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Bu proje Avrupa Birliđi ve Trkiye Cumhuriyeti tarafından ortak finanse edilmektedir.



GHG Emission Trends and Projections for Transportation Sector

Aynur TOKEL
GHG Inventory Expert

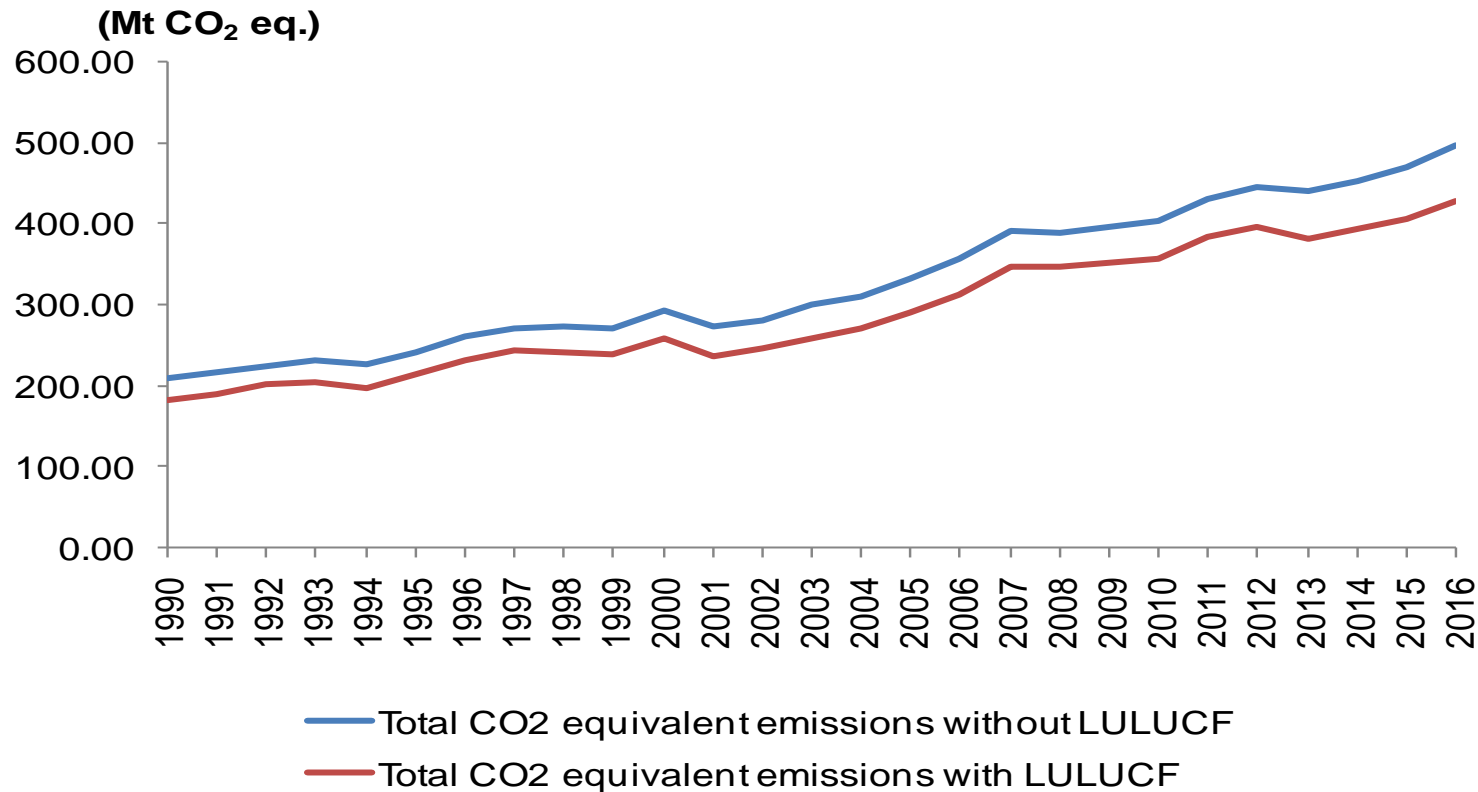
Component 1 Dissemination Workshop
23 May 2018, Meyra Palace Hotel, Ankara





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GHG Emissions



GHG emissions without LULUCF;

in 1990 : 210.7 Mt CO₂ eq.

in 2016 : 496.1 Mt CO₂ eq.

135.4% increase as compared to 1990 level

Source: UNFCCC National Inventory Submissions 2018



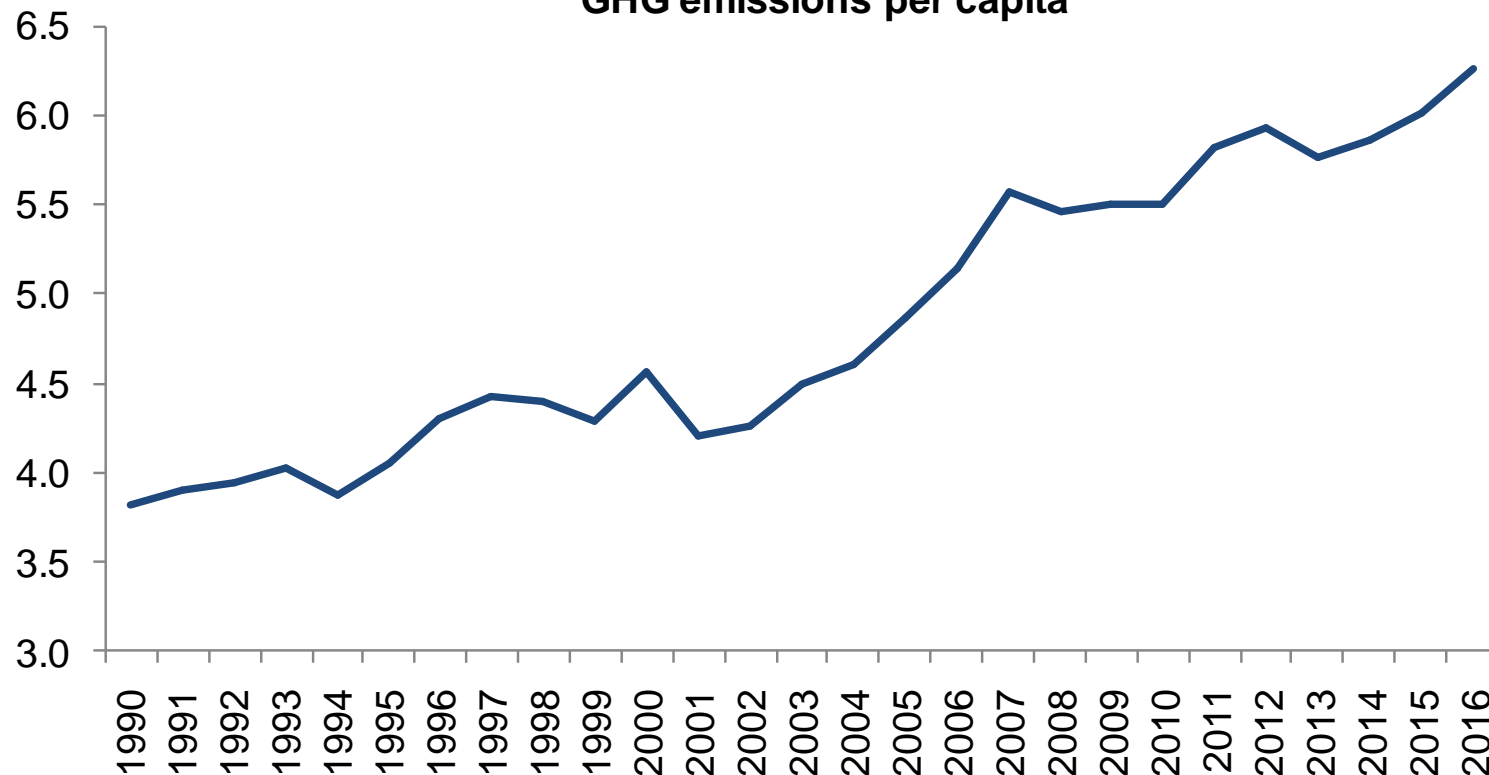


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GHG Emissions

(tonnes CO₂-eq./capita)

GHG emissions per capita



GHG emissions per capita;

In 1990 : 3.8 tonnes CO₂
eq/capita

In 2016 : 6.3 tonnes CO₂
eq/capita

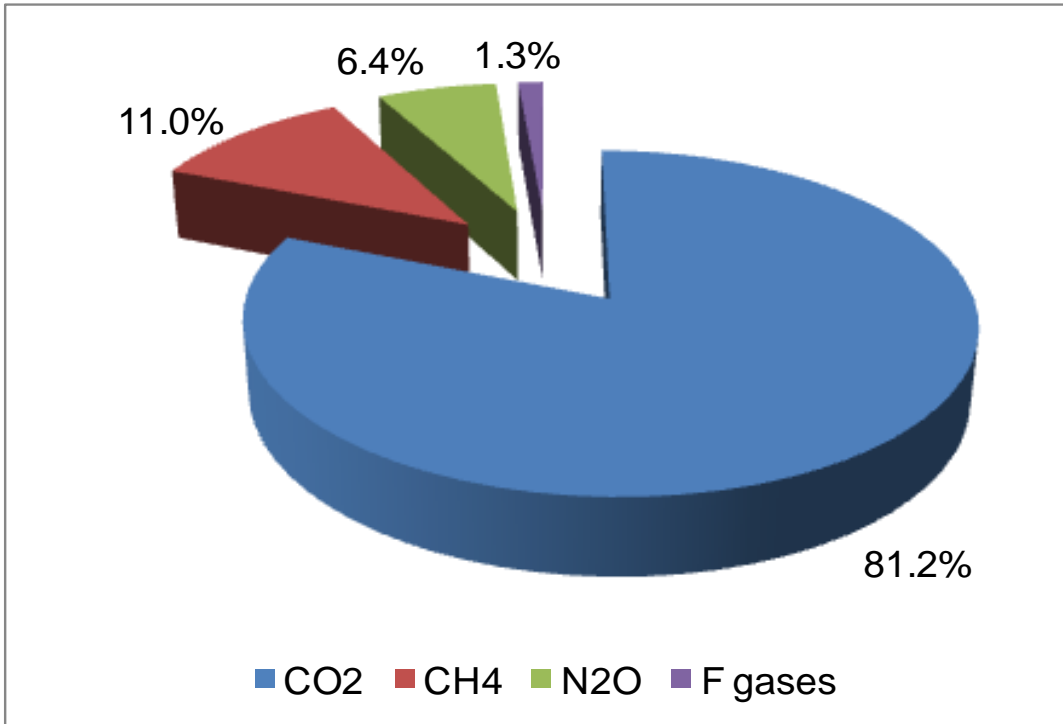
Source: UNFCCC National Inventory Submissions 2018





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GHG Emissions

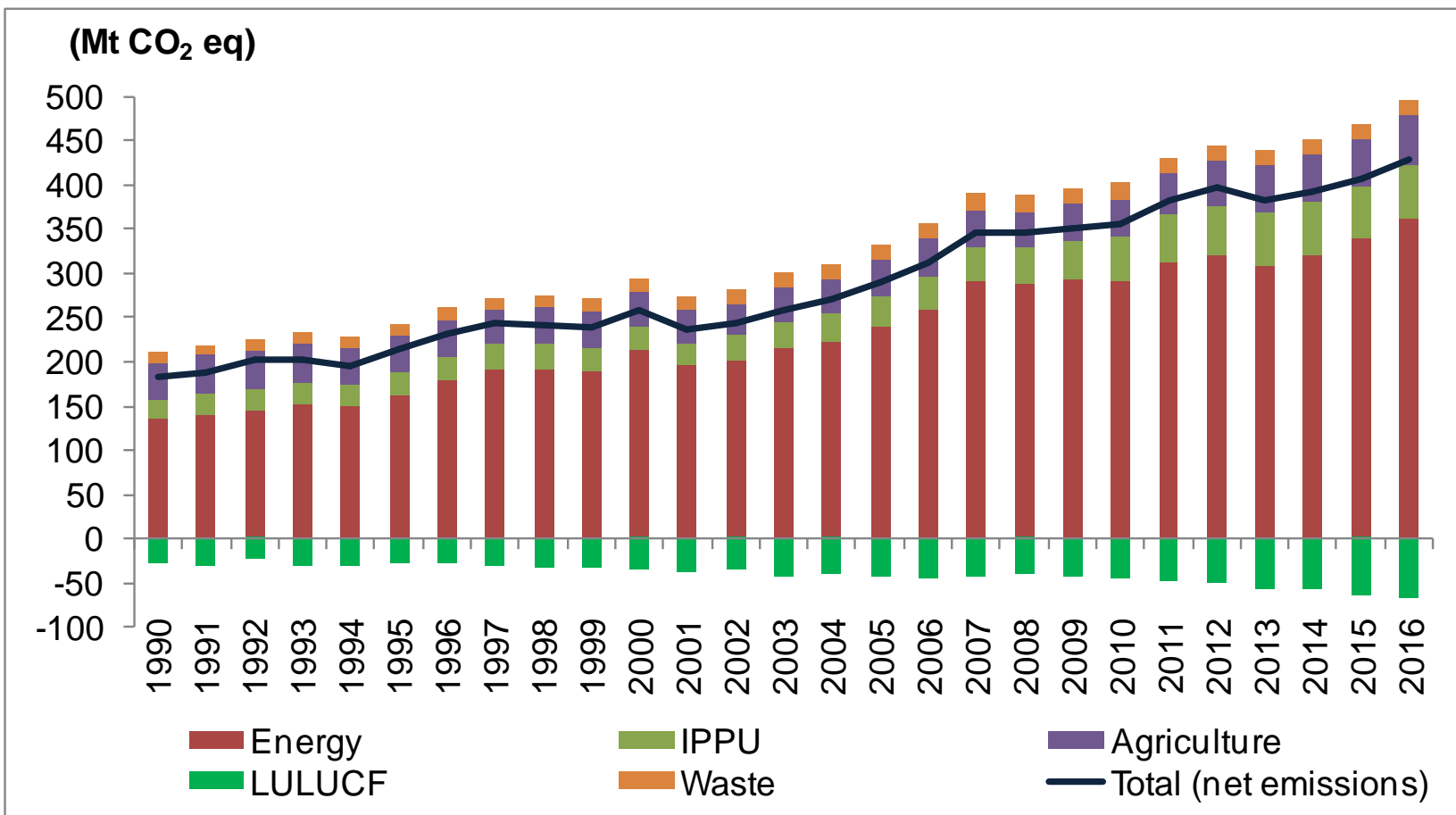


	CO ₂	CH ₄	N ₂ O	F-gases
Energy	86.1	18.6	12.1	-
IPPU	13.6	0.03	3.8	100.0
Agriculture	0.3	55.5	77.6	-
Waste	-	25.8	6.5	-



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GHG Emissions



In 2016 sectors contribution to total GHG emissions;

- Energy: %72.8
- Industrial Processes and Product.Use (IPPU) : %12.6
- Agriculture : %11.4
- Waste : %3.3

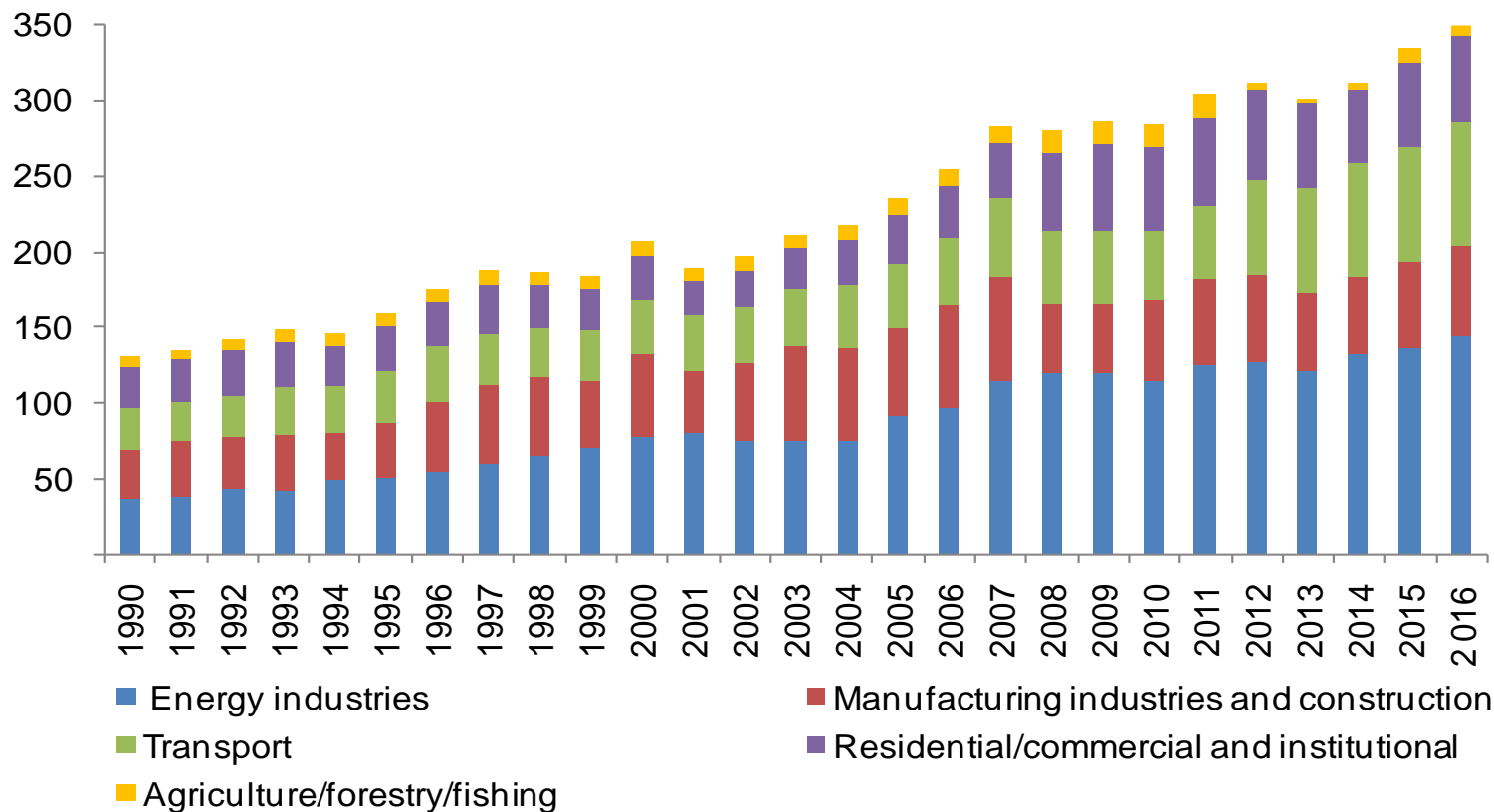


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GHG Emissions Energy Sector

(Mt CO₂-eq.)

GHG emissions from fuel combustion



In 2016

GHG emission from energy sector;

Fuel combustion : 97.7%

Fugitives: 2.3%

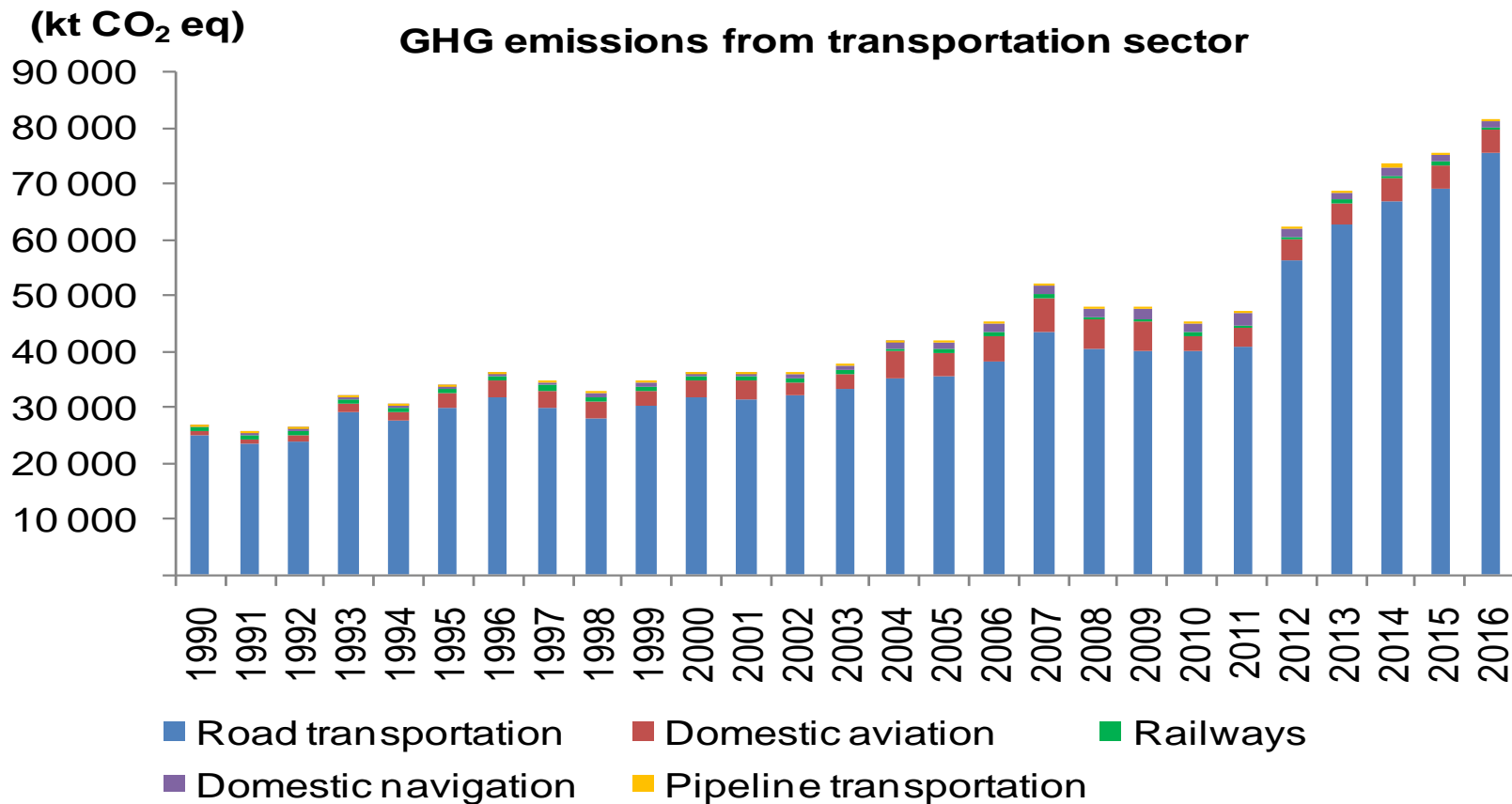
Fuel combustion emissions;

- Energy industry: 41%
- Transport : 23%
- Manufacturing industry : 17%
- Residential/commercial/institutional: 16%
- Agriculture/forestry/Fishing :3%



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GHG Emissions Transportation Sector



GHG emissions from transportation sector;

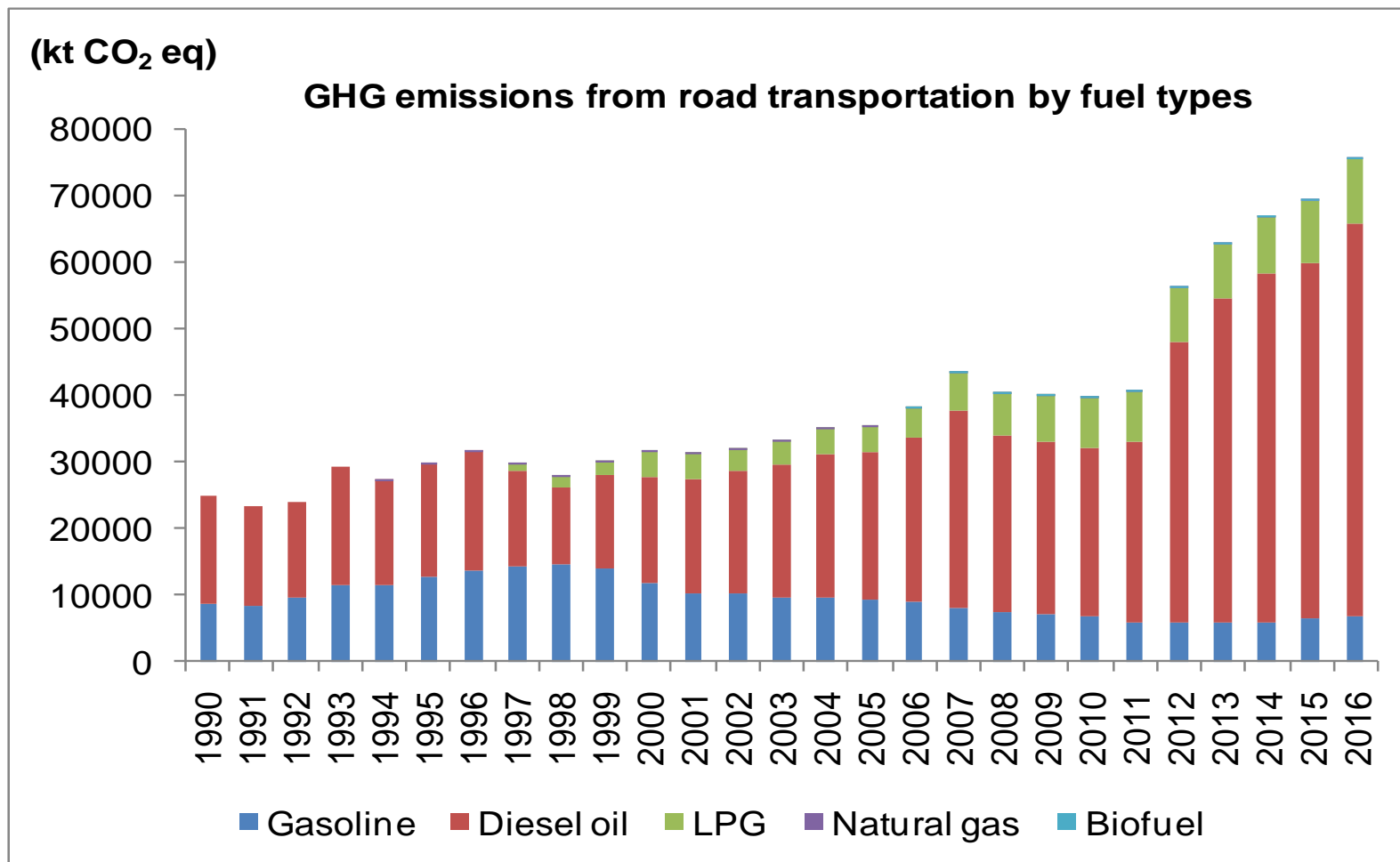
In 1990: 27 Mt CO₂ eq
In 2016 : 81.8 Mt CO₂ eq

- Road transportation: 92.4%
- Domestic aviation: 5.2%
- Domestic navigation: 1.2%
- Railway: 0.5%
- Pipeline transportation: 0.8%



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GHG Emissions Road Transportation



GHG emissions from road transportation;

In 1990 : 24.8 Mt CO₂ eq
In 2016 : 75.6 Mt CO₂ eq

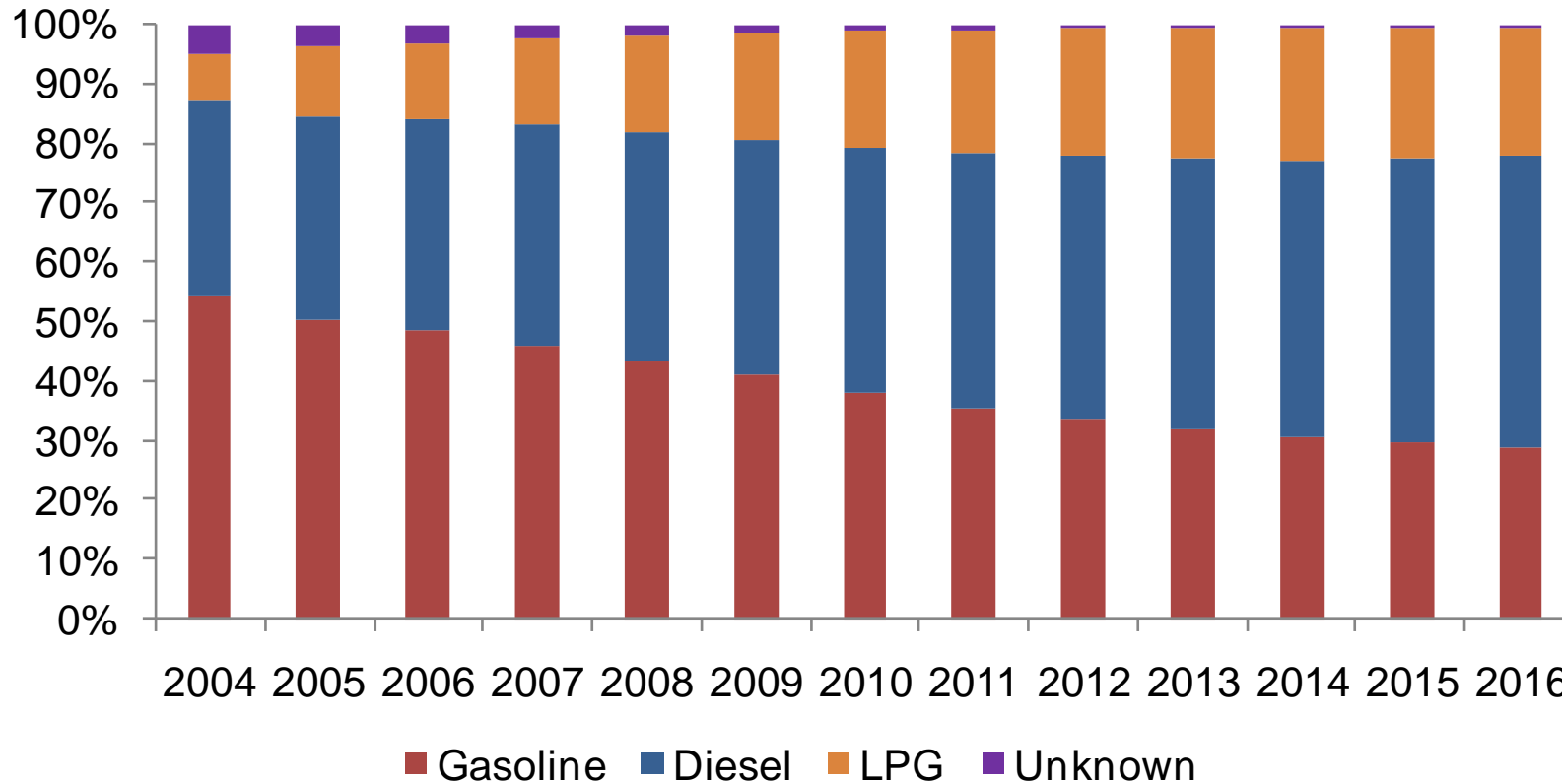
- Diesel oil:77.4%
- Gasoline: 9.2%
- LPG:13.1%
- Natural gas:0.2%
- Biofuel:0.01%



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GHG Emissions Road Transportation

Number of road motor vehicles by fuel types



Number of road motor vehicles;
In 1990: 3.8 million
In 2016: 21.1 million

Road motor vehicles by fuel types in 2016;

- Diesel oil:49%
- Gasoline: 29.1%
- LPG:21.5%
- Unknown:0.4%



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GHG Emissions Road Transportation

CO₂ intensity of fuels

CO ₂ intensity of fuels (ton CO ₂ /TJ)				
Gasoline	Diesel oil	LPG	Natural gas	Biofuel
69.30	73.43	63.07	56.06	70.77

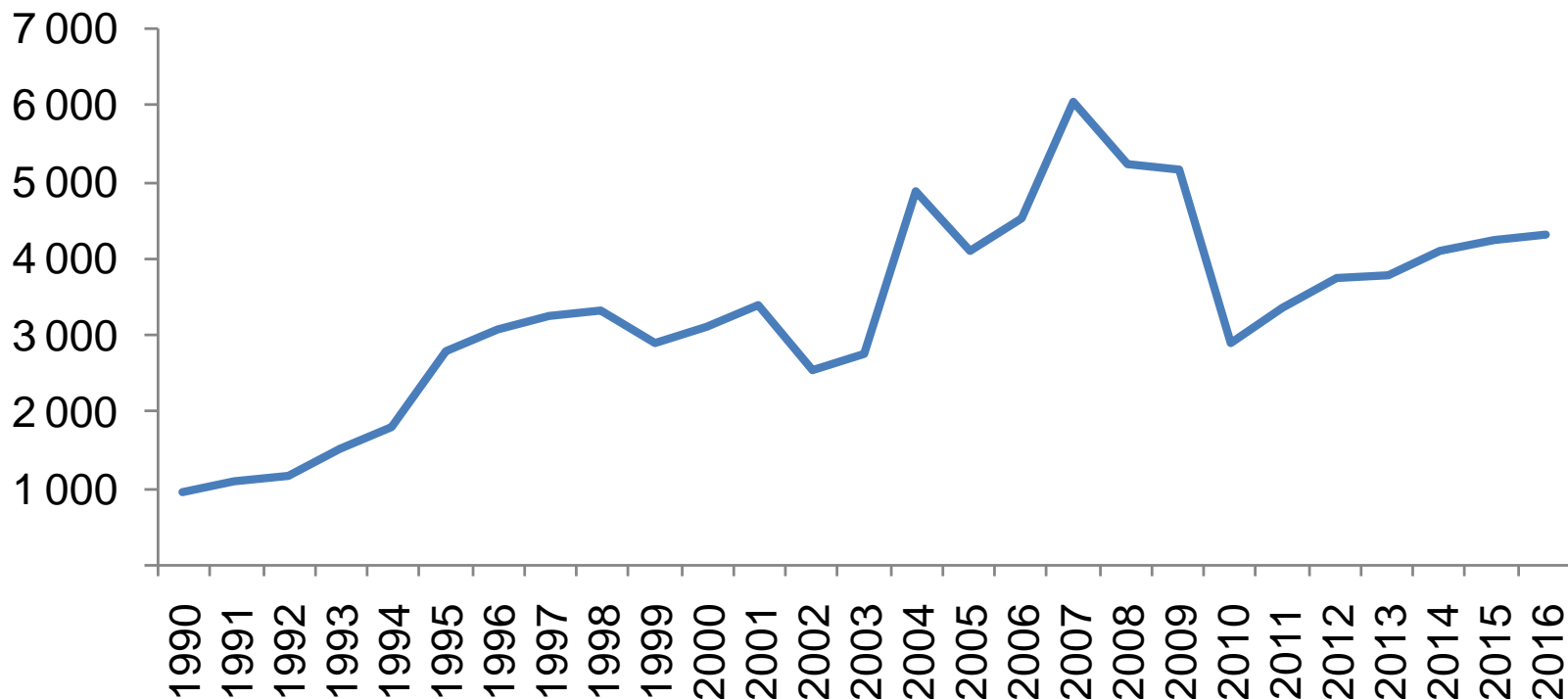


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GHG Emissions Domestic aviation

GHG emissions from domestic aviation

(kt CO₂ eq)



GHG emissions from
domestic aviation;

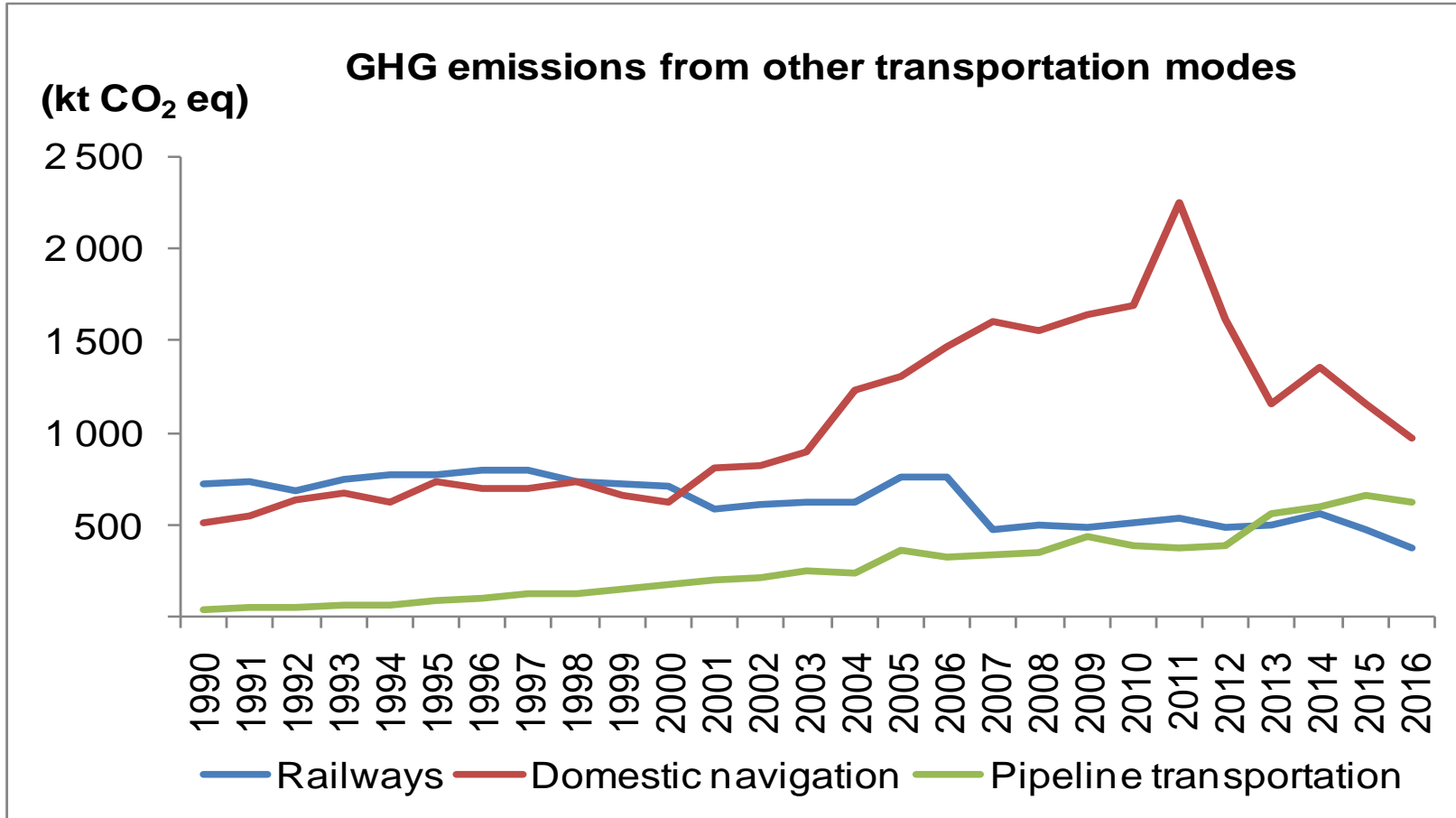
In 1990: 0.9 Mt CO₂ eq
In 2016 : 4.3 Mt CO₂ eq



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GHG Emissions

Other transportation modes



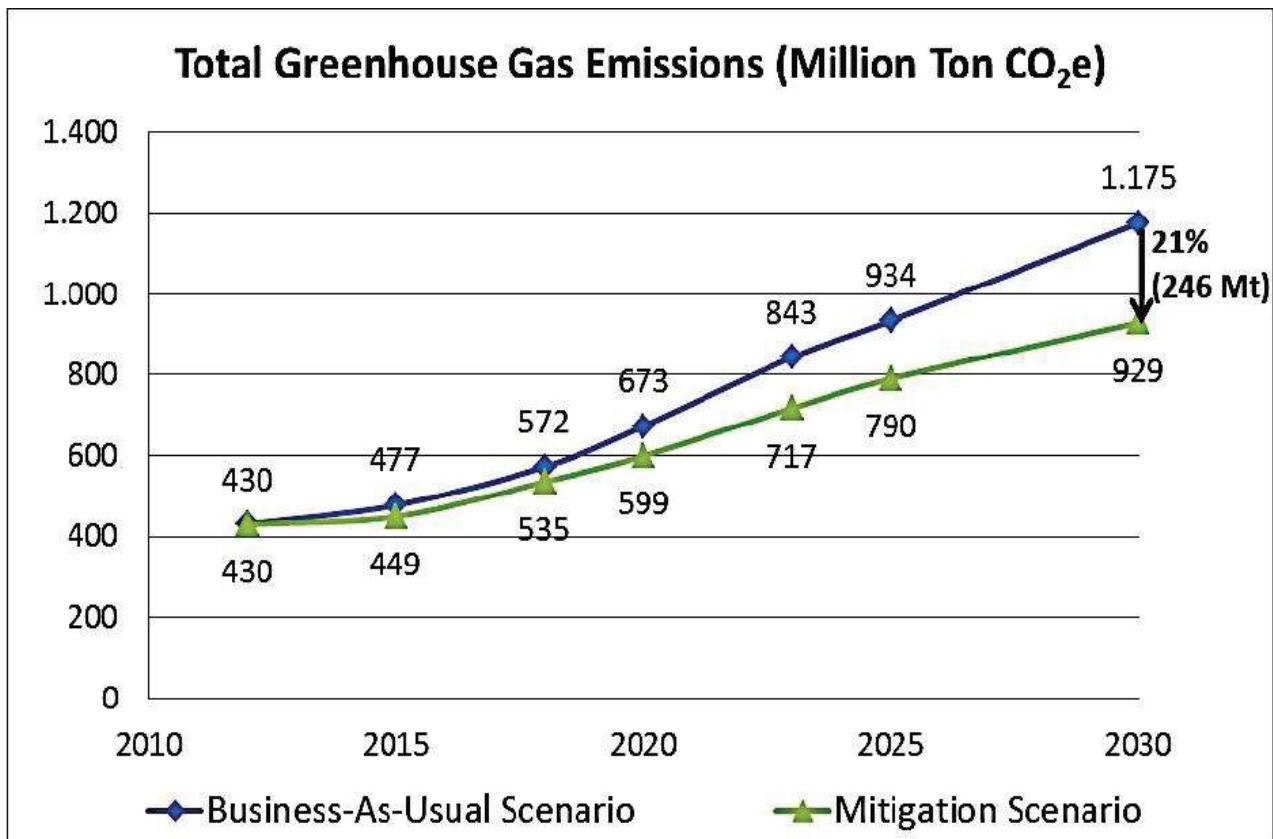
GHG emissions from other transportation modes;

- Domestic navigation: 1 Mt CO₂ eq
- Railway: 0.4 Mt CO₂ eq
- Pipeline transportation: 0.6 Mt CO₂ eq



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GHG Emission Projections



Turkey Government's official INDC GHG target until 2030;
 2030 yılında seragazi emisyonları (with LULUCF) :
 With BAU scenario;
 1175 Mt CO₂ eq.
 With measures scenario;
 929 Mt CO₂ eq.

Source: Turkey's 6th National Communication





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GHG Emission Projections

Sectors	GHG emission projections without measures scenario		GHG emission projections without measures scenario		Decrease in emissions	
	(kt CO ₂ eq)		(kt CO ₂ eq)		(%)	
	2020	2030	2020	2030	2020	2030
Energy	538 887	943 547	499 336	738 266	-7.3	-21.8
Transport	101 190	136 513	101 113	135 994	-0.1	-0.4
Industry/industrial processes	94 750	169 754	94 785	169 754	0.0	0.0
Agriculture	51 557	59 278	51 557	59 278	0.0	0.0
Waste management/waste	27 900	40 900	23 610	31 400	-15.4	-23.2
Forestry/LULUCF	-40 193	-38 698	-70 036	-69 710	74.2	80.1
Total with LULUCF	672 901	1174 781	599 252	928 987	-10.9	-20.9
Total without LULUCF	713 094	1213 479	575 642	897 587	-19.3	-26.0

Decrease in GHG emission <1%

Source: Turkey's Third Biennial Report





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Thank you for your attention

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