

REFERENCES

- Abdullah, S.S.S. *et al.* (2015) ‘Fresh oil palm frond juice as a renewable, non-food, non-cellulosic and complete medium for direct bioethanol production’, *Industrial Crops and Products*, 63, pp. 357–361. doi:10.1016/j.indcrop.2014.10.006.
- Abdullah, S.S.S. *et al.* (2016) ‘Case study: Preliminary assessment of integrated palm biomass biorefinery for bioethanol production utilizing non-food sugars from oil palm frond petiole’, *Energy conversion and management*, 108, pp. 233–242.
- Abdullah, S.S.S. *et al.* (2021) ‘Influence of storage conditions on oil palm frond juice as a renewable feedstock for bioethanol production’, *Biomass and Bioenergy*, 150, p. 106101.
- Afrasiab, I. (2022) ‘Ethanol Production through Optimized Alkaline Pretreated Elaeis guineensis Frond Waste from Krabi Province, Thailand’, *Fermentation*, 8. doi:10.3390/fermentation8110648.
- Aliyu, A. *et al.* (2015) ‘Potential of oil palm frond liquid extract and fiber as feedstock for bio-butanol production’, *Jurnal Teknologi*, 74, pp. 63–67. doi:10.11113/jt.v74.4835.
- Bell, R.P. (1973) ‘Acids, Bases, and the Nature of the Hydrogen Ion’, in *The Proton in Chemistry*. Springer, pp. 4–25.
- Berg, C. and Licht, F.O. (2004) ‘World fuel ethanol’, *Analysis and Outlook, report for FO Licht* [Preprint].
- BP (2014) ‘Statistical Review of World Energy’, *Statistical Review of World Energy*, 67, pp. 1–56. Available at: bp.com/statisticalreview.
- BP Energy Outlook (2019) ‘BP Energy Outlook 2019 edition The Energy Outlook explores the forces shaping the global energy transition out to 2040 and the key uncertainties surrounding that’, *BP Energy Outlook 2019* [Preprint].
- Bruns, a *et al.* (1974) ‘Scholar (10)’, *Mass Communication and Society*, pp. 349–83. doi:10.1163/_q3_SIM_00374.
- Bukhari, N.A. and Loh, S.K. (2015) ‘Optimisation of fermentation conditions for bioethanol production from oil palm trunk sap by *Saccharomyces cerevisiae*’, *Malaysian Journal of Microbiology*, 11, pp. 163–169. doi:10.21161/mjm.12814.
- Dahnum, D. *et al.* (2015) ‘Comparison of SHF and SSF processes using enzyme and Eka Mahardhika Yuwono

dry yeast for optimization of bioethanol production from empty fruit bunch', *Energy Procedia*, 68, pp. 107–116.

Danbamrongtrakool, N. et al. (2022) 'Comprehensive approach to utilize hydrogen peroxide sterilization and urea as nitrogen source for ethanol production from oil palm trunk', *Agriculture and Natural Resources*, 56(2), pp. 387–398.

Deffeyes, K.S. (2008) *Hubbert's peak: the impending world oil shortage (New Edition)*. Princeton University Press.

Ditjenbun (2021) 'Statistik Perkebunan Unggulan Nasional 2019-2021', *Direktorat Jendral Perkebunan Kementerian Pertanian Republik Indonesia*, pp. 1–88. Available at: <https://ditjenbun.pertanian.go.id/template/uploads/2021/04/BUKU-STATISTIK-PERKEBUNAN-2019-2021-OK.pdf>.

Dullah, H. (2018) *COMPATIBILITY ASSESSMENT FOR PHYSICAL AND MECHANICAL PROPERTIES OF EMPTY FRUIT BUNCH CEMENT-BONDED FIBREBOARD*. doi:10.13140/RG.2.2.32026.08645.

ESDM (2021) *Implementasi B30 Tahun 2021 Berjalan Baik, Hemat Devisa Negara US\$4,54 Miliar*. Available at: <https://migas.esdm.go.id/post/read/implementasi-b30-tahun-2021-berjalan-baik-hemat-devisa-negara-us-4-54-miliar>.

Fatriasari, W. et al. (2018) 'The improvement of sugar and bioethanol production of oil palm empty fruit bunches (*Elaeis guineensis* Jacq) through microwave-assisted maleic acid pretreatment', *BioResources*, 13(2), pp. 4378–4403.

Gloria, N., Legowo, E.H. and Kartawiria, I.S. (2020) 'Oil Palm Frond Juice as a Fermentation Substrate for Bioethanol Production Using *Saccharomyces Cerevisiae*', (15). Available at: <http://repository.sgu.ac.id/1882/>.

Goh, C.S., Lee, K.T. and Bhatia, S. (2010) 'Hot compressed water pretreatment of oil palm fronds to enhance glucose recovery for production of second generation bio-ethanol', *Bioresource technology*, 101(19), pp. 7362–7367.

Hambali, E. and Rivai, M. (2017) 'The Potential of Palm Oil Waste Biomass in Indonesia in 2020 and 2030', *IOP Conference Series: Earth and Environmental Science*, 65(1). doi:10.1088/1755-1315/65/1/012050.

Hasibuan, S. and Thaheer, H. (2018) 'Scaling up Model for Developing Second-Generation (2G) Bioethanol by using Palm Empty Fruit Bunches Feedstock', in *Proceedings of the International Conference on Industrial Engineering and*

Operations Management Bandung, Indonesia, pp. 1028–1038.

Herawan, I.H. (2021) *UTILIZATION OF OIL PALM TRUNK FOR BIOETHANOL PRODUCTION*. SWISS GERMAN UNIVERSITY.

Hossain, N. and Jalil, R. (2017) ‘Sugar and Bioethanol Production from Oil Palm Trunk (OPT)’, *Asia Pacific Journal of Energy and Environment*, 4(1), pp. 13–16. doi:10.18034/apjee.v4i1.237.

Husin, H. (2019) ‘Increased Cellulose Levels in Organosolv Pretreatment Process in Bioethanol Production’, in *Journal of Physics: Conference Series*. IOP Publishing, p. 12003.

Indonesia Infrastructure Finance (2019) *1x12 MW Biomass Power Plant from Empty Fruit Bunch, Aceh Tamiang*. Available at: <https://iif.co.id/en/project-summary/1x12-mw-biomass-power-plant-from-empty-fruit-bunch/>.

Mangurai, S.U.N.M. et al. (2022) ‘Effect of densification on the physical and mechanical properties of the inner part of oil palm trunk impregnated with methylene diphenyl diisocyanate’, *Scientific Reports*, 12(1), p. 15350. doi:10.1038/s41598-022-19504-x.

Mardawati, E. et al. (2020) ‘Xylitol Production from Oil Palm Empty Fruit Bunches (OPEFB) Via Simultaneous Enzymatic Hydrolysis and Fermentation Process’, *Journal of Industrial and Information Technology in Agriculture*, 2. doi:10.24198/jiita.v2i1.25064.

Mardawati, E. et al. (2022) ‘Integrated and partial process of xylitol and bioethanol production from oil palm empty fruit bunches’, *Advances in Food Science, Sustainable Agriculture and Agroindustrial Engineering (AFSSAAE)*, 5(1).

Mithra, M.G. et al. (2018) ‘Comparison of ethanol yield from pretreated lignocellulostarch biomass under fed-batch SHF or SSF modes’, *Helijon*, 4(10), p. e00885.

Murata, Y. et al. (2013) ‘Development of sap compressing systems from oil palm trunk’, *biomass and bioenergy*, 51, pp. 8–16.

Noah, A.S. (2022) ‘Oil Palm Empty Fruit Bunches (OPEFB) – Alternative Fibre Source for Papermaking’, in Kamyab, H. (ed.). Rijeka: IntechOpen, p. Ch. 10. doi:10.5772/intechopen.98256.

Nurcahyani, M., Masyhuri, M. and Hartono, S. (2018) ‘The Export Supply of Indonesian Crude Palm Oil (CPO) to India’, *Agro Ekonomi*, 29(1), pp. 18–31.

- Obire, O. and Putheti, and (2010) 'The oil Palm tree: A renewable energy in poverty eradication in developing countries', *Drug Invention Today* [Preprint].
- Ofori-Boateng, C. and Lee, K.T. (2014) 'Ultrasonic-assisted simultaneous saccharification and fermentation of pretreated oil palm fronds for sustainable bioethanol production', *Fuel*, 119, pp. 285–291.
- Prasertsan, P. et al. (2022) 'Direct biotransformation of oil palm frond juice to ethanol and acetic acid by simultaneous fermentation of co-cultures and the efficacy of its culture filtrate as an antifungal agent against black seed rot disease', *Biomass Conversion and Biorefinery*, 12(11), pp. 5283–5292.
- Schiffer, H.-W., Kober, T. and Panos, E. (2018) 'World Energy Council's Global Energy Scenarios to 2060Perspektiven der weltweiten Energieversorgung bis 2060 – Die Szenarien des World Energy Councils', *Zeitschrift für Energiewirtschaft*, 42(2), pp. 91–102. doi:10.1007/s12398-018-0225-3.
- Shahirah, M.N.N. et al. (2015) 'Influence of nutrient addition on the bioethanol yield from oil palm trunk sap fermented by *Saccharomyces cerevisiae*', *Journal of Industrial and Engineering Chemistry*, 23(August), pp. 213–217.
doi:10.1016/j.jiec.2014.08.018.
- Statista (2022) *Global primary energy consumption 2019-2021, by fuel*. Available at: <https://www.statista.com/statistics/265619/primary-energy-consumption-worldwide-by-fuel/>.
- Suharsono, A. et al. (2022) *Indonesia's Energy Support Measures: An inventory of incentives impacting the energy transition*.
- Sukhang, S. et al. (2020) 'Bioethanol production from oil palm empty fruit bunch with SSF and SHF processes using *Kluyveromyces marxianus* yeast', *Cellulose*, 27(1), pp. 301–314.
- Sultana, I.N. et al. (2022) 'Kinetic study of ethanol production from different sizes of two-step pretreated oil palm trunk by fed-batch simultaneous saccharification and fermentation', *Agriculture and Natural Resources*, 56(2), pp. 287–298.
- Suwajittanont, P., Thongrak, P. and Srinophakun, T.R. (2022) 'Techno-economic analysis of commercial-scale bioethanol production from oil palm trunk and empty fruit bunch', *Agriculture and Natural Resources*, 56(4), pp. 825–836.
- Tareen, A.K. et al. (2020) 'Two-step pretreatment of oil palm trunk for ethanol

- production by thermotolerent *Saccharomyces cerevisiae* SC90', *Bioresource Technology*, 320, p. 124298. doi:10.1016/j.biortech.2020.124298.
- Tareen, A.K. *et al.* (2021) 'Utilization of urea as a nitrogen source for ethanol production from oil palm trunk using simultaneous saccharification and fermentation', *Agriculture and Natural Resources*, 55(3), pp. 448–455.
- Turnbull, C.H.S. *et al.* (2004) 'Scholar (11)', *Why We Need the Journal of Interactive Advertising*, pp. 349–383. doi:10.1163/_q3_SIM_00374.
- Wardani, A.K., Tanaka, N.C. and Sutrisno, A. (2020) 'The conversion of lignocellulosic biomass to bioethanol: pretreatment technology comparison', in *IOP Conference Series: Earth and Environmental Science*. IOP Publishing, p. 12081.
- Yamada, H. *et al.* (2010) 'Old oil palm trunk: A promising source of sugars for bioethanol production', *Biomass and Bioenergy*, 34(11), pp. 1608–1613. doi:10.1016/j.biombioe.2010.06.011.
- Zahari, M.A.K.M. *et al.* (2014) 'Efficient utilization of oil palm frond for bio-based products and biorefinery', *Journal of Cleaner Production*, 65, pp. 252–260.