1. Study of exergy costs model based on main and auxiliary energy outputs in produce nodes of UEI

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Abstract: In this paper, the exergy costs apportion problem of SIMO (single input and multiple outputs) energy produce node in UEI (Ubiquitous Energy Internet) is studied. The traditional exergy costs model is not suitable for solving the exergy costs problem in the UEI scenario. Considering the main and auxiliary output exergy, the energy expenses and non-energy expenses divide additionally. Then two apportion rules that used for solving exergy costs problem in the process of energy produce are provided. At last, a new exergy cost share model is built. Comparing this new exergy cost model with traditional exergy cost model, the main output exergy costs are higher and the auxiliary output exergy costs are lower. The exergy cost calculated by the new exergy cost model is closer to the actual exergy costs of the UEI produce node. This exergy costs could be a more reliable cost data in the process of production decision in a Ubiquitous Energy Internet produce nodes. © Published under licence by IOP Publishing Ltd.
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