

Impact of COVID-19 on electricity demand of Latin America and the Caribbean countries

E.F. Sánchez Úbeda; J. Portela González; A. Muñoz San Roque; J.E. Chueca Montuenga; M. Carvalho Metanias Hallack

Abstract-

Governments worldwide have adopted different public health measures in order to slow down the spread of COVID-19. As a result, the electricity demand has been impacted by the changes in human activity. Many of the Latin America and the Caribbean (LAC) countries have adopted different approaches to control the COVID-19 pandemic, including severe shutdown of most social and economic activities. This paper analyzes how this pandemic has influenced, from its appearance until the fall of 2020, the demand of ten LAC countries (Peru, Bolivia, Costa Rica, Brazil, Guatemala, Mexico, Dominican Republic, Argentina, Chile and Uruguay). The approach is based on the concepts of size and shape impacts, which have been proposed in order to decompose the problem for a better understanding of the impact. The size impact accounts for the observed variations on the daily demand, whereas the shape impact focuses on the variations observed on the standardized hourly demand profiles for each day. To calculate both impacts, the observed demand is compared to the expected one if the COVID-19 crisis had not happened. To obtain reliable estimations in the scenario without COVID-19,

Index Terms- Demand consumption; COVID-19 pandemic; Lockdown; Regression analysis; Clustering; Classification trees

Due to copyright restriction we cannot distribute this content on the web. However, clicking on the next link, authors will be able to distribute to you the full version of the paper:

[Request full paper to the authors](#)

If your institution has an electronic subscription to Sustainable Energy, Grids and Networks, you can download the paper from the journal website:

[Access to the Journal website](#)

Citation:

Sánchez-Úbeda, E.F.; Portela, J.; Muñoz, A.; Chueca, E.; Carvalho, M. "Impact of COVID-19 on electricity demand of Latin America and the Caribbean countries", Sustainable Energy, Grids and Networks, vol.30, pp.100610-1-100610-21, June, 2022.