

Carbon Footprint of the academic community of Lisbon School of Health Technology Portugal



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INTRODUCTION

According to the Intergovernmental Panel on Climate Change, the average temperature of the Earth's surface has risen about 1°C in the last 100 years and will increase, depending on the scenario emissions of Greenhouse Gases. The rising temperatures could trigger environmental effects like rising sea levels, floods, droughts, heat waves, hurricanes (Agência Portuguesa do Ambiente, 2003). With growing concerns about different environmental issues and the need to address climate change (Larsen et al., 2011), institutions of higher education should create knowledge and integrate sustainability into teaching programs and research programs, as well as promoting environmental issues for society (Geng et al., 2012).

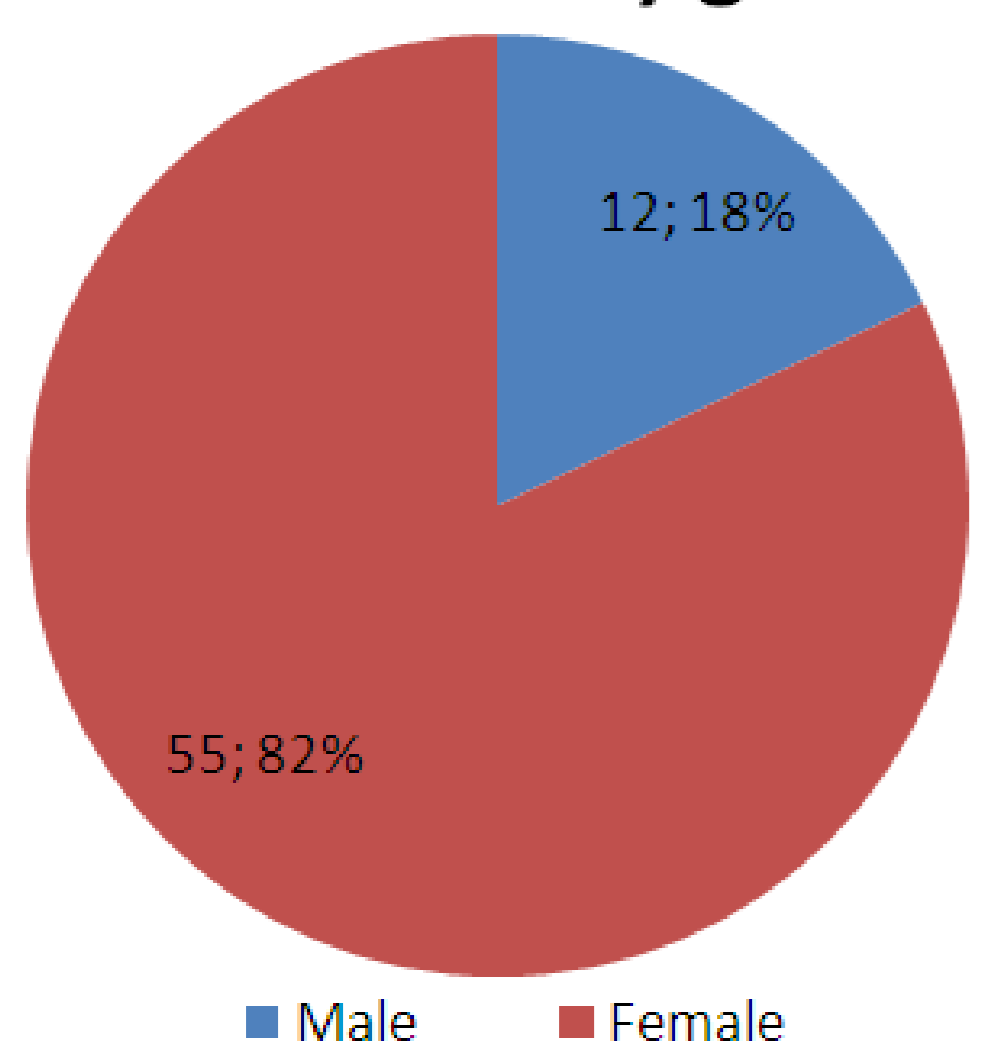
The aim of this study is to determine the carbon footprint of the academic community of Lisbon School of Health Technology (ESTeSL) in 2013, identifying possible links between the Carbon Footprint and the different socio-demographic variables.

MATERIALS AND METHODS

Data collection was carried out through the application of a questionnaire online, forwarded to the email addresses of the classes, the teachers and staff. The completion of the questionnaire was effected through the LimeSurvey® program. The questionnaire consisted of 6 groups of questions: general, home, car, public transport, bike & flights and lifestyle. The first group (general) was formed by the independent variables for sample characterization (gender, age, district of residence, education level, occupation, degree, graduation year). The remaining groups were drawn up on the basis of Carbon Footprint calculators available online. All calculators used contained emission/conversion factors based on standards and accredited international organizations (Caixa Geral de Depósitos, 2009; Carbonica, 2012; Carbon Footprint, 2013). The answers to the questionnaire resulted in a carbon footprint for each individual, expressed in tones of carbon dioxide equivalent (tCO₂eq) and then it was performed statistical analysis.

RESULTS AND DISCUSSION

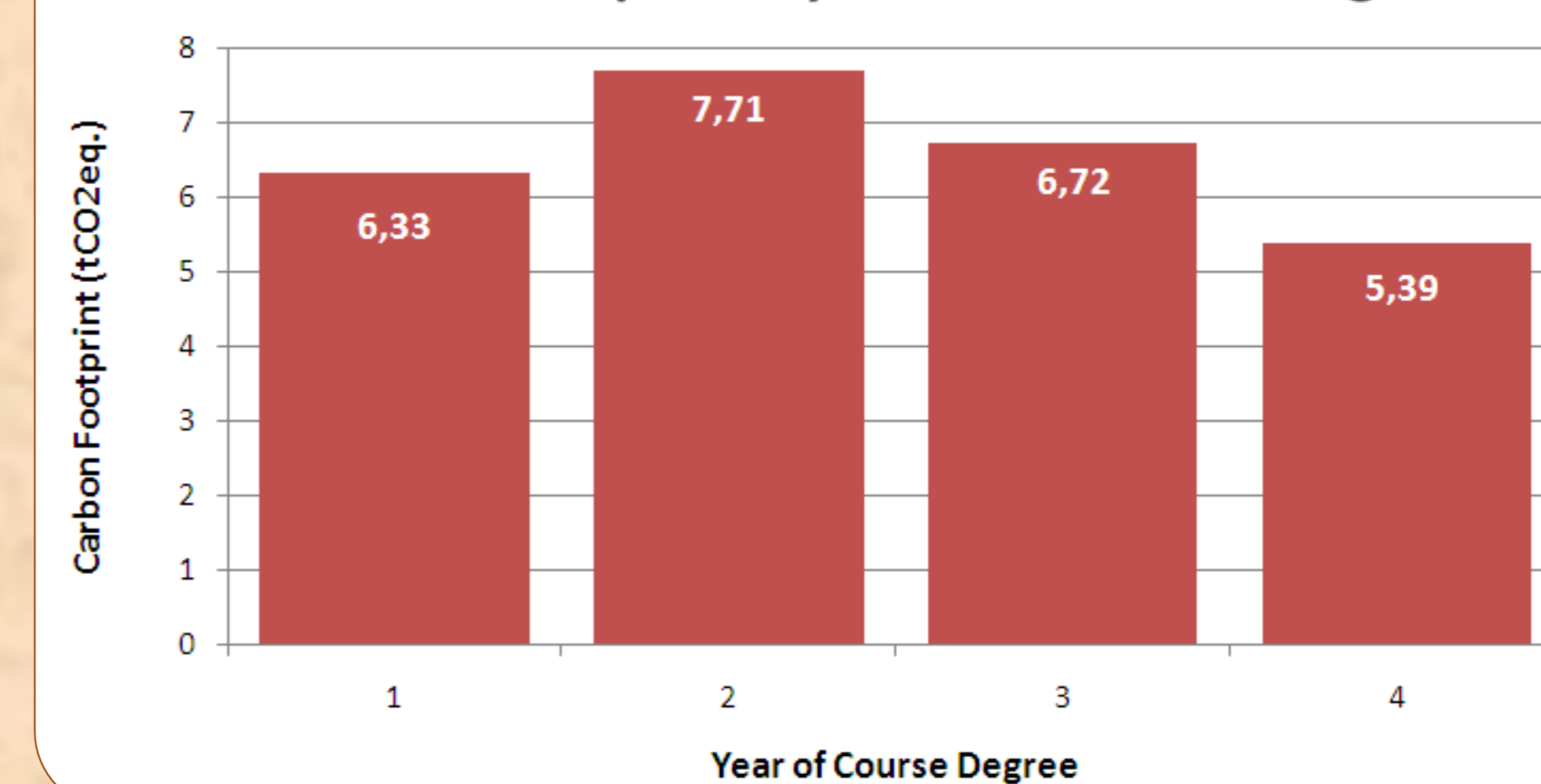
Distribution by gender



The sample was composed of 67 individuals of the academic community of ESTeSL, consisting of females (n=55) with a carbon footprint of 6,51 tCO₂eq and male (n=12) with 6,69 tCO₂eq and aged between 18 and 54 years.

The sample is representative of 10 Portuguese districts, being Lisbon (61,19%) the district more represented, followed by Setúbal. On average, a person of the academic community of ESTeSL obtained a **carbon footprint of 6,54 tCO₂eq**. There was a statistically significant difference for the variable Year of Course Degree.

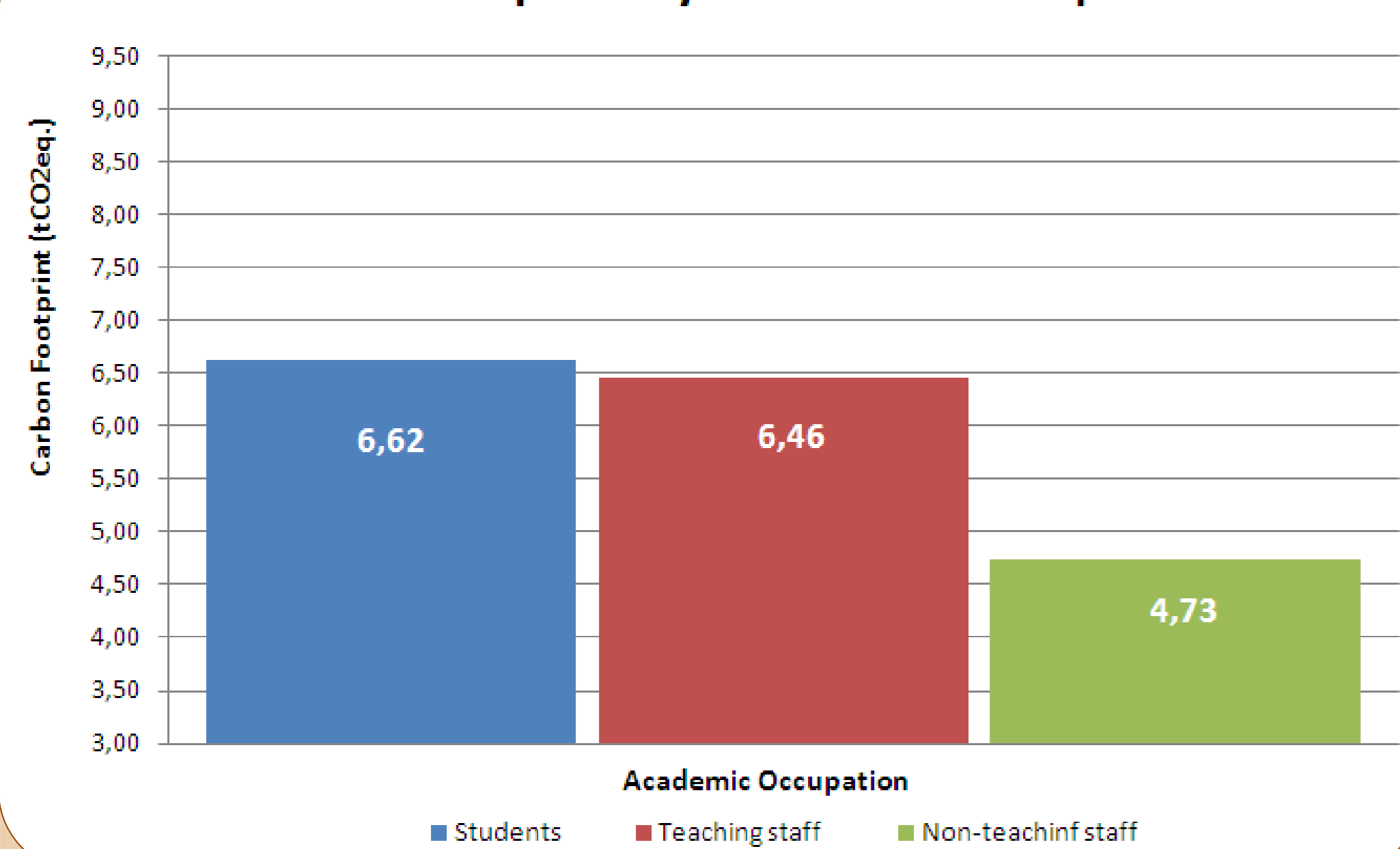
Carbon Footprint by Year of Course Degree



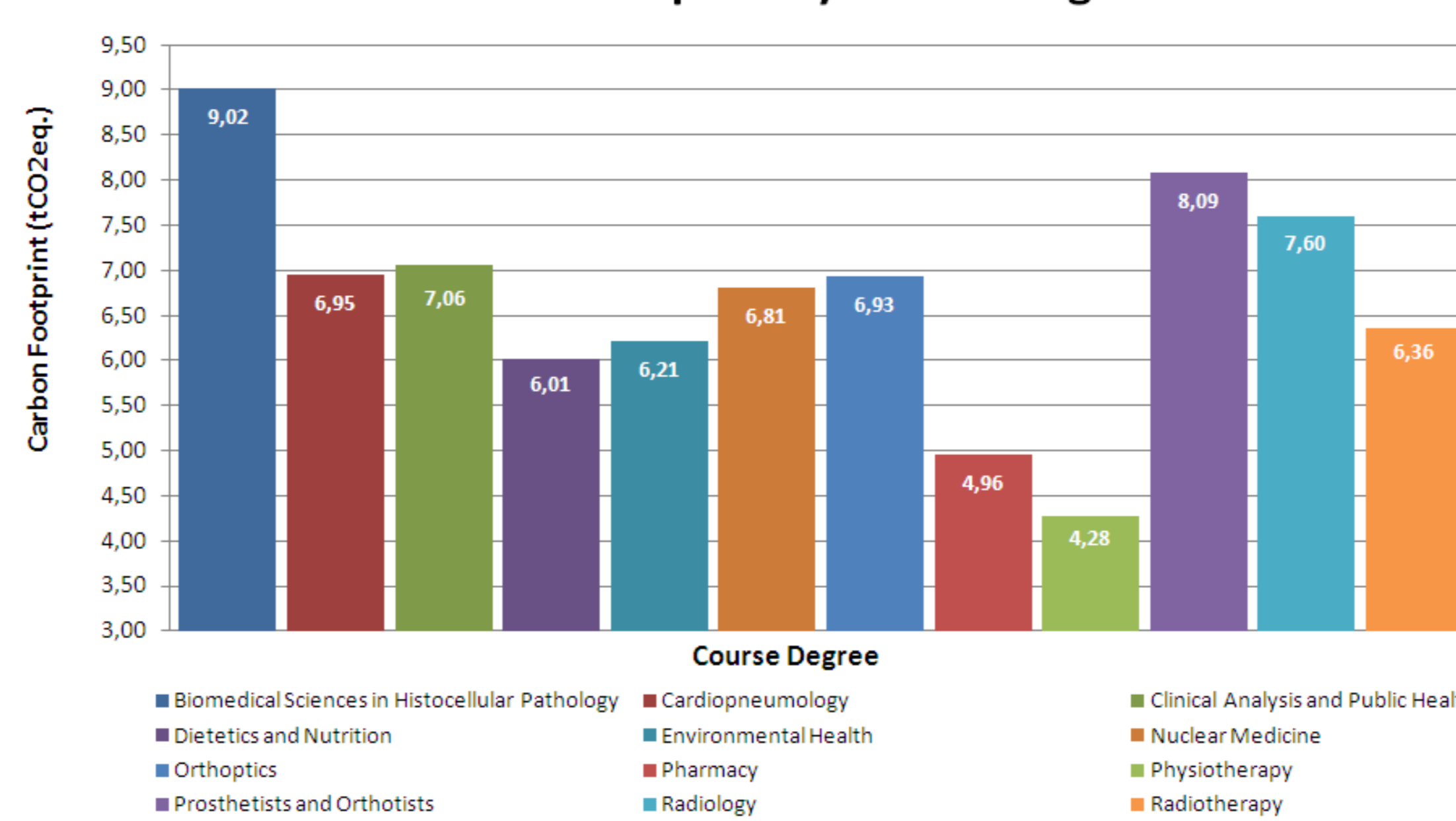
In fact, the 4th year is one that has the lower carbon footprint with the value of 5.39 tCO₂eq.

A positive correlation was found between kilometers and carbon footprint. Individuals were not aware of the theme electricity, leading to present less accurate results.

Carbon Footprint by Academic Occupation



Carbon Footprint by Course Degree



CONCLUSION

This study concluded that the average value of the **carbon footprint of the academic community of Lisbon School of Health Technology is substantially below the 9,8 tCO₂eq corresponding in Europe** (National Geographic, 2013) but it is suggested that School perform studies based on input-output analysis and lifecycle assessment, for a more detailed and accurate Carbon Footprint that exists in ESTeSL.

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