

DAFTAR PUSTAKA

- [1] J. Tan, S. Dong, and A. Hoke, “Island Power Systems With High Levels of Inverter-Based Resources: Stability and Reliability Challenges Content,” 2023. [Online]. Available: <https://communitymeetingshawaii.com/#1673211365171>
- [2] ABB, “Integrating renewables into remote or isolated power networks and microgrids Innovative solutions to ensure power quality and grid stability.”
- [3] “RUPTL PLN 2025 2034”.
- [4] C. V Nayar, “High Renewable Energy Penetration Diesel Generator Systems,” 2010. [Online]. Available: www.intechopen.com
- [5] R. D. Trevizan, A. J. Headley, R. Geer, S. Atcitty, and I. Gyuk, “Integration of energy storage with diesel generation in remote communities,” *MRS Energy and Sustainability*, vol. 8, no. 2, pp. 57–74, Sep. 2021, doi: 10.1557/s43581-021-00013-9.
- [6] Presiden Republik Indonesia, “Percepatan Pengembangan Energi Baru Terbarukan Untuk Penyediaan Tenaga Listrik,” Jakarta, Sep. 2022.
- [7] N. Hiron, N. Busaeri, S. Sutisna, N. Nurmela, and A. Sambas, “Design of hybrid (Pv-diesel) system for tourist island in karimunjawa indonesia,” *Energies (Basel)*, vol. 14, no. 24, Dec. 2021, doi: 10.3390/en14248311.
- [8] M. Ghahramani, D. Habibi, S. Ghamari, H. Soleimani, and A. Aziz, “Renewable-Based Isolated Power Systems: A Review of Scalability, Reliability, and Uncertainty Modeling,” Sep. 01, 2025, *Multidisciplinary Digital Publishing Institute (MDPI)*. doi: 10.3390/cleantechnol7030080.
- [9] G. N. Psarros, P. A. Dratsas, and S. A. Papathanassiou, “A comprehensive review of electricity storage applications in island systems.”
- [10] A. Sakharova *et al.*, “Clean Energy Ministerial Supercharging Battery Storage Initiative,” 2024.

- [11] NATIONAL FIRE PROTECTION ASSOCIATION, “NFPA 855 Standard for the Installation of Stationary Energy Storage Systems,” 2026.
- [12] A. A. , dan S. A. Andi Agus Triwidodo, “STRATEGI PENINGKATAN PELAYANAN DAN PENGELOLAAN SISTEM KETENAGALISTRIKAN DI PULAU TANAKEKE,” 2022.
- [13] F. N. Al Farsi, M. H. Albadi, N. Hosseinzadeh, and A. H. Al Badi, *Economic Dispatch in Power Systems A comparison between vertically integrated and libralized markets*. 2015.
- [14] Z. Wu, J. Ding, Q. Wu, Z. Jing, and J. Zheng, “Reserve constrained dynamic economic dispatch with valve-point effect: A two-stage mixed integer linear programming approach,” *CSEE Journal of Power and Energy Systems*, vol. 3, no. 2, pp. 203–211, Jul. 2017, doi: 10.17775/CSEEJPES.2017.0025.
- [15] A. Amer, A. Massoud, and K. Shaban, “Optimization of hybrid renewable-diesel power plants considering operational cost, battery degradation, and emissions,” *Heliyon*, vol. 10, no. 6, Mar. 2024, doi: 10.1016/j.heliyon.2024.e27021.
- [16] A. Malheiro, P. M. Castro, R. M. Lima, and A. Estanqueiro, “Integrated sizing and scheduling of wind/PV/diesel/battery isolated systems,” *Renew. Energy*, vol. 83, pp. 646–657, Nov. 2015, doi: 10.1016/j.renene.2015.04.066.
- [17] A. T. Lampung, “Tinjauan Pemodelan Sistem Dan Formulasi Economic Dispatch Untuk Sistem Tenaga Listrik Hibrida Berbasis Variable Renewable Energy Dengan Plta Pumped Storage,” *SUTET*, vol. 10, no. 1, pp. 15–28, Jun. 2021, doi: 10.33322/sutet.v10i1.1167.
- [18] A. Wulan, D. Ardy Pradipta, and A. Wirabrata, “TRANSISI ENERGI DI DAERAH TERPENCIL: STUDI KASUS IMPLEMENTASI SISTEM HYBRID PLTS-PLTD DI TEMAJOK, KALIMANTAN BARAT,” 2025.

- [19] F. Ahmed, R. Al-Abri, H. Yousef, and A. M. Massoud, "An Optimal Energy Dispatch Management System for Hybrid Power Plants: PV-Grid-Battery-Diesel Generator-Pumped Hydro Storage," *IEEE Access*, vol. 12, pp. 143307–143326, 2024, doi: 10.1109/ACCESS.2024.3470652.
- [20] L. A. Novario, K. M. B. Nahor, N. Hariyanto, A. Fitriatmojo, and Y. A. Budiyono, "Optimal Design of Hybrid Solar Power Plants, Battery Energy Storage Systems, Hydrogen Fuel Cell and Diesel Generator on Baranglombo and Laelae Islands," in *6th International Conference on Power Engineering and Renewable Energy, ICPERE 2024 - Proceedings*, Institute of Electrical and Electronics Engineers Inc., 2024. doi: 10.1109/ICPERE63447.2024.10845621.
- [21] A. Wicaksono, R. Seto Wibowo, I. Made, and Y. Negara, "OPTIMASI PERENCANAAN OPERASI PEMBANGKIT LISTRIK BERBASIS MIXED INTEGER LINEAR PROGRAMMING (MILP) PADA SISTEM ISOLATED SELAYAR OPTIMIZATION OF POWER PLANT OPERATION PLANNING BASED ON MIXED INTEGER LINEAR PROGRAMMING (MILP) ON AN ISOLATED LINEAR SYSTEM," *Journal of Information Technology and Computer Science (INTECOMS)*, vol. 7, no. 3, 2024.
- [22] Z. Arifin, H. Hassan, and D. Alkano, "Optimal Sizing and Performance Assessment of a Hybrid Diesel and Photovoltaic with Battery Storage Limited by a Take-or-Pay Contract of Power Purchase Agreement in Nusa Penida Island, Indonesia," 2021.
- [23] W. H. Park, H. Abunima, M. B. Glick, and Y. S. Kim, "Energy curtailment scheduling milp formulation for an islanded microgrid with high penetration of renewable energy," *Energies (Basel)*, vol. 14, no. 19, Oct. 2021, doi: 10.3390/en14196038.
- [24] K. Nagarajan, A. Rajagopalan, S. Angalaeswari, L. Natrayan, and W. D. Mammo, "Combined Economic Emission Dispatch of Microgrid with the Incorporation of Renewable Energy Sources Using Improved Mayfly

- Optimization Algorithm,” *Comput. Intell. Neurosci.*, vol. 2022, 2022, doi: 10.1155/2022/6461690.
- [25] R. K. Kim, M. B. Glick, K. R. Olson, and Y. S. Kim, “MILP-PSO combined optimization algorithm for an islanded microgrid scheduling with detailed battery ESS efficiency model and policy considerations,” *Energies (Basel)*, vol. 13, no. 8, Apr. 2020, doi: 10.3390/en13081898.
- [26] C. S. Esobinenwu, “Optimization of Hybrid Solar PV and Diesel Generator System for an Efficient Electricity Supply,” *International Journal of Electrical and Electronics Engineering Studies*, vol. 9, no. 1, pp. 37–46, Jan. 2023, doi: 10.37745/ijeees.13/vol9n13746.
- [27] H. Rianto and T. Wahyu Adi, “ANALISA KEEKONOMIAN DAN OPTIMALISASI SISTEM PEMBANGKIT LISTRIK HYBRID TENAGA DIESEL, TENAGA SURYA DAN TENAGA HYDROGEN PADA PULAU SEBESI PROPINSI LAMPUNG,” *Action Research Literate*, vol. 8, no. 11, 2024, [Online]. Available: <https://arl.ridwaninstitute.co.id/index.php/arl>
- [28] M. Abedi, “Economic Dispatch.”
- [29] Agung Wicaksono, “Optimasi Perencanaan Operasi Pembangkit Listrik Berbasis Mixed Integer Linear Programming (MILP) pada Sistem Isolated Selayar,” Institut Teknologi Sepuluh Nopember, Surabaya, 2023.
- [30] B. F. W. G. B. S. Allan J. Wood, “Power Generation Operation and Control,” 2014.
- [31] M. F. Anjos and A. J. Conejo, “Unit Commitment in Electric Energy Systems,” *Foundations and Trends® in Electric Energy Systems*, vol. 1, no. 4, pp. 220–310, 2017, doi: 10.1561/31000000014.
- [32] D. P. Kadam, “Unit Commitment Problem in Power System.” [Online]. Available: www.ijtrd.com
- [33] N. P. Padhy, “Unit commitment - A bibliographical survey,” *IEEE Transactions on Power Systems*, vol. 19, no. 2, pp. 1196–1205, May 2004, doi: 10.1109/TPWRS.2003.821611.

- [34] I. A. Urzúa, J. C. Olmedo, and E. E. Sauma, “Impact of intermittent non-conventional renewable generation in the costs of the Chilean main power system,” Jul. 01, 2016, *Elsevier Ltd.* doi: 10.1016/j.rser.2016.01.124.
- [35] Reza Ferdiana, “PENGARUH PENGOPERASIAN PEMBANGKIT LISTRIK TENAGA SURYA TERHADAP PENURUNAN BIAYA POKOK PRODUKSI SISTEM KETENAGALISTRIKAN PULAU SELAYAR,” 2025.
- [36] E. S. Masrianto and R. Rahman, “STUDI TENTANG PROSES PEMBANGKITAN LISTRIK TENAGA DIESEL PT. PLN (PERSERO) WILAYAH SULSELBAR SEKTOR TELLO MAKASSAR.”
- [37] Arif Nugrahadhi Sumber:
<https://otomotif.kompas.com/read/2021/04/26/151200815/cara-kerja-mesin-sepeda-motor-4-tak>. Membership: <https://kmp.im/plus6>
Download aplikasi: <https://kmp.im/app6>, “Cara Kerja Mesin Sepeda Motor 4-Tak,” Kompas.com. Accessed: Feb. 12, 2026. [Online]. Available:
<https://otomotif.kompas.com/read/2021/04/26/151200815/cara-kerja-mesin-sepeda-motor-4-tak>
- [38] D. Blake, “Solar Photovoltaic Technology and its Role in Sustainable Development Journal of Fundamentals of Renewable Energy and Applications Perspective,” *J Fundam Renewable Energy Appl*, vol. 14, no. 3, pp. 1000351–1000352, doi: 10.35248/2090-4541.24.14.351.
- [39] H. A. D. Michael Kozich, “Lithium-Ion Battery Storage Fundamentals”, Accessed: Feb. 19, 2026. [Online]. Available: resources.kohler.com
- [40] R. Bollini, “Basics of BESS (Battery Energy Storage Systems) & Project Planning,” May 2025. [Online]. Available: www.bollinienergy.com
- [41] U.S. Department of Energy, “Battery Energy Storage Systems Report,” Nov. 2024.
- [42] “Lithium-ion Battery Storage Technical Specifications,” 2022.

- [43] Asian Development Bank (ADB), “Handbook on Battery Energy Storage System,” Manila, Philippines, Dec. 2018. doi: 10.22617/TCS189791-2.
- [44] K. Li, “Battery energy storage systems.”
- [45] N. A. Mossa, “Battery Energy Storage Systems (BESS),” *International Journal of Advanced Research in Science and Technology*, vol. 14, no. 11, pp. 1690–1696, Nov. 2025, doi: 10.62226/ijarst20252588.
- [46] P. Joshi and C. Gokhale-Welch, “Fundamentals of Energy Storage,” Nov. 2022.
- [47] D. F. R. Deo, “Battery Energy Storage Systems Guidance Report The Power of Commitment,” Sep. 2024.
- [48] S. Pan, J. Jian, and L. Yang, “A Mixed Integer Linear Programming Method for Dynamic Economic Dispatch with Valve Point Effect.”
- [49] M. Alramlawi, A. Gabash, E. Mohagheghi, and P. Li, “Optimal Operation of PV-Battery-Diesel MicroGrid for Industrial Loads Under Grid Blackouts,” Jul. 2018, [Online]. Available: <http://arxiv.org/abs/1807.05753>
- [50] T. Handoyo Baniantoro and R. Seto Wibowo, “DINAMIC ECONOMIC DISPATCH (DED) BERBASIS MIXED INTEGER LINEAR PROGRAMMING (MILP) DENGAN MEMPERTIMBANGKAN PEMBANGKIT EBT PADA KELISTRIKAN PULAU SUMBAWA DYNAMIC ECONOMIC DISPATCH (DED) BASED ON MIXED INTEGER LINEAR PROGRAMMING (MILP) CONSIDERING EBT GENERATING ON SUMBAWA ISLAND ELECTRICITY,” *Journal of Information Technology and Computer Science (INTECOMS)*, vol. 7, no. 3, 2024.
- [51] M. B. Sigalo, A. C. Pillai, S. Das, and M. Abusara, “An energy management system for the control of battery storage in a grid-connected microgrid using mixed integer linear programming,” *Energies (Basel)*, vol. 14, no. 19, Oct. 2021, doi: 10.3390/en14196212.

- [52] Y. Y. Li Li *et al.*, “Optimal Scheduling of an Isolated Microgrid with Battery Storage Considering Load and Renewable Generation Uncertainties.”
- [53] G. Morales-España, J. M. Latorre, and A. Ramos, “Tight and compact MILP formulation of start-up and shut-down ramping in unit commitment,” *IEEE Transactions on Power Systems*, vol. 28, no. 2, pp. 1288–1296, 2013, doi: 10.1109/TPWRS.2012.2222938.
- [54] B. Knueven, J. Ostrowski, and J.-P. Watson, “On Mixed Integer Programming Formulations for the Unit Commitment Problem.”
- [55] S. Pan, J. Jian, and L. Yang, “Solution to dynamic economic dispatch with prohibited operating zones via MILP,” *Mathematical Biosciences and Engineering*, vol. 19, no. 7, pp. 6455–6468, 2022, doi: 10.3934/mbe.2022303.
- [56] J. Susanto and F. Shahnia, “Optimal Capacity of a Battery Energy Storage Sys-tem based on Solar Variability Index to Smooth out Power Fluctuations in PV-Diesel Microgrids.”
- [57] M. Pujiantara *et al.*, “Optimal Operation of Hybrid PV/Diesel/Battery Microgrid for Remote Island Located in Nusa Tenggara Timur, Indonesia.” [Online]. Available: <https://ssrn.com/abstract=4874969>
- [58] V. Tiwari, H. M. Dubey, M. Pandit, and S. R. Salkuti, “Economic dispatch in microgrid with battery storage system using wild geese algorithm,” *Green Energy and Intelligent Transportation*, vol. 4, no. 5, Oct. 2025, doi: 10.1016/j.geits.2025.100263.
- [59] Z. Asbah and A. Assagaf, “Kelayakan Finansial PLTA Run-of-River dengan Integrasi Mekanisme Article 6: Studi Kasus PLTA Watunohu,” 2026.
- [60] M. G. (Russia), T. H. (Japan), W. I. (USA), and T. K. (Brazil) Jim Penman (UK), “IPCC Guidelines for National Greenhouse Gas Inventories,” 2006. [Online]. Available: <http://www.ipcc-nggip.iges.or.jp/>.
- [61] ESDM, “STATISTIK KETENAGALISTRIKAN 2022,” 2022.

- [62] A. R. Darío Gómez *et al.*, “Chapter 2: Stationary Combustion 2006 IPCC Guidelines for National Greenhouse Gas Inventories 2.1 C H A P T E R 2 STATIONARY COMBUSTION Volume 2: Energy 2.2 2006 IPCC Guidelines for National Greenhouse Gas Inventories Contributing Author.”
- [63] N. Rangel, H. Li, and P. Aristidou, “An optimisation tool for minimising fuel consumption, costs and emissions from Diesel-PV-Battery hybrid microgrids,” *Appl. Energy*, vol. 335, Apr. 2023, doi: 10.1016/j.apenergy.2023.120748.
- [64] A. S. Aziz, M. F. N. Tajuddin, M. R. Adzman, M. A. M. Ramli, and S. Mekhilef, “Energy management and optimization of a PV/diesel/battery hybrid energy system using a combined dispatch strategy,” *Sustainability (Switzerland)*, vol. 11, no. 3, Jan. 2019, doi: 10.3390/su11030683.
- [65] Bakhtiar, “OPTIMASI PENGOPERASIAN PEMBANGKIT LISTRIK TENAGA SURYA STUDI EMPIRIS PEMBANGKIT LISTRIK TENAGA SURYA PULAU TANAKEKE KABUPATEN TAKALAR,” 2025.
- [66] I. Renewable Energy Agency, *RENEWABLE ENERGY STATISTICS 2022 STATISTIQUES D'ÉNERGIE RENOUVELABLE 2022 ESTADÍSTICAS DE ENERGÍA RENOVABLE 2022 About IRENA*. 2022. [Online]. Available: www.irena.org
- [67] PT PLN (PERSERO), “Statistik PT PLN (Persero) 2022,” 2022. [Online]. Available: www.pln.co.id
- [68] HOMER Pro 3.16, “The renewable fraction is the fraction of the energy delivered to the load that originated from renewable power sources.”
- [69] İ. Çetinbaş, B. Tamyürek, and M. Demirtaş, “Design, analysis and optimization of a hybrid microgrid system using HOMER software: Eskişehir osmangazi university example,” *International Journal of Renewable Energy Development*, vol. 8, no. 1, pp. 65–79, Feb. 2019, doi: 10.14710/ijred.8.1.65-79.

- [70] R. Khamharnphol *et al.*, “Microgrid Hybrid Solar/Wind/Diesel and Battery Energy Storage Power Generation System: Application to Koh Samui, Southern Thailand,” *International Journal of Renewable Energy Development*, vol. 12, no. 2, pp. 216–226, Mar. 2023, doi: 10.14710/ijred.2023.47761.
- [71] Igan S. Sutawidjaja dan Heryadi Rachmat, “PULAU MOYO – SEBUAH PULAU KECIL DI SUMBAWA YANG DIKENAL DUNIA,” 2010.
- [72] “DATA DEEPSEA 8610MK II DEUTZ TCD”.
- [73] PLN UIW NTB, “Kajian Kelayakan Proyek Program Didieselisasi PLTS Labuhan Aji 167 kWp,” Mataram, Aug. 2023.
- [74] globalsolaratlas, “global solar atlas,” <https://globalsolaratlas.info/map>. Accessed: Apr. 30, 2025. [Online]. Available: <https://globalsolaratlas.info/download/indonesia>