

creative idea of the off-brace based hybrid structure containing the connection of the solar tree PV board and diesel generator for power gracefully.

6. References

1. P. Phuenmuenwai, P. Inrawong, K. Buayai and K. Kerdchuen, "Conceptual Design of Solar PV Pump for Raw Sand Production in Central Region of Thailand," 2019 International Conference on Power, Energy and Innovations (ICPEI), Pattaya, Chonburi, Thailand, 2019, pp. 8-11.
2. Ghenai, I. Al-Ani, F. Khalifeh, T. Alamaari and A. K. Hamid, "Design of Solar PV/Fuel Cell/Diesel Generator Energy System for Dubai Ferry," 2019 Advances in Science and Engineering Technology International Conferences (ASET), Dubai, United Arab Emirates, 2019, pp. 1-5.
3. Hossain, "Design and economic analysis of PV-diesel hybrid system for particular section of IUT campus," 2nd International Conference on Green Energy and Technology, Dhaka, 2014, pp. 91-94.
4. D. Rodríguez-Gallegos et al., "A Siting and Sizing Optimization Approach for PV–Battery–Diesel Hybrid Systems," in *IEEE Transactions on Industry Applications*, vol. 54, no. 3, pp. 2637-2645, May-June 2018.
5. D. Rodríguez -Gallegos et al., "Placement and sizing optimization for PV-battery-diesel hybrid systems," 2016 IEEE International Conference on Sustainable Energy Technologies (ICSET), Hanoi, 2016, pp. 83-89.
6. H. W. Salih, S. Wang and B. S. Farhan, "A novel GA-PI optimized controller for MPPT based PV in a hybrid PV-diesel power system," 2015 5th International Conference on Electric Utility Deregulation and Restructuring and Power Technologies (DRPT), Changsha, 2015, pp. 1288-1293.
7. S. A. Jeddi, S. Hamidreza Abbasi and F. Shabaninia, "Load frequency control of two area interconnected power system (Diesel Generator and Solar PV) with PI and FGSPi controller," The 16th CSI International Symposium on Artificial Intelligence and Signal Processing (AISP 2012), Shiraz, Fars, 2012, pp. 526-531.
8. W. Obaid, A. Hamid and C. Ghenai, "Hybrid PEM Fuel-Cell-Diesel-Solar Power System Design with Fuzzy Battery Management System and Weather Forecasting for Electric Boats," 2018 6th International Renewable and Sustainable Energy Conference (IRSEC), Rabat, Morocco, 2018, pp. 1-7.
9. Shatakshi, Ikhlaq, B. Singh and S. Mishra, "A synchronous generator based diesel-PV hybrid micro-grid with power quality controller," 2017 IEEE 26th International Symposium on Industrial Electronics (ISIE), Edinburgh, 2017, pp. 952-956.
10. L. A. Wenno and F. D. Wijaya, "Conditions of PV-diesel hybrid systems in Tagalaya village, Tagalaya Island, North Halmahera, North Maluku," 2015 International Seminar on Intelligent Technology and Its Applications (ISITIA), Surabaya, 2015, pp. 143-146.