DAFTAR PUSTAKA

Al-Ashmori, Y. Y., Othman, I., Rahmawati, Y., Amran, Y. H. M., Sabah, S. H. A., Rafindadi, A. D. U., dan Mikić, M. (2020): BIM benefits and its influence on the BIM implementation in Malaysia, *Ain Shams Engineering Journal,* 11**(4)**, 1013–1019.

Anton, L. A., dan Diaz, J. (2014): Integration of life cycle Assessment in a BIM environment, *Procedia Engineering*, 8(**5**), 26-32.

Asdrubali, F., Baldassarri, C., dan Fthenakis, V. (2013): Life cycle analysis in the construction sector: guiding the optimization of conventional Italian buildings*, Energy and Buildings*, 64, 73–89.

Azhar, S., Hein, M., dan Sketo, B. (2008): Building Information Modeling (BIM): benefits, risks and challenges. *Proceedings of the 44th ASC Annual Conference*, 2-5 April 2008, Auburn, Alabama, USA, 15-17.

Badan Pusat Statistik (BPS). (2022): *Statistik konstruksi (Construction Statistics)*, ISSN: 1978-9149, Nomor Publikasi 05300.2333, Katalog: 6301003, Jakarta.

Badan Pusat Statistik (BPS).(2025): *Neraca Arus Energi dan Neraca Emisi Gas Rumah Kaca Indonesia 2019 – 2023,* ISSN: 3063-1548, Nomor Publikasi 07100.25006, Katalog: 6204004, Jakarta.

Berlian, C.A., Adhi, R.P., Hidayat, A., dan Nugroho, H. (2016): Perbandingan efisiensi waktu, biaya, dan sumber daya manusia antara metode Building Information Modelling (BIM) dan konvensional (studi kasus: perencanaan gedung 20 lantai), *Jurnal Teknik Universitas Diponegoro*, ISSN: 2357-9717 5(**2**), 220-229.

Bovea, M. D., Ibáñez-Forés, V., dan Agustí-Juan, I. (2014): Environmental product declaration (EPD) labelling of construction and building materials, In F. Pacheco-Torgal, L. F. Cabeza, J. Labrincha, dan A. de Magalhães (Eds.), *Eco-efficient construction and building materials: Life cycle assessment (LCA), eco-labelling and case studies*, *Woodhead Publishing*, 125-150.

Cavalliere, C., Dell'Osso, G. R., Pierucci, A., dan Iannone, F. (2018): Life cycle assessment data structure for Building Information Modelling. *Journal of Cleaner Production,* 199, 193–204.

Chaise, E. Q., Lians, K. S., dan Alifen, R. S. (2020): Analisa sisa material pada pekerjaan struktur konstruksi beton bertulang. *Jurnal Dimensi Pratama Teknik Sipil*, ISSN 2357-8765. 9(**2**), 78-85.

Chou, J.-S., dan Yeh, K.-C. (2015): Life Cycle Carbon Dioxide Emissions Simulation and Environmental Cost Analysis for Building Construction**.** *Journal of Cleaner Production,* ISSN: 2227-9717. 101*,* 137-147.

Devita, L**.** (2015). *Biodiesel sebagai bioenergi alternatif dan prospektif*. Agrica Ekstensia. Sekolah Tinggi Penyuluhan Pertanian Medan, 9(2), 23–26.

Dhanardono, B. (2023): *Simulasi pentahapan dan deteksi benturan menggunakan Autodesk Navisworks 2023*. Prodi Teknologi Konstruksi Jalan dan Jembatan, Politeknik Pekerjaan Umum, 4-21.

Djohan, D., J., E., dan Yuwono, J., H., (2021): Penggunaan building information modeling terhadap life cycle Assessment pada pekerjaan pembetonan struktur atas proyek x di semarang untuk estimasi co_2 dan costing, *Tugas Akhir Program Studi Teknik Sipil*, Universitas Katolik Soegijapranata

Dwiandito, H. A. S. dan Ghuzdewan, T. A., (2015): Analisis clash detection dengan revit dan *naviswork* : studi kasus pada bangunan gedung, *Tugas Akhir Program Studi Teknik Sipil*, Universitas Katolik Soegijapranata.

Figueiredo, E. B., dan Pereira, J. R. (2019): Carbon emissions in the construction sector: A systematic review. *Resources, Conservation and Recycling*, 141, 51-61.

Guggemos, A. A., dan Horvath, A. (2003): Comparison of environmental effects of steel- and concrete-framed buildings**.** *Journal of Infrastructure Systems*, ISSN: 1076-0342. 9**(1)**, 18-27.

Guggemos, A. A., dan Horvath, A. (2006): Decision-support tool for assessing the environmental effects of constructing commercial buildings. *Journal of Architectural Engineering,* ISSN: 2071-1050. 12**(4)**, 187-195.

Guide, P. M. B. O. K. (2017). *A guide to the project management body of knowledge, Newtown Square: Project Management Institute*, ISBN 978-1-62825-184-5. (**6**).

Hanaki, K., dan Ichinose, M. (1995): Global environmental issues and the role of environmental engineering. *Water Science and Technology*, 31**(8)**, 1–10..

Hazairin, N. L. (2024): Pelatihan penjadwalan proyek konstruksi dengan microsoft project untuk meningkatkan kompetensi mahasiswa teknik sipil. *Jurnal Pengabdian Masyarakat: Pemberdayaan, Inovasi dan Perubahan*, ISSN: 2678-9342. 4(**4**), 1-12

Hermawan (2017): Pengembangan model jejak karbon pada pelaksanaan pekerjaan struktur atas beton bertulang untuk konstruksi bangunan tingkat tinggi di Indonesia, *Disertasi Program Teknik Sipil Pengutamaan Manajemen dan Rekayasa Konstruksi*, Institut Teknologi Bandung.

Hermawan, (2013): Pembagian model jejak karbon ada pelaksanaan pekerjaan struktur atas beton bertulang untuk konstruksi bangunan tingkat tinggi di Indonesia *dalam* Djoa, J. dan Yuwono, J. (2021) : Penggunaan building information modeling terhadap life cycle assessment pada pekerjaan pembetonan struktur atas proyek x di Semarang untuk estimasi CO_2 dan costing. Diperoleh dari situs internet:http://repository.unika.ac.id/25470/3/16.B1.0002DJOA%2CJUSTIAN%20 EVAN%20DJOHAN-BAB%20II_a.pdf. Diunduh pada tanggal 24 Januari 2025, pukul 20.01 WIB.

Hong, T., Koo, C., dan Park, S. (2012): A decision support model for improving a multi-family housing complex based on CO_2 emission from gas energy consumption. *Building and Environment*, 52, 142-151.

Houghton, R. A., Goodall, J., dan Houghton, J. T. (2012): Carbon emissions from fossil fuel use. *Environmental Science and Policy*, 20, 1-13.

Hu, H., Li, C., Xu, Z., Gui, Y., Zong, L., dan Shi, J. (2023): Calculation example of full cycle carbon emission of super deep foundation pit and carbon

reduction measures. *Low-Carbon Materials and Green Construction,* 1(**11**), 1–14.

Indraprastha, A. dan Agrirachman, F. A. (2022): *Pengantar BIM dalam arsitektur.* Bandung: ITB Press. ISBN 978-623-297-220-9. 1-18.

Indrayani, I., Sulianti, I., Subrianto, A., Putra, H. W. S., Alhafez, R. R., Pratama, M. A. S., Marpen, R., Firdausa, F., Fikri, J., Praditya, N., Kosim, H., dan Gumilar, M. S. (2022): *Panduan praktis Revit arsitektur dan struktur untuk pemula*. Yogyakarta: Bintang Semesta Media. ISBN: 978-623-5925-69-1. 1-12.

Intergovermental Panel on Climate Change (2021): The physical science basis. Working Group I contribution to the Sixth Assesment Report of the Intergovermental Panel on Climate Change. *Cambridge University Press*. (1-17).

International Organization for Standardization 14040, (2006)*: Environmental management – Life cycle assessment – principles and framework.* ISO/TC 207, SC 5. Geneva, Switzerland.

Jupp, J. (2017): 4D BIM for environmental planning and management. *Procedia Engineering,* ISSN: 1877-8058. 180 (2017), 190–201.

Kamel, E., dan Memari, A. M. (2019): Review of BIM's application in energy simulation: Tools, issues, and solutions. *Automation in Construction,* 97, 164–180.

Kementerian Pekerjaan Umum Dan Perumahan Rakyat, (2018): Pemodelan 3D, 4D, 5D, 6D, dan 7D serta simulasinya dan Level of Development (LoD), *Pelatihan Perencanaan Konstruksi Dengan Sistem Teknologi Building.*

Kementerian Pekerjaan Umum Dan Perumahan Rakyat, (2020): Informasi statistik infrastruktur PUPR 2020, *Pusat data dan teknologi informasi, sekertariat jendral, kementerian PUPR*. 37-38.

Kimsan, M. (2023): Konstruksi gedung dan dampak lingkungan: a review. *Jurnal Ilmiah Teknik Sipil*, ISSN: 1984-4653. 11(**3**), 184-194.

Kusrianto, A. (2008): *Panduan lengkap memakai Microsoft Project 2007*. Jakarta: PT. Elex Media Komputindo. ISBN: 978-979-27-3844-5. 31-55.

Kustiawan, W., Hasibuan, A. A., Lubis, N., Fayrozi, M. F., dan Maisarah. (2023): Dampak positif dan negatif pembangunan infrastruktur nasional di era digital. *Equivalent: Jurnal Ilmiah Sosial Teknik,* ISSN 1874-4753. 5(**2**), 202-207.

Li, W., dan Zheng, G. (2019): The impact of CO_2 emissions on global warming: evidence from China. *Environmental Science and Pollution Research*, 26**(9)**, 9233-9246.

Lima, M. S. S., Duarte, S., Exenberger, H., Fröch, G., dan Flora, M. (2024): Integrating BIM-LCA to enhance sustainability assessments of constructions. *Sustainability*, 16(**3**), 1172.

Liu, J., Zhang, W., dan Xu, Y. (2016): Carbon emissions from energy consumption in China: A regional analysis. *Energy Reports*, 2, 1-8.

Lukas, L., Anggraini, S., dan Santoso, H. (2022): Studi kinerja pembangkit listrik tenaga air (PLTA) di daerah aliran sungai (DAS) Brantas, *Jurnal Teknik Elektro*. Petra Christian University, 10(**2**), 45–53.

Martin, P., Beladjine, D., dan Beddiar, K. (2019): Evolution within the maturity concept of BIM. *WIT Transactions on the Built Environment*. E-ISSN: 1743- 3509. 192(**12**), 131-142.

Morsi, D., Ismaeel, W., Ehab, A., dan Othman, A. (2022): BIM-based life cycle assessment for different structural system scenarios of a residential building. *Aim Shams Engineering Journal*, 13, 1-15.

Nugrahini, F. C., dan Permana, T. A. (2020): Building Information Modelling (BIM) dalam tahapan desain dan konstruksi di Indonesia, peluang dan tantangan: Studi kasus perluasan T1 Bandara Juanda Surabaya. *Agregat*, ISSN: 2541-2884. 5**(2)**, 459–467.

Nwodo, M. N., Anumba, C. J., dan Asadi, S. (2017): BIM-based life cycle assessment and costing of buildings: current trends and opportunities. *Proceedings of the 2017 ASCE International Conference on Computing in Civil Engineering*, 51–59.

Obrecht, T. P., Röck, M., Hoxha, E., dan Passer, A. (2020): BIM and LCA integration: A systematic literature review. *Sustainability (Switzerland)*, 12**(14)**, 1-19.

One Click LCA. (2023). *One Click LCA integration for* Autodesk Revit (Version 4.0.6). Bionova Ltd, 7-42. Diperoleh dari situs internet: https://www.oneclicklca.com. Diunduh pada tanggal 5 April 2025, pukul 19.45 WIB

Oneclicklca.com (2022): Calculate your environmental impacts in minute. Diperoleh dari situs internet : https://oneclicklca.com. Diunduh pada tanggal 11 Januari 2025, pukul 19.20 WIB.

Ortiz, O., Pasqualino, J. C., Díez, G., dan Castells, F. (2010): The environmental impact of the construction phase: An application to composite walls from a life cycle perspective. *Resources, Conservation and Recyling*, 54 (**11**), 832-840.

Peng, J., Feng, Y., Zhang, Q., dan Liu, X. (2023): Multi-objective integrated optimization study of prefabricated building projects introducing sustainable levels. *Scientific Reports, 13*(**1**), 2821.(5)

Pratama, R., dan Hidayat, A. (2020): Perencanaan optimum hydroschedulling PLTA Cisokan Pumped Storage untuk meningkatkan keekonomian biaya pokok produksi. *Jurnal Energi dan Kelistrikan*, e-ISSN: 2548-1398, 12(**2**), 45–54.

Rachmawati, S., dan Abma, V. (2022): Implementasi konsep BIM 4D dalam perencanaan time schedule dengan analisis resource levelling. *Yogyakarta: Universitas Islam Indonesia*, ISSN: 2962-2697. 2**(1)**, 64-73.

Robby, Manurung, E. H., dan Mubarok, A. (2025): Evaluasi penggunaan teknologi building information modeling (BIM) dalam proses perencanaan dan konstruksi bangunan gedung. *Kohesi: Jurnal Sains dan Teknologi*, 6(**6**), 61-70.

Rostiyanti, S. F. (2008): *Alat berat untuk proyek konstruksi*, Jakarta: Rineka Cipta, ISBN 978-979-518-850-6. (**2**). 17-25.

Safari, K., dan AzariJafari, H. (2021): Challenges and opportunities of integrating BIM and LCA: Methodological choices and framework development. *Sustainable Cities and Society,* 67, 102728.

Samiaji, T. (2011): Gas CO_2 di wilayah Indonesia, *Berita Dirgantara*, ISSN: 1978-8096. 12 **(2)**, 68- 75.

Seo, S., dan Hwang, Y. (2011): Assessment of the embodied CO_2 emission per floor area of buildings using the life cycle CO_2 assessment method. *Journal of Construction Engineering and Management,* 137**(11)**, 1011–1020.

Sinaga, T., dan Husin, A. E. (2021): Analysis of time efficiency with CCPM method and BIM in construction projects construction of high-rise residential building basement. *Civil Engineering and Architecture*, 9**(5)**, 1465-1477.

Siregar, K., Ichwana, I., Nasution, I. S., Sholihati, S., Sofiah, I., dan Miharza, T. (2020): Implementation of life cycle assessment (LCA) for oil palm industry in Aceh Province, Indonesia. *IOP Conference Series: Earth and Environmental Science,* 542**(1)**, 012046.

Soebandono, B., dan Priyo, M. (2021): *Modul praktikum manajemen konstruksi* (Edisi revisi 1.0). Program Studi Teknik Sipil, Fakultas Teknik, Universitas Muhammadiyah Yogyakarta, 3-18.

Soust-Verdaguer, B., Llatas, C., dan Garcia-Martinez, A. (2017): Critical review of BIM-based LCA method to buildings, *Energy and Buildings*, 136, 110 – 120.

Sudjono, P. dan Yudhi, C.O. (2011): Estimation of CO_2 emission from development of various sizes of low-cost house, *Jurnal Teknik Lingkungan Institut Teknologi Bandung*, ISSN: 1319-2380. 17**(2)**, 98–109.

Sumaryani, (2010): *Analisis konsep nilai hasil pada proyek pembangunan gedung parkir roda dua bertingkat 4 lantai UMS dengan program Microsoft Project 2007*, Skripsi, Surakarta, 12-16.

Tam, V. W. Y., Zhou, Y., Shen, L., dan Le, K. N. (2023): Optimal BIM and LCA integration approach for embodied environmental impact assessment. *Journal of Cleaner Production*, 385, 135605.

Tam, V. W., Zhou, Y., Illankoon, C., dan Le, K. N. (2022): A critical review on BIM and LCA integration using the ISO 14040 framework. *Building and Environment,* 213, 108865.

Truitt, P. (2009): *Potential for reducing greenhouse gas emission in the construction sector,* National Construction Sector Lead, Pennsylvania, USA. 1-45.

UN Environment and International Energy Agency (2017): *Towards a zero-emission, efficient, and resilient buildings and construction sector: Global status report 2017*. United Nations Environment Programme. Diperoleh dari situs internet: https://globalabc.org/uploads/media/default. Diunduh pada tanggal 4 April 2025, pukul 13.22.

Wang, D., dan Hu, Y. (2022): Research on the intelligent construction of the rebar project based on BIM. *Applied Sciences*, 12(**11**), 5596, 2-4.

Wibowo, A., Febriansyah, H., dan Suminto. (2019): Pengembangan standar biodiesel B20 mendukung implementasi diversifikasi energi nasional. *Jurnal Standardisasi*, 21(**1**), 55–66.

Wu, P., Xia, B., Pienaar, J., dan Zhao, X. (2014): The past, present and future of carbon emissions from building construction: A critical review. *Building and Environment*. ISSN: 0360-1363. 77, 160-168.

Xu, J., Teng, T., dan Pan, W. (2021): A BIM-LCA integrated method for enchancing efficiency of embodied carbon estimation of prefabricated high-rise buildings. *Association of Research in Construction Management*, 14-23

Yang, R. J., Zou, P. X. W., dan Wang, J. (2018): Stakeholder-associated risks and their interactions in complex green building projects: A social network model. *Building and Environment, 128*, 1–11.

Zhiqi, C. (1997): Negotiating an agreement on global warming: A theoretical analysis. *Journal of Environmental Economics and Management,* 32(**2**), ISBN: 978-1-315-20231-0, 170-188.

Zuo, J., dan Zhao, Z. Y. (2014): Green building research–current status and future agenda: A review. *Journal of Cleaner Production*, 59, 1-16.