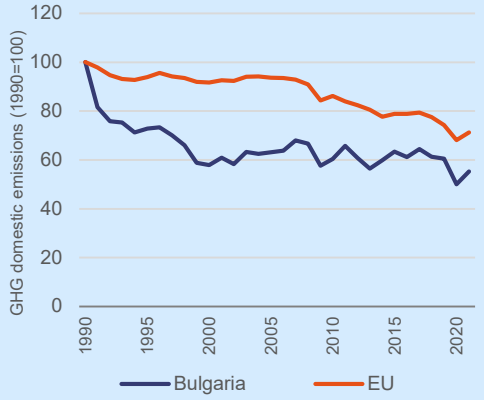
Bulgaria

1) Key takeaways

- In 2021, GHG emissions in Bulgaria were 8.5% below 2019 pre-pandemic levels.
- Over the same period, ETS and Effor Sharing emissions decreased by 1% and by 1.3%, respectively.
- Net GHG emissions (i.e. including LULUCF) in 2021 were 54.5% lower than 1990 levels.
- The LULUCF sector emitted 1.16 MtCO2-eq on average per year from 2013 to 2020, based on accounting.

2) Greenhouse gas emissions

In 2021, approximated domestic greenhouse gas (GHG) emissions in Bulgaria were 54.4 MtCO2-eq, 10.6% higher compared to 2020 but 8.5% below pre-pandemic levels. Overall, net domestic emissions, including the Land Use, Land Use Change and Forestry (LULUCF) sector, were 54.5% lower than 1990 levels.



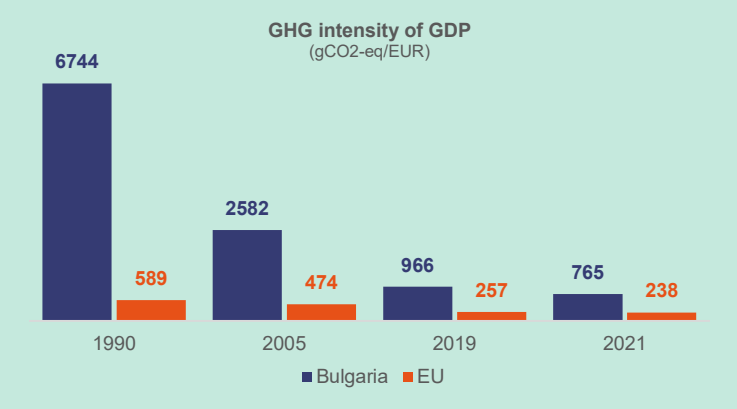
Total domestic GHG emissions

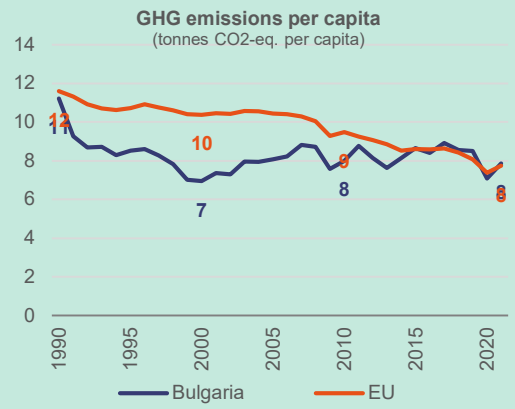
	1990 (MtCO2-eq)	2005 to 1990 (% change)	2019 to 2005 (% change)	2021 to 2019 (% change)	2021 to 1990 (% change)
Bulgaria	98	-37%	-4%	-9%	-45%
EU	4847	-6%	-21%	-4%	-29%

Total net domestic GHG emissions (including LULUCF)

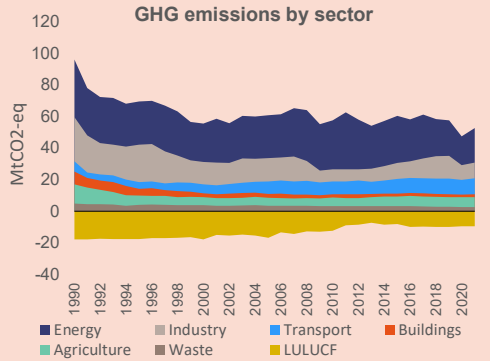
Bulgaria	80	-54%	-20%	-25%	-54%
EU	4633	-13%	-26%	-10%	-33%

Note: GHG emissions and removals for 1990-2020 are based on data submitted by EU Member States to the UNFCCC under Regulation (EU) No 525/2013. Figures may change following resubmissions. GHG emissions for 2021 are based on approximated GHG inventories.





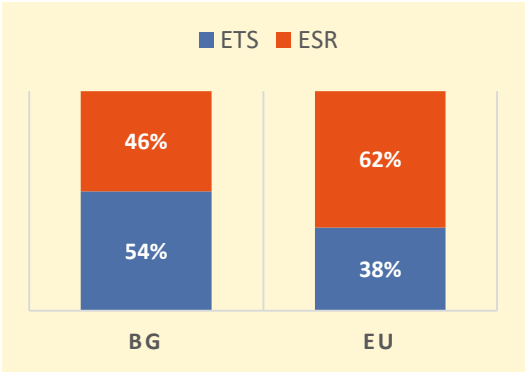
3) Greenhouse gas emissions by sector

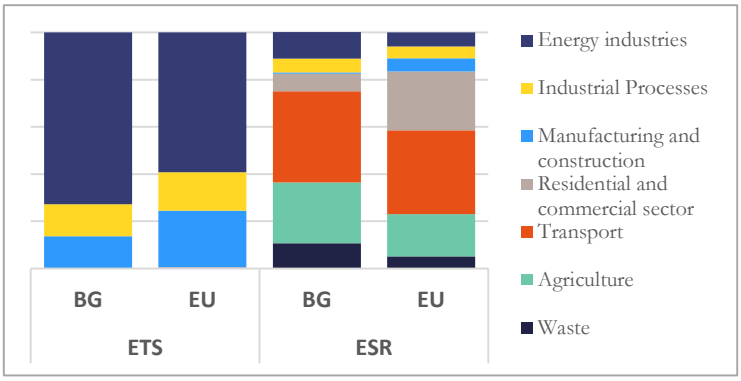


	1990 (MtCO2-eq)	2005 to 1990 (% change)	2019 to 2005 (% change)	2021 to 2019 (% change)	2021 to 1990 (% change)
Energy	36.5	-26%	-17%	-2%	-39%
Industry	27.8	-47%	-2%	-32%	-65%
Transport	6.5	20%	27%	2%	55%
Buildings	8.1	-69%	-30%	3%	-78%
Agriculture	12.3	-59%	25%	1%	-49%
Waste	4.7	-26%	-23%	-4%	-45%
LULUCF	-17.9	-5%	-41%	-4%	-46%
International aviation	0.7	-21%	29%	-33%	-31%

Notes: (1) Energy sector refers to electricity and heat production and petroleum refining. (2) Industry includes fuel combustion in manufacturing and construction and emissions in industrial processes and product use. (3) Buildings include emissions from energy use in residential and tertiary buildings, and energy use in agriculture and fishery sectors.

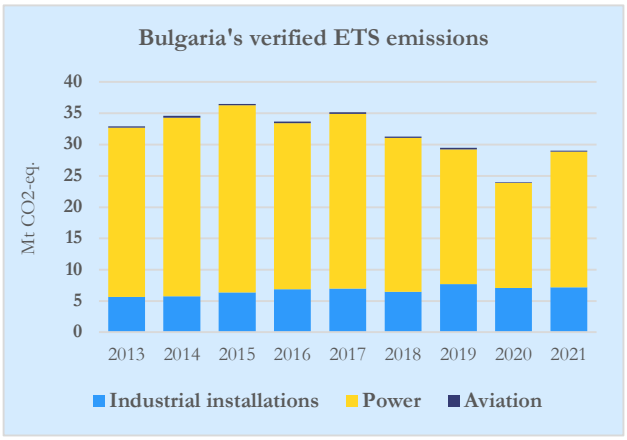
In 2021, the highest contribution to net GHG emissions in Bulgaria came from the Energy sector (51%), followed by the Transport sector (23%) and the Industry sector (23%). Emissions from sectors under the Effort Sharing Regulation (ESR) were 46% compared to 62% for the EU as a whole (see shares in the charts below).





4) Emissions under the EU Emissions Trading System (ETS)

In 2021, stationary installations (e.g. power generation and manufacturing industry) in Bulgaria emitted 28.9 million tonnes of CO2-eq emissions (equal to 53% of Bulgaria's total GHG emissions). This is 21.2% higher compared to 2020 but 1.0% below pre-pandemic levels. By 2021, emissions from stationary installations were down by 11.6% against 2013 level (i.e. -23.7% to 2005 levels). Aviation emissions covered by the EU ETS were 4.2% higher compared to 2020 but 56.0% below 2019 level.



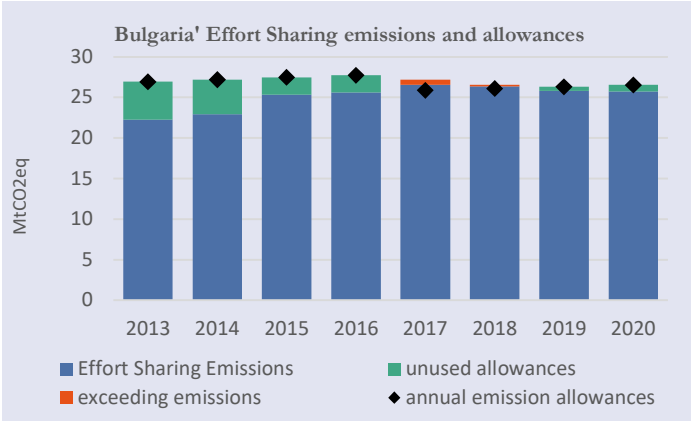
In parallel, Bulgaria has raised over EUR 2.5 billion in auction revenues since 2013, available for further climate action and energy transformation. Bulgaria reported that an average of 100% of revenues was spent for climate and energy purposes over the same period.(*)

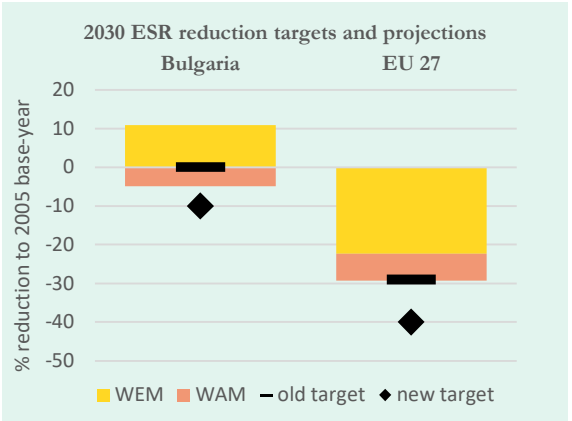
Mt CO2-eq	2013	2020	2021
Power installations	27.1	16.7	21.7
% change since 2013	-	-38.2%	-19.8%
Industrial installations	5.6	7.1	7.2
% change since 2013	-	26.4%	28.0%
Aviation (**)	0.25	0.12	0.12
% change since 2013	-	-53.5%	-51.5%

(*) Unspent revenues are carried over to later years, therefore in some years spending is higher than the revenues.

(**) ETS emissions from aviation include flights within the European Economic Area (EEA) and outgoing flights to Switzerland and to the UK.

5) Emissions in Effort Sharing sectors





Note: (1) Verified emissions based on annual inventory review under the Effort Sharing Decision (ESD). (2) Projections as reported by Member States under Reg. (EU) 2018/1999, compiled and checked by the EEA. (3) ESR base-year emissions and targets have been approximately converted into GWP AR4 for comparability. For these reasons, the distances to targets for 2030 are provided for illustrative purposes only (4) WEM = with existing measures, WAM = with additional measures.

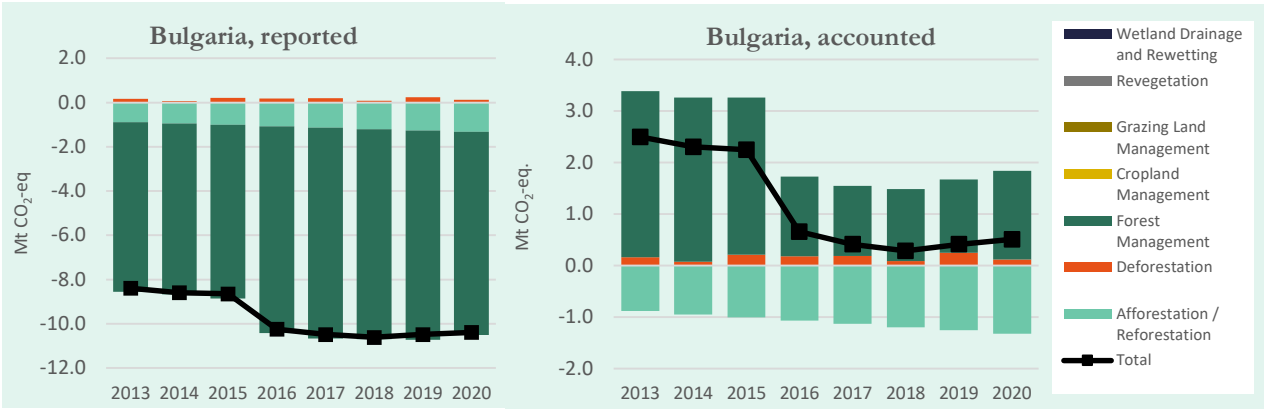
In 2021, effort sharing approximated emissions in Bulgaria were 25.5 MtCO2eq (equal to 47% of Bulgaria's total GHG emissions), 1.0% lower than in 2020 and 1.3% lower than 2019 pre-pandemic level.

Between 2013 and 2019, Bulgaria exceeded its annual emission allocations (AEAs) 2 times. However, Bulgaria complied with the Effort Sharing Decision by making use of the flexibilities provided therein.

In 2020, effort sharing emissions in Bulgaria were below the annual limit.

6) Land Use, Land Use Change and Forestry (LULUCF)

Reported quantities under the Kyoto Protocol for Bulgaria show net removals of -9.7 Mt CO2-eq on average per year for the period 2013 to 2020. In this regard, Bulgaria contributes with 3.0% to the annual average sink of -320.2 Mt CO2-eq of the EU-27. Accounting for the same period shows net credits of, on average, -1.2 Mt CO2-eq, which makes up 1.4% of the EU-27 accounted sink of -83.4 Mt CO2-eq. Reported net removals show minor variations with a slightly increasing trend overall. For accounted net credits a slight increasing trend can be observed



Notes: (1) Charts based on the submissions delivered until May 2022. (2) Data reported for the period 2013-2020, for mandatory and elected LULUCF activities , were submitted by Member States to the European Environment Agency (EEA) and underwent a simulated accounting process developed by the Joint Research Centre (JRC), together with DG CLIMA. (3) Reported data represent the gross annual flux of greenhouse gas from the sector, by activity, according to the IPCC methods for calculation in the framework of the Kyoto Protocol (KP). Accounting is aimed at assessing the impact of policies on climate actions on the actual data, for example as an increase in the sink within the Forest Management activity. (4) The simulated accounting process does not take into account any adjustments or flexibilities that a Member State may apply, for example the purchase of KP credits.

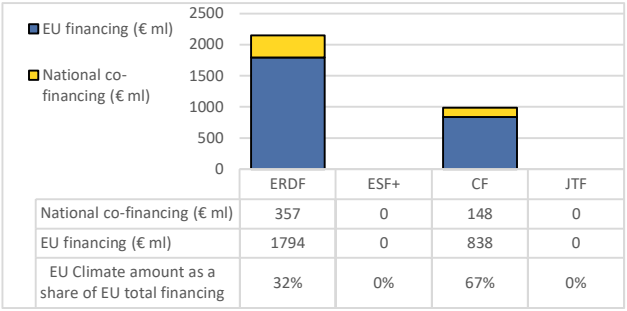
The dominating reported activity is Forest Management with average net removals of 8.8 Mt CO2 eq. Removals by Afforestation/Reforestation are sizable, but emissions by Deforestation are small and can be neglected in the overall emission budget of the LULUCF sector. Removals by Afforestation/Reforestation show an increasing trend over the eight-year period.

Credits from Afforestation/Reforestation dominate the accounts. Debits for Deforestation and debits for Forest Management are small. Credits by Afforestation/Reforestation show a clear increasing trend over the eight-year period, and overall accounting remains a debit throughout the period.

7) Financing Climate Action

Cohesion policy

Bulgaria's Planned Financing for Climate Actions
(EU financing & national co-financing - 2021-2027 Cohesion Policy)



	ERDF	ESF+	CF	JTF
National co-financing (€ ml)	357	0	148	0
EU financing (€ ml)	1794	0	838	0
EU Climate amount as a share of EU total financing	32%	0%	67%	0%

The chart presents information on investment plans and achievement targets from adopted programmes. Financing for cohesion policy uses a categorisation to provide thematic information on the finances planned.

Source: https://cohesiondata.ec.europa.eu/

Innovation and Modernisation Fund

Innovation Fund (Portfolio of signed projects)

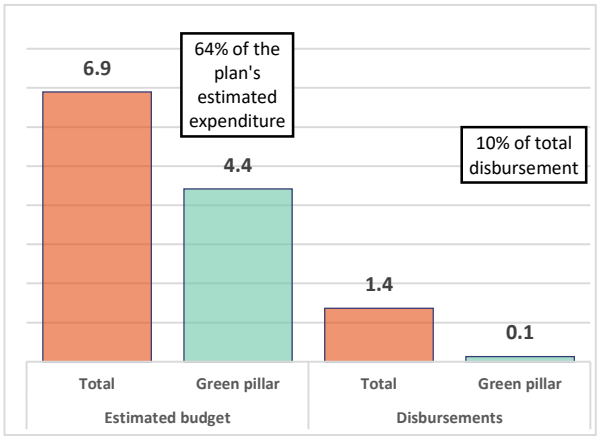
	n.	EUR million
Small Scale Projects	-	-
Large Scale Projects	1	189.7

Modernisation Fund	n.	EUR million
(List of confirmed or approved investment proposals)	-	-

Recovery & Resilience Facilities

RRF allocations (EUR billion)	Grants:	Loans:	% of GDP
	6.27	-	9.2

RRF contribution to the Green pillar in Bulgaria (€ bn)



This graph displays: 1) the estimated cost of measures attributed by the Commission, in consultation with the Member State, to the green pillar either as primary or secondary assignments; and 2) how disbursements under the RRF (excluding pre-financing) relate to the green pillar.

Source: https://ec.europa.eu/economy_finance/recovery-and-resilience-scoreboard/index.html?lang=en