

## DAFTAR PUSTAKA

- Abubakar, M. (1990). *Biogas Generation from animal wastes. Nigerian J Renewable Energy*, 69-79.
- Adeniran, A. A. (2014). *Relative effectiveness of biogas production using poultry wastes and cow dung. Relative effect*Agric Eng Int: CIGR Journal, 126-132.
- Allo, S. L., & Widjasena, H. (2019). Studi Potensi Pembangkit Listrik Tenaga Sampah (PLTSa) Pada Tempat Pembuangan Akhir (TPA) Makbon Kota Sorong. *Jurnal Elektro Luceat*, 14-24.
- Andriani, D., & Wresta, A. A. (2014). *A review on optimization production and upgrading biogas trough CO<sub>2</sub> removal using various techniques. Appl Biochem Biotechnol*, 09-28.
- Ardhiany, S. (2018). Proses Absorbsi Gas CO<sub>2</sub> Dalam Biogas Menggunakan Alat Absorber Tipe Packing dengan Analisa Pengaruh Laju Alir Absorben NaOH. *Jurnal Teknik Patra Akademika*, 55-64.
- Badrussalam. (2008). *membuat Biogas Dari Sampah Organik*. Jakarta: Bentara Cipta Prima.
- Bauer, F., Hulteberg, C., Persson, T., & Tamm, D. (2013). *Biogas upgrading - Review of commercial technologies*.
- Bond, T., & Templeton, M. R. (2011). *History and future of domestic biogas plants in the developing world. Energy for Sustainable Development*, 347–354.
- BPPT. (2018). *Outlook Energi Indonesia 2018: Energi Berkelanjutan untuk Transportasi Darat*. Tangerang Selatan: Pusat Pengkajian Industri Proses Dan Energi.
- BPST. (2018, November 15). *Populasi Ternak Besar menurut Kabupaten/Kota dan Jenis Ternak di Provinsi Sumatera Selatan (ekor)*. Retrieved Februari 19, 2020, from Badan Pusat Statistik Sumatera Selatan: <https://sumsel.bps.go.id>
- Budzianowski, W. M., Wylock, C. E., & Marciniak, P. A. (2017). *Power requirements of biogas upgrading by water scrubbing and biomethane compression: comparative analysis of various plant configurations . Energy Conversion and Management*, 2-19.

- Cozma, P., & Ghinea, C. (2013). *Environmental impact assessment of high pressure water scrubbing biogas upgrading technology*. CLEAN-Soil, Air Water, 917-27.
- Cundari, L., Selpiana, Redian, B., & Zaidan, A. (2015). *Pengaruh Penambahan Asam Borat ( $H_3BO_3$ ) pada Larutan  $Na_2CO_3$  Terhadap Absorbsi  $CO_2$  dalam Biogas Menggunakan Spray Column*. Junral Teknik Kimia, 8-13.
- Dang, H., & Rochelle, G. (2003).  *$CO_2$  Absorption Rate and Solubility in Monoethanolamine/Piperazine/Water. Separation Science and Technology*, 337 - 357.
- Detman, A., Chojnacka, A., Błaszczyk, M., Kaźmierczak, W., Piotrowski, J., & Sikora, A. (2017). *Biohydrogen and Biomethane (Biogas) Production in the Consecutive Stages of Anaerobic Digestion of Molasses*. Polish Journal of Environmental Studies, 1023-1029.
- Ezekoye, V., & Okeke, C. (2006). *Design, Construction, and Performance Evaluation of Plastic Biodigester and the Storage of Biogas*. The Pacific Journal of Science and Technology, 176-184.
- Fathurrohman, A., Hari, M. A., Zukhriyah, S. A., & Adam, M. A. (2015). Persepsi peternak sapi dalam pemanfaatan kotoran sapi menjadi biogas di Desa Sekarmojo Purwosari Pasuruan . *Jurnal Ilmu-Ilmu Peternakan* , 36 - 42 .
- FAO, F. a. (2006). *Livestock's role in climate change and air pollution*. Rome: FAO.
- Gustiar, F., Suwignyo, R. A., Suheryanto, & Munandar. (2014). Reduksi Gas Metan ( $CH_4$ ) dengan Meningkatkan Komposisi Konsentrasi dalam Pakan Ternak Sapi. *Jurnal Peternakan Sriwijaya*, 14-24.
- Hadiyanto, A. K., & Djaeni, M. (2017). Parameter *Kga- Enhancement Factor* Dalam Sistem Absorbsi  $CO_2$  Dengan Larutan NaOH. *Reaktor*, 27-30.
- Horikawa, M., Rossi, F., Gimenes, M., Costa, C., & Silva, M. d. (2004). *Chemical Absorption of  $H_2S$  for Biogas Purification*. Brazilian Journal of Chemical Engineering, 415 - 422.
- Huertas, J. I., Gomez, M. D., Giraldo, N., & Garzón, J. (2015).  *$CO_2$  Absorbing Capacity of MEA*. *Journal of Chemistry*, 1-7.
- Irawan, D., & Khudori, A. (2015). Pengaruh Suhu Anaerobik Terhadap Hasil Biogas Menggunakan Bahan Baku Limbah Kolam Ikan Gurame. *Turbo*, 17-22.
- IRENA. (2018). *Biogas for road vehicles: Technology brief*. Abu Dhabi: International Renewable Energy Agency.

- Kalsum, L., Hasan, A., Rusdianasari, Husaini, A., & Bow, Y. (2020). *Evaluation of Main Parameter Process of Anaerobic Digestion of Cow Dung in Fixed Dome Biogester on Methane Gas Quality*. *Journal of Physics: Conference Series*, 1-6.
- Kasikamphaiboon, P., Chungsiripom, J., Bunyakan, C., & Wiyaratn, W. (2013). *Simultaneous removal CO<sub>2</sub> and H<sub>2</sub>S using MEA solution in a packed column absorber for biogas upgrading*. *Songklanakarin J. Sci. Technol.*, 683-691.
- Khan, A. A., Halder, G., & Saha, A. (2015). *Carbon dioxide capture characteristics from flue gas using aqueous 2-amino-1-methyl-1propanol (AMP) and monoethanolamine (MEA) solutions in packes bed absorption and regeneration columns*. *International Journal of Greenhouse Gas Control*, 15-23.
- Khan, I. U., Othman, M. H., Hashim, H., Matsuura, T., Ismail, A., Arzhandi, M. R.-D., et al. (2017). *Biogas as a renewable energy fuel- A review of biogas upgrading, utilisation and storage*. *Energy Conversion and Management*, 277-294.
- Krumdieck, S., & Wallace, J. (2008). *Compact, Low Energy CO<sub>2</sub> Management using Amine Solution in a Packed Bubble Column*. *Chemical Engineering Journal*, 3-9.
- Kulkarni, M., & Ghanegaonkar, P. (2019). *Hydrogen sulfide removal from biogas using chemical absorption technique in packed column reactors*. *Global Journal of Environmental Science and Management*, 155-166.
- Lin, S., & Shyu, C. (2000). *Carbon dioxide absorption by amines system performance predictions and regeneration of exhausted amine solution*. *Environ. Technol.*, 1245-1254.
- Maduekeh, E. C., Onwurah, I. N., Okoye, A. C., Madueke, C. O., & Ojeh, O. (2014). *Optimizing the conversion of cow dung to bio-energy under anaerobic condition by varying the organic loading rate (OLR) using proto-types of Chinese fixed dome bioreactor (CFDB)*. *IOSR Journal of Environmental Science, Toxicology and Food Technology*, 64-69.
- Mahajoeno, E., Lay, B. W., Sutjahjo, S. H., & Siswanto. (2008). Potensi Limbah Cair Pabrik Minyak Kelapa Sawit untuk Produksi Biogas. *Biodiversitas*, 48-52.
- Maile, O., Tesfagiorgis, H., & Muzenda, E. (2017). *The Potency of Monoethanolamine in Biogas Purification and Upgrading*. *South African Journal of Chemical Engineering*, 122-127.

- Maloney, J. O. (2008). *Perry's Chemical engineers' Handbook 8th edition.* Amerika: The McGraw-Hill Companies.
- Mandal, B. P., Biswas, A. K., & Bandyopadhyay, S. S. (2003). *Absorption of carbon dioxide into aqueous blends of 2-amino-2-methyl-1-propanol and diethanolamine.* *Chemical Engineering Science*, 4137–4144.
- Mara, I. M. (2012). Analisis Penyerapan Gas Karbondioksida ( $\text{CO}_2$ ) Dengan Larutan NaOH Terhadap Kualitas Biogas Kotoran Sapi. *Dinamika Teknik Mesin*, 1-8.
- Masyhuri, A. P., Ahmad, A. M., & Djojowasito, G. (2013). Rancang Bangun Sistem Penyerap Karbon dioksida ( $\text{CO}_2$ ) Pada Aliran Biogas Dengan Menggunakan Larutan  $\text{Ca}(\text{OH})_2$ . *Jurnal Keteknikan Pertanian Tropis dan Biosistem*, 19-28.
- McCabe, W. L., Smith, J. C., & Harriott, P. (1993). *Unit Operations of Chemical Engineering.* Singapore: McGraw-Hill Book Co.
- Mel, M., Wan, W. N., Ihsan, S. I., Ismail, A. F., & Yaacob, S. (2014). *Purification of Biogas by Absorption into Calcium Hydroxide  $\text{Ca}(\text{OH})_2$  Solution.* Persidangan Kebangsaan Kedua Program Pemindahan Ilmu Kedua (KTP02). Kuala Lumpur: Kementerian Pendidikan Malaysia.
- Musa, B., & Raji, H. (2016). *Quantitative and Qualitative Analysis of Biogas Produces From Three Organic Wastes.* *International Journal of Renewable Energy Research.*
- Nock, W., Walker, M., Kapoor, R., & Heaven, S. (2014). *Modeling the Water Scrubbing Process and Energy Requirements for  $\text{CO}_2$  Capture to Upgrade Biogas to Biomethane.* *Industrial Engineering Chemistry Research*, 12783-12792.
- Onwuliri, Onyimba, & Nwaukwu. (2013). *Generation of Biogas from Cow Dung. Bioremediation & Biodegradation*, 1-3.
- Ozor, O. C., Agah, M. V., Ogbu, K. I., Nnachi, A. U., Udu-ibiam, O. E., & Agwu, M. M. (2014). *Biogas Production Using Cow Dung From Abakaliki Abattoir In South-Eastern Nigeria.* *International Journal of Scirntific & Research.*
- PubChem. (2020, Juli 19). *Methane.* Retrieved Juli 29, 2020, from PubChem: <https://pubchem.ncbi.nlm.nih.gov/compound/Methane#section=2D-Structure>
- Putri, S. N., & Anhar, A. (2020). *The effect of composition of red on waste (*Allium cepa L.*) and dirty buffet on biogas results.* *Serambi Biologi*, 33-38.

- Raja, I. A., & Wazir, S. (2017). *Biogas Production: The Fundamental Processes*. *Universal Journal of Engineering Science*, 29-37.
- Ramatsa, I. M., Akinlabi, E. T., Madyira, D. M., & Huberts, R. (2014). *Design of the Bio-digester for Biogas Production: A Review*. *World Congress on Engineering and Computer Science*. San Francisco: WCECS.
- Ritonga, A. M., & Masrukhi. (2017). Optimasi Kandungan Metana ( $\text{CH}_4$ ) Biogas Kotoran Sapi Menggunakan Berbagai Jenis Adsorben . *Jurnal Rona Teknik Pertanian*, 8-17.
- Rongwong, W., Borinuth, S. A., Laosiripojana, N., & Jiraratananon, R. (2012). *Simultaneous absorption of CO<sub>2</sub> and H<sub>2</sub>S from biogas by capillary membrane contractor*. *J Memb Sci*, 38-47.
- Russell, R. (2012). *Methane*. Retrieved Juli 29, 2020, from UCAR Center for ScienceEducation:<https://scied.ucar.edu/methane#:~:text=Methane%20is%20gas%20that%20is,principal%20component%20of%20natural%20gas>.
- Sajaruuddin, Kalsum, L., & Muchtar, Z. (2020). The Analysis Of Biogas Fermentation Time From Cow Manure On Fixed Dome Biodigester Batch Systems. *Journal of Physics: Conference Series*, 1-7.
- Saleh, A., Tobing, J. D., & Pratama, H. (2015a). Peningkatan Persentase Metana dalam Kualitas Biogas Sebagai Bahan Bakar Alternatif Menggunakan Membran Berbahan Karbon Aktif. *Jurnal Teknik Kimia*, 34-40.
- Saleh, A., Permana, D. A., & Yuliandita, R. (2015b). *Pengaruh Komposisi Adsorben Campuran (Zeolit -Semen Putih) dan Waktu Adsorpsi Produk Gas Metana Terhadap Kualitas Biogas Biogas Sebagai Bahan Bakar Alternatif*. 1-6: *Jurnal Teknik Kimia*.
- Saputra, T., Triatmojo, S., & Pertiwiningrum, A. (2010). Produksi Biogas dari Campuran Feses Sapi dan Ampas Tebu (Bagasse) dengan Rasio C/N yang Berbeda. *Buletin Peternakan*, 114-122.
- Setyowati, A. D. (2017). Aplikasi Zeolit pada Pembuatan Scrubber Gas Etilen ( $\text{C}_2\text{H}_4$  ) untuk Pengawetan Buah Nangka Kupas. *Jurnal Ilmiah Teknik Kimia UNPAM*.
- SGC. (2012). *Swedish Gas Centre: Basic Data on Biogas*. Swedia: Swedish Gas Technology Centre Ltd (SGC).
- Singhal, S., Agarwal, S., Arora, S., Sharma, P., & Singhal, N. (2017). *Upgrading techniques for transformation of biogas to bio-CNG: A review*. *Int. J. Energy Res.*, 1657–1669.

- Srichat, A., Suntivarakorn, R., & Kamwilaisak, K. (2017). *A Development of Biogas Purification System Using Calcium Hydroxide and Amine Solution. International Conference on Alternative Energy in Developing Countries and Emerging Economies* (pp. 441-445). Bangkok: Elsevier Ltd.
- Sugiharto, A., Sarto, Sutijan, & Hidayat, M. (2015). *Sensitivity Analysis of Water Scrubbing Process for Biogas Purification. International Conference on Engineering, Technology, and Industrial Application* (pp. 35-39). Surakarta: ResearchGate.
- Tabatabaei, M., & Ghanavati, H. (2018). *Biogas Fundamentals, Process, and Operation*. Karaj: Springer.
- Tayar, S. P., Guerrero, R. d., Hidalgo, L. F., & Bevilaqua, D. (2019). *Evaluation of Biogas Biodesulfurization Using Different Packing Materials. ChemEngineering*, 1-12.
- Treybal, R. E. (1981). *Mass-transfer operations*. Singapore: McGRAW-HILL BOOK COMPANY.
- Virginia University. (2018, Desember 17). *Publications and Educational Resources*. Retrieved Juni 16, 2020, from Virgin Cooperative Extension: <https://www.pubs.ext.vt.edu/442/442-881/442-881.html>
- Zhao, Q., E., L., MacConnell, C., Frear, C., & Chen, S. (2010). *Purification Technologies for Biogas Generated by Anaerobic Digestion. CSANR Research Report*, 1-23.