

DAFTAR PUSTAKA

- AEA Technology Environment, 2006. Task 24: *Energy from biological conversion of organic waste*. [Online] Available at: www.ieabioenergy.com
- AFROX, 2011. *Material Safety Data Sheet: Hydrogen Sulphide*. [Online] Available at: www.afrox.co.za [Accessed 23 July 2023].
- Agency, Ardhin I dkk, 2012. *Pembuatan dan Pemanfaatan Biogas Sebagai Energi Alternatif Dengan Menggunakan Tabung Digester Metode kultur Kontinyu*.
- Agustina, S. (2016). *Skrinning Fitokimia Tanaman Obat di Kabupaten Bima*. Indonesia E-Journal of Applied Chemistry. Vol (4), 1.
- Air Liquide, 2018. *Safety Data Sheet: Methane*. [Online] Available at: Alsafetydatasheets.com [Accessed 23 July 2023].
- Alibaba.com Low Temperature Pressure Vessel LNG Liquefied Natural Gas Storage Tank. https://www.alibaba.com/product-detail/Low-Temperature-Pressure-Vessel-LNG-Liquefied_62168218157.html?spm=a2700.galleryofferlist.normal_offer.d_title.5e102087EuyqYn&s=p
- Ali, Sun J. 2015. *Physico-chemical pretreatment and fungal biotreatment for park wastes and cattle dung for biogas production*. Springerplus 2015;4(1):1–14. <https://doi.org/10.1186/s40064-015-1466-9>
- Ali, Ahmad Amiruddin Mohd, Mohd Ridzuan Othman, Yoshihito Shirai, and Mohd Ali Hassan. 2015. *Sustainable and Integrated Palm Oil Biorefinery Concept with Value-Addition of Biomass and Zero Emission System*. Journal of Cleaner Production, 91, 96–99.
- Amaru, K. (2004). *Rancang Bangun dan Uji Kinerja Biodigester Plastik Polyethylene Skala Kecil (Studi Kasus Ds. Cidatar Kec. Cisurupan Kab. Garut)*. Skripsi. Jurusan Teknologi Pertanian, Fakultas Pertanian. Universitas Padjajaran. Bandung

Institut Teknologi Indonesia

- Amnuaycheewa, P. et al., 2016. *Enhancing enzymatic hydrolysis and biogas production from rice straw by pretreatment with organic acids*. Industrial Crops and Products, Volume 87, pp. 247-254.
- Anonim. (1989). *The Biogas Technology in China*. Chengdu Biogas Research Institute, Chengdu, China. ASME, 2018. ASME Setting the Standard. [Online] Available at: <https://www.asme.org/codes-standards/find-codes-standards/b31-8-gas-transmission-distribution-piping-systems>.
- ASME, 2018. *ASME Setting the Standard*. [Online] Available at: <https://www.asme.org/codes-standards/find-codes-standards/b31-8-gas-transmission-distribution-piping-systems>.
- Atidhira Y, Noviansyah A, dan Taufany F, 2017, *Pengembangan Metode Pretreatment Melalui Proses Fisik dan Kimia untuk Optimasi Produksi Biogas dari Eceng Gondok (Eichhornia crassipes) sebagai Alternatif Energi Listrik – Biogas*, Departemen Teknik Kimia, Fakultas Teknologi Industri, Institut Teknologi Sepuluh Nopember (ITS).
- Badan Pusat Statistik, 2021. *Suhu Kabupaten Kutai Kartanegara 2022-2023*. [Online] Available at : [Badan Pusat Statistik Kabupaten Kutai Kartanegara \(bps.go.id\)](https://www.bps.go.id/indikator/24/469/1/populasi-sapi-potong-menurut-provinsi.html) [Akses 23 Juli 2023].
- Badan Pusat Statistik, 2022. *Populasi Sapi Potong menurut provinsi*. [Online] Available at: <https://www.bps.go.id/indikator/24/469/1/populasi-sapi-potong-menurut-provinsi.html> [Akses 23 Juli 2023]
- Bethell, W. J., 2010. *Biogas Upgrading*. Auckland (NZ), Patent No. US20100107872A1.
- Brown, G.G. 1978. *Unit Operation*. Modern Asia Edition. New York: John Wiley and Sons Inc.
- Carl L. Yaws & McGraw-Hill, 1999. *Chemical Properties Handbook: Physical, Thermodynamic, Environmental Transport, Safety & Health Properties*.

Institut Teknologi Indonesia

Chemical Engineering Plant Cost Index, www.chemengonline.com/pci

Chemical Engineering World, 2019. *Spherical Storage Tank Design*. [Online] Available at: <https://chemicalengineeringworld.com/spherical-storage-tank-design/>

Chemical Engineering, 2011. *Chemical Engineering Cost Index*. [Online] Available at: http://folk.ntnu.no/magnehi/cepci_2011_py.pdf.

Chemical Engineering, 2014. *Economic Indicator*. [Online] Available at: www.chemeng.queensu.ca/courses/CHEE332/files/CEPCI_2014.pdf

CR Clean Air, 2015. *The Importance of Selecting the Right Wet Scrubber Materials*. [Online] Available at: <https://www.crcleanair.com/uncategorized/the-importance-of-selecting-wet-scrubber-materials/>

DACHENG corp., n.d. *Centrifugal Pump*. [Online] Available at: <https://dachengpump.en.made-in-china.com/product/zKNEfpkYaPRC/China-1-5dk-20-Centrifugal-Pump-Industrial-Pump-1HP-Pump-Price.html> [Accessed 26 November 2023].

Deublein, D. & Steinhauser, A., 2008. *Biogas from Waste and Renewable Resource*. Jerman: Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim.

Dinas Perkebunan Kalimantan Timur, Data Statistik Perkebunan Tahun 2018-2021, [Dinas Perkebunan Provinsi Kalimantan Timur \(kaltimprov.go.id\)](http://DinasPerkebunanProvinsiKalimantanTimur(kaltimprov.go.id))

Direktorat Jenderal Minyak dan Gas Bumi- Kementerian ESDM, 2020, www.migas.esdm.go.id

Direktorat Jenderal Energi Baru Terbarukan dan Konversi Energi, 2015

Direktorat Jenderal Peternakan dan Kesehatan Hewan, 2022, [Direktorat Jenderal Peternakan dan Kesehatan Hewan, Kementerian Pertanian](http://DirektoratJenderalPeternakanDanKesehatanHewan.KementerianPertanian)

Disidry Silica Gel, n.d. *How to regenerate*. [Online] Available at: <https://www.silica-gel.it/en/content/14-how-to-regenerate-> [Accessed November 2023].

Institut Teknologi Indonesia

Disidry Silica Gel, n.d. How to Regenerate Silica Gel. [Online] Available at: <https://www.silica-gel.it/en/content/14-how-to-regenerate>

Donaldson Filtration Solutions, n.d. *Heat Regenerated Adsorption Dryer*. [Online] Available at: <https://www.donaldson.com/en-be/compressed-air-process/products/compressed-air-gas/dryers/heat-regenerated-adsorption/>

Drosg B, Braun R, Bochmann G, 2013, *Analysis and characterization of biogas feedstocks*, University of Natural Resources and Life Sciences, Austria and Teodorita Al Saedi, Biosantect, Denmark.

Duangmanee, T., 2009. *Micro-aeration for hydrogen sulfide removal from biogas*.

Dwinanda, V. C., 2017. *Perancangan Wet Scrubber sebagai Unit Pengurang Kadar H₂S pada Produksi Biogas di PT Eneo Mojokerto*. Surabaya: Fakultas Teknik Industri, Institut Teknologi Sepuluh Nopember.

Energy Smarts, 2013. *Anaerobic Digestion: Turning Waste into Renewable Energy*. [Online] Available at: <http://blog.mass.gov/energy/green-business/anaerobic-digestion-turning-waste-into-renewable-energy/>

Engineering Tool Box, n.d. Engineering Tool Box. [Online] Available at: https://www.engineeringtoolbox.com/coal-heating-values-d_1675.html

Engineeringtoolbox.com. *Methane – Density and Specific Weight vs Temperature and Pressure*. Diakses pada 18 September 2023 dari Methane - Density and Specific Weight vs. Temperature and Pressure (engineeringtoolbox.com).

Gantina, T. M., Iriani, P., Maridjo, & Wachjoe, C. K. (2020). *Biogas purification using water scrubber with variations of water flow rate and biogas pressure*. Journal of Physics: Conference Series, 1450(1). <https://doi.org/10.1088/1742-6596/1450/1/012011>

Geankoplis, C.J. 1983. *Transport Process and Unit Operation*. Third Edition. New Delhi: Prentice-Hall International, Inc.

Institut Teknologi Indonesia

- Grand View Research, 2021, [Bio-energy Market Size | Global Industry Report, 2019-2025 \(grandviewresearch.com\)](https://www.grandviewresearch.com/industry-analysis/bio-energy-market-size)
- Handayani, Sri. 2022. *Diktat Ekonomi Teknik*. Serpong: Institut Teknologi Indonesia.
- Harmsen P, Huijgen W, Bermúdez L, Bakker R (2010) *Literature review of physical and chemical pretreatment processes for lignocellulosic biomass*, 1st edn. ISBN 9789-085-857-570, Netherlands.
- Haryati, T. (2006). Biogas: *Limbah peternakan yang menjadi sumber energi alternatif*. Jurnal Wartazoa, 16(3), 160-169.
- Heryadi, Eko, and Pawinee Chaiprasert. 2017. *Methane Production Potential of Oil Palm Mesocarp Fiber Using Variuos Seed Inoculumms and Pretreatments*. South East Asian Technical University Consortium Symposium (SEATUC), (1), 1–7.
- Himmelblau, David M. dan James B. riggs. 1989. “*Basic Principles and Calculations in Chemical Engineering*”. New Jersey: Prentice Hall.
- Husnil, Y.A. 2018. *Diktat Operasi Teknik Kimia 2*. Tangerang Selatan : Institut Teknologi Indonesia.
- Indiamart, n.d. *Stainless Steel Silo Tank*. [Online] Available at: <https://www.indiamart.com/proddetail/stainless-steel-silo-tank-15320061055.html>
- Iskandar, Muhammad Johan, Azizah Baharum, Farah Hannan Anuar, and Rizafizah Othaman. 2018. Palm Oil Industry in South East Asia and the Effluent Treatment Technology—A Review. *Environmental Technology and Innovation*, 9, 169–85.
- J&M Industrial, n.d. *Carbon Steel Tanks*. [Online] Available at: <https://www.jmindustrial.com/product/13723-used-2500-gallon-carbon-steel-tank-with-stainless-mixer-8%C3%B8/>
- Joelianingsih. 2020. “*Azaz Teknik kimia 1 dan 2 : Mass Balance and Energy Balance*”. Serpong: Institut Teknologi Indonesia.

Institut Teknologi Indonesia

- Kaparaju, P, Buendia I, Ellegaard L, and Angelidakia I, (2008). *Effects of mixing on methane production during thermophilic anaerobic digestion of manure*, Lab-scale and pilot-scale studies. *Bioresource Technology* 99: 4919–4928.
- Kementrian Energi dan Sumber Daya Mineral, 2022. Data Penjualan, Ekspor dan impor LPG 2016-Semester I 2021. Direktorat Jenderal Minyak dan Gas Bumi.
- Kompas.com, 2023. Besaran UMP dan UMK 2024 di Provinsi Kalimantan Timur. <https://regional.kompas.com/read/2023/12/04/205154078/besaran-ump-dan-umk-2024-di-provinsi-kalimantantimur> (Diakses tgl 6 Jan 24, 10:06)
- Kumar, A., & Samadder, S. R. (2020). *Performance evaluation of anaerobic digestion technology for energy recovery from organic fraction of municipal solid waste : a review*
- Kurs Transaksi Bank Indonesia, Kurs Transaksi BI. Last Update: 28 Desember 2023
- LabChem Performance Through Chemistry, 2007. *Citric Acid Safety Data Sheet*. [Online] Available at: www.labchem.com
- LabChem: Performance through chemistry, 2013. *Water Safety Data Sheet*. [Online].
- Linus Klackenberg, 2019. Biomethane in Sweden - market overview & policies, Sweden: November.
- Max S. Peters, Klaus D. Timmerhaus. 1991. *Plant design and economics for chemical engineers*. New York : [McGraw-Hill](http://www.mcgraw-hill.com), chemical engineering series.
- Monses & Hastuti, N. B., 2007. Pra Rancangan Pabrik Biogas dari POME sebagai Pembangkit Listrik, Tangerang Selatan: Institut Teknologi Indonesia.
- MERCK, 2018. *Lembaran Data Keselamatan Bahan*, s.l.: Peraturan (UE) No.1907/2006.
- Nadliriyah N., Triwikantoro, 2014, Pemurnian produk biogas dengan metode absorpsi menggunakan larutan Ca(OH)₂, *Jurnal Sains dan Seni POMITS*, 3(2), 107-111.

OHIO, n.d. *Property Tables Ideal Gas*. [Online] Available at:
https://www.ohio.edu/mechanical/thermo/property_tables/gas/idealGas.html

Orlando Utilities Commission (OUC: The Reliable One): [OUC The Reliable One](#)

Peraturan Menteri Pekerjaan Umum dan Perumahan Rakyat Nomor 14/MRT/M2020 Tahun 2010 tentang Standar Pelayanan Minimal Bidang Pekerjaan Umum dan Penataan Ruang.

Peraturan Menteri Energi dan Sumber Daya Mineral Nomor 30 Tahun 2012 tentang Tarif Tenaga Listrik Yang Disediakan Oleh Perusahaan Perseroan (Persero) PT Perusahaan Listrik Negara. <https://peraturan.bpk.go.id/Details/141258/permen-esdm-no-30-tahun-2012>

Perry, R.H. and Green, D. 1999. *Chemical Engineering Handbook*. ed. 7. New York: Mc Graw Hill.

PRAXAIR, 2016. *Safety Data Sheet: Carbon Dioxide*. [Online] Available amp.generalair.com

PUBCHEM. 2004. [PubChem \(nih.gov\)](#)

Putri, D. A., Saputro, R. R. & Budiyo, B., 2012. *Biogas Production from Cow Manure*. Int. Journal of Renewable Energy Development, pp. 61-64.

Ramlee N, Jawaid M, Zainudin E et al. 2019. *Tensile, physical and morphological properties of oil palm empty fruit bunch/sugarcane bagasse fibre reinforced phenolic hybrid composites*, Journal of Material Research and Technology. [Tensile, physical and morphologic... preview & related info | Mendeley](#)

Roy, K.D., Thomas, A.M., and Ian, B. 2012. *Reaction system for anaerobic digestion*. US, Patent No US20120164723A1.

Sally, Novian Uticha. 2020. Sengketa Minyak Sawit Antara Indonesia Dan Uni Eropa. University of Darussalam Gontor.

Institut Teknologi Indonesia

- Scapini, T., Camargo Frumi, A., Stefanski, S. F., Klanovicz, N., Pollon, R., Zanivan, J., Fongaro, G., & Treichel, H. (2019). Enzyme-Mediated Enhanced Biogas Yield. In Vijai Kumar Gupta; Maria G. Tuohy (Ed.), *Improving Biogas Production Technological Challenges, Alternative Sources, Future Developments* (pp. 45–68).
- Schnurer A, and Jarvis A, 2010, *Microbiological Handbook for Biogas Plants*, 1-74. Swedish Waste Management U2009:03. Swedish Gas Centre Report 207.
- Seadi, T. Al, Rutz, D., Prassl, H., Kottner, M., Finsterwalder, T., Volk, S., & Rainer Janssen. (2008). *Biogas Handbook* (T. Al Seadi (ed.)). University of Southern Denmark Esbjerg.
- Sharifani S, Soewondo P. 2009. Degradasi biowaste fasa cair, slurry, dan padat dalam reaktor batch anaerob sebagai bagian dari mechanical biological treatment. Bandung: Fakultas Sipil Dan Teknik Lingkungan, Institut Teknologi Bandung.
- Skorek, A & Wlodarczyk, R. 2018. *The Use of Methane in Practical Solutions of Environmental Engineering*. Journal of Ecological Engineering. ISSN 2299-8993. [The Use of Methane in Practical Solutions of Environmental Engineering \(jeeng.net\)](http://jeeng.net)
- Soehartanto, et al., 2016, *Water scrubbing for removal of CO₂ (carbon dioxide) and H₂S (hydrogen sulfide) in biogas from manure*, [KnE Energy \(knepublishing.com\)](http://knepublishing.com)
- Sorbent Media, 2019. *How to Regenerate Silica Gel*. [Online] Available at: <https://sorbentmedia.com/blogs/news/how-to-regenerate-silica-gel>
- Srinivasan, V.R. and John, J.S. 2004. *Plug flow anaerobic digester*. WO, Patent No US6673243B2.
- State Supply, n.d. *Spirax-Sarco Flash Tanks*. [Online] Available at: <https://www.statesupply.com/spirax-sarco/flash-tank>
- Stover, E.L. and Ted, R.S. 2017. *Optimized biogas (biomethane) production from anaerobic reactors*. WO, Patent No.US20170016031A1.

- Van, D. P., Fujiwara, T., Tho, B. L., Toan, P. P. S., & Minh, G. H. (2020). *A review of anaerobic digestion systems for biodegradable waste: Configurations, operating parameters, and current trends*. *Environmental Engineering Research*, 25(1), 1–17. <https://doi.org/10.4491/eer.2018.334>
- Wadchasit P, Siripattana C, and Nuithitikul K, 2020, *The effect of pretreatment methods for improved biogas production from oil-palm empty fruit bunches (EFB): experimental and model*, School of Engineering and Technology, Walailak University, Nakhon Si Thammarat 80160, Thailand. Biomass and Oil-Palm Center of Excellence, Walailak University, Nakhon Si Thammarat 80160, Thailand.
- Wellinger, A. & Lindberg, A., 2000. *Biogas Upgrading and Utilisation*. *International Energy Association*.
- Widodo, T. W., Asari, A., Ana, N. & Rahmarestia, E., 2007. *Pemanfaatan Limbah Industri Pertanian untuk Energi Biogas*. s.l., Badan Litbang Pertanian.
- Windyasmara L, Pertiwiningrum A, dan Yusiati L, 2012, *Effect various types of substrate on characteristic of fermentation with addition leaf teak (tectona grandis)*, Fakultas Peternakan, Universitas Gadjah Mada.