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- **Kursi intensiv: Climate and Green Finance Agenda in EU**

Adjusting in a new world: transitioning to renewables challenges and opportunities

Jean Monnet Module **“Promoting knowledge on EU policy in fiscal administration, climate, and energy topics – PRO-Facts”**

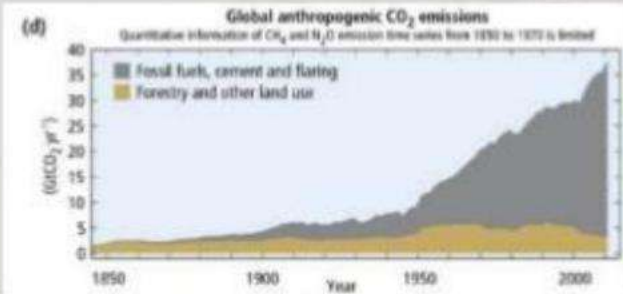
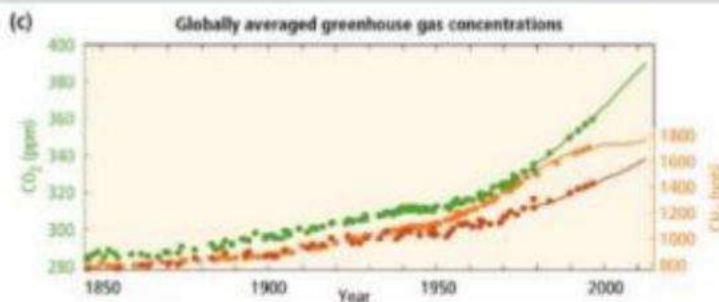
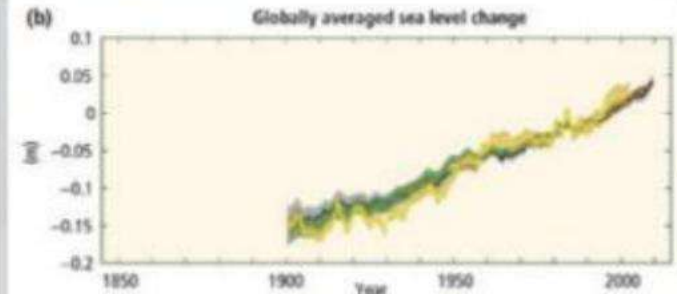
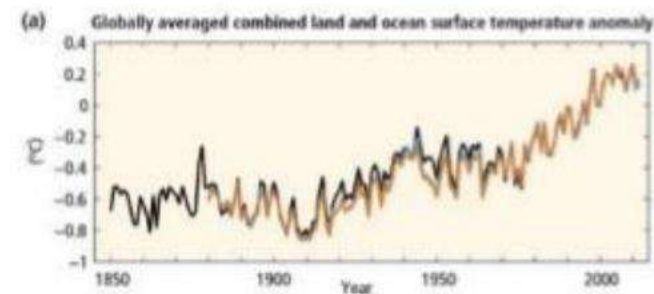
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Presentation outline and highlights

- The scientific context for climate change
- The main principles of the KKKBNK, the Kyoto Protocol and the Paris Agreement
- Challenges and opportunities for Albania: national communications and policies for climate change mitigation/adaptation

Climate change - an undeniable fact

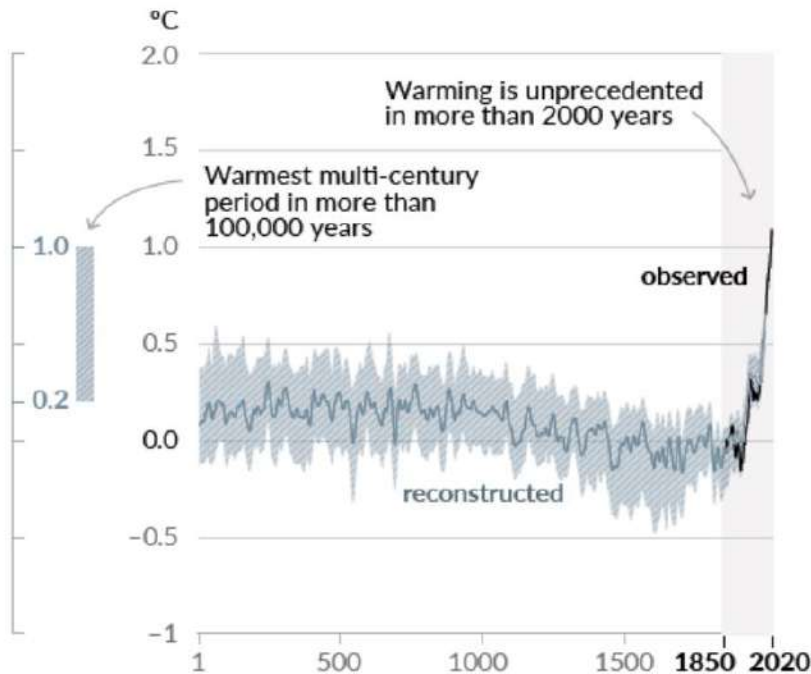
HUMAN INFLUENCE: Extremely likely that human influence has been the dominant cause of warming since the mid-20th century



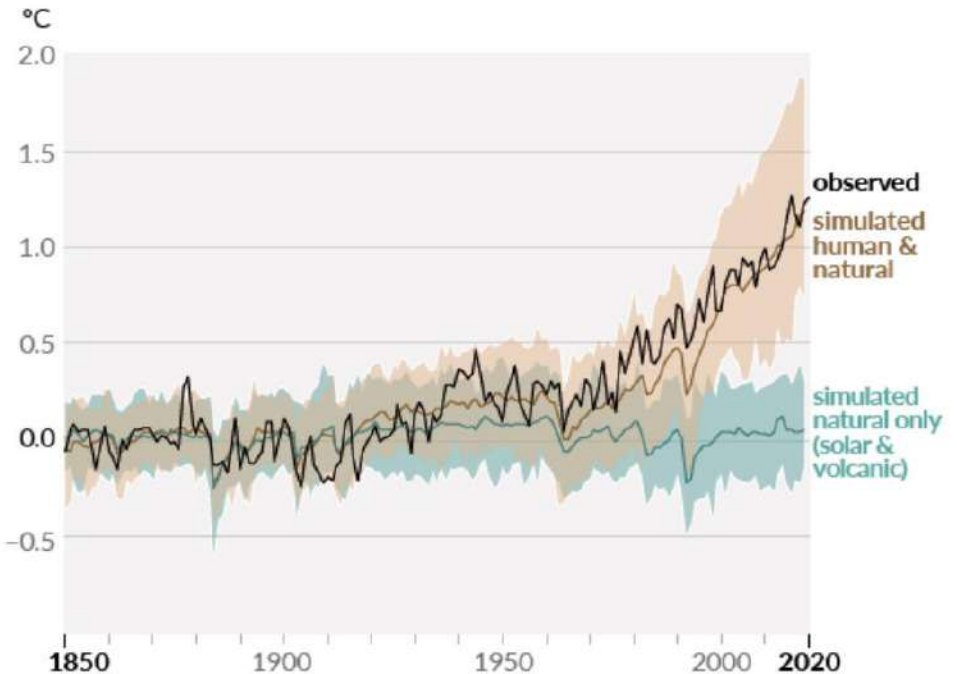
Climate change - an undeniable fact

Changes in global surface temperature relative to 1850–1900

(a) Change in global surface temperature (decadal average) as **reconstructed** (1–2000) and **observed** (1850–2020)



(b) Change in global surface temperature (annual average) as **observed** and simulated using **human & natural** and **only natural** factors (both 1850–2020)



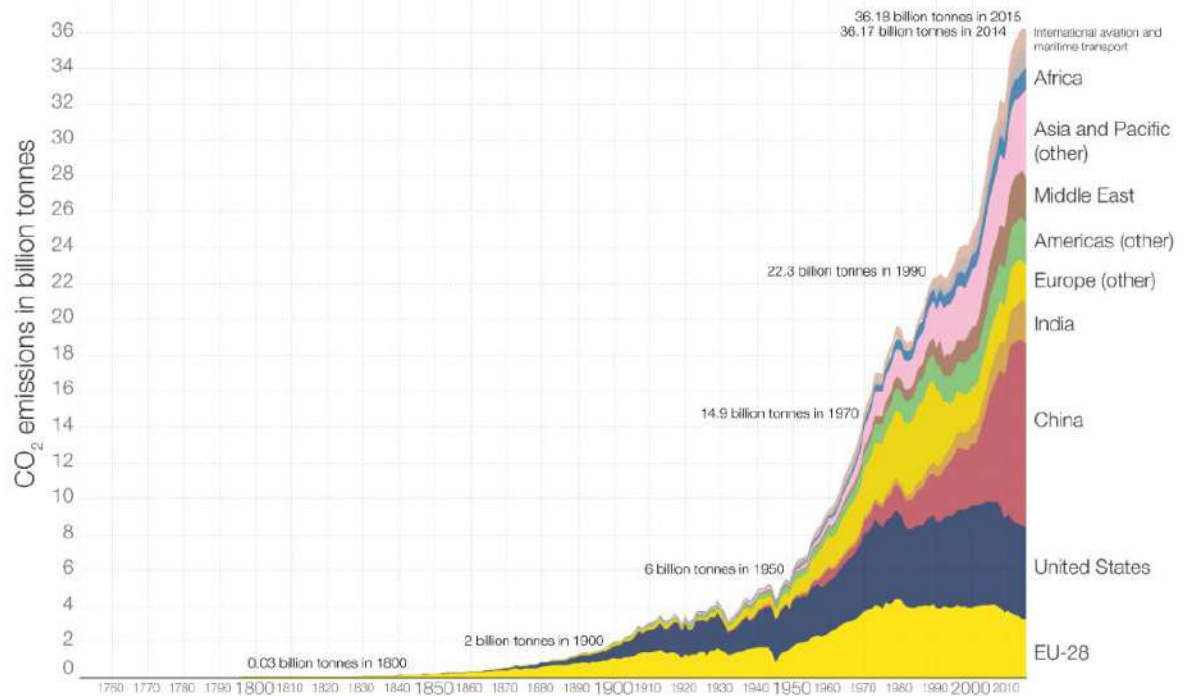
Climate change - an undeniable fact

- "The scientific evidence is now reconfirming: climate change poses very serious global risks, which also require an immediate global response."
 - the atmosphere and oceans have warmed•
 - the amount of snow and ice has decreased•
 - rainfall patterns have changed•
 - sea level has risen•
 - heat waves are more frequent•
 - rainfall is heavier•
 - Arctic ice extent is declining•
 - permafrost temperatures have increased (layers with temperature below 0°)

Global Greenhouse Gas Emissions

Global CO₂ emissions by world region, 1751 to 2015

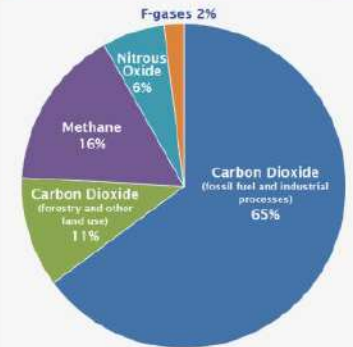
Annual carbon dioxide emissions in billion tonnes (Gt).



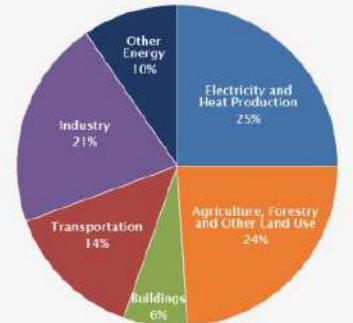
Data source: Carbon Dioxide Information Analysis Center (CDIAC); aggregation by world region by Our World in Data.
The interactive data visualization is available at OurWorldinData.org. There you find the raw data and more visualizations on this topic.

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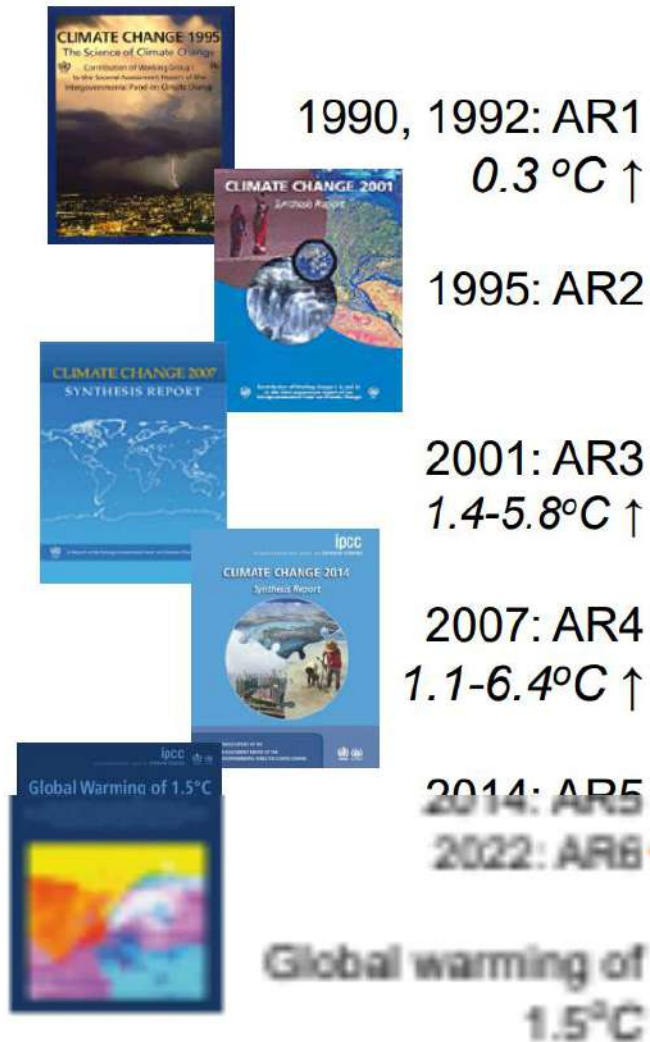
Global Greenhouse Gas Emissions by Gas



Global Greenhouse Gas Emissions by Economic Sector



Science (IPCC)



Politics (UNFCCC)

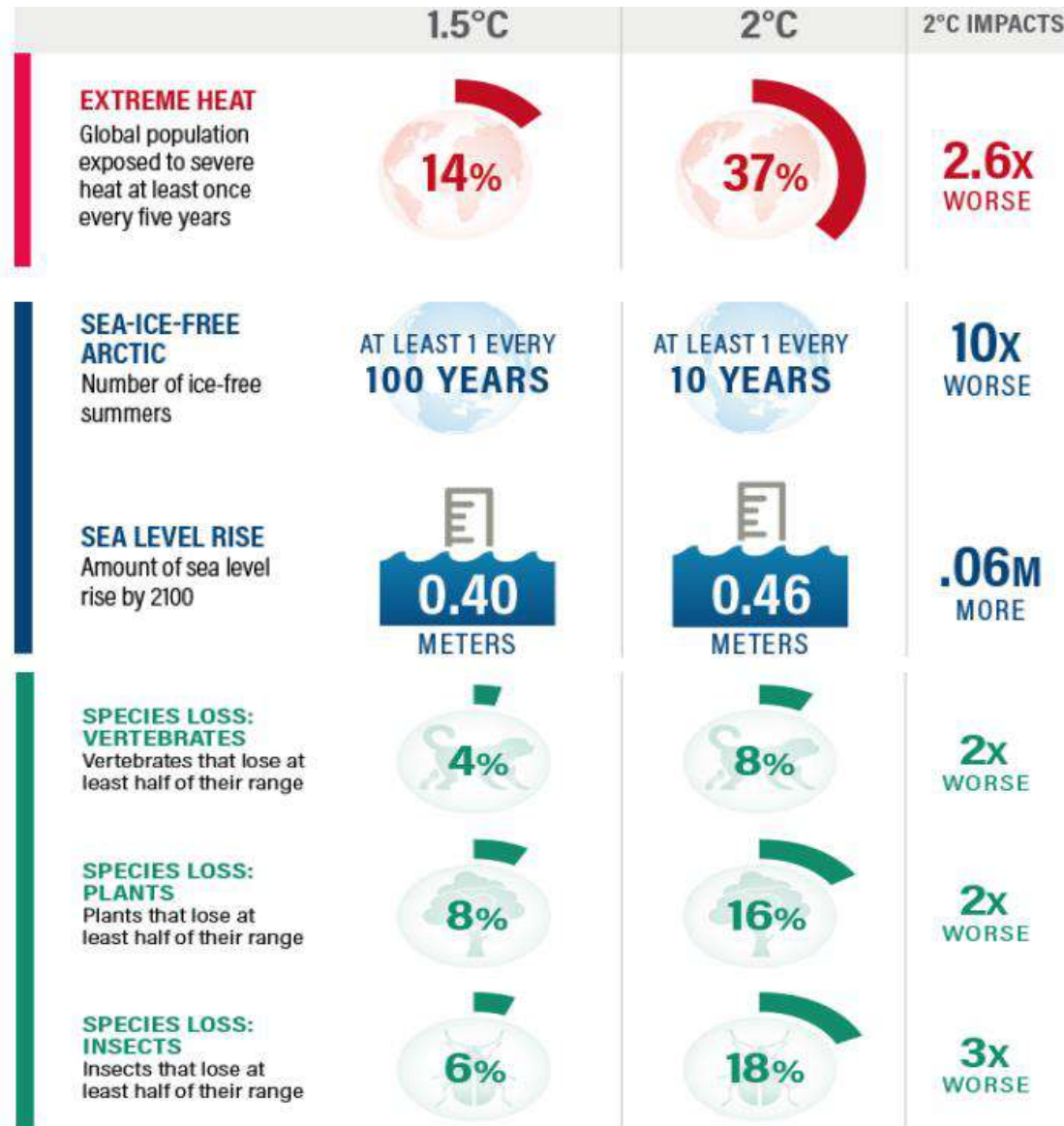
1992: United Nations Framework Convention on Climate Change
1994: The Convention enters into force
1997: Kyoto Protocol
2009: 15th Meeting of the Parties to the Copenhagen Accord
2015: 21st Meeting of the Parties and the Paris Agreement
2022: 26th Meeting of the Parties, Implementing Rules of the Paris Agreement

What do we mean by climate change mitigation?

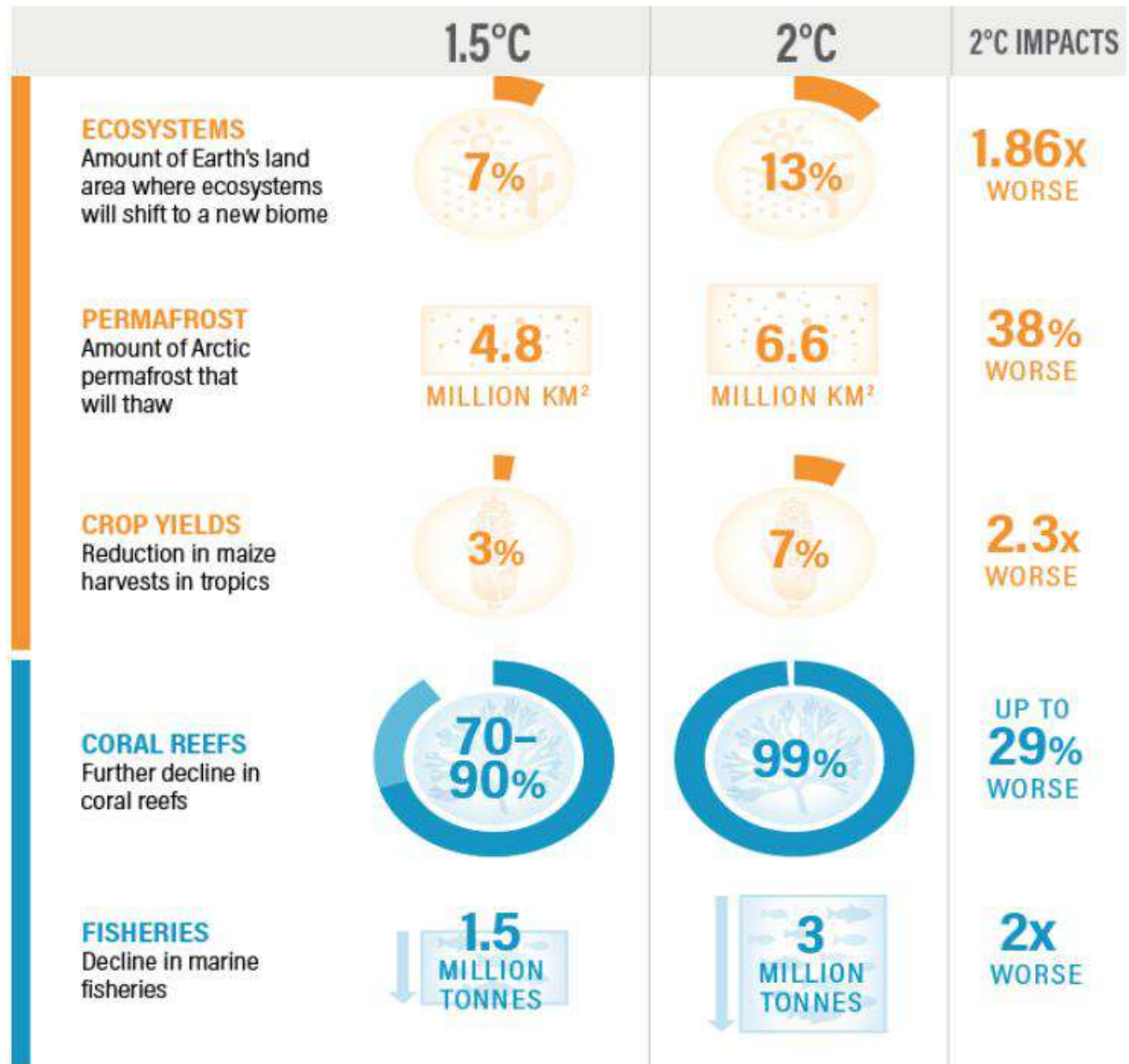
- Any measure that leads to the reduction of net GHG emissions through:
 - Reduction of GHG sources
 - Increasing the sources of GHG absorption
 - It includes, but is not limited to measures of a technological, political, structural or financial nature



Expected Impacts



Expected Impacts



Albania and climate change

- Albania has signed/ratified UNFCCC and Paris Agreement in 1994 and 2016 respectively
- As a non-Annex 1 country its reporting obligation are once every 4 years.
- National Communication must include:
 - GHG emissions
 - National policies and strategies that address climate action
 - Collaboration for preparation for adaptation to climate change

First National Communication
2002



Assessment of technology needs



Second National Communication
2009



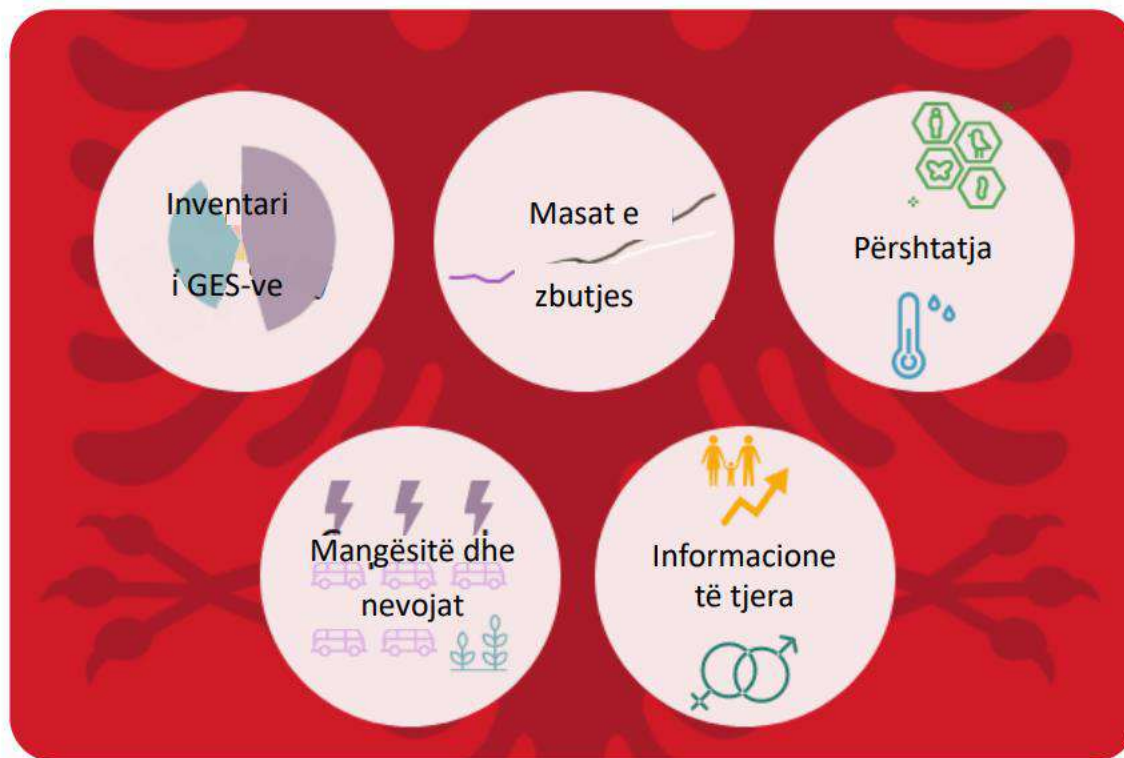
Third National Communication
2016



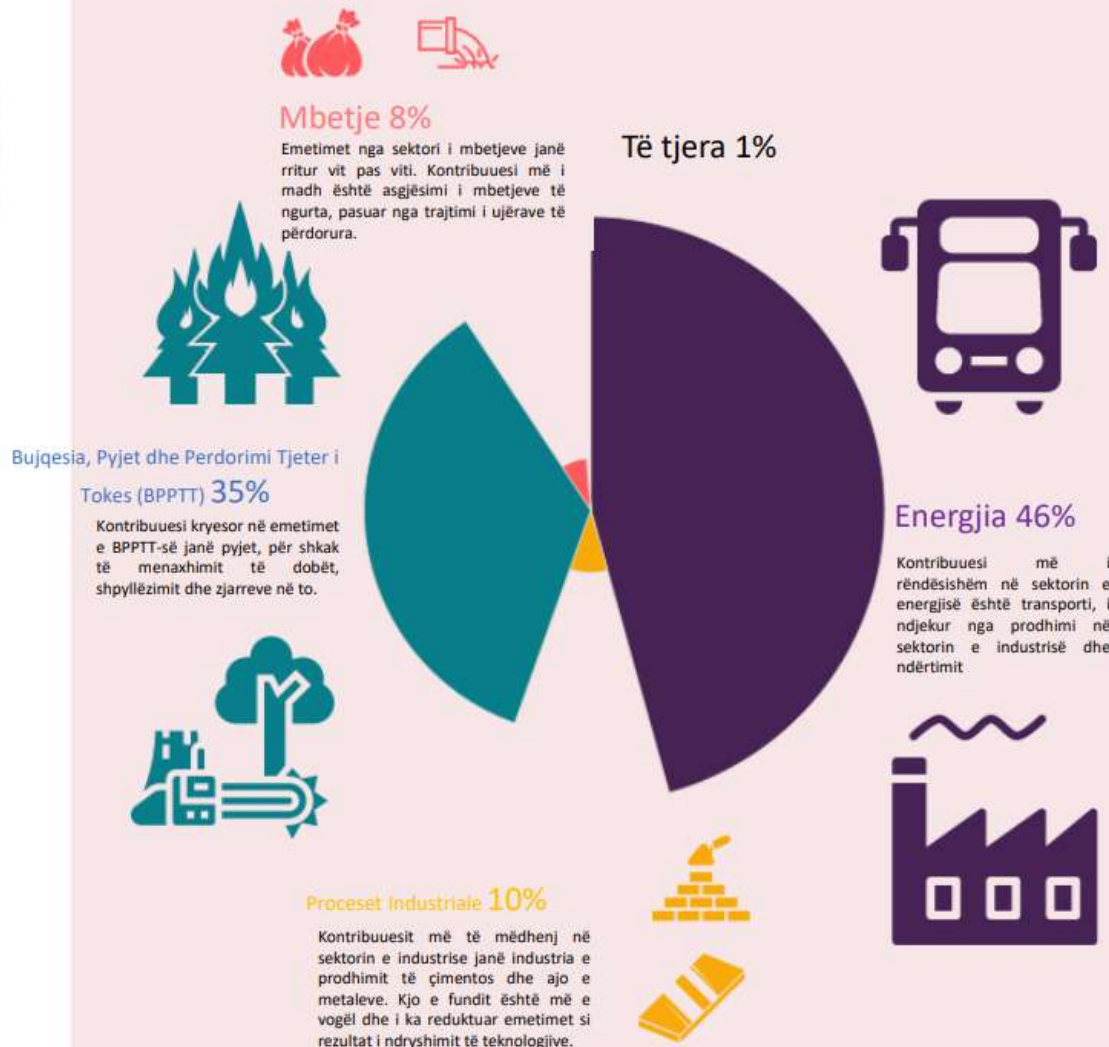
Second Biennial Updated Report
2021

Fourth National Communication 2022

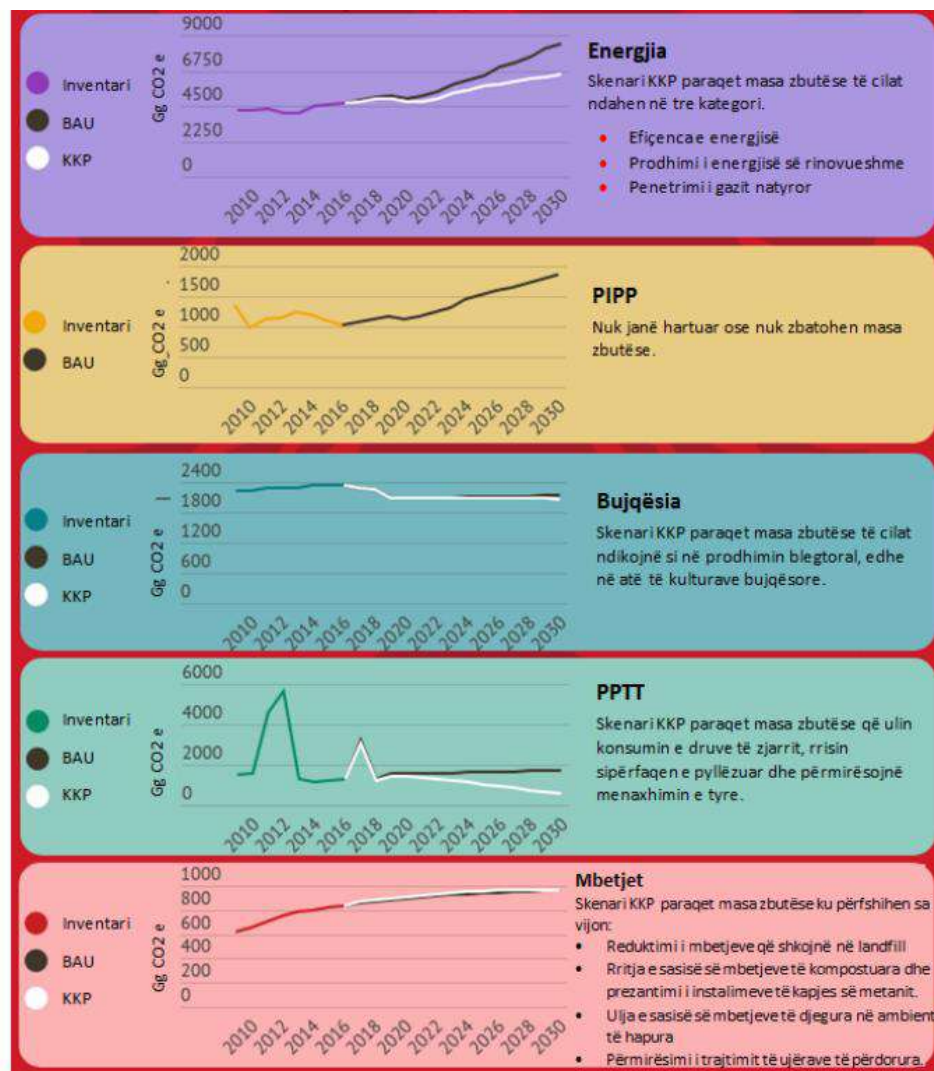
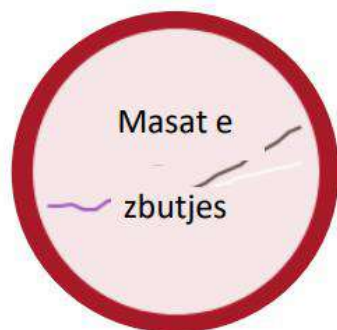
Reporting Structure



Inventari i Gazeve me Efekt Serre (GES)



Emetimet antropogjene të GES-ve në Shqipëri në vitin 2016 (Gg CO2 e.)



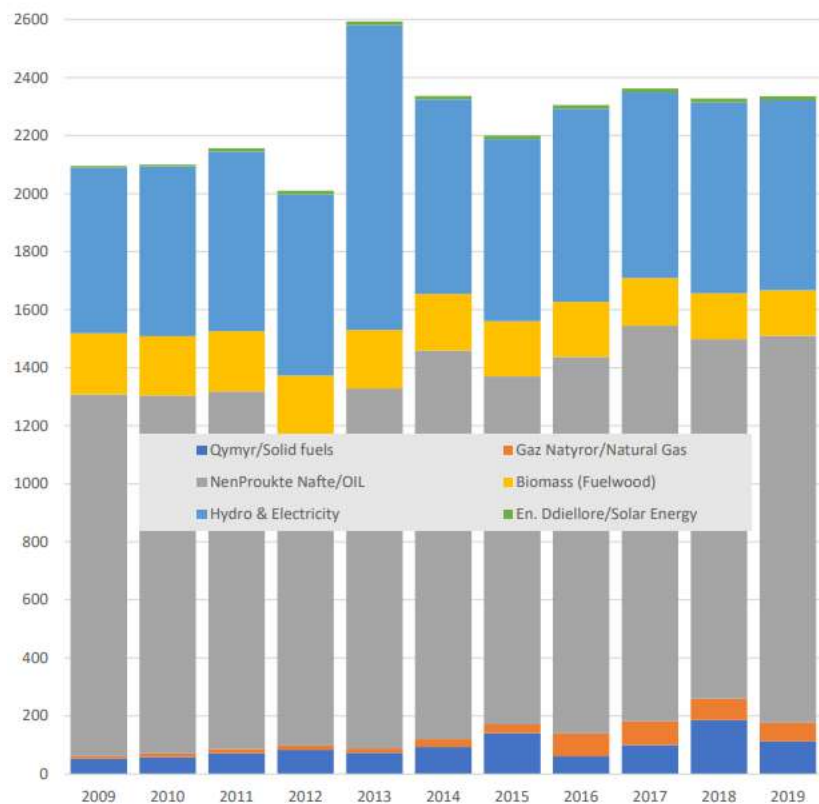


New target in response to Paris Agreement

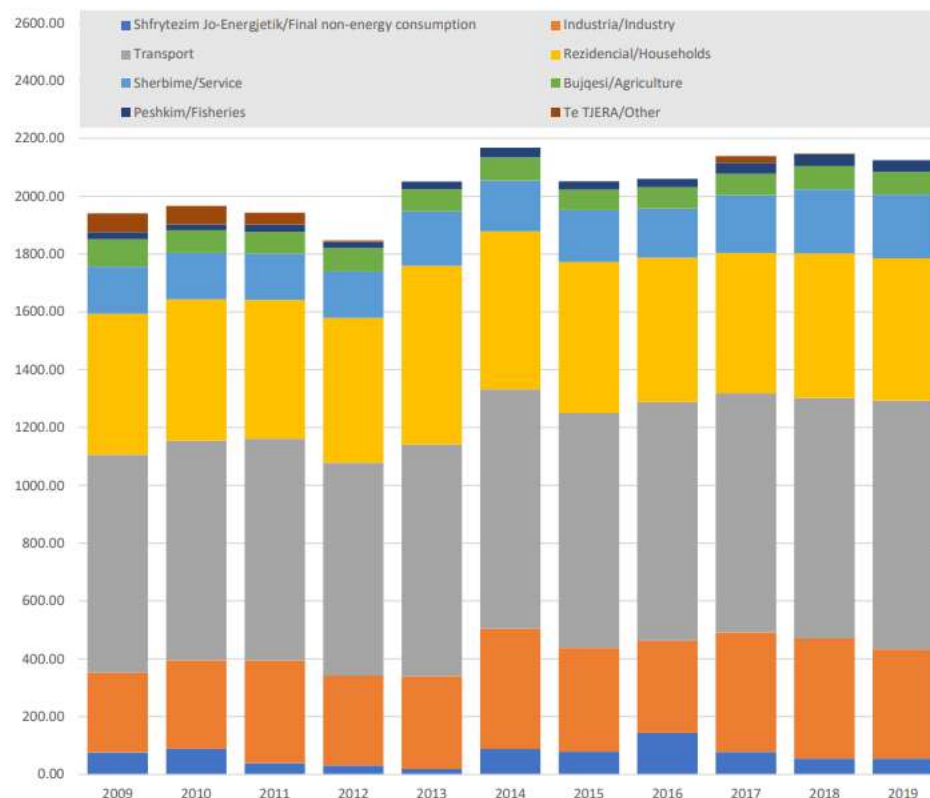
All Sectors



Energy Sector



Energy Supply 2009-2019



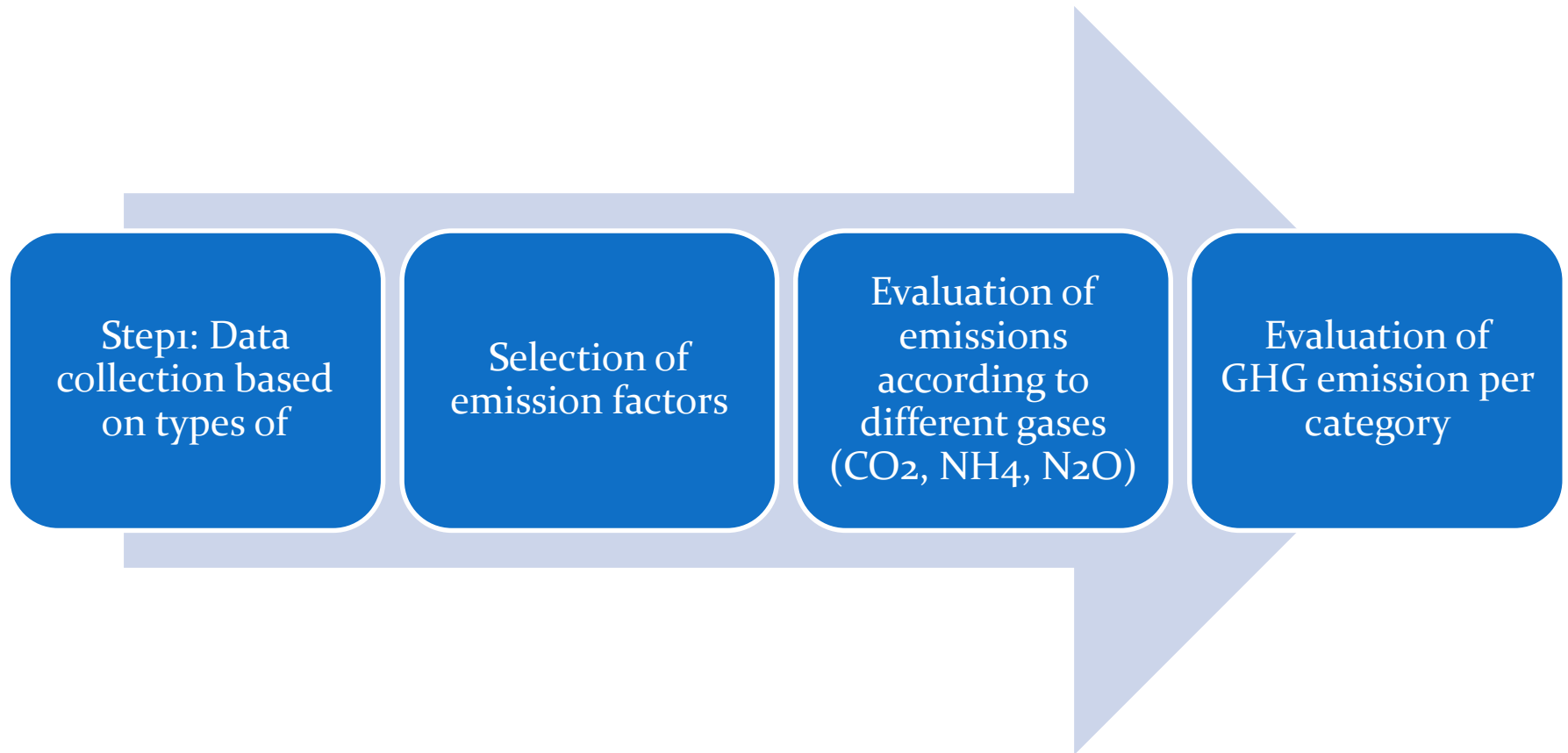
Energy Consumption 2009-2019

Calculation of the GHG emission based on the IPCC 2006 methodology

Kategorite	Nenkategorite
Djegia e lendeve djegese	Industrite energjetike
	Industrite e prodhimit dhe ndertimit
	Transporti
	Sektoret e tjere
Emetimet fuxhitive nga prodhimi/rafinimi/transporti/shperndarja e lendeve djegese	Lende djegese te ngurta
	Nafta dhe gazi natyror
Kapja dhe ruajtja e karbonit	Transporti i CO ₂
	Injektimi dhe storimi



Calculation of the GHG emission based on the IPCC 2006 methodology



Calculation of the GHG emission based on the IPCC 2006 methodology

EQUATION 2.1

GREENHOUSE GAS EMISSIONS FROM STATIONARY COMBUSTION

$$Emissions_{GHG, fuel} = Fuel\ Consumption_{fuel} \bullet Emission\ Factor_{GHG, fuel}$$

Where:

$Emissions_{GHG, fuel}$ = emissions of a given GHG by type of fuel (kg GHG)

$Fuel\ Consumption_{fuel}$ = amount of fuel combusted in energy units (TJ)

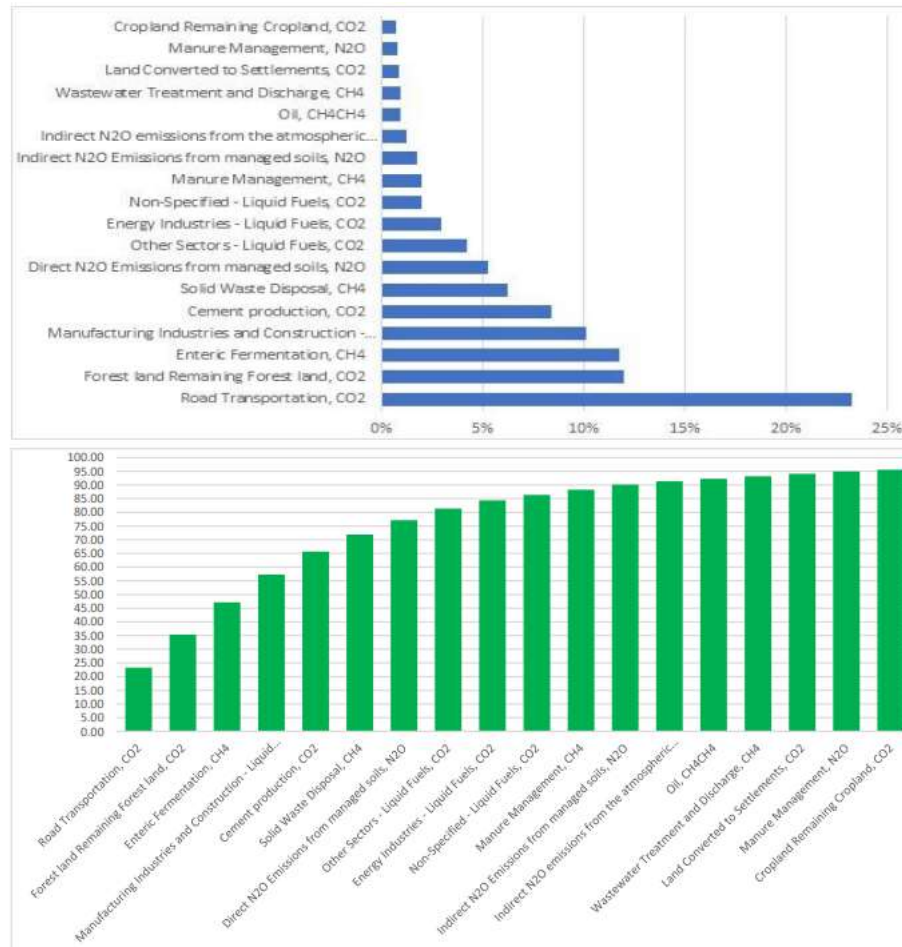
$Emission\ factor_{GHG, fuel}$ = default emission factor of a given GHG by type of fuel (kg GHG/TJ)

Calculation of the GHG emission based on the IPCC 2006 methodology

TABLE 2.3
DEFAULT EMISSION FACTORS FOR STATIONARY COMBUSTION IN MANUFACTURING INDUSTRIES AND CONSTRUCTION
(kg of greenhouse gas per TJ on a Net Calorific Basis)

Fuel		CO ₂			CH ₄			N ₂ O		
		Default Emission Factor	Lower	Upper	Default Emission Factor	Lower	Upper	Default Emission Factor	Lower	Upper
Crude Oil		73 300	71 100	75 500	r 3	1	10	0.6	0.2	2
Orimulsion		r 77 000	69 300	85 400	r 3	1	10	0.6	0.2	2
Natural Gas Liquids		r 64 200	58 300	70 400	r 3	1	10	0.6	0.2	2
Gasoline	Motor Gasoline	r 69 300	67 500	73 000	r 3	1	10	0.6	0.2	2
	Aviation Gasoline	r 70 000	67 500	73 000	r 3	1	10	0.6	0.2	2
	Jet Gasoline	r 70 000	67 500	73 000	r 3	1	10	0.6	0.2	2
Jet Kerosene		71 500	69 700	74 400	r 3	1	10	0.6	0.2	2
Other Kerosene		71 900	70 800	73 700	r 3	1	10	0.6	0.2	2

Key categories of GHG Emissions



Albania Progress in energy field in comparison to EU

- Albania has achieved moderate progress in terms of electricity and gas market reforms;
- When it comes to renewables, the country is a leader in implementing auctions for renewable projects and reached its 2020 renewable energy target.
- Albania has advanced in the implementation of the Energy Performance of Buildings Directive, but more progress is needed in the field of energy efficiency, especially in the context of the energy crisis.
- Albania has adopted a first version of its National Energy and Climate Plan and the Governance Regulation has been partially transposed.
- The transposition of the 2021 electricity legislation has not yet started, while the transposition of the new Directives on renewable sources and energy efficiency is at an early stage.
- Approved documents: National Energy Strategy; Action Plans for Renewable Energy and Energy Efficiency, the National Plan for Climate and Energy, the National Defined Contribution Document in response to the Paris Climate Agreement, etc.

UN engagement in Albania

- The transformation of the market for solar panels for hot water and photovoltaic;
- Sustainable management and use of forest biomass.



Thank you