Cite this article
Baker F (2025)
Editorial.
Proceedings of the Institution of Civil Engineers – Management, Procurement and Law
178(4): 197–198, https://doi.org/10.1680/jmapl.2025.178.4.197

Management, Procurement and Law

Editorial

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This issue highlights some of the challenges for projects regarding cost and environmental management and the integration of sustainability methods across the construction industry. In 2016, United Nation's 17 Sustainable Developments Goals came into force, presenting an urgent call to all countries, developed and developing, to address the impact of climate change on the environment and on humanity (UN, 2025). The construction industry responded with a shift towards sustainable construction and the aim for all new buildings to be net-zero operational carbon by 2030, and for all existing buildings (new and existing) to be net zero across both embodied and operational carbon by 2050 (UKGBC, 2024; WGBC, 2019). Consequently, construction goalposts have shifted to a multi-objective framework that must choose the best alternatives to complete the project with the least time, cost, environmental and social impact (Sanad *et al*., 2025).

The construction industry's global net-zero targets have added to the diverse pressures on complex infrastructure projects to achieve better deliverability. The article by Salim *et al*. (2025) "Model of cost management for the Jakarta–Bandung high-speed railway project" explores the factors influencing the success of large infrastructure projects such as high-speed railway with a focus on the Jakarta–Bandung high-speed railway project. It examines the direct relationship between the cost management process as indicators and the project's cost efficiency and success through comprehensive data gathering, and analytical methodologies.

Furthermore, it provides a detailed evaluation of the correlation between the theoretical framework and the actual cost management practices employed in the project with reference to recent literature. The findings support the view gaining traction in the UK and globally that "Engaging a broader range of stakeholders, including subcontractors and construction clients, will provide valuable feedback that can validate findings and enhance cost management practices". If this can be achieved, then perhaps there can be more focus on the integration of sustainability principles into project management. The next step is how to re-engineer railways towards net zero without a reliance on some carbon dioxide intensive technologies and materials (Shaw *et al*., 2025). However, innovation and the use of new technologies and materials can bring risk and unforeseen circumstances. Contingency sums may provide a financial safety net.

The article "Methods used by clients to determine contingency sums for construction projects in the Middle East" by Morton-Shepherd *et al*. (2025) examines the methods for setting contingency in client project budgets and the factors influencing the selection of a contingency-setting method by client teams. This was quite a substantial study with 53 experienced respondents involved, including a number from international companies. The findings of this study should be useful for academic researchers in the development or modelling of any new or alternative approaches for contingency sum determination and for commercial and academic developers of contingency models to make their solutions attractive to clients. For example, in a small but relevant study, analysing perspectives from 13 experienced professionals in medium-scale contracting, also using a quantitative methodology, Sihombing and Saputra (2025) innovatively integrated the Delphi method and Monte Carlo simulation to address the specific challenges faced by mid-scale contractors in managing contingency costs.

The use of building information modelling (BIM) has been promoted as a solution to construction industry challenges, such as cost management, and how to effectively integrate sustainability (ICE, 2025) in construction methods. A more efficient solution may be through the integration of AI and BIM (Kayemba and Obadire, 2025). However, questions have been raised regarding the effectiveness of its implementation into mainstream industry practices. "BIM maturity and its influence on BIM implementation challenges: the perspectives of UK contractors" (Arvanitis *et al.*, 2025) offers an in-depth empirical investigation of the management of technical, organisational, and environmental challenges during in construction project implementation through its investigation of BIM maturity as a key factor in addressing them. The research adopted a quantitative approach using a structured questionnaire administered to 65 professionals from UK contracting organisations which resulted in many findings each of which could be the subject of further research. Overall, this study reinforces the need for a coordinated, maturity-informed approach to BIM adoption to integrate effective cost management and sustainability across the construction ecosystem.

However, the implementation of the concept of sustainability into the construction industry in some developing countries is still at an early stage, as evidenced by this issue's study by Boateng *et al*. (2025) "Implementing environmental management systems (ISO14001) in the construction sector of Ghana". It identifies 11 benefits, 11 barriers, and 10 strategies for implementing systems such as ISO14001 in the construction sector. The article's results show that that "cost savings due to the reduction of fines associated with convictions" was the main perceived benefit of its implementation, while the major barrier was "a lack of government legal enforcement". It

recommends that environmental regulations and policies are created to encourage the adoption of environmental management systems.

Yet, despite the provision of environmental and waste management legislation in developed countries, such as the UK, the construction industry remains a major producer of material waste. The carefully crafted article "Exploring key barriers to effective material waste reduction in UK construction projects" by Amoudi *et al*. (2025) examines "What are the current main barriers preventing effective material waste minimisation in the UK construction industry?". It also provides a clear guide for how to address them. Starting with a clear and useful survey of the sources of construction waste management, it examines the best practices to manage, and to minimise this waste, as well as the barriers. The findings show that there is a complex blend of interrelated barriers from the inception of the project and design through to construction preventing effective waste minimisation – but the article also suggests solutions.

Finally, the quality of the air we breathe is a major contributor to overall health and social sustainability. It also is generally known that indoor air quality can be increased by improving natural ventilation in buildings. However, what is the impact on the quality of natural ventilation and our well-being when there is a construction project nearby? The literature review "Assessing air pollution emission from construction project activities" by Nazif *et al*. (2025) provides a useful systematic examination of the types of air pollutants emitted during construction project processes, the air emission sources, and the effects of air pollution on exposed individuals. It can provide a base for researchers to devise how to provide adequate monitoring and control measures to reduce human exposure levels, and to improve air pollution prediction models; and contribute to the implementation of sustainable construction methods.

REFERENCES

Amoudi O, Robinson S, Austin M and Elangovan S (2025) Exploring key barriers to effective material waste reduction in UK construction projects. *Proceedings of the Institution of Civil Engineers Management, Procurement and Law* **178(4)**: 265–277, 10.1680/jmapl.24.00019.

Arvanitis L, Al-Tarazi D, Agyekum K *et al.* (2025) BIM maturity and its influence on BIM implementation challenges: the perspectives of UK contractors. *Proceedings of the Institution of Civil Engineers Management, Procurement and Law* **178(4)**: 231–243, 10.1680/jmapl.24.00084.

Boateng RK, Booth CA, Horry RE *et al.* (2025) Implementing environmental management systems (ISO14001) in the construction sector of Ghana. *Proceedings of the Institution of Civil Engineers Management, Procurement and Law* **178(4)**: 244–254, 10.1680/jmapl.24.00052.

ICE (2025) Civil Engineering Blog, Rajiv Iyer, 8 types of digital technology shaping the future of engineering 27, See https://www.ice.org.uk/news-views-insights/inside-infrastructure/types-of-digital-technology-shaping-engineering (accessed 22/10/2025).

Kayemba TM and Obadire MA (2025) Navigating the transformation: a systematic analysis of building information modelling, artificial intelligence and internet of things in smart construction logistics. *Modern Supply Chain Research and Applications* **7(2)**: 279–299, 10.1108/MSCRA-07-2024-0027.

Morton-Shepherd L, Laryea S, Zungu Z and Kwasafo OK (2025) Methods used by clients to determine contingency sums for construction projects in the Middle East. *Proceedings of the Institution of Civil Engineers Management, Procurement and Law* **178(4)**: 221–230, 10.1680/jmapl.24.00083.

Nazif A, Young B, Seidu R, Ibraheem Y and Amoah A (2025) Assessing air pollution emission from construction project activities. *Proceedings of the Institution of Civil Engineers Management, Procurement and Law* **178(4)**: 255–264, 10.1680/jmapl.24.00023.

Salim IP, Simanjuntak MRA and Oei FJ (2025) Model of cost management for the Jakarta–Bandung high-speed railway project. *Proceedings of the Institution of Civil Engineers Management, Procurement and Law* **178(4)**: 199–220, 10.1680/jmapl.24.00017.

Sanad H, Elbeltagi E, Etman E, Gaber M and Elkorany T (2025) Optimizing sustainability in infrastructure projects: a framework integrating time, economic, social and environmental perspectives. *Construction Innovation*, 10.1108/CI-12-2024-0398.

Shaw J, Ison S and Attard S (eds) (2025) Towards transport net zero. John Preston, Simon Blainey. In *Towards Net Zero Railways for Net Zero Transport*, Emerald Publishing Limited, 10.1108/978-1-83797-693-5.

Sihombing LB and Saputra B (2025) Optimizing contingency cost for mid-scale contractors: an integrated Delphi and Monte Carlo method. *Engineering, Construction and Architectural Management* 1–16, 10.1108/ECAM-06-2024-0807.

UKGBC (UK Green Building Council) (2024) Net zero carbon buildings and infrastructure explainer guide chrome-extension, See https://ukgbc.org/wp-content/uploads/2024/06/Net-Zero-carbon-buildings-and-infrastructure-Final.pdf (accessed 22/10/2025).

United Nations (2025) Department of Economic and Social Affairs Sustainable Development 17 Goals, See https://sdgs.un.org/goals (accessed 22/10/2025).

WGBC (World Green Building Council) (2019) Bringing embodied carbon upfront, See https://worldgbc.org/climate-action/embodied-carbon/ (accessed 22/10/2025).