



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.

Neither Tüpraş nor any of its directors, managers or employees nor any other person shall have any liability whatsoever for any loss arising from use of this presentation.

A photograph of an industrial facility, likely a refinery or power plant, featuring several tall, cylindrical chimneys and smokestacks. The structures are interconnected by a complex network of pipes, walkways, and metal scaffolding. One of the central smokestacks has a small flame or light at its top. The sky in the background is overcast and grey. The overall scene conveys a sense of large-scale industrial operations.

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

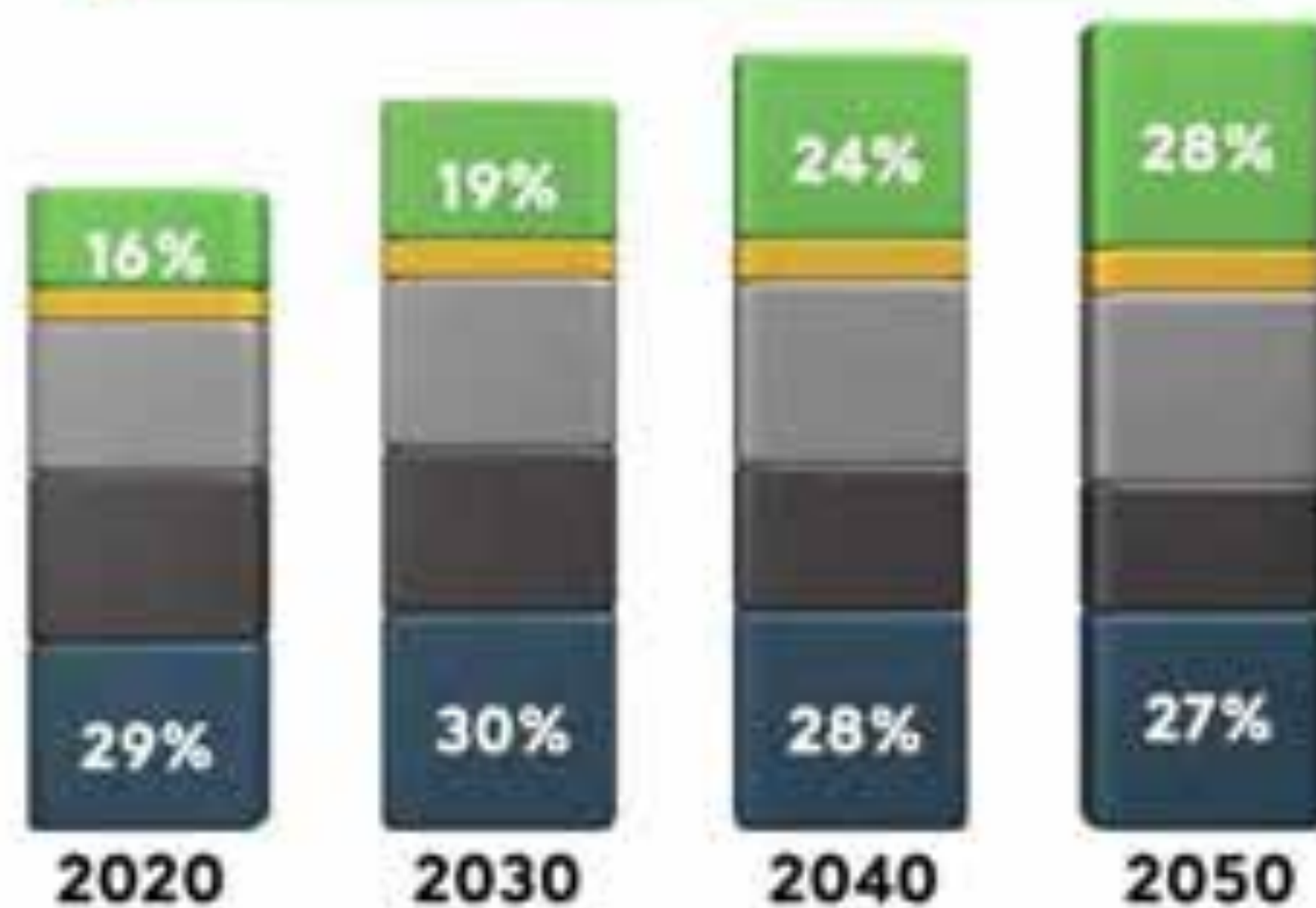


WE WILL LEAD TURKEY'S ENERGY TRANSFORMATION,
BY CREATING A DIVERSIFIED PORTFOLIO

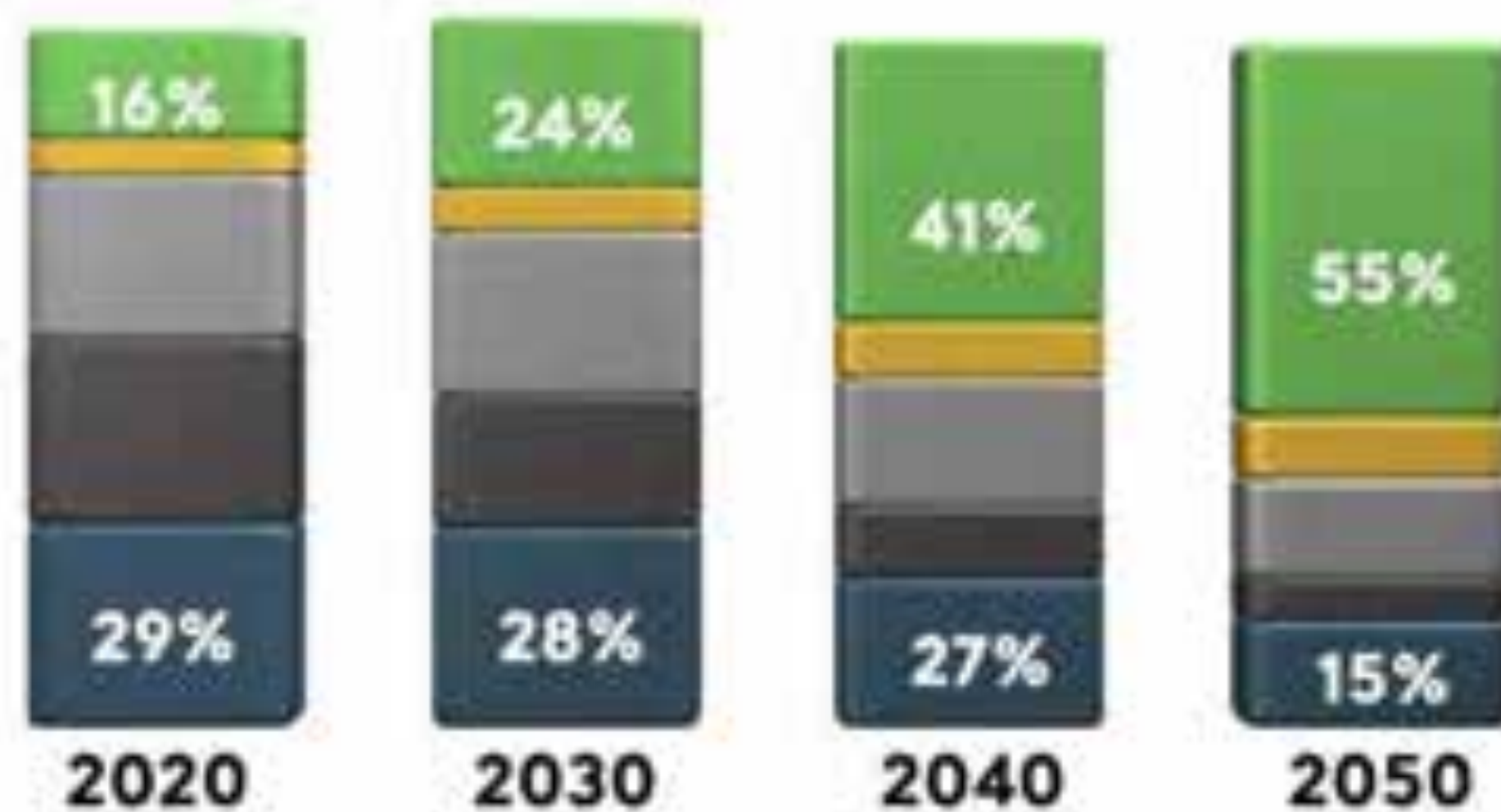


GLOBAL PRIMARY ENERGY DEMAND OUTLOOK

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**.

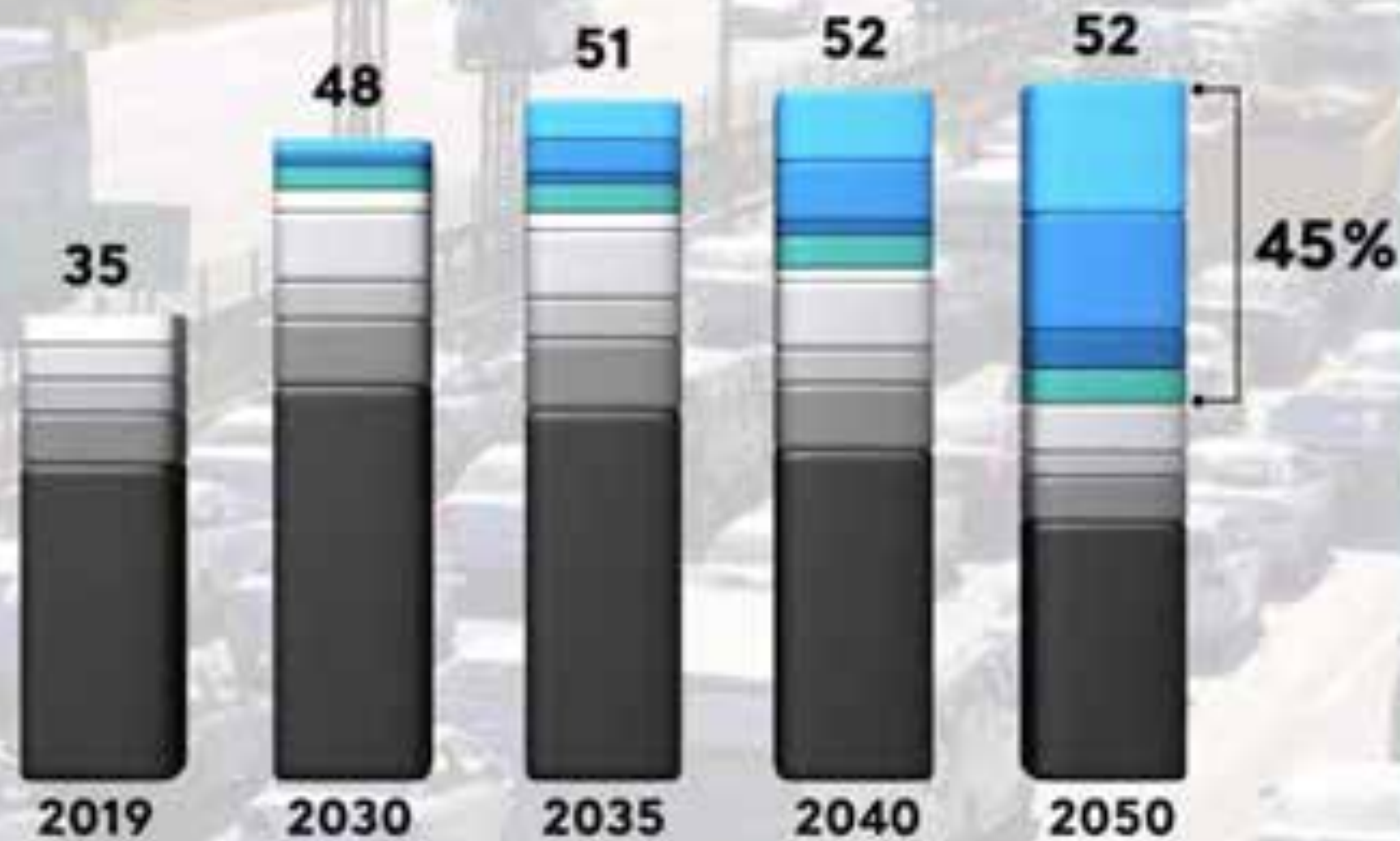


Oil demand moves onto a downward trajectory, but it will be the significant energy source during **transition period**.

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

A photograph of a wind farm with numerous white wind turbines stretching across a green field under a blue sky with light clouds. The text is overlaid on the upper half of the image.

STRATEGIC *TRANSITION* PLAN

OUR AMBITION:

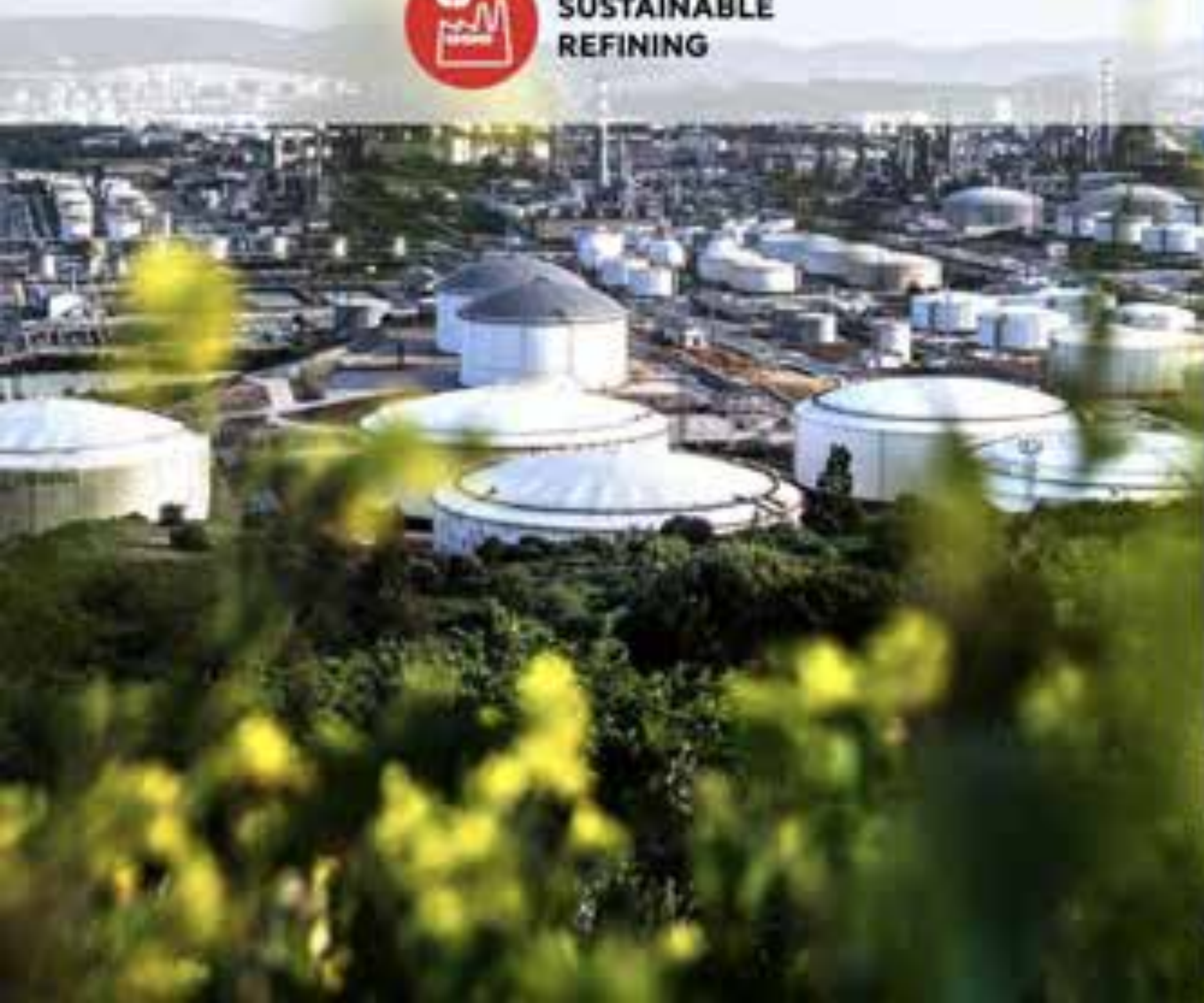
THE LEADER OF FUTURE ENERGY IN TURKEY

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

Sustainable Refining
Sustainable Aviation Fuel
Zero Carbon Electricity
Green Hydrogen
BASE YEAR 2017 Scope 1 & 2 CO ₂ Emission Reduction

SHARE IN CAPEX

SHARE IN EBITDA

SHARE IN CAPEX

SHARE IN EBITDA

~60%

~90%

~30%

~70%

~40%

~10%

~70%

~30%

27%

35%

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 %



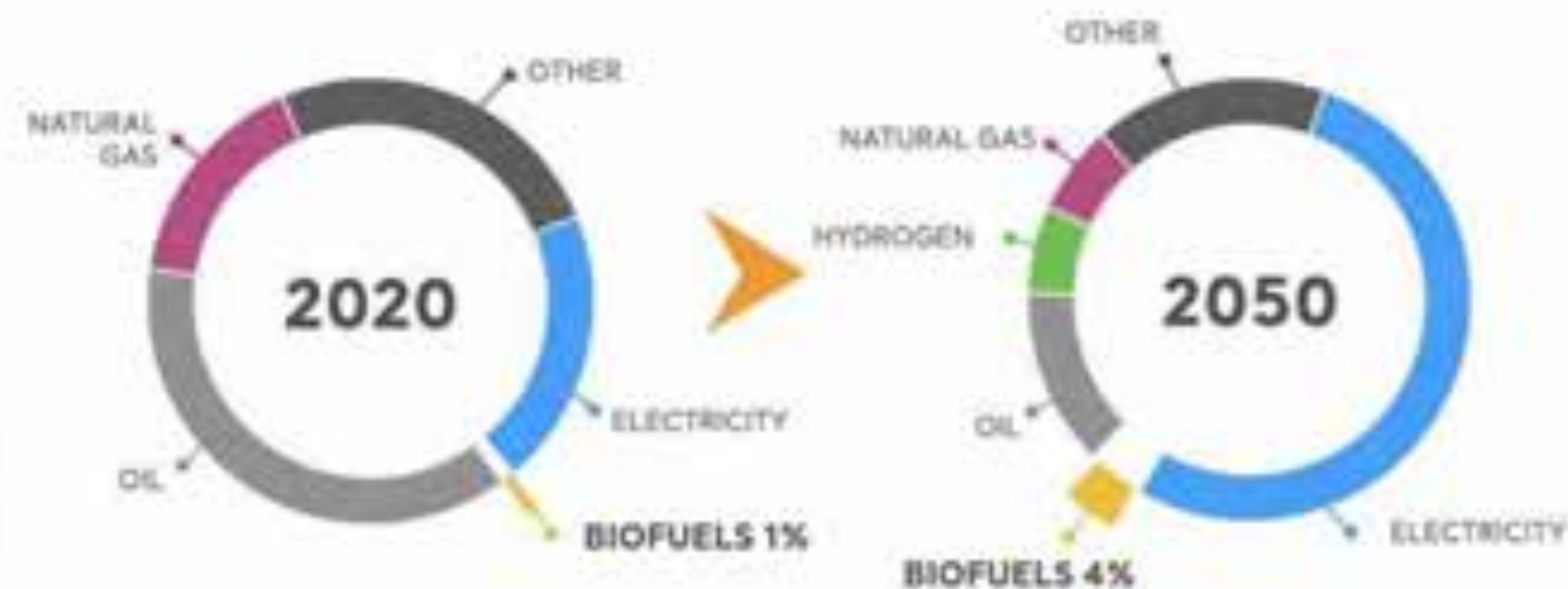


BIOFUELS

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

BIOFUELS

BIOLPG/BIONAPHTHA

BIOJET/SAF

BIODIESEL/HVO



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

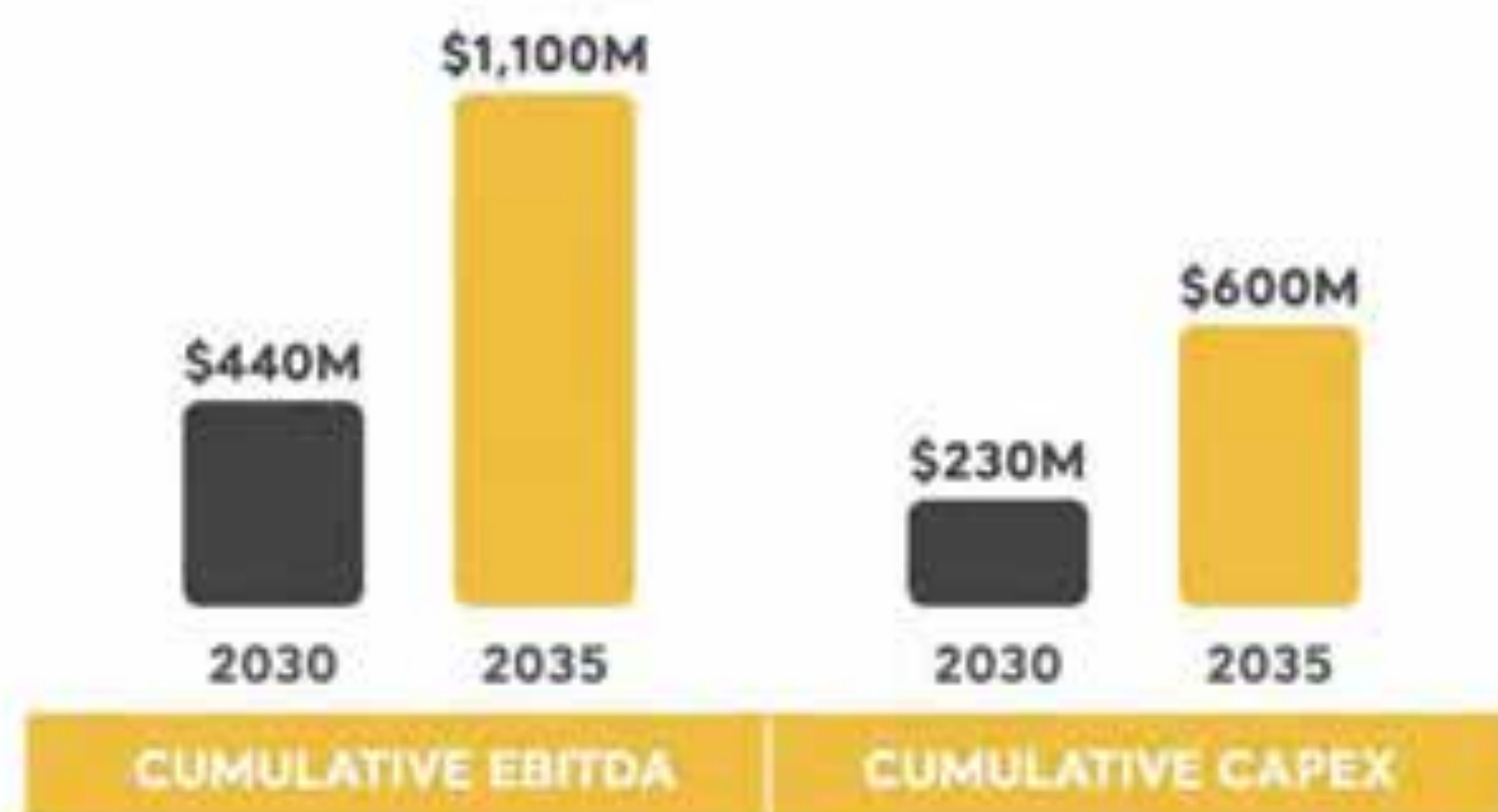
BIOFUELS BUSINESS PLAN



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

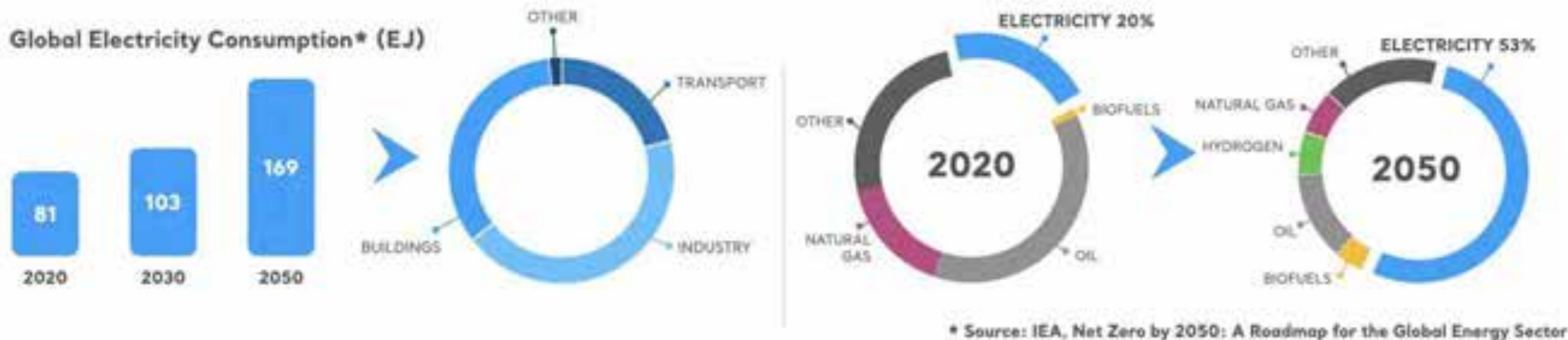


ZERO CARBON ELECTRICITY



ZERO CARBON ELECTRICITY

MARKET OUTLOOK



OUR FOCUS

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

ELECTRICITY

ZERO CARBON ELECTRICITY

PPA

WIND

SOLAR

OTHERS

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

TUPRAS BATMAN SOLAR INSTALLATION



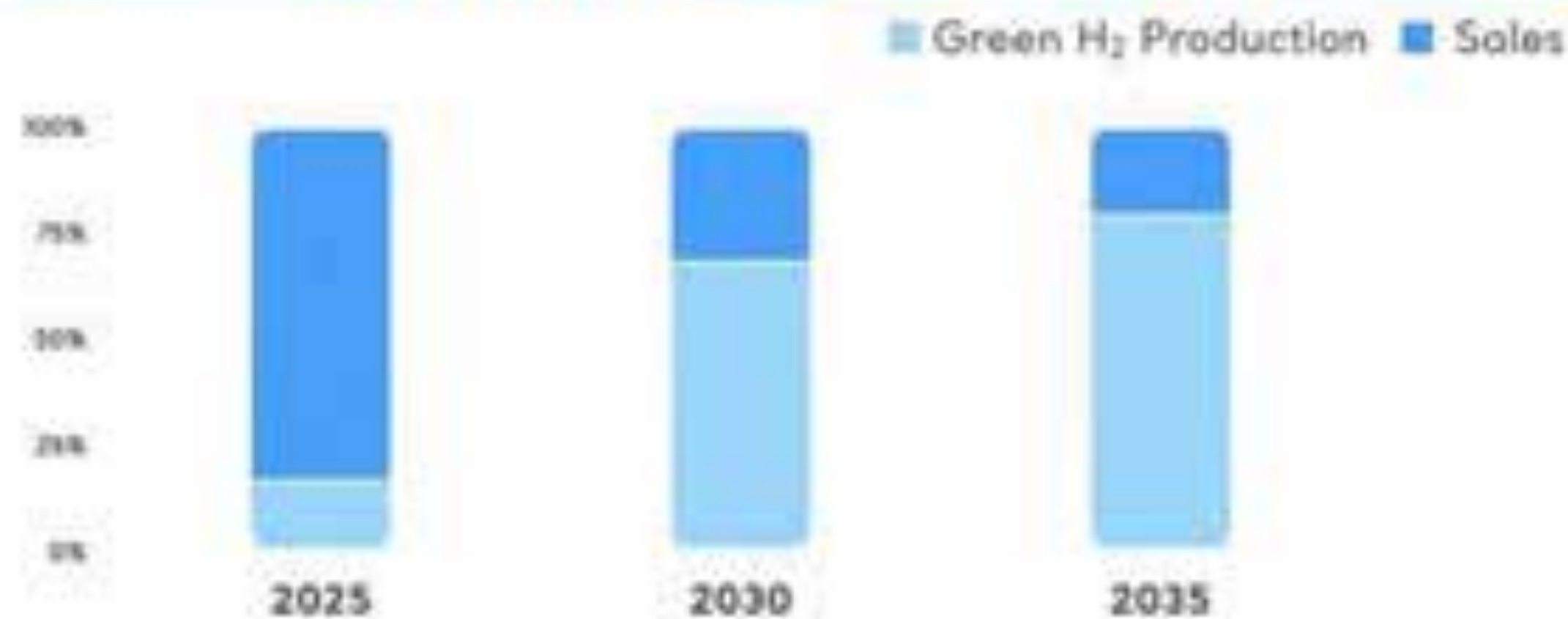
ZERO CARBON ELECTRICITY'S ROLE IN ENERGY TRANSITION

PRODUCTION OF
GREEN HYDROGEN

SELLING ZERO CARBON
ELECTRICITY

POWERING
OTHER CLEAN
TECHNOLOGIES

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 Kırıkkale
- 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

A modern green hydrogen refueling station. The station features a large, white, cantilevered canopy supported by green pillars. Underneath the canopy, there is a white hydrogen dispenser with a green H_2 logo and a digital display. To the left of the dispenser, a large white storage tank is visible, also marked with a green H_2 logo. The background shows a cloudy sky and a paved area.

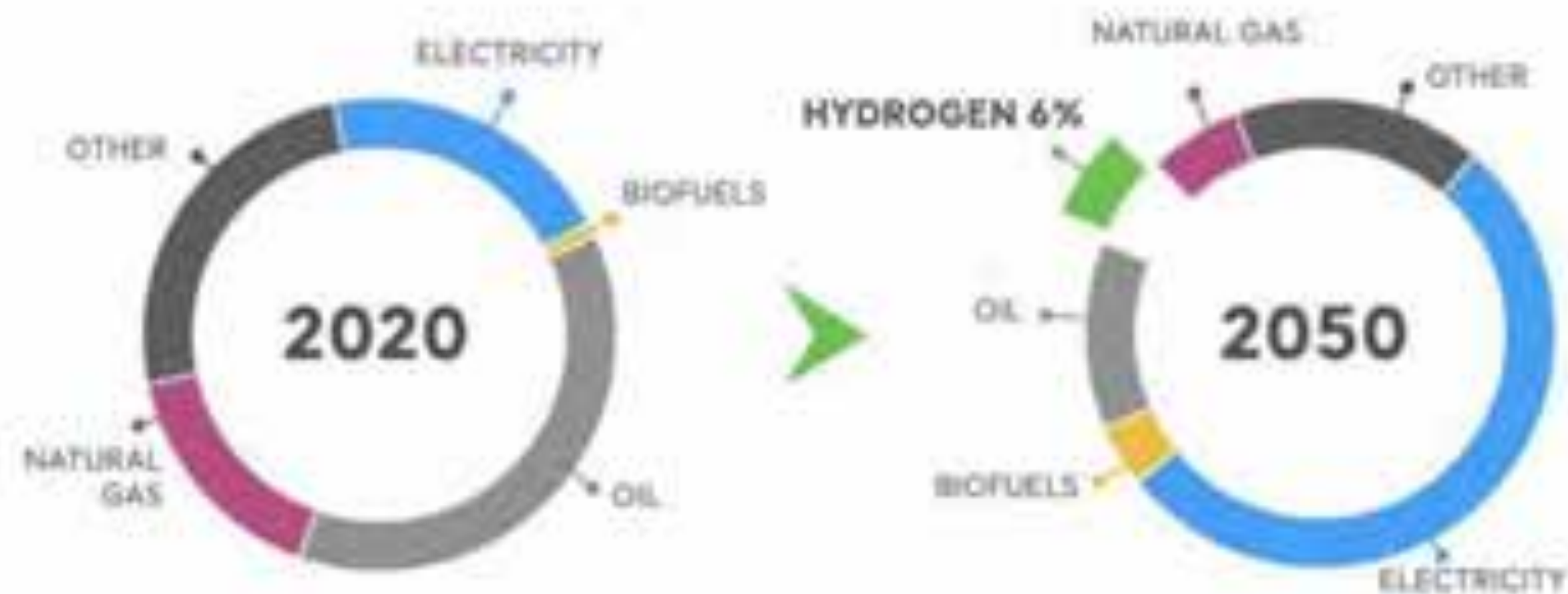
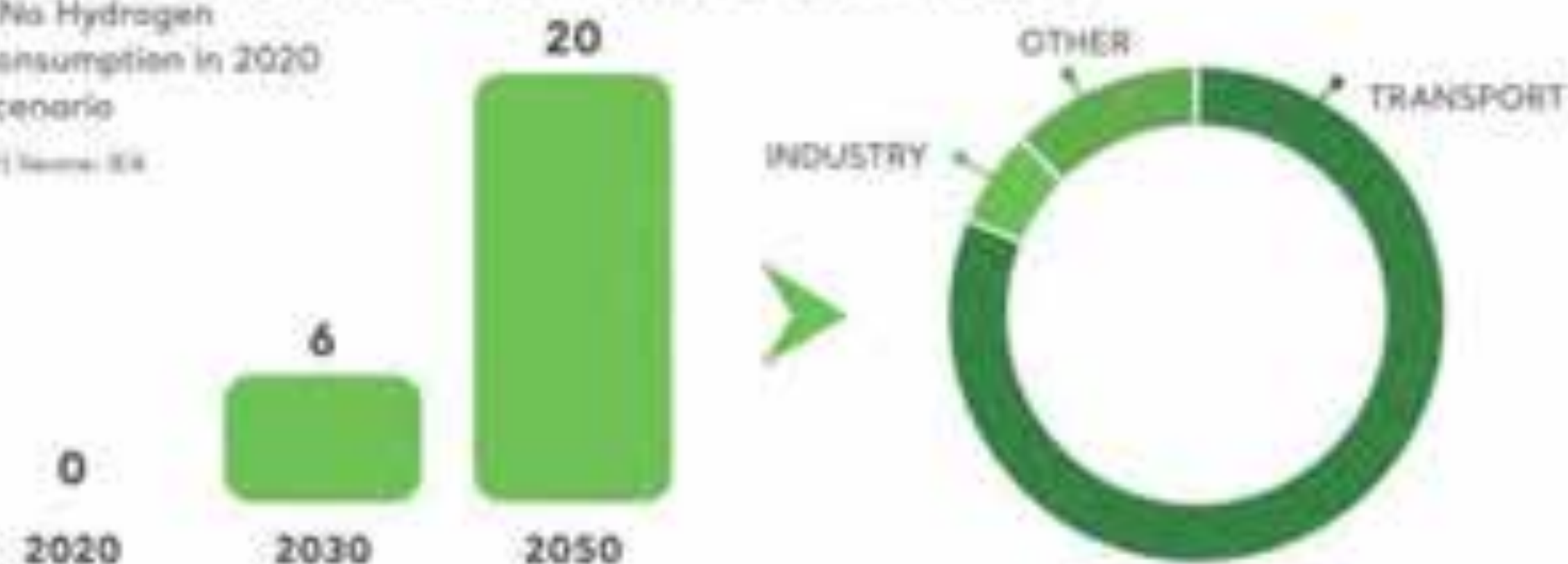
GREEN HYDROGEN

MARKET OUTLOOK

Global Hydrogen Consumption as Fuel* (EJ)

*No Hydrogen consumption in 2020 scenario

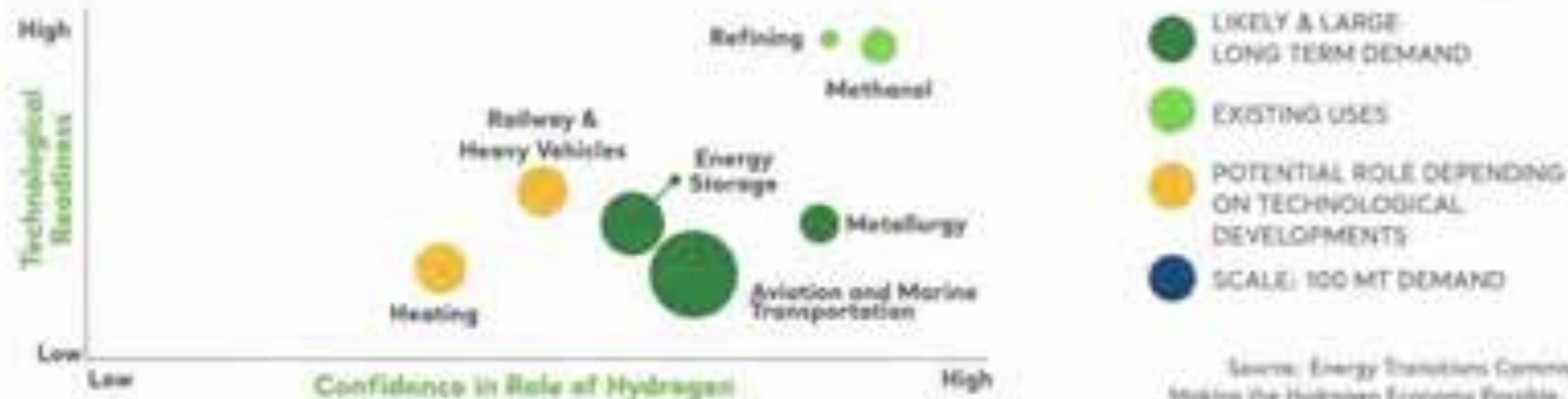
[1] Source: IEA



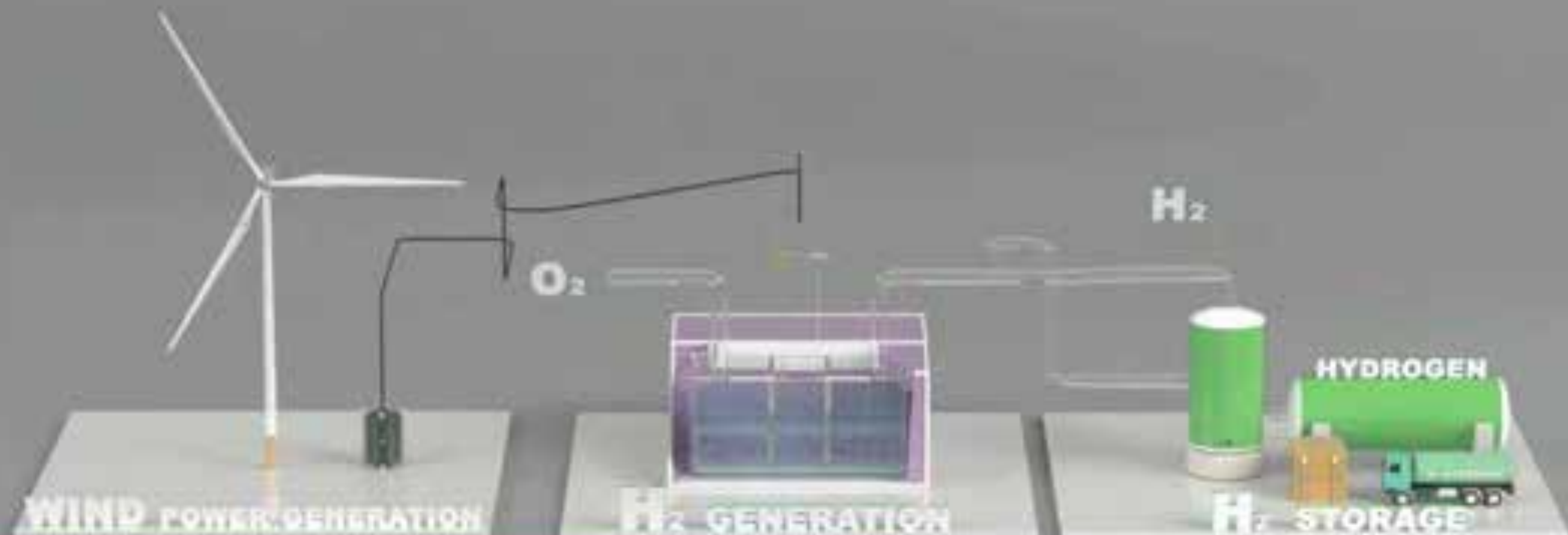
* Source: IEA, Net Zero by 2050: A Roadmap for the Global Energy Sector

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 H_2 unit conversion

HYDROGEN

GREEN

CONVERT EXISTING N_2 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, thin blue lines that intersect and branch out, resembling a digital circuit or a data network. Scattered throughout this network are numerous small, glowing blue numbers and characters, some of which are slightly blurred, giving a sense of motion or data flow. Two solid red horizontal lines extend from the left and right edges of the frame towards the center, framing the main text.

DIGITALIZATION

DIGITALIZATION



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

V.E

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

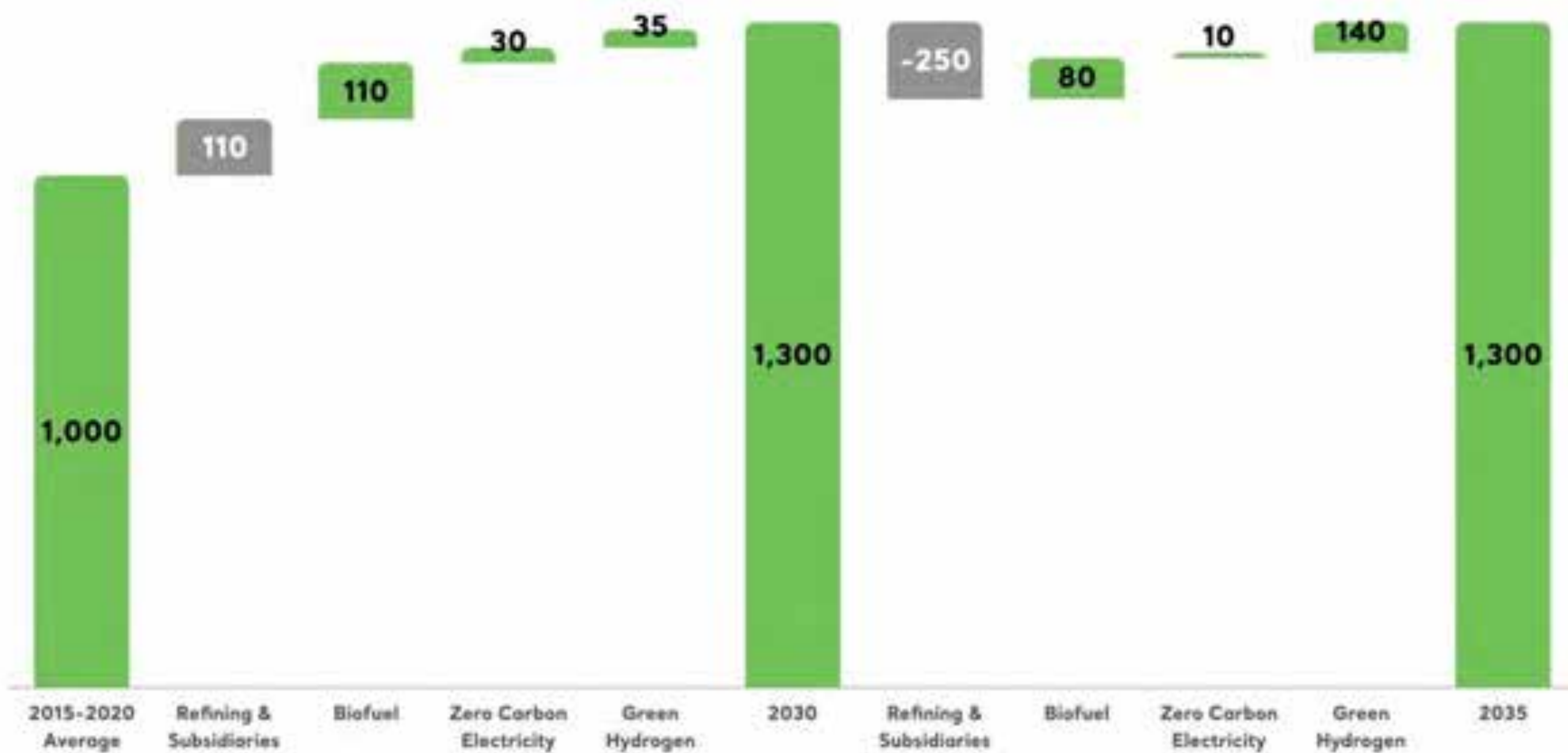
NET DEBT/EBITDA

~80%

**AVG. DIVIDEND
PAYOUT**

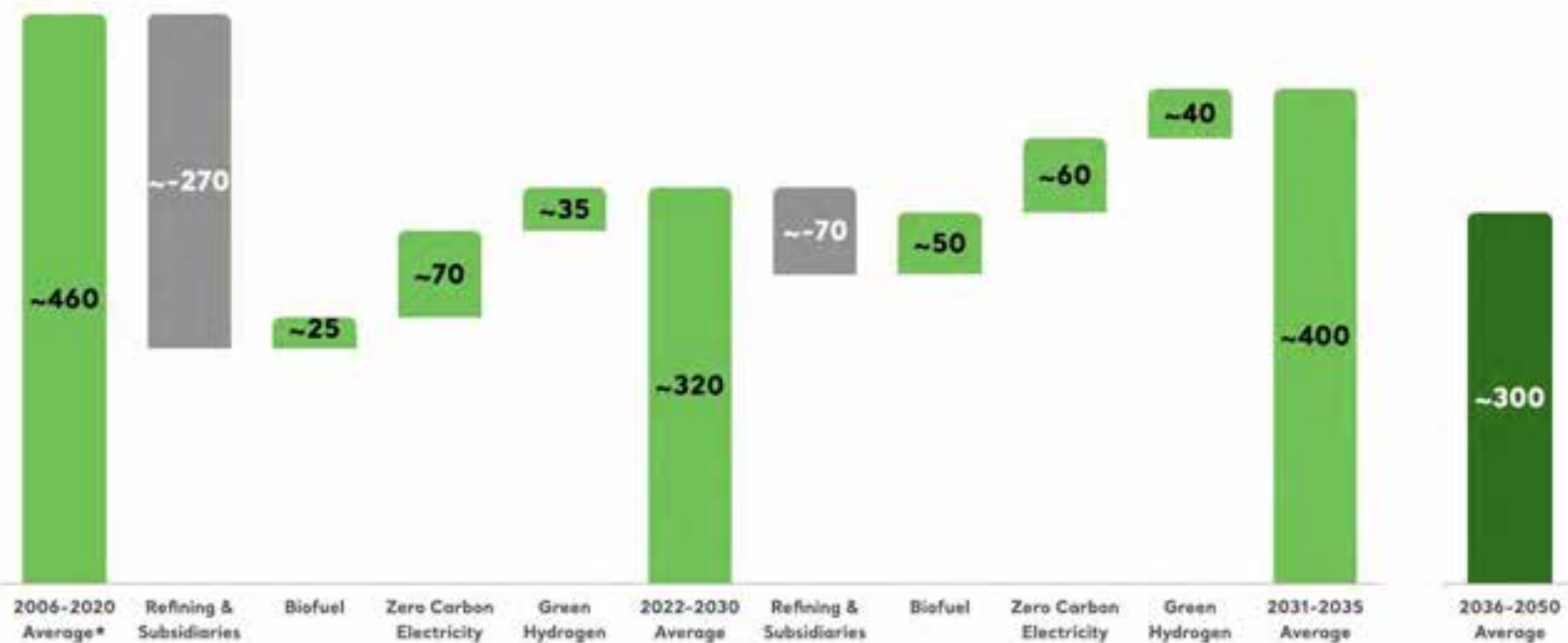
FINANCIAL TRANSITION EBITDA

BY BUSINESS (IN \$ MILLION)



FINANCIAL TRANSITION **CAPEX**

BY BUSINESS (IN \$ MILLION)

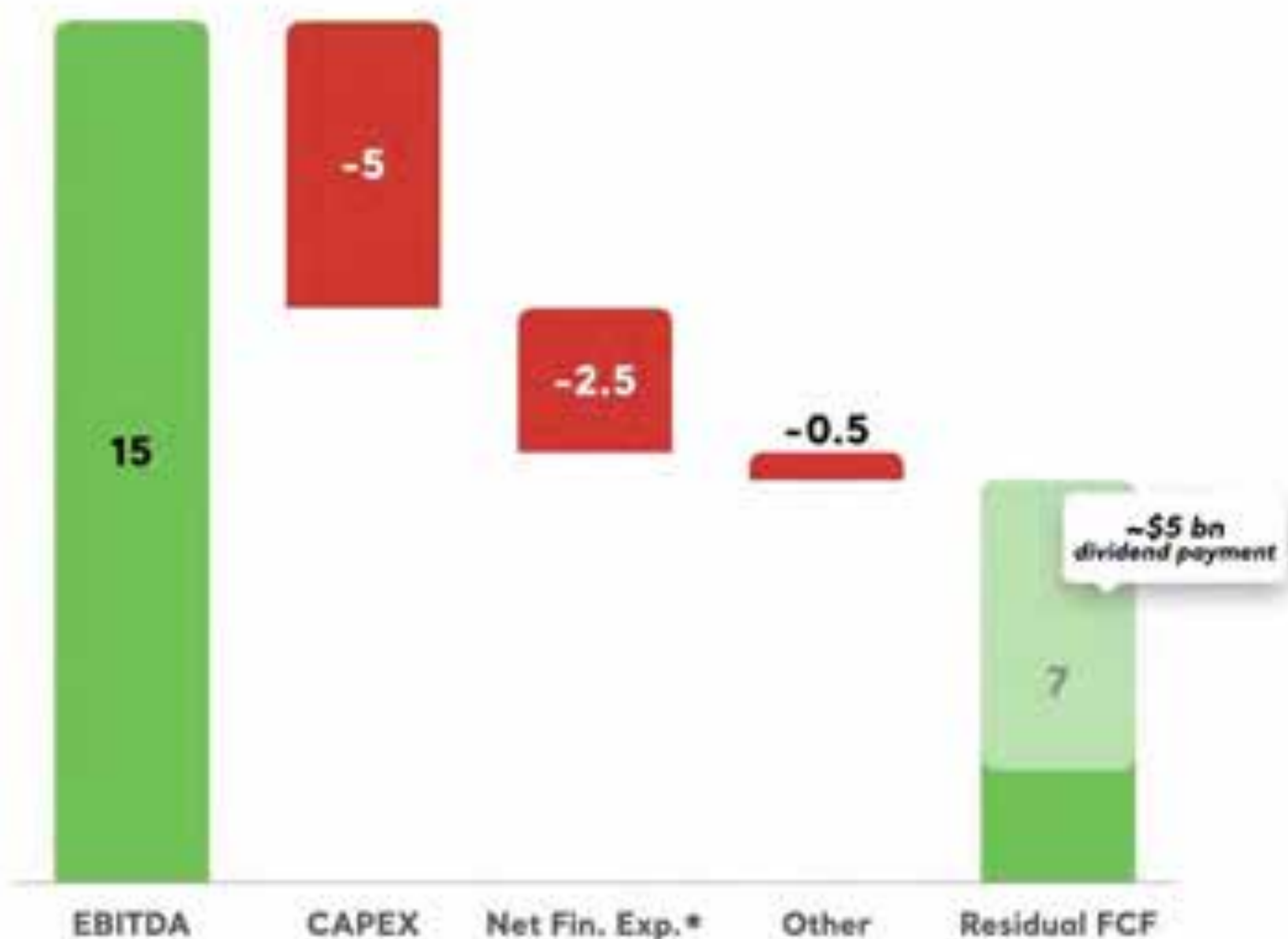


*Total consolidated investments including RUP (\$3.2 Bn) which was completed in 2015

FINANCIAL TRANSITION

CUMULATIVE CASH FLOW BRIDGE

2022- 2035



SOUND FINANCIAL PLAN

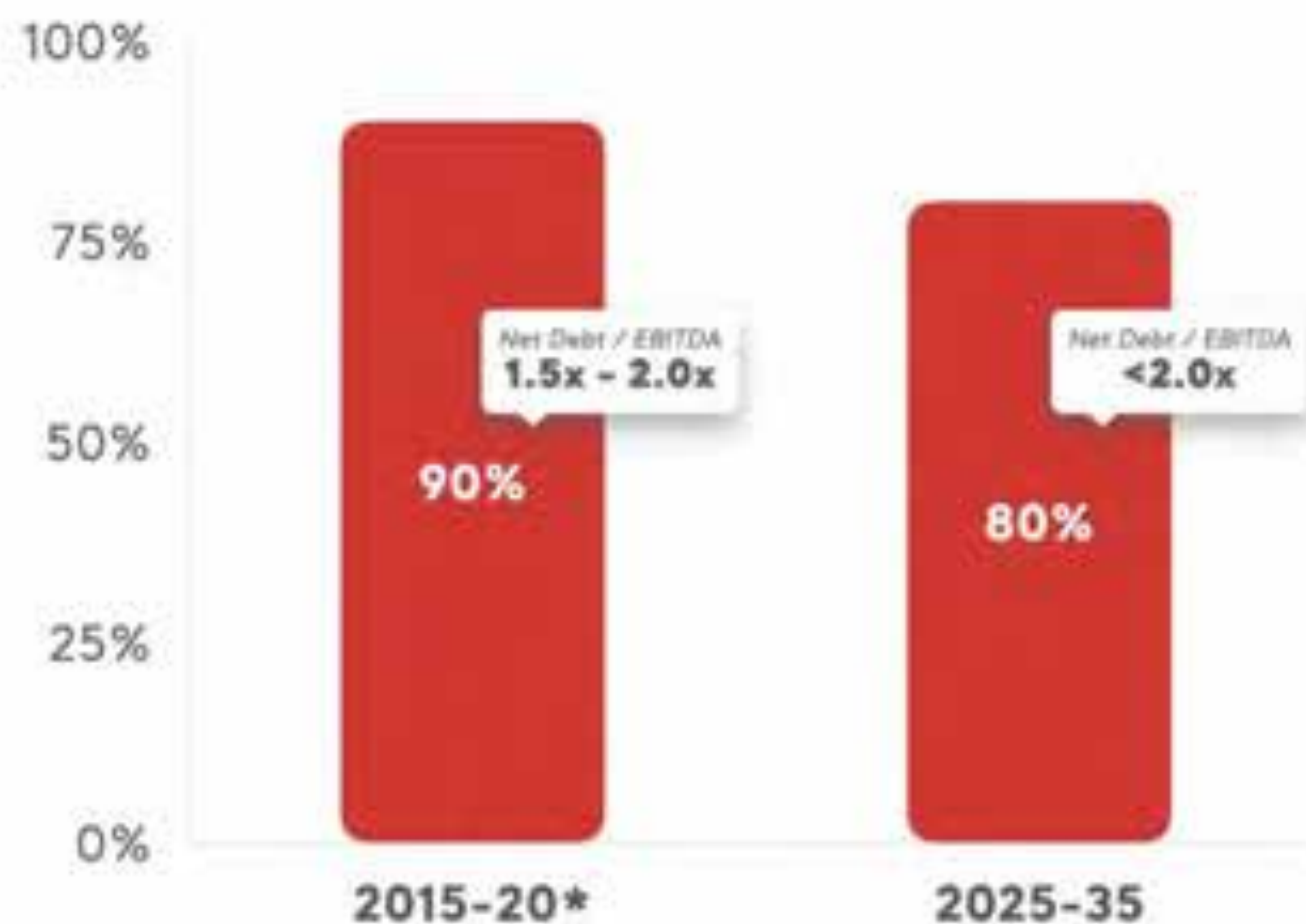
- Superior EBITDA generation and disciplined CAPEX plan leads to low external funding requirement
- Strong FCF generation ensures **strong dividend potential**

* 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

 **Tüpraş**  **Koç**

