TURKEY
ELECTRIC VEHICLES OUTLOOK

Sabancı Üniversitesi

IICEC | SABANCI UNIVERSITY
ISTANBUL INTERNATIONAL
CENTER FOR ENERGY AND CLIMATE

TÜRKİYE ELEKTRİKLİ ARAÇLAR GÖRÜNÜMÜ | 2021

Sabancı Üniversitesi

IICEC | SABANCI UNIVERSITY ISTANBUL INTERNATIONAL CENTER FOR ENERGY AND CLIMATE

Sabancı Üniversitesi

IICEC | SABANCI UNIVERSITY ISTANBUL INTERNATIONAL CENTER FOR ENERGY AND CLIMATE

"Turkey Electric Vehicles Outlook"

supports e-mobility growth posing multiple benefits for Turkey with solid recommendations

WHY TEVO?

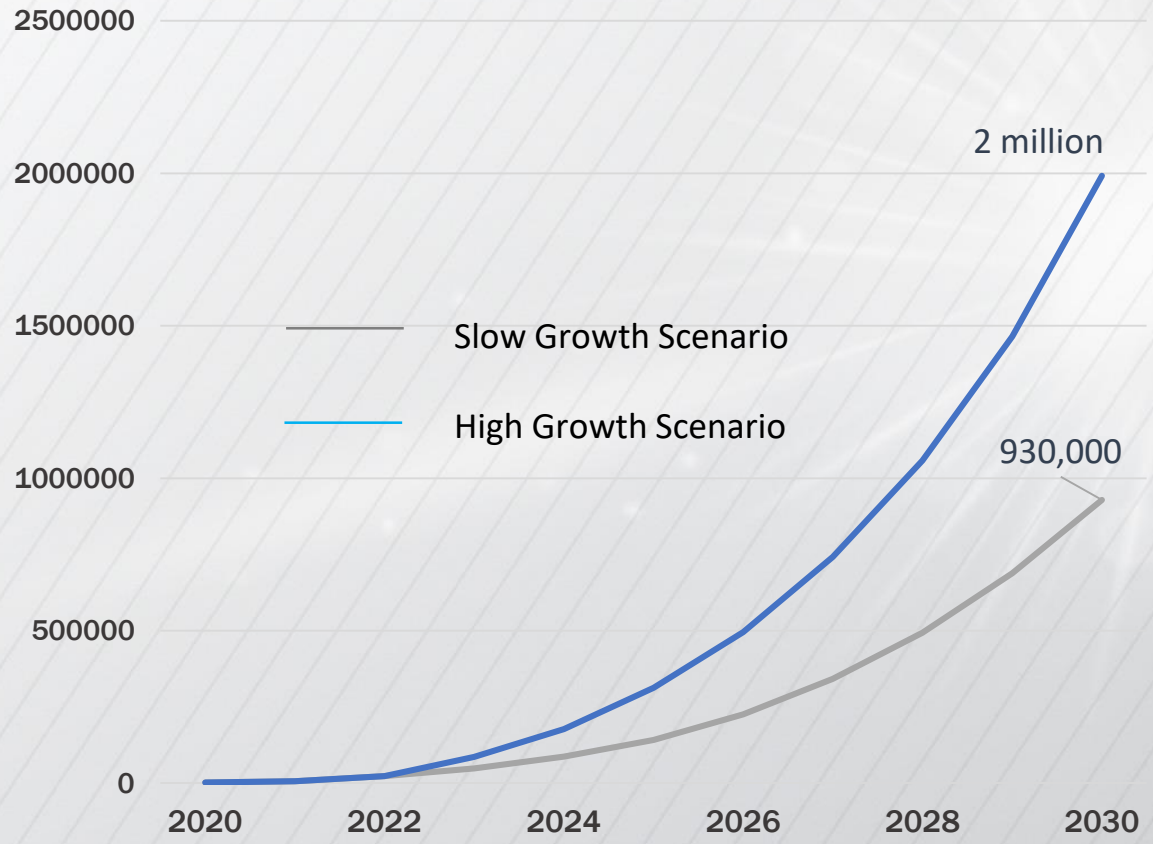
- Strong global growth in e-mobility
- Important steps in regulatory framework and investments in Turkey
- Opportunities to support a more secure and clean energy future for Turkey through e-mobility development
- An independent, participatory and exemplary study

HOW TEVO?

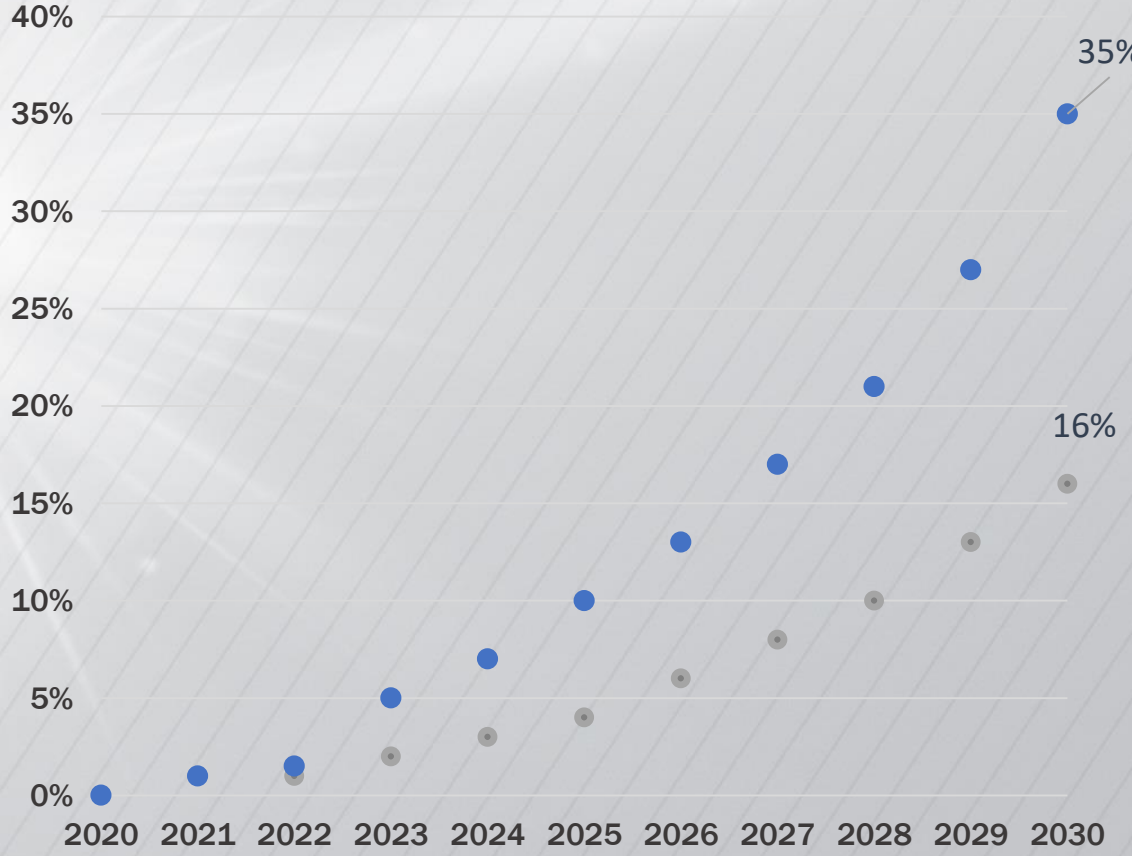
- Building upon "Turkey Energy Outlook" & an holistic energy model by IICEC
- Detailed accounting of Turkish energy and transportation sectors
- Reflecting global and regional developments, Turkey's policy choices, market development and technological advancements
- Supported by independent research, quantitative analyses and market insights
- "Government-Industry-Academia" *success triangle*

Different growth and developments pathways are analyzed in two IICEC Scenarios

Electric Vehicles Stock Development in the Scenarios (2020-2030)



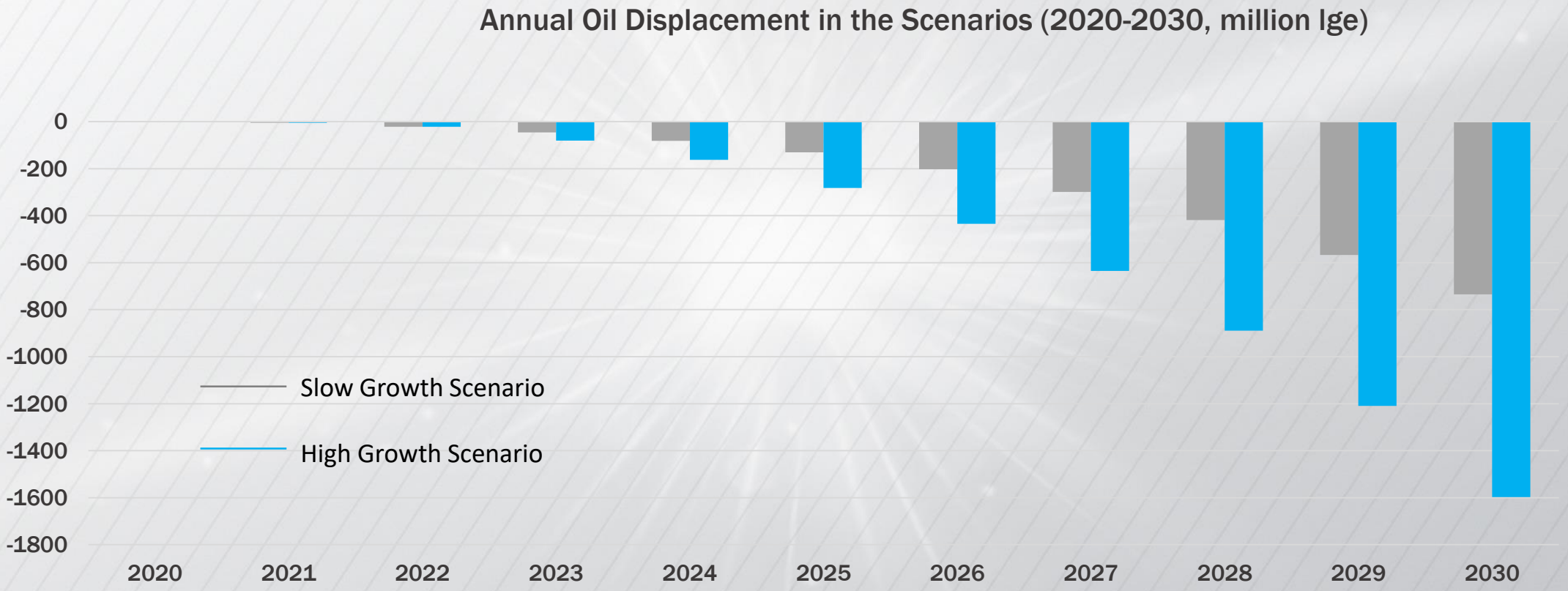
Electric Vehicles Market Share in New Sales in the Scenarios * (2020-2030, %)



*Passenger cars and light duty vehicles

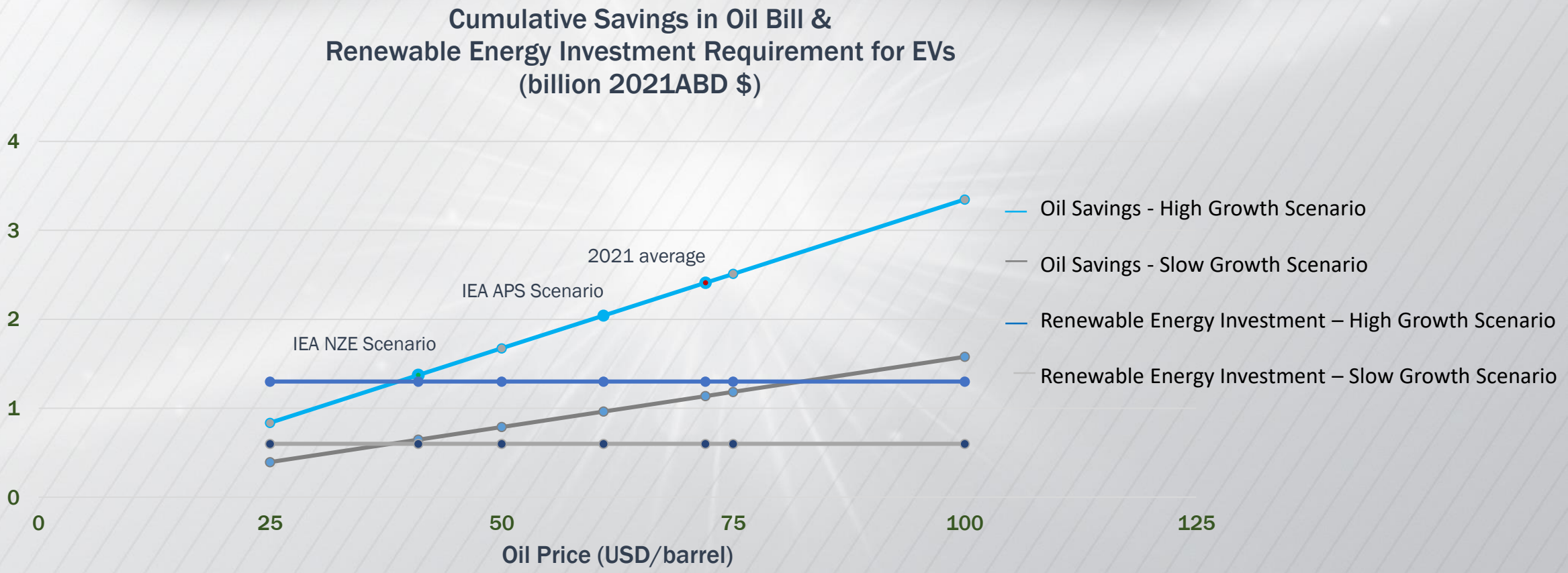
Sabancı Üniversitesi IICEC SABANCI UNIVERSITY ISTANBUL INTERNATIONAL CENTER FOR ENERGY AND CLIMATE

Energy demand in road transportation becomes more efficient and less oil-dependent by means of electrification and other solutions



Energy efficiency in transportation enhances by means of improvements in fuel economy and modal changes in addition to significant efficiency gains by electric vehicles

Savings in the oil bill is twice the investment amount required to fuel electric vehicles based on renewable energy

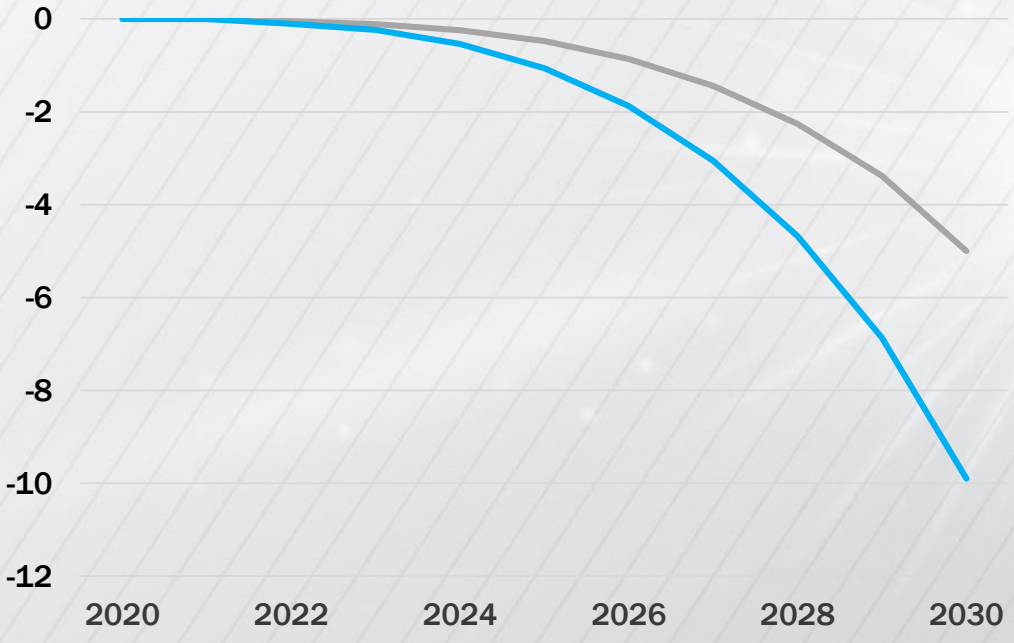


High Growth Scenario shows 2.5 billion USD reduction in Turkey's oil bill by means of 1.3 billion USD renewable energy based electricity generation investment (in 2021 real prices)

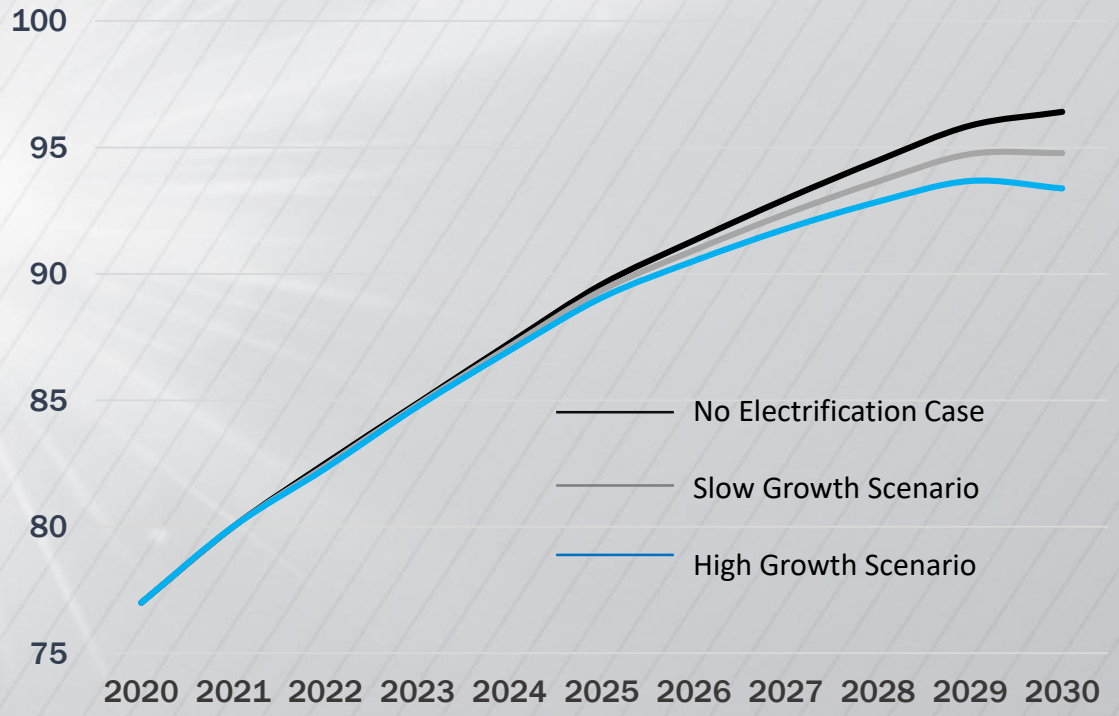
Sabancı Üniversitesi IICEC SABANCI UNIVERSITY ISTANBUL INTERNATIONAL CENTER FOR ENERGY AND CLIMATE

High Growth Scenario strongly supports a net-zero emissions future and clean energy transition

Cumulative GHG Emission Reductions
(million ton CO_2-eq)

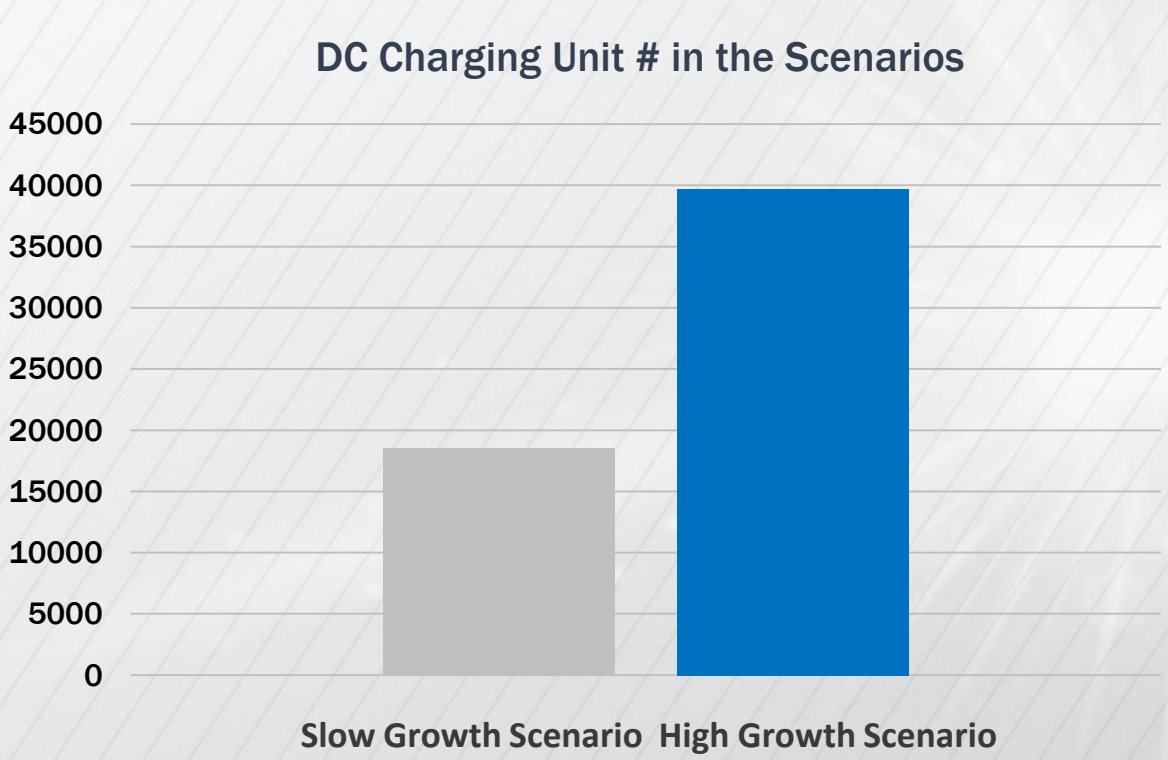


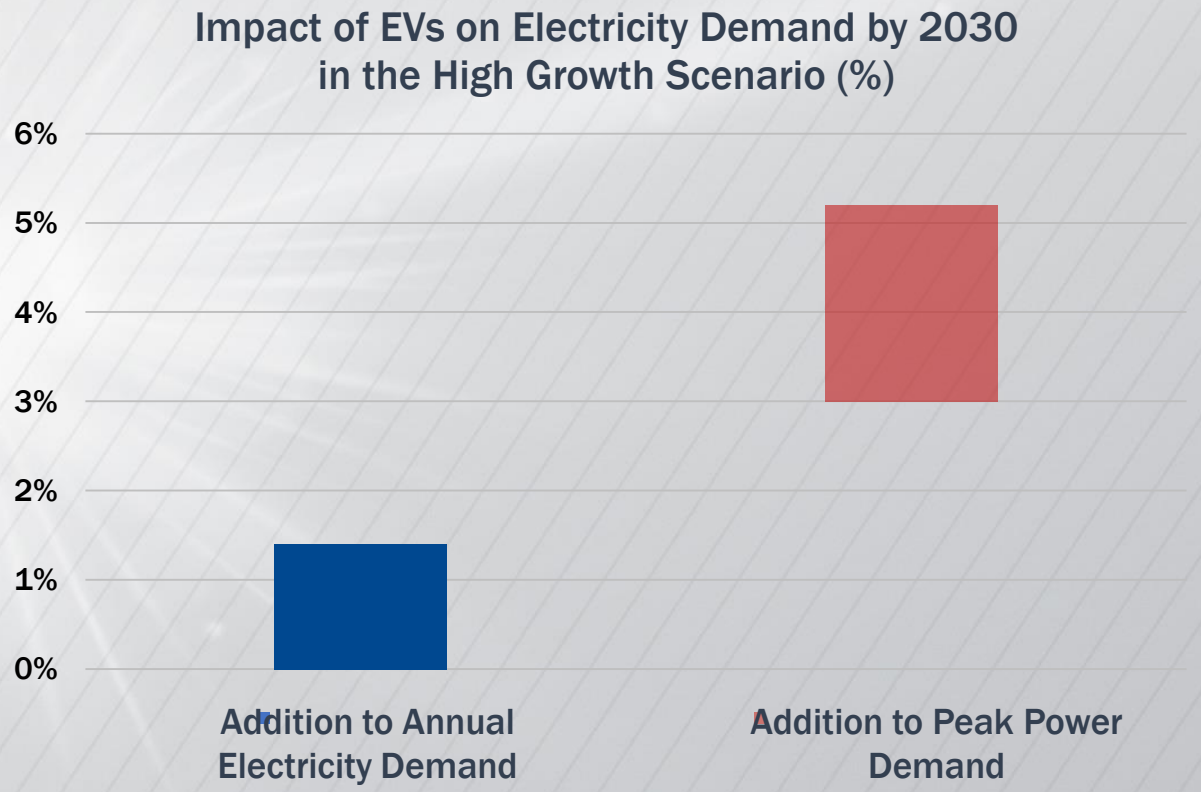
Road Transportation GHG Emissions in the Scenarios
(million ton CO_2-eq)



High Growth Scenario achieves 10 million tons of CO_2-eq emission reductions until 2030 while road transportation GHG emissions are peaking before 2030

A user-oriented development of a 2 million electric vehicle park until 2030 can be achieved by >200,000 public charging points





Market driven and technological solutions in charging and grid infrastructures are key to realize multiple advantages of e-mobility with maximum societal benefits

TEVO presents improvement areas and opportunities to realize high potential in e-mobility with multiple benefits

Government

Industry Academia

Automotive Industry	Charging Infrastructure	Power Sector	Battery Ecocystem	Other Technology Innovation Areas
Growth potential in domestic market & efficient, green transformation in vehicle stock	A free market and user-oriented regulatory framework	Growth in low-carbon power generation	Local production to meet growing demand	Data oriented business models
			Competitive technological progress reflecting global technology trends	Smart systems and smart cities
				Hydrogen production and use in heavy duty vehicles
Transformation into technological mobility & sustainable global and regional competitiveness	Predictable investment outlook	Efficient and flexible power distribution grids	Expanding into energy storage systems	Strong human resources
			Environmental sustainability with a life-cycle perspective	An entrepreneurship ecosystem

Clean energy oriented policy targets and roadmaps

01 Determining concrete, realistic, and achievable policy targets in line with the 2053 net-zero target and clean energy transformation, and implementing guiding and supporting mechanisms

02 Ensuring the sustainability of this transformation through the development of green energy resources

03 Developing a holistic e-mobility ecosystem that focuses on the environment and technology, through public, private, and academic cooperation and coordination to maximize societal benefits

04 Accelerating R&D and domestic production in technologies that offer high value propositions such as digitalization, smart systems, and energy storage

05 Strengthening the individual and corporate entrepreneurship ecosystem and human resources potential to help position Turkey as a regional and global actor in EVs and e-mobility

01

Determining concrete, realistic, and achievable policy targets in line with the 2053 net-zero target and clean energy transformation, and implementing guiding and supporting mechanisms

- **Implementing a roadmap that will ensure reaching at least 2 million EVs and over 200,000 public charging sockets by 2030,**
- Reflecting energy imports and environmental performance related benefits of the EVs while devising support mechanisms

02

Ensuring the sustainability of this transformation through the development of green energy resources

03

Developing a holistic e-mobility ecosystem that focuses on the environment and technology, through public, private, and academic cooperation and coordination to maximize societal benefits

- **Grasping technology-oriented opportunities for the competitive transformation of the automotive industry,**
- Planning and operating charging points and electricity distribution grids most efficiently,
- Disseminating innovative financing as well as next-generation, market based, and user-oriented business models,

04

Accelerating R&D and domestic production in technologies that offer high value propositions such as digitalization, smart systems, and energy storage

05

Strengthening the individual and corporate entrepreneurship ecosystem and human resources potential to help position Turkey as a regional and global actor in EVs and e-mobility.

01 Determining concrete, realistic, and achievable policy targets in line with the 2053 net-zero target and clean energy transformation, and implementing guiding and supporting mechanisms

02 Ensuring the sustainability of this transformation through the development of green energy resources

03 Developing a holistic e-mobility ecosystem that focuses on the environment and technology, through public, private, and academic cooperation and coordination to maximize societal benefits

04 Accelerating R&D and domestic production in technologies that offer high value propositions such as digitalization, smart systems, and energy storage

05 Strengthening the individual and corporate entrepreneurship ecosystem and human resources potential to help position Turkey as a regional and global actor in EVs and e-mobility

THANK YOU

Please read the QR code with your mobile phone for detailed information

Sabancı Üniversitesi

IICEC | SABANCI UNIVERSITY ISTANBUL INTERNATIONAL CENTER FOR ENERGY AND CLIMATE