InfraFair: Infrastructure cost allocation

J.I. Pérez Arriaga; L. Olmos Camacho; M.A.E. Elabbas

Abstract-

Networks play a pivotal role in the energy transition, integrating renewable energy sources and facilitating sustainable energy systems. A huge amount of investment in energy networks is still required to make the energy transition a reality. When constructing network infrastructures, especially among countries at the regional level, the allocation of costs must be well-aligned with the economic benefits each cost-bearing party expects to obtain from the corresponding investments. However, efficiently allocating the cost of infrastructure networks has proven to be a difficult task, especially for cross-border infrastructure. Such a task is expected to become even more difficult in the future as networks become more meshed and coupled between the different sectors. InfraFair is a cost allocation tool for networks, both national and regional. It allocates the costs of different assets in the network to users based on their expected or actual usage. InfraFair is the first open-source software to provide this functionality for all flow-based infrastructure networks, such as electricity, hydrogen, gas and heat. It has been used in studies to allocate transmission network costs in Africa at the regional power pool level and has been developed as part of the OpenMod4Africa project. It is now available open-source for use by the wider scientific community.

Index Terms- Cost allocation; Energy infrastructure; Average participations method; African Power Pools

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 you institution has a electronic subscription to SoftwareX, you can download the paper from the journal website:
Access to the Journal website

Citation: