



Press Release No. 1 (PCfpCO₂)

Subject: The Primary Carbon Footprint of the Greek Economy. 2008-2022

The **HELLENIC INSTITUTE OF ENVIRONMENTAL ACCOUNTS (HIEA)** announces for the first time the results of the Primary Carbon Footprint (PCfp) of the Greek economy for the period 2008-2022.

1) Introduction

The term Carbon Footprint (fp) refers to the total emissions of all greenhouse gases¹ which are diffused into the natural environment and have as their source the corresponding total of anthropogenic actions of institutional units² of the socio-economic³ environment, within the framework of their production and consumption processes.

The Primary or Direct Carbon Footprint (PCfp) of an economy is defined as the result of the greenhouse effects that originate only from the emissions of Carbon Dioxide (CO₂)

Therefore, the Primary Carbon Footprint (PCfpCO₂) is the result of the correlation of carbon dioxide (CO₂) emissions and the corresponding macroeconomic variables of the productive and consumer framework of the economy.

Regarding the assessment of the primary carbon footprint of the individual sectors of the productive framework of the economy, the macroeconomic variable of Gross Value Added (GVA) was used, as it is directly linked to the production process, while for the sector of the consumption framework, which consists mainly of Households, the corresponding variable of Final Consumption (FC) was used.

The arrangement of the sectors of the productive framework of the economy, as it is distinguishable on the relevant tables, was made on the basis of an accessible restructuring of NACE4-Rev.2 so that, on the one hand, the impacts of the socio-economic environment pillar on the natural environment can be distinguished more clearly and, on the other hand, the sectors in question can be grouped based on the principle of their functional contribution to the general socio-economic process.

1) The greenhouse gases are: Carbon Dioxide (CO₂), Methane (CH₄), Nitrous Oxide (N₂O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), Sulfur Hexafluoride (SF₆) and Nitrogen Trifluoride (NF₃).

2) By the term "Institutional unit" you mean the elementary economic entity which has in its possession goods and assets and has the possibility of autonomy in making decisions regarding its participation in economic activities within the socio-economic process. (European System of Accounts ESA-2010)

3) The environment is divided into three main pillars: a) The Natural Environment, b) The Economic Environment and c) The Social Environment.

4) NACE is the official statistical codification of the EU. It is the European adaptation of the United Nations ISIC (International Standard Industrial Classification) and the North American Industry Classification (NAICS). It is therefore internationally compatible. The term comes from Nomenclature statistique des Activités économiques dans la Communauté Européenne (NACE)

The concept of Primary Carbon Footprint (PCfpCO₂) consists of the direct carbon-bearing influence of carbon dioxide (CO₂) on the natural environment, mainly on the greenhouse effect, in a proportional relationship with the corresponding macroeconomic variable.

Through this indicator, the corresponding quantity of carbon dioxide (CO₂) emissions is presented numerically and per sector of the economy in relation to the corresponding values of the production and consumption process within the socio-economic process.

2) The tables in this section:

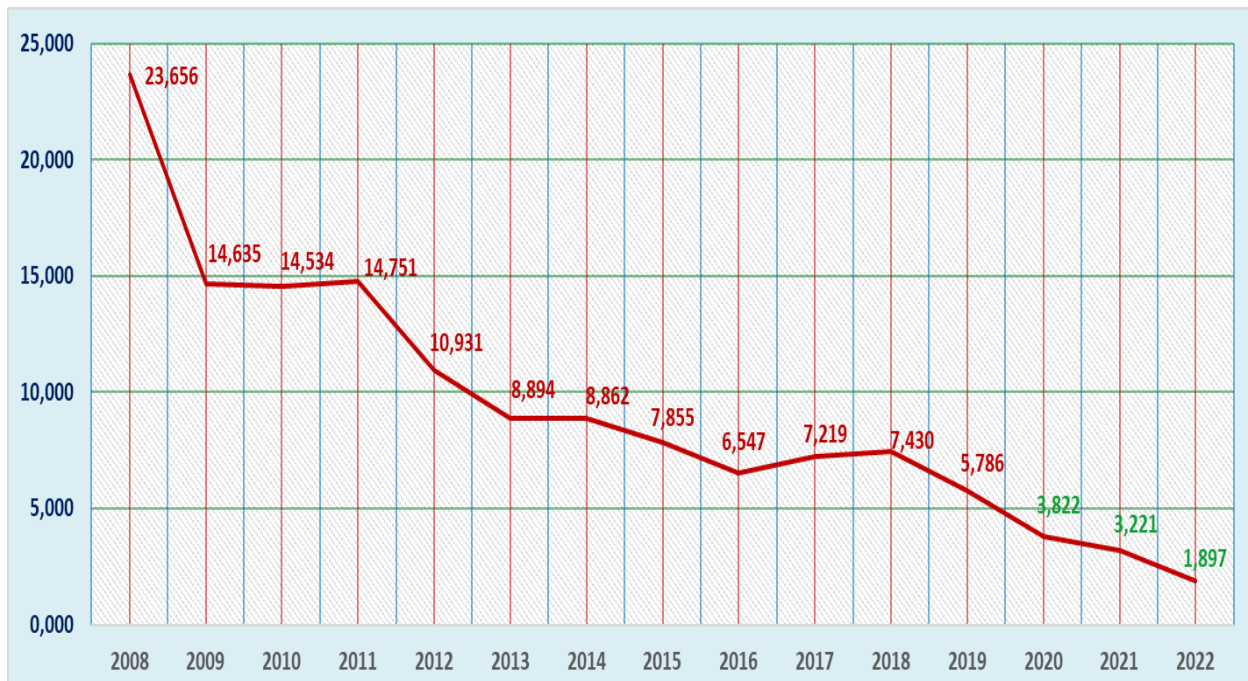
a) Table [ELAEA1cPCfpCO2SecGVATotal2022](#): The Primary Carbon Footprint of the Greek economy estimated based on Gross Value Added (GVA) and total carbon dioxide (CO₂) emissions. 2008 - 2022

b) Table [ELAEA3cPCfpCO2SecFCTotal2022](#): The Primary Carbon Footprint of Household sector estimated based on Final Consumption (FC) and the total corresponding carbon dioxide (CO₂) emissions. 2008 - 2022

c) Table [ELAEA1cPCfpCO2SecGVA%Total2022](#): The percentage distribution of Primary Carbon Footprint (PCfp) of the productive framework of the Greek Economy by sector of economic activity. 2008-2022

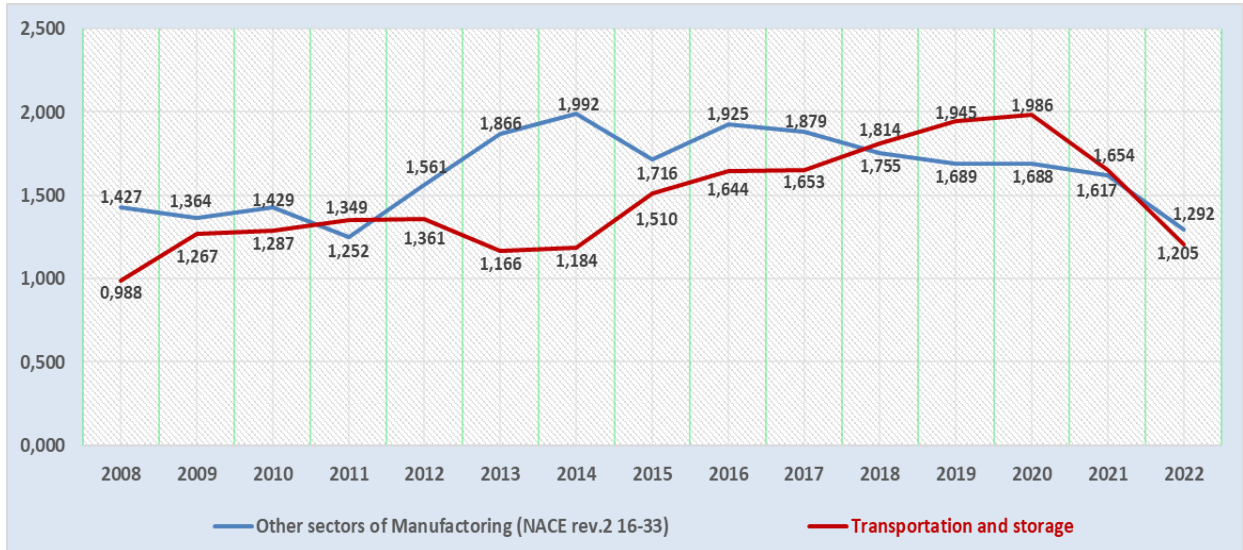
The following graphs present:

a) Graph1c1: The Primary Carbon (CO₂) footprint ([PCfpCO2SecGVA](#)) of the electricity generation sector in the productive framework of the Greek economy. 2008 – 2022

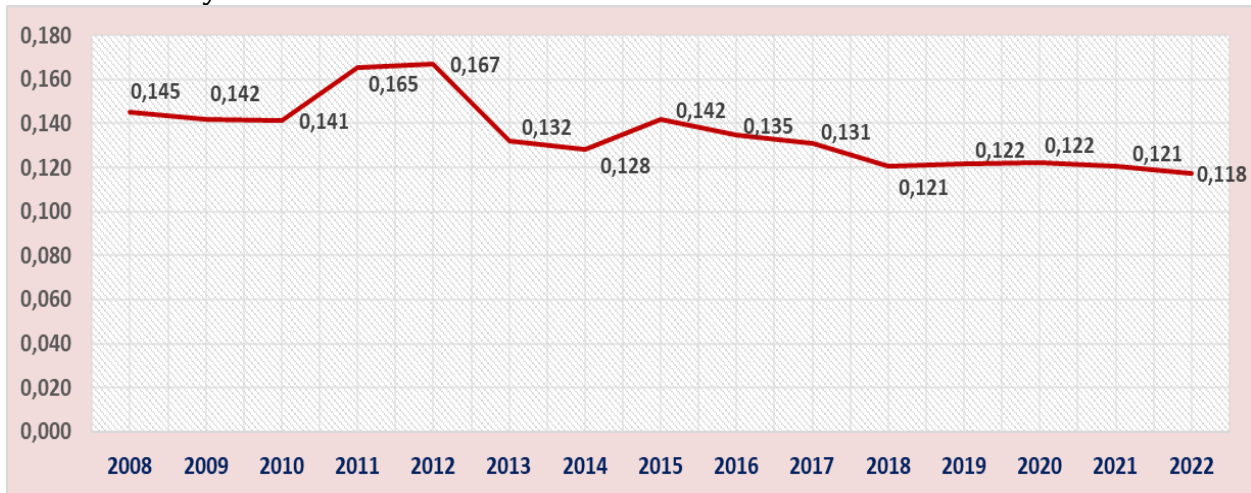


Note: The downward trend of this indicator makes its improvement evident, an element that reflects the great contribution of the introduction of renewable energy technology to the electricity production process.

b) Graph 1c2: The Primary carbon footprints (**PCfpCO2SecGVA**) of *Other manufacturing sectors (NACE 16-33)* and *Transport & storage* in the productive framework of the Greek economy. 2008-2022

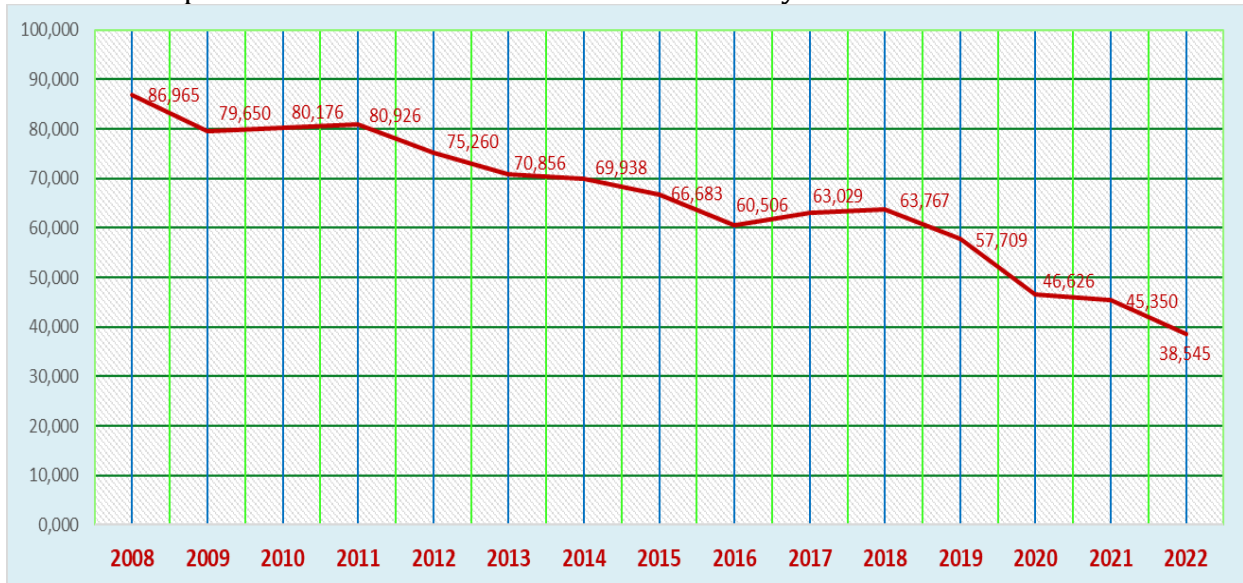


c) Graph 1c3 The Primary Carbon Footprint (**PCfpCO2SecFC**) of the Household sector of the Greek economy. 2008 -2022.

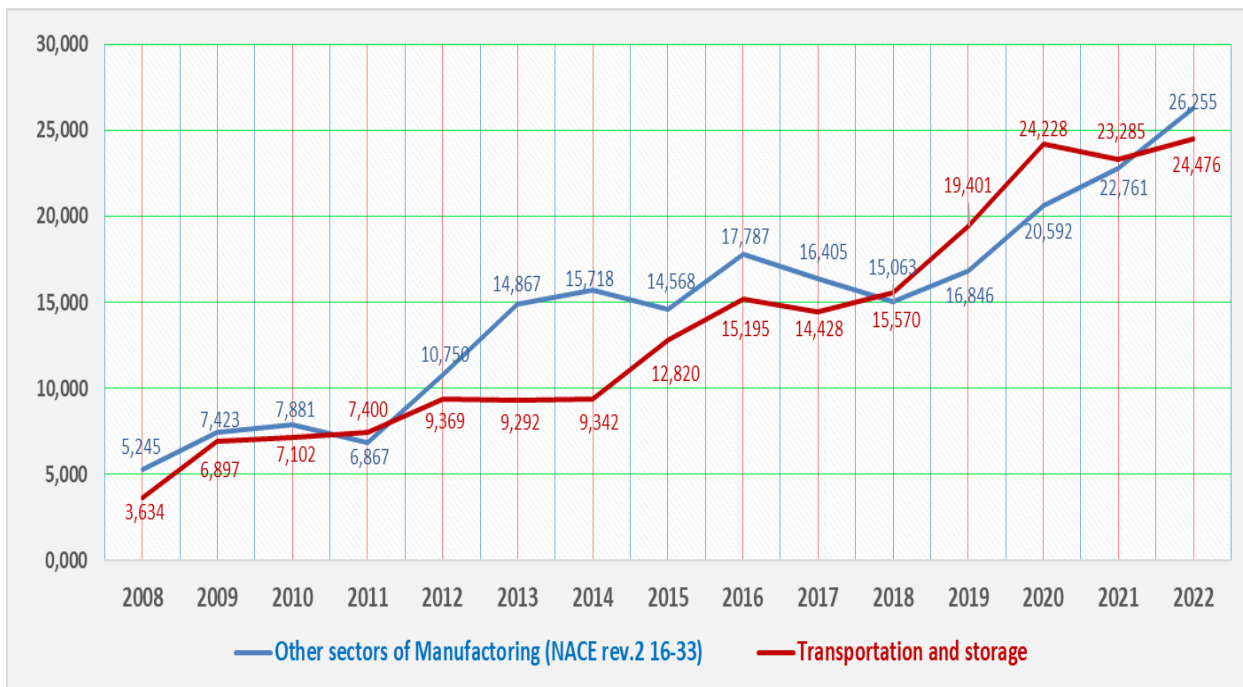


Percentage changes.

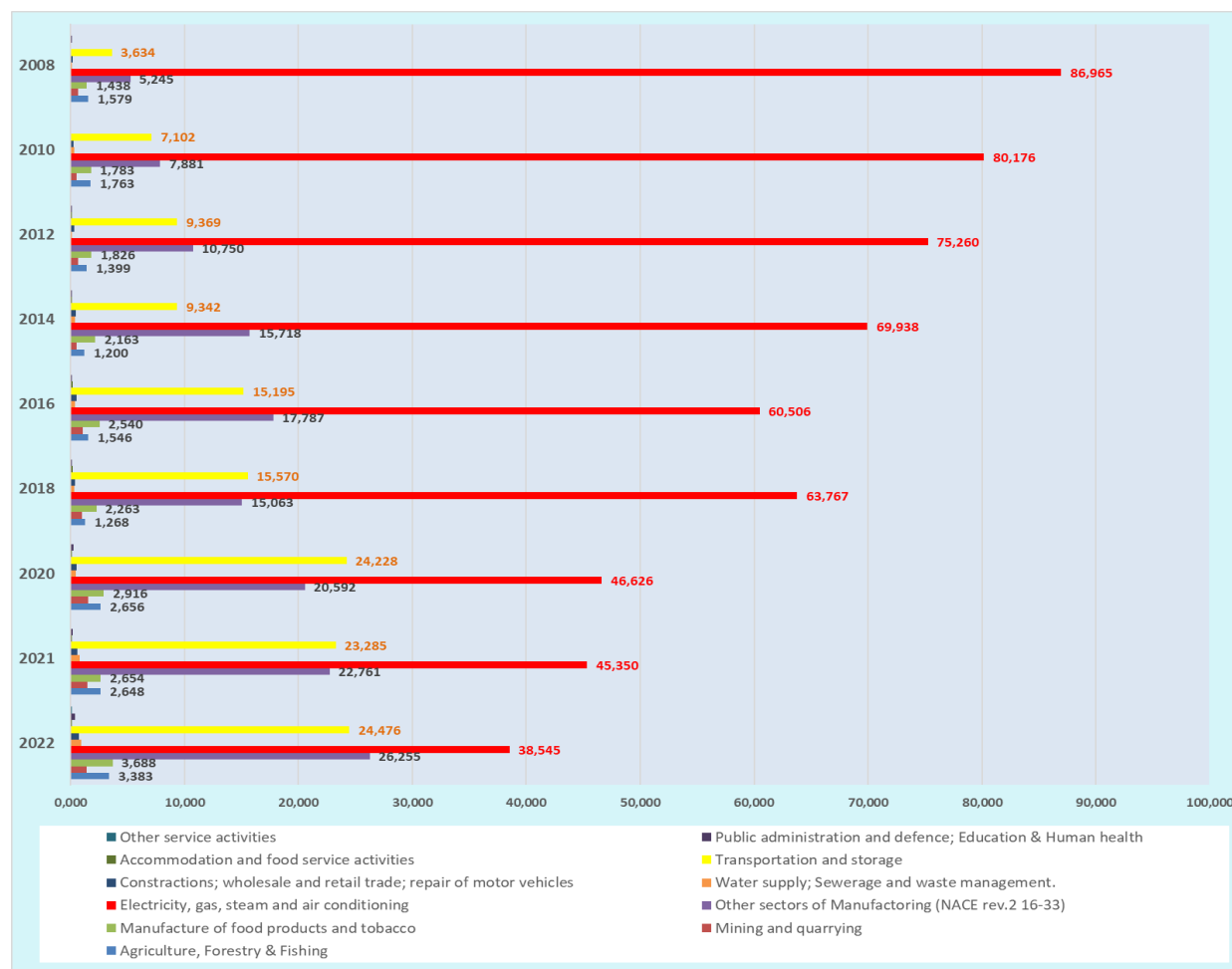
a) Graph 2c1: Percentage distribution of Primary carbon footprint of electricity generation sector in the production framework of the Greek economy. 2008 – 2022



b) Graph 2c2: Percentage distribution of Primary carbon footprint of *Other manufacturing sectors (NACE-Rev2 16-33)* and *Transport and storage* in the productive framework of the Greek economy. 2008 – 2022



Graph 2c3: Percentage distribution of Primary carbon footprint by productive sectors of the Greek economy. 2008 – 2022



Explanatory Notes:

The Primary Carbon Footprint (**PCfpCO₂**) is the link between the natural environment and the economic environment. As an indicator, it presents the relationship between the two above-mentioned pillars of the environment.

Through this relationship, the proportional correspondence of the values from the economic environment and the corresponding carbon dioxide (CO₂) emissions that diffuse from it to the natural environment, is estimated.

Through the Primary Carbon Footprint (**PCfpCO₂**), the environmental cost of the primary carbon impact of the economic environment to the natural environment is estimated, per sector of the economy.

Consequently, the Primary Carbon Footprint is the most appropriate indicator for evaluating environmental policies as they have been formulated in the Paris Agreement (COP-21) and the Glasgow Conference (COP-26).

