

# Is there a trade-off between human well-being and ecological footprint in European countries?

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Human development holds aspects such as health, education, standard of living, and general well-being, and is intrinsically linked to environmental sustainability. Studying the trade-off between these two aspects helps ensure that current needs are met without compromising the ability of future generations to meet their own. This study aims to understand whether there is a trade-off between the Ecological Footprint (EF) and the Human Development Index (HDI), for a panel of 42 European countries from 2006 to 2018. Other variables were also employed (Financial Development, Globalization, Human Freedom, Urban Population, Biocapacity, Renewable Energy) in two models, through several econometric tests (Interactive Fixed Effects, Common Correlated Effect Mean Group). Other models are used for robustness checks (GMM).

We conclude a trade-off between environmental quality and human well-being (EF and HDI are positively related, Fig. 2), which can compromise sustainable development.

Results evidence that renewable energy improves the environment and human development, and that the urban population improves human development but worsens the environment. The greater the biocapacity, the lower the human development, and the higher the EF, which may be linked to the “natural resource curse” theory. This study is innovative as this trade-off has not been analyzed using these two variables for European countries (Fig. 1). Understanding is fundamental to developing effective policies, integrating approaches that consider social, economic, and environmental aspects. Policymakers must implement effective policies that promote economic growth but also motivate companies to be careful with environmental quality and pollution, namely, using renewable energies. Political decisions on urbanization are also important when orderly urbanization is put into practice. Consumer habits and lifestyle decisions can also play a significant role in the trade-off between EF and human well-being.

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**FIGURE 1**  
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**FIGURE 2**  
HDI and EF in European countries (2018). Own Elaboration. Data from Human Development Reports (undp.org) and Open Data Platform (footprintnetwork.org)

