

DAFTAR PUSTAKA

- [1] Z. F. Firdaus, *Neraca Arus Energi dan Neraca Emisi Gas Rumah Kaca Indonesia 2015-2019*. Jakarta: BPS RI, 2019.
- [2] Sara Budinis, *Direct Air Capture A Key Technology for Net Zero*. Austria: International Energy Agency, 2022.
- [3] A. Kodama and V. Heak, “Study on a Thermal Swing Adsorption Process Equipped with an Indirect Heating and Cooling for Direct Air Capture,” Kanazawa, 2021.
- [4] D. Ivananda, R. D. Ahmad, and M. A. I. Iswara, “Analisis Koefisien Perpindahan Panas Alat Double Pipe Heat Exchanger Berbasis Computational Fluid Dynamics,” *J. Teknol. Separasi*, vol. 9, no. 3, pp. 240–250, 2023, doi: 10.33795/distilat.v9i3.3758.
- [5] H. Vannak, Y. Osaka, and T. Tsujiguchi, “Air-Purge Regenerative Direct Air Capture Using an Externally Heated and Cooled Temperature-Swing Adsorber Packed with Solid Amine,” *Separations*, vol. 10, no. 415, pp. 1–19, 2023, doi: <https://doi.org/10.3390/separations10070415>.
- [6] M. Wei and Q. Zhao, “CO₂ Adsorption and Desorption by Waste Ion-Exchange Resin-Based Activated Carbon on Fixed Bed,” *Front. Energy Res.*, vol. 9, no. 772710, pp. 1–10, 2021, doi: 10.3389/fenrg.2021.772710.
- [7] I. S. I. Margareth, W. M. E. Pasaribu, Y. Pradjanata, and S. Pontoh, “Peramalan Kadar Konsentrasi Co₂ di Atmosfer Indonesia,” *Semin. Nas. Stat. Aktuaria*, vol. 2, pp. 1–10, 2023, [Online]. Available: <https://prosidingnsa.statistics.unpad.ac.id/>
- [8] Nestle, “Emisi Karbon: Penyebab, Dampak, dan Cara Mengatasinya,” pp. 1–2, 2022, [Online]. Available: <https://www.nestle.co.id/kisah/penyebab-dan-cara-mengatasi-emisi-karbon>
- [9] A. Sodik *et al.*, “A Review on Progress Made In Direct Air Capture of CO₂,” *Environmental Technology and Innovation*, vol. 29, pp. 2–19, 2023. doi: 10.1016/j.eti.2022.102991.

- [10] N. McQueen, K. V. Gomes, C. McCormick, K. Blumanthal, M. Pisciotta, and J. Wilcox, "A Review of Direct Air Capture (DAC): Scaling up Commercial Technologies and Innovating for The Future," *Progress in Energy*, vol. 3, no. 3. pp. 2–18, 2021. doi: 10.1088/2516-1083/abf1ce.
- [11] David Sandalow, Julio Friedmann, Colin McCormick, and Sean McCoy, *Direct Air Capture of Carbon Dioxide: ICEF Roadmap 2018*. Tokyo: Innovation for Cool Earth Forum, 2018.
- [12] R. Giulia, "Direct Air Capture and Negative Emission Technologies in Deep Mitigation Pathways," Politecnico di Milano, 2018. [Online]. Available: file:///C:/Users/user/Downloads/Thesis_Final_Giulia_Realmonte (1).pdf
- [13] F. D. Ginting, "Penguajian Alat Pendingin Sistem Adsorpsi Dua Adsorben Dengan Menggunakan Metanol 1000 ml Sebagai Refrigeran," UI, 2008. [Online]. Available: <https://lib.ui.ac.id/detail.jsp?id=125655#>
- [14] M. S. Muzarpar and A. M. Leman, "The Adsorption Mechanism of Activated Carbon and Its Application - A Review," *Int. J. Adv. Technol. Mech. Mechatronics Mater.*, vol. 1, no. 3, pp. 118–124, 2021, doi: 10.37869/ijatec.v1i3.37.
- [15] N. Jamilah, A. B. Cahaya, and A. Riswoko, "Website : <http://ejournal.undip.ac.id/index.php/reaktor/> Adsorption using Selective Adsorbents as An Effective Method for Rare Earth Elements Recovery – a Review," vol. 23, no. 3, pp. 77–91, 2024, [Online]. Available: file:///C:/Users/user/Downloads/mekanisme adsorpsi 3.pdf
- [16] J. Tokarska-Bakir, "Chapter 2 Physical Evidence," *Cursed*, pp. 49–78, 2023, doi: 10.1515/9781501771507-005.
- [17] P. Indah Wahyu, "Adsorpsi-Desorpsi Monologam Dan Multilogam Ion Ni(II), Cd(II), Dan Cu(II) Oleh Material Biomassa Alga *Nitzschia* sp Yang Dimodifikasi Dengan Pelapisan Silika-Magnetit (Fe₃O₄)," Universitas Lampung, 2016. [Online]. Available: https://digilib.unila.ac.id/24479/3/SKRIPSI_TANPA_BAB_PEMBAHASAN.pdf

- [18] Q. Ye, C. Li, T. Yang, Y. Wang, Z. Li, and Y. Yin, "Relationship between desorption amount and temperature variation in the process of coal gas desorption," *Fuel*, vol. 332, no. P1, p. 126146, 2023, doi: 10.1016/j.fuel.2022.126146.
- [19] I. Y. Saney, "Uji Adsorpsi-Desorpsi Larutan Monologam (Ni(II), Cu(II), Cd(II)) Dan Multilogam Pada Material Biomassa Alga *Porphyridium* sp. Yang Dimodifikasi Dengan Pelapisan Silika-Magnetit (Fe_3O_4)," Universitas Lampung, 2016. [Online]. Available: [https://digilib.unila.ac.id/24477/20/SKRIPSI TANPA BAB PEMBAHASAN.pdf](https://digilib.unila.ac.id/24477/20/SKRIPSI_TANPA_BAB_PEMBAHASAN.pdf)
- [20] S. Masuda, Y. Osaka, T. Tsujiguchi, and A. Kodama, "Carbon dioxide recovery from a simulated dry exhaust gas by an internally heated and cooled temperature swing adsorption packed with a typical hydrophobic adsorbent," *Sep. Purif. Technol.*, vol. 284, 2022, doi: 10.1016/j.seppur.2021.120249.
- [21] T. M. A. S., A. Fitri, R. A. Barus, and A. B. Paduana, "Macam-Macam Heat Exchanger Alat Penukar Panas," *Artik. Teknol.*, pp. 4–20, 2015, [Online]. Available: <https://artikel-teknologi.com/macam-macam-heat-exchanger-alat-penukar-panas>
- [22] M. J. Bos, V. Kroeze, S. Sutanto, and D. W. F. Brilman, "Evaluating Regeneration Options of Solid Amine Sorbent for CO_2 Removal," *Ind. Eng. Chem. Res.*, vol. 57, no. 32, pp. 11141–11153, 2018, doi: 10.1021/acs.iecr.8b00768.
- [23] N. Mahmood Aljamali, D. Abdul Baqi Aldujaili, and I. Obaid Alfatlawi, "Physical and Chemical Adsorption and its Applications," *Int. J.*, vol. 7, no. 2, pp. 1–8, 2021, doi: 10.37628/IJTCK.