

August 20-21, 2018  
Amsterdam, Netherlands

Expert Opin Environ Biol 2018 Volume: 6  
DOI: 10.4172/2325-9655-C2-021

## THE DIVISIA CARBONIZATION INDEX: ATTRIBUTION OF PERCENT CHANGES IN THE EUROPEAN UNION

**Paula Fernandez Gonzalez, M Landajo and M J Presno**

University of Oviedo, Spain

Since the beginning of the Industrial Revolution, emissions of CO<sub>2</sub> due to human activities have led to a marked increase in atmospheric concentrations of long-lived gases, leading to a worrisome global warming. In recent years, with a view to contribute to design suitable policies to control those emissions, numerous environmental studies have analyzed the trends in gas emissions and their main drivers. In this paper, we explore in detail the trend of carbonization as a driving force for CO<sub>2</sub> emissions in the EU Member States. By implementing the so-called Sato-Vartia logarithmic mean Divisia index (LMDI-II) method, we factorize the emission change in the EU for the 2000-2010 periods. Results point to the carbonization effect, along with the intensity effect, as one of the most relevant factors. Then, relying on the so-called attribution analysis we present a new theoretical framework that enables attribution of percent changes in the carbonization index to individual EU Member States. This deeper study shows the strong concentration of this reducing influence in some big economies, with Germany, the United Kingdom, France and Italy contributing by more than 50%. Furthermore, adding Spain and Poland, the total contribution exceeds 75% of total change. Findings in this paper suggest that efforts should focus on strategies aiming at encouraging innovation, adaptation to more efficient and environmentally friendly technologies, research for higher quality energies, lower carbon fuel substitution and instalment of abatement technologies like carbon capture and storage.

[pfgonzal@uniovi.es](mailto:pfgonzal@uniovi.es)