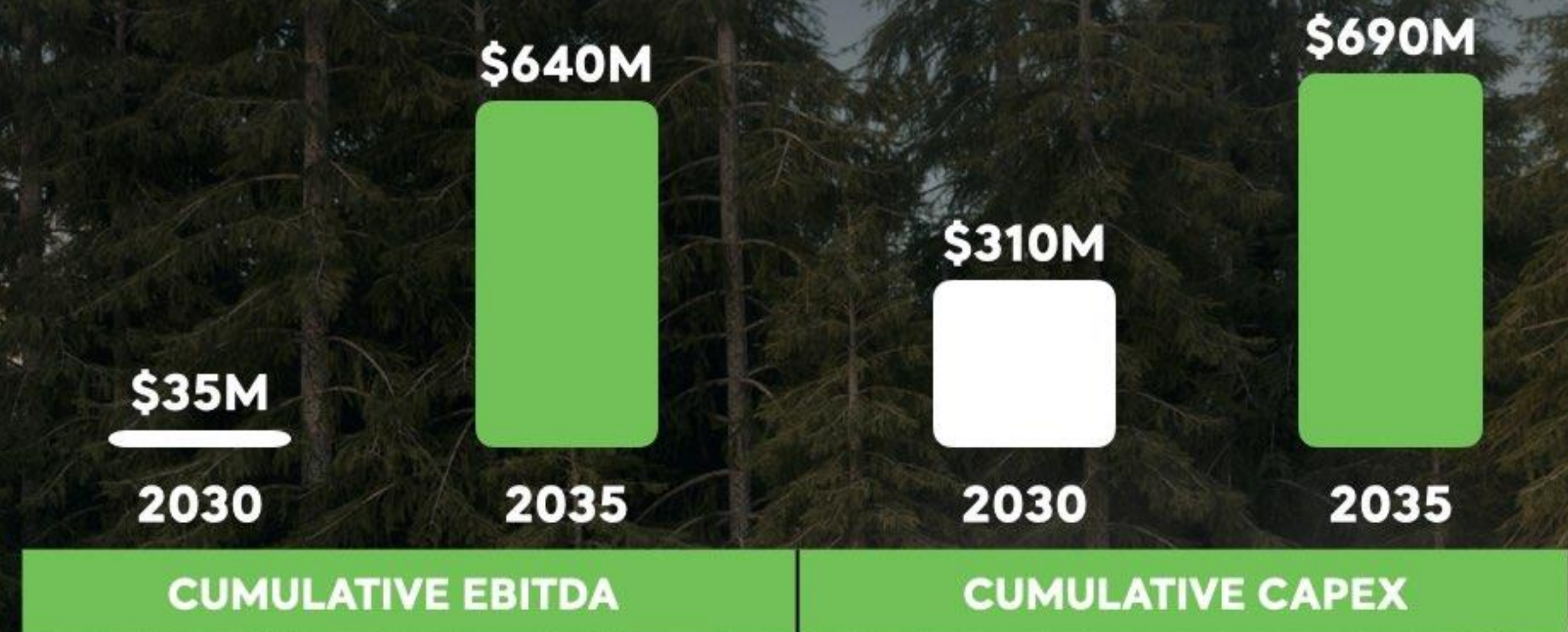
HYDROGEN BUSINESS PLAN

- Evaluating test site for a **20 MW H₂ electrolyzer, fueling station** and renewables to power them
- Start selling **Green H₂** to heavy transportation and logistics **by 2030**
- Convert all existing grey H₂ production **to green by 2040**

INSTALLED ELECTROLYZER CAPACITY

BY 2030: **~400 MW**

BY 2035: **~1 GW**



H₂
HYDROGEN
ENERGY
STORAGE

H₂

O₂

2020-2021



COOPERATION WITH
EMERALD TECHNOLOGY VENTURES



COLLABORATION WITH
NEW TECHNOLOGY STARTUPS
IN THE U.S.

2022



CO-INVESTMENT
EVALUATIONS WITH VC'S &
ENERGY COMPANIES

2023



DIRECT
INVESTMENT
EVALUATIONS

\$ 50 MILLION
ALLOCATED

2030

INDICATORS

- **10+ co-investments/direct investments**
- Collaboration with more than **20 startups**
- 5 venturing experts with the competence to invest in international startup companies

BENEFITS

- **Productivity increase and cost savings** with implemented startup technologies
- **New market opportunities**
- Business intelligence contributes to company decisions after 2030 on the path to Energy Transformation

CULTURAL TRANSFORMATION

- Business units eager to know startups & **new technologies**
- Business units have increased the speed of technology adoption and shortened the time to implement new technologies with an **agile culture and lean initiative**

The background is a dark blue field filled with a complex network of glowing blue lines and dots, resembling a digital circuit or data flow. Scattered throughout are various numerical values in different colors (blue, green, yellow, red) and sizes, some appearing to be floating or moving. The overall effect is one of high-tech connectivity and data processing.

DIGITALIZATION

DIGITALIZATION



**CONNECTED
PEOPLE**

INTERCONNECTED



**CONNECTED
OPERATIONS**



**CONNECTED
DIGITAL
PROCESSES**

SAFE

VALUE ORIENTED

LOW CARBON



OPERATIONAL
TRANSPARENCY



HIGH AUTOMATION
& HIGH EFFICIENCY



EMPLOYEE EFFICIENCY
& EXPERIENCE



LOW
CARBON



CYBER SECURITY &
TECHNICAL SAFETY



BENEFIT FROM
AI & MOBILITY

CREATING SKILLS OF THE FUTURE

Sustainable, Competitive & Forward Looking Tüpraş

ORGANIZATIONAL STRUCTURE

Create and deploy a lean new generation operating model, based on total business portfolio



LEADERSHIP & CULTURE

Create and implement a roadmap for Leadership Development and Cultural Progress to create the future of Tüpraş



EMPLOYEE EXPERIENCE

Create Tüpraş Employee Experience concept within the scope of the Future of Work



CAPABILITY & METHOD

Determine the capabilities that Tüpraş should have in the future. Create an implementation roadmap

SOCIAL & GOVERNANCE

STRONG POLICIES HAVE BEEN EFFECTIVELY IMPLEMENTED FOR YEARS



HUMAN RIGHTS



ANTI-BRIBERY,
ANTI-CORRUPTION



DONATION &
SPONSORSHIP



DISCLOSURE



COMPETITION
COMPLIANCE

TÜPRAŞ IS TAKING PLACE IN THESE SUSTAINABILITY INDICES



BORSA
İSTANBUL



MSCI



FTSE4Good



SUSTAINALYTICS

FEMALE REPRESENTATION IS THE KEY FACTOR IN OUR HR POLICIES

FEMALE REPRESENTATION IN
THE BOARD OF DIRECTORS
BY 2021

17%

FEMALE REPRESENTATION IN
THE BOARD OF DIRECTOR
IN THE NEXT 5 YEARS

25%

FEMALE REPRESENTATION IN
ALL MANAGEMENT LEVELS

24%

TARGETED RATE OF WOMEN
IN NEW RECRUITMENTS

50%

MAIN FIELDS OF R&D STUDIES



DIGITAL TRANSFORMATION & ROBOTICS



CARBON CAPTURE



WATER & WASTE MANAGEMENT



ENERGY MANAGEMENT



RENEWABLE FUELS



HYDROGEN TECHNOLOGIES



OPERATIONAL EFFICIENCY



Horizon2020
European Union Funding
for Research & Innovation

Tüpraş became
the most successful Turkish Company
in EU Horizon 2020

12 ongoing, **5** completed projects

Sustainable Development Goals
as an important guide for R&D efforts



FINANCIALS



We are sustainable and profitable.

Will **eliminate our scope 1&2 emissions by 2050** while executing our plan and achieving these results

\$350mn average CAPEX until 2035, totaling **\$5bn**.

ROACE will remain above 25% creating **~\$9bn total** FCF until 2035

With ample FCF, **Net Debt / EBITDA** will be below **<2.0x**

Will remain a **high dividend payer**, average **~ 80% dividend payout**

~\$5
BILLION

TOTAL
CAPEX

>25%

ROACE

~\$9
BILLION

TOTAL FCF

<2.0x

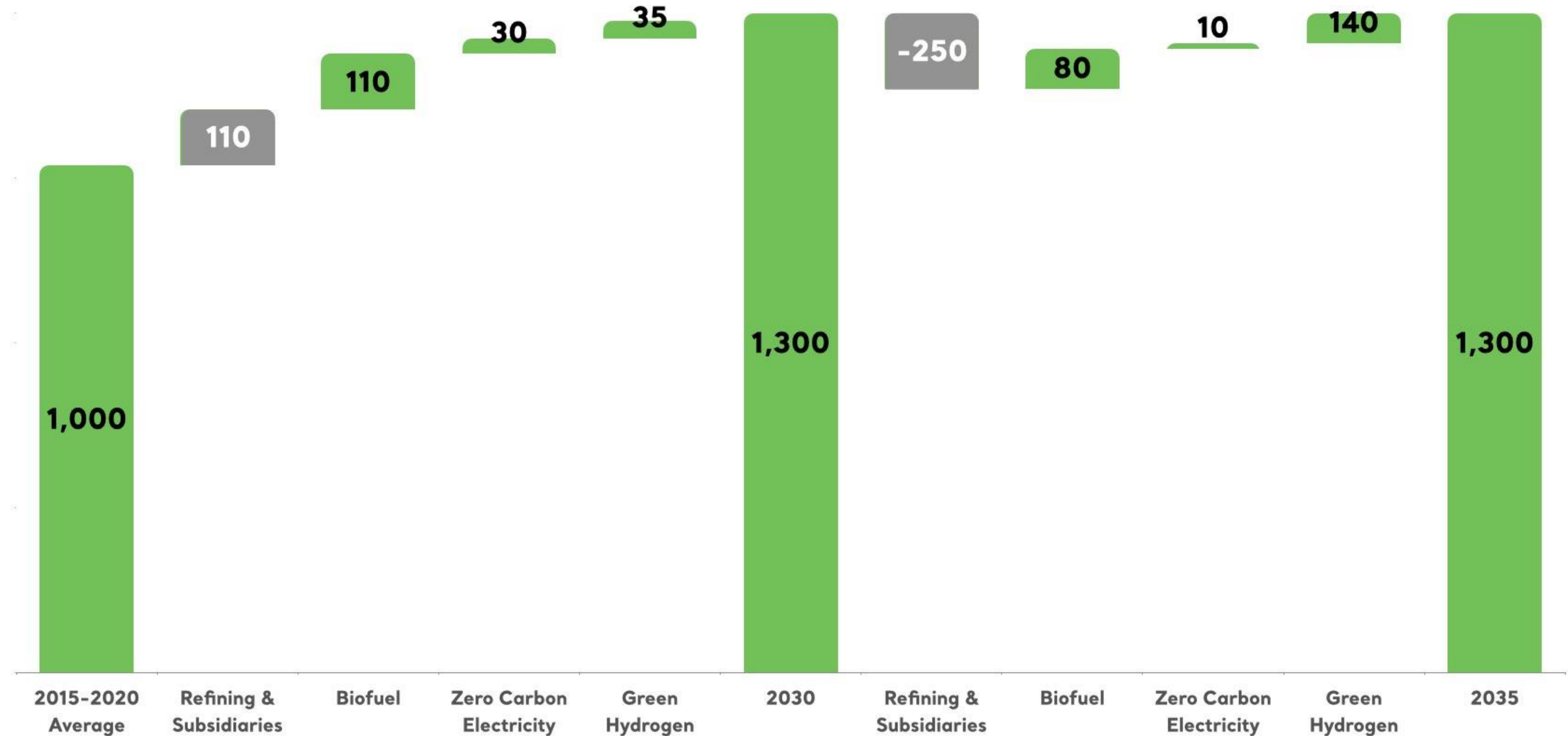
NET DEBT/EBITDA

~80%

AVG. DIVIDEND
PAYOUT

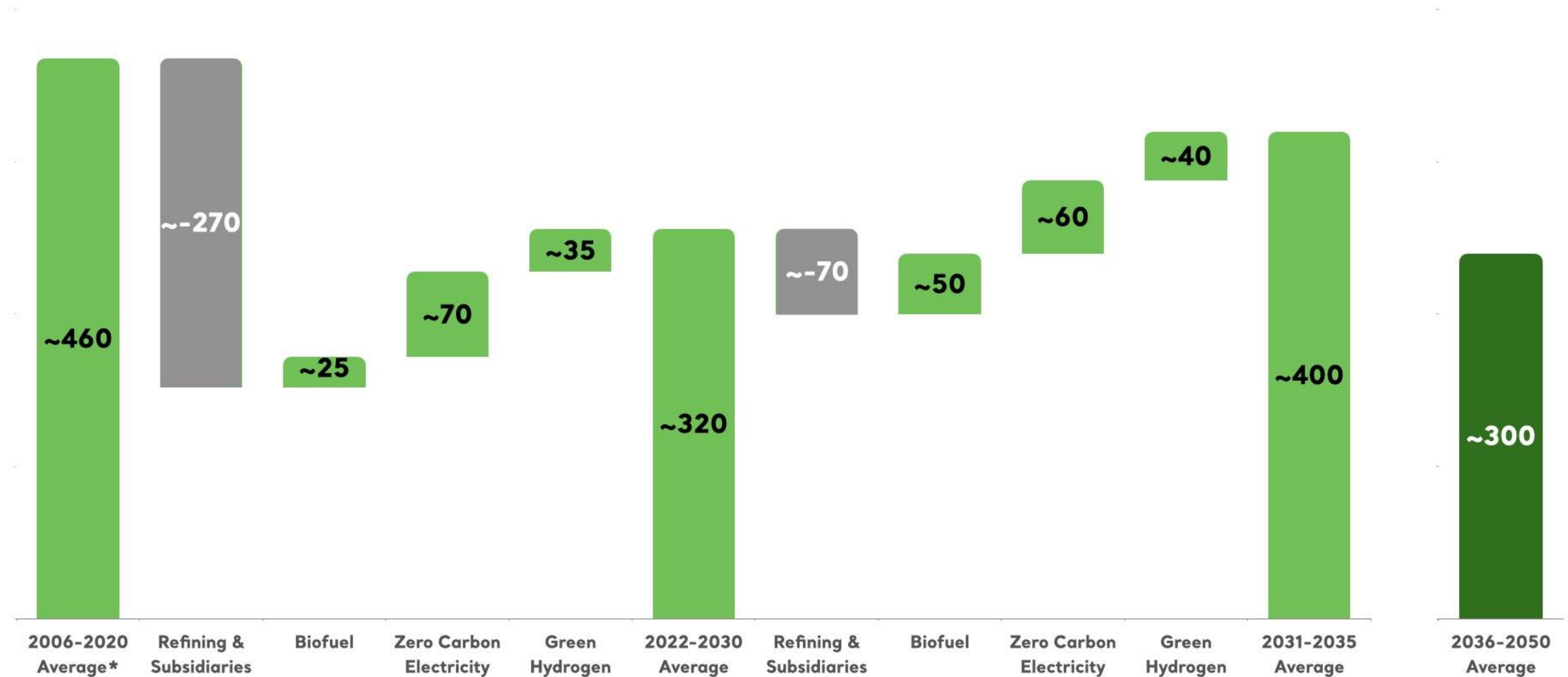
FINANCIAL TRANSITION EBITDA

BY BUSINESS (IN \$ MILLION)



FINANCIAL TRANSITION CAPEX

BY BUSINESS (IN \$ MILLION)

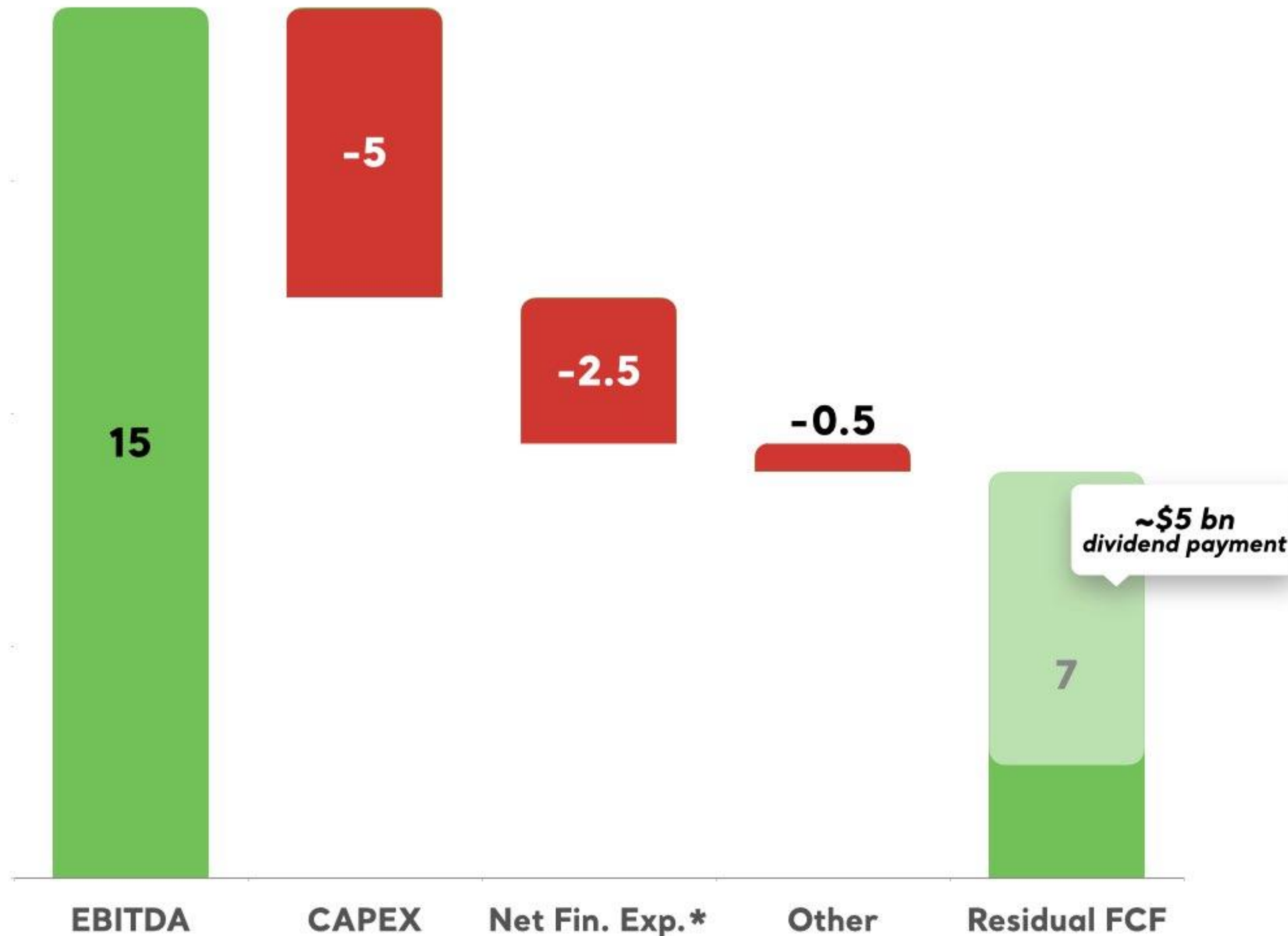


*Total consolidated investments including RUP (\$3.2 Bn) which was completed in 2015

FINANCIAL TRANSITION

CUMULATIVE CASH FLOW BRIDGE

2022- 2035



SOUND FINANCIAL PLAN

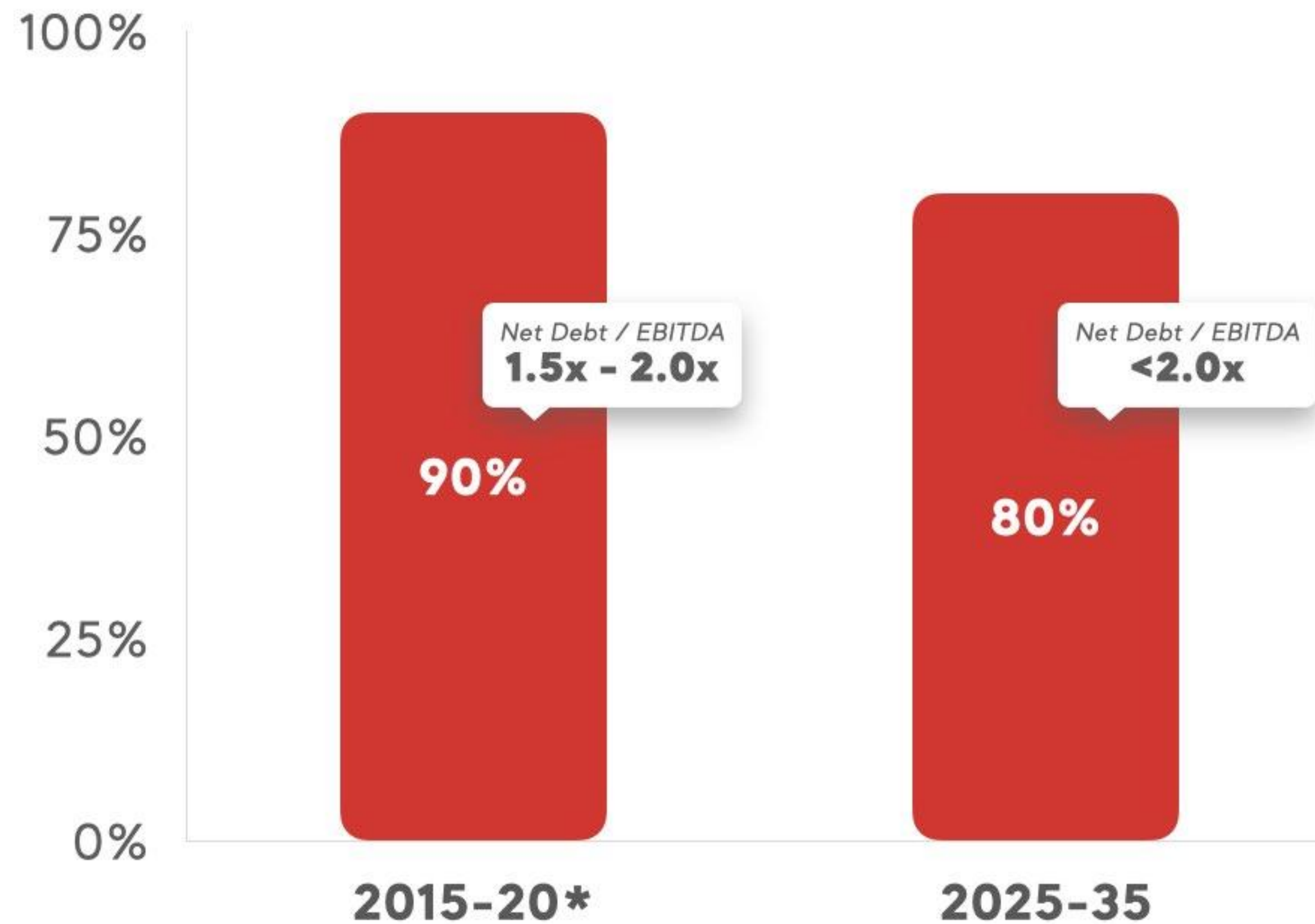
- Superior EBITDA generation and disciplined CAPEX plan leads to low external funding requirement
- Strong FCF generation ensures **strong dividend potential**

* Consists of net additional funding and related financial expenses

FINANCIAL TRANSITION

DIVIDEND

DIVIDEND PAYOUT



Our new business model enables us to pay **~80% average dividends** and we will remain as a high dividend payer

* Years without dividend payments are not taken into account. Dividend payout ratio is calculated according to distributable net income based on Statutory Accounts.

 **Tüpraş**  **Koç**

