

DAFTAR PUSTAKA

- Alarifi, A. and Croiset, E. (2016) *Modeling, analysis and optimization of the gas-phase methanol synthesis process*. thesis. Available at: https://uwspace.uwaterloo.ca/bitstream/handle/10012/10156/Alarifi_Abdulaziz.pdf?sequence=1&isAllowed=y (Accessed: 17 May 2024).
- Alibaba. (2024). *Factory Price Methane High Purity 99.999% Pure CH₄ Gas Methane Natural*. Retrieved May 25, 2024, from https://www.alibaba.com/product-detail/Factory-Price-Methane-High-Purity-99_1600825663656.html?spm=a2700.galleryofferlist.p_offer.d_title.72b23fbfk6jKJ4&s=p
- Alsuhailbani, Abdulrahman Saleh A (2018). *Optimal Selection and Design of a Methanol Process with Enhanced CO₂ Utilization*. Thesis. Available at: <https://hdl.handle.net/1969.1/174388>. (Accessed: 17 May 2024).
- Badan Pusat Statistik Kabupaten Teluk Bintuni. (2023). *Kabupaten Teluk Bintuni Dalam Angka 2023 (Teluk Bintuni Regency in Figures 2023)*. Teluk Bintuni, Badan Pusat Statistik Kabupaten Teluk Bintuni.
- Badan Pusat Statistik. <http://www.bps.go.id/id/exim> (Accessed 17 May 2024).
- Chandra Asih Pacific (2023). *Laporan Tahunan PT Chandra Asih Pacific 2023, Transformation through Partnership for Growth (Transformasi melalui kemitraan untuk pertumbuhan)*, Technical report, Banten, Chandra Asih Pacific.
- Chandra Asih Petrochemical (2021). *Laporan Tahunan PT Chandra Asih Petrochemical 2021, Strategic Partnership for a Better Future (Kemitraan Strategis untuk Masa Depan Lebih Baik)*, Technical report, Banten, Chandra Asih Petrochemical.
- CHANG, C. (1977) 'The conversion of methanol and other O-compounds to hydrocarbons over zeolite catalysts', *Journal of Catalysis*, 47(2), pp. 249–259. doi:10.1016/0021-9517(77)90172-5.

Chemanalyst (2023). Ethylene Market Size, Share, Trends, Growth & Forecast. Available at: <https://www.chemanalyst.com/industry-report/ethylene-market-638> (Accessed: 17 May 2024).

Chen, Y., Yan, B. and Cheng, Y. (2023) 'State-of-the-art review of oxidative dehydrogenation of ethane to ethylene over MoVNbTeOx catalysts', *Catalysts*, 13(1), p. 204. doi:10.3390/catal13010204.

Coulson & Richardson. (1983). '*Chemical Engineering Design*', vol. 6. London: Pergamon Press.

Farsi, M. and Lari, M.F. (2020) 'Methanol production based on methane tri-reforming: Process Modeling and Optimization', *Process Safety and Environmental Protection*, 138, pp. 269–278. doi:10.1016/j.psep.2020.03.014.

Gholami, Z. *et al.* (2021) 'A review on the production of light olefins using steam cracking of hydrocarbons', *Energies*, 14(23), p. 8190. doi:10.3390/en14238190.

Gijzel, R.A. van. (2017) *Energy Analysis and plant design for ethylene production from Naphtha and Natural Gas*. thesis. Available at: https://research.tue.nl/files/118582087/Rhea_van_Gijzel.pdf (Accessed: 17 May 2024).

Gogate, M.R. (2019) 'Methanol-to-olefins process technology: Current status and future prospects', *Petroleum Science and Technology*, 37(5), pp. 559–565. doi:10.1080/10916466.2018.1555589.

Haryadi, H. *et al.* (2023) 'Kajian Techno-Economy Produk Etilen dari Etanol Berbasis Pertumbuhan dan Prakiraan Pasar di Indonesia', *Jurnal Rekayasa Proses*, 17(2), pp. 191–205. doi:10.22146/jrekpros.84499

J. M. Smith, H. C. (2001). *Introduction to Chemical Engineering Thermodynamics*, 6th ed. New York: McGraw-Hill Book Company, Inc.

Kementerian ESDM. (2020). *Kepmen ESDM No. 89 Tahun 2020 tentang Penggunaan Harga Gas Bumi Tertentu di Bidang Industri*.

Kementrian Perindustrian, 2016, Peraturan Menteri Perindustrian Nomor 40/m-ind/per/7/2016 Tahun 2016 Tentang Pedoman Teknis Pembangunan Kawasan Industri, Peraturan Menteri, Jakarta.

Kern, D. Q. (2019). *Kern's Process Heat Transfer Second Edition*. USA: Scrivener Publishing.

Lundström, A. (2021) *Methanol mediated CO₂ hydrogenation to lower olefins*. thesis. Available at: https://odr.chalmers.se/bitstream/20.500.12380/302472/1/Master_s_Thesis_final.pdf (Accessed: 17 May 2024).

Maporti, D., Guffanti, S., Galli, F., Mocellin, P., & Pauletto, G. (2024). Towards sustainable hydrogen production: Integrating electrified and convective steam reforming, and carbon capture and storage [Preprint]. SSRN. <https://doi.org/10.2139/ssrn.4923538>.

Mihail, R. *et al.* (1983) 'A kinetic model for methanol conversion to hydrocarbons', *Chemical Engineering Science*, 38(9), pp. 1581–1591. doi:10.1016/0009-2509(83)80094-3.

National Center for Biotechnology Information (2024). PubChem Compound Summary for CID 6325, Ethylene. Available at: <https://pubchem.ncbi.nlm.nih.gov/compound/Ethylene>. (accessed: May 17, 2024)

National Center for Biotechnology Information (2024). PubChem Compound Summary for CID 8252, Propylene. Available at: <https://pubchem.ncbi.nlm.nih.gov/compound/Propylene>. (accessed: May 17, 2024)

Oil and Gas Journal (2013). Global ethylene capacity poised for major expansion. Available at : <https://www.ogj.com/refining-processing/petrochemicals/article/17240774/global-ethylene-capacity-poised-for-major-expansion> (Accessed 17 May 2024).

Ortiz-Bravo, C.A., Chagas, C.A. and Toniolo, F.S. (2021) 'Oxidative coupling of methane (OCM): An overview of the challenges and opportunities for developing new technologies', *Journal of Natural Gas Science and Engineering*, 96, p. 104254. doi:10.1016/j.jngse.2021.104254.

- Otaraku, I.J., Egun, I.L. and Nyebuchi, Q. (2018) ‘Methanol production based on methane tri-reforming: Process Modeling and Optimization’, *International Journal of Latest Technology in Engineering, Management & Applied Science (IJLTEMAS)*, 7(9). Available at: <https://www.ijltemas.in/DigitalLibrary/Vol.7Issue11/15-18.pdf> (Accessed: 17 May 2024).
- Parderio, P.T. *et al.* (2020) *Pra Desain Pabrik Metanol dari Gas Alam*. thesis. Available at: <https://ejurnal.its.ac.id/index.php/teknik/article/viewFile/98722/7192> (Accessed: 17 May 2024).
- Robbert H. Perry, D. W. (1997). *Perry's Chemical Engineers' Handbook, 7th ed.* New York: McGraw-Hill.
- Rostrup-Nielsen, J. R., Sehested, J., & Nørskov, J. K. (2002). Hydrogen and synthesis gas by steam- and CO₂ reforming. *Advances in Catalysis*, 47, 65–139.
- Rosli, M.N. and Aziz, N. (2016) ‘Simulation of ethane steam cracking with severity evaluation’, *IOP Conference Series: Materials Science and Engineering*, 162(1), p. 012017. doi:10.1088/1757-899x/162/1/012017.
- Setiawan, A. (2018). MINERALS AND COAL RESERVES POTENTIAL IN INDONESIA AND THE WORLD: POTENSI CADANGAN MINERAL DAN BATUBARA DI INDONESIA DAN DUNIA. *INTAN Jurnal Penelitian Tambang*, 1(1), 20-31.
- Sinnot, R, and Towler, G. (2008) “CHEMICAL ENGINEERING DESIGN : Principles, Practice, and Economic of Plant and Process Design”, p. 1065-1068, Oxford, Butterworth-Heinemann Elsevier
- Sootodeh, K. (2024). Storage Tank Essential Design Considerations. In *Storage Tanks Selection, Design, Testing, Inspection, and Maintenance* (pp. 101-170).
- SKK Migas. (2021) *Buku Statistik Minyak dan Gas Bumi 2021*. Jakarta.



UNIVERSITAS
GADJAH MADA

Prarancangan Pabrik Etilen dari Gas Alam Menggunakan Proses Methanol to Olefin (MTO) dengan Kapasitas 480.000 Ton/Tahun

ANGELA JULIA QONITA PUTRI SUTANTO, Ir. Moh Fahrurrozi, M.Sc., Ph.D., IPU.

Universitas Gadjah Mada, 2025 | Diunduh dari <http://etd.repository.ugm.ac.id/>

Świrk, K., Grzybek, T., Motak, M., (2017). Tri-reforming as a Process of CO₂ Utilization and a Novel Concept of Energy Storage in Chemical Products. In *E3S Web of Conferences, Energy and Fuels* (2017). Department of Fuel Technology, AGH University of Science and Technologu, Mickiewieza Av.30, 30-059 Cracow, Poland.

Wade, L.G. (2006) *Organic Chemistry*. 6th edn. Hoboken, New Jersey: Prentice Hall.

Zhao, X., Joseph, B., Kuhn, J. N., & Ozcan, S. (2020). Biogas reforming to syngas: A review. *iScience*, 23(5), Article 101082. <https://doi.org/10.1016/j.isci.2020.101082>

Zimmermann, H. and Walzl, R. (2009) 'Ethylene', *Ullmann's Encyclopedia of Industrial Chemistry* [Preprint]. doi:10.1002/14356007.a10_045.pub3.