Tbilisi microgrid applications

It is very necessary to add storage systems to the integrated systems in order to give the electrical system more reliability and high performance. The excess energy that is produced from the integrated sources is used to charge the batteries and then this stored energy is used to charge the batteries when needed in the event of a production shortage. For demand-side and energy flow management an energy management system is used and takes into account the economic aspects, operational constraints, and the fulfillment of supply and demand (Elkholy et al. 2022a).

Optimization methods can greatly contribute to solving integration problems and increasing the efficiency of the integrated system (Liu, et al. 2020). A study was conducted to optimize the sizing of a hybrid system that combines wind and solar energy in the event that it is connected to the grid or isolated from the grid Luna-Rubio et al. (2012) Several reviews of the grid connected (Weschenfelder et al. 2020) and off-grid systems (Jian et al. 2011) wind-solar hybrid system was conducted.

The economic feasibility of integrating photovoltaic sources and ESSs, which is an indicator to attract investments in Thailand and many other countries, was discussed (Chaianong et al. 2020; Sheeraz et al. 2010; Rodrigo et al. 2017). This study discusses the benefits of a hybrid system that combines ESS and solar cells. This study also predicts the status of battery investment in Thailand in the future (Chaianong et al. 2020).

Hybrid ESSs are used to feed rural areas disconnected from the grid. The PV system integrated with hybrid ESSs is one of the most promising systems in rural electricity, especially in areas far from the grid. Many reviews discussed these systems and also presented the ways that help to increase the life of the battery (Jing et al. 2018).

A new study was conducted using particle swarm with the genetic algorithm (GA-PSO) to reduce the overall cost and increase the reliability of a system consisting of PV, wind energy and ESS (Ghorbani et al. 2018a). A study was conducted that proposes a new approach to find the optimum size for a hybrid system consisting of solar cells, wind and HESS. In addition, frequency management was done using the Discrete Fourier Transform algorithm. Work has also been done to reduce the total cost (Abdelkader et al. 2018).

In this section, recent developments related to integrating RESs with the electrical grid are discussed to make the electrical system more reliable. Focusing on voltage ride-through (VRT) and the injection or absorption of the reactive current, which in turn helps support effort during disturbances and in unusual circumstances. In addition, the relationship between active and reactive energy is studied.

Contact us for free full report

Web: https://hollanddutchtours.nl/contact-us/
Email: energystorage2000@gmail.com
WhatsApp: 8613816583346