

# Chapter 13

## From Green to Social Procurement



Laura Carpineti

**Abstract** Public procurement has recently been considered one of the key actors for achieving sustainable goals and contributing to mitigation and adaptation policies against climate change. In fact, public procurement effectively could play this key role, due to his huge impact on global GDP.

This chapter shows that public procurement is at a mature level in achieving green products, but there is still a long road ahead when adopting public procurement to enhance effective equal rights and to protect minorities. In fact, if green procurement is at an advanced stage of the process, since there are solid international recognized standards and a huge set of tools for monitoring results, it is still difficult for public authorities awarding contracts to verify that contracts respects human rights and work conditions belong the whole supply chain via public procurement, due to lack of specific competences, the high costs of monitoring, and few international standards.

The chapter, after a deep description of tools in greening products works and services, emphasizes how to abate barriers via social procurement, giving best practices at international level for evaluating competitors in a sustainable way. Finally, some recommendations are given to policy makers in order to set up a sort of revolution of “sustainable procurement.”

### 13.1 Introduction

All public institutions globally, from international institutions to local municipalities, are stressing in recent years the role of public procurement policies in achieving tangible sustainability results against climate change (Arrowsmith et al., 2000).

So, since the meaning of sustainability in public procurement, in the past, was addressed by governments and by public procurers only to green aspects and to

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L. Carpineti (✉)  
Martino & Partners—University of Milan, Milan, Italy  
e-mail: [laura.carpineti@martinopartners.com](mailto:laura.carpineti@martinopartners.com)

legal “battles” and rules to face corruption, today public procurement seems to be recognized as a key element for implementing mitigation and adaptation policies.

Effectively, public procurement plays a crucial role in contributing to the international Gross Domestic Product (GDP): the OECD estimates that 12% is the amount spent in OECD countries on public procurement. Moreover, looking at the European borders, the estimated value of tenders published in TED, in 2017, amounts to 545.4 billion euros.

It seems no coincidence that the World Bank, one of the largest worldwide institutions providing grants for developing programs via public procurement, launched its “Climate Change Adaptation Program.”

Furthermore, according to the World Bank, public procurement is a necessary strategic instrument of development to promote good governance and to implant effective and efficient use of public resources. Thus, public procurement is a crucial component of democratic governance, poverty reduction, and, especially for the purpose of this book, sustainable development (Valaguzza, 2016; Schooner & Speide, 2020; Fontana et al., 2020). Additionally, the literature talked about “Global Revolution,” referring to regulation of public procurement as a global phenomenon, in which states adopt formal rules to award contracts in order to promote domestic objectives. As an example, the emerging economies of China and Indonesia, also with the support of international aid, implemented a new regulatory system on public procurement.

Besides the recognized importance of public procurement at an economical level, in the past two decades public procurement also started to be considered worldwide as a key factor for the promotion of sustainability, in parallel with the new change of perspective of sustainability that moved in the private sector. If in the past sustainability was considered simply as a set of philanthropic activities, nowadays sustainably enters into the business strategies, with possible negative consequences in case of overlooking.

Simultaneously, concepts of protection of the environment and safeguarding the community advanced also in public procurement strategies.

As we will see, public procurement can effectively enhance the acquisition of products, services, and infrastructures with a lower environmental impact (then supporting mitigation and adaptation strategies) and, at the same time, internalize social distortions connected to the supply chain. Moreover, the most far-sighted public authorities can effectively enhance competition, quality, and sustainability by setting goals and adopting flexible contracts and efficient supply relationship management (Trepte, 2004; Valaguzza, 2018; Klinger, 2020).

The United Nations provides the following definition of sustainable procurement: (UN, 2021). “Procurement is called sustainable when it integrates requirements, specifications and criteria that are compatible and in favor of the protection of the environment, of social progress and in support of economic development,

namely by seeking resource efficiency, improving the quality of products and services and ultimately optimizing costs.” And more: “Sustainable procurement means making sure that the products and services we buy are as sustainable as possible, with the lowest environmental impact and most positive social results.”

For instance, if we consider that modern slavery affects over 45.8 million people in 167 countries, public procurement can request to suppliers to preserve human rights at work, for example, child labor, health and safety, working hours, remuneration, etc.

For this reason, it is important to consider public procurement as an active and strategic tool to face climate change. In this regard, the European Green Deal states that “the EU’s trade policy facilitates trade and investment in green goods and services and promotes climate-friendly public procurement (...) Public authorities, including the EU institutions, should lead by example and ensure that their procurement is green. The Commission will propose further legislation and guidance on green public purchasing.”

In fact, the strategic sectors individuated by the EU Green New Deal Communication (European Commission, 2019) for transforming the economy will affect also public procurement activities, such as

- Supply clean, affordable, and secure energy: public procurement for innovation
- Mobilize industry for a clean and circular economy: evaluating offers in terms of LCC
- Build and renovate in an energy and resource-efficient way: public procurement of infrastructures and public buildings
- A zero-pollution ambition for a toxic-free environment: procurement of green busses
- From farm to fork: procurement of catering services for schools and hospitals

In the next paragraphs, we will see how public buyers may enhance the transition and contribute to a successful mitigation and adaptation policy to climate change.

## **13.2 Toolkit for Understanding Sustainability in Public Procurement**

Before starting the discussion about sustainable procurement as a key element for implementing mitigation and adaptation policies to climate change, it is crucial to introduce three key concepts that are strictly connected to the procurement process and that must be recognized in order to better appreciate the ensuing paragraphs. These concepts are supply chain, LCC, and circular economy (Lee, 2021).

### 13.2.1 *Supply Chain*

According to the definition given by Chartered Institute of Purchasing Management (CIPS 2020 web page: “What is a supply chain?”): “A Supply Chain is a focus on the core activities within our organization required to convert raw materials or component parts through to finished products or services.”

Commonly, the supply chain can be defined as a “to-do list” of activities within an organization, required to convert raw materials into finished products, works, or services. This transformation process from raw materials to delivery to final consumers involves the procurement sector as well. More precisely, the procurement sector has the role of selecting, in the supply chain model, subcontractors and raw materials in order to assure the best quality at the lowest prices by fixing adequate Service-Level Agreements (SLAs).

Indeed, supply chain models involve several stakeholders: the consumers, which in the public procurement sector consist in the public authority that purchases for itself or for the community, the retailers, the carriers, the suppliers, the subcontractors, and the transformers of raw materials.

It is important to stress the fact that any single product category has a different supply chain. Actually, it is crucial to keep in mind that to enhance a sustainable procurement system means to analyze in depth any single segment of the supply chain in order to achieve energy transition, transparency, and equitable working conditions. In the following paragraphs, we will see how difficult it is to monitor the supply chain, including actors contributing to the realization and distribution of a commodity in terms of sustainability, with particular regards to the respect of disadvantaged categories.

### 13.2.2 *Life-Cycle Costing (LCC)*

Life-cycle costing (LCC) was adopted for the first time in history in 1966 in the United States by the Department of Defense. LCC was applied in the procurement of military equipment as the acquisition costs only accounted for a small part of the total cost for the weapons systems, while operation and support costs comprised as much as 75% of the total.

LCC means to consider all the costs that will be incurred during the lifetime of the product, work, or service, such as purchasing price, delivery price, installation price, insurance, operating costs, including energy, fuel, and water use, spares, end-of-life costs, such as decommissioning or disposal, and residual value, namely the revenues from sale of product (Perera et al., 2009; Estevan & Schaefer, 2017).

Therefore, when procuring a commodity, it is incorrect in terms of LCC to take into account only the purchasing price. Differently, a strategic buyer should carefully analyze the costs generated by the life of each product, starting from the purchasing phase until the decommissioning one.

Thus, also from the perspective of the European Commission, “by applying LCC, public purchasers take into account the costs of resource use, maintenance and disposal which are not reflected in the purchase price” (European Commission, 2021c).”

Furthermore, LCC may also include the cost of externalities such as greenhouse gas emissions and water pollution. Only by including these externalities into the LCC analysis is it possible to adopt this tool as an “environmental measure” of impacts of commodities acquired.

Economists Gluck and Bauman (Gluch & Baumann, 2004) stated that traditional LCC does not become an environmental tool just because it contains the words “life cycle.” It cannot be adopted only to analyze past, present, and future costs in order to choose the most cost-effective option, but it must also include the environmental impacts by “internalizing” the cost associated to pollution and to sustainability.

### ***13.2.3 Circular Economy***

The current economic growth was powered by a linear “take, make, waste” model of commodities. However, this model has become unsustainable in a system of limited raw materials that is experiencing a continuous environmental degradation. The response to this problem is the adoption of a new model, named “circular economy,” as the sustainable answer to decoupling continued economic growth.

This sustainable model aims at eliminating wastes and increasing productivity by focusing on the “reuse” and “recycling of materials” instead of their waste, the design of products to emphasize longevity and repair, and the creation of new business models including the sharing economy and the development of local closed-loop systems. In other words, a product that is considered as waste in the linear economy becomes a raw material in the circular model.

As we will analyze in depth in Sect. 13.5.2, the concept of circular economy may be a key point element for comparing suppliers when making a tendering procedure.

## **13.3 Green and Social Procurement: The State of the Art**

### ***13.3.1 Sustainable Procurement: Respect of the Environment and of the Community***

Sustainable procurement encompasses both green procurement and social procurement. According to the importance of the procurement expenditure over GDP, it can be a strategic tool for public administrations in putting in action mitigation and adaptation policies against climate change. In several international organizations, we saw a progressive increase in the interest of adopting public procurement as a

policy tool. In fact, public procurement plays not only the role of addressing the critical question of climate change, but it can also increase in developing countries the issues of fair working conditions and fair-trade public contracts. In fact, multi-lateral donors and international organizations lead state-aid procurement initiatives to support countries implementing effective reforms of their systems (La Chimia & Trepte, 2019). When discussing sustainable procurement, green procurement and social procurement are often associated. Nevertheless, the two concepts have completely different meanings (Arrowsmith & Kunzlik, 2009).

In fact, it is possible to launch a green procurement procedure without considering any social aspect, and vice versa.

As an example, a purchasing authority can procure the greenest smartphone in terms of consumption and duration of the battery, thus reaching the green goal by protecting the environment without considering the labor rights-related aspect of the extraction of the raw materials (such as coltan) that is needed to produce the electronic components of the devices.

Differently, the same purchasing authority requiring a supply of tomatoes may impose the respect of labor rights of the workers from the economic operators, but neglect to set environmental specifications in the tender documents (e.g., the ban on products grown with the use of pesticides).

For this reason, it is important to distinguish between the two different ambits. Green public procurement means paying attention to the environmental impact of a product, service, or work throughout the whole supply chain. Conversely, social procurement means paying attention to an equal and inclusive process with reference to disadvantaged categories of firms or people. Consequently, a public buyer must consider social and green procurement equally central in the designing of a procurement strategy oriented to climate change mitigation and adaptation.

Sustainable procurement may be thus intended as the intersection of (a) economics (products, services, and works being economically affordable), (b) environment (products, services, and works respecting the environment), and (c) social requirements (products, services, and works safeguarding health and security of the community and of workers) (Ethics & Sustainability in Procurement, 2019).

However, it is crucial to admit that, nowadays, green procurement is rapidly advancing; at least in developed countries, a lot of work remains to be done in terms of social and inclusive procurement.

In fact, purchasing authorities have several tools and methodologies to evaluate the carbon footprint, the water footprint, or other ecological impacts of a commodity, linked to green standards, likely labels, and certification systems. Differently, in terms of respect to social aspects, the public buyer does not have enough knowledge and tools at this moment to evaluate economic operators in terms of social impact of their products, although some interesting examples can be observed internationally (see Sect. 13.7).

With this conceptual premise, it is possible to look at the procedural sequence of social and green procurement.

### ***13.3.2 Standards in Procuring Green and Social Solutions***

When defining sustainable procurement, a useful tool that can be easily adopted by procurers is the request of labels, assuring, by the audit of third independent authorities, that the procuring goods is made by respecting some standards in terms of environment or in terms of social aspects.

As an example, the purchasing authority can evaluate suppliers offering a specific good or service in terms of the possession of the certification “ISO 45001,” the international standard for occupational health and safety management. The title by the supplier of this process certification assures that he improves occupational health and safety management, eliminates hazards, and minimizes risks for his workers (ISO 45001:2018, 2021).

Another example of standard assessing social procurement is the SA8000, based on internationally recognized standards of decent work, including the Universal Declaration of Human Rights. (SA8000, 2021)

Among the most important standards in evaluating the environmental impacts of a production process is the certification ISO 14001:2015. This international standard assesses (ISO 14000, 2021) “environmental responsibilities in a systematic manner that contributes to the environmental pillar of sustainability,” consistently with SDG nos. 1 (no poverty), 2 (zero hunger), 3 (good health and well-being), 4 (quality education), 6 (clean water and sanitation), 7 (affordable and clean energy), 8 (decent work and economic growth), 9 (industry, innovation, and infrastructure), 12 (responsible consumption and production), 13 (climate action), 14 (life below water), and 15 (life on land).

Another interesting experience of procuring standards is the one promoted by the Italian Antitrust Authority (Italian Antitrust Authority, 2021) that goes under the name of “Transparency Rating.” The rating consists of a “label” given by the Authority to those Italian companies respecting some minimal parameters in terms of anticorruption measures and transparency. The label opens from the rating of 1 star till a maximum of 3 stars. According to the Italian legal framework on public procurement, the transparency rating can be adopted by procuring authorities to compare suppliers in technical terms (see Sect. 13.5.2).

As this example demonstrates, evaluating suppliers and ranking them in terms of the possession of governmental and/or private international sustainable standards can be adopted by purchasing authorities in order to implement their sustainability goals, and, on the other hand, to stimulate the market to be more sustainable (De Grauwe, 2017; Kelman, 1990).

### 13.4 Enhancing the Transition: Procuring Innovation

Innovative public procurement is famously defined as follows: “When a public agency acts to purchase, or place an order for, a product—service, good or system—that does not yet exist, but which could probably be developed within a reasonable period of time, based on additional or new innovative work by the organization(s) undertaking to produce, supply, and sell the product being purchased” (Edquist et al., 2000).

In order to provide a very simple and intuitive example, the purchasing authority asks for innovative procurement to develop a product, a service, or an innovative infrastructural system or mechanism that has not been invented, designed, or made operational yet.

The basic principle of innovative procurement is to let the suppliers compete on the idea behind the achievement of the results by

- Making a competitive procedure: fixing the needs to be satisfied without describing the specification behind the needs. The market will offer the better innovative solution fitting the need.
- Giving a monetary prize to competitors in order to stimulate them to submit their best innovative idea.

It is quite evident the impact that innovative procurement may have in mitigation and adaptation policies to climate change: innovative procurement is a tool given to the public authorities, at any level, for “pushing” the market in exploring new solutions of solving environmental and/or social constraints (Edler & Georghiou, 2007; Trybus, 2006; Thai & Piga, 2007).

Considering the starting point for achieving the result of innovative solutions, there are different legal instruments that can be adopted in innovative public procurement.

In particular, the most used and common tool among purchasing authorities and European level are public procurement of innovative solutions (PPI) and pre-commercial procurement (PCP) (European Commission, 2021a, b). The first one is aimed at strengthening an already existing innovative solution—for example, at prototype level—which is not yet available on a large-scale commercial basis. The second one is usually adopted when the solution does not exist yet: PCP enables public procurers to compare alternative potential solution approaches in Research and Innovation (R&I) and filter out the best possible solutions that the market can deliver to satisfy the public need.

Considering that innovative procurement can push the market to offer new solutions to face climate change, the European Union has been increasingly promoting this practice in the last decade, also with substantial grants pertaining to the Horizon 2020 package.

An interesting example is an EU-funded project named “4Cities,” which brings together six leading European cities looking for artificial intelligence (AI) solutions



to accelerate carbon neutrality. In December 2020, AI4Cities launched its international request for tenders to go through a pre-commercial procurement to acquire innovative solutions in the fields of energy and mobility. These solutions should use artificial intelligence or other enabling technologies—such as big data applications, 5G, edge computing, and IoT—and contribute to the reduction of CO<sub>2</sub> emissions in the six cities and regions participating in the project.

As previously anticipated, this tendering procedure gives a very clear example of designing “functions” that are requested to the market in terms of submitting innovative solutions to “fill the gap.” The tendering documentation describes the following functions:

- Function 1: CO<sub>2</sub> emissions reduction—The solution has potential to reduce CO<sub>2</sub> emissions in the city where it’s deployed.
  - Requirements (must have): 1.1 The solution reduces CO<sub>2</sub> emissions in the field of mobility and/or energy. 1.2 Methodology for measuring the emission reductions.
  - Requirements (nice to have): 1.3 Estimation of how much the solution reduces CO<sub>2</sub> emissions including a detailed description of what that estimation is based on.

A second example that is interesting to present for its social outcomes is the “e-Care” project, which aims at delivering disruptive digital solutions for the prevention and comprehensive management of frailty, through the implementation of a pre-commercial procurement scheme.

From an analysis of the examples given, it emerges that innovative public procurement requires the acquisition of advanced technical expertise before the formal procurement phase in order to assess market difficulties to join the innovative solutions.

Undoubtedly, when the contracting authority lacks such experience in the subject matter of the innovative contract, the preliminary market consultation phase plays the pivotal role of effectively and efficiently qualifying innovative procedures.

In this context, it is interesting to mention the experience on procurement for innovation that was recently auctioned by an Italian municipality located in Sardinia (Municipality of Fonni): the goal of the innovation procurement was the development of new technologies for economic and energy traceability and optimization of the solid waste life cycle. The procurement procedure was anticipated by a preliminary open market consultation phase, which gave to the municipality the opportunity of reaching the following results: innovation and modernization in the management system of public services, increase of the percentage of differentiated waste collection, optimization of the management process and delivery of wastes, increase in the level of satisfaction of the citizen, enhanced transparency and full involvement of the Citizens, and amelioration of the urban decorum.

## 13.5 Evaluate Suppliers' Performance for a Sustainable Procurement

Public demand has the power of steering the market toward the satisfaction of needs. For this reason, if public procurement addresses the market to offer progressively more sustainable products and services, it can effectively enhance climate mitigation through public procurement policy.

Purchasing authorities can generally award a public contract based on three alternative criteria: the “lowest price” criterion, the “most economically advantageous tender,” and the quality criterion at a fixed cost.

### 13.5.1 *The Lowest Price Criterion*

Professors Schooner and Markus Speide, in a recent article published by the George Washington University law school, sentenced that “successfully establishing a sustainable procurement regime will require dramatic change, including, among other things, overcoming the persistent tyranny of low price” since procurement professionals are “obsessed” by savings on their annual budgets (Schooner & Speide, 2020).

Starting from the analysis of implications in choosing the lowest price criterion, this mechanism, basically, scores different offers only in terms of savings that the public authority may achieve. This awarding criterion is generally used when the product categories to procure are standardized or do not forecast innovation processes (e.g., printing paper; see Carpineti et al., 2006).

For instance, the purchasing authority choosing to buy a certain commodity (e.g., stationery) can impose to “green” the delivery service of orders by obliging the supplier to use only electric vehicles or bicycles. In addition, it can be requested that products delivered (pens, notebooks, paper for printers, etc.) must possess standards, likely eco-labels and eco-certifications.

The adoption of the lowest price criterion can also guarantee to achieve a minimum level of social procurement. Continuing with the example of the stationery, the buyer can decide, in the tendering procedure designing, to invite only those suppliers certified with SA8000 (see Sect. 13.3.2). It means that only certified suppliers could make an offer.

Additionally, social criteria can be added in the framework contract: the supplier awarding the contract is obliged to monitor if their subcontractors respect the minimal salary conditions of their employees.

Nevertheless, it is necessary to stress that the choice of defining a scoring rule based on price must be accompanied by a sound market analysis (see Sect. 13.6). Without a deep knowledge of the market, the risk for the purchasing authority is to fix compulsory requirements in terms of service-level agreement or in terms of technical specifications, which significantly reduces the number of participants and, thus, the competition level.

If, for instance, the procurement authority designed a participation requirement based on SA8000, and only one firm possessed this specification in the relevant geographical area, during the procurement process, the results would be to receive only one offer replying to the tender, probably with a poor result in terms of discount.

Additionally, it is also possible to consider the case of absence of economic operators able to respond to the tendering procedure, given that the admission criteria are achievable by no one. Under this circumstance, there is an evident loss of efficiency since the purchasing authority is obliged to redesigning the technical specifications and to reopen the competitive phase.

In conclusion, we must conclude that, on the one hand, a competition among suppliers based on price only can certainly guarantee the achievement of some results in terms of green and social procurement since there are compulsory and fixed SLA and technical specifications that the winning supplier is obliged to guarantee. Nevertheless, on the other hand, competitors submitting their offer during the tendering phase are not incentivized to offer higher quality since they are only evaluated in terms of price reduction from the reserve price.

### ***13.5.2 Criteria Based on Evaluation of Quality***

The second criteria that can be chosen to compare offers during a tendering procedure are those based on a comparison of price for the quality.

Then, the procurement authority can choose to score offers by mixing technical points and economical points, assigned to competitors on the basis of the quality and the price offered. Continuing with the example of procurement of paper for printers, the buyer could design the tendering procedure by assigning a maximum of 30 points to the best price and a maximum of 70 points to the quality.

Therefore, starting with the analysis of price evaluation, the lowest price obtains 30 points, and worst prices, offered by the other competitors, achieve proportionally less economical points because of a scoring rule defined in the tendering documentation.

For example, the purchasing authority can define the following scoring rule:

$PE = 30 \text{ points} * (\text{lowest price}/\text{price offered})$ .

Supplier A offers 30\$; supplier B offers 90\$; supplier C offers 50\$. The lowest price is equal to 30\$. So:

- Supplier A achieves the following economical points: 30 points  
 $*(30\$/30\$) = 30 * 1 = 30$  points.
- Supplier B achieves the following economical points: 30 points  
 $*(30\$/90\$) = 30 * 0.75 = 10$  points.
- Supplier C achieves the following economical points: 30 points  
 $*(30\$/50\$) = 30 * 0.60 = 18$  points.

In addition, suppliers are scored based on the quality of the offered product. For example, the purchasing authority designs the following subcriteria to assign the total amount of 70 points:

- 20 of them are achieved by the competitors involving women in their organizational process for delivering the contract at managerial level
- 10 points are assigned to products/services reducing the CO<sub>2</sub> emissions during the life-cycle costing
- 10 points are assigned to suppliers that better implement an effective health and safety system to reduce the risks of workers
- 10 points are assigned to the carbon footprint of the paper
- 10 points are assigned to firms offering products carrying eco-labels and other recognized sustainable certifications
- 10 points are assigned to firms having the SA8000 certification

According to the given example, it is immediately clear that the risk to reduce the competition because of restrictive admission criteria and technical specifications, given by the lowest price criterion, is mitigated by the most economically advantageous offer criterion.

In fact, according to the previous example, the purchasing authority does not oblige suppliers to possess the SA8000 certification in order to participate but gives a prize in terms of technical points to the bidders possessing it. This means that bidders without certification can make an offer, but they will not obtain the 10 points promised to the SA8000.

So, on the one hand, the purchasing authority loses the certainty of a winning certified supplier because it may happen that the winner does not have the certification of interest, but, on the other hand, it can afford the goal of augmenting participation and competition in offering additional quality.

As a consequence of adopting the scoring rule of MEAT, bidders are effectively “pushed” to offer quality instead of simply reducing the price since higher quality means higher number of points.

Coming back to the example of suppliers A, B, and C, we can imagine that, after the evaluation of the purchasing authority,

- A achieves 20 technical points
- B achieves 75 technical points
- C achieves 70 technical points

Adding the technical points to the economical ones, the result is A = 30 economical points + 20 technical points = total score: 50 points; B = 10 economical points + 75 technical points = total score: 85 points. C = 18 economical points + 70 technical points = 88 points.

So, C is the winning supplier since it achieves the highest total score. In contrast, in the scenario of the lowest price the results would have been the opposite, with supplier A winning the contract at the lowest price.

For this reason, the recent legal framework in Europe emphasized to give priority to the adoption of the most economically advantageous tender.

Then, leaving aside the criterion of lower price, it is important to stress that, during the tendering procedure, the comparison of offers largely based on quality aspects is, for purchasing authorities, a strategic tool for promoting environmental and social sustainability, and then for implementing mitigation and adaptation policies to climate change.

In addition, scoring the suppliers not only in terms of price offered, but also in terms of additional quality can incentivize them to invest in innovation instead than in lowering the price.

### ***13.5.3 Quality Criterion at a Fixed Cost***

The third criteria are the one based on quality only. This criterion fixes the price in the tendering documentation and reports it into the final contract without any reduction or discount. Therefore, the suppliers are evaluated only in terms of higher quality offered.

Coming back to the example of Sect. 13.5.2, adopting this scoring rule, the supplier C would have been the winner, achieving 75 technical points, against A with 20 points and C with 70 points.

### ***13.5.4 How to Design Evaluation Criteria for Assessing Sustainability***

Once defined the choice of adopting criteria 2 and 3, the MEAT and the fixed price, the subsequent strategic choice that should be made by the procuring entity is the definition of items to be evaluated.

The awarding criteria shall be set on the basis of two important features:

- Items' objective and indexes of an effective competition among suppliers
- Items closely related to the object of the contract in order to ensure conditions of transparency, nondiscrimination, and equal treatment

For this reason, it is crucial to point out that awarding criteria based on evaluation of quality are necessarily linked to the evaluation of LCC (see Sect. 13.2.2).

As an example, the purchasing authority wishes to move from fossil fuel electricity consumption to electricity 100% based on renewable primary energy. Public procurement strategy offers two solutions to solve the problem. The first one is based on the lowest price. So, the tendering procedure defines as a minimum quality requested 100% of renewable electricity and suppliers are forbidden to offer electricity based on fossil fuel energy. But we already said that this solution can be chosen only if the market is ready to reply to the request. If we assume, hypothetically, that the market is not ready to offer this product, the solution is the MEAT or

the fixed price criterion. This new strategic choice elicits the suppliers to win the contract to offer renewable energy.

### 13.6 Preliminary Market Consultation

Before launching any tendering procedure intended for asking the market to concur under certain specifications and tendering rules, it is crucial that public procurements have a clear and sound knowledge of the needs that must be satisfied and of the potentially interested suppliers. Indeed, before launching the official tendering procedure, it is strongly recommended to open a preliminary market consultation.

Undeniably, throughout the preliminary market consultation, public buyers get a better knowledge of the market structure, the available technologies and services, and, especially, the innovation level of the market in satisfying specific needs linked to sustainable and social procurement.

As an example, moving back to the designing strategy of designing technical specifications to be fixed, it is imperative to know if a determined parameter is achievable only by a restricted number of suppliers, or, gravely, by a unique competitor. In fact, the public purchaser, in fixing a specification possessed by a single supplier within the relevant market as entry access, automatically generates a monopolistic state.

On the other side, the only supplier that is able to meet the criterion can rationally choose not to offer a discount to the purchasing authority.

In order to avoid the risk of designing a procurement strategy that reduces competition and/or does not answer to the needs of the contracting authority, the preliminary market consultation assesses whether the preliminary strategy of procurers elaborated on the basis of needs analysis only is reasonable for the market under a technical and economic point of view. More precisely, a sound and well-designed preliminary market consultation can guarantee the assessment of an effective competition in the market, with an adequate number of firms responding to the desired requisites fixed by the public buyer.

The adoption of a preliminary market consultation phase is particularly necessary and recommended when the purchasing authority must launch complex public procurement requests for quotations.

In fact, the importance of a preliminary market consultation is strategic in order to assess if the market already elaborated solutions that are sufficient to satisfy the needs of the purchasing authority. In other words, to launch a complex tendering procedure without a previous interaction with the market may generate negative effects in terms of loss of direct and indirect costs.

Under the EU Directive on public procurement, it is necessary to keep in mind that the preliminary market consultation must guarantee the respect of transparency and fair competition principles. In fact, Art. 40 of the EU Directive n. 24/2014 states that “before launching a procurement procedure, contracting authorities may conduct market consultations with a view to preparing the procurement and informing

economic operators of their procurement plans and requirements. For this purpose, contracting authorities may for example seek or accept advice from independent experts or authorities or from market participants. That advice may be used in the planning and conduct of the procurement procedure, provided that such advice does not have the effect of distorting competition and does not result in a violation of the principles of non-discrimination and transparency.”

This result can be operationally achieved by putting in action the following methods:

- To set up online platforms for communicating the initiative to the market and guarantee transparency principles
- To adopt desk-based contacts, usually in the form of a questionnaire for economic operators
- To do telephone interviews, based on standard questions, possibly conducted by a third party to ensure equal treatment
- To organize live events at which economic operators are invited to participate
- To report activities on the results of market consultation to the website in order to guarantee transparency

## **13.7 Abating Barriers with Social Procurement**

Aiming at maximizing the best value for money, public procurement has an implicit conflict with social and labor goals: internalizing costs of decent work conditions and inclusion of disadvantaged categories may “damage” the economic efficiency of the procurement process, and, then, it may increase costs and reduce competitiveness in the market. The next sections explore how disadvantaged categories may be beneficiary of a sustainable procurement practice (Kashiwagi & Savicky, 2003; Storteboom et al., 2017).

### ***13.7.1 Small- and Medium-Size Enterprises***

Small- and medium-size enterprises are universally recognized as a “disadvantaged group” with regard to access to public contracts. Only in Europe SMEs represent 99% of all businesses in the European Union.

The trend is similar in the United States, where small businesses consist of two-thirds of all new jobs in recent decades. Small businesses account for 98% of all identified US exporters and support nearly 4 million jobs in communities across America through both direct and indirect exports.

Consequently, the European Union and the United States are strengthening the cooperation to enhance the participation of SMEs in trade between the United States and the European Union.

Once again, public procurement, in terms of sustainability, can do its part in supporting SMEs to access public contracts. According to the present scenario, we can argue that the United States set up a legal framework that surely incentivizes SMEs to negotiate with the public sector. The most common program is known as the Small Business Administration Act, (Office of the United States Trade Representative-Executive Office of the President, 2021). Enhanced in 1953, and that, as we will see later on, over the years, extended the concept of supporting small business as prime contractors and subcontractors, also to women-owned small businesses, small disadvantaged businesses, service-disabled veteran-owned small businesses, and small businesses located in historically underutilized business zones.

In practical terms, the federal government encourages small businesses to take on contracting opportunities, and each federal agency has a statutory annual goal for awarding at least 23% of prime contracts for small businesses.

Unfortunately, at the present date, the legal European framework on public procurement in favor of the SMEs is still at an embryonal level if compared to the SBA. Even if the European Directives consider SMEs crucial for the economic sector, there are no effective solutions to reserve contracts to SMEs. At the moment, purchasing authorities are recommended to split their contracts into lots in order to enhance the access to those contracts to SMEs.

The EU Directive n. 2/2014 states that “Member States should remain free to go further in their efforts to facilitate the involvement of SMEs in the public procurement market, by extending the scope of the obligation to consider the appropriateness of dividing contracts into lots to smaller contracts, by requiring contracting authorities to provide a justification for a decision not to divide contracts into lots or by rendering a division into lots obligatory under certain conditions. With the same purpose, Member States should also be free to provide mechanisms for direct payments to subcontractors” (see Whereas n. 78).

However, this legal framework does not force the public sector to reserve a portion of contract exclusively to SMEs, as has been done in the United States for decades.

### ***13.7.2 Gender Equality***

As already discussed, public procurement policies can enhance sustainability and equity toward disadvantaged groups, such as the access of women to business. Taking into account the 17 Sustainable Development Goals (SDGs), fixed in 2015 by the United Nations, Goal no. 5 is addressed to gender equality (United Nations Department of Economic and Social Affairs, 2021): “Achieve gender equality and empower all women and girls”: “Gender inequalities are still deep-rooted in every society. Women suffer from lack of access to decent work and face occupational segregation and gender wage gaps. In many situations, they are denied access to basic education and health care and are victims of violence and discrimination. They are under-represented in political and economic decision-making processes.”



Indeed, the international community unanimously recognizes that women, with respect to male counterparts, regularly encounter supplementary difficulties because of social, economic, cultural, and/or legal discrimination against women.

Data retrieved from the United Nation website show that

- 35% of all SMEs are owned by women
- Women-owned SMEs produce around 20% of GDP
- 8–10 million of formal SMEs in emerging markets are owned by women, which represents 31–38% of all formal SMEs in those markets
- If women played an identical role in labor markets to that of men, as much as USD 28 trillion, or 26%, could be added to the global annual GDP by 2025

Public procurement can, once again, play an effective and active role in promoting gender equality since, through appropriate evaluation criteria, it is possible to evaluate suppliers guaranteeing gender equality.

Nevertheless, this is not an ordinary strategy, and unfortunately, only recommendations from politics and few case studies are available.

As a primary problem, public procurers must face the so-called “tokenism practice”: firms apparently give power to women within a business organization only as a façade and give the appearance that women are being treated fairly, but without accompanying this apparent power with effective tools, such as adequate salary, real responsibilities, and authority within the organization.

As an effect, the purchasing authority must evaluate suppliers not only in terms of a higher number of women involved in the business with managerial responsibilities, but also verifying and assessing if the salary is adequate. As a result, public buyers should carefully request to competitors adequate proofs, such as the payroll of employees, the organizational model, and the official business procedures, confirming the effectiveness of gender equality, with the risk of overlapping problems of privacy and of incurring in litigation with the suppliers (Corvaglia, 2017; Chin, 2017).

Another example of interest, in order to enhance gender equality via public procurement, is the evaluation of firms in terms of “woman-owned business.” (U.S. Small Business Administration, 2021b). This recent approach was adopted by the United Nation, which defines a woman-owned business as a vendor, which includes

- At least 51% independent ownership by one or more women (or woman sole proprietorship)
- Unconditional control by one or more women over both long-term decision-making and the day-to-day management and administration of the business operations
- Independence from non-women-owned businesses

Indeed, the public procurement sector can overcome the barriers of gender equality by evaluating vendors in terms of higher involvement of woman-owned business in their supply chain (based on the previous definition).

In the United States, under the Small Business Act (see Sect. 13.7.1), there are also projects aimed at encouraging women-owned small businesses (WOSBs) to compete for federal contract: under the WOSB Federal Contracting Program, the federal government wants to achieve the goal of awarding each year at least 5% of all federal contracting dollars to women-owned small businesses. Under this program, eligible firms achieve support and training as well as access to a loan program.

Moreover, the program establishes an “independent certification” to achieve the status of WOSBs, which guarantees the access to specific procurement categories (U.S. Small Business Administration, 2021a). As a result, the federal government as well as the Small Business Act limits competition to certain contracts to businesses that participate in the WOSB Federal Contracting Program. The contracts are identified among those specific industries where women-owned small businesses (WOSBs) are underrepresented, like building construction, support activities for forestry, structural steel and precast concrete, plumbing, heating, and air-conditioning.

At European level, as well as for the Small Business Act case parallel, there is not an effective legal framework guaranteeing the access of women to procurement. At the moment, the European Institute for Gender Equality (European Institute for Gender Equality, 2019) was set up and gives some recommendations to contracting authorities in order to enhance gender equality in terms of

- A gender-balanced composition of the project team and beneficiaries
- The balanced presence of women and men in decision-making positions

### ***13.7.3 Young Professionals***

Young professionals can also be considered a disadvantageous category, in the context of public contracts, since usually purchasing authorities select suppliers also because of past performances and of similar previous experiences.

An example can be taken from the Italian legal framework, which as far as the engineering and architecture services are concerned imposes to the providers to include at least a young professional in the team, defined as a professional achieving the authorization to signing technical projects less than 5 years from the publication of the tendering procedure.

### ***13.7.4 Other Minorities***

Besides SMEs, women, and young professionals, public procurement can also enhance sustainability by protecting and favoring other groups, allowing them additional opportunities to be awarded public contracts.

Relevant examples and good practices are coming from the private sector, where there is an existing network with the purpose of supporting minorities at the business level. For instance, since in the United Kingdom over 300,000 ethnic minority-owned businesses (EMBs) represent over 7% of all SMEs, the UK MSDUK (MSDUK, 2021) has the goal of bringing together innovative and high growth ethnic minority-owned businesses with global corporations committed toward creating an inclusive and diverse supply chain.

Another interesting example comes from the South Africa Supplier Diversity Council (SASDC, 2021), a corporate-led initiative, bringing together private sector companies to promote supplier diversity as a business strategy, to achieve competitiveness and long-term sustainability, especially by supporting “black suppliers,” suffering for the cultural heritage of the apartheid history.

SASDC has definitely the goal of developing and growing black SMEs with the ultimate goal of including them into their supply chain in a sustainable way by improving their performances and their business capability.

Similarly, looking at the public sector, the South African government recently implemented grants to black business suppliers in order to improve their competitiveness and sustainability.

Then, the so-called Broad-Based Black Economic Empowerment (BBBEE) set some rules for enhancing the access of black businesses to South African public contracts. The BBBEE is an integration program launched in 2003 by the South African government to reconcile South Africans and addresses the inequalities of apartheid by attempting to compensate for land that was repossessed from Africans. The program encourages businesses to integrate black people in the workspace, support black businesses, and give back to poor black communities affected by land repossession. Businesses are awarded points, which they can claim on a BBBEE certificate that entitles them to a greater chance of obtaining government contracts. Under the BBE, certain industries require an entity to have a particular percentage of black ownership or BEE level in order to receive and maintain a license to operate.

### ***13.7.5 Command and Control: The Case of Switzerland***

The government of Switzerland is applying a tangible command and control policy for forcing sustainable public procurement: the Confederation is obliged to award contracts for services only to companies guaranteeing compliance with the Federal Act on Public Procurement (Federal Office for Gender Equality, 2021). This covers working conditions, industrial safety regulations, and equal pay for men and women.

At the same time, the federal government has implemented a monitoring system aimed at verifying if the rules are respected by vendors, with audit mechanisms, penalties, and sanctions, having the effect of excluding bidders from the tendering procedure or solving the contracts.

### **13.8 Centralization Versus Decentralization: Opportunities for Sustainability**

Public procurement can be implemented at a local, central or international level, depending on the type of purchasing authority and of the end users of the product/service or work being procured.

Nowadays, it is very rare to observe completely centralized procurement experiences or completely decentralized ones. In contrast, there are, predominantly, hybrid models of centralization/decentralization, in which single purchasing authorities group together in order to satisfy their needs in one shot. Alternatively, they could delegate a third legal entity to solve the role or award the tendering procedure at their place, and they sign the final contracts with the winning supplier. In this second case, usually there are central public procurement authorities awarding framework contracts addressed to satisfy needs of a group of local authorities.

The most extreme form of centralized procurement is the so-called “cross-border procurement”: purchasing authorities from different countries bundle their needs for pursuing a unique supranational tendering procedure and achieve a unique supplier. An example of this cross-border procurement is provided in Sect. 13.4, where the experience of a group of cities launching together a pre-commercial procurement is described.

Fixing the appropriate level of centralization versus decentralization is a challenging aspect of procurement strategy designing, which has positive and negative aspects.

Primary, central public procurement procedures may achieve higher performances in terms of economies of scale. Central public procurement tendering procedures are bundling single needs and the request for quotation is launched at higher monetary value, which is the sum of the single needs behind the centralized tendering procedure. As a consequence, competing suppliers can have the chance to increase profits by awarding a single tendering procedure instead of competing for several single procurement processes. So, they are stimulated to be more aggressive in terms of discount and quality for awarding the contract.

For this reason, considering the context of public procurement for innovation, centralization of public procurement can play a primary role, since it may easily attract the interest of the market for pursuing innovative goals in terms of sustainability.

Secondly, centralization can assure a higher level of transparency since centralized contracts are usually auctioned via open tendering procedure in which any interested supplier may submit an offer.

A third and most important advantage that is recognized to central public procurement—considering the context of this book—is the warranty to establish standards for the specific commodity that is procured.

Assuming to be a central purchasing body launching a tendering procedure for the acquisition of laptops, which will be sold to several local authorities within a

territory. The consequence is to guarantee laptops with the same level of performance from north to south of the territory.

Contextualizing this positive effect of centralization into sustainability, the adoption of centralized procurement can accelerate and multiply the adoption of green labeling and environmental standards for the inclusion of green specification and sustainable SLA into framework contracts.

Conversely, central public procurement is “accused” of disorienting SMEs in participating and awarding centralized contracts since they do not have the technical and fiscal capacity for submitting offers.

Moreover, considering the negative effects of centralized public procurement, in the case in which a specific commodity must be tailored according to the specific needs, a unique procurement procedure for the awarding of the same standard may risk missing the goal of satisfying needs of authorities’ beneficiary of the tendering procedure as end user of the commodity. In this case, the goods or service risk to be unsuitable and to generate, instead of saving for economies of scale, an effect of overspending.

In conclusion, the centralization of public procurement can be considered a strategic tool for promoting sustainability, but it should be carefully evaluated with respect to the commodity to be acquired, also in terms of innovation, and with respect to end users of the commodity.

### **13.9 The Role of e-Procurement for Promoting Sustainability**

e-Procurement is defined as the procurement that is performed online through a web interface and other networked systems. e-Procurement moves the paper-based and traditional procedure to online systems, and it may include spending analysis, sourcing strategies, e-auctions, procure-to-pay, and contract management. So, interactions and transactions between buyers and suppliers are completely automated.

At the same level, public e-procurement combines the general principles of transparency, fair competition, and efficiency into e-public procurement platforms. According to the OECD, e-procurement does not only increase efficiency by facilitating to the market the supply to public tenders, but it also improves transparency by holding public authorities more accountable. In the context of sustainability, e-procurement is a strategic toolbox given to purchasing authorities to promote sustainability.

Preliminarily, public authorities that set an electronic vendor rating and an e-catalogue, both based on the sustainability of products and suppliers (e.g., certifications, labels, etc.), can achieve their sustainability goals straightforwardly and in a more transparent way.

Moreover, suppliers interacting with the public sector with the public e-procurement tools know faster and more easily need to be satisfied and can have a preliminary idea of sustainability strategies adopted.

Additionally, as an indirect effect, public e-procurement achieves faster results in terms of process management of the awarding of contracts and of the evaluation of suppliers since it completely dematerializes the traditional paper-based procurement procedures.

Consequently, the purchasing authorities implementing e-procurement can also achieve savings in the CO<sub>2</sub> emissions linked to the reduction of energy consumption and paper and of storage spaces.

Last but not least, an effective vendor rating system in which suppliers are classified on the basis of their sustainability performances can afford an objectively monitoring and evaluation method on the basis of objective sustainable criteria.

Sustainable indexes applied to e-procurement platforms in ranking suppliers also create a virtuous circle, enhancing suppliers to be more conscious and to better performance in terms of resource consumptions, eco-designing of products, and innovation in green technology in order to award additional contracts with the purchasing authority. An efficient vendor rating can also promote sustainable suppliers like faster interactions with SMEs, women-owned firms, and disadvantaged categories.

### **13.10 Monitoring and Performing Contracts: The Real Challenge for an Effective Sustainable Procurement**

Any project, program, and monitoring system aimed at progressively evaluating the achieved results is essential to measure effective progress toward any organization and to make adjustments where improvement is required.

With a particular focus on public procurement, evaluation and monitoring of performances is a crucial point in order to achieve several results: first, to check if promises made by suppliers during the negotiation phase to get the contract are really respected; second, with a focus on sustainable procurement, to measure if the likelihood of sustainability is respected.

More importantly, when analyzing the performances in terms of sustainable procurement, the most difficult challenge that must be faced by the procurer (both public and private) is to monitor the performances of the whole supply chain. Who can guarantee that the same working conditions are equally granted both by the final producer and by the raw materials extractor? The already-mentioned case of the coltan extraction in Congo without any respect of salaries and children is internationally renowned and was often denounced by international NGOs (Tsongo, 2020).

Nevertheless, for purchasing authorities, often without appropriate financial and human resources, it is simply unbearable to monitor the whole supply chain of their vendors. In this context, certification systems can play an important role in requiring certifications also for the members of the supply chain.

### **13.11 Concluding Remarks: Which Suggestions to Policy Makers?**

This chapter demonstrated how public procurement could have a tangible effect on mitigation policies to climate change. Surely, public procurement plays a substantial role in this historical moment: under the Next Generation EU funding program, more than 50% of the amount will support modernization, through fighting climate change, promoting research and innovation, preparedness, recovery and resilience, biodiversity protection, and gender equality. It is evident that these results will be achieved only if the public sectors will implement efficient strategies in sustainability.

In fact, the adoption of procurement procedures for selecting suppliers focused on qualitative criteria based on the reduction of pollution of commodities acquired and on the social promotion belonging to the supply chain can effectively enhance sustainability. We also analyzed that standards, likely certification systems, and labels managed by the market (e.g., ISO 14001) or promoted by public authorities (e.g., ecolabel) associated with a sound monitoring system can effectively contribute to enhancing the green economy of public contracts.

Another tool that could be used for launching green transition is the procurement of innovative solutions. So, policy makers probably should invest more in training systems for innovation procurement, and, probably, the centralization mechanisms of innovation procurement could achieve this result.

Moreover, the lack of competences and of financial resources is also challenging when considering the importance of monitoring the performances of suppliers during the execution phase in terms of sustainability. For this reason, input to policy makers could be to set up an independent office or society, under the public control, having the mission of monitoring randomly suppliers working with the public sector in order to assess if the respect of social procurement is guaranteed on the whole supply chain. It certainly requires an innovative political view and huge investments in terms of technical and human resources, but an effective green new deal cannot be achieved only with promises of suppliers but also with the evaluation of facts.

In conclusion, we learned that, while green procurement is at an advanced stage, since contracting authorities have several standardized tools to evaluate and monitor green quality and environmental impact of commodities, sustainable procurement is still at an embryonal phase. In fact, investigating good practices in favoring disadvantaged categories through public procurement, apart from the international certification SA8000 and the ISO 45001, uniquely some experiences in the United States and South Africa, seems to be effectively giving a clear legal framework at governmental level to their purchasing authorities.

Indeed, the WOSB Federal Contracting Program, promoted in the United States, guarantees a certified system to make it eligible to award public contracts to women-owned small businesses. Looking at the South African government, the BBE initiative aims to concretely create a governmental mechanism to sustain black-owned firms accessing public procurement.

In contrast, in Europe it seems that, while green procurement is at a mature phase, apart from recommendations and good practices launched independently by “virtuous purchasing authorities,” there is not an effective compulsory obligation given to the public sector for applying social procurement.

Nevertheless, the most important challenge that public governments and policy makers must face is to apply command and control policies to impose sustainable prices to the market and to impose a regulatory approach to integrate sustainability. It is meant to internalize into the final cost, by a correct LCC analysis, the negative externalities given by polluting products, unfair competition due to slavery, and decent work condition, while protecting and safeguarding minorities, likely SMEs, women, young professionals, etc. Indeed, policy makers would take in place a strict legal framework fixing new entry barriers to suppliers willing to sign public contracts in order to enhance a “360° sustainable procurement.” In fact, the experience suggests that the market alone is not able to abate barriers and a more ambitious legal framework, probably, could reach faster and better, actions of filling the gap.

We strongly hope that the good practices illustrated in this chapter for enhancing an effective social procurement at a large scale would amplify the debate on this topic and that the next EU Directive on public procurement will be sharpened on that. We also hope that a real sustainable policy will be taken into account by national governments in the Next Generation EU funds in order to definitively enforce the transition from a simple “green public procurement” to an effective sustainable procurement, considering also those social aspects that could eliminate barriers of disadvantaged categories and minorities.

Last but not least, climate change is showing us that single initiatives are not sufficient. For this reason, the last suggestion that could be given to policy makers is to build up a community for sustainable procurement working at the international level that is aimed at, on the one hand, setting legal frameworks and monitoring systems addressed to sustainability and, on the other hand, to train and educate public buyers to a revolutionary of “sustainable procurement.”

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**Laura Carpineti** is BD in Economics and CIPS Graduated in Public Procurement. Her fields of expertise are strategic and sustainable procurement, including demand, stakeholders, and market analysis within a risk management framework for optimization of procurement effort. She is currently senior manager at Martino & Partners, consulting company on public procurement. After 12 years of experience in centralized procurement at national and regional level (Consip ltd and Lombardy Region), she was head of procurement and contracts division at CAP Holding ltd, one of the biggest Italian public companies in treating the water life cycle in the metropolitan area of Milan. She collaborates occasionally with the universities of Rome Tor Vergata and Macerata (Italy) in teaching procurement strategies. Co-author of the chapter with 2 other colleagues: G. Piga and M. Zanza of a chapter in in N. Dimitri, G. Piga, and G. Spagnolo (Eds.), *Handbook of Procurement* (pp. 14–44), Cambridge, UK: Cambridge University Press. She firstly introduced in Italy gender procurement mechanisms for comparing suppliers.