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Antalya

# Total Cost of Ownership Analysis for Passenger Cars in Turkey

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Knowledge for Tomorrow

# AGENDA

- A brief introduction to the Turkish market
  - ❖ Vehicle stock over years
  - ❖ Taxes on vehicles and fuels
- Total Cost of Ownership methodology
- Results

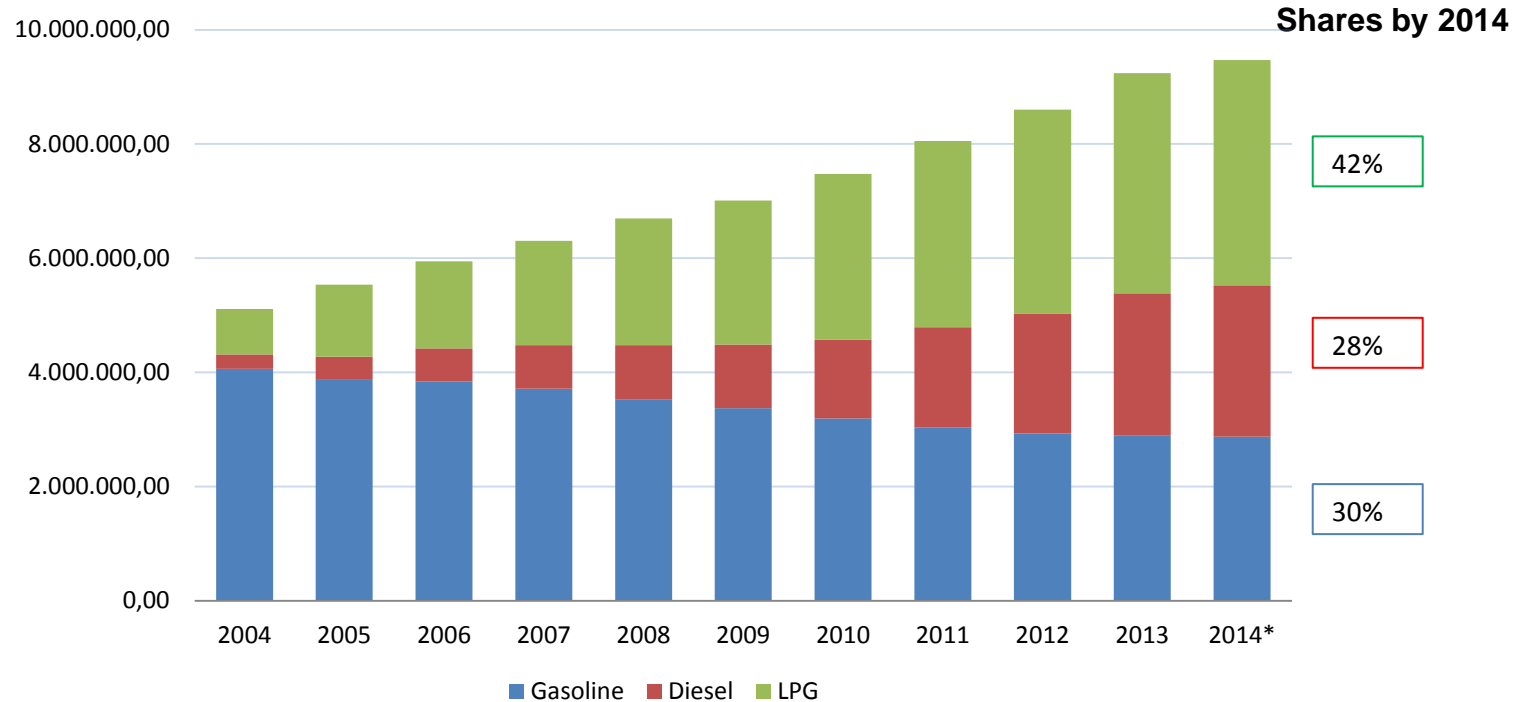


## Model Basis and Objectives

- Why TCO for Turkey?
  - ❖ One of the highest fuel prices in the world
  - ❖ Divergent taxation system
  - ❖ Over 40% LPG share in the stock
  - ❖ A rapid growth in the Turkish vehicle sector
  
- Expected Outcomes & Aim
  - ❖ Calculation of Total Cost per km for today and the future
  - ❖ Possible road maps to alternative vehicles in Turkey
  - ❖ Important policy recommendations to authorities



## Shares of Powertrains in Stock over Years



- ✓ Over the last few years, LPG became even more popular
- ✓ Diesel vehicles seem to surpass gasoline vehicles soon

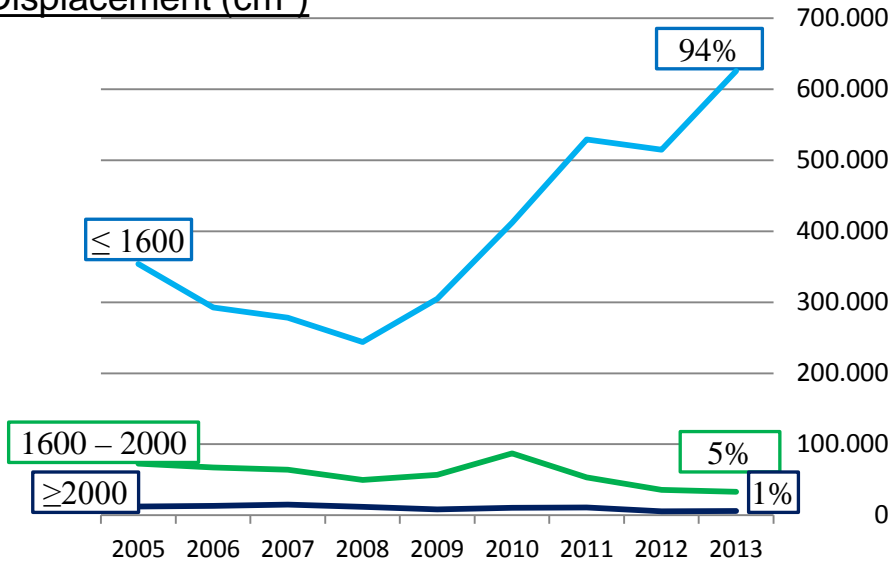
\* By 2014 May

Retrieved from : TURKSTAT 2013 Vehicle Report

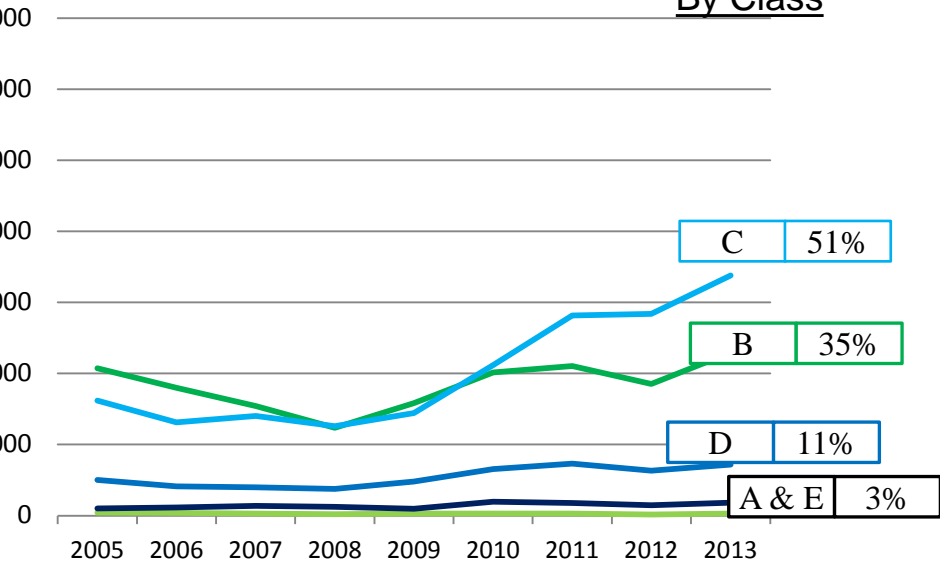


# Sales over Years by Engine Displacement and Vehicle Class

By Displacement (cm<sup>3</sup>)



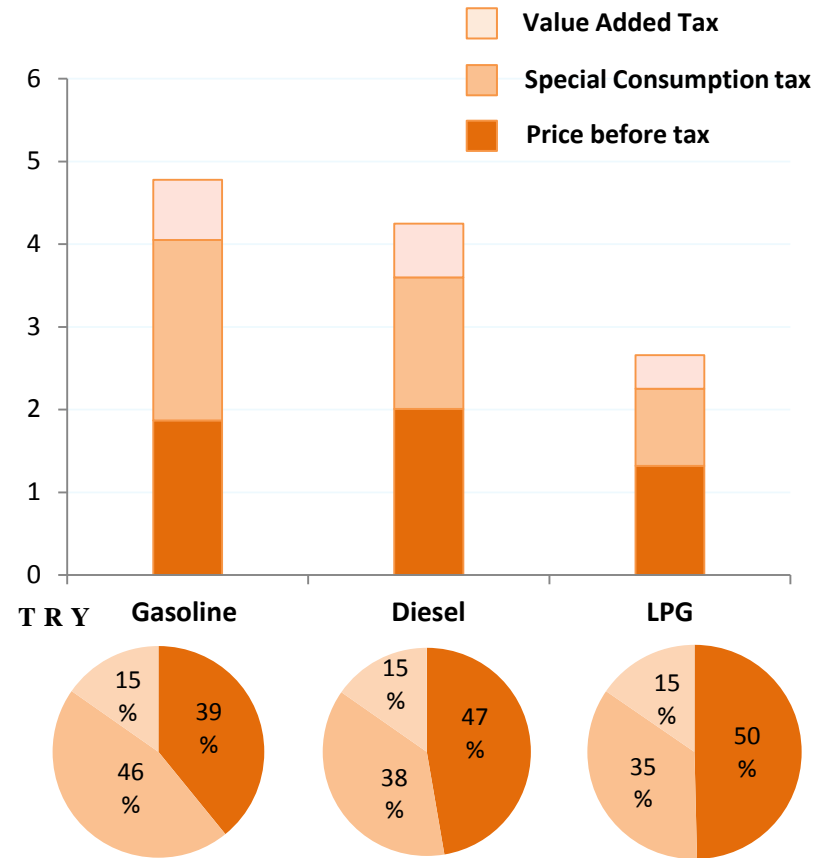
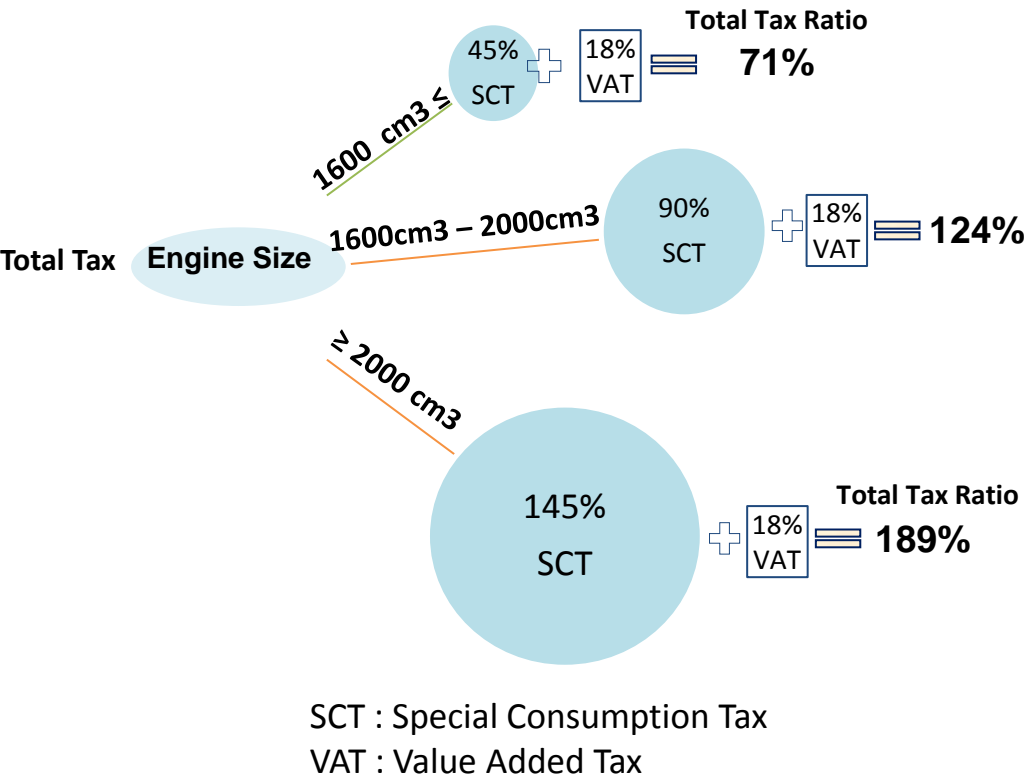
By Class



- ✓ Vehicles with small sized engines, dominating the market by far
- ✓ B and C class vehicles hold the majority in the market



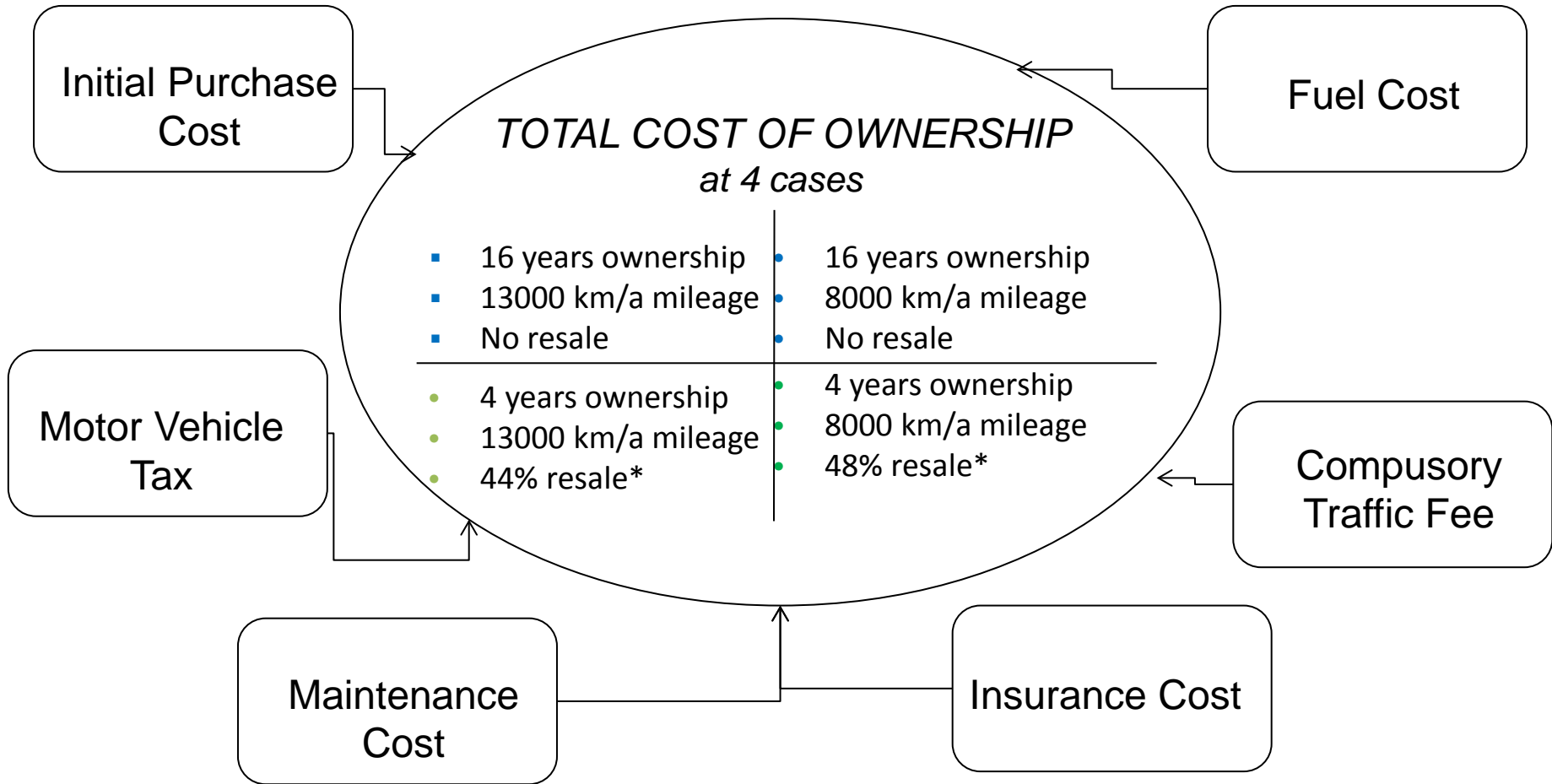
# Taxes on passenger cars & fuels



1 € = 2,79 TRY



# TCO Methodology



\* Redelbach & Propfe

\*\* i=8% (interest rate)





## An Example of Representative Vehicle Determination by Gasoline Class C

Model	Price (TRY <sub>2014</sub> )	Average Fuel Consumption* (l/100km)	Engine (cm3)	Peak Power (kw)
Civic 1.6 Manuel	60.835	6,7	1598	92
Civic 1.6 Automatic	62.835	6,7	1598	92
Fluence Sedan 1.6	60.000	6,8	1598	82
Megane III 1.6	51.500	6,8	1598	82
Corolla 1.4	49.950	5,9	1329	75
Corolla 1.6	60.150	7,0	1598	96
A3 1.4 TFSI S	81.881	5,2	1395	90
Cruze 1.6	41.800	6,6	1598	90
C4 1.4 Vti	49.600	6,1	1397	70
Duster 1.6	41.300	7,3	1598	77
Focus 1.6 i	55.865	6,0	1596	92
Qashqai 1.2	67.990	5,6	1197	85
Qashqai 1.6	81.990	4,4	1598	95
Astra HB 1.4	63.884	5,9	1364	100
308 1.2 VTI	51.500	5,0	1199	60
308 1.6 THP	67.300	5,8	1598	115
Golf 1.2	55.000	4,9	1197	80
Golf 1.4	62.200	5,2	1395	90
Jetta 1.4	58.200	6,2	1390	90
<b>Representative (Median)</b>	<b>60.000</b>	<b>6,8</b>	<b>1598</b>	<b>92</b>

1 € = 2,79 TRY  
\*NEDC

Retrieved from : Catalogs of each model were downloaded from brand's websites separately.





## Representative Vehicles

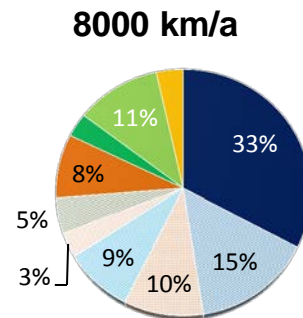
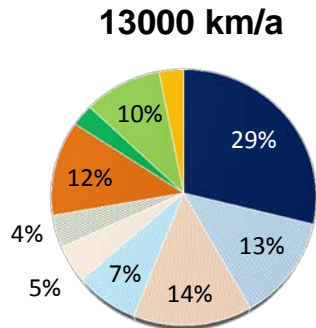
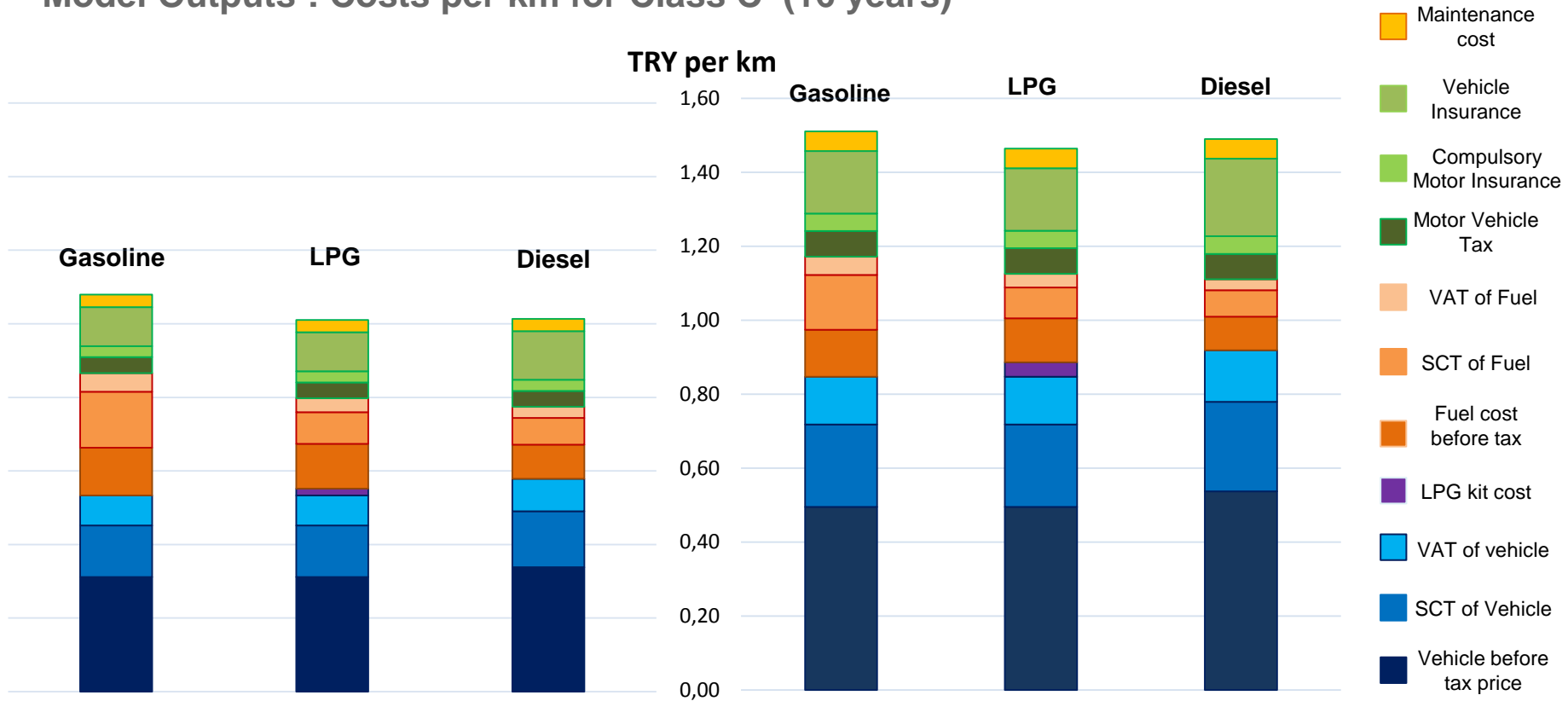
<b>Gasoline</b>	<u>Class A</u>	<u>Class B</u>	<u>Class C</u>	<u>Class D</u>	<u>Class E</u>
Engine (cm3)	998	1248	1598	1598	1968
Average Consumption* (l/100km)	4,7	5,5	6,8	6,4	6,6
Sales Price (TRY <sub>2014</sub> )	35.510	40.910	60.000	84.000	230.000

<b>Diesel</b>	<u>Class B</u>	<u>Class C</u>	<u>Class D</u>	<u>Class E</u>
Engine (cm3)	1461	1461	1579	1968
Average Consumption* (l/100km)	4,3	4,5	4,6	4,9
Sales Price (TRY <sub>2014</sub> )	49.200	65.100	89.000	239.000

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\*NEDC



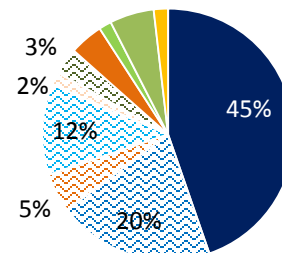
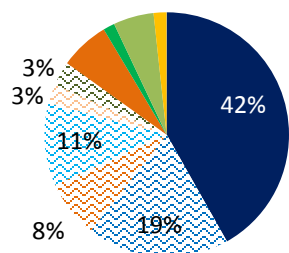
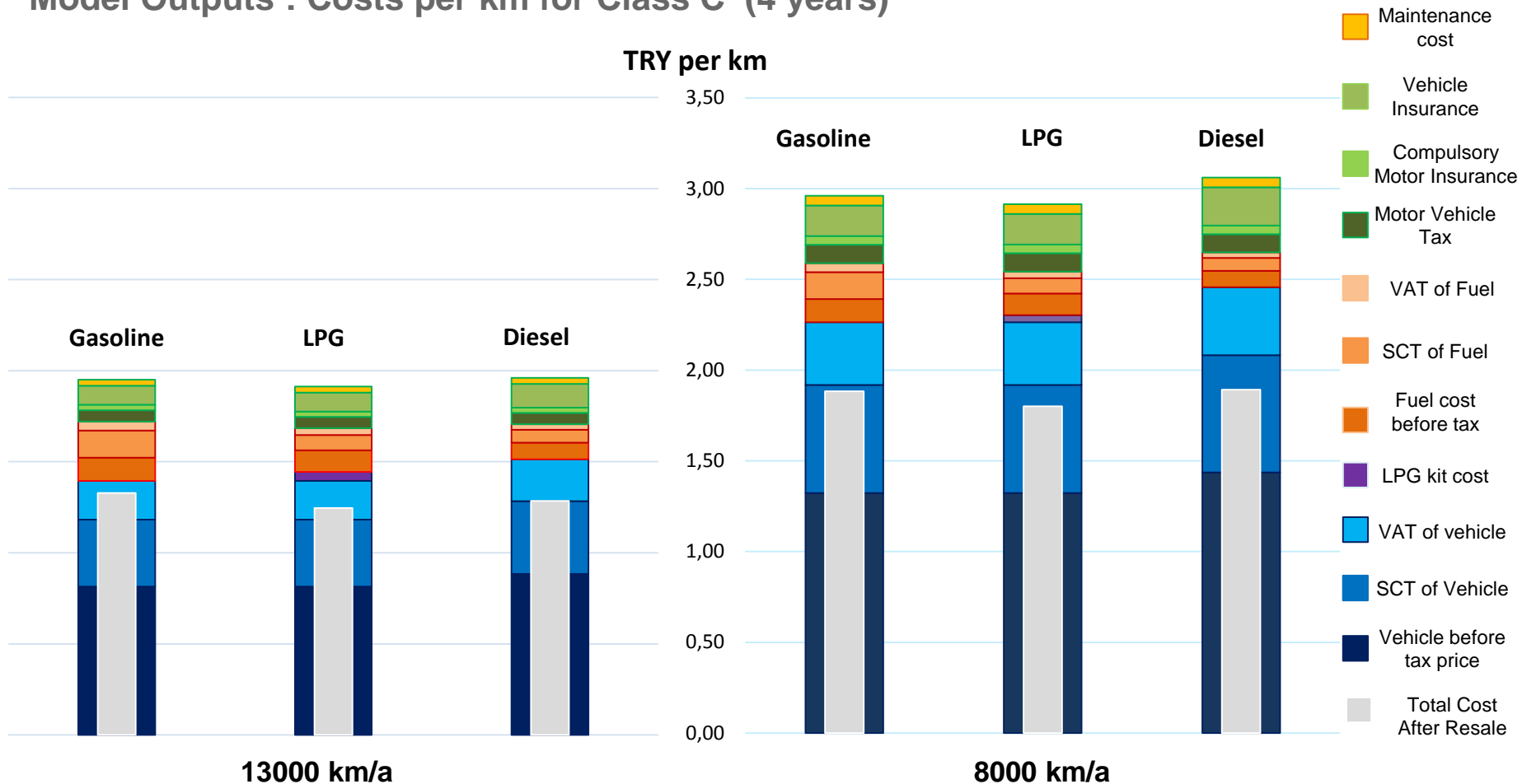
# Model Outputs : Costs per km for Class C (16 years)



1 € = 2,79 TRY



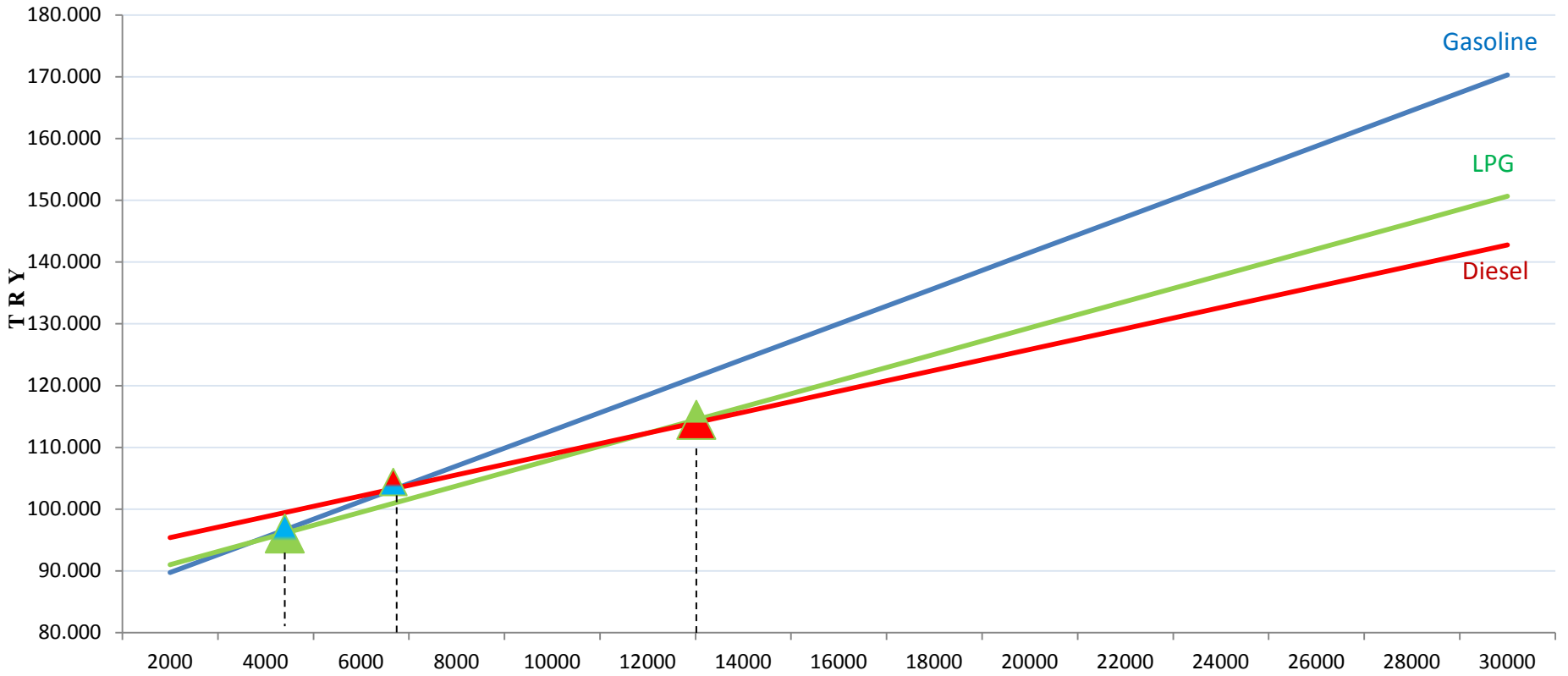
# Model Outputs : Costs per km for Class C (4 years)



1 € = 2,79 TRY



# Pay-back mileages for LPG and Diesel (Class C - 16 years)



- ✓ LPG becomes advantageous over Gasoline after 5.000 annual km
- ✓ Diesel becomes advantageous over LPG after 14.000 annual km

1 € = 2,79 TRY

