# Sustainability Challenges in Construction Contracts as a Regular Issue of International Investments

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***Abstract***

*This paper aims at providing an overview of the current practices, opportunities and problems concerning sustainability in construction contracts, by using literature review and the comparative methods. We will also identify the EU legal provisions and the main types of standard construction contracts that include sustainability provisions (FIDIC, JCT, NEC, G.D. no. 1/2018). The purpose is to determine how parties can use contractual provisions to reduce carbon footprint in their projects and to identify the possible risks and dispute grounds associated with such an approach. The parties can negotiate sustainability provisions and it is recommendable for the contractor to propose certain measures for meeting environmental objectives. The EU's new legislative project in this area of expertise, the Corporate Sustainability Reporting Directive, aims to make companies more accountable and transparent about the environmental impact of their business approach. In the end, we will show that considering sustainability will actually create opportunities for investors, companies and society in general and will decrease costs on a medium-long term. There is a growing awareness of the negative financial implications of conducting business "as usual" meaning in a non-sustainable manner.*

***Keywords****: sustainability, construction, international investments, contracts, due diligence.*

***JEL Classification****:* F21, K14, K33

## 1. Introduction

Construction projects are often complex, highly technical, of high value and they usually extend on a number of years[2]. Common risks include unexpected site conditions, personnel problems, errors in cost estimating, delays, operational problems, inadequate plans and natural disasters. For this reason, the construction industry is one of the most critical in what concerns the impact on the environment. The topic is well known, but not properly regulated.

Fortunately, sustainability became a topic for consideration, with many public and private entities integrating cleaner practices in their contracts. With higher demand and legislation for greener construction, more employers and contractors are turning to sustainable construction methods.

In the first part of the paper, we analyzed the recent EU legislation regarding large and SME companies' obligation to report on sustainability issues. These provisions will have a significant impact on the construction industry.

The second part of the paper will emphasize, by using the comparative method, the most common sustainability issues in construction contracts, the provisions

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[2] Stavros Brekoulakis, David Brynmor Thomas, *The Guide to Construction Arbitration*, „Global Arbitration Review", London, 2017, p. 51.

regarding sustainability found in standard construction contracts used at an international level and the particular issues of public procurement procedures, with an insight of the Romanian applicable legislation.

Lastly, we identified the recommended pollution control clauses for contractors to adopt.

## 2. Non-financial disclosure obligations for EU and non-EU undertakings

The Corporate Sustainability Reporting Directive (CSRD)[3] requires undertakings that fall within its scope to report on non-financial information, such as sustainability, in a separate section of the company's management report, which will be made publicly available.

The climate neutral policy aims to obtain a resource-efficient economy within the European Union. The directive will apply to all companies listed on the EU regulated markets, to *"large undertakings"*, defined according with the Accounting Directive[2] and to insurance undertakings and credit institutions, regardless of their legal form. It will also apply to small-medium enterprises according to their size and resources and by respecting the principle of proportionality. Lastly, it will apply to non-European companies that conduct business in the EU, in certain conditions.

Companies will have to make significant changes to how they prepare and disclose sustainability information (from a future and retrospective, qualitative and quantitative point of view) and to consider how they manage environmental risks, draw up policies, and set targets accordingly, for short, medium and long term. It will help investors, consumers and policymakers to evaluate large companies' non-financial performance.

## 3. Sustainability issues in construction contracts

Construction can negatively influence the environment and the ecosystem in various ways, such as land[4] and water contamination, noise pollution and waste disposal.[5] In the absence of proper planning, the clearing of lands for construction can lead to the loss of habitats.

On the other hand, if the contractor encounters environmental obstacles[6], the Program of Works will most likely be affected. In construction contracts there are usually multiple entities involved, such as the employer, contractor and subcontractors. Often, the responsibility of handling environmental issues is not expressly addressed, leading to confusion over, for example, the responsibility for waste management and disposal. Parties are potentially liable for criminal and civil sanctions according to the

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[3] The Commission adopted a proposal for a Corporate Sustainability Reporting Directive (CSRD), the document is available online at: https://finance.ec.europa.eu/publications/sustainable-finance-package_en (accessed November 7, 2022).

[4] Amanda Stubbs, Christopher Dering, *Environmental Law for the Construction Industry*, 2nd edition, Thomas Telford, London, 2002, p. 49.

[5] Michael S. Baram, *Environmental Law and Construction Project Management*, „Public Contract Law Journal", Vol. 6, No. 2, American Bar Association, pp. 210-228, available at https://www.jstor.org/stable/25753837 (accessed November 5, 2022).

[6] Amanda Stubbs, Christopher Dering, *op. cit.*, p. 114.

legal provisions, although not specifically mentioned in the contract.

For example, encountering unexpected adverse ground conditions, naturally occurring or fabricated, is a frequent cause of dispute on construction projects and has a significant impact on the works. Obtaining accurate information on site conditions is important during the early stages of a project—the result of surveys and investigations undertaken can have an impact on working methods, program, costs and risk allocation.[7]

Allocated risks include quantities, errors in employer-provided information, unforeseen ground conditions, force majeure, changes in law, delay, and performance guarantee.[8] For example, under most construction contracts, if unexpected contamination is found after the commencement date, the contractor will suspend the works and notify the employer[9], the local planning authority and the environmental authorities.

Typically, in negotiating and preparing contract documentation, the employer is the one in the position to decide on risk allocation.[10] A temptation to allocate major risks to the contractor should be tempered by an understanding of the adverse consequences of unilaterally assigning risk, which will lead to such an increase in costs that the project will no longer be financially viable.[11] Improper risk allocation may also result in prolongation of works, wastage of resources and increased possibility of dispute.[12] Even though a complete elimination of risks is not possible, there are still some measures the parties could undertake: (i) the identification of risks; (ii) the balanced allocation of risks between the parties: (iii) the management of risks during the execution.[13] Several authors described the techniques for risk management.[14]

The parties have to determine, who, in accordance with the legal and contractual dispositions, is liable and will bear the costs for the additional work, the transportation, deposit and in some cases safe destruction of the contaminated soil. When the employer is a public entity, there might be a need for a public procurement procedure to be organized in order to perform the above-mentioned operations. Environmental insurance may be purchased in order to manage environmental risks.

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[7] Mark Pagell, David Gobeli, *How Plant Managers' Experiences and Attitudes Toward Sustainability Relate to Operational Performance*, „Production and Operations Management", 2009, pp. 278–299, available at https://www.researchgate.net/publication/227650815_How_Can_the_Construction_Industry_Contribute_to_Sustainable_Development_A_Conceptual_Framework (accesed November 12, 2022).

[8] Ellis Baker, Richard Hill, Ibaad Hakim, *Allocation of Risk in Construction Contracts*, „Global Arbitration Review", 2019, available at https://globalarbitrationreview.com/guide/the-guide-construction-arbitration/third-edition/article/allocation-of-risk-in-construction-contracts#footnote-121 (accessed November 17, 2022).

[9] Amanda Stubbs, Christopher Dering, *op. cit*., pp. 141-144.

[10] Nael Bunni, *The Four Criteria of Risk Allocation in Construction Contracts*, „International Construction Law Review", Vol. 20, part. 1, 2009, p. 6.

[11] Bryan Shapiro, *Transferring Risks in Construction Contracts*, 2010, p. 5, available at http://www.shk.ca/wp-content/uploads/2013/02/Transferring-Risks-in-ConstructionContracts-BSS.pdf, (accessed October 5 2022).

[12] Stavros Brekoulakis, David Brynmor Thomas, *The Guide to Construction Arbitration*, „Global Arbitration Review", London, 2017, p. 52.

[13] A. Wasenaer, *The Big Risk Game - a simple tool to understand project risks and work together better*. „Construction Law International", 2009, Vol. 4, no. 3, p. 1-4.

[14] S. Ward, C. Chapman, *Stakeholders and uncertainty management in projects, Construction Management and Economics*, 2008, Vol. 26, no. 6, pp. 563-577.

### 4. Sustainability provisions in standard construction contracts

Sustainability targets should be included in standard forms of construction contracts[15]. Usually, the contractor and employer disregard sustainability practices beyond the requirements of the tender documents.[16] Most standard forms of contracts contain a number of provisions that are intended to fight climate change.

The FIDIC suite of contracts includes an obligation on the Contractor to take all necessary measures to protect the environment. The Contractor is required to comply with any environmental impact statement for the Works (2017 editions only), and to limit damage resulting from noise pollution and other results of his activities.[17]

The FIDIC Red, Yellow and Silver Books contain provisions requiring the contractor to take steps to protect the environment during the course of the works, by ensuring that emissions do not exceed those stated in the specification or prescribed by law (clause 4.18). In November 2021 FIDIC published its Climate Change Charter, which sets out the basic terms for addressing environmental issues.

The 2016 JCT[18] Design and Build Contract contains an additional clause no. 8.11, that allows the contractor to propose *"economically viable amendments"* to the project, which *"may result in an improvement in environmental performance"* during the carrying out of the works or the final result. NEC contracts[19] have clause X20 that incentivizes the contractor for meeting the employer's sustainability targets. That encourages the contractor to propose changes.

The contractor is paid extra for meeting or exceeding environmental-related indicators, which encourages him to have a proactive mindset. There is no penalty for failing to meet these indicators, which means that the contractor could decide not to opt for sustainable solutions. For this reason, any mandatory environmental performance obligations need to be included in the Scope, so that failure to respect them would be a breach. G.D. no. 1/2018[20] mentions that the contractor has to take all necessary measures for protecting the environment (both on and outside the site) and for mitigating damages related to pollution, noise and other consequences of the Works. The contractor will have to observe environmental regulations and will have to make sure that his actions fall within the imposed limits. Clause 20 that refers to setting the price, mentions that the contractor is responsible for interpreting all the data related to the site (*e.g.*, geological and hydrological conditions), including all environmental aspects.

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[15] Peter S. Brandon, Patrizia Lombardi, Geoffrey Q. Shen, *Sustainability – The Role of Construction Contracts*, Wiley, 2017, p. 257.

[16] Laura Montalbán-Domingo, Tatiana García-Segura, M. Amalia Sanz, Eugenio Pellicer, *Social Sustainability in Delivery and Procurement of Public Construction Contracts*, „Journal of Management in Engineering", 2019, available at https://www.researchgate.net/publication/330075626_Social_Sustainability_in_Delivery_and_Procurement_of_Public_Construction_Contracts (accessed November 10, 2022).

[17] Ellis Baker, Ben Mellors, Scott Chalmers, *Anthony Lavers, FIDIC Contracts: Law and Practice*, Informa, 2009, p. 6.

[18] The Joint Contracts Tribunal - for more details see The Joint Contracts Tribunal Limited, *Practice Note, Deciding on the appropriate JCT contract*, 2011, Sweet & Maxwell, London, 2011, p. 4.

[19] The New Engineering contracts created by the UK Institution of Civil Engineers.

[20] Government Decision no. 1/2018, known in Romania as the new national construction contract, available at http://anap.gov.ro/web/wp-content/uploads/2018/02/Hotararea-nr-1-din-10-ianuarie-2018-pentru-aprobarea-conditiilor-generale-si-specifice-pentru-anumite-categorii-de-contracte.pdf (accessed October 12, 2022).

Another important aspect refers to the possibility of the Supervisor to retract his approval regarding the contractor's representative if his actions repeatedly or significantly affect the environment. While parties to a construction contract are not bound to adopt these kinds of clauses and it is a matter of negotiation, there are some drivers towards their inclusion, in particular related to project funders that require meeting environmental objectives.

## 5. Public procurement and sustainability

Public procurement procedures should encourage environmental-friendly practices[21] and regulate mechanisms to include sustainability targets as part of the evaluation criteria in best-value procurement.[22] The sustainability criteria should be included in the tender documents and offered high-scoring points[23]. For example, article 51 of Law no. 98/2016[24] states that the employer should specify in the tender documents, among others, the mandatory regulations regarding the environment. According with article 55 (2), subcontractors have the same obligations. Moreover, article 156 specifies that the technical performance requirements have to observe environmental aspects as well.

Probably the most important provision, found in article 179 (h), specifies that, in order to meet the criteria and prove their technical and economical capacity, contractors have to also show how they will manage the environmental aspects during the execution of the contract. In order to determine the winning offer, the contracting authority has the right to apply one of the following criteria: the best quality-price ratio, the best quality-cost ratio, the lowest cost, the lowest price.

The contracting authority can use the lowest price criterion only if the estimated value of the contract does not exceed a certain amount specified in the law. The best quality-price or quality-cost ratio is determined based on several evaluation factors that include environmental aspects.

For awarding *"green"* public procurement contracts, as defined in art. 2 (b) of Law no. 69/2016 on green public procurement, the contracting authority will include the criteria regarding environmental protection.

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[21] Annika Varnäs, Berit Balfors, Charlotta Faith-Ell, *Environmental consideration in procurement of construction contracts: current practice, problems and opportunities in green procurement in the Swedish construction industry*, „Journal of Cleaner Production", Volume 17, Issue 13, September 2009, p. 1214-1222, available at https://www.sciencedirect.com/science/article/abs/pii/S0959652609001188 (accessed November 6, 2022).

[22] Ayşin Sev, *How Can the Construction Industry Contribute to Sustainable Development? A Conceptual Framework*, „Sustainable Development", 2009, pp. 161–173, available at https://www.researchgate.net/publication/227650815_How_Can_the_Construction_Industry_Contribute_to_Sustainable_Development_A_Conceptual_Framework (accessed November 5, 2022).

[23] Fatima Afzal, Benson Lim, Deo Prasad, *An Investigation of Corporate Approaches to Sustainability in the Construction Industry*, Procedia Engineering, Volume 180, 2017, pp. 202-210, available at https://www.sciencedirect.com/science/article/pii/S1877705817316867.

[24] Law no. 98/2016 on public procurement, available at https://anap.gov.ro/web/wp-content/uploads/2022/09/LEGE-nr.-98-din-19-mai-2016-oct-2022.pdf (accessed November 3, 2022).

## 6. Contractor's practices for sustainability

The contractor can adopt practices for meeting sustainability targets or for having a competitive advantage, such as using durable materials, sustainable construction technologies, maximizing resource reuse, quality in construction, conserving resources, low energy appliances, low-carbon heating and cooling, electric vehicles.[25] Moreover, using BIM can minimize rework as a result of more informed decisions.[26] Also using modular and prefabricated components, which can be reused, allows for quicker build times, and reduced rework and materials.

From a managerial point of view, the contractor should have a sustainability plan, discuss it with the employer, inform him about any additional costs, and have a collaborative approach, focused on looking for solutions instead of roadblocks.[27]

## 7. Conclusions

A global call for green practices is noticeable by observing the EU and Member States' national legislation and recent versions of the standard form of contracts. While parties to a construction contract are not yet bound to adopt sustainability clauses, as it is still a matter of negotiation, there are some drivers towards their inclusion (e.g., project funders that require meeting environmental objectives).

In addition, some of the advantages of sustainable practices may become more apparent on a medium to long-term basis (e.g., competitive advantage, cost reductions, time reductions). Most contracts encourage good sustainability practices, but do not include specific obligations or sanctions for failure to comply, outside the environmental obligations imposed by local authorities.

The lack of foreseeability increases the risk of disputes. In the future, these provisions will probably be replaced with specific and enforceable performance targets.

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[27] Eliot Jones, *Ways Owners Can Make Construction Projects More Sustainable*, available at https://constructible.trimble.com/construction-industry/11-ways-owners-can-make-construction-projects-more-sustainable (accessed November 5, 2022).

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