

A Technical Review on Methods and Tools for Evaluation of Energy Footprints, Impact on Buildings and Environment

Iheanacho H. Denwigwe, Olubayo M. Babatunde, Damilola E. Babatunde, Temitope J. Akintunde and Tolulope O. Akinbulire

Abstract The growing demand for clean and abundant energy in the society has a great impact on human well-being and biodiversity, studies on methods and tools for measurement of energy footprints are therefore necessary as energy footprints pose a barrier to clean energy in the society. This chapter presents knowledge and an understanding on energy footprints which is the measure of land required to absorb energy emissions, it focuses on the outcome of energy use by providing cases of energy emissions, analyzing tools and methods for measurements and finally highlighting problems of energy use to provide a guideline for corrective action to be taken. Different literatures for research studies on energy footprints measurement tools and methods are reviewed and discussed to provide an in-depth understanding on what energy footprint really is and its impact on buildings and the environment. It is concluded that having a proper understanding of the merits and demerits of different methods and tools for evaluation of energy footprints would aid in effective evaluation of energy footprints in buildings and the environment in general.

Keywords Energy footprints, Evaluation, Tools, Methods, Buildings, Environment

I. H. Denwigwe, O. M. Babatunde, T. J. Akintunde, T. O. Akinbulire

Department of Electrical/Electronic Engineering, University of Lagos,
Akoka, Yaba, Lagos, Nigeria
e-mail: Iheanachodenwigwe@gmail.com

D. E. Babatunde
Department of Chemical Engineering, Covenant University, Ota, Ogun State, Nigeria

© Springer Nature Singapore Pte Ltd. 2019
S. S. Muthu (ed.), Energy Footprints of the Bio-refinery, Hotel, and Building Sectors,
Environmental Footprints and Eco-design of Products and Processes,
https://doi.org/10.1007/978-981-13-2466-6_2
47

https://link.springer.com/chapter/10.1007/978-981-13-2466-6_2