



< Back to results | 1 of 1

[Download](#) [Print](#) [E-mail](#) [Save to PDF](#) [Add to List](#) [More... >](#)
[Journal of Design and Built Environment](#) • Volume 22, Issue 1, Pages 72 - 87 • 29 April 2022
Document type

Article

Source type

Journal

ISSN

18234208

Publisher

University of Malaya

Original language

English

View less

Cited by 0 documents

Inform me when this document
is cited in Scopus:[Set citation alert >](#)**Related documents**

Assessing Site Waste Management Practices and Cost Between Conventional and Industrialised Building System (IBS) Projects in Malaysia

Shukor, A.S.A. , Idris, N.H. , Bakri, A.S.
(2021) *International Journal of Sustainable Construction Engineering and Technology*

The comparison of construction waste produced by conventional method against IBS: A case study in Pulau Pinang

Muhaidin, N.H.M. , Chan, H.B.
(2018) *AIP Conference Proceedings*

Regulatory requirements in the implementation of green building for private housing projects in Malaysia

Basri, A. , Ismail, Z.
(2019) *Malaysian Construction Research Journal*

[View all related documents based on references](#)

Find more related documents in Scopus based on:

[Authors >](#) [Keywords >](#)

12

Views count

[View all metrics >](#)
[Full text options <](#) [Export <](#)
Abstract

Author keywords

Sustainable Development Goals 2022

SciVal Topics

Metrics

Abstract

Construction waste that emerges from construction sites has become a major global concern due to its negative carbon footprint on the environment. Due to underrepresented construction waste specific data in Malaysia, this paper aims to identify sources, causes, types of construction waste and decision-making factors of construction waste management in Malaysia's construction sites. A

questionnaire survey was administered to 60 construction practitioners representing different construction sites in Peninsular Malaysia. A descriptive analysis using the Relative Importance Index (RII) was used to rank the items asked in the survey and categorised them into high ($RII > 70\%$), medium ($50\% < RII < 70\%$) or low ($RII < 50\%$) importance levels. The findings show that the top-ranked sources of construction waste categorised as high importance level are demolition, site clearance, and refurbishment. The causes, insufficient construction waste management plan, incorrect materials, design changes, over-ordering, errors in the contract document, and on-site technical errors are ranked as highly important. The top common waste materials include concrete, brick, metal, wood, glass and paper. The importance of all decision-making factors is high-rated; unexpectedly, environmental impact is the least important reason for construction waste management contractors. The results provide a perspective of the current practices of construction waste in Malaysia. The outcome is useful for waste managers and policymakers in developing potential waste management strategies for a more sustainable construction industry. © 2022, University of Malaya. All rights reserved.

Author keywords

construction site; construction waste ; decision-making factors; Malaysia; waste segregation

Sustainable Development Goals 2022 [\(i\)](#) New

SciVal Topics [\(i\)](#)

Metrics

References (33)

[View in search results format >](#)

All

[Export](#) [Print](#) [E-mail](#) [Save to PDF](#) [Create bibliography](#)

- 1 Abdul-Rahman, H., Berawi, M.A., Berawi, A.R., Mohamed, O., Othman, M., Yahya, I.A.

Delay mitigation in the Malaysian construction industry

(2006) *Journal of Construction Engineering and Management*, 132 (2), pp. 125-133. Cited 137 times.
doi: 10.1061/(ASCE)0733-9364(2006)132:2(125)

[View at Publisher](#)

- 2 Ali, T.H., Akhund, M.A., Memon, N.A., Memon, A.H., Imad, H.U., Khahro, S.H.

Application of Artificial Intelligence in Construction Waste Management

(2019) *Proceedings of 2019 8th International Conference on Industrial Technology and Management, ICITM 2019*, art. no. 8710680, pp. 50-55. Cited 12 times.
<http://ieeexplore.ieee.org/xpl/mostRecentIssue.jsp?punumber=8700166>
ISBN: 978-172813268-6
doi: 10.1109/ICITM.2019.8710680

[View at Publisher](#)

- 3 Bell, S.J., Chaytor, S., Crawford, K., Davies, F., Johnson, C., JooJoo, S., Jones, K., (...), Rose, C.

(2014) *Making Decisions on the Demolition or Refurbishment of Social Housing*
UCL Policy Briefing, London: University College London

- 4 Bustillo Revuelta, M.
Construction and Demolition Waste
(2021) *Construction Materials*, pp. 565-585.
Springer, Cham
-
- 5 Chang, K.S., Lee, J.C., Noh, N.I.F.M., Lee, S.K.
Study on factors affecting construction productivity in kuala lumpur, Malaysia
(2021) *Malaysian Construction Research Journal*, 14 (Special issue 3), pp. 57-69. Cited 2 times.
<http://www.cream.my/http://www.cream.my/main/index.php/publication/malaysian-construction-research-journal-mcrj>
-
- 6 (2008) *Guidelines on Construction Waste*. Cited 4 times.
-
- 7 Codinhoto, R., Becher, O., Heron, J. N., Donato, V.
BIM Bin: Waste Management Through BIM and Digital Twin
(2021) *Handbook of Research on Developing Smart Cities Based on Digital Twins*, pp. 265-294. Cited 2 times.
IGI Global
-
- 8 Franchetti, M.J., Apul, D.
Carbon Footprint Analysis: Concepts, Methods, Implementation, and Case Studies
(2012) *Carbon Footprint Analysis: Concepts, Methods, Implementation, and Case Studies*, pp. 1-248. Cited 28 times.
<https://www.routledge.com/Carbon-Footprint-Analysis-Concepts-Methods-Implementation-and-Case-Studies/Franchetti-Apul/p/book/9781439857830>
ISBN: 978-143985784-7; 978-143985783-0
-
- 9 Hamid, S., Mat Isa, C. M., N Felix, S., Mustaffa, N. K.
Sustainable management using recycle and reuse of construction waste materials in Malaysia
(2020) *ESTEEM Academic Journal*, 16, pp. 47-58. Cited 5 times.
-
- 10 Fikri Hasmori, M., Faizul Md Zin, A., Nagapan, S., Deraman, R., Abas, N., Yunus, R., Klufallah, M.
The on-site waste minimization practices for construction waste ([Open Access](#))
(2020) *IOP Conference Series: Materials Science and Engineering*, 713 (1), art. no. 012038. Cited 11 times.
<https://iopscience.iop.org/journal/1757-899X>
doi: 10.1088/1757-899X/713/1/012038
- [View at Publisher](#)
-
- 11 Huang, L., Krigsvoll, G., Johansen, F., Liu, Y., Zhang, X.
Carbon emission of global construction sector ([Open Access](#))
(2018) *Renewable and Sustainable Energy Reviews*, Part 2 81, pp. 1906-1916. Cited 218 times.
doi: 10.1016/j.rser.2017.06.001
- [View at Publisher](#)

- 12 Ilham, J.I.J., Esa, N.
Composting as a Sustainable Method to Minimise Waste at Source in Malaysia
(2017) *International Conference on Environmental Research and Technology (ICERT)*, pp. 225-228. Cited 2 times.
Georgetown, Pulau Pinang: Universiti Sains Malaysia
-

- 13 Jatarona, N. A., Yusof, A. M., Ismail, S., Saar, C. C.
Public construction projects performance in Malaysia
(2016) *Journal of Southeast Asian Research*, 2016, pp. 1-7. Cited 30 times.
-

- 14 Lackner, K. S., Jospe, C.
Climate change is a waste management problem
(2017) *Issues in Science and Technology*, 33 (3), pp. 83-88. Cited 9 times.
-

- 15 Liu, J., Huang, Z., Wang, X.
Economic and environmental assessment of carbon emissions from demolition waste based on LCA and LCC ([Open Access](#))
(2020) *Sustainability (Switzerland)*, 12 (16), art. no. 6683. Cited 14 times.
https://res.mdpi.com/d_attachment/sustainability/sustainability-12-06683/article_deploy/sustainability-12-06683.pdf
doi: 10.3390/su12166683

[View at Publisher](#)

- 16 Mahayuddin, S.A., Pereira, J.J., Badaruzzaman, W.H.W., Mokhtar, M.B.
Construction waste management in a developing country: Case study of Ipoh, Malaysia ([Open Access](#))
(2008) *WIT Transactions on Ecology and the Environment*, 109, pp. 481-489. Cited 10 times.
<http://library.witpress.com/pages/listBooks.asp?tID=4>
ISBN: 978-184564113-9
doi: 10.2495/WM080491

[View at Publisher](#)

- 17 Moh, Y., Abd Manaf, L.
Solid waste management transformation and future challenges of source separation and recycling practice in Malaysia ([Open Access](#))
(2017) *Resources, Conservation and Recycling*, 116, pp. 1-14. Cited 130 times.
www.elsevier.com/locate/resconrec
doi: 10.1016/j.resconrec.2016.09.012

[View at Publisher](#)

- 18 Maués, L.M., Beltrão, N., Silva, I.
Ghg emissions assessment of civil construction waste disposal and transportation process in the eastern amazon ([Open Access](#))
(2021) *Sustainability (Switzerland)*, 13 (10), art. no. 5666. Cited 5 times.
<https://www.mdpi.com/2071-1050/13/10/5666/pdf>
doi: 10.3390/su13105666

[View at Publisher](#)

- 19 Morgan, G.A., Leech, N.L., Gloeckner, G.W., Barrett, K.C
(2011) *IBM SPSS For Introduction*
-

- 20 *Statistics: Use and Interpretation* (4th edition). New York: Routledge
-
- 21 Nagapan, S., Rahman, I. A., Asmi, A., Memon, A. H., Zin, R. M. Identifying causes of construction waste—case of Central Region of Peninsula Malaysia (2012) *International Journal of Integrated Engineering*, 4 (2). Cited 53 times.
- 22 Nagapan, S., Rahman, I.A., Asmi, A., Memon, A.H., Latif, I. Issues on construction waste: The need for sustainable waste management (2012) *CHUSER 2012 - 2012 IEEE Colloquium on Humanities, Science and Engineering Research*, art. no. 6504333, pp. 325-330. Cited 51 times. ISBN: 978-146734615-3 doi: 10.1109/CHUSER.2012.6504333
[View at Publisher](#)
-
- 23 Rahim, M.H.I.A., Kasim, N., Moham, I., Zainal, R., Sarpin, N., Saikah, M. Construction waste generation in Malaysia construction industry: Illegal dumping activities ([Open Access](#)) (2017) *IOP Conference Series: Materials Science and Engineering*, 271 (1), art. no. 012040. Cited 21 times.
<http://www.iop.org/EJ/journal/mse>
doi: 10.1088/1757-899X/271/1/012040
[View at Publisher](#)
-
- 24 Rashid, F.H (2015) *Separation of solid waste from source launched*. Cited 2 times. (September 1), retrieved from <https://www.nst.com.my/news/2015/09/separation-solid-waste-source-launched>
-
- 25 Saadi, N., Ismail, Z. Government Initiatives Pertaining to Construction Waste Minimization in Malaysia (2015) *International Journal of Energy and Environment*, 9, pp. 165-170. Cited 2 times.
-
- 26 Sizirici, B., Fseha, Y., Cho, C.-S., Yildiz, I., Byon, Y.-J. A review of carbon footprint reduction in construction industry, from design to operation ([Open Access](#)) (2021) *Materials*, 14 (20), art. no. 6094. Cited 8 times.
<https://www.mdpi.com/1996-1944/14/20/6094/pdf>
doi: 10.3390/ma14206094
[View at Publisher](#)
-
- 27 Susskind, L., Chun, J., Goldberg, S., Gordon, J.A., Smith, G., Zaerpoor, Y. Breaking Out of Carbon Lock-In: Malaysia's Path to Decarbonization ([Open Access](#)) (2020) *Frontiers in Built Environment*, 6, art. no. 21. Cited 10 times.
journal.frontiersin.org/journal/built-environment
doi: 10.3389/fbuil.2020.00021
[View at Publisher](#)

- 28 Umar, U.A., Shafiq, N., Ahmad, F.A.
A case study on the effective implementation of the reuse and recycling of construction & demolition waste management practices in Malaysia ([Open Access](#))
(2021) *Ain Shams Engineering Journal*, 12 (1), pp. 283-291. Cited 17 times.
http://www.elsevier.com/wps/find/journaldescription.cws_home/724208/description#description
doi: 10.1016/j.asej.2020.07.005

[View at Publisher](#)

-
- 29 (2020) *Advancing Sustainable*

-
- 30 (2018) *Fact Sheet, Assessing Trends in Materials Generation and Management in the United States*
Washington DC: United States Environmental Protection Agency

-
- 31 Weber, B.
Malaysia: Toward A Sustainable Waste Management
(2017) *Global Recycling*, 19, p. 20. Cited 4 times.

-
- 32 Wu, H., Duan, H., Wang, J., Wang, T., Wang, X.
Quantification of carbon emission of construction waste by using streamlined LCA: a case study of Shenzhen, China
(2015) *Journal of Material Cycles and Waste Management*, 17 (4), pp. 637-645. Cited 33 times.
<http://link.springer.de/link/service/journals/10163/index.htm>
doi: 10.1007/s10163-015-0404-9

[View at Publisher](#)

-
- 33 Zaid, S.M., Myeda, N.E., Mahyuddin, N., Sulaiman, R.
Lack of Energy Efficiency Legislation in the Malaysian Building Sector Contributes to Malaysia's Growing GHG Emissions ([Open Access](#))
(2014) *E3S Web of Conferences*, 3, art. no. 01029. Cited 14 times.
www.e3s-conferences.org/
doi: 10.1051/e3sconf/20140301029

[View at Publisher](#)

✉ Zainon, N.; Department of Quantity Surveying, Faculty of Built Environment, University of Malaya, Kuala Lumpur, Malaysia; email:zshuhada@um.edu.my
© Copyright 2022 Elsevier B.V., All rights reserved.

About Scopus

[What is Scopus](#)

[Content coverage](#)

[Scopus blog](#)

[Scopus API](#)

[Privacy matters](#)

Language

[日本語版を表示する](#)

[查看简体中文版本](#)

[查看繁體中文版本](#)

[Просмотр версии на русском языке](#)

Customer Service

[Help](#)

[Tutorials](#)

[Contact us](#)

ELSEVIER

[Terms and conditions](#) ↗ [Privacy policy](#) ↗

Copyright © [Elsevier B.V.](#) ↗. All rights reserved. Scopus® is a registered trademark of Elsevier B.V.

We use cookies to help provide and enhance our service and tailor content. By continuing, you agree to the [use of cookies](#) ↗.

