

There is large difference in reported GHG emissions from LULUCF sector between EU countries even with similar GDP, population and land surface area.

- Latvia has highest contribution to CH₄ emissions from 2021 in LULUCF sector from selected countries.
- Latvia reports 127 times higher value for CH₄ emissions from peat extraction source than Estonia, considering similar peat extraction land area.

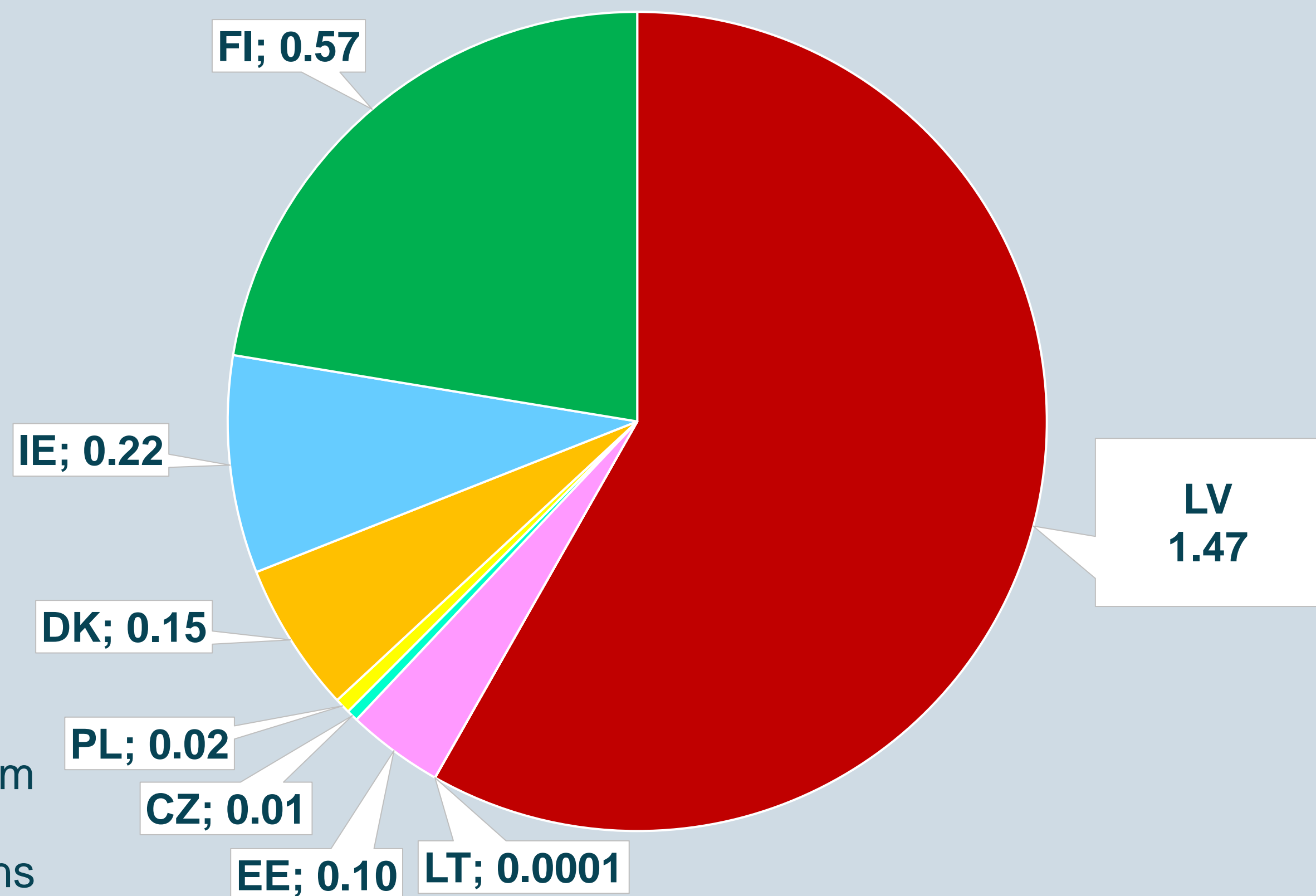


Fig.1. CH₄ emissions from LULUCF sector in 2021 per GDP per capita (tCH₄/USD)

Introduction

In pursuit of climate neutrality, **EU nations must collectively address greenhouse gas emissions and air pollutants**, necessitating equitable economic strategies. Nonetheless, the heterogeneous economic, social, and geographical profiles present hurdles in enacting a cohesive policy framework and realizing shared goals. The main aim of this paper is to compare countries with different population, GDP and territory, in relation to emission/removals from LULUCF sector. It was decided to **use indicators that will better represent the emissions** of the selected countries.

Methodology

This study shows comparative analyse between selected countries in relation to GHG emissions from LULUCF sector. Countries were selected based on previous study (Brodny and Tutak, 2017) – **Latvia, Lithuania, Estonia, Poland, Finland, Luxemburg, Ireland, Denmark, Czechia**. To compare these countries, it was decided to calculate indices **emissions per capita and emissions per GDP** (tCO₂ per capita, tCH₄ per capita, ktN₂O per capita, tCO₂ per GDP, tCH₄ per GDP, tN₂O per GDP), for CO₂ emissions/removals additional indicator was calculated **CO₂ emissions/removals from forest land source per forest land surface area** (tCO₂ per ha).

Results and Conclusions

In the study it was noted that there is **large difference even between similar countries** (for example, Latvia, Estonia, Lithuania). It is suggested if countries with big difference in population or GDP are analysed together new indicators for this comparison should be introduced.

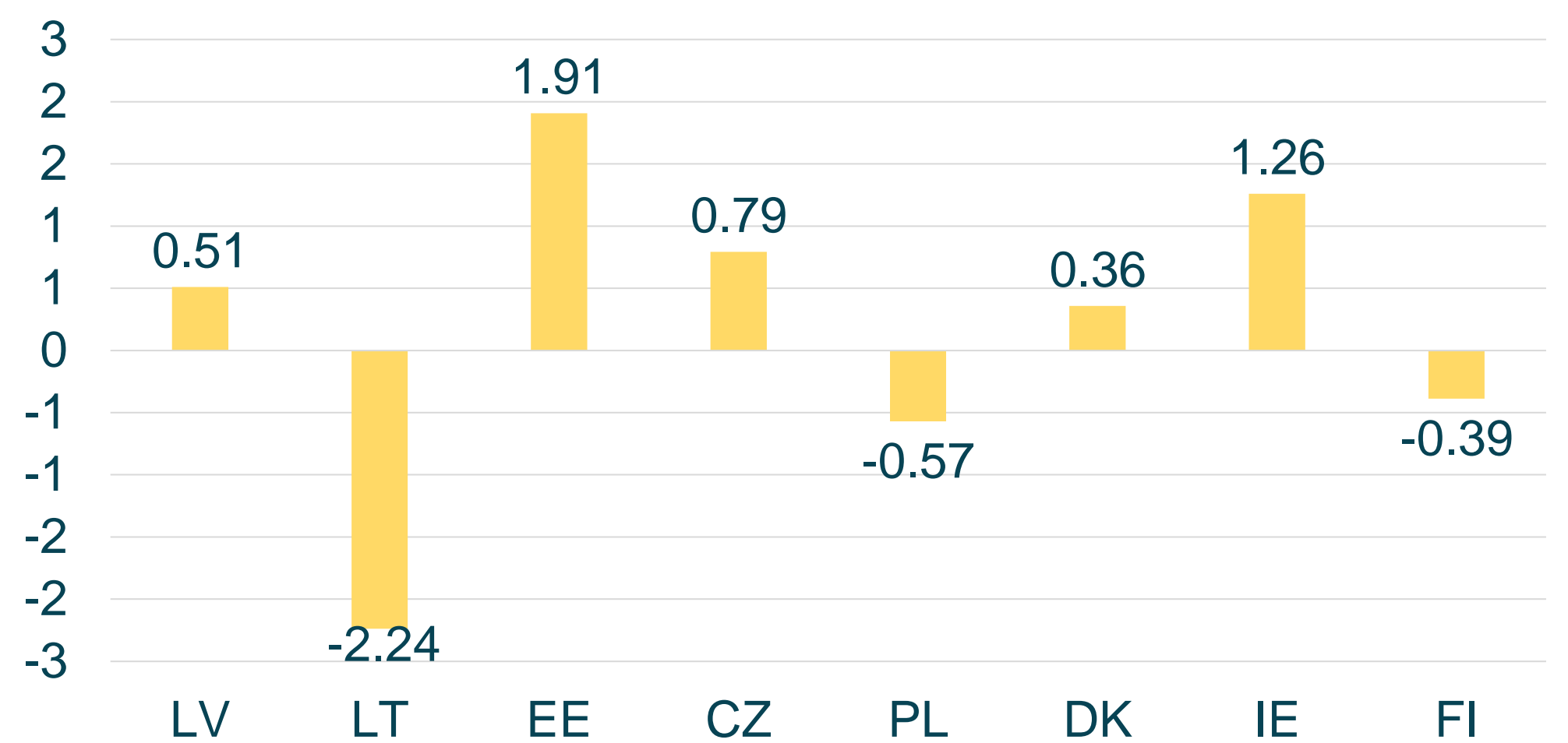


Fig.2. CO₂ emissions/removals from LULUCF sector in 2021 per population (tCO₂/capita).



Fig.3. Total CO₂ emissions/removals from forest land source in LULUCF sector in 2021 in relation to total forest land area by countries in 2021 (tCO₂/ha).



Fig. 4. N₂O emissions from LULUCF sector in 2021 per GDP per capita (tN₂O/USD).