



DAFTAR PUSTAKA

- [1] M. Karimi, H. Mokhlis, K. Naidu, S. Uddin, and A. H. A. Bakar, "Photovoltaic Penetration Issues and Impacts in Distribution Network - A Review," *Renew. Sustain. Energy Rev.*, vol. 53, pp. 594–605, 2016, doi: 10.1016/j.rser.2015.08.042.
- [2] J. F. Gómez-González *et al.*, "Reactive Power Management in Photovoltaic Installations Connected to Low-Voltage Grids to Avoid Active Power Curtailment," *Renew. Energy Power Qual. J.*, vol. 1, no. 16, pp. 5–11, 2018, doi: 10.24084/repqj16.003.
- [3] J. Dong, Y. Xue, M. Olama, T. Kuruganti, J. Nutaro, and C. Winstead, "Distribution Voltage Control: Current Status and Future Trends," *2018 9th IEEE Int. Symp. Power Electron. Distrib. Gener. Syst. PEDG 2018*, 2018, doi: 10.1109/PEDG.2018.8447628.
- [4] N. Mahmud and A. Zahedi, "Review of Control Strategies for Voltage Regulation of The Smart Distribution Network with High Penetration of Renewable Distributed Generation," *Renew. Sustain. Energy Rev.*, vol. 64, no. October 2016, pp. 582–595, 2016, doi: 10.1016/j.rser.2016.06.030.
- [5] R. Hu *et al.*, "Coordinated Voltage Regulation Methods in Active Distribution Networks with Soft Open Points," *Sustain.*, vol. 12, no. 22, pp. 1–18, 2020, doi: 10.3390/su12229453.
- [6] W. Lin, R. Thomas, and E. Bitar, "Real-time Voltage Regulation in Distribution Systems via Decentralized PV Inverter Control," *Proc. 51st Hawaii Int. Conf. Syst. Sci.*, vol. 9, 2018, doi: 10.24251/hicss.2018.339.
- [7] Y. Liu, J. Bebic, B. Kroposki, J. De Bedout, and W. Ren, "Distribution System Voltage Performance Analysis for High-Penetration PV," *2008 IEEE Energy 2030 Conf. ENERGY 2008*, 2008, doi: 10.1109/ENERGY.2008.4781069.
- [8] S. Hashemi and J. Østergaard, "Methods and Strategies for Overvoltage Prevention in Low Voltage Distribution Systems with PV," *IET Renew. Power Gener.*, vol. 11, no. 2, pp. 205–214, 2017, doi: 10.1049/iet-rpg.2016.0277.
- [9] J. Kueck, B. Kirby, T. Rizy, F. Li, and N. Fall, "Reactive Power from Distributed Energy," *Electr. J.*, vol. 19, no. 10, pp. 27–38, 2006, doi: 10.1016/j.tej.2006.10.007.
- [10] C. Tufon, A. Isemonger, B. Kirby, J. Kueck, and F. Li, "A Tariff for Reactive Power," *2009 IEEE/PES Power Syst. Conf. Expo. PSCE 2009*, pp. 1–7, 2009, doi:



10.1109/PSCE.2009.4839932.

- [11] M. Braun, "Reactive Power Supply by Distributed Generators," *IEEE Power Energy Soc. 2008 Gen. Meet. Convers. Deliv. Electr. Energy 21st Century, PES*, no. July 2008, 2008, doi: 10.1109/PES.2008.4596266.
- [12] A. C. Rueda-Medina and A. Padilha-Feltrin, "Distributed Generators As Providers Of Reactive Power Support - A Market Approach," *IEEE Trans. Power Syst.*, vol. 28, no. 1, pp. 490–502, 2013, doi: 10.1109/TPWRS.2012.2202926.
- [13] S. Bin Kim and S. H. Song, "A Hybrid Reactive Power Control Method of Distributed Generation to Mitigate Voltage Rise in Low-Voltage Grid," *Energies*, vol. 13, no. 8, 2020, doi: 10.3390/en13082078.
- [14] H. J. Lee, K. H. Yoon, J. W. Shin, J. C. Kim, and S. M. Cho, "Optimal Parameters of Volt-Var Function on Smart Inverters for Improving System Performance," *Energies*, vol. 13, no. 9, pp. 13–16, 2020, doi: 10.3390/en13092294.
- [15] A. Latif, I. Ahmad, P. Palensky, and W. Gawlik, "Multi-Objective Reactive Power Dispatch in Distribution Networks Using Modified Bat Algorithm," *2016 IEEE Green Energy Syst. Conf. IGSEC 2016*, 2016, doi: 10.1109/IGESC.2016.7790069.
- [16] M. C. Cerbantes, J. R. S. Mantovani, R. Fernández-Blanco, and M. A. Ortega-Vazquez, "A Nodal Pricing Approach for Reactive Power in Distribution Networks," *2017 IEEE PES Innov. Smart Grid Technol. Conf. - Lat. Am. ISGT Lat. Am. 2017*, vol. 2017-Janua, pp. 1–6, 2017, doi: 10.1109/ISGT-LA.2017.8126689.
- [17] H. Haghghat and S. W. Kennedy, "A Model for Reactive Power Pricing and Dispatch of Distributed Generation," *IEEE PES Gen. Meet. PES 2010*, pp. 1–10, 2010, doi: 10.1109/PES.2010.5589576.
- [18] O. Gandhi, C. D. Rodríguez-Gallegos, W. Zhang, D. Srinivasan, and T. Reindl, "Economic and Technical Analysis of Reactive Power Provision from Distributed Energy Resources in Microgrids," *Appl. Energy*, vol. 210, no. August, pp. 827–841, 2018, doi: 10.1016/j.apenergy.2017.08.154.
- [19] R. Shigenobu, O. B. Adewuyi, A. Yona, and T. Senjyu, "Demand Response Strategy Management With Active and Reactive Power Incentive in The Smart Grid: A Two-Level Optimization Approach," *AIMS Energy*, vol. 5, no. 3, pp. 482–505, 2017, doi: 10.3934/energy.2017.3.482.
- [20] R. Shigenobu, M. Kinjo, P. Mandal, A. M. Howlader, and T. Senjyu, "Optimal



- Operation Method for Distribution *Systems* Considering Distributed Generators Imparted With Reactive Power Incentive,” *Appl. Sci.*, vol. 8, no. 8, pp. 1–23, 2018, doi: 10.3390/app8081411.
- [21] O. Gandhi, C. Rodríguez-Gallegos, T. Reindl, and D. Srinivasan, “Competitiveness of PV Inverter as A Reactive Power Compensator Considering Inverter Lifetime Reduction,” *Energy Procedia*, vol. 150, pp. 74–82, 2018, doi: 10.1016/j.egypro.2018.09.005.
- [22] B. Zhao, C. Wang, and X. Zhang, *Grid-Integrated and Standalone Photovoltaic Distributed Generation Systems*. 2017.
- [23] T. Stetz, K. Diwold, M. Kraiczy, D. Geibel, S. Schmidt, and M. Braun, “Techno-Economic Assessment of Voltage Control Strategies in Low Voltage Grids,” *IEEE Trans. Smart Grid*, vol. 5, no. 4, pp. 2125–2132, 2014, doi: 10.1109/TSG.2014.2320813.
- [24] X. Huang, H. Liu, B. Zhang, J. Wang, and X. Xu, “Research on Local Voltage Control Strategy Based on High-Penetration Distributed PV *Systems*,” *J. Eng.*, vol. 2019, no. 18, pp. 5044–5048, 2019, doi: 10.1049/joe.2018.9245.
- [25] P. Chaudhary and M. Rizwan, “Voltage Regulation Mitigation Techniques in Distribution *System* With High PV Penetration: A Review,” *Renew. Sustain. Energy Rev.*, vol. 82, no. October, pp. 3279–3287, 2018, doi: 10.1016/j.rser.2017.10.017.
- [26] M. H. Hassan, S. Kamel, M. A. El-Dabah, T. Khurshaid, and J. L. Dominguez-Garcia, “Optimal Reactive Power Dispatch With Time-Varying Demand and Renewable Energy Uncertainty Using Rao-3 Algorithm,” *IEEE Access*, vol. 9, pp. 23264–23283, 2021, doi: 10.1109/access.2021.3056423.
- [27] M. Ebeed, A. Alhejji, S. Kamel, and F. Jurado, “Solving The Optimal Reactive Power Dispatch Using Marine Predators Algorithm Considering The Uncertainties in Load and Wind-Solar Generation *Systems*,” *Energies*, vol. 13, no. 17, 2020, doi: 10.3390/en13174316.
- [28] W. Xiao, *Photovoltaic Power System*. 2017.
- [29] B. Frede and M. I. Dan, *Renewable Energy Devices and Systems with Simulations in MATLAB® and ANSYS®*. Taylor & Francis Group, LLC, 2017.
- [30] N. D. Aldana, C. L. Trujillo, and J. G. Guarnizo, “Active and Reactive Power Flow



- Regulation for A Grid Connected VSC Based on Fuzzy Controllers,” *Rev. Fac. Ing.*, vol. 66, pp. 118–130, 2013.
- [31] A. Bjarne and N. Stig, *Green Book: Flexible AC Transmission Systems*. 2020.
- [32] P. Rodr, *Grid Converters for Photovoltaic and Wind Power Systems*. 2011.
- [33] N. G. . Hingorani and L. Gyugyi, *Understanding FACTS: Concepts and Technology of Flexible AC Transmission Systems*, vol. 53, no. 9. 2019.
- [34] M. N. I. Sarkar, L. G. Meegahapola, and M. Datta, “Reactive Power Management in Renewable Rich Power Grids: A Review of Grid-Codes, Renewable Generators, Support Devices, Control Strategies and Optimization Algorithm,” *IEEE Access*, vol. 6, pp. 41458–41489, 2018, doi: 10.1109/ACCESS.2018.2838563.
- [35] F. Mahmood and S. Level, “Improving the Photovoltaic Model in PowerFactory Electric Power Systems,” 2012, [Online]. Available: <http://www.diva-portal.org/smash/get/diva2:571921/FULLTEXT01.pdf>.
- [36] C. RM and M. MLJ, “Power Factor Analysis in Distribution Network with Roof Photovoltaic Units,” *J. Electr. Eng. Electron. Technol.*, vol. 06, no. 04, pp. 2011–2017, 2017, doi: 10.4172/2325-9833.1000148.
- [37] P. Jahangiri and D. C. Aliprantis, “Distributed Volt/VAr Control by PV Inverters,” *IEEE Trans. Power Syst.*, vol. 28, no. 3, pp. 3429–3439, 2013, doi: 10.1109/TPWRS.2013.2256375.
- [38] R. Kabiri, D. G. Holmes, and B. P. McGrath, “The influence of pv inverter reactive power injection on grid voltage regulation,” *2014 IEEE 5th Int. Symp. Power Electron. Distrib. Gener. Syst. PEDG 2014*, no. March 2015, 2014, doi: 10.1109/PEDG.2014.6878640.
- [39] A. Maknouninejad, N. Kutkut, I. Batarseh, and Z. Qu, “Analysis and Control of PV Inverters Operating in VAR Mode at Night,” *IEEE PES Innov. Smart Grid Technol. Conf. Eur. ISGT Eur.*, 2011, doi: 10.1109/ISGT.2011.5759186.
- [40] M. Braun, *Provision of Ancillary Services by Distributed Generators Technological and Economic Perspective*. 2009.
- [41] A. Cabrera-Tobar, E. Bullich-Massagué, M. Aragiés-Peñalba, and O. Gomis-Bellmunt, “Active and Reactive Power Control of A PV Generator for Grid Code Compliance,” *Energies*, vol. 12, no. 20, 2019, doi: 10.3390/en12203872.
- [42] A. Sangwongwanich, Y. Yang, and F. Blaabjerg, “Development of Flexible Active



- Power Control Strategies for Grid-Connected Photovoltaic Inverters by Modifying MPPT Algorithms,” *2017 IEEE 3rd Int. Futur. Energy Electron. Conf. ECCE Asia, IFEEC - ECCE Asia 2017*, no. August, pp. 87–92, 2017, doi: 10.1109/IFEEC.2017.7992423.
- [43] E. P. Technologies and E. Impacts, *Handbook of Distributed Generation*. 2017.
- [44] H. Saadat, “Power System Analysis.” 1999.
- [45] E. K. P. Chong and S. H. Zak, *An Introduction to Optimization*. 2004.
- [46] M. E. Baran and F. F. Wu, “Network Reconfiguration in Distribution Systems for Loss Reduction and Load Balancing,” *IEEE Power Engineering Review*, vol. 9, no. 4, pp. 101–102, 1989, doi: 10.1109/MPER.1989.4310642.
- [47] A. Zipperer *et al.*, “Electric Energy Management in The Smart Home: Perspectives on Enabling Technologies and Consumer Behavior,” *Proc. IEEE*, vol. 101, no. 11, pp. 2397–2408, 2013, doi: 10.1109/JPROC.2013.2270172.
- [48] A. Jahid, K. H. Monju, S. Hossain, and F. Hossain, “Hybrid Power Supply Solutions for Off-Grid Green Wireless Networks,” *Int. J. Green Energy*, vol. 16, no. 1, pp. 12–33, 2019, doi: 10.1080/15435075.2018.1529593.
- [49] “Levelized Cost of Electricity in Indonesia: Understanding The Levelized Cost of Electricity Generation,” 2019.
- [50] N. Lee, F. Flores-Espino, R. Oliveira, B. Roberts, T. Bowen, and J. Katz, “Exploring Renewable Energy Opportunities in select Southeast Asian Countries: A Geospatial Analysis of the Levelized Cost of Energy of Utility-Scale Wind and Solar Photovoltaics,” no. June, pp. 1–74, 2019, [Online]. Available: www.nrel.gov/publications.
- [51] International Renewable Energy Agency, *Renewable Power Generation Costs in 2019*. 2020.
- [52] “Electricity prices.” https://www.globalpetrolprices.com/electricity_prices/ (accessed Apr. 01, 2021).
- [53] S. Epifany, “Indonesia Electricity Tariff Still Competitive in ASEAN Region.” <https://www.infrastructureasiaonline.com/government/indonesia-electricity-tariff-still-competitive-asean-region> (accessed Apr. 01, 2021).
- [54] L. Debarberis, P. Lazzeroni, S. Olivero, V. A. Ricci, F. Stirano, and M. Repetto, “Technical and Economical Evaluation of a PV Plant with Energy Storage,”



- IECON Proc. (Industrial Electron. Conf.*, no. November, pp. 6819–6824, 2013, doi: 10.1109/IECON.2013.6700261.
- [55] N. M. Nor, A. Ali, T. Ibrahim, and M. F. Romlie, “Battery Storage for the Utility-Scale Distributed Photovoltaic Generations,” *IEEE Access*, vol. 6, pp. 1137–1154, 2017, doi: 10.1109/ACCESS.2017.2778004.
- [56] D. Q. Hung, N. Mithulananthan, and K. Y. Lee, “Determining PV Penetration for Distribution Systems with Time-Varying Load Models,” *IEEE Trans. Power Syst.*, vol. 29, no. 6, pp. 3048–3057, 2014, doi: 10.1109/TPWRS.2014.2314133.