



## **Sustainable Procurement Bidding: diagnosis of public housing projects and their adherence to the 2030 Agenda in the State of São Paulo**

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#### ABSTRACT

The Civil Construction sector has several activities that cause an impact on the environment. In this sense, the influence of this sector is important to achieve the global commitment made official in the 2030 Agenda, making global actions necessary to improve its practices and processes. Thus, governments play an important role in fulfilling this agenda, not only as regulatory bodies, but also as agents driving this process. The present work aims to analyze sustainability in public housing construction contracts in the State of São Paulo. In this way, the Public Authorities' compliance with what is recommended in legislation that deals with sustainability in public procurement was assessed, as well as compliance with the global commitment to achieving the 2030 Agenda. Data were collected from notices published between the years 2016 and 2021 relating to public housing works within the State of São Paulo. These notices were analyzed in order to verify whether there was a broad inclusion of aspects of sustainability to achieve the Sustainable Development Goals (SDGs), in order to obtain a holistic view of how the Notices relate to this topic. The results showed that the inclusion of sustainability in the Notices to achieve the SDGs was scarce, with little reference to sustainability and no reference to compliance with the SDGs.

**Keywords:** Sustainable Bidding. Public works. Agenda 2030. Sustainable Development Goals. Housing.

## 1 INTRODUCTION

The Brazilian Federal Constitution provided, in its article 225, the right to an ecologically balanced environment, imposing both on the Public Power and on society the duty to preserve it, not only for the current, but also for future generations (BRAZIL, 1988). From this, several legal standards were published for their regulation, as well as international agreements were established, such as the 2030 Agenda, signed in 2015. This agenda proposed 17 Sustainable Development Goals (SDGs) and 169 targets, with the aim of stimulating actions for the next 15 years in areas of critical importance to humanity (UN, 2015).

Although several countries have committed to the new global agenda for Sustainable Development and have advanced the legal framework relating to sustainable purchasing (UNEP, 2021), the 6th Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) indicated consecutive increases in greenhouse gas emissions from 2010 to 2019, exposing the impacts and risks in the short, medium and long term, at different levels. These are complex risks that can result in various climate hazards that are often irreversible. However, the report informs that short-term actions to limit global warming to 1.5 °C, such as containing greenhouse gas emissions, would significantly reduce these projected damages (IPCC, 2022).

The United Nations Environment Program (UNEP) Report in 2019 warned of the need for countries to substantially improve their Nationally Determined Contribution (NDC) in order to establish more ambitious targets for reducing gas emissions greenhouse effect and consolidate these commitments, recommending increasing the efficiency of Buildings and the adoption of low carbon materials in works. According to this Report, the construction and operation of buildings were responsible for 38% of global energy-related carbon dioxide (CO<sub>2</sub>) emissions and this emission rate has increased since then. Only in 2020 did the emission level fall by around 10%, however, as a result of the COVID-19 pandemic (UNEP, 2020).

One of the directions of the Sustainable Development Goals (SDGs) is to promote the rational use of natural resources and the reduction of greenhouse gas emissions (UN, 2015). In this context, Civil Construction is a strategic sector, as it is responsible for a large portion of energy and material consumption in the world. Therefore, it is essential that building projects and operations are planned and executed in a way that minimizes environmental impacts and contributes to sustainable development.

One of the ways in which Governments act in Civil Construction, encouraging the market to adopt sustainable solutions in their works, is through public contracts for works that include sustainable requirements. According to the Organization for Economic Co-operation and Development (OECD, 2021), government purchases represent a significant proportion of the Gross Domestic Product (GDP) and total government expenditure worldwide. In Brazil, according to IPEA (2021), Public Procurement represented 14% of GDP in 2008, with a contribution of 2.5% coming from the States.

In this context, the public governance process plays an important role in achieving the SDGs, as it plays, in addition to its regulatory role, a driving role in achieving a certain goal (COSTA; MOTTA, 2020). Regarding the regulatory role, the general bidding law published in 2021, Federal Law 14,133/21, stands out, which establishes Sustainable Development as a principle. Regarding the driving role of the State, public purchases deserve to be highlighted.

According to Mastrodi and Brito (2017), sustainable bidding in Brazil is not a mere liberality of the public authorities, but rather an obligation, as it was expressly provided for in the Federal Constitution of 88 (reference). The authors highlighted the need to comply with legal standards to guarantee equality between bidders to achieve institutional objectives with environmental sustainability in mind (MASTRODI; BRITO, 2017).

In a document published by UNEP (2016), obstacles to the inclusion of sustainability in bidding processes were highlighted as difficulties in interpreting public procurement legislation, which causes apprehension among public agents when including sustainability criteria in Notices, due to the potential risk to restrict competitiveness in the competition. Differences of understanding were also recorded between the control bodies regarding the acceptance or not of the contractors' justifications in the search for sustainable solutions (UNEP, 2016). However, the IPCC 6th Assessment Report warned that insufficient progress towards achieving the SDGs by 2030 will result in significant impacts not only environmental but also economic and social (IPCC, 2022).

The scenario presented reflects the urgency to achieve the SDGs in order to avoid global warming, which, if it occurs, will cause significant environmental, economic and social impacts. Considering the impact caused by Civil Construction, especially Building works and their operation, this article focuses on verifying advances towards the SDGs in light of the legal framework, in order to highlight their effectiveness in public works and, then, expose the need of State action to continue or improve its decisions towards achieving the goals established in the SDGs.

## **2. OBJECTIVE**

This article aims to study the impact of the new global agenda on the contracting of public housing works in the State of São Paulo, verifying the effective compliance, by the public authorities, with what is recommended in the Federal Constitution and other legislation to achieve the Sustainable Development Goals.

## **3. METODOLOGY**

### 3.1 Surveys of Bidding Notices

To achieve the research objective, it was necessary to survey the Bidding Notices. The scope of this study was defined as public housing works in the State of São Paulo, due to the economic and financial representativeness of the State, as well as the relevant impact of the construction and operation of buildings in achieving the goals of the 2030 agenda.

To collect the Bidding Notices, the electronic address of the Official Press and CDHU, both of which are publicly accessible, was used as a search basis, as established by Federal Law No. 12.527, published in 2011 (IMPrensa Oficial, 2022; CDHU, 2023). Firstly, the Official Press website was used, due to the availability of more advanced filters and its coverage in terms of bodies to be consulted. In it, it was possible to make selections by area, subarea, status and periods, as shown below:

- Area: Public Works;
- Subarea: Housing;
- Status: Closed;
- Period: from 01/01/2016 to 12/30/2021.

The survey resulted in 428 Public Notices closed since 2016, related to Housing Works and Services in the State of São Paulo. The application of a status filter was included to restrict the study to Notices whose contests were actually started and concluded, that is, which completed their purpose. Table 1 shows the total number of Notices raised between 2016 and 2021.

Table 1 - Notices collected between 2016 and 2021.

Status	Works and Services in the Housing area						TOTAL
	2016	2017	2018	2019	2020	2021	
Closed	16	62	122	69	33	126	428
In progress	0	4	5	4	4	2	19
Open	0	0	0	0	0	7	7
TOTAL	16	66	127	73	37	135	454

Source: Official Press, 2022.

An analysis of the object of each closed Notice was carried out to select those related restrictively to engineering works for the complete construction of a housing unit, that is, popular housing, excluding those that aimed to complement the work of a housing unit or to completion of a previously unfinished work. The latter was excluded to avoid duplication in the analysis of Notices.

From this selection, 141 bidding notices were obtained, with “closed” status, aimed at the integral construction of housing units within the scope of the State Government, specifically in the State of São Paulo (Table 2).

Table 2 - Closed notices for Housing Works.

Year	Notices for Housing Works/Services (Closed)	Housing Unit Execution Notices (Closed)
2016	16	0
2017	62	5
2018	122	88
2019	69	24
2020	33	1
2021	126	23
TOTAL	428	141

Source: Official Press, 2022.

After this survey and selection of the Notices made available on the Official Press website, they were analyzed individually in order to verify whether they contained the Basic Project, since, according to Federal Law No. 8,666/93, it is in this document that they are the necessary and sufficient elements to characterize the engineering work or service are inserted. The absence of this document would make it impossible to correctly analyze the bidding documents.

In cases where the Notice was not complete on the Official Press website, the CDHU website was used. Due to Federal Law No. 12,527, published in 2011, the Notice must be made available in full. This website was not initially used, as the object of the study was to analyze all housing works in the State of São Paulo, and it was, therefore, not suitable for the research objective to search on the website of a specific State Body. However, as the incomplete Notices acquired from the São Paulo Official Press website were the responsibility of CDHU, the acquisition of the remaining documents was obtained directly from the CDHU website.

### 3.2. Definition of the Parameters for the Study of Sustainability in Public Notices

To analyze the aspects of Sustainability in the Notices regarding the use or management of natural resources responsibly, a search parameter was initially defined. The definition of this parameter was based on the search for the greatest quantity of results in order to provide a more comprehensive view of this term in the Bidding Notice. Thus, the descriptor “sust” was established as a search parameter, without differentiation between upper and lower case letters, to investigate the inclusion of sustainability in Notices drawn up by public managers.

This parameter allowed the survey of a large number of results, making the individual analysis of its context essential to obtain the results of this study.

### 3.3. Analysis of the Inclusion of Sustainability aspects in Bidding Notices

For this study, the bidding notices used were those whose purpose was the complete construction of a housing unit and had the status "closed" on the Official Press website, as shown in Table 3, obtained after filtering the status and analyzing the object of the Notice.

Table 3 - Closed notices for Housing Works.

Year	Housing Unit Execution Notices (Closed)
2016	0
2017	5
2018	88
2019	24
2020	1
2021	23
TOTAL	141

Source: Official Press, 2022.

A search for the term sustainability was carried out in these Notices, being surveyed comprehensively using the defined search parameter, the descriptor “sust”. The search for this parameter was done using the PDF search tool.

Once the parameter was identified using the aforementioned tool, the results were initially analyzed regarding their meaning, excluding those that did not have the same or similar meanings to the objective of this survey, which is related to the responsible use or management of natural resources.

Once this first filter was carried out, the words related to sustainability were analyzed in their context and then their adherence to the Sustainable Development Goals and their targets was verified.

## 4. RESULTS AND DISCUSSION

### 4.1. Assessment of the Inclusion of the Sustainability Parameter

The mechanism used to raise the inclusion of the Sustainability parameter in the Notices was the use of the “search” tool in PDF readers. This tool allowed searching throughout the document for the parameter defined for the study, making it possible to identify its location and the frequency of occurrence of this term in bidding documents.

This tool revealed the number of occurrences of the “sust” parameter in each document, which were consolidated by year, as shown in Table 4.

Table 4 shows what was expected in this study, in relation to obtaining a large number of results, to then carry out an individual analysis of each term.

Table 4 – Result of the frequency of occurrence of the “sust” parameter in the Notices examined.

Year	Notices Examined	Frequency of Occurrence
2017	5	19
2018	88	539
2019	24	80
2020	1	7
2021	23	134

Source: Authors, 2023.

According to Table 4, the frequency of occurrence of the parameter sought was proportional to the number of Notices examined per year, although this proportion varied each year. Five Notices from 2017 were examined, with 19 occurrences of the “sust” parameter verified. In 2018, the year in which there were more notices to be analyzed, with 88 Notices, the frequency of occurrence of the “sust” parameter was 539. In 2019, the number of Notices analyzed began to decline, with 24 Notices from 2019 and 1 Notice 2020, which resulted in 80 and 7 occurrences of the “sust” parameter, respectively. In 2021, 23 Notices were analyzed, in which 134 occurrences of the "sust" parameter were found.

After this survey, each term identified was analyzed in terms of meaning and context, in order to verify its adherence to the objective of this study, which would be the investigation, in Public Works Notices for housing released between the years 2016 and 2021, of the inclusion sustainability and its connection with achieving the SDGs.

The results demonstrated a low inclusion of the “sust” parameter in the bidding documents under the terms defined in this study.

Table 5 – Result of the analysis of the inclusion of sustainability in the Notices.

Year	Notices that covered aspects of Sustainability
2017	2
2018	8
2019	1
2020	0
2021	0

Source: Authors, 2023.

Having analyzed the meaning and context of each term identified in the Notices, it was time to study and survey the sustainable practices corresponding to the notice norm that contained the researched parameter “sust” in the terms proposed in this study and only then, the respective SDGs were examined. Based on this, Table 6 was prepared, which presents the context of the "sust" parameter in the Notice, the corresponding sustainable practice and the related SDGs.

Table 6 – Result of including the Sustainability parameter in the Bidding Notices.

N°.	2017	
01	<b>Notice Contents</b>	ANNEX 21 – REVEGETATION PROJECT [...] 3. TECHNICAL PRINCIPLES of FOREST RESTORATION [...] 3.1 Technical Principles of Ecosystem Recomposition [...] (g) Focus on self-sustainability: perhaps the best way to ensure the long-term viability of a reclaimed area is to minimize the need for ongoing maintenance of the site, such as providing artificial water sources, maintaining vegetation, or correcting frequent damage caused by natural events. The focus on constant maintenance not only adds costs to the recovery project, but also links its long-term success to human actions and financial resources, which may not always be available. In addition to limiting the need for maintenance, the focus on self- <b>sustainability</b> seeks to promote ecological integrity, as an ecosystem in good condition has a greater capacity to adapt to changes. (greater resilience)
	<b>Sustainable Practice</b>	Revegetation
	<b>Related SDGs</b>	SDG 15 - LIFE ON EARTH Target 15.2: By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests, and substantially increase afforestation and reforestation globally.  Target 15.b: Mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to promote sustainable forest management, including for conservation and reforestation.
02	<b>Notice Contents</b>	ANNEX 21 – REVEGETATION PROJECT [...] 3. TECHNICAL PRINCIPLES of FOREST RESTORATION [...] 3.2 Considerations regarding SMA Resolution No. 32/2014 Technical procedures for forest restoration, in the State of São Paulo, must consider the guidelines of SMA Resolution No. 32/2014, aiming to guarantee adequate plant biodiversity, correct selection of native species and respective successional stages and consequent increase or maintenance of genetic resources available for sustainable development, in the form of wood, fruits, forage, ornamental plants and products of food, industrial and pharmacological interest.
	<b>Sustainable Practice</b>	Revegetation/Forest Recomposition
	<b>Related SDGs</b>	SDG 15 - LIFE ON EARTH Target 15.2: By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests, and substantially increase afforestation and reforestation globally.  Target 15.b: Mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to promote sustainable forest management, including for conservation and reforestation.
N°.	2018	



03	Notice Contents	<p>DESCRIPTIVE MEMORIAL OF LANDSCAPE [...] PLANTING: [...] 1.2.7 - MAINTENANCE WEEDING Three months after planting, manual crown weeding will be used around the seedlings, to remove weeds until they reach <b>self-sustainable</b> conditions and as soon as they begin to repopulate naturally. New maintenance will be every 6 months after planting.</p>
	Sustainable Practice	Green areas
	ODS relacionado	<p>SDG 11 - Sustainable Cities and Communities Target 11.7: By 2030, provide universal access to safe, inclusive, accessible and green public spaces, particularly for women and children, older people and people with disabilities.</p>
04	Notice Contents	<p>DESCRIPTIVE MEMORIAL OF ARBORIZATION OF LEISURE SYSTEMS AND PUBLIC WALKWAYS. [...] Closing. This research work aims to promote the improvement of local environmental conditions and the quality of life of inhabitants through <b>sustainable</b> development, as it follows this project with 15 pages, making it possible to better understand this through observation of the environmental urban plan and the descriptive memorial attached to the project.</p>
	Sustainable Practice	Afforestation
	Related SDGs	<p>SDG 11 - Sustainable Cities and Communities Target 11.7: By 2030, provide universal access to safe, inclusive, accessible and green public spaces, particularly for women and children, older people and people with disabilities.</p>
05	Notice Contents	<p>Contents of the Notice  DESCRIPTIVE MEMORIAL OF THE LANDSCAPE PROJECT [...] 8.1. Prior diagnosis for cutting isolated trees, suppression of native vegetation and APP intervention [...] 8.1.4. Forest planting areas [...] The. Species selection: In accordance with SMA Resolution 32 of 04/03/2014, Section II; Art. 11; Section II; and Section IV, Art. 16, Items I, II and III, the methodology of total planting of native species was adopted, with filling and diversity species, with due monitoring being respected in accordance with the <b>sustainability</b> indicators of this Resolution. For planting, species from semi-deciduous seasonal forest and/or forested savannah (cerradão), of regional occurrence, will be considered.</p>
	Sustainable Practice	Green areas
	Related SDGs	<p>SDG 11 - Sustainable Cities and Communities Target 11.7: By 2030, provide universal access to safe, inclusive, accessible and green public spaces, particularly for women and children, older people and people with disabilities.</p>

06	Notice Contents	<p>REFORESTATION AND REVEGETATION OF GREEN AREAS/APP [...] 6 – VEGETABLE REPLACEMENT The reforestation methods or techniques to be adopted can be established based on the assessment of the degree of disturbance or degradation of the areas, as well as other factors, such as the appearance of the existing vegetation. In this case, the method to be adopted is HETEROGENEOUS REFORESTATION WITH NATIVE ESSENCES, observing resolution SMA-21, dated 11/21/2001. The process consists of planting species with different characteristics in the same area, so that they balance and complement each other, reestablishing conditions closer to primitive natural forests, obeying the principle of VEGETABLE SUCCESSION, a theory launched by BUDOWSKY (1965). Through the process, there is a progressive occupation of spaces with the use of plant species until reaching a balance (Climax), aiming for the forest's self-<b>sustainability</b>. Forest species are classified into groups according to their specific characteristics.</p>
	Sustainable Practice	Sustainable Practice
	Related SDGs	<p>SDG 15 - LIFE ON EARTH Target 15.2: By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests, and substantially increase afforestation and reforestation globally.  Target 15.b: Mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to promote sustainable forest management, including for conservation and reforestation.</p>
07	Notice Contents	<p>DESCRIPTIVE MEMORIAL OF LANDSCAPE [...] PLANTING: [...] 1.2.7 - MAINTENANCE WEEDING: Three months after planting, manual crown weeding will be used around the seedlings, to remove weeds until they reach self-<b>sustainable</b> conditions and as soon as they begin to repopulate naturally. New maintenance will be every 6 months after planting.</p>
	Sustainable Practice	Green areas
	Related SDGs	<p>SDG 11 - Sustainable Cities and Communities Target 11.7: By 2030, provide universal access to safe, inclusive, accessible and green public spaces, particularly for women and children, older people and people with disabilities.</p>
08	Notice Contents	<p>Descriptive Memorial of the Road System Afforestation Project, Revegetation and Implementation of the Green Area [...] 6. REFORESTATION PROJECT 6.1. PLANTING OF NATIVE TREES 6.1.1. Selected species The native tree species selected for planting were based on the observation of the remaining local native vegetation, characteristic of the Dense Ombrophylous Forest and already regionally adapted. The availability of seedlings in the nurseries was also used as a criterion, ensuring the viability of the project.</p>

		The species were defined as Pioneers and Non-Pioneers, according to specialized literature, aiming to implement an ecologically adequate and <b>self-sustainable</b> model. Pioneer species adapted to growth in full sun and rapid development must create adequate shading conditions and improve the physical and chemical conditions of the soil for the growth of non-pioneer species.
	<b>Sustainable Practice</b>	Revegetation/Reforestation
	<b>Related SDGs</b>	SDG 15 - LIFE ON EARTH Target 15.2: By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests, and substantially increase afforestation and reforestation globally.  Target 15.b: Mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to promote sustainable forest management, including for conservation and reforestation.
09	<b>Notice Contents</b>	DESCRIPTIVE MEMORIAL OF LANDSCAPE [...] 5- IMPLEMENTATION OF VEGETATION IN GREEN AREAS 5.1 - Soil preparation [...] 5.1.7 – Biological diversity The diversity of species in the afforestation will follow the established criteria (SMA 032/2014) guaranteeing the biodiversity of the degraded area: [...] The importance of this interaction is to guarantee the necessary sustainability between species, providing a favorable conduction of plant growth and development.
	<b>Sustainable Practice</b>	Green Areas
	<b>Related SDGs</b>	SDG 11 - Sustainable Cities and Communities Target 11.7: By 2030, provide universal access to safe, inclusive, accessible and green public spaces, particularly for women and children, older people and people with disabilities.
10	<b>Notice Contents</b>	Descriptive Memorial of the Landscaping Project [...] 6. REFORESTATION PROJECT 6.1. PLANTING OF NATIVE TREES 6.1.1. Selected species The native tree species selected for planting were based on the observation of the remaining local native vegetation, characteristic of the Dense Ombrophylous Forest and already regionally adapted. The availability of seedlings in the nurseries was also used as a criterion, ensuring the viability of the project. The species were defined as Pioneers and Non-Pioneers, according to specialized literature, aiming to implement an ecologically adequate and <b>self-sustainable</b> model. Pioneer species adapted to growth in full sun and rapid development must

		create adequate shading conditions and improve the physical and chemical conditions of the soil for the growth of non-pioneer species.
	<b>Sustainable Practice</b>	Revegetation/Reforestation
	<b>Related SDGs</b>	SDG 15 - LIFE ON EARTH Target 15.2: By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests, and substantially increase afforestation and reforestation globally.  Target 15.b: Mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to promote sustainable forest management, including for conservation and reforestation.
<b>nº</b>	<b>2019</b>	
<b>11</b>	<b>Notice Contents</b>	DESCRIPTIVE MEMORIAL OF THE LANDSCAPE PROJECT 8. FOREST RECOVERY PLAN [...] 8.1.3. Forest planting areas [...] A) Total planting: this system is normally used in areas whose original forest formation has been replaced by some highly impactful agropastoral activity, or permanent maintenance of regenerating vegetation, compromising the potential for local self-recovery, a characteristic situation of the studied area. In this arrangement adopted for the project areas, the introduced forest species are those of regional occurrence, at a spacing of 5.0 x 5.0 m for Green Areas I, II, III, IV and V and the species determined for the Leisure I and II mentioned in item 08. The species are combined according to their successional characteristics so that the initial ones promote rapid occupation of the area for initial coverage, gradually giving way to the more final species, planted interspersed with the initial phases, also promoting adaptation of the forest ecosystem to the urban environment.  The. Species selection: In accordance with SMA Resolution 32 of 04/03/2014, Section II; Art. 11; Section II; and Section IV, Art. 16, Items I, II and III, the methodology of total planting of native species was adopted, with filling and diversity species, with due monitoring being respected in accordance with the sustainability indicators of this Resolution. [...]
	<b>Sustainable Practice</b>	Revegetation/Reforestation
	<b>Related SDGs</b>	SDG 15 - LIFE ON EARTH Target 15.2: By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests, and substantially increase afforestation and reforestation globally.  Target 15.b: Mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to promote sustainable forest management, including for conservation and reforestation.

Source: Authors, 2023.

Thus, after the final analysis of the identified terms, it was possible to identify the main SDGs aligned with the public notice standards that contained the “sust” parameter in the terms of this study, as shown in Table 6. SDG 15, Life on Earth, and the SDG 11, Sustainable Cities and

Communities, stood out in the Notices, since the context of the terms in these documents was in the sense of seeking Revegetation, Reforestation, Afforestation and the inclusion and maintenance of green areas.

Zanini *et al.* (2023) investigated the contributions of the Environmental Agenda to the public administration of 11 Brazilian capitals that are signatories to the Sustainable Cities Program. The results reveal that public managers do not have specific training in the area of the environment, just as their political parties do not involve sustainability issues. In this way, the authors conclude that there is a need to formalize topics such as Sustainable Development, Sustainability and Sustainable Cities in order to dialogue with the Public Administration, as well as making planning instruments serve as a basis for municipal government management.

## 5. CONCLUSION

In 2015, the 193 countries, including Brazil, signed a global commitment to achieving the 2030 agenda, which has as one of its goals the promotion of sustainable public bidding practices, target 12.7. This Goal was included with a view to the positive impact that the Public Authorities can promote with this tool, encouraging the Market to adhere to the established sustainable objectives.

The results obtained by the study indicate little progress in the inclusion of sustainability parameters that mention the achievement of the SDGs. The parameter “sustainability”, in the sense of responsible use and management of natural resources, was included in the bidding notices in the context of reforestation, revegetation, afforestation or inclusion and maintenance of green areas. However, its connection with the achievement of the SDGs was not directly verified in the Notices.

Even though the express inclusion of the requirement to comply with the SDGs in the bidding documents was not verified, the “sustainability” parameter in the environmental sense made progress in 2018. It is necessary to promote the responsibility of public purchases, avoiding unnecessary ones and encouraging the acquisition of sustainable products and services.

However, it is necessary for public bodies to resume and intensify their actions towards sustainable development, including sustainability requirements in their contracts, in order to contribute to the global environmental agenda.

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## REFERENCES

- BRASIL. [Constituição (1988)]. **Constituição da República Federativa do Brasil**. Brasília, DF: Presidência da República. Available at: [https://www.planalto.gov.br/ccivil\\_03/constituicao/ConstituicaoCompilado.htm](https://www.planalto.gov.br/ccivil_03/constituicao/ConstituicaoCompilado.htm). Accessed on: 11 Oct. 2022.
- BRASIL. Lei nº 14.133, de 1 de abril de 2021. Lei de Licitações e Contratos Administrativos. **Diário Oficial da União**, Brasília, DF, 10 jun. 2021.
- BRASIL. Lei nº 8.666, de 21 de junho de 1993. Regulamenta o art. 37, inciso XXI, da Constituição Federal, institui normas para licitações e contratos da Administração Pública e dá outras providências. **Diário Oficial da União**, Brasília, DF, 22 jun. 1993.
- BRASIL. Lei n. 12.527, de 18 de novembro de 2011. Regula o acesso a informações previsto no inciso XXXIII do art. 5º, no inciso II do § 3º do art. 37 e no § 2º do art. 216 da Constituição Federal; altera a Lei nº 8.112, de 11 de dezembro de 1990; revoga a Lei nº 11.111, de 5 de maio de 2005, e dispositivos da Lei nº 8.159, de 8 de janeiro de 1991; e dá outras providências. **Diário Oficial da União**, Brasília, DF, 18 nov. 2011.
- CDHU. **Busca Licitação**. São Paulo, 2022. Available at: [https://app.cdhu.sp.gov.br/Licitacoes/busca\\_internet.aspx](https://app.cdhu.sp.gov.br/Licitacoes/busca_internet.aspx). Accessed on: 20 Nov. 2022.
- COSTA, B.B.F.; MOTTA, A.L.T.S. O papel da administração pública no fomento ao consumo e produção sustentável. **Revista Technol. Soc.**, Curitiba, v.16, n.40, p.1-19, 2020.
- IMPRESA OFICIAL. Diário Oficial. **e-negociospublicos: Busca por concorrências, concursos, convites, pregões, tomadas de preço, leilões, dispensas**. São Paulo, 2022. Available at: [https://www.imprensaoficial.com.br/ENegocios/BuscaENegocios\\_14\\_1.aspx#23/11/2022](https://www.imprensaoficial.com.br/ENegocios/BuscaENegocios_14_1.aspx#23/11/2022). Accessed on: 23 Nov. 2022.
- IPCC. **Climate Change 2022: Impacts, Adaptation and Vulnerability**. Genebra, 2022. Available at: <https://www.ipcc.ch/report/ar6/wg2/>. Accessed on: 23 Nov. 2022.
- IPEA. Cadernos Brasil na OCDE: Compras Públicas. Rio de Janeiro, 2021. Available at: <https://www.portaldaindustria.com.br/publicacoes/2021/3/compras-publicas-na-ocde/>. Accessed on: 23 Ago. 2022.
- MASTRODI, J.; BRITO, B.D.C. Licitações públicas sustentáveis: vinculação ou discricionariedade do administrador? **RDA: Revista de direito administrativo**, Belo Horizonte, n.274, p.81-112, 2017.
- OCDE. **Government at a Glance 2021**, OECD Publishing. Paris, 2021. Available at: <https://doi.org/10.1787/1c258f55-en>. Accessed on: 23 Ago. 2022.
- ONU. **Global Sustainable development report: 2015 Edition Advance Unedited Version**. United Nations. New York, 2015. Available at: <https://sdgs.un.org/publications/global-sustainable-development-report-2015-advance-unedited-version-gsdr-2015-17874>. Accessed on: 11 Out. 2022.
- UNEP. **2020/2021 Data Collection for SDG Indicator 12.7.1: Main Results and Conclusions from the First Reporting Exercise**. Nairobi, 2021. Available at: <https://wedocs.unep.org/20.500.11822/37967>. Accessed on: 11 Out. 2022.
- UNEP. **2020 Global Status Report for Buildings and Construction: Towards a zero-emissions, efficient and resilient buildings and construction sector**. Nairobi, 2020. Available at: [https://globalabc.org/sites/default/files/inline-files/2020%20Buildings%20GSR\\_FULL%20REPORT.pdf](https://globalabc.org/sites/default/files/inline-files/2020%20Buildings%20GSR_FULL%20REPORT.pdf). Accessed on: 11 Out. 2022.
- UNEP. **Considerações e Recomendações Para as Compras Públicas Sustentáveis no Brasil: Projeto Sustainable Public Procurement and Ecolabelling (SPPEL)**. Rio de Janeiro, 2016. Available at: <https://wedocs.unep.org/handle/20.500.11822/37036>. Accessed on: 11 Out. 2022.
- ZANINI, P.H.; PEREIRA, A.W.; PEREIRA, R.S. Cidades Sustentáveis e a Agenda Ambiental na administração pública brasileira. **RISUS: Journal on Innovation and Sustainability**, São Paulo, v. 14, n. 2, p. 4-19, 2023.